



Full wwPDB X-ray Structure Validation Report ⓘ

Jan 3, 2024 – 12:41 pm GMT

PDB ID : 5EL5
Title : Structure of T. thermophilus 70S ribosome complex with mRNA and tRNA^{Lys} in the A-site with a U-U mismatch in the second position
Authors : Rozov, A.; Demeshkina, N.; Khusainov, I.; Yusupov, M.; Yusupova, G.
Deposited on : 2015-11-04
Resolution : 3.15 Å (reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

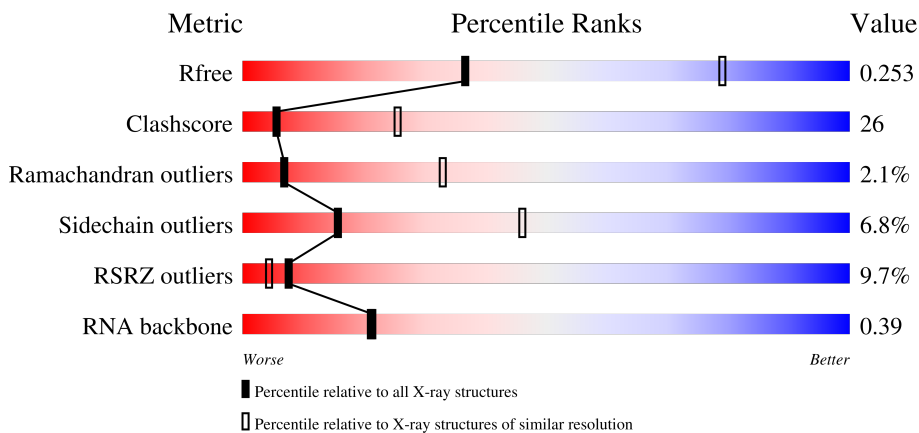
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.15 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



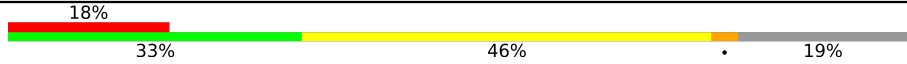

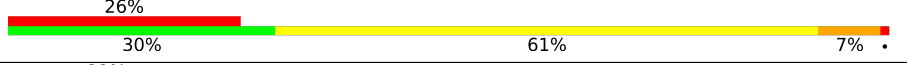
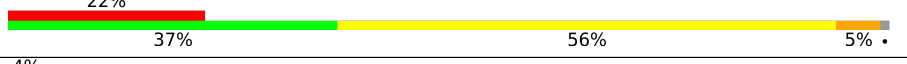
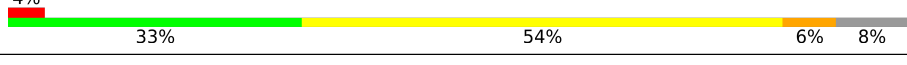
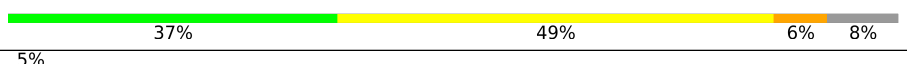
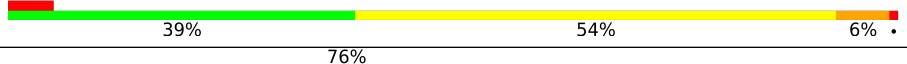

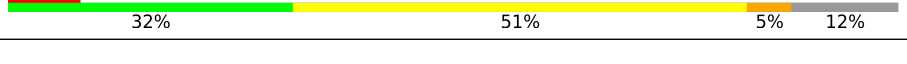


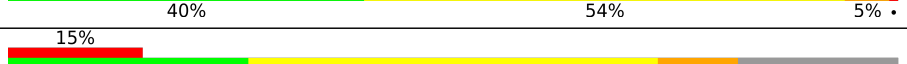
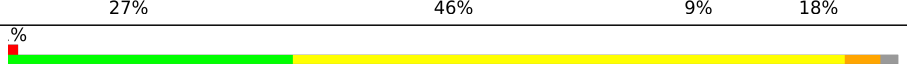
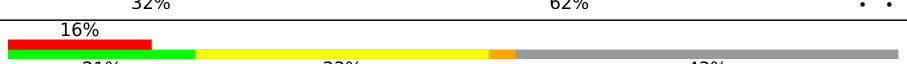
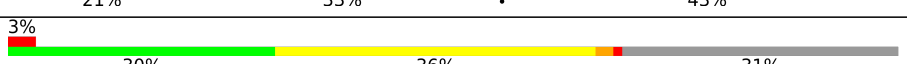
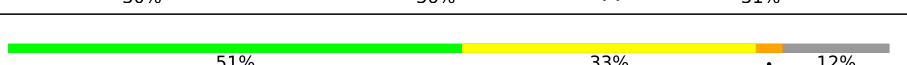
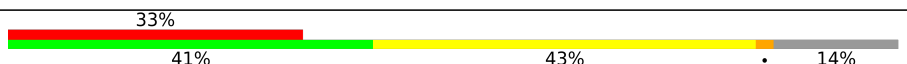
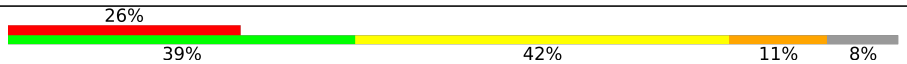
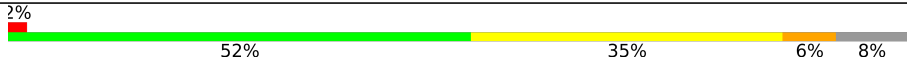


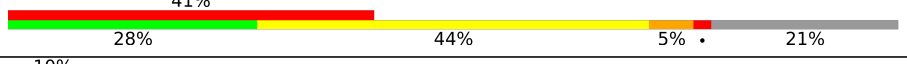

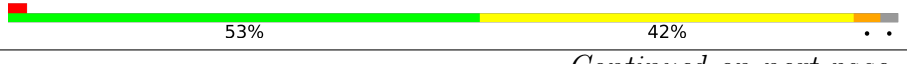

| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| R_{free} | 130704 | 1665 (3.20-3.12) |
| Clashscore | 141614 | 1804 (3.20-3.12) |
| Ramachandran outliers | 138981 | 1770 (3.20-3.12) |
| Sidechain outliers | 138945 | 1769 (3.20-3.12) |
| RSRZ outliers | 127900 | 1616 (3.20-3.12) |
| RNA backbone | 3102 | 1073 (3.50-2.82) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | 13 | 1522 | |
| 1 | 1G | 1522 | |
| 2 | 12 | 256 | |
| 2 | 1E | 256 | |

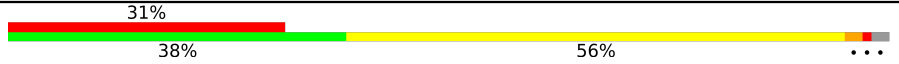




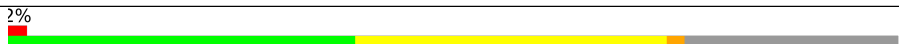
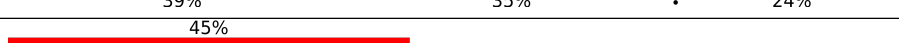


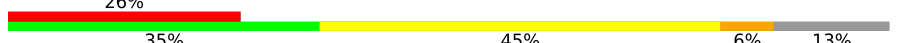
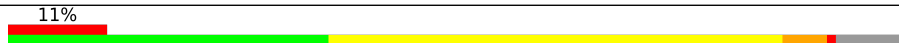
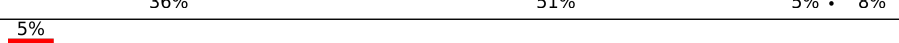


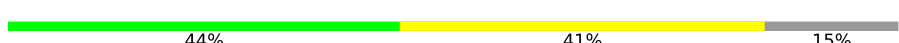

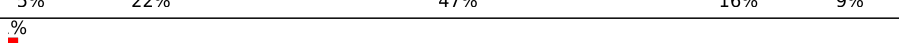








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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 3 | 22 | 239 |  |
| 3 | 2E | 239 |  |
| 4 | 32 | 209 |  |
| 4 | 3E | 209 |  |
| 5 | 42 | 162 |  |
| 5 | 4E | 162 |  |
| 6 | 52 | 101 |  |
| 6 | 5E | 101 |  |
| 7 | 62 | 156 |  |
| 7 | 6E | 156 |  |
| 8 | 72 | 138 |  |
| 8 | 7E | 138 |  |
| 9 | 82 | 128 |  |
| 9 | 8E | 128 |  |
| 10 | 1A | 105 |  |
| 10 | 1I | 105 |  |
| 11 | 2A | 129 |  |
| 11 | 2I | 129 |  |
| 12 | 3A | 132 |  |
| 12 | 3I | 132 |  |
| 13 | 4A | 126 |  |
| 13 | 4I | 126 |  |
| 14 | 5A | 61 |  |
| 14 | 5I | 61 |  |
| 15 | 6A | 89 |  |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 15 | 6I | 89 |  |
| 16 | 7A | 88 |  |
| 16 | 7I | 88 |  |
| 17 | 8A | 105 |  |
| 17 | 8I | 105 |  |
| 18 | 9A | 88 |  |
| 18 | 9I | 88 |  |
| 19 | AA | 93 |  |
| 19 | AI | 93 |  |
| 20 | BA | 106 |  |
| 20 | BI | 106 |  |
| 21 | 1B | 27 |  |
| 21 | 1F | 27 |  |
| 22 | 1K | 76 |  |
| 23 | 2K | 77 |  |
| 23 | 2L | 77 |  |
| 24 | 3K | 76 |  |
| 25 | 4K | 27 |  |
| 25 | 4L | 27 |  |
| 26 | 14 | 2912 |  |
| 26 | 1H | 2912 |  |
| 27 | 16 | 122 |  |
| 27 | 1J | 122 |  |
| 28 | 7I | 229 |  |
| 29 | 11 | 276 |  |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------------|
| 29 | 19 | 276 | 16% 47% 42% 8% .. |
| 30 | 21 | 206 | 9% 44% 46% 6% .. |
| 30 | 29 | 206 | 23% 35% 51% 11% .. |
| 31 | 31 | 210 | 4% 39% 48% 9% . |
| 31 | 39 | 210 | 36% 51% 10% . |
| 32 | 41 | 182 | 11% 32% 54% 12% . |
| 32 | 49 | 182 | 13% 31% 57% 8% .. |
| 33 | 51 | 180 | 13% 43% 42% 7% . 5% |
| 33 | 59 | 180 | 7% 14% 19% 5% 62% |
| 34 | 61 | 148 | 28% 37% 54% 7% . |
| 34 | 69 | 148 | 25% 34% 55% 5% .. |
| 35 | 15 | 140 | 31% 44% 49% . . . |
| 35 | 58 | 140 | % 41% 49% 7% .. |
| 36 | 25 | 122 | 3% 45% 50% . . |
| 36 | 68 | 122 | 57% 39% 5% |
| 37 | 35 | 150 | 27% 31% 61% 5% .. |
| 37 | 78 | 150 | 15% 35% 47% 13% . . |
| 38 | 45 | 141 | 7% 39% 44% 13% .. |
| 38 | 88 | 141 | 46% 49% 39% 11% . |
| 39 | 55 | 118 | 8% 47% 43% 8% . |
| 39 | 98 | 118 | 63% 42% 55% . |
| 40 | 65 | 112 | 10% 37% 52% 9% .. |
| 40 | A8 | 112 | 51% 36% 53% 8% .. |
| 41 | 75 | 146 | 3% 41% 44% 7% . 7% |
| 41 | B8 | 146 | % 30% 48% 13% . 8% |

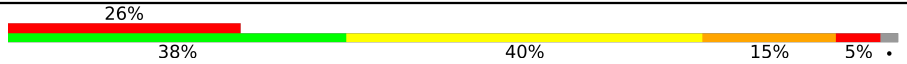



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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|-------------------------|
| 42 | 85 | 118 | 18% 53% 36% 8% . . |
| 42 | C8 | 118 | 2% 44% 41% 9% . . |
| 43 | 95 | 101 | 49% 37% 55% . . . |
| 43 | D8 | 101 | 37% 42% 50% 7% . |
| 44 | A5 | 113 | 53% 38% 6% . |
| 44 | E8 | 113 | 2% 58% 31% 8% . . |
| 45 | B5 | 96 | 15% 45% 48% . . . |
| 45 | F8 | 96 | 51% 44% 47% 8% . |
| 46 | C5 | 110 | 21% 30% 45% 16% . 5% |
| 46 | G8 | 110 | 32% 53% 6% . 5% |
| 47 | D5 | 206 | 17% 19% 38% 5% 37% |
| 47 | H8 | 206 | 33% 34% 33% . . 28% |
| 48 | E5 | 85 | 6% 39% 46% 6% . 8% |
| 48 | I8 | 85 | 25% 42% 36% 11% 11% |
| 49 | F5 | 98 | 11% 45% 42% 8% . . |
| 49 | J8 | 98 | 8% 56% 30% 7% . . |
| 50 | G5 | 72 | 4% 40% 43% 10% 7% |
| 50 | K8 | 72 | 17% 31% 44% 18% . 6% |
| 51 | H5 | 60 | 88% 50% 40% 7% . |
| 51 | L8 | 60 | 17% 55% 37% 5% . |
| 52 | M8 | 71 | 7% 20% 37% 6% . 34% |
| 53 | J5 | 60 | 8% 45% 38% 8% . 7% |
| 53 | N8 | 60 | 12% 32% 40% 8% 20% |
| 54 | L5 | 49 | 10% 51% 29% 12% 8% |
| 54 | P8 | 49 | 53% 33% 10% . |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 55 | M5 | 65 |  |
| 55 | Q8 | 65 |  |
| 56 | 1L | 76 |  |
| 57 | 3L | 76 |  |

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 58 | MG | 13 | 1606 | - | - | - | X |
| 58 | MG | 13 | 1623 | - | - | - | X |
| 58 | MG | 13 | 1625 | - | - | - | X |
| 58 | MG | 13 | 1627 | - | - | - | X |
| 58 | MG | 13 | 1628 | - | - | - | X |
| 58 | MG | 13 | 1634 | - | - | - | X |
| 58 | MG | 13 | 1661 | - | - | - | X |
| 58 | MG | 13 | 1680 | - | - | - | X |
| 58 | MG | 13 | 1687 | - | - | - | X |
| 58 | MG | 13 | 1688 | - | - | - | X |
| 58 | MG | 13 | 1692 | - | - | - | X |
| 58 | MG | 13 | 1699 | - | - | - | X |
| 58 | MG | 13 | 1702 | - | - | - | X |
| 58 | MG | 13 | 1707 | - | - | - | X |
| 58 | MG | 13 | 1708 | - | - | - | X |
| 58 | MG | 14 | 3023 | - | - | - | X |
| 58 | MG | 14 | 3024 | - | - | - | X |
| 58 | MG | 14 | 3028 | - | - | - | X |
| 58 | MG | 14 | 3031 | - | - | - | X |
| 58 | MG | 14 | 3062 | - | - | - | X |
| 58 | MG | 14 | 3089 | - | - | - | X |
| 58 | MG | 14 | 3109 | - | - | - | X |
| 58 | MG | 14 | 3132 | - | - | - | X |
| 58 | MG | 14 | 3149 | - | - | - | X |
| 58 | MG | 14 | 3150 | - | - | - | X |
| 58 | MG | 14 | 3159 | - | - | - | X |
| 58 | MG | 14 | 3171 | - | - | - | X |
| 58 | MG | 14 | 3179 | - | - | - | X |
| 58 | MG | 14 | 3192 | - | - | - | X |
| 58 | MG | 14 | 3195 | - | - | - | X |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 58 | MG | 14 | 3199 | - | - | - | X |
| 58 | MG | 14 | 3201 | - | - | - | X |
| 58 | MG | 14 | 3217 | - | - | - | X |
| 58 | MG | 14 | 3227 | - | - | - | X |
| 58 | MG | 14 | 3231 | - | - | - | X |
| 58 | MG | 14 | 3233 | - | - | - | X |
| 58 | MG | 14 | 3234 | - | - | - | X |
| 58 | MG | 14 | 3259 | - | - | - | X |
| 58 | MG | 14 | 3260 | - | - | - | X |
| 58 | MG | 14 | 3261 | - | - | - | X |
| 58 | MG | 14 | 3263 | - | - | - | X |
| 58 | MG | 14 | 3267 | - | - | - | X |
| 58 | MG | 14 | 3270 | - | - | - | X |
| 58 | MG | 14 | 3272 | - | - | - | X |
| 58 | MG | 14 | 3275 | - | - | - | X |
| 58 | MG | 14 | 3277 | - | - | - | X |
| 58 | MG | 14 | 3278 | - | - | - | X |
| 58 | MG | 14 | 3279 | - | - | - | X |
| 58 | MG | 14 | 3280 | - | - | - | X |
| 58 | MG | 14 | 3284 | - | - | - | X |
| 58 | MG | 14 | 3286 | - | - | - | X |
| 58 | MG | 14 | 3288 | - | - | - | X |
| 58 | MG | 14 | 3295 | - | - | - | X |
| 58 | MG | 14 | 3302 | - | - | - | X |
| 58 | MG | 14 | 3303 | - | - | - | X |
| 58 | MG | 14 | 3308 | - | - | - | X |
| 58 | MG | 14 | 3315 | - | - | - | X |
| 58 | MG | 14 | 3321 | - | - | - | X |
| 58 | MG | 14 | 3325 | - | - | - | X |
| 58 | MG | 14 | 3328 | - | - | - | X |
| 58 | MG | 14 | 3331 | - | - | - | X |
| 58 | MG | 16 | 208 | - | - | - | X |
| 58 | MG | 1G | 1602 | - | - | - | X |
| 58 | MG | 1G | 1621 | - | - | - | X |
| 58 | MG | 1G | 1627 | - | - | - | X |
| 58 | MG | 1G | 1635 | - | - | - | X |
| 58 | MG | 1G | 1637 | - | - | - | X |
| 58 | MG | 1G | 1638 | - | - | - | X |
| 58 | MG | 1G | 1639 | - | - | - | X |
| 58 | MG | 1G | 1640 | - | - | - | X |
| 58 | MG | 1G | 1643 | - | - | - | X |
| 58 | MG | 1G | 1644 | - | - | - | X |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 58 | MG | 1G | 1645 | - | - | - | X |
| 58 | MG | 1G | 1648 | - | - | - | X |
| 58 | MG | 1G | 1660 | - | - | - | X |
| 58 | MG | 1G | 1666 | - | - | - | X |
| 58 | MG | 1H | 3029 | - | - | - | X |
| 58 | MG | 1H | 3030 | - | - | - | X |
| 58 | MG | 1H | 3031 | - | - | - | X |
| 58 | MG | 1H | 3033 | - | - | - | X |
| 58 | MG | 1H | 3077 | - | - | - | X |
| 58 | MG | 1H | 3095 | - | - | - | X |
| 58 | MG | 1H | 3105 | - | - | - | X |
| 58 | MG | 1H | 3128 | - | - | - | X |
| 58 | MG | 1H | 3141 | - | - | - | X |
| 58 | MG | 1H | 3145 | - | - | - | X |
| 58 | MG | 1H | 3146 | - | - | - | X |
| 58 | MG | 1H | 3163 | - | - | - | X |
| 58 | MG | 1H | 3166 | - | - | - | X |
| 58 | MG | 1H | 3187 | - | - | - | X |
| 58 | MG | 1H | 3192 | - | - | - | X |
| 58 | MG | 1H | 3196 | - | - | - | X |
| 58 | MG | 1H | 3199 | - | - | - | X |
| 58 | MG | 1H | 3206 | - | - | - | X |
| 58 | MG | 1H | 3209 | - | - | - | X |
| 58 | MG | 1H | 3235 | - | - | - | X |
| 58 | MG | 1H | 3247 | - | - | - | X |
| 58 | MG | 1H | 3257 | - | - | - | X |
| 58 | MG | 1H | 3263 | - | - | - | X |
| 58 | MG | 1H | 3269 | - | - | - | X |
| 58 | MG | 1H | 3272 | - | - | - | X |
| 58 | MG | 1H | 3286 | - | - | - | X |
| 58 | MG | 1H | 3289 | - | - | - | X |
| 58 | MG | 1H | 3304 | - | - | - | X |
| 58 | MG | 1H | 3309 | - | - | - | X |
| 58 | MG | 1H | 3313 | - | - | - | X |
| 58 | MG | 1H | 3317 | - | - | - | X |
| 58 | MG | 1H | 3319 | - | - | - | X |
| 58 | MG | 1H | 3327 | - | - | - | X |
| 58 | MG | 1H | 3332 | - | - | - | X |
| 58 | MG | 1H | 3337 | - | - | - | X |
| 58 | MG | 1H | 3340 | - | - | - | X |
| 58 | MG | 1H | 3341 | - | - | - | X |
| 58 | MG | 1H | 3342 | - | - | - | X |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|------------|-------------|--------------|------------|------------------|-----------------|----------------|-------------------------|
| 58 | MG | 1H | 3350 | - | - | - | X |
| 58 | MG | 2K | 102 | - | - | - | X |
| 58 | MG | 32 | 301 | - | - | - | X |
| 58 | MG | 45 | 203 | - | - | - | X |
| 58 | MG | 5E | 201 | - | - | - | X |
| 58 | MG | 85 | 202 | - | - | - | X |
| 58 | MG | E5 | 101 | - | - | - | X |
| 59 | SF4 | 32 | 302 | - | - | X | - |

2 Entry composition

There are 61 unique types of molecules in this entry. The entry contains 292607 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 16S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|----------------|------------|-----------|------------|-----------|---------|---------|-------|
| | | | Total | C | N | O | P | | | |
| 1 | 13 | 1493 | Total 32097 | C 14286 | N 5951 | O 10367 | P 1493 | 0 | 0 | 0 |
| 1 | 1G | 1496 | Total 32152 | C 14311 | N 5953 | O 10392 | P 1496 | 0 | 0 | 0 |

- Molecule 2 is a protein called 30S ribosomal protein S2.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|---------------|-----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 2 | 1E | 231 | Total 1874 | C 1199 | N 334 | O 336 | S 5 | 0 | 0 | 0 |
| 2 | 12 | 206 | Total 1695 | C 1082 | N 305 | O 304 | S 4 | 0 | 0 | 0 |

- Molecule 3 is a protein called 30S ribosomal protein S3.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|---------------|-----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 3 | 2E | 205 | Total 1605 | C 1011 | N 313 | O 280 | S 1 | 0 | 0 | 0 |
| 3 | 22 | 194 | Total 1529 | C 967 | N 296 | O 265 | S 1 | 0 | 0 | 0 |

- Molecule 4 is a protein called 30S ribosomal protein S4.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|---------------|-----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 4 | 3E | 207 | Total 1696 | C 1062 | N 338 | O 289 | S 7 | 0 | 0 | 0 |
| 4 | 32 | 208 | Total 1702 | C 1066 | N 339 | O 290 | S 7 | 0 | 0 | 0 |

- Molecule 5 is a protein called 30S ribosomal protein S5.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 5 | 4E | 149 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1142 | 722 | 216 | 200 | 4 | | | |
| 5 | 42 | 149 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1136 | 716 | 216 | 200 | 4 | | | |

- Molecule 6 is a protein called 30S ribosomal protein S6.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 6 | 5E | 100 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 837 | 528 | 154 | 152 | 3 | | | |
| 6 | 52 | 101 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 842 | 531 | 155 | 153 | 3 | | | |

- Molecule 7 is a protein called 30S ribosomal protein S7.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 7 | 6E | 151 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1229 | 763 | 247 | 213 | 6 | | | |
| 7 | 62 | 138 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1110 | 689 | 221 | 194 | 6 | | | |

- Molecule 8 is a protein called 30S ribosomal protein S8.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 8 | 7E | 138 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1115 | 705 | 215 | 192 | 3 | | | |
| 8 | 72 | 137 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1107 | 700 | 214 | 191 | 2 | | | |

- Molecule 9 is a protein called 30S ribosomal protein S9.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 9 | 8E | 126 | Total | C | N | O | 0 | 0 | 0 | |
| | | | 1000 | 634 | 196 | 170 | | | | |
| 9 | 82 | 105 | Total | C | N | O | 0 | 0 | 0 | |
| | | | 820 | 523 | 158 | 139 | | | | |

- Molecule 10 is a protein called 30S ribosomal protein S10.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 10 | 1I | 72 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 593 | 373 | 115 | 104 | 1 | | | |

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| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|---------|-------|
| 10 | 1A | 60 | Total | C | N | O | 0 | 0 | 0 |
| | | | 474 | 298 | 91 | 85 | | | |

- Molecule 11 is a protein called 30S ribosomal protein S11.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 11 | 2I | 111 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 823 | 512 | 154 | 154 | 3 | | | |
| 11 | 2A | 113 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 835 | 520 | 156 | 156 | 3 | | | |

- Molecule 12 is a protein called 30S ribosomal protein S12.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 12 | 3I | 122 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 956 | 603 | 193 | 159 | 1 | | | |
| 12 | 3A | 121 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 947 | 597 | 191 | 158 | 1 | | | |

- Molecule 13 is a protein called 30S ribosomal protein S13.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 13 | 4I | 119 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 942 | 582 | 194 | 164 | 2 | | | |
| 13 | 4A | 111 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 893 | 552 | 183 | 156 | 2 | | | |

- Molecule 14 is a protein called 30S ribosomal protein S14 type Z.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|---------|-------|
| 14 | 5I | 60 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 491 | 312 | 104 | 71 | 4 | | | |
| 14 | 5A | 48 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 388 | 245 | 82 | 57 | 4 | | | |

- Molecule 15 is a protein called 30S ribosomal protein S15.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 15 | 6I | 87 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 729 | 457 | 146 | 124 | 2 | | | |
| 15 | 6A | 87 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 729 | 457 | 146 | 124 | 2 | | | |

- Molecule 16 is a protein called 30S ribosomal protein S16.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|--------------|----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 16 | 7I | 80 | Total 671 | C 427 | N 132 | O 111 | S 1 | 0 | 0 | 0 |
| 16 | 7A | 84 | Total 705 | C 446 | N 140 | O 118 | S 1 | 0 | 0 | 0 |

- Molecule 17 is a protein called 30S ribosomal protein S17.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|--------------|----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 17 | 8I | 100 | Total 834 | C 534 | N 155 | O 143 | S 2 | 0 | 0 | 0 |
| 17 | 8A | 99 | Total 823 | C 528 | N 151 | O 142 | S 2 | 0 | 0 | 0 |

- Molecule 18 is a protein called 30S ribosomal protein S18.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|--------------|----------|----------|---------|---------|---------|-------|
| | | | Total | C | N | O | | | |
| 18 | 9I | 67 | Total 544 | C 349 | N 104 | O 91 | 0 | 0 | 0 |
| 18 | 9A | 67 | Total 544 | C 349 | N 104 | O 91 | 0 | 0 | 0 |

- Molecule 19 is a protein called 30S ribosomal protein S19.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|--------------|----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 19 | AI | 81 | Total 654 | C 417 | N 122 | O 113 | S 2 | 0 | 0 | 0 |
| 19 | AA | 36 | Total 283 | C 182 | N 49 | O 51 | S 1 | 0 | 0 | 0 |

- Molecule 20 is a protein called 30S ribosomal protein S20.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|--------------|----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 20 | BI | 97 | Total 746 | C 461 | N 157 | O 126 | S 2 | 0 | 0 | 0 |
| 20 | BA | 98 | Total 757 | C 467 | N 161 | O 127 | S 2 | 0 | 0 | 0 |

- Molecule 21 is a protein called 30S ribosomal protein Thx.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|---------|-------|
| 21 | 1F | 23 | Total | C | N | O | 0 | 0 | 0 |
| | | | 199 | 122 | 48 | 29 | | | |
| 21 | 1B | 23 | Total | C | N | O | 0 | 0 | 0 |
| | | | 204 | 126 | 49 | 29 | | | |

- Molecule 22 is a RNA chain called tRNA^{Lys}.

| Mol | Chain | Residues | Atoms | | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---|---------|---------|-------|
| 22 | 1K | 69 | Total | C | N | O | P | S | 0 | 0 | 0 |
| | | | 1477 | 662 | 257 | 488 | 69 | 1 | | | |

- Molecule 23 is a RNA chain called tRNA^{Met}.

| Mol | Chain | Residues | Atoms | | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---|---------|---------|-------|
| 23 | 2K | 77 | Total | C | N | O | P | S | 0 | 0 | 0 |
| | | | 1646 | 735 | 298 | 535 | 77 | 1 | | | |
| 23 | 2L | 77 | Total | C | N | O | P | S | 0 | 0 | 0 |
| | | | 1646 | 735 | 298 | 535 | 77 | 1 | | | |

- Molecule 24 is a RNA chain called tRNA^{Lys}.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|---------|-------|
| 24 | 3K | 76 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 1611 | 721 | 281 | 534 | 75 | | | |

- Molecule 25 is a RNA chain called mRNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|----|---------|---------|-------|
| 25 | 4K | 20 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 439 | 197 | 91 | 131 | 20 | | | |
| 25 | 4L | 17 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 373 | 167 | 76 | 113 | 17 | | | |

- Molecule 26 is a RNA chain called 23S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-------|-------|-------|------|---------|---------|-------|
| 26 | 1H | 2830 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 60960 | 27129 | 11403 | 19598 | 2830 | | | |
| 26 | 14 | 2861 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 61630 | 27429 | 11535 | 19806 | 2860 | | | |

There are 14 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------|-------------|
| 1H | 161 | U | UNK | conflict | GB 55771382 |
| 1H | 654A | A | G | conflict | GB 55771382 |
| 1H | 654E | C | G | conflict | GB 55771382 |
| 1H | 654P | G | C | conflict | GB 55771382 |
| 1H | 654T | A | C | conflict | GB 55771382 |
| 1H | 1058 | U | G | conflict | GB 55771382 |
| 1H | 1080 | A | C | conflict | GB 55771382 |
| 14 | 158 | U | UNK | conflict | GB 55771382 |
| 14 | 654A | A | G | conflict | GB 55771382 |
| 14 | 654E | C | G | conflict | GB 55771382 |
| 14 | 654P | G | C | conflict | GB 55771382 |
| 14 | 654T | A | C | conflict | GB 55771382 |
| 14 | 1058 | U | G | conflict | GB 55771382 |
| 14 | 1080 | A | C | conflict | GB 55771382 |

- Molecule 27 is a RNA chain called 5S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|---------------|-----------|----------|----------|----------|---------|---------|-------|
| | | | Total | C | N | O | P | | | |
| 27 | 16 | 122 | Total 2617 | C 1166 | N 486 | O 844 | P 121 | 0 | 0 | 0 |
| 27 | 1J | 122 | Total 2617 | C 1166 | N 486 | O 844 | P 121 | 0 | 0 | 0 |

- Molecule 28 is a protein called 50S ribosomal protein L1.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|---------------|----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 28 | 71 | 135 | Total 1050 | C 662 | N 197 | O 190 | S 1 | 0 | 0 | 0 |

- Molecule 29 is a protein called 50S ribosomal protein L2.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|---------------|-----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 29 | 11 | 273 | Total 2120 | C 1338 | N 421 | O 358 | S 3 | 0 | 0 | 0 |
| 29 | 19 | 273 | Total 2120 | C 1338 | N 421 | O 358 | S 3 | 0 | 0 | 0 |

- Molecule 30 is a protein called 50S ribosomal protein L3.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|---------------|----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 30 | 21 | 203 | Total 1558 | C 985 | N 298 | O 269 | S 6 | 0 | 0 | 0 |

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| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 30 | 29 | 203 | 1558 | 985 | 298 | 269 | 6 | 0 | 0 | 0 |

- Molecule 31 is a protein called 50S ribosomal protein L4.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 31 | 31 | 202 | 1585 | 1011 | 297 | 275 | 2 | 0 | 0 | 0 |
| 31 | 39 | 204 | 1602 | 1022 | 299 | 279 | 2 | 0 | 0 | 0 |

- Molecule 32 is a protein called 50S ribosomal protein L5.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 32 | 41 | 179 | 1457 | 931 | 265 | 257 | 4 | 0 | 0 | 0 |
| 32 | 49 | 179 | 1457 | 931 | 265 | 257 | 4 | 0 | 0 | 0 |

- Molecule 33 is a protein called 50S ribosomal protein L6.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 33 | 51 | 171 | 1312 | 832 | 246 | 233 | 1 | 0 | 0 | 0 |
| 33 | 59 | 69 | 539 | 339 | 109 | 91 | | 0 | 0 | 0 |

- Molecule 34 is a protein called 50S ribosomal protein L9.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 34 | 61 | 145 | 1131 | 723 | 200 | 207 | 1 | 0 | 0 | 0 |
| 34 | 69 | 145 | 1131 | 723 | 200 | 207 | 1 | 0 | 0 | 0 |

- Molecule 35 is a protein called 50S ribosomal protein L13.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 35 | 58 | 138 | 1104 | 712 | 206 | 182 | 4 | 0 | 0 | 0 |
| 35 | 15 | 137 | 1096 | 707 | 205 | 181 | 3 | 0 | 0 | 0 |

- Molecule 36 is a protein called 50S ribosomal protein L14.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 36 | 68 | 122 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 932 | 588 | 171 | 169 | 4 | | | |
| 36 | 25 | 122 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 932 | 588 | 171 | 169 | 4 | | | |

- Molecule 37 is a protein called 50S ribosomal protein L15.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 37 | 78 | 147 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1122 | 698 | 229 | 192 | 3 | | | |
| 37 | 35 | 148 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1130 | 704 | 230 | 193 | 3 | | | |

- Molecule 38 is a protein called 50S ribosomal protein L16.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 38 | 88 | 141 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1113 | 709 | 210 | 187 | 7 | | | |
| 38 | 45 | 138 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1099 | 702 | 208 | 183 | 6 | | | |

- Molecule 39 is a protein called 50S ribosomal protein L17.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 39 | 98 | 118 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 967 | 604 | 203 | 159 | 1 | | | |
| 39 | 55 | 118 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 967 | 604 | 203 | 159 | 1 | | | |

- Molecule 40 is a protein called 50S ribosomal protein L18.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|---------|-------|
| 40 | A8 | 111 | Total | C | N | O | 0 | 0 | 0 |
| | | | 881 | 556 | 176 | 149 | | | |
| 40 | 65 | 110 | Total | C | N | O | 0 | 0 | 0 |
| | | | 876 | 553 | 175 | 148 | | | |

- Molecule 41 is a protein called 50S ribosomal protein L19.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 41 | B8 | 135 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1123 | 699 | 230 | 193 | 1 | | | |
| 41 | 75 | 136 | Total | C | N | O | | 0 | 0 | 0 |
| | | | 1133 | 705 | 233 | 195 | | | | |

- Molecule 42 is a protein called 50S ribosomal protein L20.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 42 | C8 | 115 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 950 | 603 | 199 | 147 | 1 | | | |
| 42 | 85 | 116 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 959 | 608 | 201 | 149 | 1 | | | |

- Molecule 43 is a protein called 50S ribosomal protein L21.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 43 | D8 | 101 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 778 | 501 | 142 | 134 | 1 | | | |
| 43 | 95 | 99 | Total | C | N | O | | 0 | 0 | 0 |
| | | | 766 | 494 | 140 | 132 | | | | |

- Molecule 44 is a protein called 50S ribosomal protein L22.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 44 | E8 | 110 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 876 | 552 | 171 | 151 | 2 | | | |
| 44 | A5 | 110 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 876 | 552 | 171 | 151 | 2 | | | |

- Molecule 45 is a protein called 50S ribosomal protein L23.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|---------|-------|
| 45 | F8 | 95 | Total | C | N | O | 0 | 0 | 0 |
| | | | 740 | 480 | 134 | 126 | | | |
| 45 | B5 | 94 | Total | C | N | O | 0 | 0 | 0 |
| | | | 735 | 477 | 133 | 125 | | | |

- Molecule 46 is a protein called 50S ribosomal protein L24.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 46 | G8 | 104 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 788 | 507 | 149 | 127 | 5 | | | |

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| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 46 | C5 | 105 | 799 | 513 | 153 | 128 | 5 | 0 | 0 | 0 |

- Molecule 47 is a protein called 50S ribosomal protein L25.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 47 | H8 | 148 | 1218 | 779 | 220 | 217 | 2 | 0 | 0 | 0 |
| 47 | D5 | 130 | 1064 | 685 | 191 | 186 | 2 | 0 | 0 | 0 |

- Molecule 48 is a protein called 50S ribosomal protein L27.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 48 | I8 | 76 | 606 | 376 | 128 | 101 | 1 | 0 | 0 | 0 |
| 48 | E5 | 78 | 616 | 381 | 130 | 104 | 1 | 0 | 0 | 0 |

- Molecule 49 is a protein called 50S ribosomal protein L28.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 49 | J8 | 94 | 737 | 463 | 146 | 127 | 1 | 0 | 0 | 0 |
| 49 | F5 | 94 | 737 | 463 | 146 | 127 | 1 | 0 | 0 | 0 |

- Molecule 50 is a protein called 50S ribosomal protein L29.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 50 | K8 | 68 | 568 | 352 | 115 | 100 | 1 | 0 | 0 | 0 |
| 50 | G5 | 67 | 563 | 349 | 114 | 99 | 1 | 0 | 0 | 0 |

- Molecule 51 is a protein called 50S ribosomal protein L30.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|---------|-------|
| | | | Total | C | N | O | | | |
| 51 | L8 | 58 | 459 | 293 | 89 | 77 | 0 | 0 | 0 |
| 51 | H5 | 58 | 459 | 293 | 89 | 77 | 0 | 0 | 0 |

- Molecule 52 is a protein called 50S ribosomal protein L31.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 52 | M8 | 47 | 366 | 234 | 61 | 66 | 5 | 0 | 0 | 0 |

- Molecule 53 is a protein called 50S ribosomal protein L32.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 53 | N8 | 48 | 369 | 229 | 75 | 60 | 5 | 0 | 0 | 0 |
| 53 | J5 | 56 | 434 | 272 | 87 | 70 | 5 | 0 | 0 | 0 |

- Molecule 54 is a protein called 50S ribosomal protein L34.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 54 | P8 | 47 | 401 | 246 | 99 | 54 | 2 | 0 | 0 | 0 |
| 54 | L5 | 45 | 391 | 240 | 97 | 52 | 2 | 0 | 0 | 0 |

- Molecule 55 is a protein called 50S ribosomal protein L35.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 55 | Q8 | 64 | 516 | 331 | 102 | 81 | 2 | 0 | 0 | 0 |
| 55 | M5 | 64 | 516 | 331 | 102 | 81 | 2 | 0 | 0 | 0 |

- Molecule 56 is a RNA chain called tRNA^{Lys}.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|---------|-------|
| | | | Total | C | N | O | P | | | |
| 56 | 1L | 74 | 1570 | 702 | 271 | 523 | 74 | 0 | 0 | 0 |

- Molecule 57 is a RNA chain called tRNA^{Lys}.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|---------|-------|
| | | | Total | C | N | O | P | | | |
| 57 | 3L | 76 | 1611 | 721 | 281 | 534 | 75 | 0 | 0 | 0 |

- Molecule 58 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

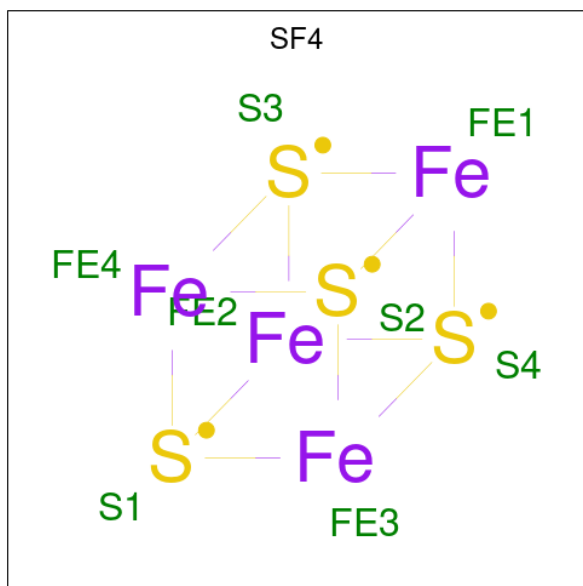
| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|---------------------|---------|---------|
| 58 | 13 | 141 | Total Mg 141 141 | 0 | 0 |
| 58 | 5E | 2 | Total Mg 2 2 | 0 | 0 |
| 58 | 3I | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | 5I | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | 2K | 3 | Total Mg 3 3 | 0 | 0 |
| 58 | 1H | 488 | Total Mg 488 488 | 0 | 0 |
| 58 | 16 | 12 | Total Mg 12 12 | 0 | 0 |
| 58 | 11 | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | 21 | 2 | Total Mg 2 2 | 0 | 0 |
| 58 | 41 | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | 78 | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | 88 | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | C8 | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | I8 | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | J8 | 2 | Total Mg 2 2 | 0 | 0 |
| 58 | P8 | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | Q8 | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | 1G | 78 | Total Mg 78 78 | 0 | 0 |
| 58 | 32 | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | 7A | 1 | Total Mg 1 1 | 0 | 0 |
| 58 | 2L | 3 | Total Mg 3 3 | 0 | 0 |
| 58 | 14 | 420 | Total Mg 420 420 | 0 | 0 |

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| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---------|---------|
| 58 | 1J | 6 | Total | Mg | 0 | 0 |
| | | | 6 | 6 | | |
| 58 | 29 | 3 | Total | Mg | 0 | 0 |
| | | | 3 | 3 | | |
| 58 | 35 | 1 | Total | Mg | 0 | 0 |
| | | | 1 | 1 | | |
| 58 | 45 | 3 | Total | Mg | 0 | 0 |
| | | | 3 | 3 | | |
| 58 | 55 | 1 | Total | Mg | 0 | 0 |
| | | | 1 | 1 | | |
| 58 | 85 | 2 | Total | Mg | 0 | 0 |
| | | | 2 | 2 | | |
| 58 | C5 | 1 | Total | Mg | 0 | 0 |
| | | | 1 | 1 | | |
| 58 | E5 | 1 | Total | Mg | 0 | 0 |
| | | | 1 | 1 | | |
| 58 | L5 | 1 | Total | Mg | 0 | 0 |
| | | | 1 | 1 | | |

- Molecule 59 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe₄S₄).



| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---|---------|---------|
| 59 | 3E | 1 | Total | Fe | S | 0 | 0 |
| | | | 8 | 4 | 4 | | |
| 59 | 32 | 1 | Total | Fe | S | 0 | 0 |
| | | | 8 | 4 | 4 | | |

- Molecule 60 is ZINC ION (three-letter code: ZN) (formula: Zn).

| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|------------|---------|---------|---------|
| 60 | 5I | 1 | Total 1 | Zn 1 | 0 | 0 |
| 60 | G8 | 1 | Total 1 | Zn 1 | 0 | 0 |
| 60 | 5A | 1 | Total 1 | Zn 1 | 0 | 0 |
| 60 | C5 | 1 | Total 1 | Zn 1 | 0 | 0 |

- Molecule 61 is water.

| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|--------------|----------|---------|---------|
| 61 | 13 | 148 | Total 148 | O 148 | 0 | 0 |
| 61 | 3E | 2 | Total 2 | O 2 | 0 | 0 |
| 61 | 3I | 2 | Total 2 | O 2 | 0 | 0 |
| 61 | 5I | 1 | Total 1 | O 1 | 0 | 0 |
| 61 | 6I | 1 | Total 1 | O 1 | 0 | 0 |
| 61 | 1K | 1 | Total 1 | O 1 | 0 | 0 |
| 61 | 4K | 6 | Total 6 | O 6 | 0 | 0 |
| 61 | 1H | 670 | Total 670 | O 670 | 0 | 0 |
| 61 | 16 | 18 | Total 18 | O 18 | 0 | 0 |
| 61 | 11 | 9 | Total 9 | O 9 | 0 | 0 |
| 61 | 21 | 5 | Total 5 | O 5 | 0 | 0 |
| 61 | 31 | 6 | Total 6 | O 6 | 0 | 0 |
| 61 | 58 | 2 | Total 2 | O 2 | 0 | 0 |
| 61 | 78 | 3 | Total 3 | O 3 | 0 | 0 |
| 61 | B8 | 1 | Total 1 | O 1 | 0 | 0 |

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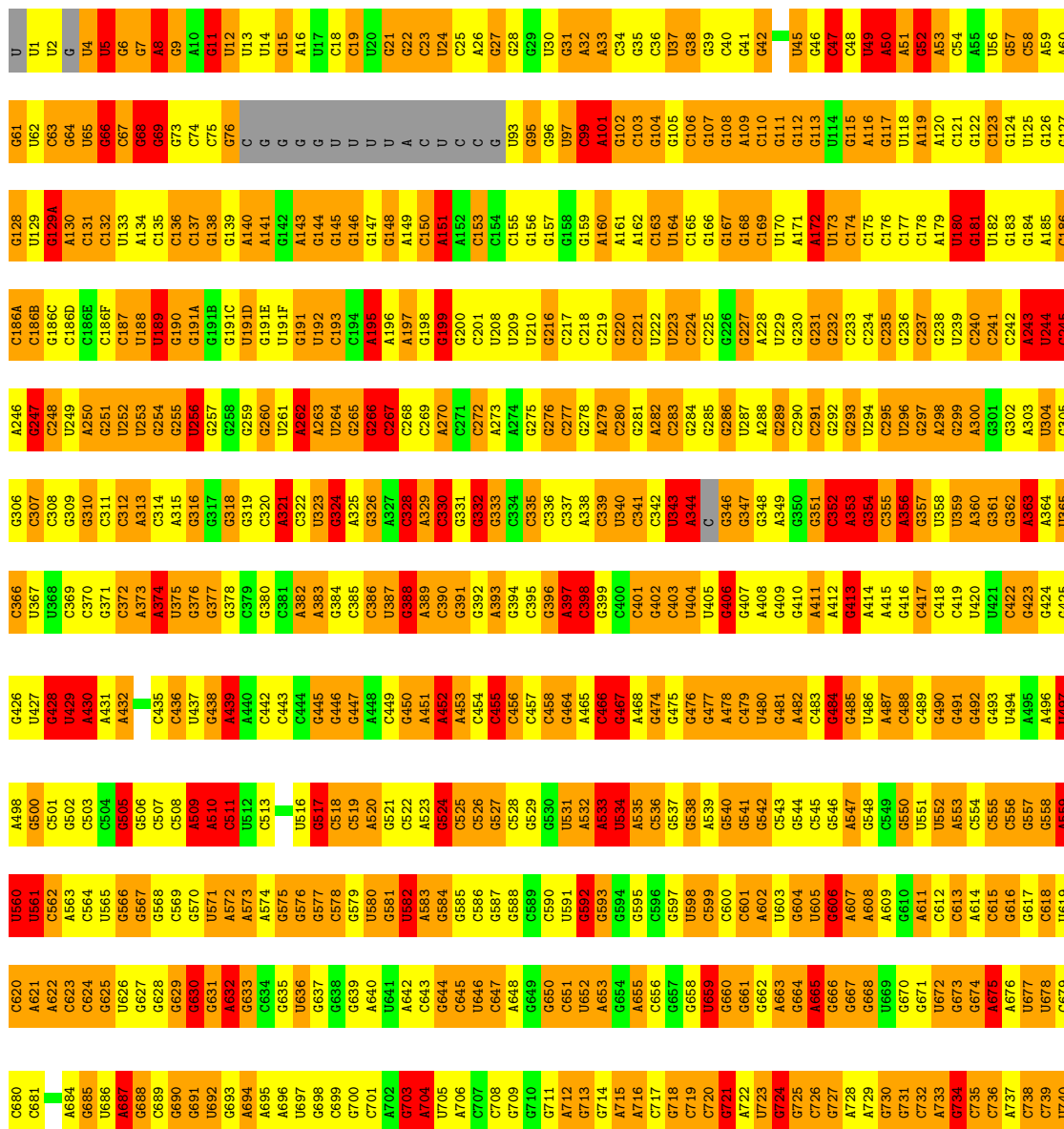
| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|--------------------|---------|---------|
| 61 | D8 | 1 | Total O 1 1 | 0 | 0 |
| 61 | E8 | 1 | Total O 1 1 | 0 | 0 |
| 61 | G8 | 1 | Total O 1 1 | 0 | 0 |
| 61 | I8 | 1 | Total O 1 1 | 0 | 0 |
| 61 | Q8 | 1 | Total O 1 1 | 0 | 0 |
| 61 | 1G | 44 | Total O 44 44 | 0 | 0 |
| 61 | 5A | 3 | Total O 3 3 | 0 | 0 |
| 61 | BA | 1 | Total O 1 1 | 0 | 0 |
| 61 | 14 | 411 | Total O 411 411 | 0 | 0 |
| 61 | 1J | 11 | Total O 11 11 | 0 | 0 |
| 61 | 19 | 4 | Total O 4 4 | 0 | 0 |
| 61 | 29 | 3 | Total O 3 3 | 0 | 0 |
| 61 | 39 | 8 | Total O 8 8 | 0 | 0 |
| 61 | 35 | 2 | Total O 2 2 | 0 | 0 |
| 61 | 55 | 1 | Total O 1 1 | 0 | 0 |
| 61 | E5 | 1 | Total O 1 1 | 0 | 0 |
| 61 | F5 | 2 | Total O 2 2 | 0 | 0 |
| 61 | L5 | 1 | Total O 1 1 | 0 | 0 |
| 61 | M5 | 2 | Total O 2 2 | 0 | 0 |

3 Residue-property plots

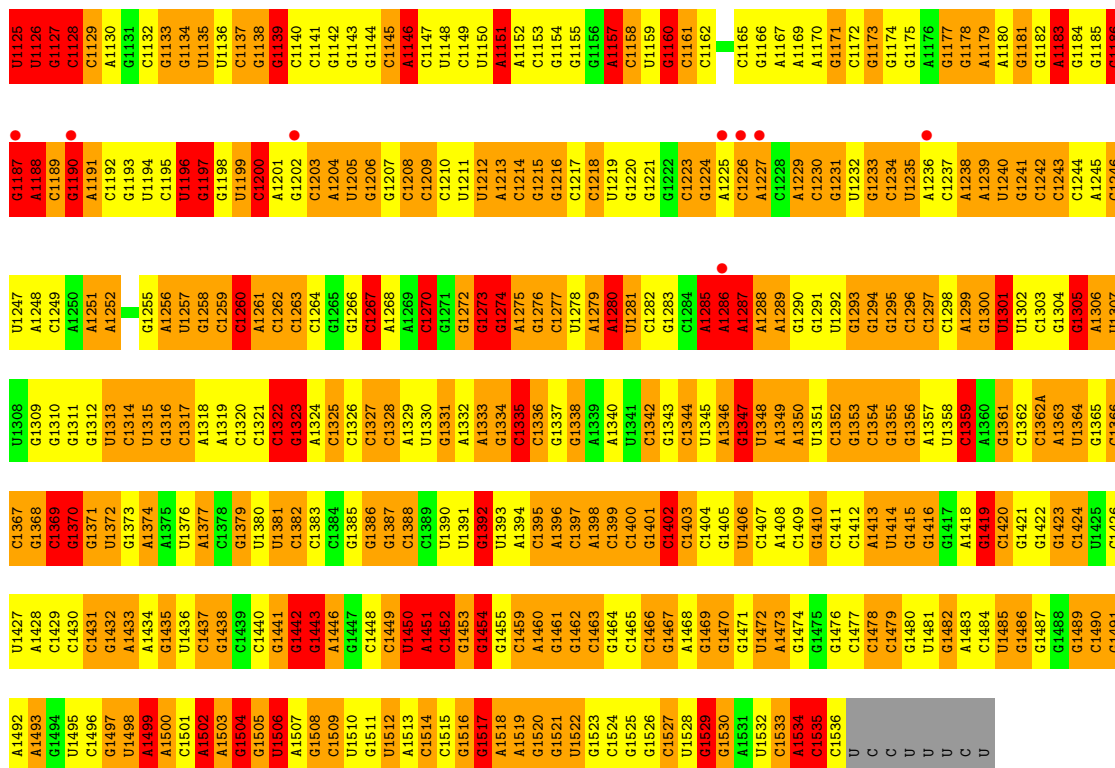
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: 16S ribosomal RNA

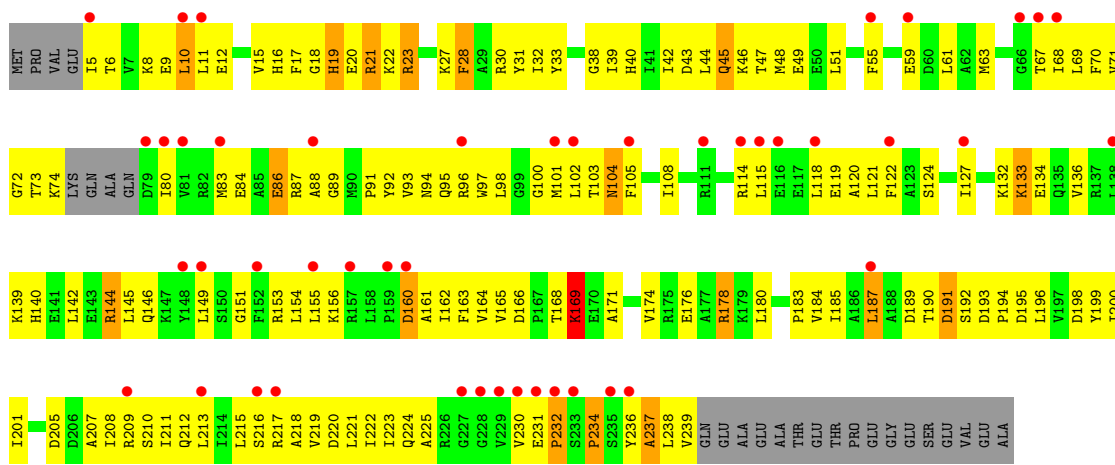
Chain 13: 



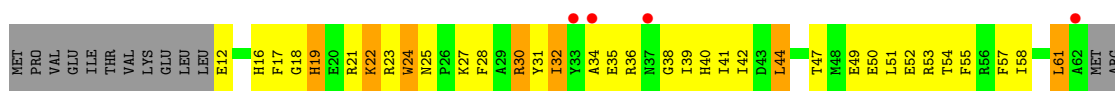
| | | | | | | | | | | | | | | | |
|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|--------|-------|
| U1065 | C1007 | C948 | G687 | U820 | G760 | G698 | G629 | C569 | A509 | C435 | A373 | C312 | A250 | C1865 | G127 |
| C1066 | C1008 | A949 | G888 | G821 | G761 | C699 | G630 | G570 | A510 | C436 | A374 | A313 | G251 | C1865F | G128 |
| A1067 | G1009 | U950 | A889 | G822 | G762 | G700 | G631 | U571 | C511 | U437 | U375 | A314 | U252 | C187 | U129 |
| G1068 | G1010 | G951 | G890 | G823 | G763 | G701 | G632 | A572 | C512 | G438 | G376 | C315 | U253 | U188 | G129A |
| C1069 | G1011 | U952 | C824 | A702 | G764 | A702 | G633 | A573 | C513 | A439 | G377 | G316 | G254 | U189 | A130 |
| U1070 | U1012 | G953 | G825 | G634 | G765 | G706 | C634 | A574 | C514 | A440 | C381 | G317 | G255 | G190 | A131 |
| C1071 | G1013 | C954 | C826 | A706 | A766 | A706 | G635 | G575 | C515 | G442 | C382 | G318 | U256 | G191A | C132 |
| G1072 | A1014 | U955 | U827 | C707 | A767 | C708 | U636 | G576 | C516 | G443 | A383 | G319 | G257 | G191B | U133 |
| U1073 | A1015 | U956 | A828 | C708 | A768 | C708 | G637 | G577 | C517 | G444 | A382 | C320 | G258 | G191C | U133 |
| G1074 | A1016 | C896 | G829 | G709 | G769 | G709 | G638 | G578 | C518 | G445 | A384 | A321 | G259 | G191D | C135 |
| C1075 | G1017 | U957 | G830 | C710 | C770 | C710 | G639 | G579 | C519 | G446 | C385 | C322 | G260 | G191E | C136 |
| U1076 | A1018 | A959 | U831 | G711 | G771 | G711 | G640 | U580 | A520 | A447 | U387 | U323 | U261 | U191F | C137 |
| G1077 | C1019 | U960 | G832 | A712 | G772 | A712 | G641 | G581 | A521 | A448 | U387 | G324 | G262 | G191 | G138 |
| U1078 | U1020 | U961 | U833 | G713 | G773 | G713 | G642 | U582 | C522 | C449 | G388 | A325 | A263 | U192 | G138 |
| G1079 | G1021 | C962 | G834 | G714 | G774 | G714 | U646 | A583 | A523 | G450 | G389 | G326 | U264 | G142 | G142 |
| A1080 | G1022 | G963 | G835 | G715 | G775 | A715 | G647 | G584 | A524 | G451 | C390 | A327 | G265 | C194 | A143 |
| G1081 | G1023 | A964 | G837 | G716 | G776 | A716 | A648 | C585 | C525 | A452 | G391 | C328 | G266 | A195 | G144 |
| G1082 | G1024 | A965 | G838 | G717 | A777 | G717 | G649 | C586 | C526 | A453 | G392 | A329 | G267 | A196 | G145 |
| U1083 | U1025 | G966 | U841 | G718 | G778 | G718 | G650 | G587 | G527 | C454 | A393 | C330 | G267 | A197 | G146 |
| G1084 | G1026 | C967 | C842 | C719 | C779 | C719 | G651 | G588 | C528 | G455 | G394 | G331 | A270 | G198 | G147 |
| U1085 | C | A968 | U843 | C720 | C780 | C720 | U652 | G589 | G529 | C456 | C395 | G332 | C271 | G199 | G148 |
| U1086 | C | A969 | U844 | A780 | A780 | A780 | A653 | C590 | G530 | C457 | G396 | G333 | C272 | C194 | G149 |
| G1087 | C | C970 | C849 | A722 | A722 | A722 | G654 | U591 | U531 | C458 | A397 | C334 | A273 | G200 | C150 |
| G1088 | C | G971 | C783 | C723 | C783 | C723 | G655 | G592 | A532 | G459 | C398 | C335 | A274 | U208 | C150 |
| U1089 | C | G972 | G851 | G724 | G784 | G724 | G657 | G593 | A533 | G460 | G399 | C336 | G275 | U209 | C153 |
| U1090 | C | C973 | G852 | G725 | G785 | G725 | G658 | G594 | U534 | C466 | C400 | C337 | G276 | G199 | G154 |
| U1091 | A | A974 | G853 | G726 | G786 | C726 | U659 | G595 | C536 | G467 | C401 | A338 | C277 | G198 | C155 |
| A1092 | G | A975 | G854 | A787 | A787 | G727 | G660 | C596 | C537 | G468 | G402 | C339 | C217 | G200 | G155 |
| G1093 | G | G976 | G855 | A728 | U788 | A728 | G661 | G597 | G538 | G474 | C403 | U340 | A279 | G201 | G159 |
| U1094 | G | A977 | G856 | U729 | U789 | G682 | G662 | U598 | G539 | G475 | U404 | C341 | C218 | G202 | G159 |
| U1095 | G | G978 | C857 | G730 | G790 | G730 | A663 | C599 | A539 | G476 | U405 | C342 | G220 | G203 | A160 |
| C1096 | G | C979 | C858 | G731 | G791 | G731 | G664 | C600 | G540 | G480 | C406 | G343 | G284 | G221 | A161 |
| C1097 | A | A980 | A859 | A792 | A792 | C732 | A665 | C601 | G541 | U480 | G407 | C344 | G285 | U222 | A162 |
| G1098 | G1036 | U981 | A860 | U793 | U793 | A733 | G666 | A602 | G542 | G481 | A408 | C345 | G286 | U229 | C169 |
| G1099 | G1037 | U982 | G861 | G794 | A794 | G734 | G667 | A603 | C543 | G482 | A409 | C346 | G287 | G230 | C163 |
| C1100 | C1038 | A983 | C862 | C795 | C795 | C735 | G668 | U604 | G544 | C483 | G410 | C347 | G288 | G231 | C164 |
| A1101 | C1039 | C984 | U863 | C796 | C796 | C736 | U669 | G605 | C545 | G484 | A411 | C348 | G289 | G232 | C165 |
| A1102 | U1040 | C985 | A864 | C797 | C797 | A737 | G670 | G606 | G546 | C485 | A412 | C349 | G290 | G233 | C166 |
| C1103 | A1041 | A986 | A865 | G798 | G798 | C738 | G671 | A607 | G547 | U486 | G413 | C350 | G291 | G234 | G167 |
| G1104 | G1042 | G987 | C866 | G799 | G799 | C739 | G672 | A608 | G548 | U487 | A414 | C351 | C292 | A228 | C168 |
| A1105 | C1043 | G988 | G867 | C800 | C800 | U740 | A675 | A609 | C549 | G488 | A415 | C352 | G293 | U229 | C169 |
| G1106 | A1044 | C989 | C868 | U801 | U801 | G741 | A676 | A610 | G550 | C489 | G416 | C353 | G294 | G230 | U170 |
| C1107 | G1045 | C990 | C869 | A802 | A802 | U742 | U677 | A611 | U551 | G490 | C417 | C354 | U294 | G231 | A171 |
| G1108 | C1046 | U991 | U870 | G803 | G803 | U743 | U678 | C612 | U552 | G491 | C418 | C355 | G295 | G232 | A172 |
| C1109 | G1047 | U992 | U871 | U804 | U804 | C744 | C679 | C613 | A553 | G492 | C419 | C356 | U296 | C233 | U173 |
| A1110 | U1048 | G993 | A872 | C805 | C805 | G745 | G680 | A614 | C554 | U493 | U420 | C357 | G297 | C234 | C174 |
| G1111 | G1049 | A994 | A873 | C806 | C806 | A746 | G681 | C615 | C555 | U494 | U421 | C358 | G298 | C235 | C175 |
| C1112 | G1050 | C995 | C874 | A807 | A807 | C747 | G682 | G616 | C556 | U495 | C422 | C359 | G299 | G237 | C176 |
| C1113 | C1051 | A996 | C875 | C808 | C808 | C748 | A684 | G617 | C557 | A496 | G423 | C360 | G300 | G238 | C177 |
| G1114 | U1052 | U997 | G876 | G809 | G809 | C749 | G685 | C618 | G558 | U497 | G424 | C361 | G301 | G239 | U180 |
| C1115 | G1053 | G998 | G877 | C810 | C810 | G750 | U686 | U619 | A559 | A498 | G425 | C362 | G302 | C240 | G181 |
| G1116 | C1054 | C998A | G878 | C811 | C811 | U751 | A687 | C620 | U560 | A500 | G426 | C363 | G303 | C241 | U182 |
| C1117 | A1055 | U999 | C879 | C812 | C812 | G752 | G688 | A621 | U561 | C501 | U427 | C364 | A304 | C242 | U183 |
| G1118 | U1056 | A1000 | C880 | U813 | U813 | A753 | C689 | A622 | C562 | G502 | G428 | C365 | G305 | A243 | G184 |
| C1119 | G1057 | G1001 | C881 | G754 | C754 | G754 | G690 | C623 | A563 | A503 | U429 | C366 | G306 | U244 | A185 |
| G1120 | G1058 | G941 | C882 | A814 | A814 | G755 | G691 | C624 | C564 | C504 | U430 | C367 | G307 | C245 | A186 |
| U1121 | C1059 | U943 | C883 | A815 | A815 | C756 | U692 | G625 | U565 | G505 | A431 | C368 | C308 | A246 | C188 |
| U1122 | C1060 | A1004 | U884 | C817 | C817 | U757 | U693 | U626 | G566 | G506 | G432 | C369 | G309 | G247 | C189 |
| A1123 | G1061 | A946 | G885 | C818 | C818 | G758 | G694 | U627 | G567 | G507 | A433 | C370 | G310 | C248 | G186C |
| G1124 | G1064 | C1006 | G886 | A819 | A819 | A759 | U697 | G628 | G568 | C508 | U434 | C372 | C311 | U249 | C186D |

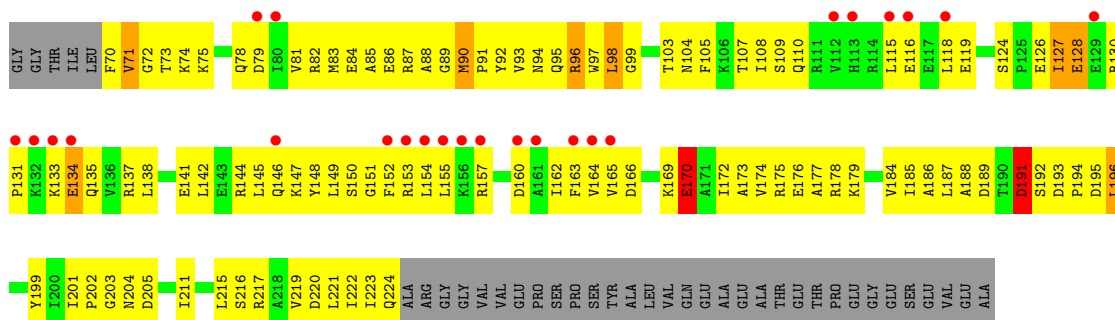


• Molecule 2: 30S ribosomal protein S2

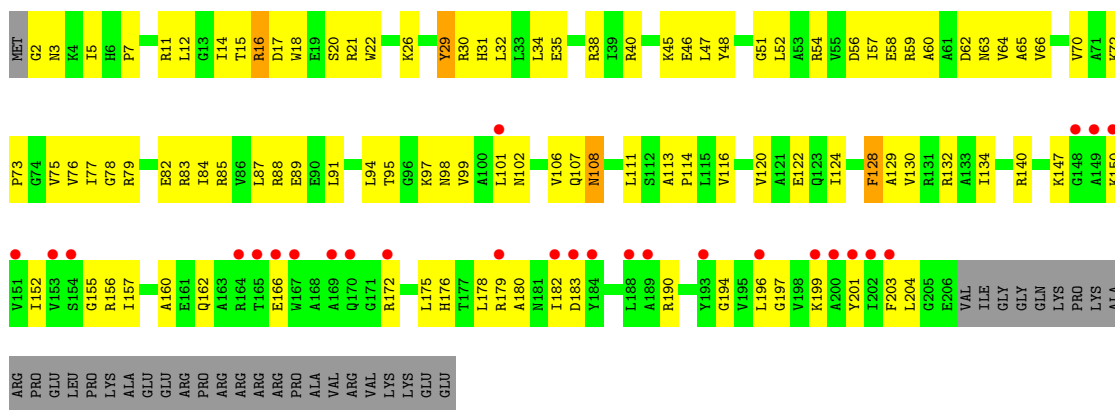


• Molecule 2: 30S ribosomal protein S2

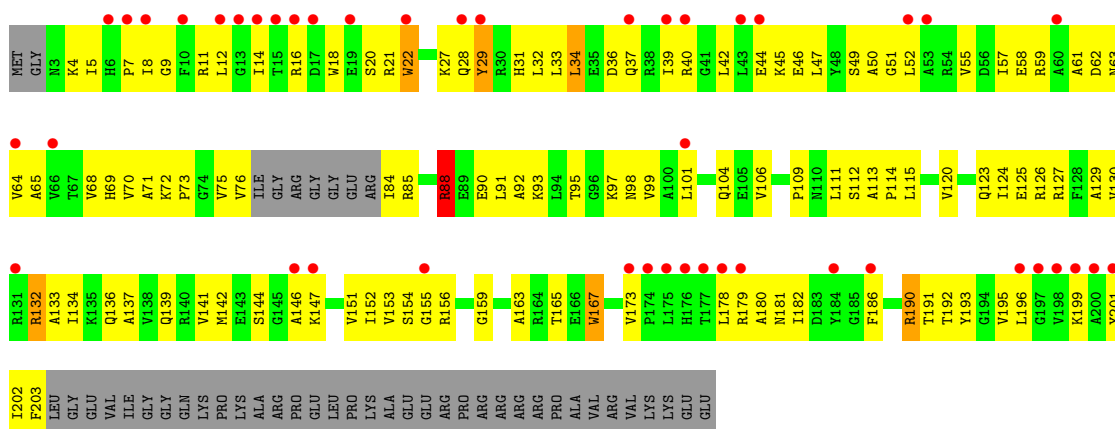




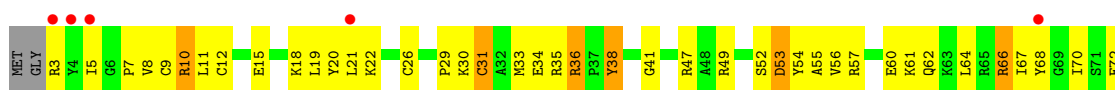
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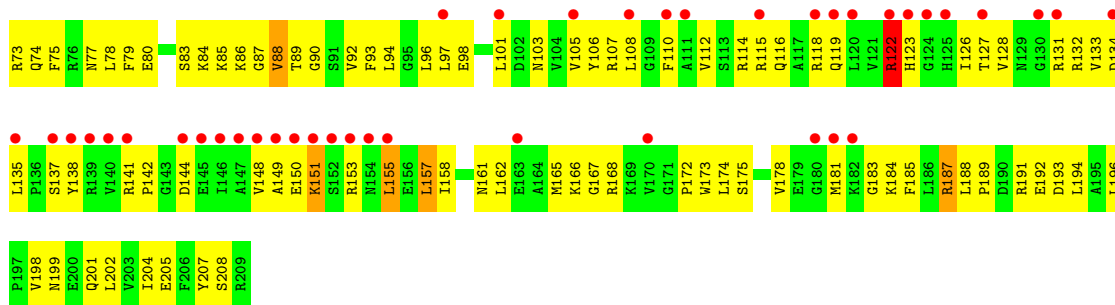


• Molecule 3: 30S ribosomal protein S3

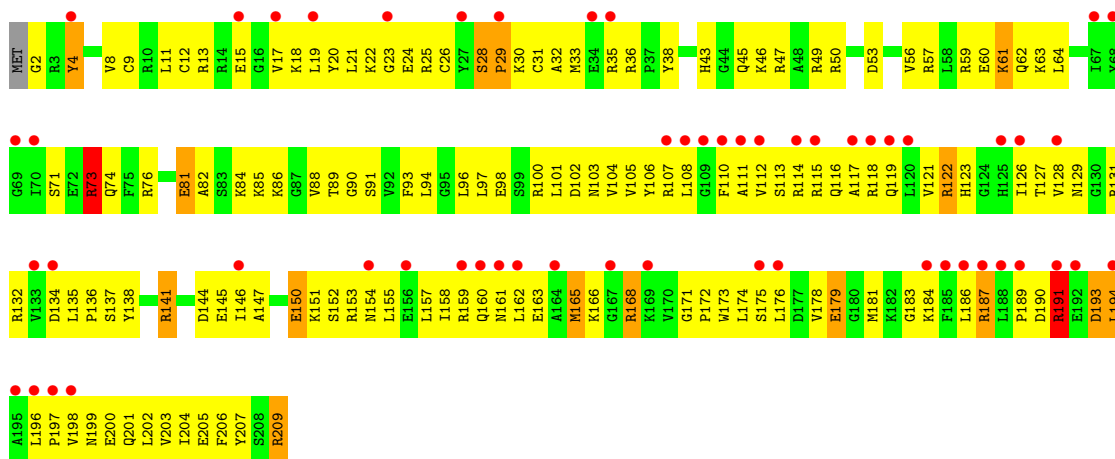


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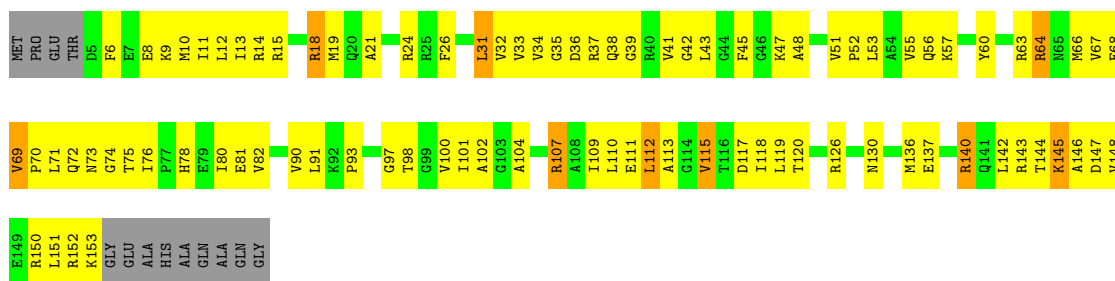




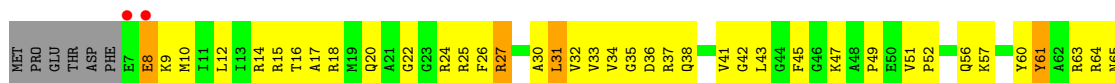
- Molecule 4: 30S ribosomal protein S4



- Molecule 5: 30S ribosomal protein S5

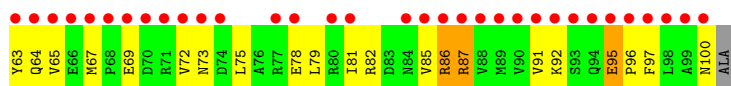
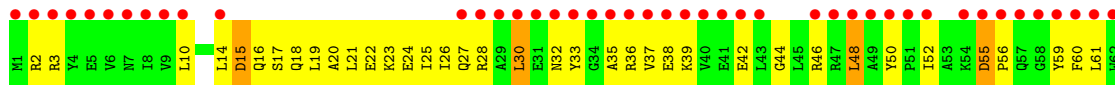
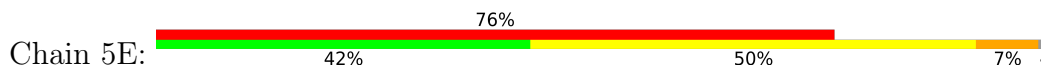


- Molecule 5: 30S ribosomal protein S5

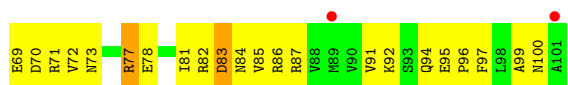
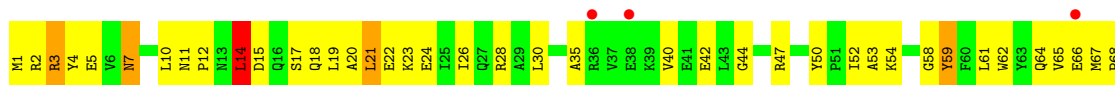




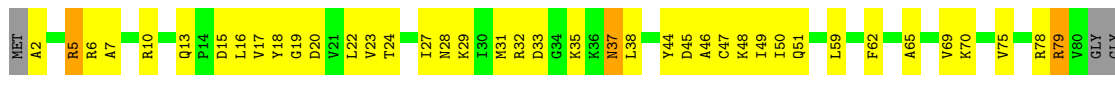
• Molecule 6: 30S ribosomal protein S6



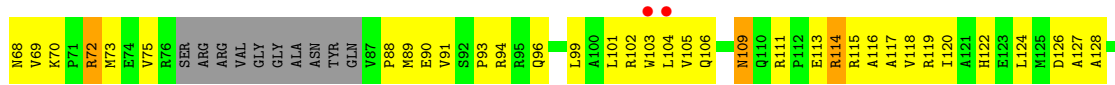
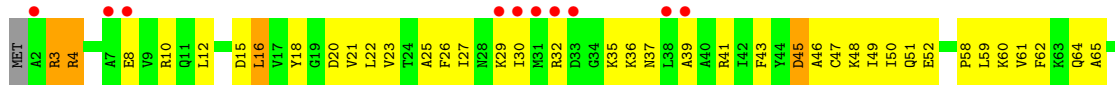
• Molecule 6: 30S ribosomal protein S6

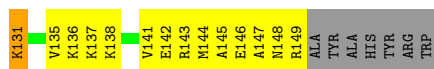


• Molecule 7: 30S ribosomal protein S7



• Molecule 7: 30S ribosomal protein S7





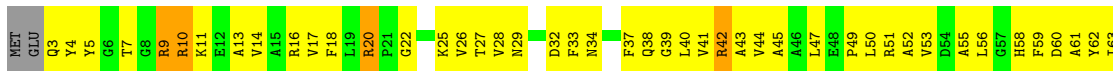
- Molecule 8: 30S ribosomal protein S8



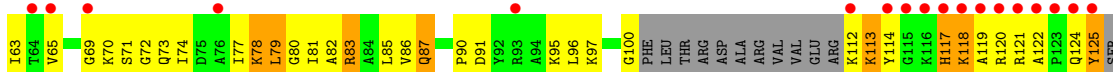
- Molecule 8: 30S ribosomal protein S8



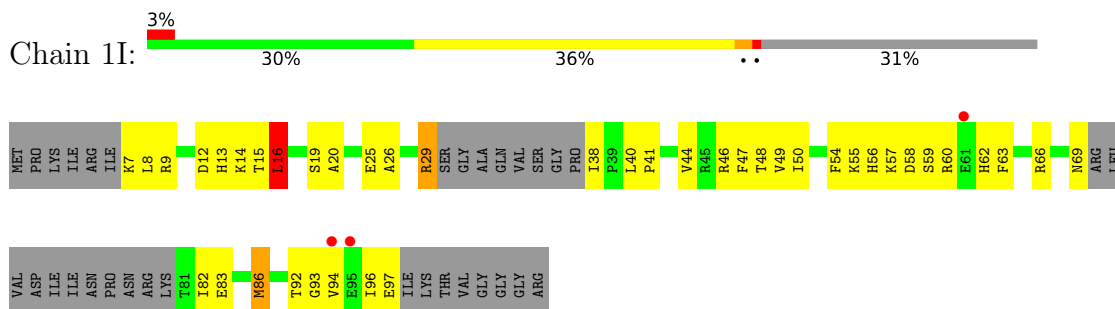
- Molecule 9: 30S ribosomal protein S9



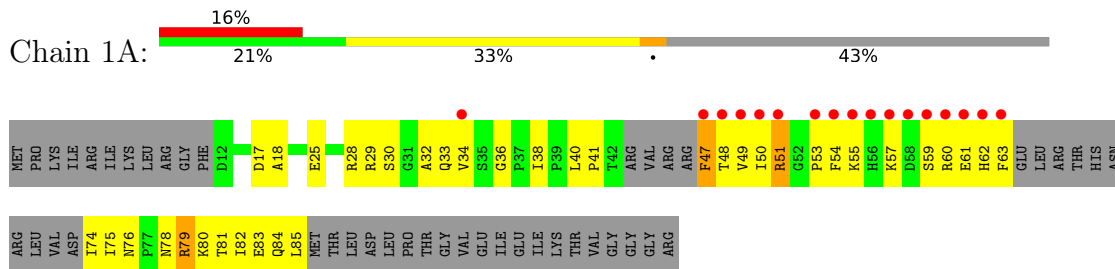
- Molecule 9: 30S ribosomal protein S9



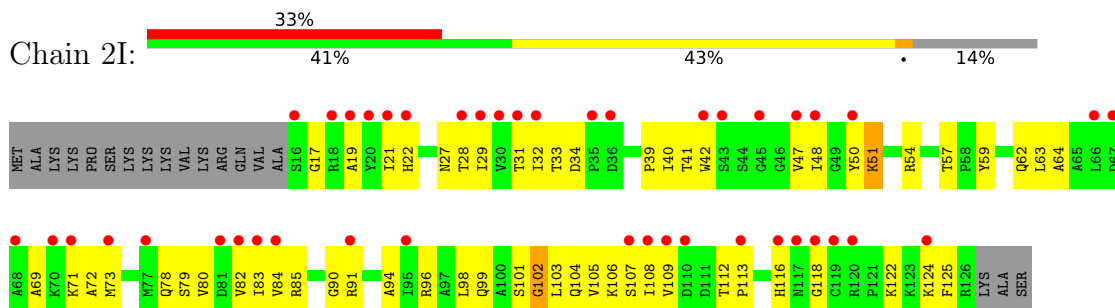
- Molecule 10: 30S ribosomal protein S10



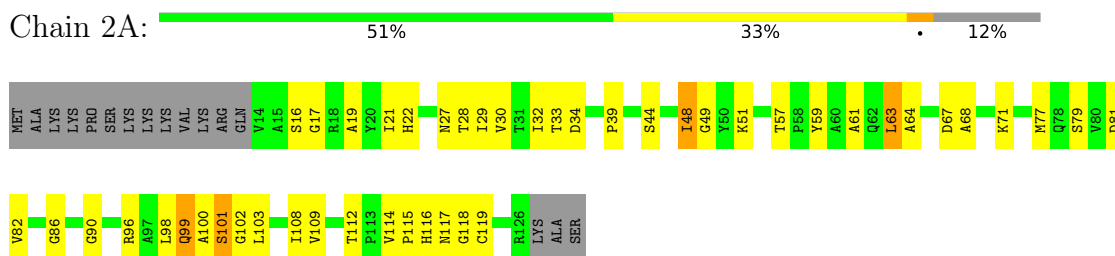
- Molecule 10: 30S ribosomal protein S10



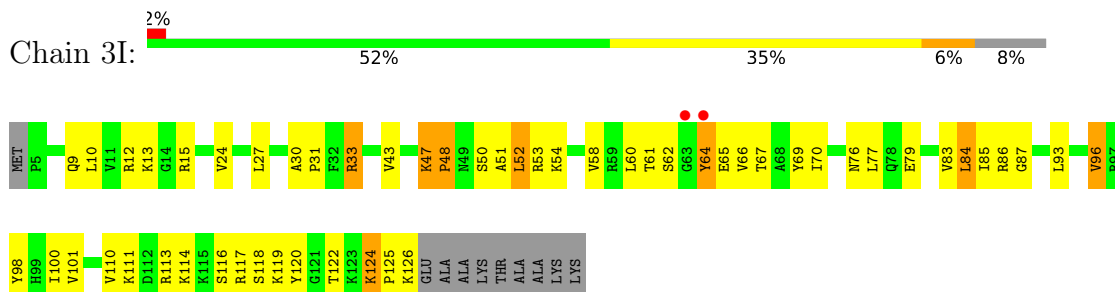
- Molecule 11: 30S ribosomal protein S11



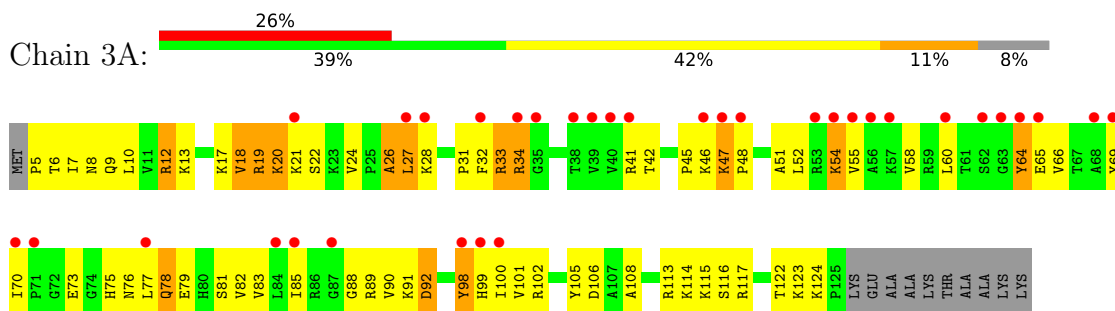
- Molecule 11: 30S ribosomal protein S11



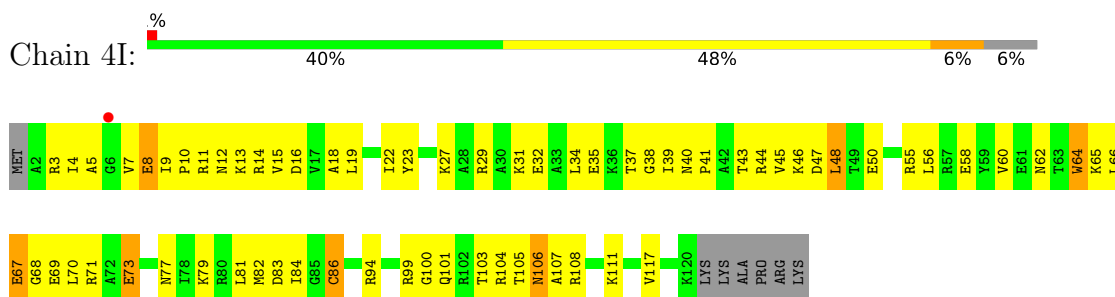
- Molecule 12: 30S ribosomal protein S12



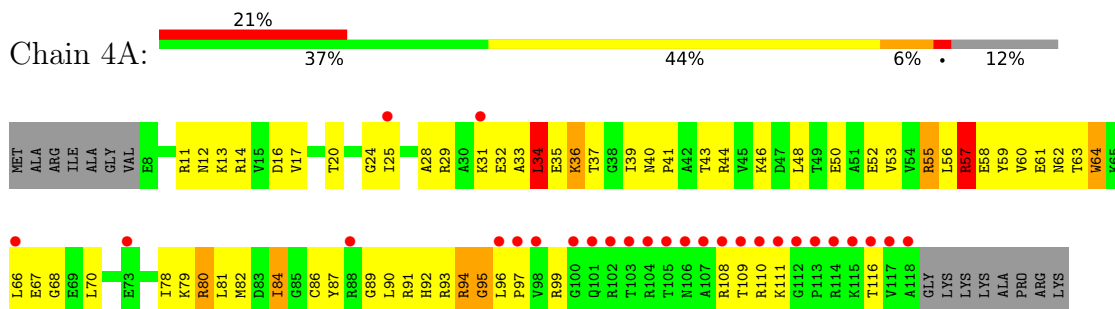
- Molecule 12: 30S ribosomal protein S12



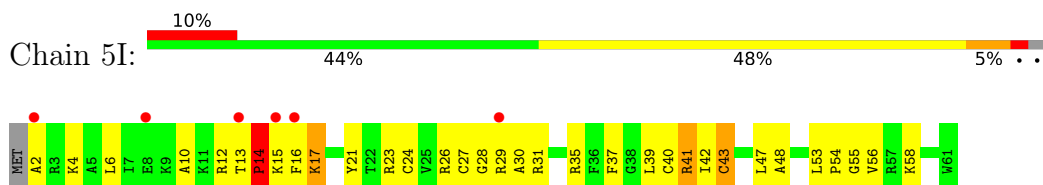
- Molecule 13: 30S ribosomal protein S13



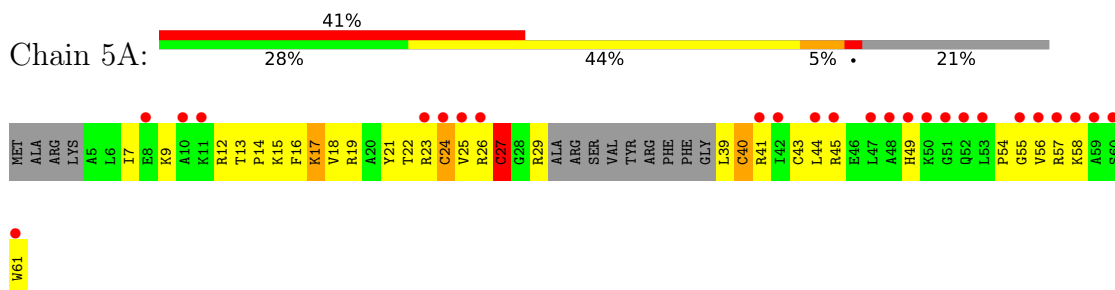
- Molecule 13: 30S ribosomal protein S13



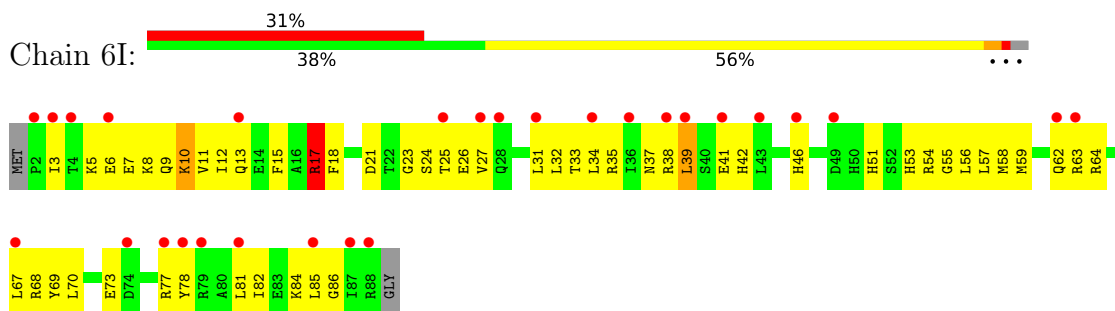
- Molecule 14: 30S ribosomal protein S14 type Z



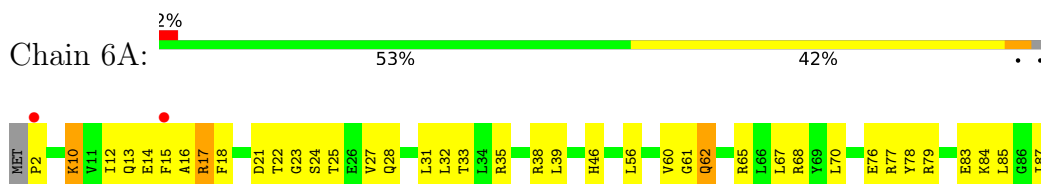
- Molecule 14: 30S ribosomal protein S14 type Z



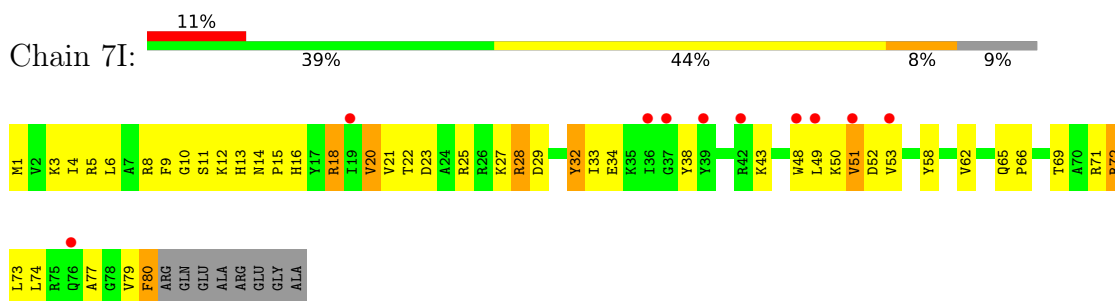
- Molecule 15: 30S ribosomal protein S15



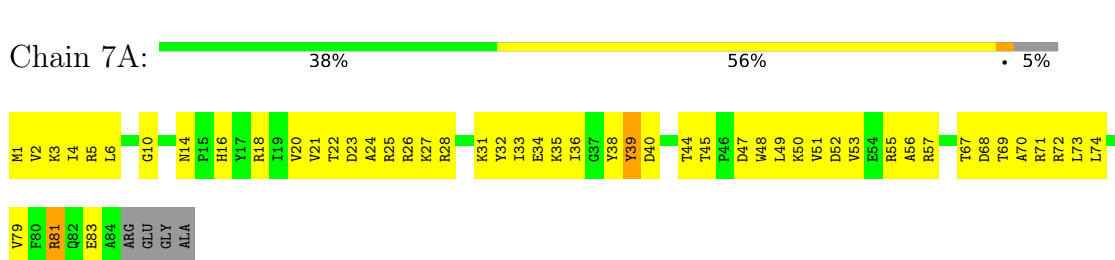
- Molecule 15: 30S ribosomal protein S15



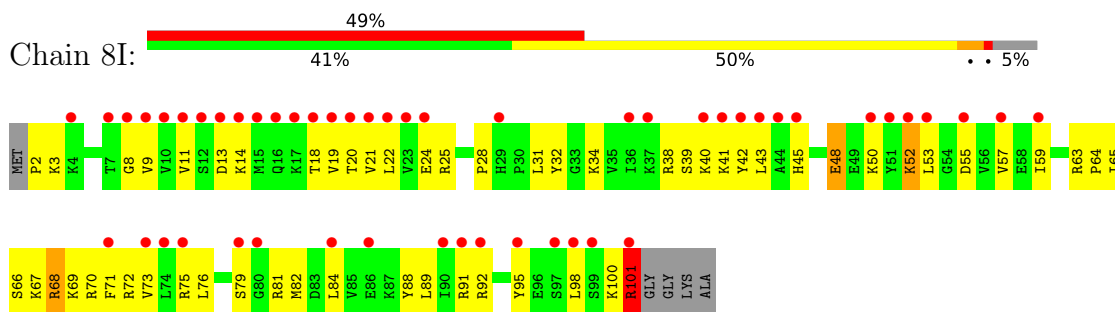
- Molecule 16: 30S ribosomal protein S16



- Molecule 16: 30S ribosomal protein S16

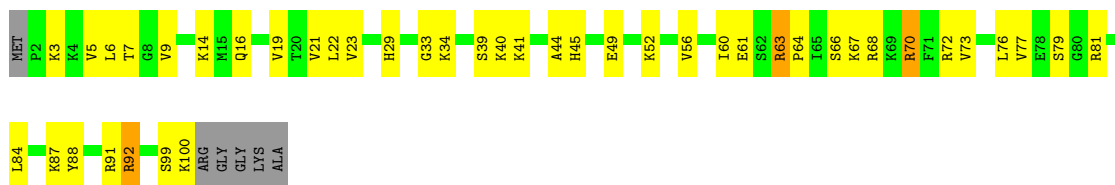


- Molecule 17: 30S ribosomal protein S17




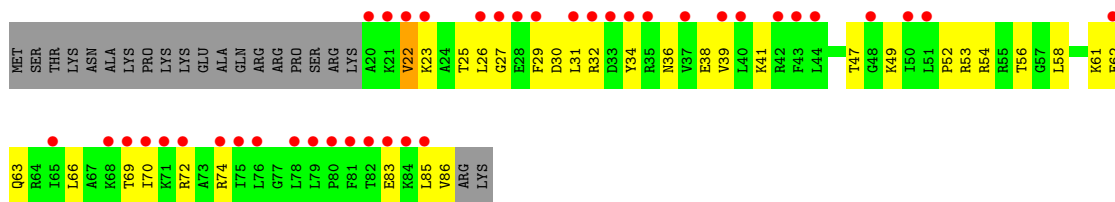
- Molecule 17: 30S ribosomal protein S17

Chain 8A:  53% 38% 6%



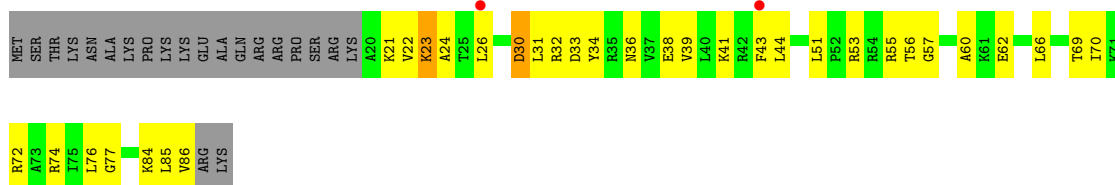
• Molecule 18: 30S ribosomal protein S18

Chain 9I:  45% 40% 35% 24%



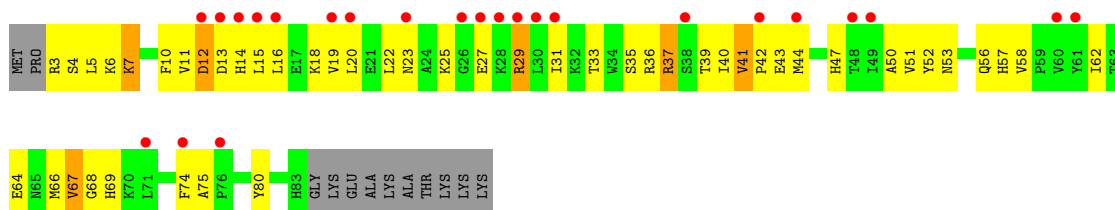
• Molecule 18: 30S ribosomal protein S18

Chain 9A:  2% 39% 35% 24%



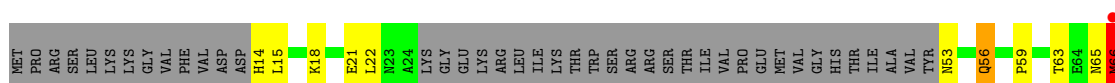
• Molecule 19: 30S ribosomal protein S19

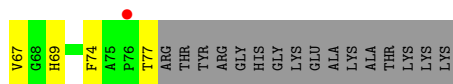
Chain AI:  26% 35% 45% 6% 13%



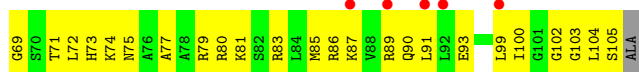
• Molecule 19: 30S ribosomal protein S19

Chain AA:  2% 23% 14% 61% 2%

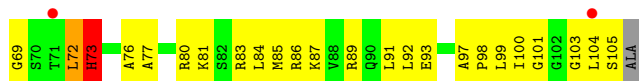
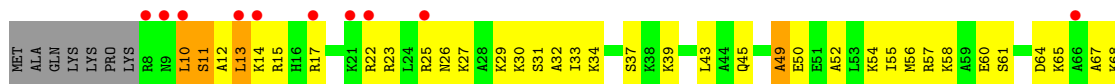




• Molecule 20: 30S ribosomal protein S20



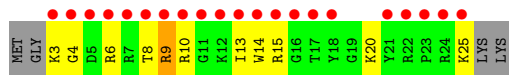
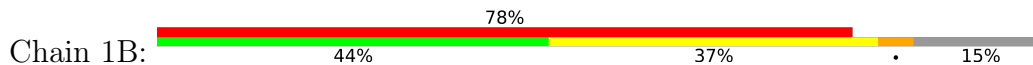
• Molecule 20: 30S ribosomal protein S20



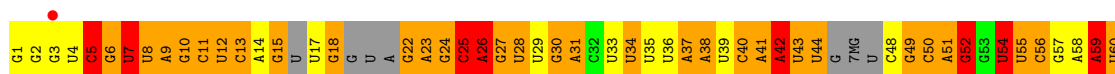
• Molecule 21: 30S ribosomal protein Thx



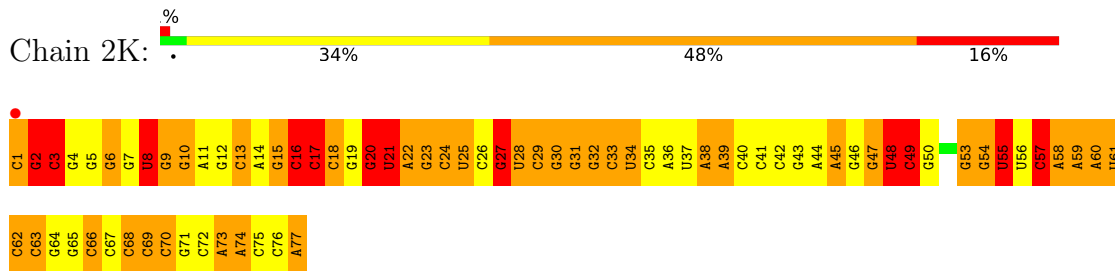
• Molecule 21: 30S ribosomal protein Thx



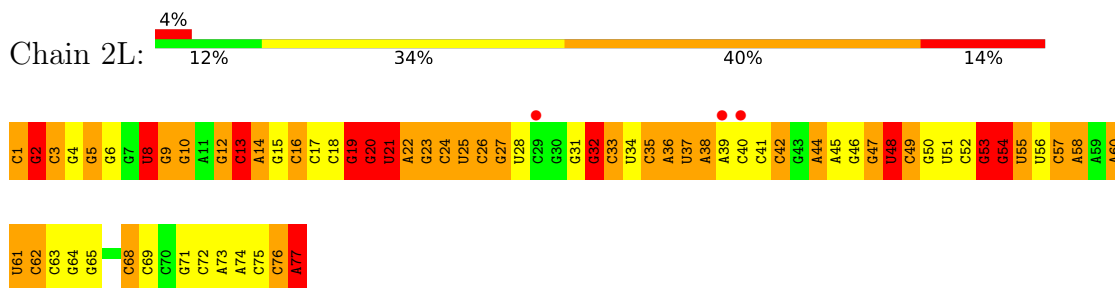
• Molecule 22: tRNA^{Lys}



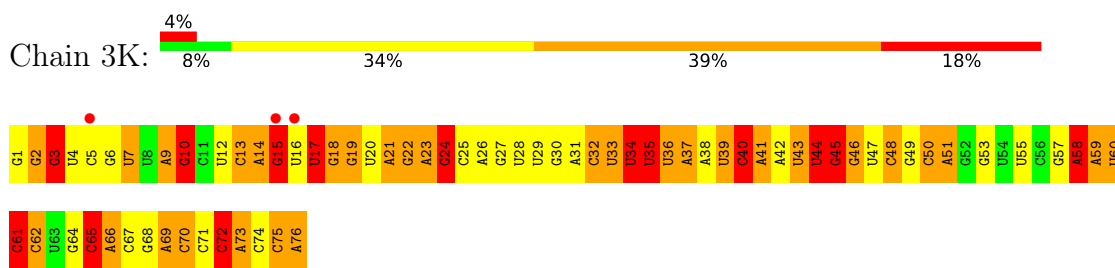
• Molecule 23: tRNA^{fMet}



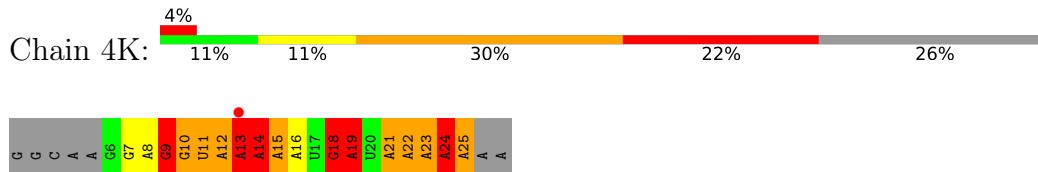
• Molecule 23: tRNA^{fMet}



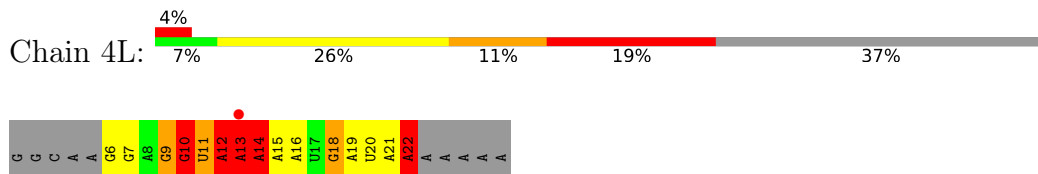
• Molecule 24: tRNA^{Lys}



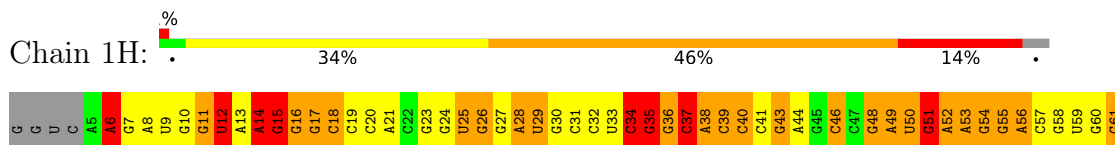
• Molecule 25: mRNA



• Molecule 25: mRNA



• Molecule 26: 23S ribosomal RNA



| | | | | | | | | | | | | | | | | | |
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| U1035 | G975 | C915 | G854 | G794 | A734 | G674 | G636 | A678 | C516 | C485 | A394 | C337 | C277 | G252 | C192 | G124 | U63 |
| G1036 | G976 | G916 | G855 | G795 | A675 | A675 | A637 | G579 | C517 | C486 | U395 | G338 | A278 | G253 | U193 | G125 | A64 |
| G1038 | G978 | A917 | G856 | G796 | G676 | A676 | G638 | G581 | U518 | A457 | G396 | U339 | C279 | G254 | G194 | A126 | G65 |
| G1039 | G979 | G918 | G857 | G797 | A677 | A677 | U639 | G582 | U519 | G458 | G397 | A400 | C280 | A255 | A195 | A127 | G66 |
| C1040 | A980 | G919 | U858 | G798 | G678 | G678 | G640 | G583 | G520 | U459 | G398 | G341 | G281 | A256 | A196 | C128 | U67 |
| G1041 | G920 | G920 | G859 | G799 | G679 | G679 | G641 | G584 | G521 | A460 | G399 | G342 | A282 | A257 | A197 | C129 | G68 |
| G1042 | A981 | G921 | U860 | A800 | G680 | G680 | G642 | G585 | G522 | C461 | G400 | C343 | U284 | G258 | C198 | C130 | G69 |
| G1043 | G922 | U922 | A861 | G801 | G681 | G681 | A643 | G586 | G523 | A401 | G344 | G344 | U285 | G259 | A199 | G131 | G70 |
| G1044 | A982 | C923 | A862 | A802 | G682 | G682 | A644 | A586 | U524 | U402 | A345 | A345 | C286 | G260 | U200 | G132 | A71 |
| G1044 | A983 | C924 | A863 | U803 | G683 | G683 | G645 | U403 | U525 | U403 | U403 | A346 | C287 | G261 | C201 | C133 | A72 |
| A1045 | G985 | A925 | G864 | A804 | G684 | G684 | A646 | U588 | A526 | C404 | A347 | A347 | C288 | A262 | U202 | C134 | A73 |
| G1046 | G986 | A926 | G865 | A805 | G685 | G685 | G647 | U466 | A527 | U405 | G348 | G348 | C289 | C263 | C203 | G135 | A74 |
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| G | G1003 | G944 | G882 | U822 | G702 | G702 | A | U606 | G545 | A483 | A422 | G363B | U305 | G270J | G220 | C150 | A91 |
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| C | G1011 | G952 | A | G830 | G710 | G710 | G654R | U613 | U553 | A492 | G430 | G370 | G313 | G270R | A228 | U163 | U99 |
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| U | U1021 | G962 | A901 | G840 | G720 | G720 | G660 | G622 | G564 | A502 | U441 | U380 | G323 | G271B | C238 | G178 | G110 |
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| | | | | | | | | | | | | | | | |
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| C2021 | G1961 | A1901 | C1832 | G1772 | G1696 | C1636 | C1574 | U1514 | A1483 | U1394 | G1334 | A1274 | G1215 | G1154 | U |
| U2022 | C1962 | C1902 | U1833 | A1773 | G1697 | A1637 | C1575 | C1515 | U1484 | A1395 | U1335 | A1275 | G1216 | A1155 | A |
| G2023 | U1963 | G1903 | G1834 | C1774 | A1698 | A1638 | C1576 | C1516 | G1465 | U1396 | G1336 | G1276 | C1217 | A1156 | A |
| G2024 | G1964 | C1904 | G1835 | U1775 | G1699 | U1639 | U1577 | G1517 | G1456 | U1397 | G1337 | G1277 | C1218 | G1157 | U |
| C2025 | C1965 | C1905 | C1836 | A1776 | A1700 | A1640 | U1578 | G1518 | A1457 | C1398 | G1338 | A1278 | G1219 | C1158 | A |
| G2026 | A1966 | G1906 | C1837 | U1777 | A1701 | A1641 | A1579 | G1519 | A1458 | C1399 | G1339 | G1279 | G1220 | U1159 | G |
| G2027 | C1967 | G1907 | C1838 | U1778 | G1702 | G1642 | A1580 | U1520 | G1459 | G1400 | U1340 | G1280 | C1221 | G1160 | C |
| U2028 | G1968 | C1908 | G1839 | U1779 | G1703 | G1643 | | G1521 | A1460 | G1401 | U1341 | G1281 | C1222 | C1161 | U |
| G2029 | A1969 | G1909 | G1840 | A1780 | G1704 | G1644 | | G1522 | A1461 | A1402 | U1342 | U1282 | C1223 | G1162 | C |
| A2030 | A1970 | G1910 | U1841 | C1781 | G1705 | G1645 | A1586 | U1523 | G1462 | C1403 | G1343 | G1283 | G1224 | G1163 | A |
| A2031 | A1971 | A1911 | G1842 | C1782 | U1706 | G1646 | A1587 | C1524 | C1463 | C1404 | G1344 | A1284 | G1225 | G1164 | C |
| G2032 | A1972 | A1912 | A1843 | A1783 | G1707 | G1647 | C1588 | G1525 | C1464 | U405 | C1345 | G1285 | G1226 | U1165 | V |
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| U2034 | C1974 | C1914 | G1845 | A1785 | U1709 | G1649 | U1590 | U1527 | C1466 | G1407 | G1347 | A1287 | G1228 | U1167 | V |
| G2035 | G1975 | U1915 | G1846 | A1786 | C1710 | G1650 | G1591 | A1528 | C1467 | C1408 | G1348 | U1288 | G1229 | G1168 | V |
| C2036 | U1976 | A1916 | A1847 | A1787 | G1711 | G1651 | C1592 | A1529 | C1468 | A1409 | G1349 | C1289 | G1230 | G1169 | V |
| G2037 | A1977 | A1917 | G1848 | C1788 | G1712 | A1652 | C1593 | A1530 | A1469 | C1410 | C1350 | C1290 | C1231 | G1170 | V |
| G2038 | A1978 | A1918 | A1849 | A1789 | G1713 | G1653 | G1594 | | G1470 | G1411 | C1351 | C1291 | G1232 | G1171 | V |
| C2039 | C1979 | U1919 | G1850 | C1790 | U1714 | A1654 | G1595 | | A1471 | A1412 | U1352 | U1292 | G1233 | G1172 | V |
| C2040 | G1980 | C1920 | U1851 | A1791 | G1715 | A1655 | A1596 | C1533 | A1472 | G1413 | A1353 | C1293 | G1234 | U1173 | V |
| U2041 | A1981 | G1921 | C1852 | A1792 | G1716 | G1656 | A1597 | U1534 | A1473 | G1414 | A1354 | U1294 | U1234 | U1174 | V |
| A2042 | C1982 | G1922 | A1853 | C1793 | G1725 | C1657 | U1598 | U1535 | C1474 | U1415 | G1355 | C1295 | G1235 | U1175 | V |
| C2043 | C1983 | C1923 | A1854 | U1794 | G1726 | C1658 | C1599 | A1536 | G1475 | G1416 | G1356 | G1296 | G1236 | A1176 | V |
| C2044 | G1984 | G1924 | G1855 | C1795 | U1727 | C1659 | C1600 | C1537 | G1476 | C1417 | U1357 | C1297 | G1237 | A1177 | V |
| C2045 | C1985 | C1925 | G1856 | U1796 | A1728 | U1659 | G1538 | | C1477 | G1418 | G1358 | C1298 | G1238 | C1178 | V |
| G2046 | A1986 | U1926 | G1857 | C1797 | U1730 | G1661 | U1602 | G1540 | A1478 | A1419 | A1359 | G1299 | G1239 | C1179 | V |
| U2047 | G1987 | A1927 | G1858 | A1798 | G1731 | C1662 | A1603 | U1541 | G1479 | U1420 | A1360 | U1300 | U1240 | C1180 | V |
| G2048 | C1988 | C1928 | A1859 | C1799 | A1732 | C1663 | C1604 | G1542 | G1480 | G1421 | G1361 | A1301 | A1241 | C1181 | V |
| G2049 | G1989 | G1929 | G1860 | G1801 | G1733 | A1664 | C1605 | A1543 | G1481 | A1422 | C1362 | A1302 | A1242 | G1182 | V |
| C2050 | C1990 | G1930 | C1861 | C1802 | G1734 | A1665 | G1606 | C1544 | G1482 | G1423 | C1363 | A1303 | G1243 | G1183 | V |
| A2051 | U1991 | U1981 | G1862 | A1803 | G1735 | G1666 | U1607 | A1545 | G1483 | G1424 | G1364 | C1304 | G1244 | G1184 | V |
| G2052 | G1992 | A1932 | C1863 | A1804 | C1741 | G1667 | A1608 | A1546A | G1484 | G1425 | A1365 | C1305 | G1245 | G1185 | V |
| C2053 | U1993 | G1933 | U1864 | C1804 | C1742 | A1668 | A1609 | C1546 | A1485 | A1426 | A1366 | C1306 | A1246 | G1186 | V |
| A2054 | C1994 | C1934 | G1865 | U1805 | G1743 | A1669 | A1610 | C1547 | G1486 | C1427 | A1367 | A1307 | A1247 | G1187 | V |
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| C2056 | G1996 | A1936 | A1867 | G1807 | G1747 | U1671 | C1549 | | U1488 | G1429 | U1369 | A1309 | U1249 | A1189 | V |
| A2057 | G1997 | A1937 | A1868 | U1808 | G1748 | C1672 | C1550 | | A1490 | C1430 | C1370 | G1310 | G1250 | A1129 | V |
| A2058 | G1998 | A1938 | G1869 | A1809 | U1749 | U1673 | C1551 | | G1491 | U1431 | G1371 | G1311 | C1251 | G1191 | V |
| A2059 | C1999 | U1939 | C1870 | A1810 | G1750 | U1674 | G1552 | | G1492 | U1432 | U1372 | U1312 | G1252 | G1192 | V |
| G2060 | G2000 | U1940 | C1881 | C1811 | C1751 | C1675 | C1553 | | C1493 | U1433 | U1373 | U1313 | G1253 | G1193 | V |
| A2061 | A2001 | C1941 | C1882 | A1812 | G1752 | A1676 | A1554 | | A1494 | A1434 | G1374 | C1314 | A1254 | A1194 | V |
| G2062 | G2002 | C1942 | G1883 | G1813 | G1753 | A1677 | C1555 | | A1495 | G1435 | C1375 | C1315 | U1255 | G1195 | V |
| C2063 | G2003 | U1943 | G1884 | G1814 | C1754 | G1678 | C1556 | | A1496 | G1436 | C1376 | U1316 | G1256 | C1196 | V |
| C2064 | G2004 | U1944 | A1884 | A1815 | A1749 | U1679 | C1557 | | U1497 | G1437 | G1377 | A1317 | C1257 | U1198 | V |
| C2065 | A2005 | G1945 | A1885 | G1816 | G1756 | U1680 | A1558 | | C1498 | U1438 | A1378 | C1318 | G1258 | U1199 | V |
| C2066 | C2006 | U1946 | C1886 | G1817 | U1757 | G1681 | C1559 | | C1499 | A1439 | A1379 | G1319 | G1259 | C1200 | V |
| G2067 | C2007 | C1947 | C1887 | U1818 | G1758 | G1682 | G1560 | | G1500 | G1440 | G1380 | C1320 | G1260 | C1201 | V |
| U2068 | G2008 | G1948 | A1888 | A1819 | U1759 | C1683 | C1561 | | C1501 | G1441 | G1381 | A1321 | G1261 | U1141 | V |
| G2069 | G2009 | U1949 | A1889 | A1820 | A1760 | C1684 | U1562 | | C1502 | G1442 | G1382 | A1322 | A1262 | U1142 | V |
| G2070 | G2010 | G1950 | A1890 | A1821 | C1761 | C1685 | G1563 | | U1503 | G1443 | C1383 | U1323 | U1263 | A1143 | V |
| A2071 | U2011 | G1951 | C1891 | G1822 | A1762 | C1686 | C1564 | | C1504 | G1444 | A1384 | G1324 | G1264 | G1144 | V |
| G2072 | G2012 | A1952 | G1892 | G1823 | G1763 | G1687 | A1565 | | C1505 | A1444A | G1385 | G1325 | A1265 | G1145 | V |
| A2073 | A2013 | A1953 | C1893 | A1824 | G1764 | U1688 | U1566 | | C1506 | G1445 | C1386 | U1326 | G1266 | C1146 | V |
| U2074 | U2014 | G1954 | C1894 | A1825 | G1765 | A1689 | A1567 | | A1507 | G1446 | C1387 | G1327 | U1267 | C1147 | V |
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| U2076 | U2016 | G1956 | G1896 | C1827 | U1767 | C1691 | A1568 | | C1509 | G1448 | G1389 | U1329 | A1269 | G1149 | V |
| A2077 | U2017 | C1957 | G1897 | G1828 | U1768 | U1692 | U1569 | | A1510 | A1449 | U1390 | C1330 | U1270 | U1211 | V |
| G2018 | G2018 | C1958 | U1898 | A1829 | G1769 | A1693 | A1571 | | A1511 | G1449A | U1391 | A1331 | G1271 | G1151 | V |
| U2079 | A2019 | G1959 | C1899 | G1830 | G1770 | C1694 | A1572 | | A1512 | G1450 | A1392 | G1332 | A1272 | A1212 | V |
| G2080 | A2020 | A1960 | A1900 | G1831 | C1771 | G1695 | G1573 | | A1513 | C1451 | A1393 | C1333 | U1273 | A1214 | V |

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C2081 | C2141 | C2206 | C2271 | G2331 | G2391 | A2451 | U2511 | C2571 | G2631 | C2691 | A2750 | A2813 | C2873 | C2081 |
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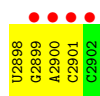
• Molecule 26: 23S ribosomal RNA



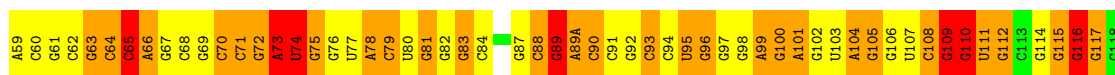
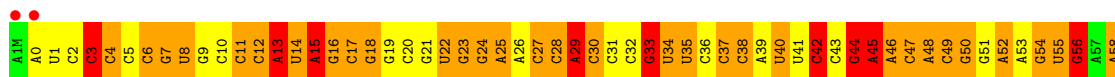
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----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| G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | G12 | G13 | G14 | G15 | G16 | G17 | G18 | G19 | G20 | G21 | G22 | G23 | G24 | G25 | G26 | G27 | G28 | G29 | G30 | G31 | G32 | G33 | G34 | G35 | G36 | G37 | G38 | G39 | G40 | G41 | G42 | G43 | G44 | G45 | G46 | G47 | G48 | G49 | G50 | G51 | G52 | G53 | G54 | G55 | G56 | G57 | G58 | G59 | G60 | G61 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| A1787 | A1788 | U1706 | C1646 | A1587 | G1527 | G1466 | U1406 | G1346 | A1286 | A1227 | C1166 | A1103 | C1043 | A983 | U922 |
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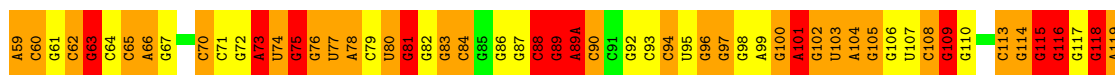
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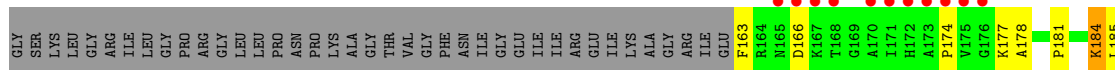
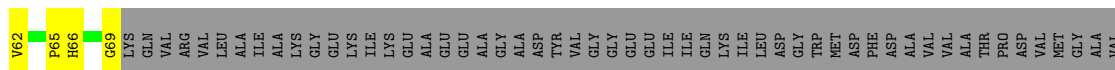
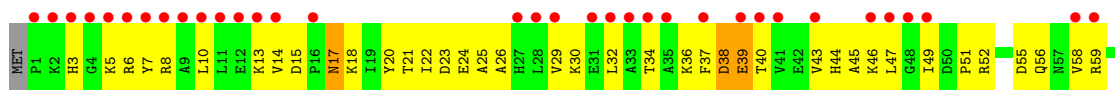
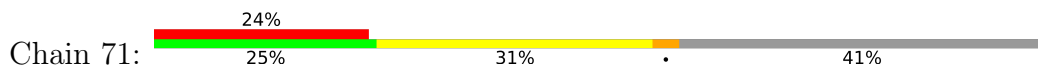
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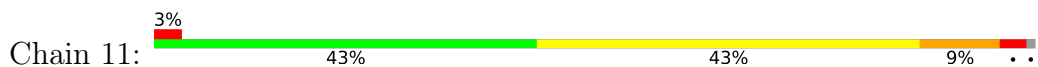
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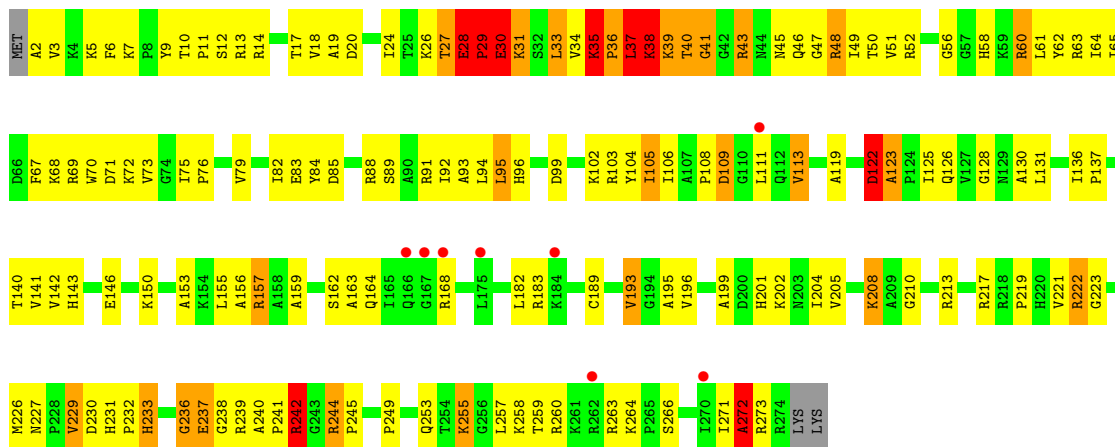


• Molecule 28: 50S ribosomal protein L1

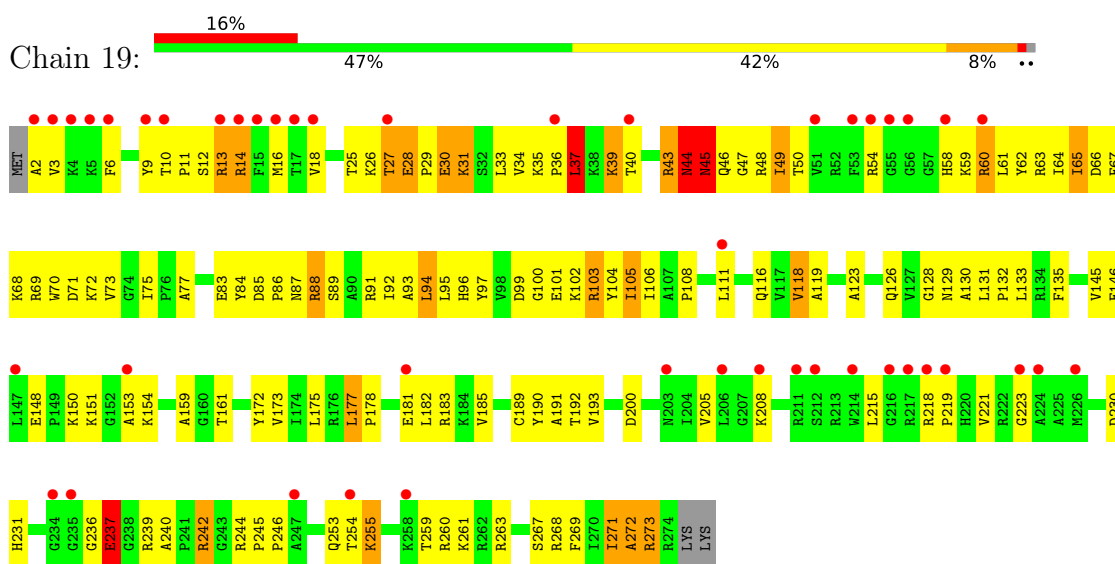


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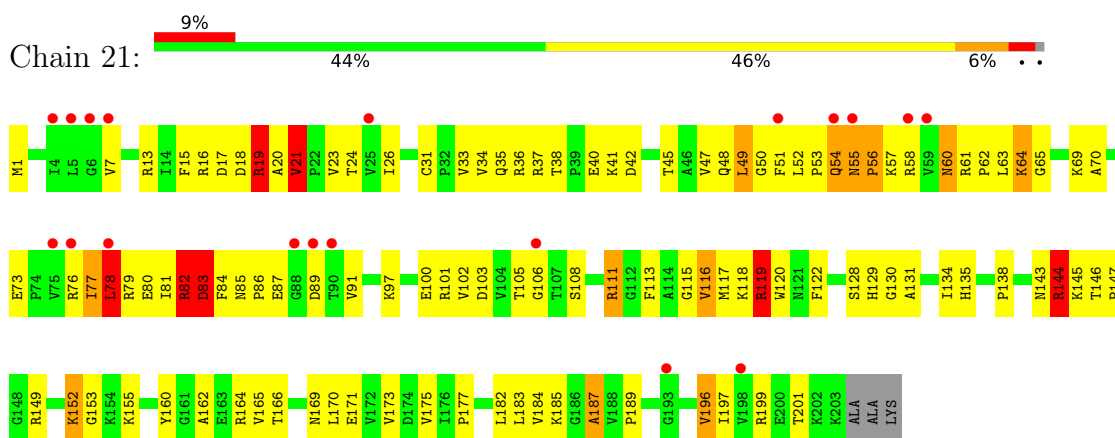




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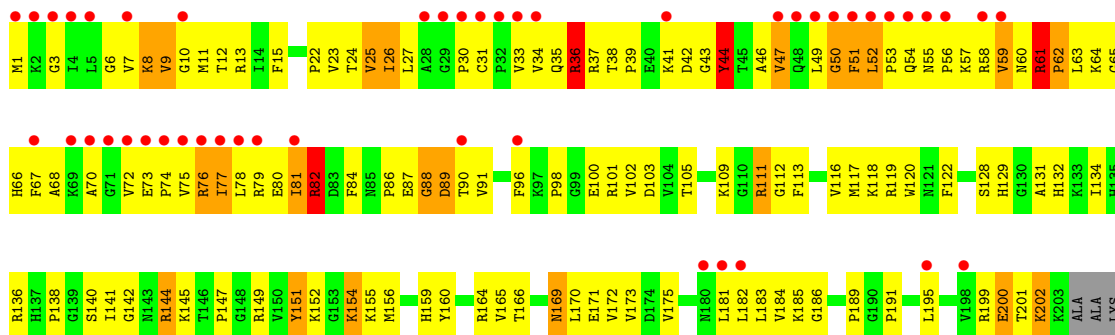


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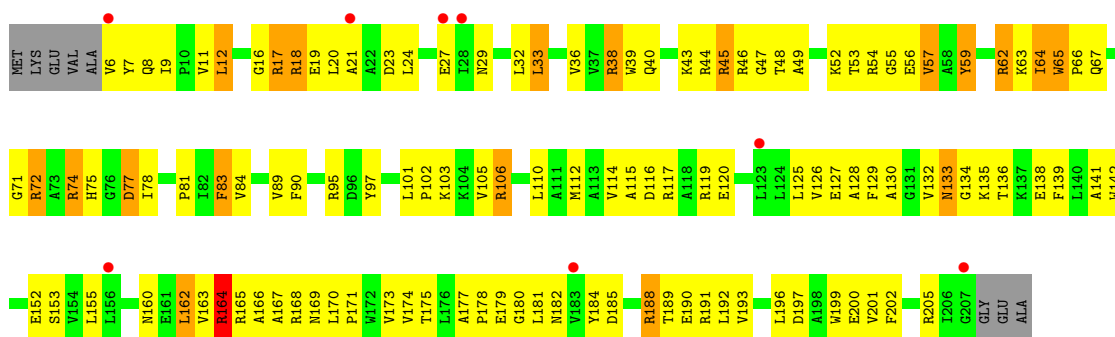
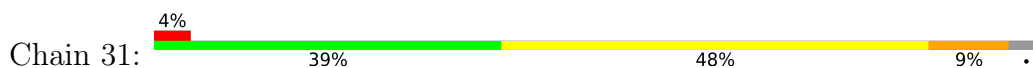


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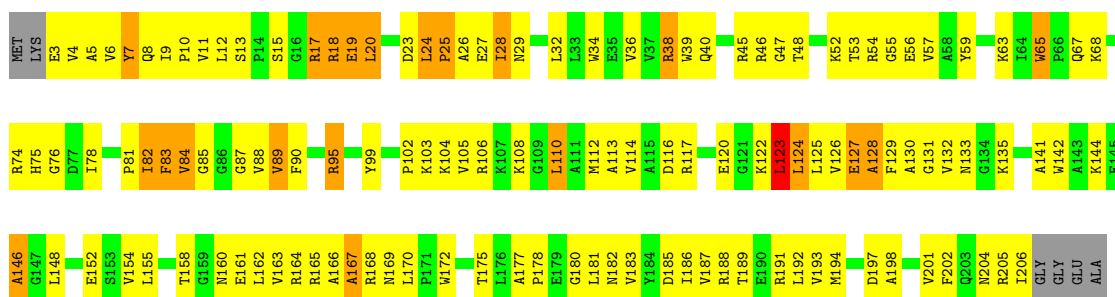




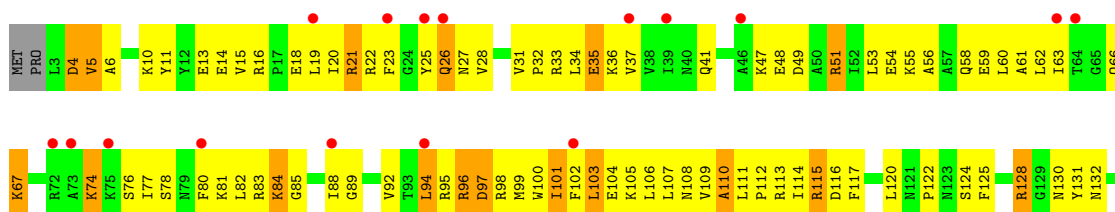
• Molecule 31: 50S ribosomal protein L4



• Molecule 31: 50S ribosomal protein L4

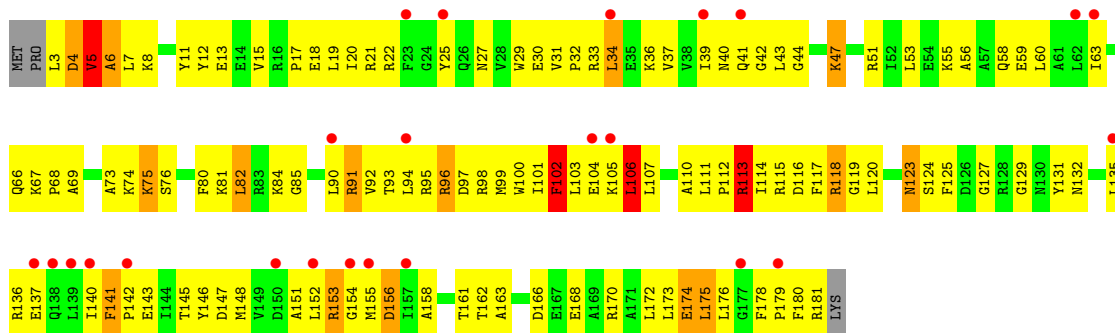


• Molecule 32: 50S ribosomal protein L5

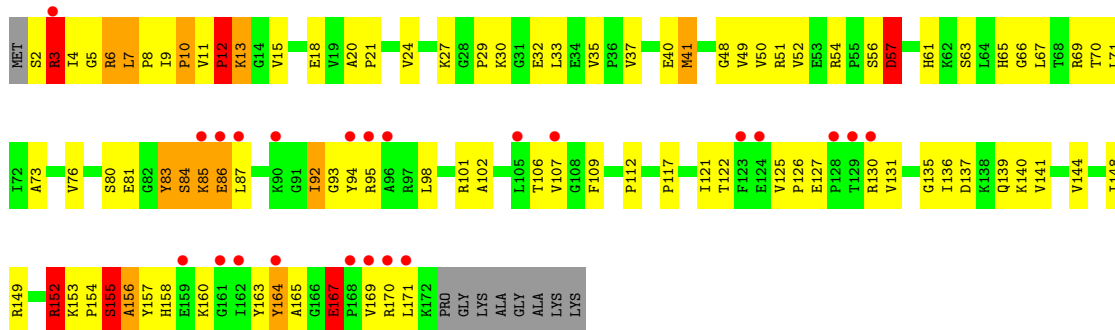
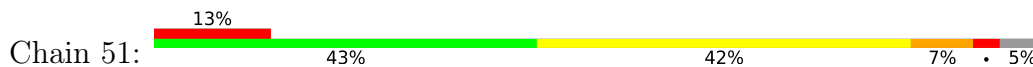




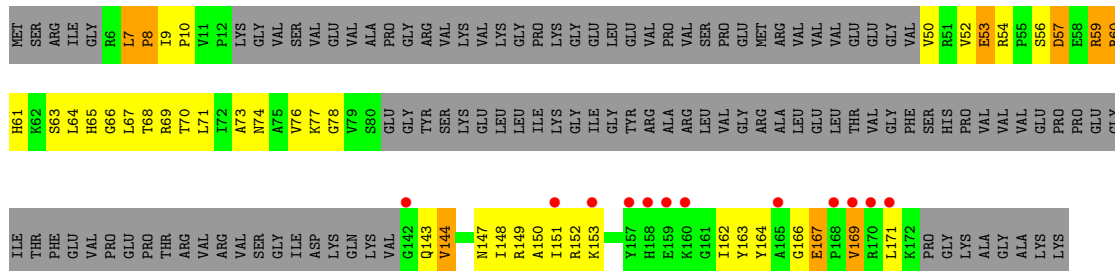
• Molecule 32: 50S ribosomal protein L5



• Molecule 33: 50S ribosomal protein L6

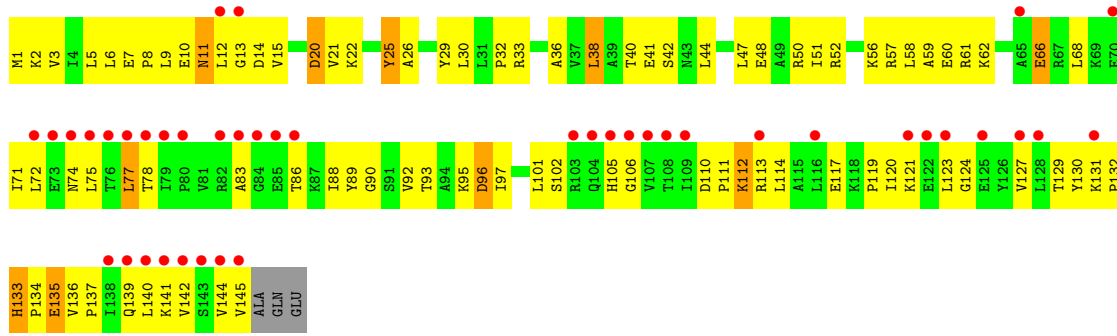


• Molecule 33: 50S ribosomal protein L6

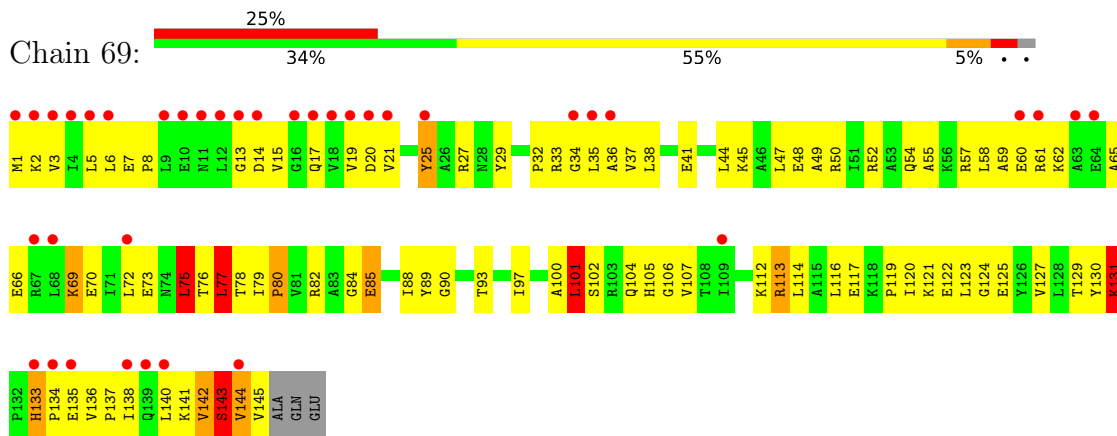


• Molecule 34: 50S ribosomal protein L9

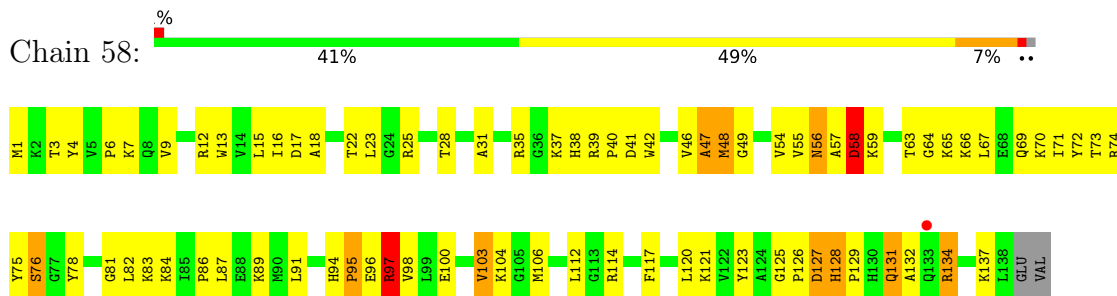




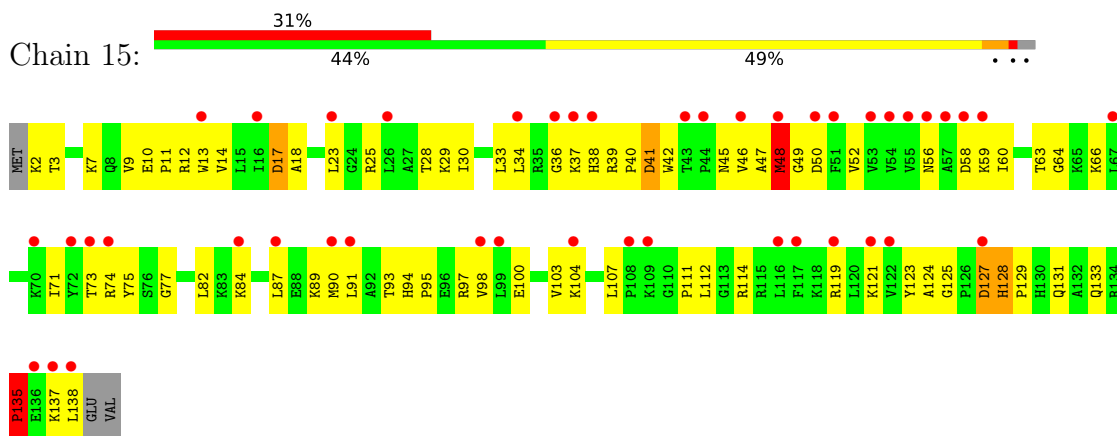
• Molecule 34: 50S ribosomal protein L9



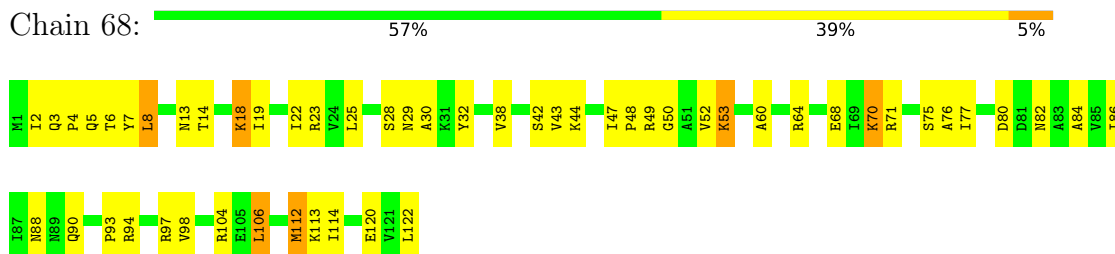
• Molecule 35: 50S ribosomal protein L13



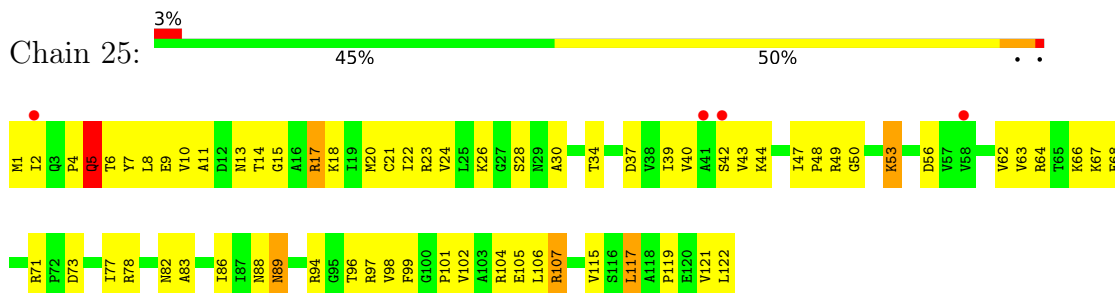
• Molecule 35: 50S ribosomal protein L13



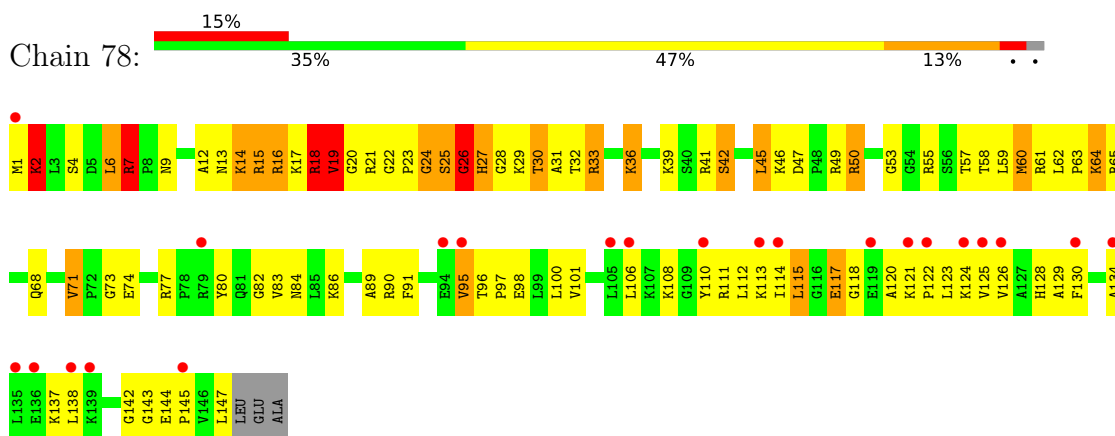
- Molecule 36: 50S ribosomal protein L14



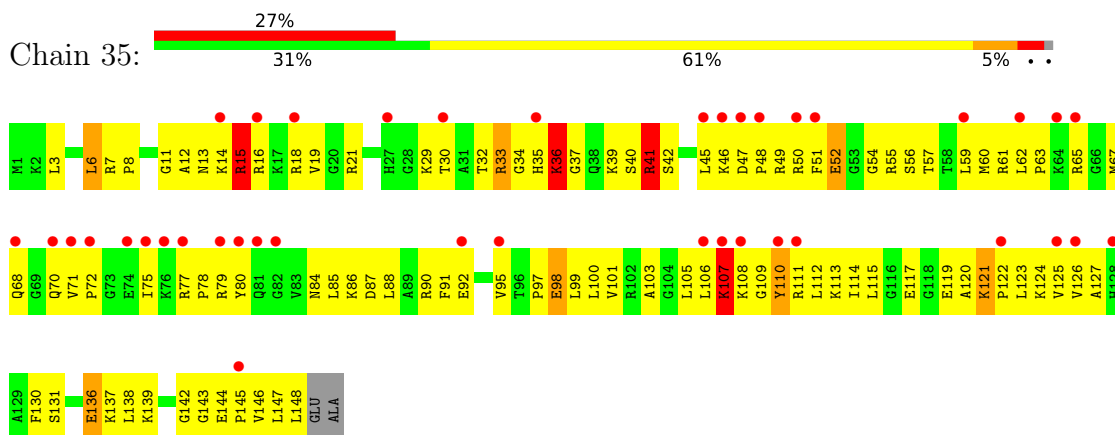
- Molecule 36: 50S ribosomal protein L14



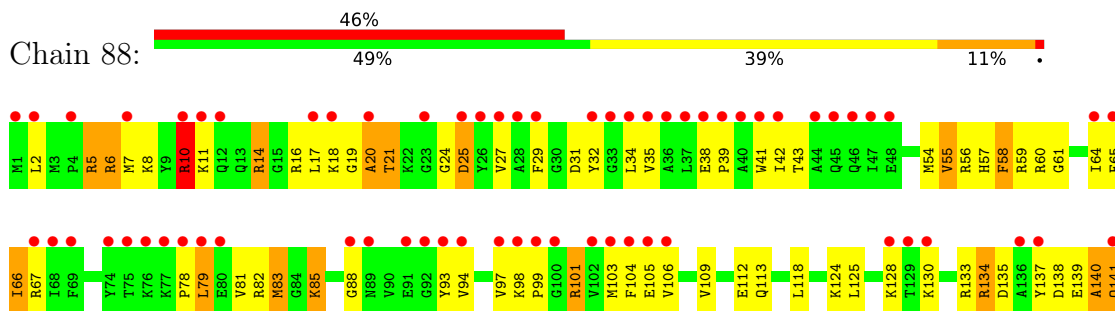
- Molecule 37: 50S ribosomal protein L15



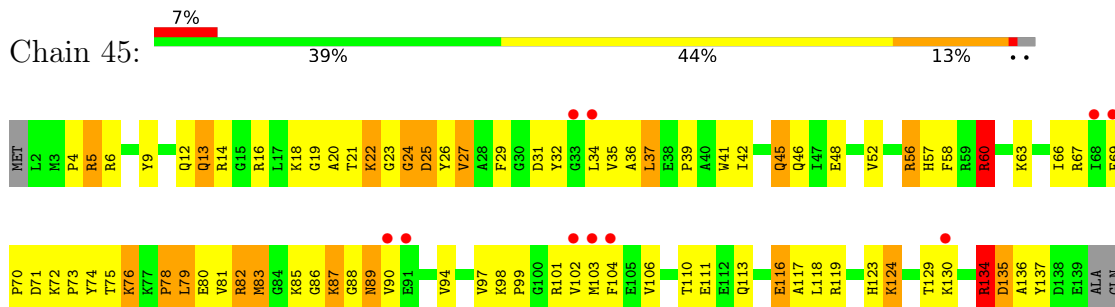
- Molecule 37: 50S ribosomal protein L15



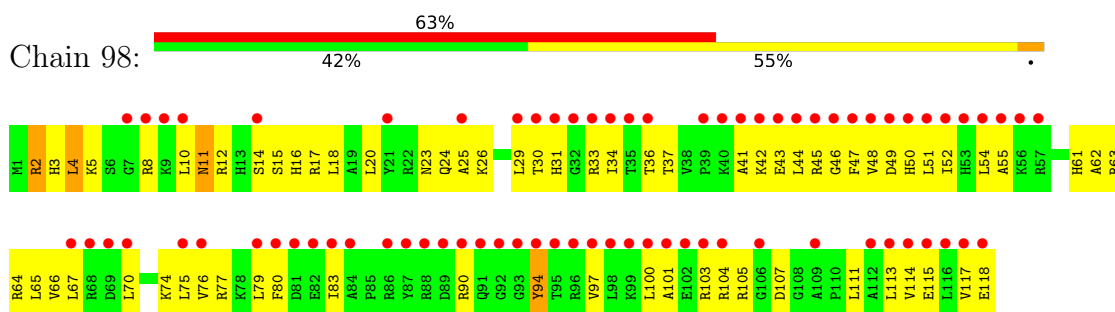
- Molecule 38: 50S ribosomal protein L16



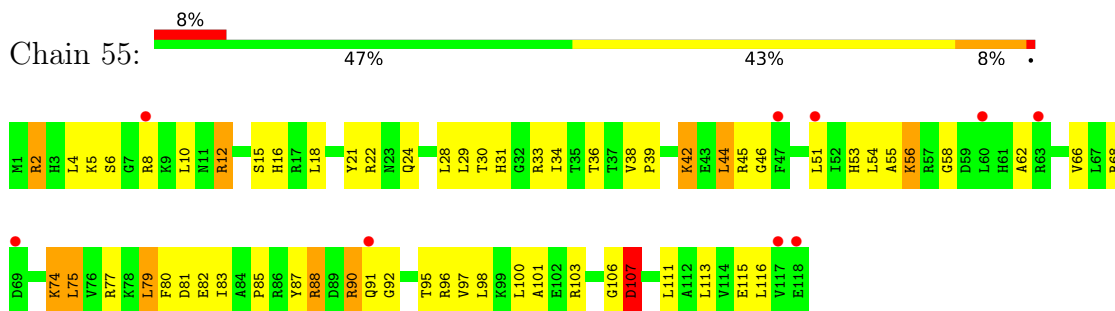
- Molecule 38: 50S ribosomal protein L16



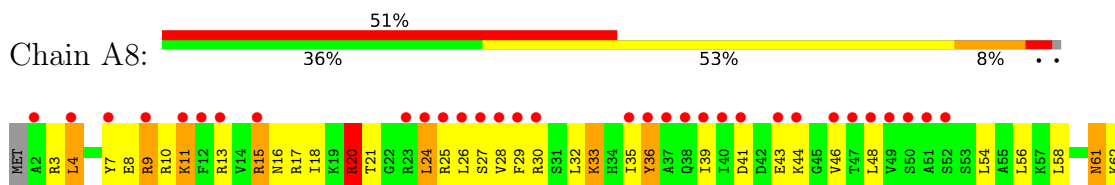
- Molecule 39: 50S ribosomal protein L17



- Molecule 39: 50S ribosomal protein L17

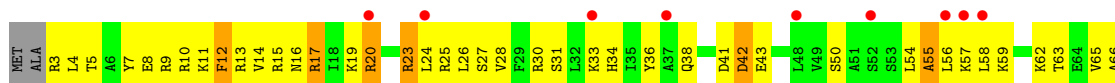


- Molecule 40: 50S ribosomal protein L18

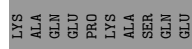
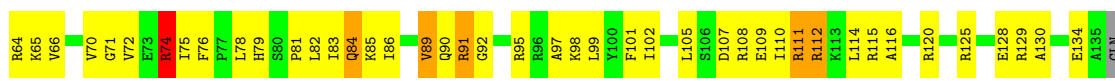
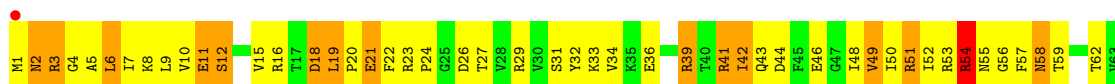




- Molecule 40: 50S ribosomal protein L18



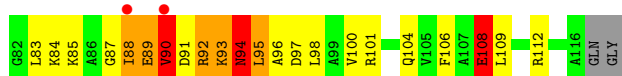
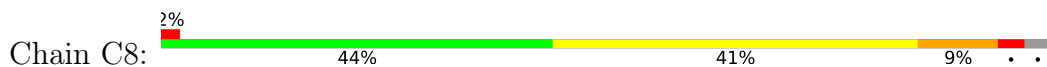
- Molecule 41: 50S ribosomal protein L19



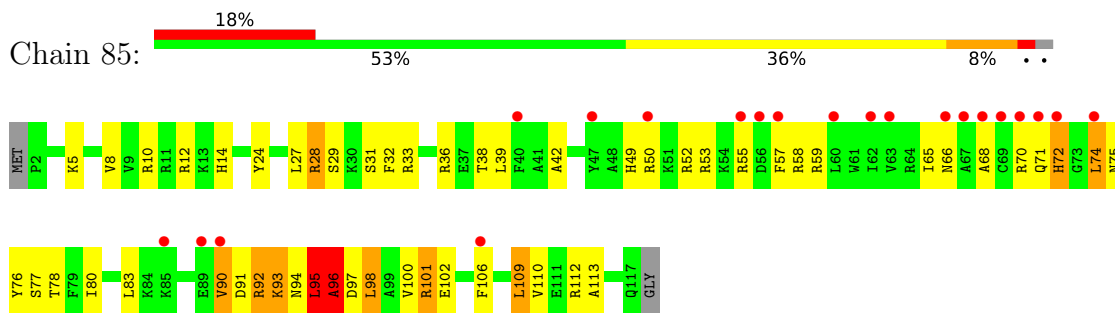
- Molecule 41: 50S ribosomal protein L19



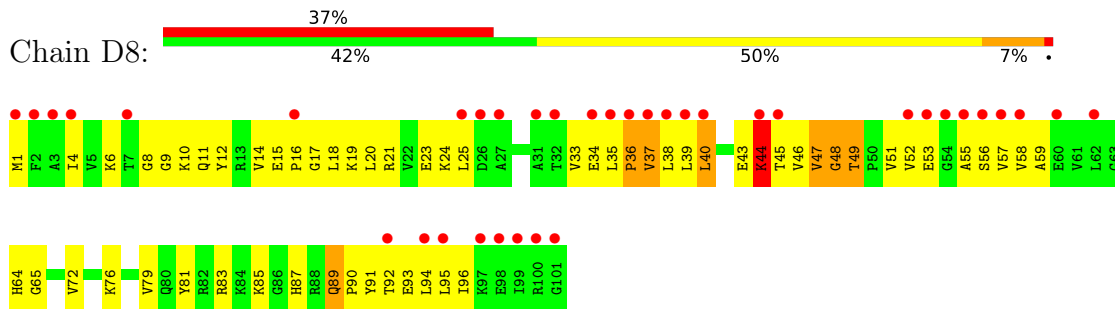
- Molecule 42: 50S ribosomal protein L20



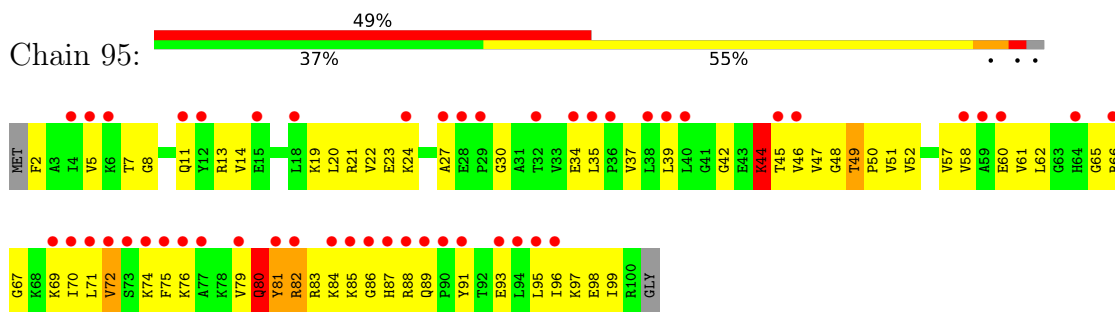
- Molecule 42: 50S ribosomal protein L20



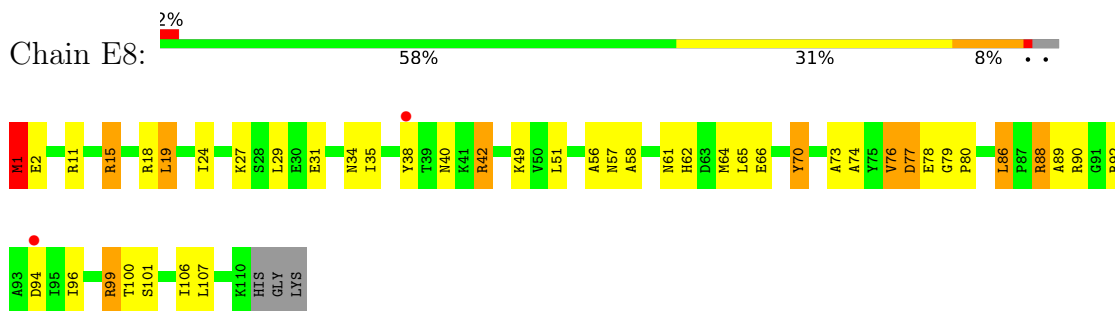
• Molecule 43: 50S ribosomal protein L21



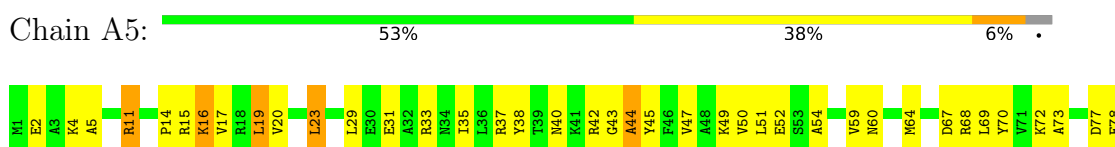
• Molecule 43: 50S ribosomal protein L21



• Molecule 44: 50S ribosomal protein L22

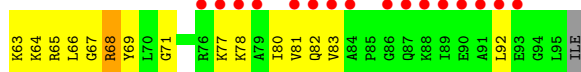
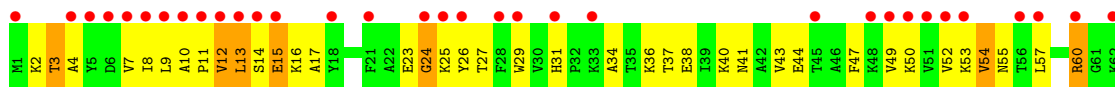
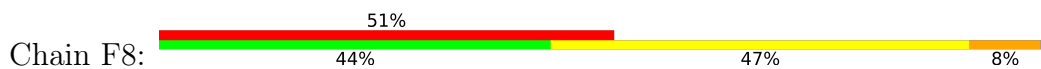


• Molecule 44: 50S ribosomal protein L22

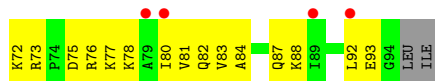
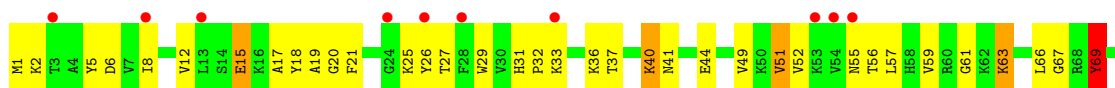




• Molecule 45: 50S ribosomal protein L23



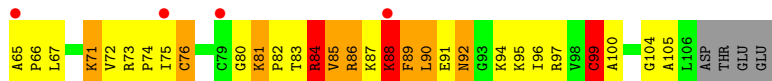
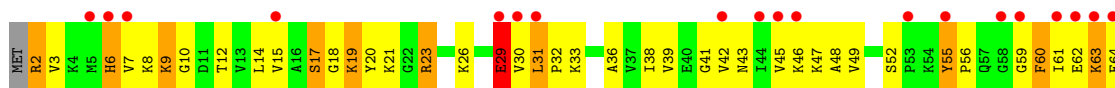
• Molecule 45: 50S ribosomal protein L23



• Molecule 46: 50S ribosomal protein L24

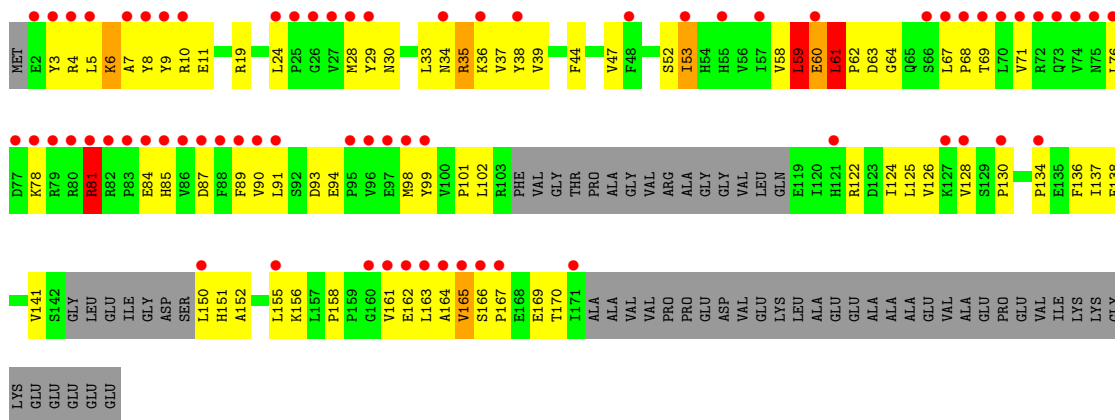


• Molecule 46: 50S ribosomal protein L24

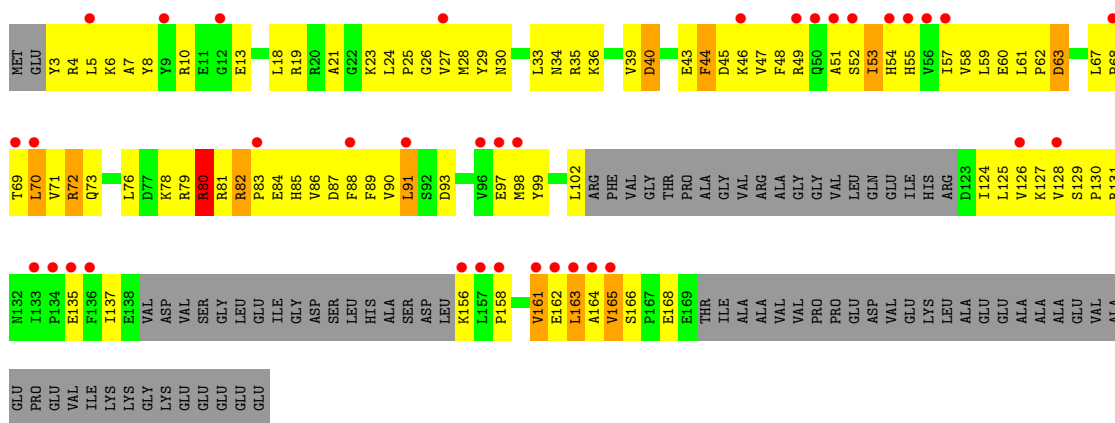
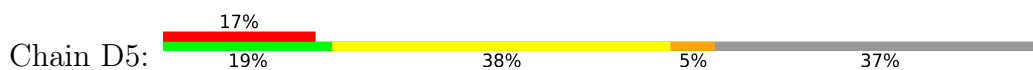


• Molecule 47: 50S ribosomal protein L25

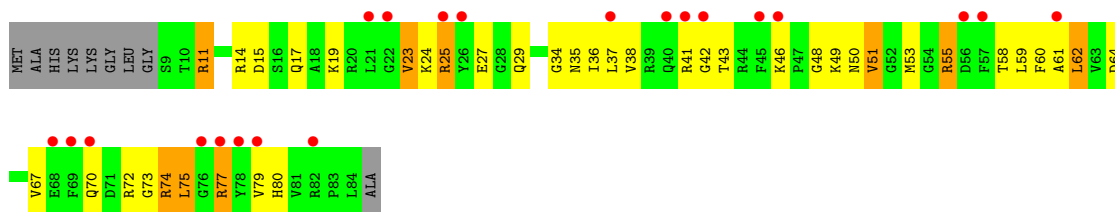




• Molecule 47: 50S ribosomal protein L25

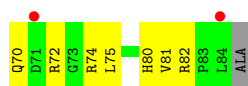


• Molecule 48: 50S ribosomal protein L27



• Molecule 48: 50S ribosomal protein L27

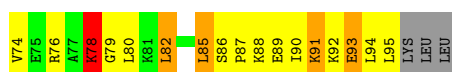
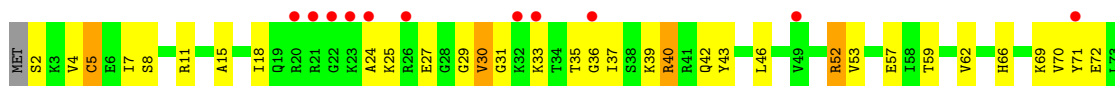




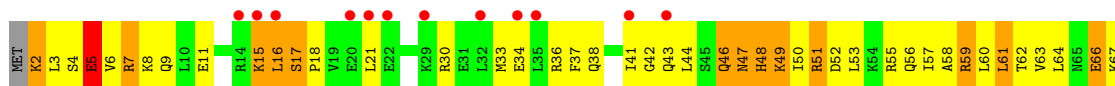
- Molecule 49: 50S ribosomal protein L28



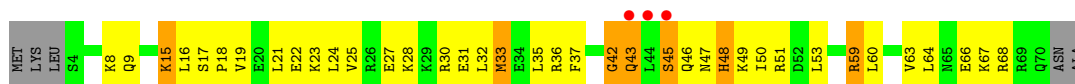
- Molecule 49: 50S ribosomal protein L28



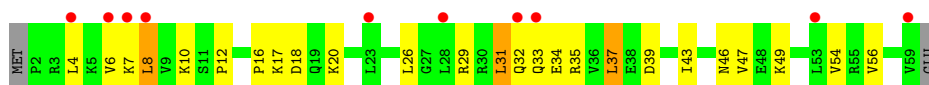
- Molecule 50: 50S ribosomal protein L29



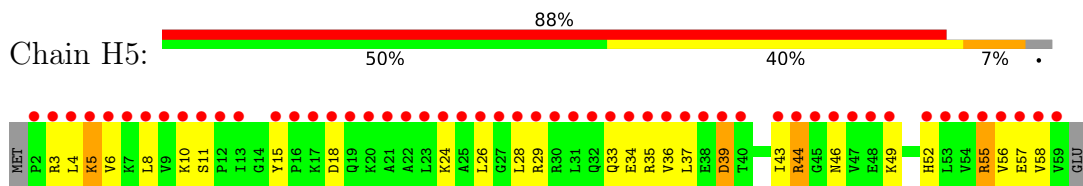
- Molecule 50: 50S ribosomal protein L29



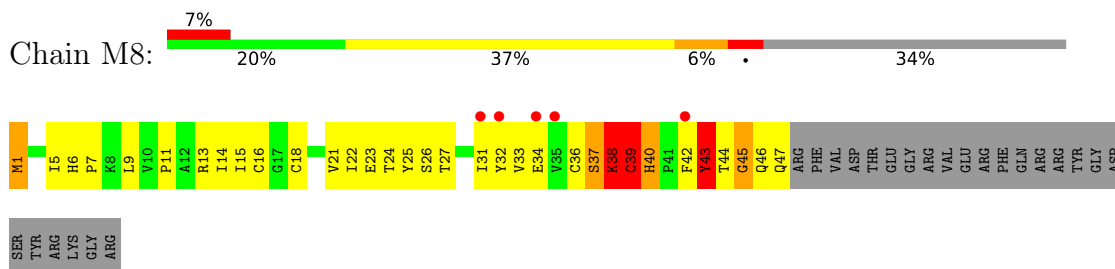
- Molecule 51: 50S ribosomal protein L30



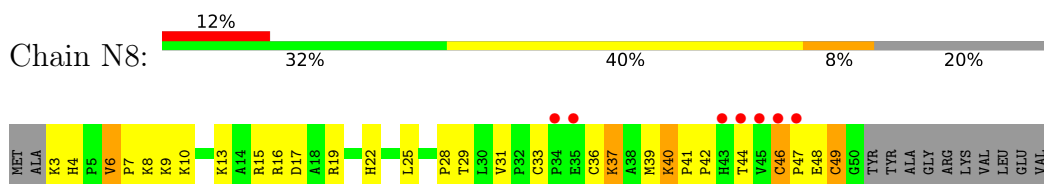
- Molecule 51: 50S ribosomal protein L30



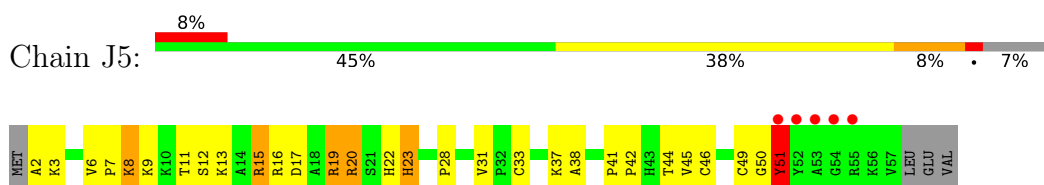
• Molecule 52: 50S ribosomal protein L31



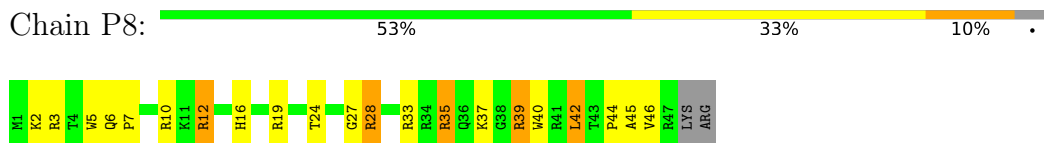
• Molecule 53: 50S ribosomal protein L32



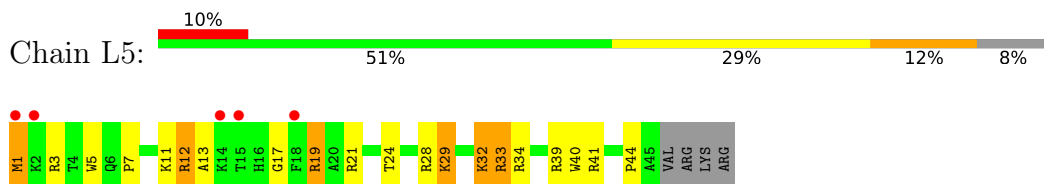
• Molecule 53: 50S ribosomal protein L32



• Molecule 54: 50S ribosomal protein L34



• Molecule 54: 50S ribosomal protein L34

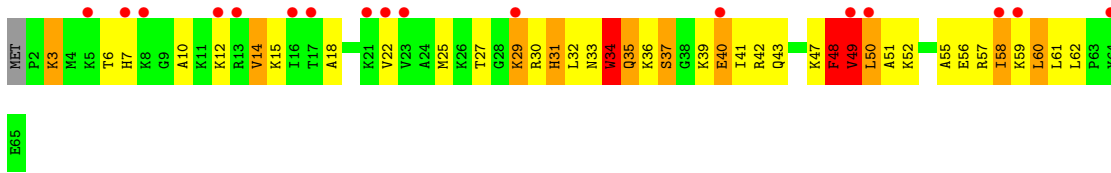


• Molecule 55: 50S ribosomal protein L35

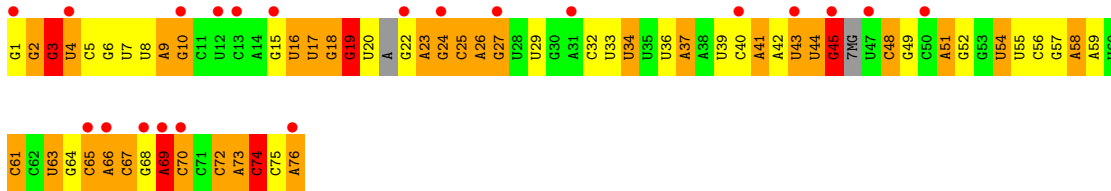
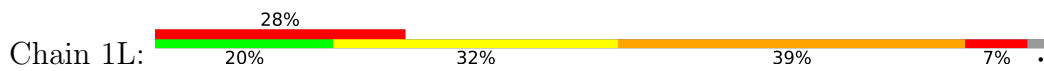




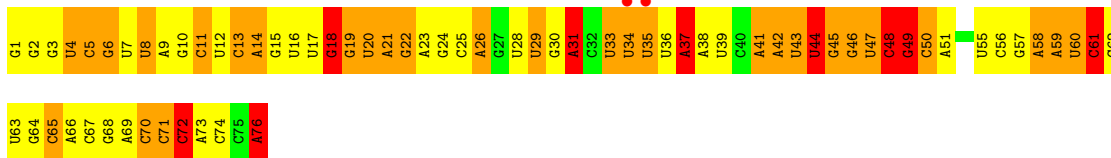
- Molecule 55: 50S ribosomal protein L35



- Molecule 56: tRNA^{Lys}



- Molecule 57: tRNA^{Lys}



4 Data and refinement statistics

| Property | Value | Source |
|---|---|------------------|
| Space group | P 21 21 21 | Depositor |
| Cell constants a, b, c, α , β , γ | 208.40Å 447.10Å 616.90Å 90.00° 90.00° 90.00° | Depositor |
| Resolution (Å) | 152.44 – 3.15 152.44 – 3.15 | Depositor EDS |
| % Data completeness (in resolution range) | 100.0 (152.44-3.15) 92.0 (152.44-3.15) | Depositor EDS |
| R_{merge} | 0.23 | Depositor |
| R_{sym} | (Not available) | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 0.84 (at 3.13Å) | Xtrriage |
| Refinement program | PHENIX | Depositor |
| R, R_{free} | 0.198 , 0.254 0.193 , 0.253 | Depositor DCC |
| R_{free} test set | 2000 reflections (0.20%) | wwPDB-VP |
| Wilson B-factor (Å ²) | 107.7 | Xtrriage |
| Anisotropy | 0.223 | Xtrriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.25 , 87.5 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.44$, $\langle L^2 \rangle = 0.27$ | Xtrriage |
| Estimated twinning fraction | No twinning to report. | Xtrriage |
| F_o, F_c correlation | 0.95 | EDS |
| Total number of atoms | 292607 | wwPDB-VP |
| Average B, all atoms (Å ²) | 131.0 | wwPDB-VP |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.47% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, U8U, 4SU, PSU, SF4, G7M, T6A, OMC, 5MU, MG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|------------------|-------------|-------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 1 | 13 | 1.35 | 176/35927 (0.5%) | 2.42 | 3309/56065 (5.9%) |
| 1 | 1G | 1.15 | 83/35987 (0.2%) | 2.10 | 2179/56159 (3.9%) |
| 2 | 12 | 0.54 | 2/1726 (0.1%) | 0.74 | 0/2324 |
| 2 | 1E | 0.60 | 0/1908 | 0.80 | 2/2573 (0.1%) |
| 3 | 22 | 0.50 | 1/1552 (0.1%) | 0.72 | 2/2093 (0.1%) |
| 3 | 2E | 0.80 | 0/1629 | 0.87 | 2/2195 (0.1%) |
| 4 | 32 | 0.72 | 1/1732 (0.1%) | 0.89 | 3/2318 (0.1%) |
| 4 | 3E | 0.86 | 2/1726 (0.1%) | 0.90 | 3/2310 (0.1%) |
| 5 | 42 | 0.75 | 3/1151 (0.3%) | 0.76 | 1/1549 (0.1%) |
| 5 | 4E | 0.85 | 1/1158 (0.1%) | 0.91 | 1/1559 (0.1%) |
| 6 | 52 | 0.75 | 0/855 | 0.85 | 2/1154 (0.2%) |
| 6 | 5E | 0.77 | 1/850 (0.1%) | 0.97 | 4/1147 (0.3%) |
| 7 | 62 | 0.66 | 1/1122 (0.1%) | 0.78 | 1/1500 (0.1%) |
| 7 | 6E | 0.64 | 0/1245 | 0.72 | 0/1666 |
| 8 | 72 | 0.57 | 1/1127 (0.1%) | 0.74 | 1/1517 (0.1%) |
| 8 | 7E | 0.94 | 4/1135 (0.4%) | 0.93 | 3/1527 (0.2%) |
| 9 | 82 | 0.64 | 1/835 (0.1%) | 0.84 | 1/1120 (0.1%) |
| 9 | 8E | 0.61 | 0/1019 | 0.77 | 0/1367 |
| 10 | 1A | 0.56 | 0/482 | 0.73 | 0/647 |
| 10 | 1I | 0.73 | 0/602 | 0.84 | 1/806 (0.1%) |
| 11 | 2A | 0.70 | 1/850 (0.1%) | 0.80 | 1/1150 (0.1%) |
| 11 | 2I | 0.71 | 0/838 | 0.88 | 0/1133 |
| 12 | 3A | 0.69 | 0/963 | 0.95 | 3/1290 (0.2%) |
| 12 | 3I | 0.99 | 2/972 (0.2%) | 1.12 | 2/1301 (0.2%) |
| 13 | 4A | 0.61 | 0/903 | 0.87 | 2/1211 (0.2%) |
| 13 | 4I | 0.79 | 2/952 (0.2%) | 0.89 | 2/1277 (0.2%) |
| 14 | 5A | 0.63 | 1/393 (0.3%) | 0.91 | 1/521 (0.2%) |
| 14 | 5I | 0.83 | 1/500 (0.2%) | 0.98 | 1/664 (0.2%) |
| 15 | 6A | 0.75 | 2/740 (0.3%) | 0.81 | 0/987 |
| 15 | 6I | 0.81 | 1/740 (0.1%) | 0.87 | 0/987 |
| 16 | 7A | 0.77 | 0/721 | 0.90 | 0/970 |
| 16 | 7I | 0.74 | 1/687 (0.1%) | 0.86 | 0/925 |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|-------------------|-------------|----------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 17 | 8A | 0.65 | 0/836 | 0.75 | 0/1117 |
| 17 | 8I | 0.85 | 3/847 (0.4%) | 0.89 | 0/1131 |
| 18 | 9A | 0.80 | 0/549 | 0.81 | 1/732 (0.1%) |
| 18 | 9I | 0.68 | 0/549 | 0.88 | 0/732 |
| 19 | AA | 0.54 | 0/288 | 0.90 | 1/388 (0.3%) |
| 19 | AI | 0.80 | 0/668 | 0.93 | 0/899 |
| 20 | BA | 0.64 | 0/759 | 0.86 | 1/1000 (0.1%) |
| 20 | BI | 0.57 | 0/748 | 0.80 | 0/986 |
| 21 | 1B | 0.57 | 0/208 | 0.76 | 0/272 |
| 21 | 1F | 0.56 | 0/203 | 0.79 | 0/266 |
| 22 | 1K | 1.14 | 11/1516 (0.7%) | 1.96 | 70/2350 (3.0%) |
| 23 | 2K | 1.63 | 25/1721 (1.5%) | 2.75 | 223/2682 (8.3%) |
| 23 | 2L | 1.15 | 2/1721 (0.1%) | 2.03 | 86/2682 (3.2%) |
| 24 | 3K | 1.13 | 5/1799 (0.3%) | 1.94 | 76/2801 (2.7%) |
| 25 | 4K | 1.74 | 7/494 (1.4%) | 2.28 | 40/767 (5.2%) |
| 25 | 4L | 1.44 | 3/420 (0.7%) | 2.11 | 26/654 (4.0%) |
| 26 | 14 | 1.58 | 825/69023 (1.2%) | 2.76 | 8688/107740 (8.1%) |
| 26 | 1H | 1.84 | 1510/68273 (2.2%) | 3.14 | 11225/106575 (10.5%) |
| 27 | 16 | 1.49 | 22/2928 (0.8%) | 2.87 | 390/4568 (8.5%) |
| 27 | 1J | 1.26 | 10/2928 (0.3%) | 2.37 | 253/4568 (5.5%) |
| 28 | 71 | 0.68 | 0/1073 | 0.78 | 0/1447 |
| 29 | 11 | 1.14 | 8/2170 (0.4%) | 1.34 | 30/2926 (1.0%) |
| 29 | 19 | 1.05 | 3/2170 (0.1%) | 1.24 | 22/2926 (0.8%) |
| 30 | 21 | 1.06 | 9/1591 (0.6%) | 1.16 | 8/2146 (0.4%) |
| 30 | 29 | 0.99 | 5/1591 (0.3%) | 1.13 | 5/2146 (0.2%) |
| 31 | 31 | 1.11 | 8/1620 (0.5%) | 1.23 | 15/2194 (0.7%) |
| 31 | 39 | 0.88 | 2/1637 (0.1%) | 1.08 | 6/2218 (0.3%) |
| 32 | 41 | 0.85 | 4/1481 (0.3%) | 1.01 | 3/1994 (0.2%) |
| 32 | 49 | 0.63 | 0/1481 | 0.91 | 4/1994 (0.2%) |
| 33 | 51 | 0.96 | 2/1337 (0.1%) | 1.17 | 6/1809 (0.3%) |
| 33 | 59 | 0.67 | 1/548 (0.2%) | 0.82 | 0/738 |
| 34 | 61 | 0.70 | 0/1146 | 0.89 | 0/1551 |
| 34 | 69 | 0.70 | 2/1146 (0.2%) | 0.89 | 3/1551 (0.2%) |
| 35 | 15 | 0.78 | 0/1123 | 0.93 | 2/1515 (0.1%) |
| 35 | 58 | 0.90 | 1/1131 (0.1%) | 1.00 | 3/1525 (0.2%) |
| 36 | 25 | 0.90 | 0/942 | 1.00 | 1/1269 (0.1%) |
| 36 | 68 | 0.97 | 0/942 | 1.11 | 4/1269 (0.3%) |
| 37 | 35 | 1.11 | 1/1147 (0.1%) | 1.16 | 6/1525 (0.4%) |
| 37 | 78 | 1.08 | 3/1139 (0.3%) | 1.33 | 14/1514 (0.9%) |
| 38 | 45 | 0.98 | 4/1120 (0.4%) | 1.06 | 2/1498 (0.1%) |
| 38 | 88 | 1.13 | 6/1134 (0.5%) | 1.22 | 7/1519 (0.5%) |
| 39 | 55 | 0.89 | 1/981 (0.1%) | 1.20 | 10/1312 (0.8%) |
| 39 | 98 | 0.81 | 0/981 | 1.13 | 4/1312 (0.3%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|--------------------|-------------|---------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 40 | 65 | 0.76 | 1/886 (0.1%) | 1.04 | 4/1180 (0.3%) |
| 40 | A8 | 0.95 | 1/891 (0.1%) | 1.26 | 6/1187 (0.5%) |
| 41 | 75 | 0.98 | 4/1147 (0.3%) | 1.10 | 3/1532 (0.2%) |
| 41 | B8 | 1.10 | 7/1137 (0.6%) | 1.11 | 5/1519 (0.3%) |
| 42 | 85 | 0.83 | 0/977 | 1.01 | 4/1301 (0.3%) |
| 42 | C8 | 1.02 | 4/968 (0.4%) | 1.08 | 2/1289 (0.2%) |
| 43 | 95 | 1.01 | 4/777 (0.5%) | 1.02 | 0/1042 |
| 43 | D8 | 0.93 | 1/789 (0.1%) | 1.08 | 1/1057 (0.1%) |
| 44 | A5 | 1.05 | 1/886 (0.1%) | 1.15 | 6/1189 (0.5%) |
| 44 | E8 | 1.03 | 1/886 (0.1%) | 1.21 | 8/1189 (0.7%) |
| 45 | B5 | 1.08 | 2/749 (0.3%) | 1.09 | 2/1007 (0.2%) |
| 45 | F8 | 1.17 | 5/754 (0.7%) | 1.27 | 6/1014 (0.6%) |
| 46 | C5 | 1.09 | 5/812 (0.6%) | 1.08 | 4/1083 (0.4%) |
| 46 | G8 | 1.33 | 8/801 (1.0%) | 1.34 | 6/1069 (0.6%) |
| 47 | D5 | 0.84 | 4/1088 (0.4%) | 0.85 | 2/1473 (0.1%) |
| 47 | H8 | 0.78 | 1/1244 (0.1%) | 0.96 | 3/1683 (0.2%) |
| 48 | E5 | 0.87 | 0/624 | 1.08 | 1/832 (0.1%) |
| 48 | I8 | 1.12 | 1/614 (0.2%) | 1.28 | 8/819 (1.0%) |
| 49 | F5 | 0.94 | 2/744 (0.3%) | 1.09 | 3/989 (0.3%) |
| 49 | J8 | 1.09 | 4/744 (0.5%) | 1.18 | 5/989 (0.5%) |
| 50 | G5 | 0.80 | 0/565 | 0.99 | 1/748 (0.1%) |
| 50 | K8 | 1.09 | 0/570 | 1.43 | 11/755 (1.5%) |
| 51 | H5 | 0.80 | 0/464 | 0.90 | 0/623 |
| 51 | L8 | 0.92 | 1/464 (0.2%) | 1.13 | 1/623 (0.2%) |
| 52 | M8 | 0.77 | 0/375 | 1.08 | 3/507 (0.6%) |
| 53 | J5 | 0.92 | 2/448 (0.4%) | 1.08 | 4/606 (0.7%) |
| 53 | N8 | 1.02 | 1/381 (0.3%) | 1.08 | 0/516 |
| 54 | L5 | 0.99 | 0/399 | 1.23 | 3/526 (0.6%) |
| 54 | P8 | 1.17 | 0/409 | 1.62 | 9/540 (1.7%) |
| 55 | M5 | 1.10 | 5/524 (1.0%) | 1.18 | 4/691 (0.6%) |
| 55 | Q8 | 1.13 | 1/524 (0.2%) | 1.41 | 9/691 (1.3%) |
| 56 | 1L | 0.76 | 1/1683 (0.1%) | 1.38 | 20/2615 (0.8%) |
| 57 | 3L | 0.96 | 7/1777 (0.4%) | 1.72 | 50/2767 (1.8%) |
| All | All | 1.39 | 2845/315237 (0.9%) | 2.39 | 26956/472471 (5.7%) |

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 2 | 12 | 0 | 6 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 2 | 1E | 0 | 3 |
| 3 | 22 | 0 | 2 |
| 3 | 2E | 0 | 2 |
| 4 | 32 | 0 | 4 |
| 4 | 3E | 0 | 1 |
| 5 | 4E | 0 | 1 |
| 7 | 6E | 0 | 1 |
| 9 | 82 | 0 | 1 |
| 9 | 8E | 0 | 1 |
| 11 | 2A | 0 | 1 |
| 11 | 2I | 0 | 1 |
| 12 | 3A | 0 | 1 |
| 12 | 3I | 0 | 5 |
| 13 | 4A | 0 | 2 |
| 13 | 4I | 0 | 3 |
| 14 | 5A | 0 | 1 |
| 14 | 5I | 0 | 1 |
| 15 | 6A | 0 | 1 |
| 16 | 7I | 0 | 1 |
| 17 | 8I | 0 | 1 |
| 19 | AA | 0 | 1 |
| 19 | AI | 0 | 2 |
| 20 | BA | 0 | 4 |
| 20 | BI | 0 | 1 |
| 26 | 14 | 0 | 1 |
| 28 | 71 | 0 | 1 |
| 29 | 11 | 0 | 6 |
| 29 | 19 | 0 | 6 |
| 30 | 21 | 0 | 11 |
| 30 | 29 | 0 | 6 |
| 31 | 31 | 0 | 3 |
| 31 | 39 | 0 | 11 |
| 32 | 41 | 0 | 3 |
| 32 | 49 | 0 | 6 |
| 33 | 51 | 0 | 3 |
| 33 | 59 | 0 | 3 |
| 34 | 61 | 0 | 4 |
| 34 | 69 | 0 | 6 |
| 35 | 15 | 0 | 4 |
| 35 | 58 | 0 | 3 |
| 37 | 35 | 0 | 4 |
| 37 | 78 | 0 | 7 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 38 | 45 | 0 | 7 |
| 38 | 88 | 0 | 3 |
| 40 | A8 | 0 | 2 |
| 41 | 75 | 0 | 2 |
| 41 | B8 | 0 | 4 |
| 42 | 85 | 0 | 5 |
| 42 | C8 | 0 | 3 |
| 43 | 95 | 0 | 3 |
| 43 | D8 | 0 | 4 |
| 44 | A5 | 0 | 1 |
| 45 | B5 | 0 | 2 |
| 45 | F8 | 0 | 2 |
| 46 | C5 | 0 | 1 |
| 46 | G8 | 0 | 6 |
| 47 | D5 | 0 | 1 |
| 47 | H8 | 0 | 2 |
| 48 | E5 | 0 | 1 |
| 49 | F5 | 0 | 3 |
| 49 | J8 | 0 | 2 |
| 50 | G5 | 0 | 4 |
| 50 | K8 | 0 | 4 |
| 52 | M8 | 0 | 5 |
| 54 | P8 | 0 | 1 |
| 55 | M5 | 0 | 3 |
| 55 | Q8 | 0 | 2 |
| All | All | 0 | 209 |

All (2845) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 37 | 35 | 121 | LYS | C-N | 22.50 | 1.76 | 1.34 |
| 26 | 1H | 783 | A | N3-C4 | -21.39 | 1.22 | 1.34 |
| 26 | 1H | 676 | A | N9-C4 | -19.81 | 1.25 | 1.37 |
| 26 | 14 | 783 | A | N9-C4 | -18.75 | 1.26 | 1.37 |
| 26 | 1H | 2346 | A | N3-C4 | -16.77 | 1.24 | 1.34 |
| 26 | 1H | 774 | A | N9-C4 | -16.34 | 1.28 | 1.37 |
| 26 | 1H | 2430 | A | N9-C4 | -16.30 | 1.28 | 1.37 |
| 26 | 1H | 783 | A | N9-C4 | -16.25 | 1.28 | 1.37 |
| 26 | 1H | 1786 | A | N9-C4 | -16.11 | 1.28 | 1.37 |
| 26 | 1H | 71 | A | N9-C4 | -15.16 | 1.28 | 1.37 |
| 26 | 14 | 676 | A | N9-C4 | -14.62 | 1.29 | 1.37 |
| 26 | 1H | 698 | C | N1-C6 | -14.52 | 1.28 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|---------|------|--------|--------|-------------|----------|
| 26 | 1H | 2476 | A | N9-C4 | 14.38 | 1.46 | 1.37 |
| 4 | 3E | 36 | ARG | C-N | -14.27 | 1.07 | 1.34 |
| 26 | 14 | 774 | A | N9-C4 | -14.02 | 1.29 | 1.37 |
| 26 | 1H | 1614 | A | N9-C4 | -13.97 | 1.29 | 1.37 |
| 26 | 14 | 1950 | G | C2-N3 | 13.70 | 1.43 | 1.32 |
| 26 | 1H | 693 | C | N3-C4 | -13.68 | 1.24 | 1.33 |
| 26 | 1H | 138 | G | N9-C8 | 13.65 | 1.47 | 1.37 |
| 26 | 14 | 783 | A | N7-C5 | -13.64 | 1.31 | 1.39 |
| 26 | 1H | 676 | A | N9-C8 | 13.62 | 1.48 | 1.37 |
| 26 | 14 | 2518 | A | N9-C4 | -13.42 | 1.29 | 1.37 |
| 26 | 1H | 955 | C | N1-C6 | -13.11 | 1.29 | 1.37 |
| 26 | 14 | 676 | A | N9-C8 | 12.93 | 1.48 | 1.37 |
| 26 | 1H | 2346 | A | N9-C4 | -12.88 | 1.30 | 1.37 |
| 26 | 14 | 74 | A | N9-C4 | -12.63 | 1.30 | 1.37 |
| 26 | 1H | 783 | A | C5-C6 | -12.58 | 1.29 | 1.41 |
| 26 | 1H | 2764 | A | N9-C4 | -12.39 | 1.30 | 1.37 |
| 26 | 14 | 783 | A | C5-C6 | -12.00 | 1.30 | 1.41 |
| 26 | 1H | 2287 | A | N9-C4 | -12.00 | 1.30 | 1.37 |
| 26 | 1H | 772 | C | N1-C6 | -11.98 | 1.29 | 1.37 |
| 26 | 1H | 2503 | A | C5-C6 | -11.85 | 1.30 | 1.41 |
| 8 | 7E | 102 | ARG | CZ-NH2 | -11.78 | 1.17 | 1.33 |
| 26 | 1H | 768 | G | N9-C8 | -11.77 | 1.29 | 1.37 |
| 26 | 1H | 378 | C | N1-C6 | -11.64 | 1.30 | 1.37 |
| 26 | 1H | 2502 | G | N3-C4 | -11.57 | 1.27 | 1.35 |
| 26 | 14 | 1142(A) | A | N3-C4 | -11.51 | 1.27 | 1.34 |
| 26 | 14 | 2430 | A | N9-C4 | -11.44 | 1.30 | 1.37 |
| 26 | 1H | 1142(A) | A | N9-C4 | -11.35 | 1.31 | 1.37 |
| 26 | 1H | 1836 | C | N3-C4 | -11.32 | 1.26 | 1.33 |
| 26 | 1H | 140 | A | C5-C6 | -11.30 | 1.30 | 1.41 |
| 5 | 4E | 69 | VAL | C-N | -11.23 | 1.12 | 1.34 |
| 47 | D5 | 80 | ARG | NE-CZ | -11.21 | 1.18 | 1.33 |
| 26 | 1H | 247 | G | C6-N1 | -11.20 | 1.31 | 1.39 |
| 26 | 1H | 2280 | G | C6-O6 | 11.11 | 1.34 | 1.24 |
| 26 | 14 | 1605 | C | N1-C6 | -11.08 | 1.30 | 1.37 |
| 26 | 1H | 472 | A | N3-C4 | -11.07 | 1.28 | 1.34 |
| 26 | 14 | 1900 | A | N3-C4 | -11.01 | 1.28 | 1.34 |
| 26 | 14 | 2506 | U | N1-C2 | 11.01 | 1.48 | 1.38 |
| 26 | 1H | 2713 | A | N9-C4 | -10.96 | 1.31 | 1.37 |
| 26 | 14 | 1616 | A | N9-C4 | -10.95 | 1.31 | 1.37 |
| 26 | 1H | 2561 | A | N9-C4 | -10.94 | 1.31 | 1.37 |
| 5 | 42 | 79 | GLU | CD-OE1 | -10.91 | 1.13 | 1.25 |
| 8 | 7E | 102 | ARG | CZ-NH1 | -10.82 | 1.19 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|--------|-------------|----------|
| 26 | 14 | 1698 | A | N9-C4 | -10.69 | 1.31 | 1.37 |
| 26 | 1H | 621 | A | N9-C4 | -10.64 | 1.31 | 1.37 |
| 26 | 1H | 140 | A | N9-C4 | -10.63 | 1.31 | 1.37 |
| 26 | 1H | 1784 | A | N7-C5 | 10.62 | 1.45 | 1.39 |
| 26 | 1H | 197 | A | N9-C4 | -10.54 | 1.31 | 1.37 |
| 26 | 1H | 2392 | A | N9-C4 | -10.51 | 1.31 | 1.37 |
| 26 | 1H | 1950 | G | N9-C8 | 10.51 | 1.45 | 1.37 |
| 26 | 14 | 462 | C | N1-C6 | -10.48 | 1.30 | 1.37 |
| 26 | 14 | 2346 | A | N3-C4 | -10.47 | 1.28 | 1.34 |
| 26 | 14 | 738 | G | N7-C5 | -10.46 | 1.32 | 1.39 |
| 26 | 1H | 2721 | A | N9-C4 | -10.46 | 1.31 | 1.37 |
| 26 | 1H | 2377 | A | N9-C4 | -10.43 | 1.31 | 1.37 |
| 26 | 14 | 774 | A | C5-C6 | -10.40 | 1.31 | 1.41 |
| 26 | 1H | 2429 | G | N7-C5 | -10.36 | 1.33 | 1.39 |
| 26 | 1H | 1786 | A | C5-C6 | -10.30 | 1.31 | 1.41 |
| 26 | 1H | 996 | A | N3-C4 | -10.24 | 1.28 | 1.34 |
| 26 | 1H | 330 | A | N9-C4 | -10.17 | 1.31 | 1.37 |
| 26 | 1H | 1971 | A | C5-C4 | -10.17 | 1.31 | 1.38 |
| 26 | 1H | 2044 | C | N1-C6 | -10.16 | 1.31 | 1.37 |
| 26 | 14 | 1773 | A | N9-C4 | -10.15 | 1.31 | 1.37 |
| 23 | 2K | 38 | A | N3-C4 | -10.12 | 1.28 | 1.34 |
| 47 | D5 | 80 | ARG | CZ-NH1 | -10.07 | 1.20 | 1.33 |
| 26 | 14 | 786 | C | N3-C4 | -10.07 | 1.26 | 1.33 |
| 26 | 14 | 1307 | A | N3-C4 | -10.05 | 1.28 | 1.34 |
| 26 | 14 | 1786 | A | N3-C4 | -10.04 | 1.28 | 1.34 |
| 26 | 1H | 676 | A | C5-C4 | 10.03 | 1.45 | 1.38 |
| 26 | 1H | 71 | A | C5-C6 | -10.01 | 1.32 | 1.41 |
| 26 | 14 | 2287 | A | N9-C4 | -9.99 | 1.31 | 1.37 |
| 38 | 45 | 76 | LYS | C-N | 9.99 | 1.57 | 1.34 |
| 26 | 1H | 2392 | A | C5-C4 | 9.98 | 1.45 | 1.38 |
| 26 | 1H | 1271 | G | N9-C8 | -9.97 | 1.30 | 1.37 |
| 26 | 14 | 528 | A | N9-C4 | -9.96 | 1.31 | 1.37 |
| 26 | 1H | 2336 | A | N9-C4 | 9.94 | 1.43 | 1.37 |
| 26 | 14 | 746 | A | N3-C4 | -9.93 | 1.28 | 1.34 |
| 46 | G8 | 84 | ARG | CG-CD | 9.92 | 1.76 | 1.51 |
| 26 | 14 | 1977 | A | N3-C4 | -9.92 | 1.28 | 1.34 |
| 26 | 1H | 777 | A | N3-C4 | -9.90 | 1.28 | 1.34 |
| 26 | 1H | 2247 | A | C6-N1 | -9.88 | 1.28 | 1.35 |
| 26 | 1H | 774 | A | N7-C5 | -9.88 | 1.33 | 1.39 |
| 26 | 1H | 527 | C | N1-C6 | -9.81 | 1.31 | 1.37 |
| 26 | 14 | 471 | A | N9-C4 | -9.80 | 1.31 | 1.37 |
| 26 | 1H | 1698 | A | N9-C4 | -9.79 | 1.31 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|--------|------|--------|-------|-------------|----------|
| 26 | 1H | 73 | A | C5-C4 | -9.79 | 1.31 | 1.38 |
| 26 | 1H | 1786 | A | N7-C5 | -9.76 | 1.33 | 1.39 |
| 26 | 1H | 1968 | G | C8-N7 | -9.74 | 1.25 | 1.30 |
| 26 | 14 | 945 | A | C5-C6 | -9.71 | 1.32 | 1.41 |
| 26 | 1H | 197 | A | N3-C4 | -9.71 | 1.29 | 1.34 |
| 26 | 14 | 1629 | U | C4-O4 | 9.71 | 1.31 | 1.23 |
| 26 | 1H | 2430 | A | N3-C4 | -9.67 | 1.29 | 1.34 |
| 26 | 14 | 1583 | A | N3-C4 | 9.64 | 1.40 | 1.34 |
| 26 | 1H | 503 | A | N9-C4 | -9.64 | 1.32 | 1.37 |
| 26 | 14 | 974(A) | C | C4-C5 | 9.63 | 1.50 | 1.43 |
| 26 | 1H | 829 | A | N9-C4 | -9.63 | 1.32 | 1.37 |
| 26 | 14 | 2062 | A | C6-N1 | 9.62 | 1.42 | 1.35 |
| 26 | 14 | 768 | G | N7-C5 | -9.60 | 1.33 | 1.39 |
| 26 | 1H | 2062 | A | N9-C4 | 9.59 | 1.43 | 1.37 |
| 26 | 14 | 2247 | A | C6-N1 | -9.58 | 1.28 | 1.35 |
| 26 | 1H | 828 | U | N3-C4 | -9.54 | 1.29 | 1.38 |
| 26 | 14 | 1678 | G | N9-C4 | -9.51 | 1.30 | 1.38 |
| 26 | 1H | 835 | A | N3-C4 | -9.48 | 1.29 | 1.34 |
| 26 | 1H | 794 | G | N9-C8 | -9.47 | 1.31 | 1.37 |
| 26 | 14 | 1698 | A | N7-C5 | -9.47 | 1.33 | 1.39 |
| 26 | 1H | 74 | A | N9-C4 | -9.46 | 1.32 | 1.37 |
| 26 | 1H | 783 | A | N7-C5 | -9.46 | 1.33 | 1.39 |
| 26 | 14 | 1780 | A | C6-N1 | -9.44 | 1.28 | 1.35 |
| 26 | 1H | 2246 | G | N9-C8 | -9.44 | 1.31 | 1.37 |
| 26 | 1H | 503 | A | N3-C4 | -9.43 | 1.29 | 1.34 |
| 26 | 1H | 1950 | G | C2-N3 | 9.42 | 1.40 | 1.32 |
| 41 | B8 | 74 | ARG | CZ-NH1 | -9.42 | 1.20 | 1.33 |
| 26 | 1H | 1021 | A | N9-C4 | -9.37 | 1.32 | 1.37 |
| 26 | 1H | 2490 | G | N9-C8 | 9.37 | 1.44 | 1.37 |
| 26 | 1H | 2506 | U | N1-C2 | 9.36 | 1.47 | 1.38 |
| 26 | 1H | 945 | A | N7-C5 | -9.35 | 1.33 | 1.39 |
| 26 | 1H | 2330 | G | N9-C4 | -9.34 | 1.30 | 1.38 |
| 26 | 1H | 2575 | C | N1-C6 | -9.34 | 1.31 | 1.37 |
| 26 | 1H | 2430 | A | N7-C5 | -9.33 | 1.33 | 1.39 |
| 26 | 1H | 2688 | U | N3-C4 | -9.32 | 1.30 | 1.38 |
| 26 | 1H | 775 | G | N7-C5 | -9.32 | 1.33 | 1.39 |
| 26 | 14 | 676 | A | C5-C6 | -9.32 | 1.32 | 1.41 |
| 47 | D5 | 80 | ARG | CZ-NH2 | -9.29 | 1.21 | 1.33 |
| 26 | 1H | 863 | A | N3-C4 | 9.26 | 1.40 | 1.34 |
| 26 | 1H | 465 | G | C6-O6 | 9.24 | 1.32 | 1.24 |
| 26 | 1H | 2432 | A | N9-C4 | -9.24 | 1.32 | 1.37 |
| 26 | 1H | 71 | A | N3-C4 | -9.23 | 1.29 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|---------|------|--------|-------|-------------|----------|
| 26 | 1H | 1810 | A | C5-C4 | -9.23 | 1.32 | 1.38 |
| 26 | 14 | 1786 | A | N9-C4 | -9.23 | 1.32 | 1.37 |
| 26 | 14 | 1950 | G | N9-C4 | 9.22 | 1.45 | 1.38 |
| 26 | 1H | 116 | C | N1-C6 | -9.20 | 1.31 | 1.37 |
| 38 | 88 | 124 | LYS | C-N | -9.18 | 1.12 | 1.34 |
| 26 | 1H | 780 | G | N7-C5 | -9.15 | 1.33 | 1.39 |
| 26 | 1H | 2518 | A | N9-C4 | -9.15 | 1.32 | 1.37 |
| 26 | 1H | 2280 | G | C8-N7 | -9.14 | 1.25 | 1.30 |
| 26 | 1H | 2248 | C | N3-C4 | -9.13 | 1.27 | 1.33 |
| 26 | 14 | 1780 | A | N3-C4 | -9.11 | 1.29 | 1.34 |
| 26 | 1H | 1313 | U | N1-C6 | -9.10 | 1.29 | 1.38 |
| 26 | 1H | 1698 | A | N3-C4 | -9.10 | 1.29 | 1.34 |
| 31 | 31 | 57 | VAL | CB-CG1 | -9.09 | 1.33 | 1.52 |
| 26 | 14 | 2392 | A | C5-C4 | 9.08 | 1.45 | 1.38 |
| 26 | 14 | 1142(A) | A | N9-C4 | -9.07 | 1.32 | 1.37 |
| 1 | 1G | 1473 | A | N9-C4 | -9.07 | 1.32 | 1.37 |
| 26 | 14 | 2599 | G | C6-N1 | -9.06 | 1.33 | 1.39 |
| 26 | 14 | 1950 | G | N3-C4 | 9.05 | 1.41 | 1.35 |
| 26 | 14 | 2873 | A | N9-C4 | -9.05 | 1.32 | 1.37 |
| 26 | 14 | 1903 | G | N9-C8 | -9.04 | 1.31 | 1.37 |
| 26 | 1H | 138 | G | C8-N7 | 9.03 | 1.36 | 1.30 |
| 26 | 1H | 1967 | C | N1-C6 | -9.02 | 1.31 | 1.37 |
| 26 | 1H | 530 | G | N9-C8 | 8.99 | 1.44 | 1.37 |
| 26 | 14 | 1332 | G | C5-C4 | 8.98 | 1.44 | 1.38 |
| 26 | 14 | 1698 | A | C5-C6 | -8.98 | 1.32 | 1.41 |
| 26 | 1H | 800 | A | N3-C4 | -8.96 | 1.29 | 1.34 |
| 29 | 19 | 30 | GLU | CG-CD | 8.94 | 1.65 | 1.51 |
| 26 | 1H | 1349 | A | N9-C8 | 8.94 | 1.44 | 1.37 |
| 26 | 1H | 2713 | A | C5-C4 | 8.94 | 1.45 | 1.38 |
| 26 | 1H | 201 | C | N1-C6 | -8.93 | 1.31 | 1.37 |
| 30 | 21 | 119 | ARG | CZ-NH2 | -8.93 | 1.21 | 1.33 |
| 30 | 21 | 21 | VAL | CB-CG2 | 8.92 | 1.71 | 1.52 |
| 49 | J8 | 93 | GLU | CG-CD | 8.92 | 1.65 | 1.51 |
| 26 | 1H | 1308 | A | N3-C4 | -8.91 | 1.29 | 1.34 |
| 26 | 1H | 2242 | G | C5-C4 | -8.90 | 1.32 | 1.38 |
| 26 | 1H | 1627 | G | N9-C8 | -8.90 | 1.31 | 1.37 |
| 26 | 1H | 830 | G | N7-C5 | -8.89 | 1.33 | 1.39 |
| 27 | 1J | 89(A) | A | N9-C4 | 8.89 | 1.43 | 1.37 |
| 26 | 1H | 996 | A | N9-C4 | -8.89 | 1.32 | 1.37 |
| 26 | 1H | 2761 | G | N9-C4 | -8.87 | 1.30 | 1.38 |
| 26 | 14 | 955 | C | N3-C4 | -8.85 | 1.27 | 1.33 |
| 26 | 1H | 1957 | C | N3-C4 | -8.84 | 1.27 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 23 | 2K | 12 | G | C5-C4 | -8.84 | 1.32 | 1.38 |
| 22 | 1K | 74 | C | N1-C2 | 8.83 | 1.49 | 1.40 |
| 26 | 1H | 2781 | A | N9-C4 | -8.83 | 1.32 | 1.37 |
| 26 | 1H | 2331 | G | N9-C4 | -8.82 | 1.30 | 1.38 |
| 26 | 1H | 2246 | G | C8-N7 | -8.81 | 1.25 | 1.30 |
| 26 | 1H | 2452 | C | N1-C6 | -8.79 | 1.31 | 1.37 |
| 26 | 1H | 2578 | G | C5-C4 | -8.77 | 1.32 | 1.38 |
| 26 | 1H | 945 | A | N9-C4 | -8.75 | 1.32 | 1.37 |
| 26 | 1H | 122 | G | N9-C4 | -8.75 | 1.30 | 1.38 |
| 26 | 14 | 1950 | G | C5-C6 | 8.74 | 1.51 | 1.42 |
| 26 | 1H | 1612 | C | N1-C6 | -8.73 | 1.31 | 1.37 |
| 26 | 1H | 1158 | C | N3-C4 | -8.73 | 1.27 | 1.33 |
| 26 | 1H | 1784 | A | C6-N1 | -8.72 | 1.29 | 1.35 |
| 26 | 14 | 1890 | A | N9-C4 | -8.72 | 1.32 | 1.37 |
| 26 | 14 | 2330 | G | C2-N3 | 8.71 | 1.39 | 1.32 |
| 26 | 1H | 774 | A | N3-C4 | -8.71 | 1.29 | 1.34 |
| 26 | 1H | 330 | A | N3-C4 | -8.70 | 1.29 | 1.34 |
| 27 | 16 | 81 | G | N9-C8 | 8.70 | 1.44 | 1.37 |
| 26 | 1H | 2028 | U | C4-O4 | 8.70 | 1.30 | 1.23 |
| 26 | 1H | 2665 | A | C5-C6 | -8.70 | 1.33 | 1.41 |
| 23 | 2K | 38 | A | C6-N1 | -8.68 | 1.29 | 1.35 |
| 29 | 11 | 30 | GLU | CG-CD | 8.68 | 1.65 | 1.51 |
| 26 | 1H | 1616 | A | C5-C6 | -8.67 | 1.33 | 1.41 |
| 26 | 1H | 2509 | G | C5-C4 | -8.66 | 1.32 | 1.38 |
| 26 | 1H | 1616 | A | N7-C5 | -8.65 | 1.34 | 1.39 |
| 26 | 1H | 1202 | C | N1-C6 | -8.64 | 1.31 | 1.37 |
| 26 | 1H | 826 | U | C2-N3 | 8.62 | 1.43 | 1.37 |
| 26 | 1H | 245 | G | N9-C8 | -8.61 | 1.31 | 1.37 |
| 26 | 1H | 127 | A | N9-C4 | -8.61 | 1.32 | 1.37 |
| 26 | 14 | 775 | G | N7-C5 | -8.61 | 1.34 | 1.39 |
| 26 | 14 | 471 | A | N3-C4 | -8.60 | 1.29 | 1.34 |
| 26 | 1H | 425 | G | C5-C4 | -8.60 | 1.32 | 1.38 |
| 26 | 1H | 122 | G | N7-C5 | -8.60 | 1.34 | 1.39 |
| 26 | 1H | 1950 | G | C6-N1 | 8.59 | 1.45 | 1.39 |
| 26 | 1H | 1989 | G | N3-C4 | -8.59 | 1.29 | 1.35 |
| 26 | 14 | 2051 | A | N3-C4 | -8.59 | 1.29 | 1.34 |
| 26 | 1H | 1769 | G | C6-O6 | 8.58 | 1.31 | 1.24 |
| 26 | 1H | 945 | A | C5-C4 | 8.57 | 1.44 | 1.38 |
| 41 | B8 | 74 | ARG | CZ-NH2 | -8.56 | 1.22 | 1.33 |
| 26 | 1H | 2450 | A | N3-C4 | -8.55 | 1.29 | 1.34 |
| 26 | 1H | 57 | C | N3-C4 | -8.55 | 1.27 | 1.33 |
| 26 | 1H | 2327 | A | N7-C5 | 8.55 | 1.44 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 29 | 11 | 229 | VAL | CB-CG1 | -8.53 | 1.34 | 1.52 |
| 26 | 14 | 1767 | C | N3-C4 | -8.52 | 1.27 | 1.33 |
| 17 | 8I | 101 | ARG | CZ-NH1 | -8.52 | 1.22 | 1.33 |
| 26 | 1H | 2068 | U | C2-N3 | -8.52 | 1.31 | 1.37 |
| 26 | 1H | 1638 | C | N1-C6 | -8.52 | 1.32 | 1.37 |
| 26 | 1H | 2447 | G | C5-C4 | -8.51 | 1.32 | 1.38 |
| 26 | 14 | 1977 | A | C6-N1 | -8.50 | 1.29 | 1.35 |
| 26 | 1H | 211 | A | N9-C4 | -8.49 | 1.32 | 1.37 |
| 26 | 14 | 1780 | A | N9-C4 | -8.48 | 1.32 | 1.37 |
| 26 | 14 | 90 | U | N1-C2 | 8.47 | 1.46 | 1.38 |
| 26 | 14 | 1289 | C | N1-C6 | -8.47 | 1.32 | 1.37 |
| 26 | 1H | 931 | G | N9-C8 | -8.47 | 1.31 | 1.37 |
| 26 | 14 | 1681 | G | N9-C4 | -8.47 | 1.31 | 1.38 |
| 26 | 14 | 2589 | A | N9-C4 | -8.47 | 1.32 | 1.37 |
| 1 | 13 | 1502 | A | C5-C6 | -8.46 | 1.33 | 1.41 |
| 26 | 1H | 1915 | U | C2-N3 | -8.46 | 1.31 | 1.37 |
| 26 | 1H | 1203 | G | N9-C4 | 8.45 | 1.44 | 1.38 |
| 26 | 1H | 2250 | G | C8-N7 | 8.44 | 1.36 | 1.30 |
| 26 | 14 | 1558 | A | N9-C4 | -8.44 | 1.32 | 1.37 |
| 26 | 14 | 140 | A | C5-C6 | -8.44 | 1.33 | 1.41 |
| 26 | 14 | 1784 | A | N3-C4 | -8.44 | 1.29 | 1.34 |
| 26 | 1H | 2505 | G | N1-C2 | -8.42 | 1.31 | 1.37 |
| 26 | 1H | 820 | A | C6-N1 | -8.41 | 1.29 | 1.35 |
| 26 | 1H | 2451 | A | C6-N1 | -8.40 | 1.29 | 1.35 |
| 26 | 1H | 2552 | U | N1-C6 | -8.40 | 1.30 | 1.38 |
| 26 | 14 | 2326 | C | N1-C6 | -8.40 | 1.32 | 1.37 |
| 30 | 21 | 119 | ARG | CZ-NH1 | -8.40 | 1.22 | 1.33 |
| 26 | 1H | 1159 | U | N1-C2 | 8.38 | 1.46 | 1.38 |
| 26 | 1H | 1984 | G | C6-N1 | -8.38 | 1.33 | 1.39 |
| 26 | 14 | 1950 | G | C5-C4 | 8.38 | 1.44 | 1.38 |
| 26 | 14 | 71 | A | N9-C4 | -8.38 | 1.32 | 1.37 |
| 31 | 39 | 65 | TRP | CB-CG | -8.37 | 1.35 | 1.50 |
| 26 | 14 | 1762 | A | C5-C4 | 8.37 | 1.44 | 1.38 |
| 26 | 1H | 1951 | U | C4-O4 | 8.37 | 1.30 | 1.23 |
| 5 | 42 | 79 | GLU | CD-OE2 | -8.36 | 1.16 | 1.25 |
| 26 | 1H | 225 | A | N9-C4 | -8.36 | 1.32 | 1.37 |
| 26 | 1H | 2609 | U | N1-C6 | -8.36 | 1.30 | 1.38 |
| 26 | 1H | 628 | G | C5-C4 | -8.36 | 1.32 | 1.38 |
| 26 | 14 | 2607 | G | C6-O6 | 8.36 | 1.31 | 1.24 |
| 26 | 1H | 129 | C | N1-C6 | -8.33 | 1.32 | 1.37 |
| 26 | 1H | 739 | G | C5-C4 | -8.33 | 1.32 | 1.38 |
| 26 | 1H | 1417 | C | N1-C6 | -8.33 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 46 | G8 | 84 | ARG | CB-CG | 8.32 | 1.75 | 1.52 |
| 26 | 1H | 1621 | U | N1-C6 | -8.31 | 1.30 | 1.38 |
| 26 | 1H | 2360 | A | N9-C4 | -8.30 | 1.32 | 1.37 |
| 26 | 14 | 1776 | G | N3-C4 | -8.30 | 1.29 | 1.35 |
| 26 | 14 | 929 | G | N1-C2 | 8.29 | 1.44 | 1.37 |
| 26 | 14 | 1806 | C | N1-C6 | -8.26 | 1.32 | 1.37 |
| 26 | 1H | 467 | G | C5-C4 | -8.26 | 1.32 | 1.38 |
| 26 | 1H | 735 | A | N7-C5 | -8.26 | 1.34 | 1.39 |
| 30 | 21 | 116 | VAL | CB-CG2 | -8.26 | 1.35 | 1.52 |
| 26 | 1H | 1799 | G | N3-C4 | 8.25 | 1.41 | 1.35 |
| 26 | 1H | 2448 | A | N9-C4 | -8.25 | 1.32 | 1.37 |
| 26 | 14 | 1583 | A | C6-N1 | 8.25 | 1.41 | 1.35 |
| 23 | 2L | 77 | A | N9-C4 | -8.25 | 1.32 | 1.37 |
| 26 | 1H | 1157 | G | N7-C5 | -8.23 | 1.34 | 1.39 |
| 1 | 13 | 801 | U | C2-N3 | -8.23 | 1.31 | 1.37 |
| 26 | 14 | 1187 | G | N3-C4 | -8.23 | 1.29 | 1.35 |
| 26 | 1H | 2311 | A | N7-C5 | -8.22 | 1.34 | 1.39 |
| 26 | 1H | 2582 | G | N7-C5 | -8.22 | 1.34 | 1.39 |
| 26 | 14 | 1785 | A | N7-C5 | -8.21 | 1.34 | 1.39 |
| 26 | 1H | 204 | A | N3-C4 | -8.21 | 1.29 | 1.34 |
| 26 | 1H | 1616 | A | N9-C4 | -8.21 | 1.32 | 1.37 |
| 26 | 1H | 1966 | A | N9-C4 | -8.20 | 1.32 | 1.37 |
| 26 | 1H | 1823 | G | C2-N3 | -8.20 | 1.26 | 1.32 |
| 1 | 13 | 1400 | C | N3-C4 | 8.20 | 1.39 | 1.33 |
| 26 | 1H | 2557 | G | N1-C2 | -8.20 | 1.31 | 1.37 |
| 26 | 1H | 1379 | A | C6-N1 | 8.19 | 1.41 | 1.35 |
| 26 | 14 | 751 | A | N9-C4 | -8.19 | 1.32 | 1.37 |
| 26 | 14 | 1772 | G | N7-C5 | -8.19 | 1.34 | 1.39 |
| 26 | 1H | 2311 | A | N3-C4 | -8.18 | 1.29 | 1.34 |
| 33 | 59 | 53 | GLU | C-N | 8.18 | 1.52 | 1.34 |
| 1 | 13 | 1408 | A | N3-C4 | -8.18 | 1.29 | 1.34 |
| 26 | 1H | 1375 | C | N1-C6 | -8.18 | 1.32 | 1.37 |
| 26 | 1H | 2073 | C | C5-C6 | -8.18 | 1.27 | 1.34 |
| 26 | 1H | 759 | G | N3-C4 | -8.15 | 1.29 | 1.35 |
| 26 | 14 | 737 | C | N1-C6 | -8.15 | 1.32 | 1.37 |
| 26 | 1H | 2392 | A | N7-C5 | -8.15 | 1.34 | 1.39 |
| 26 | 14 | 945 | A | N9-C4 | -8.14 | 1.32 | 1.37 |
| 26 | 14 | 1977 | A | N9-C4 | -8.14 | 1.32 | 1.37 |
| 26 | 1H | 34 | C | N1-C6 | 8.13 | 1.42 | 1.37 |
| 26 | 1H | 2775 | A | N3-C4 | -8.13 | 1.29 | 1.34 |
| 26 | 14 | 74 | A | N3-C4 | -8.13 | 1.29 | 1.34 |
| 26 | 14 | 2581 | G | N7-C5 | -8.13 | 1.34 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 1H | 783 | A | C6-N1 | -8.12 | 1.29 | 1.35 |
| 26 | 1H | 2033 | A | C6-N6 | -8.12 | 1.27 | 1.33 |
| 26 | 1H | 2444 | G | N7-C5 | -8.12 | 1.34 | 1.39 |
| 26 | 14 | 1829 | A | N7-C5 | -8.12 | 1.34 | 1.39 |
| 26 | 1H | 933 | A | C6-N1 | -8.11 | 1.29 | 1.35 |
| 26 | 1H | 2297 | C | N1-C6 | -8.11 | 1.32 | 1.37 |
| 26 | 1H | 2552 | U | C2-N3 | 8.08 | 1.43 | 1.37 |
| 1 | 13 | 696 | A | N9-C4 | -8.07 | 1.33 | 1.37 |
| 26 | 1H | 1011 | G | N7-C5 | -8.06 | 1.34 | 1.39 |
| 26 | 1H | 1210 | A | N9-C4 | -8.06 | 1.33 | 1.37 |
| 1 | 13 | 1408 | A | N9-C4 | -8.06 | 1.33 | 1.37 |
| 26 | 1H | 1678 | G | N9-C4 | -8.05 | 1.31 | 1.38 |
| 1 | 13 | 780 | A | N9-C4 | -8.05 | 1.33 | 1.37 |
| 1 | 13 | 47 | C | N1-C6 | -8.05 | 1.32 | 1.37 |
| 1 | 13 | 1500 | A | N3-C4 | -8.03 | 1.30 | 1.34 |
| 26 | 1H | 844 | C | N1-C6 | -8.03 | 1.32 | 1.37 |
| 26 | 14 | 751 | A | N3-C4 | -8.02 | 1.30 | 1.34 |
| 26 | 1H | 2242 | G | N9-C8 | -8.02 | 1.32 | 1.37 |
| 26 | 1H | 2241 | A | C6-N1 | -8.01 | 1.29 | 1.35 |
| 26 | 1H | 2575 | C | N3-C4 | -8.01 | 1.28 | 1.33 |
| 26 | 14 | 753 | C | N1-C6 | -8.01 | 1.32 | 1.37 |
| 26 | 1H | 1689 | A | N9-C4 | -8.01 | 1.33 | 1.37 |
| 26 | 14 | 2725 | A | N9-C4 | -8.00 | 1.33 | 1.37 |
| 47 | D5 | 80 | ARG | CD-NE | -8.00 | 1.32 | 1.46 |
| 26 | 14 | 2593 | U | C4-O4 | 7.99 | 1.30 | 1.23 |
| 26 | 14 | 821 | A | N7-C5 | -7.98 | 1.34 | 1.39 |
| 26 | 14 | 1983 | C | N1-C6 | -7.98 | 1.32 | 1.37 |
| 26 | 14 | 578 | A | N9-C4 | -7.98 | 1.33 | 1.37 |
| 26 | 14 | 2502 | G | N3-C4 | -7.97 | 1.29 | 1.35 |
| 26 | 1H | 138 | G | C6-N1 | 7.96 | 1.45 | 1.39 |
| 26 | 14 | 2346 | A | N9-C4 | -7.95 | 1.33 | 1.37 |
| 26 | 1H | 471 | A | N9-C4 | -7.94 | 1.33 | 1.37 |
| 26 | 1H | 1331 | A | N9-C4 | -7.94 | 1.33 | 1.37 |
| 26 | 1H | 1161 | C | N1-C6 | 7.93 | 1.42 | 1.37 |
| 26 | 1H | 74 | A | N7-C5 | -7.93 | 1.34 | 1.39 |
| 46 | G8 | 55 | TYR | CB-CG | -7.92 | 1.39 | 1.51 |
| 1 | 13 | 1523 | G | C5-C4 | -7.92 | 1.32 | 1.38 |
| 26 | 1H | 1904 | G | C5-C4 | -7.92 | 1.32 | 1.38 |
| 26 | 1H | 776 | G | N3-C4 | -7.91 | 1.29 | 1.35 |
| 26 | 1H | 2569 | G | N3-C4 | -7.91 | 1.29 | 1.35 |
| 26 | 14 | 204 | A | C5-C4 | -7.90 | 1.33 | 1.38 |
| 26 | 14 | 1422 | G | N9-C4 | -7.90 | 1.31 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 1H | 1225 | C | N1-C6 | -7.90 | 1.32 | 1.37 |
| 29 | 11 | 122 | ASP | CB-CG | 7.90 | 1.68 | 1.51 |
| 38 | 45 | 124 | LYS | C-N | -7.89 | 1.16 | 1.34 |
| 26 | 14 | 1999 | C | N1-C6 | -7.88 | 1.32 | 1.37 |
| 1 | 13 | 1434 | A | N9-C4 | -7.88 | 1.33 | 1.37 |
| 26 | 14 | 682 | G | C6-N1 | -7.88 | 1.34 | 1.39 |
| 26 | 1H | 2336 | A | N3-C4 | 7.87 | 1.39 | 1.34 |
| 26 | 14 | 324 | A | C6-N1 | -7.87 | 1.30 | 1.35 |
| 26 | 1H | 122 | G | C5-C6 | -7.87 | 1.34 | 1.42 |
| 26 | 1H | 2032 | G | N9-C4 | -7.86 | 1.31 | 1.38 |
| 26 | 14 | 756 | C | N1-C6 | -7.85 | 1.32 | 1.37 |
| 26 | 1H | 2501 | C | N1-C6 | -7.84 | 1.32 | 1.37 |
| 26 | 14 | 1809 | A | N9-C4 | -7.84 | 1.33 | 1.37 |
| 26 | 1H | 2392 | A | N9-C8 | 7.84 | 1.44 | 1.37 |
| 26 | 1H | 1130 | U | C2-N3 | -7.83 | 1.32 | 1.37 |
| 1 | 13 | 1474 | G | N3-C4 | -7.83 | 1.29 | 1.35 |
| 26 | 1H | 140 | A | N7-C5 | -7.83 | 1.34 | 1.39 |
| 26 | 1H | 1949 | G | N3-C4 | -7.83 | 1.29 | 1.35 |
| 26 | 1H | 1788 | C | N1-C6 | -7.81 | 1.32 | 1.37 |
| 31 | 31 | 56 | GLU | CD-OE1 | -7.81 | 1.17 | 1.25 |
| 23 | 2L | 19 | G | N9-C4 | -7.81 | 1.31 | 1.38 |
| 26 | 1H | 871 | U | C2-N3 | 7.80 | 1.43 | 1.37 |
| 26 | 1H | 74 | A | C5-C4 | 7.79 | 1.44 | 1.38 |
| 46 | C5 | 84 | ARG | CZ-NH2 | -7.79 | 1.23 | 1.33 |
| 26 | 14 | 2062 | A | N3-C4 | 7.79 | 1.39 | 1.34 |
| 26 | 1H | 1237 | A | C6-N1 | -7.79 | 1.30 | 1.35 |
| 26 | 1H | 1792 | G | C6-N1 | -7.79 | 1.34 | 1.39 |
| 26 | 1H | 788 | A | C6-N6 | 7.78 | 1.40 | 1.33 |
| 26 | 1H | 1989 | G | C6-O6 | 7.78 | 1.31 | 1.24 |
| 26 | 14 | 1816 | G | N3-C4 | 7.78 | 1.40 | 1.35 |
| 26 | 1H | 2062 | A | N3-C4 | 7.76 | 1.39 | 1.34 |
| 26 | 1H | 739 | G | N3-C4 | -7.76 | 1.30 | 1.35 |
| 26 | 1H | 2070 | G | N9-C8 | -7.76 | 1.32 | 1.37 |
| 8 | 7E | 102 | ARG | NE-CZ | -7.75 | 1.23 | 1.33 |
| 22 | 1K | 59 | A | N9-C4 | 7.75 | 1.42 | 1.37 |
| 1 | 13 | 974 | A | N9-C4 | -7.75 | 1.33 | 1.37 |
| 26 | 14 | 676 | A | C5-C4 | 7.74 | 1.44 | 1.38 |
| 26 | 1H | 2070 | G | N3-C4 | 7.74 | 1.40 | 1.35 |
| 26 | 14 | 1853 | A | N9-C4 | -7.73 | 1.33 | 1.37 |
| 26 | 1H | 73 | A | N9-C8 | -7.73 | 1.31 | 1.37 |
| 26 | 1H | 2518 | A | N7-C5 | -7.73 | 1.34 | 1.39 |
| 26 | 1H | 1689 | A | N3-C4 | -7.73 | 1.30 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-------|------|--------|-------|-------------|----------|
| 26 | 1H | 1258 | C | N1-C6 | -7.72 | 1.32 | 1.37 |
| 26 | 1H | 2577 | A | N3-C4 | -7.72 | 1.30 | 1.34 |
| 26 | 1H | 2311 | A | N9-C4 | -7.72 | 1.33 | 1.37 |
| 55 | M5 | 56 | GLU | CG-CD | 7.72 | 1.63 | 1.51 |
| 31 | 31 | 65 | TRP | CB-CG | -7.71 | 1.36 | 1.50 |
| 26 | 14 | 2629 | A | N9-C4 | 7.71 | 1.42 | 1.37 |
| 26 | 14 | 2444 | G | C6-N1 | -7.71 | 1.34 | 1.39 |
| 26 | 1H | 1899 | G | N9-C4 | -7.70 | 1.31 | 1.38 |
| 26 | 1H | 1799 | G | N9-C4 | 7.70 | 1.44 | 1.38 |
| 1 | 13 | 760 | G | N7-C5 | -7.68 | 1.34 | 1.39 |
| 26 | 1H | 777 | A | N9-C4 | -7.68 | 1.33 | 1.37 |
| 26 | 1H | 2502 | G | C8-N7 | 7.68 | 1.35 | 1.30 |
| 26 | 1H | 2572 | A | N3-C4 | -7.66 | 1.30 | 1.34 |
| 26 | 14 | 947 | G | C6-O6 | 7.66 | 1.31 | 1.24 |
| 26 | 14 | 30 | G | N7-C5 | -7.66 | 1.34 | 1.39 |
| 26 | 1H | 952 | G | C5-C6 | -7.65 | 1.34 | 1.42 |
| 30 | 29 | 151 | TYR | CE2-CZ | 7.64 | 1.48 | 1.38 |
| 26 | 14 | 330 | A | C5-C4 | 7.64 | 1.44 | 1.38 |
| 26 | 14 | 2068 | U | C2-O2 | 7.63 | 1.29 | 1.22 |
| 26 | 14 | 2452 | C | N1-C6 | -7.62 | 1.32 | 1.37 |
| 1 | 13 | 1500 | A | C6-N1 | -7.62 | 1.30 | 1.35 |
| 29 | 11 | 30 | GLU | CB-CG | 7.62 | 1.66 | 1.52 |
| 26 | 1H | 2572 | A | C6-N1 | -7.62 | 1.30 | 1.35 |
| 26 | 1H | 2280 | G | C5-C6 | 7.61 | 1.50 | 1.42 |
| 1 | 13 | 694 | A | N3-C4 | -7.61 | 1.30 | 1.34 |
| 26 | 14 | 2358 | G | N7-C5 | 7.61 | 1.43 | 1.39 |
| 26 | 14 | 2448 | A | N9-C4 | -7.61 | 1.33 | 1.37 |
| 26 | 1H | 1829 | A | C5-C4 | -7.61 | 1.33 | 1.38 |
| 26 | 1H | 988 | A | N7-C5 | -7.60 | 1.34 | 1.39 |
| 26 | 1H | 2280 | G | N9-C8 | -7.60 | 1.32 | 1.37 |
| 27 | 1J | 89(A) | A | N3-C4 | 7.60 | 1.39 | 1.34 |
| 26 | 1H | 2296 | U | C2-N3 | 7.60 | 1.43 | 1.37 |
| 26 | 1H | 2689 | U | N3-C4 | -7.59 | 1.31 | 1.38 |
| 26 | 1H | 1979 | C | N3-C4 | -7.58 | 1.28 | 1.33 |
| 26 | 1H | 615 | G | C6-N1 | 7.58 | 1.44 | 1.39 |
| 26 | 14 | 2424 | C | N3-C4 | -7.58 | 1.28 | 1.33 |
| 26 | 1H | 866 | A | N3-C4 | 7.58 | 1.39 | 1.34 |
| 26 | 14 | 529 | A | N3-C4 | -7.57 | 1.30 | 1.34 |
| 26 | 1H | 628 | G | C6-N1 | -7.57 | 1.34 | 1.39 |
| 26 | 14 | 755 | C | C4-C5 | -7.56 | 1.36 | 1.43 |
| 26 | 14 | 483 | A | N3-C4 | -7.56 | 1.30 | 1.34 |
| 26 | 14 | 759 | G | N3-C4 | -7.55 | 1.30 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 14 | 503 | A | N3-C4 | -7.55 | 1.30 | 1.34 |
| 26 | 1H | 729 | G | N7-C5 | -7.55 | 1.34 | 1.39 |
| 26 | 1H | 2346 | A | C5-C4 | 7.54 | 1.44 | 1.38 |
| 26 | 1H | 2243 | U | N1-C6 | -7.53 | 1.31 | 1.38 |
| 26 | 1H | 1786 | A | C5-C4 | 7.52 | 1.44 | 1.38 |
| 26 | 1H | 1658 | C | C2-N3 | 7.52 | 1.41 | 1.35 |
| 26 | 14 | 674 | G | N7-C5 | 7.51 | 1.43 | 1.39 |
| 26 | 1H | 2790 | A | N9-C4 | 7.50 | 1.42 | 1.37 |
| 26 | 1H | 473 | G | C6-N1 | -7.50 | 1.34 | 1.39 |
| 26 | 1H | 966 | G | N9-C8 | -7.50 | 1.32 | 1.37 |
| 26 | 1H | 2573 | C | N1-C6 | -7.50 | 1.32 | 1.37 |
| 26 | 1H | 766 | C | N1-C6 | -7.50 | 1.32 | 1.37 |
| 26 | 1H | 1241 | A | N9-C4 | -7.49 | 1.33 | 1.37 |
| 26 | 1H | 705 | A | C5-C6 | -7.49 | 1.34 | 1.41 |
| 26 | 14 | 863 | A | N9-C4 | 7.49 | 1.42 | 1.37 |
| 26 | 1H | 735 | A | C5-C4 | -7.48 | 1.33 | 1.38 |
| 26 | 1H | 1973 | G | N1-C2 | -7.47 | 1.31 | 1.37 |
| 26 | 14 | 1308 | A | N3-C4 | -7.47 | 1.30 | 1.34 |
| 26 | 14 | 929 | G | N7-C5 | -7.47 | 1.34 | 1.39 |
| 43 | 95 | 81 | TYR | CE1-CZ | -7.46 | 1.28 | 1.38 |
| 26 | 1H | 1812 | A | C6-N1 | -7.45 | 1.30 | 1.35 |
| 26 | 14 | 472 | A | N3-C4 | -7.45 | 1.30 | 1.34 |
| 26 | 14 | 1026 | U | C2-N3 | 7.45 | 1.43 | 1.37 |
| 26 | 14 | 2724 | C | N1-C6 | -7.45 | 1.32 | 1.37 |
| 26 | 1H | 2607 | G | C6-O6 | 7.45 | 1.30 | 1.24 |
| 26 | 1H | 2459 | A | N3-C4 | -7.44 | 1.30 | 1.34 |
| 26 | 1H | 2069 | G | N9-C8 | -7.43 | 1.32 | 1.37 |
| 26 | 1H | 676 | A | C5-C6 | -7.43 | 1.34 | 1.41 |
| 26 | 1H | 939 | G | N3-C4 | -7.43 | 1.30 | 1.35 |
| 26 | 1H | 735 | A | N9-C4 | -7.42 | 1.33 | 1.37 |
| 1 | 13 | 810 | C | N1-C6 | -7.42 | 1.32 | 1.37 |
| 26 | 1H | 251 | A | C6-N1 | -7.42 | 1.30 | 1.35 |
| 26 | 1H | 587 | C | N1-C6 | -7.42 | 1.32 | 1.37 |
| 26 | 14 | 1392 | A | N9-C8 | -7.42 | 1.31 | 1.37 |
| 26 | 14 | 2495 | G | C2-N3 | -7.42 | 1.26 | 1.32 |
| 26 | 1H | 828 | U | C2-O2 | 7.42 | 1.29 | 1.22 |
| 26 | 14 | 1283 | G | N9-C8 | -7.42 | 1.32 | 1.37 |
| 26 | 14 | 1309 | G | C2-N3 | -7.40 | 1.26 | 1.32 |
| 26 | 1H | 1623 | G | N9-C8 | -7.39 | 1.32 | 1.37 |
| 26 | 1H | 1301 | A | C6-N6 | 7.39 | 1.39 | 1.33 |
| 26 | 1H | 1789 | A | N3-C4 | -7.39 | 1.30 | 1.34 |
| 26 | 1H | 2688 | U | C2-N3 | -7.39 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 1H | 1621 | U | N1-C2 | -7.38 | 1.31 | 1.38 |
| 26 | 1H | 1698 | A | C5-C6 | -7.38 | 1.34 | 1.41 |
| 26 | 1H | 1972 | A | N9-C8 | -7.38 | 1.31 | 1.37 |
| 26 | 14 | 2873 | A | N3-C4 | -7.38 | 1.30 | 1.34 |
| 26 | 1H | 395 | U | C2-N3 | -7.37 | 1.32 | 1.37 |
| 26 | 1H | 1670 | C | N1-C6 | -7.37 | 1.32 | 1.37 |
| 26 | 14 | 2445 | G | N9-C8 | -7.36 | 1.32 | 1.37 |
| 26 | 14 | 911 | A | N7-C5 | -7.36 | 1.34 | 1.39 |
| 26 | 14 | 959 | A | N3-C4 | 7.36 | 1.39 | 1.34 |
| 26 | 1H | 629 | G | C6-N1 | -7.35 | 1.34 | 1.39 |
| 26 | 14 | 2289 | G | N7-C5 | 7.35 | 1.43 | 1.39 |
| 1 | 1G | 1523 | G | N3-C4 | -7.35 | 1.30 | 1.35 |
| 26 | 1H | 824 | A | N9-C4 | -7.35 | 1.33 | 1.37 |
| 26 | 1H | 1786 | A | N9-C8 | 7.34 | 1.43 | 1.37 |
| 26 | 1H | 1814 | G | N7-C5 | -7.33 | 1.34 | 1.39 |
| 26 | 1H | 2065 | C | N3-C4 | -7.33 | 1.28 | 1.33 |
| 26 | 14 | 879 | G | N9-C4 | 7.33 | 1.43 | 1.38 |
| 26 | 1H | 616 | A | N9-C4 | -7.33 | 1.33 | 1.37 |
| 26 | 1H | 1195 | G | N7-C5 | 7.33 | 1.43 | 1.39 |
| 26 | 14 | 1950 | G | C6-N1 | 7.33 | 1.44 | 1.39 |
| 26 | 1H | 1765 | C | N3-C4 | -7.32 | 1.28 | 1.33 |
| 26 | 1H | 704 | G | N3-C4 | -7.32 | 1.30 | 1.35 |
| 26 | 1H | 1829 | A | C6-N1 | -7.32 | 1.30 | 1.35 |
| 26 | 1H | 551 | G | N3-C4 | -7.32 | 1.30 | 1.35 |
| 26 | 14 | 2510 | C | N1-C6 | -7.31 | 1.32 | 1.37 |
| 26 | 14 | 1904 | G | N9-C8 | -7.31 | 1.32 | 1.37 |
| 26 | 1H | 933 | A | C5-C4 | -7.30 | 1.33 | 1.38 |
| 26 | 1H | 774 | A | N1-C2 | 7.30 | 1.41 | 1.34 |
| 26 | 1H | 939 | G | C6-N1 | -7.30 | 1.34 | 1.39 |
| 26 | 1H | 1807 | G | N7-C5 | -7.30 | 1.34 | 1.39 |
| 26 | 1H | 1021 | A | C5-C4 | 7.30 | 1.43 | 1.38 |
| 16 | 7I | 20 | VAL | CB-CG1 | -7.30 | 1.37 | 1.52 |
| 26 | 1H | 141 | A | N9-C8 | 7.29 | 1.43 | 1.37 |
| 41 | 75 | 13 | ARG | CD-NE | -7.29 | 1.34 | 1.46 |
| 26 | 14 | 1624 | G | N7-C5 | -7.29 | 1.34 | 1.39 |
| 57 | 3L | 34 | U | N1-C2 | 7.29 | 1.45 | 1.38 |
| 55 | M5 | 34 | TRP | CB-CG | 7.29 | 1.63 | 1.50 |
| 26 | 1H | 1349 | A | C5-C4 | 7.28 | 1.43 | 1.38 |
| 26 | 1H | 2611 | U | C2-N3 | -7.28 | 1.32 | 1.37 |
| 26 | 1H | 1274 | A | N7-C5 | -7.27 | 1.34 | 1.39 |
| 26 | 1H | 735 | A | C5-C6 | -7.27 | 1.34 | 1.41 |
| 26 | 14 | 782 | A | N9-C4 | 7.27 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 1H | 28 | A | C5-C6 | -7.26 | 1.34 | 1.41 |
| 26 | 1H | 1946 | U | C2-N3 | -7.26 | 1.32 | 1.37 |
| 26 | 1H | 556 | G | C6-N1 | -7.26 | 1.34 | 1.39 |
| 1 | 13 | 742 | G | N9-C4 | -7.26 | 1.32 | 1.38 |
| 26 | 1H | 945 | A | C2-N3 | 7.25 | 1.40 | 1.33 |
| 26 | 1H | 473 | G | N1-C2 | -7.25 | 1.31 | 1.37 |
| 26 | 14 | 2288 | A | N9-C4 | 7.24 | 1.42 | 1.37 |
| 30 | 21 | 119 | ARG | NE-CZ | -7.24 | 1.23 | 1.33 |
| 26 | 1H | 765 | G | N3-C4 | -7.24 | 1.30 | 1.35 |
| 26 | 14 | 2690 | C | N1-C6 | -7.24 | 1.32 | 1.37 |
| 26 | 1H | 2503 | A | N7-C5 | -7.23 | 1.34 | 1.39 |
| 1 | 13 | 938 | A | N9-C4 | -7.23 | 1.33 | 1.37 |
| 23 | 2K | 17 | C | C2-N3 | 7.23 | 1.41 | 1.35 |
| 26 | 14 | 1638 | C | N1-C6 | -7.23 | 1.32 | 1.37 |
| 26 | 1H | 530 | G | N7-C5 | 7.22 | 1.43 | 1.39 |
| 26 | 1H | 2065 | C | C2-N3 | -7.22 | 1.29 | 1.35 |
| 26 | 1H | 669 | G | C6-N1 | -7.22 | 1.34 | 1.39 |
| 26 | 14 | 204 | A | N3-C4 | -7.22 | 1.30 | 1.34 |
| 26 | 1H | 581 | C | N1-C2 | -7.22 | 1.32 | 1.40 |
| 26 | 1H | 1563 | G | C6-N1 | -7.21 | 1.34 | 1.39 |
| 1 | 13 | 520 | A | N9-C4 | -7.21 | 1.33 | 1.37 |
| 25 | 4K | 12 | A | N9-C4 | 7.21 | 1.42 | 1.37 |
| 26 | 14 | 2839 | G | N7-C5 | -7.21 | 1.34 | 1.39 |
| 26 | 1H | 1783 | A | N9-C8 | -7.21 | 1.31 | 1.37 |
| 26 | 1H | 735 | A | N9-C8 | -7.20 | 1.31 | 1.37 |
| 26 | 14 | 2506 | U | C2-N3 | 7.20 | 1.42 | 1.37 |
| 26 | 14 | 211 | A | C5-C6 | -7.20 | 1.34 | 1.41 |
| 26 | 14 | 1393 | A | N3-C4 | -7.20 | 1.30 | 1.34 |
| 26 | 1H | 1787 | A | C6-N1 | -7.19 | 1.30 | 1.35 |
| 26 | 1H | 474 | G | N3-C4 | -7.19 | 1.30 | 1.35 |
| 26 | 1H | 533 | G | C6-N1 | -7.19 | 1.34 | 1.39 |
| 26 | 1H | 443 | A | N3-C4 | 7.19 | 1.39 | 1.34 |
| 26 | 1H | 608 | A | N3-C4 | -7.18 | 1.30 | 1.34 |
| 26 | 1H | 909 | A | N3-C4 | -7.18 | 1.30 | 1.34 |
| 26 | 14 | 1763 | G | N7-C5 | 7.17 | 1.43 | 1.39 |
| 1 | 1G | 117 | G | C6-N1 | 7.17 | 1.44 | 1.39 |
| 26 | 14 | 729 | G | C6-N1 | 7.17 | 1.44 | 1.39 |
| 26 | 14 | 1347 | G | C5-C4 | -7.17 | 1.33 | 1.38 |
| 23 | 2K | 38 | A | N9-C4 | -7.15 | 1.33 | 1.37 |
| 26 | 1H | 2055 | C | C2-N3 | -7.14 | 1.30 | 1.35 |
| 26 | 1H | 132 | G | C5-C4 | 7.14 | 1.43 | 1.38 |
| 26 | 14 | 1802 | A | N9-C4 | -7.14 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 1H | 2584 | U | N3-C4 | -7.13 | 1.32 | 1.38 |
| 26 | 14 | 695 | G | C8-N7 | -7.13 | 1.26 | 1.30 |
| 25 | 4K | 14 | A | N9-C4 | 7.13 | 1.42 | 1.37 |
| 26 | 14 | 1633 | G | N7-C5 | -7.13 | 1.34 | 1.39 |
| 26 | 1H | 1289 | C | N1-C6 | -7.12 | 1.32 | 1.37 |
| 26 | 1H | 1623 | G | C6-N1 | -7.12 | 1.34 | 1.39 |
| 26 | 1H | 1602 | U | C4-O4 | 7.12 | 1.29 | 1.23 |
| 26 | 1H | 2256 | G | N1-C2 | -7.12 | 1.32 | 1.37 |
| 26 | 1H | 1610 | A | C8-N7 | -7.12 | 1.26 | 1.31 |
| 26 | 1H | 2019 | A | C5-C6 | -7.11 | 1.34 | 1.41 |
| 26 | 1H | 2427 | C | C2-O2 | -7.11 | 1.18 | 1.24 |
| 26 | 1H | 2351 | G | C6-N1 | -7.10 | 1.34 | 1.39 |
| 26 | 14 | 2256 | G | N1-C2 | -7.10 | 1.32 | 1.37 |
| 26 | 1H | 1285 | G | C6-O6 | 7.10 | 1.30 | 1.24 |
| 26 | 1H | 399 | G | N3-C4 | -7.10 | 1.30 | 1.35 |
| 26 | 1H | 528 | A | N9-C8 | 7.09 | 1.43 | 1.37 |
| 26 | 1H | 1332 | G | C5-C6 | -7.09 | 1.35 | 1.42 |
| 26 | 14 | 252 | G | C6-N1 | -7.09 | 1.34 | 1.39 |
| 26 | 14 | 1613 | G | C6-N1 | -7.09 | 1.34 | 1.39 |
| 26 | 1H | 739 | G | C2-N3 | -7.09 | 1.27 | 1.32 |
| 26 | 14 | 1313 | U | C2-O2 | -7.09 | 1.16 | 1.22 |
| 26 | 1H | 297 | C | N1-C6 | -7.08 | 1.32 | 1.37 |
| 1 | 13 | 867 | G | C5-C6 | 7.08 | 1.49 | 1.42 |
| 26 | 1H | 793 | A | N7-C5 | -7.08 | 1.34 | 1.39 |
| 26 | 14 | 270 | A | N9-C4 | -7.08 | 1.33 | 1.37 |
| 26 | 14 | 1302 | A | C6-N1 | -7.08 | 1.30 | 1.35 |
| 26 | 1H | 2506 | U | C2-O2 | 7.08 | 1.28 | 1.22 |
| 31 | 31 | 56 | GLU | CD-OE2 | -7.08 | 1.17 | 1.25 |
| 41 | 75 | 13 | ARG | NE-CZ | -7.08 | 1.23 | 1.33 |
| 26 | 1H | 1553 | A | C5-C4 | -7.08 | 1.33 | 1.38 |
| 26 | 14 | 2490 | G | N9-C8 | 7.07 | 1.42 | 1.37 |
| 55 | Q8 | 14 | VAL | CB-CG2 | -7.07 | 1.38 | 1.52 |
| 1 | 13 | 543 | C | N1-C6 | -7.06 | 1.32 | 1.37 |
| 26 | 14 | 428 | A | N9-C4 | 7.06 | 1.42 | 1.37 |
| 23 | 2K | 17 | C | N1-C6 | 7.06 | 1.41 | 1.37 |
| 26 | 1H | 2590 | A | C6-N1 | -7.06 | 1.30 | 1.35 |
| 26 | 1H | 751 | A | C5-C4 | -7.06 | 1.33 | 1.38 |
| 42 | C8 | 90 | VAL | CB-CG2 | 7.06 | 1.67 | 1.52 |
| 26 | 1H | 1336 | A | C6-N1 | -7.06 | 1.30 | 1.35 |
| 26 | 14 | 432 | A | C5-C6 | -7.06 | 1.34 | 1.41 |
| 26 | 1H | 2578 | G | N1-C2 | -7.06 | 1.32 | 1.37 |
| 26 | 1H | 1617 | C | N1-C6 | -7.05 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 1H | 94 | G | C6-N1 | 7.05 | 1.44 | 1.39 |
| 26 | 1H | 616 | A | N3-C4 | -7.05 | 1.30 | 1.34 |
| 26 | 14 | 1619 | G | C5-C4 | -7.05 | 1.33 | 1.38 |
| 26 | 1H | 1003 | G | N9-C8 | -7.04 | 1.32 | 1.37 |
| 1 | 13 | 760 | G | C6-N1 | 7.04 | 1.44 | 1.39 |
| 2 | 12 | 170 | GLU | CD-OE2 | -7.04 | 1.18 | 1.25 |
| 26 | 14 | 2595 | G | N9-C4 | -7.04 | 1.32 | 1.38 |
| 26 | 1H | 446 | G | N3-C4 | 7.04 | 1.40 | 1.35 |
| 26 | 1H | 458 | G | N3-C4 | -7.03 | 1.30 | 1.35 |
| 26 | 1H | 461 | C | N1-C6 | -7.03 | 1.32 | 1.37 |
| 26 | 1H | 1399 | C | N1-C6 | 7.03 | 1.41 | 1.37 |
| 26 | 1H | 850 | C | N1-C6 | -7.03 | 1.32 | 1.37 |
| 26 | 14 | 1316 | U | C2-N3 | -7.03 | 1.32 | 1.37 |
| 26 | 1H | 698 | C | C5-C6 | -7.02 | 1.28 | 1.34 |
| 26 | 1H | 1639 | U | C2-O2 | -7.02 | 1.16 | 1.22 |
| 26 | 1H | 2561 | A | N3-C4 | -7.01 | 1.30 | 1.34 |
| 26 | 14 | 2447 | G | N9-C8 | -7.01 | 1.32 | 1.37 |
| 22 | 1K | 76 | A | C5-C4 | 7.01 | 1.43 | 1.38 |
| 26 | 14 | 2776 | A | N9-C4 | 7.00 | 1.42 | 1.37 |
| 26 | 14 | 1785 | A | N9-C8 | -7.00 | 1.32 | 1.37 |
| 1 | 13 | 715 | A | N3-C4 | -7.00 | 1.30 | 1.34 |
| 24 | 3K | 76 | A | C5-C6 | -7.00 | 1.34 | 1.41 |
| 26 | 14 | 2461 | C | N1-C6 | -7.00 | 1.32 | 1.37 |
| 26 | 14 | 252 | G | C5-C4 | -6.99 | 1.33 | 1.38 |
| 26 | 14 | 739 | G | N3-C4 | -6.99 | 1.30 | 1.35 |
| 26 | 14 | 792 | G | C6-N1 | -6.99 | 1.34 | 1.39 |
| 26 | 14 | 2329 | G | C2-N3 | 6.99 | 1.38 | 1.32 |
| 26 | 14 | 1285 | G | N9-C8 | -6.98 | 1.32 | 1.37 |
| 26 | 1H | 1908 | C | N1-C6 | -6.98 | 1.32 | 1.37 |
| 26 | 1H | 2713 | A | N7-C5 | -6.98 | 1.35 | 1.39 |
| 26 | 14 | 2490 | G | C5-C4 | 6.98 | 1.43 | 1.38 |
| 26 | 1H | 1332 | G | C5-C4 | 6.97 | 1.43 | 1.38 |
| 26 | 1H | 2453 | A | N7-C5 | -6.97 | 1.35 | 1.39 |
| 32 | 41 | 14 | GLU | CG-CD | 6.97 | 1.62 | 1.51 |
| 26 | 1H | 1649 | G | N7-C5 | -6.97 | 1.35 | 1.39 |
| 1 | 13 | 439 | A | N9-C4 | -6.97 | 1.33 | 1.37 |
| 26 | 1H | 690 | G | C8-N7 | -6.97 | 1.26 | 1.30 |
| 26 | 1H | 472 | A | N9-C4 | -6.96 | 1.33 | 1.37 |
| 26 | 1H | 1108 | U | P-O5' | 6.96 | 1.66 | 1.59 |
| 26 | 14 | 1966 | A | N9-C8 | -6.96 | 1.32 | 1.37 |
| 26 | 1H | 1968 | G | N9-C8 | -6.96 | 1.32 | 1.37 |
| 26 | 1H | 663 | G | N3-C4 | -6.96 | 1.30 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|---------|------|--------|-------|-------------|----------|
| 26 | 1H | 1843 | C | N3-C4 | -6.96 | 1.29 | 1.33 |
| 26 | 1H | 2409 | G | C5-C6 | -6.95 | 1.35 | 1.42 |
| 26 | 14 | 2049 | G | N9-C4 | -6.95 | 1.32 | 1.38 |
| 26 | 14 | 1697 | G | N9-C4 | -6.95 | 1.32 | 1.38 |
| 26 | 1H | 271(C) | U | N1-C2 | 6.95 | 1.44 | 1.38 |
| 41 | B8 | 74 | ARG | NE-CZ | -6.95 | 1.24 | 1.33 |
| 26 | 1H | 2019 | A | N7-C5 | -6.94 | 1.35 | 1.39 |
| 26 | 14 | 739 | G | C2-N3 | -6.94 | 1.27 | 1.32 |
| 26 | 14 | 2448 | A | N3-C4 | -6.94 | 1.30 | 1.34 |
| 26 | 1H | 420 | C | N1-C6 | -6.93 | 1.32 | 1.37 |
| 26 | 14 | 1913 | A | N3-C4 | 6.93 | 1.39 | 1.34 |
| 26 | 1H | 1286 | A | C5-C4 | -6.92 | 1.33 | 1.38 |
| 26 | 1H | 1021 | A | C5-C6 | -6.92 | 1.34 | 1.41 |
| 26 | 1H | 2023 | G | N3-C4 | -6.92 | 1.30 | 1.35 |
| 26 | 1H | 2432 | A | N3-C4 | -6.92 | 1.30 | 1.34 |
| 26 | 1H | 1662 | C | N1-C6 | -6.92 | 1.33 | 1.37 |
| 26 | 14 | 1346 | G | C5-C4 | -6.92 | 1.33 | 1.38 |
| 26 | 14 | 2723 | C | N3-C4 | -6.92 | 1.29 | 1.33 |
| 26 | 1H | 2320 | A | N9-C4 | 6.91 | 1.42 | 1.37 |
| 1 | 1G | 894 | G | N3-C4 | -6.91 | 1.30 | 1.35 |
| 26 | 1H | 2012 | G | C5-C4 | -6.90 | 1.33 | 1.38 |
| 26 | 1H | 783 | A | N9-C8 | 6.90 | 1.43 | 1.37 |
| 30 | 29 | 44 | TYR | CG-CD1 | -6.89 | 1.30 | 1.39 |
| 26 | 1H | 2430 | A | C6-N1 | 6.89 | 1.40 | 1.35 |
| 26 | 1H | 2581 | G | N7-C5 | -6.89 | 1.35 | 1.39 |
| 46 | C5 | 84 | ARG | NE-CZ | -6.89 | 1.24 | 1.33 |
| 26 | 1H | 1142(A) | A | N3-C4 | -6.88 | 1.30 | 1.34 |
| 26 | 1H | 1964 | G | N9-C8 | -6.88 | 1.33 | 1.37 |
| 26 | 14 | 1558 | A | N3-C4 | -6.88 | 1.30 | 1.34 |
| 1 | 13 | 575 | G | C6-N1 | -6.88 | 1.34 | 1.39 |
| 26 | 1H | 213 | A | N7-C5 | 6.88 | 1.43 | 1.39 |
| 1 | 13 | 733 | A | C5-C4 | -6.87 | 1.33 | 1.38 |
| 26 | 1H | 35 | G | C6-N1 | -6.87 | 1.34 | 1.39 |
| 26 | 1H | 945 | A | N1-C2 | 6.87 | 1.40 | 1.34 |
| 26 | 1H | 1027 | A | P-O5' | 6.87 | 1.66 | 1.59 |
| 26 | 14 | 1021 | A | N9-C4 | -6.87 | 1.33 | 1.37 |
| 26 | 1H | 1128 | A | C6-N6 | -6.86 | 1.28 | 1.33 |
| 26 | 1H | 695 | G | N3-C4 | -6.86 | 1.30 | 1.35 |
| 26 | 1H | 1185 | C | N1-C6 | -6.86 | 1.33 | 1.37 |
| 26 | 1H | 2062 | A | N7-C5 | 6.86 | 1.43 | 1.39 |
| 26 | 1H | 2017 | U | N1-C2 | -6.86 | 1.32 | 1.38 |
| 26 | 14 | 690 | G | N9-C8 | -6.86 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 1H | 1325 | G | N7-C5 | -6.85 | 1.35 | 1.39 |
| 26 | 1H | 258 | G | C6-N1 | -6.85 | 1.34 | 1.39 |
| 26 | 1H | 2713 | A | C5-C6 | -6.85 | 1.34 | 1.41 |
| 26 | 1H | 780 | G | N9-C8 | -6.85 | 1.33 | 1.37 |
| 26 | 1H | 2693 | A | N9-C4 | 6.85 | 1.42 | 1.37 |
| 26 | 1H | 2490 | G | N9-C4 | -6.84 | 1.32 | 1.38 |
| 26 | 14 | 461 | C | N1-C6 | -6.84 | 1.33 | 1.37 |
| 1 | 13 | 1401 | G | N3-C4 | -6.84 | 1.30 | 1.35 |
| 26 | 1H | 2031 | A | C6-N1 | 6.84 | 1.40 | 1.35 |
| 26 | 14 | 190 | A | N9-C4 | -6.84 | 1.33 | 1.37 |
| 26 | 14 | 1792 | G | N7-C5 | -6.83 | 1.35 | 1.39 |
| 26 | 1H | 35 | G | N1-C2 | -6.83 | 1.32 | 1.37 |
| 26 | 14 | 1952 | A | C6-N6 | -6.83 | 1.28 | 1.33 |
| 26 | 1H | 1910 | G | C6-N1 | -6.83 | 1.34 | 1.39 |
| 26 | 1H | 2287 | A | C5-C6 | -6.82 | 1.34 | 1.41 |
| 1 | 13 | 1416 | G | C6-N1 | -6.82 | 1.34 | 1.39 |
| 26 | 14 | 547 | A | N9-C4 | 6.82 | 1.42 | 1.37 |
| 26 | 14 | 1999 | C | C2-N3 | -6.82 | 1.30 | 1.35 |
| 26 | 1H | 1553 | A | N9-C8 | -6.82 | 1.32 | 1.37 |
| 26 | 1H | 1197 | G | N9-C8 | -6.82 | 1.33 | 1.37 |
| 26 | 14 | 2518 | A | C5-C6 | -6.82 | 1.34 | 1.41 |
| 26 | 1H | 26 | G | N7-C5 | -6.81 | 1.35 | 1.39 |
| 26 | 1H | 71 | A | N7-C5 | -6.81 | 1.35 | 1.39 |
| 26 | 1H | 663 | G | N9-C8 | -6.81 | 1.33 | 1.37 |
| 1 | 13 | 1502 | A | N9-C4 | -6.80 | 1.33 | 1.37 |
| 26 | 1H | 132 | G | C6-O6 | 6.80 | 1.30 | 1.24 |
| 26 | 1H | 502 | A | N3-C4 | -6.80 | 1.30 | 1.34 |
| 26 | 1H | 227 | A | N3-C4 | -6.80 | 1.30 | 1.34 |
| 26 | 1H | 332 | A | N9-C4 | -6.80 | 1.33 | 1.37 |
| 1 | 1G | 117 | G | C6-O6 | 6.79 | 1.30 | 1.24 |
| 23 | 2K | 9 | G | C6-N1 | 6.79 | 1.44 | 1.39 |
| 26 | 14 | 704 | G | N9-C4 | -6.79 | 1.32 | 1.38 |
| 26 | 1H | 2561 | A | C6-N1 | -6.78 | 1.30 | 1.35 |
| 26 | 1H | 2450 | A | C6-N1 | -6.78 | 1.30 | 1.35 |
| 26 | 1H | 1624 | G | C5-C4 | -6.78 | 1.33 | 1.38 |
| 1 | 13 | 500 | G | N3-C4 | 6.78 | 1.40 | 1.35 |
| 26 | 1H | 607 | U | C2-N3 | -6.78 | 1.33 | 1.37 |
| 26 | 1H | 1422 | G | N7-C5 | -6.78 | 1.35 | 1.39 |
| 26 | 1H | 703 | U | C2-O2 | -6.77 | 1.16 | 1.22 |
| 26 | 14 | 1961 | C | N1-C6 | -6.77 | 1.33 | 1.37 |
| 26 | 14 | 73 | A | N9-C8 | -6.77 | 1.32 | 1.37 |
| 26 | 14 | 186 | G | C6-N1 | -6.77 | 1.34 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 14 | 386 | G | C6-N1 | -6.77 | 1.34 | 1.39 |
| 26 | 14 | 1616 | A | C5-C6 | -6.77 | 1.34 | 1.41 |
| 26 | 1H | 627 | A | N9-C4 | -6.76 | 1.33 | 1.37 |
| 26 | 1H | 1566 | A | N9-C4 | -6.76 | 1.33 | 1.37 |
| 26 | 14 | 2818 | G | N9-C4 | -6.76 | 1.32 | 1.38 |
| 26 | 1H | 2614 | A | N7-C5 | 6.76 | 1.43 | 1.39 |
| 46 | C5 | 84 | ARG | CZ-NH1 | -6.76 | 1.24 | 1.33 |
| 22 | 1K | 64 | G | N9-C4 | 6.76 | 1.43 | 1.38 |
| 26 | 1H | 322 | A | N9-C4 | -6.76 | 1.33 | 1.37 |
| 26 | 14 | 352 | G | C5-C4 | 6.76 | 1.43 | 1.38 |
| 26 | 1H | 1311 | G | N9-C8 | -6.75 | 1.33 | 1.37 |
| 26 | 1H | 1992 | G | N3-C4 | 6.75 | 1.40 | 1.35 |
| 26 | 1H | 842 | G | N9-C4 | -6.75 | 1.32 | 1.38 |
| 26 | 1H | 1888 | G | N9-C4 | 6.75 | 1.43 | 1.38 |
| 26 | 1H | 195 | A | C6-N1 | 6.75 | 1.40 | 1.35 |
| 26 | 1H | 447 | A | C6-N1 | -6.74 | 1.30 | 1.35 |
| 26 | 14 | 1261 | C | N3-C4 | -6.74 | 1.29 | 1.33 |
| 26 | 1H | 1829 | A | N3-C4 | -6.74 | 1.30 | 1.34 |
| 26 | 14 | 444 | C | N1-C6 | -6.74 | 1.33 | 1.37 |
| 26 | 1H | 2404 | C | N1-C6 | -6.74 | 1.33 | 1.37 |
| 31 | 31 | 59 | TYR | CD1-CE1 | -6.74 | 1.29 | 1.39 |
| 26 | 1H | 1192 | G | C6-N1 | -6.73 | 1.34 | 1.39 |
| 26 | 14 | 795 | C | N3-C4 | -6.73 | 1.29 | 1.33 |
| 26 | 1H | 1110 | G | P-O5' | 6.73 | 1.66 | 1.59 |
| 26 | 1H | 2448 | A | N3-C4 | -6.73 | 1.30 | 1.34 |
| 26 | 14 | 587 | C | N1-C6 | -6.73 | 1.33 | 1.37 |
| 26 | 1H | 836 | G | C6-O6 | 6.73 | 1.30 | 1.24 |
| 26 | 1H | 1278 | A | N9-C8 | -6.73 | 1.32 | 1.37 |
| 26 | 1H | 2579 | C | N1-C6 | -6.73 | 1.33 | 1.37 |
| 38 | 88 | 140 | ALA | CA-CB | 6.73 | 1.66 | 1.52 |
| 26 | 1H | 1996 | C | N1-C6 | -6.72 | 1.33 | 1.37 |
| 26 | 1H | 2065 | C | N1-C6 | -6.72 | 1.33 | 1.37 |
| 26 | 1H | 1332 | G | N9-C4 | -6.72 | 1.32 | 1.38 |
| 26 | 1H | 252 | G | N9-C8 | -6.72 | 1.33 | 1.37 |
| 26 | 1H | 690 | G | N9-C8 | -6.72 | 1.33 | 1.37 |
| 26 | 1H | 2689 | U | C4-C5 | 6.72 | 1.49 | 1.43 |
| 26 | 14 | 74 | A | C5-C6 | -6.72 | 1.35 | 1.41 |
| 26 | 14 | 2083 | G | N3-C4 | -6.72 | 1.30 | 1.35 |
| 26 | 1H | 808 | G | N7-C5 | -6.72 | 1.35 | 1.39 |
| 26 | 1H | 1556 | C | N1-C6 | -6.72 | 1.33 | 1.37 |
| 26 | 1H | 808 | G | N9-C4 | -6.71 | 1.32 | 1.38 |
| 26 | 1H | 805 | G | N9-C8 | -6.71 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 1H | 1121 | C | N3-C4 | -6.71 | 1.29 | 1.33 |
| 46 | G8 | 55 | TYR | CG-CD1 | -6.71 | 1.30 | 1.39 |
| 26 | 14 | 53 | A | N3-C4 | -6.71 | 1.30 | 1.34 |
| 26 | 14 | 328 | U | N1-C6 | -6.71 | 1.31 | 1.38 |
| 26 | 1H | 829 | A | N9-C8 | -6.71 | 1.32 | 1.37 |
| 26 | 1H | 2457 | U | C4-O4 | -6.71 | 1.18 | 1.23 |
| 26 | 1H | 2259 | G | C5-C4 | -6.71 | 1.33 | 1.38 |
| 1 | 1G | 482 | A | N3-C4 | -6.71 | 1.30 | 1.34 |
| 1 | 13 | 965 | A | C6-N1 | 6.70 | 1.40 | 1.35 |
| 26 | 1H | 1121 | C | N1-C6 | -6.70 | 1.33 | 1.37 |
| 45 | B5 | 15 | GLU | CG-CD | 6.70 | 1.61 | 1.51 |
| 1 | 13 | 439 | A | N3-C4 | -6.70 | 1.30 | 1.34 |
| 1 | 13 | 1392 | G | N3-C4 | -6.70 | 1.30 | 1.35 |
| 26 | 1H | 1678 | G | N9-C8 | 6.70 | 1.42 | 1.37 |
| 26 | 1H | 1889 | A | N9-C4 | -6.70 | 1.33 | 1.37 |
| 26 | 14 | 2249 | U | C4-O4 | 6.69 | 1.29 | 1.23 |
| 41 | B8 | 74 | ARG | CD-NE | -6.69 | 1.35 | 1.46 |
| 26 | 14 | 810 | U | C2-N3 | 6.69 | 1.42 | 1.37 |
| 26 | 1H | 55 | G | C8-N7 | -6.69 | 1.26 | 1.30 |
| 26 | 1H | 2333 | A | N9-C4 | 6.68 | 1.41 | 1.37 |
| 26 | 1H | 1354 | A | N9-C4 | -6.68 | 1.33 | 1.37 |
| 26 | 14 | 2009 | G | N3-C4 | -6.68 | 1.30 | 1.35 |
| 26 | 1H | 1822 | G | C2-N3 | -6.68 | 1.27 | 1.32 |
| 30 | 29 | 200 | GLU | CB-CG | 6.67 | 1.64 | 1.52 |
| 26 | 1H | 2080 | G | N9-C8 | -6.67 | 1.33 | 1.37 |
| 26 | 1H | 18 | C | N1-C2 | -6.67 | 1.33 | 1.40 |
| 26 | 1H | 1901 | A | N9-C4 | 6.67 | 1.41 | 1.37 |
| 26 | 1H | 2685 | G | C6-O6 | 6.67 | 1.30 | 1.24 |
| 26 | 1H | 860 | U | N1-C2 | 6.67 | 1.44 | 1.38 |
| 26 | 1H | 1108 | U | C4'-C3' | 6.67 | 1.60 | 1.53 |
| 26 | 1H | 862 | G | C6-N1 | -6.67 | 1.34 | 1.39 |
| 26 | 14 | 774 | A | N9-C8 | 6.67 | 1.43 | 1.37 |
| 26 | 1H | 1108 | U | O3'-P | 6.66 | 1.69 | 1.61 |
| 30 | 29 | 44 | TYR | CB-CG | -6.66 | 1.41 | 1.51 |
| 26 | 1H | 690 | G | C2-N3 | 6.66 | 1.38 | 1.32 |
| 26 | 1H | 727 | A | C6-N1 | -6.66 | 1.30 | 1.35 |
| 26 | 1H | 911 | A | C6-N1 | -6.66 | 1.30 | 1.35 |
| 26 | 1H | 1167 | U | N1-C2 | -6.66 | 1.32 | 1.38 |
| 26 | 14 | 1332 | G | C2-N3 | 6.66 | 1.38 | 1.32 |
| 26 | 1H | 479 | A | N9-C4 | -6.65 | 1.33 | 1.37 |
| 26 | 14 | 2361 | A | N9-C4 | -6.65 | 1.33 | 1.37 |
| 26 | 14 | 2385 | C | N3-C4 | 6.65 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 14 | 2595 | G | C5-C6 | -6.65 | 1.35 | 1.42 |
| 26 | 1H | 18 | C | N1-C6 | -6.65 | 1.33 | 1.37 |
| 26 | 1H | 2073 | C | C2-N3 | -6.65 | 1.30 | 1.35 |
| 26 | 1H | 104 | U | N1-C2 | -6.64 | 1.32 | 1.38 |
| 26 | 14 | 1800 | C | N1-C6 | -6.64 | 1.33 | 1.37 |
| 33 | 51 | 167 | GLU | CD-OE1 | -6.64 | 1.18 | 1.25 |
| 1 | 1G | 1469 | G | C5-C4 | 6.64 | 1.43 | 1.38 |
| 26 | 1H | 411 | G | C6-N1 | -6.64 | 1.34 | 1.39 |
| 26 | 1H | 933 | A | N9-C8 | -6.64 | 1.32 | 1.37 |
| 26 | 1H | 1313 | U | C4-C5 | -6.64 | 1.37 | 1.43 |
| 26 | 1H | 2469 | A | C5-C6 | -6.63 | 1.35 | 1.41 |
| 26 | 1H | 74 | A | N3-C4 | -6.63 | 1.30 | 1.34 |
| 26 | 1H | 478 | A | C5-C4 | -6.63 | 1.34 | 1.38 |
| 26 | 1H | 928 | G | N9-C4 | -6.63 | 1.32 | 1.38 |
| 26 | 14 | 2243 | U | N1-C6 | -6.63 | 1.31 | 1.38 |
| 26 | 1H | 140 | A | N3-C4 | -6.62 | 1.30 | 1.34 |
| 26 | 14 | 326 | G | C6-O6 | 6.62 | 1.30 | 1.24 |
| 26 | 14 | 1789 | A | N3-C4 | -6.62 | 1.30 | 1.34 |
| 26 | 1H | 1309 | G | N3-C4 | -6.62 | 1.30 | 1.35 |
| 26 | 1H | 2390 | U | C4-C5 | -6.62 | 1.37 | 1.43 |
| 37 | 78 | 19 | VAL | CB-CG2 | 6.62 | 1.66 | 1.52 |
| 26 | 14 | 1789 | A | C5-C4 | -6.62 | 1.34 | 1.38 |
| 26 | 1H | 1939 | U | C2-N3 | -6.62 | 1.33 | 1.37 |
| 26 | 1H | 849 | A | N3-C4 | -6.61 | 1.30 | 1.34 |
| 26 | 1H | 1241 | A | C5-C6 | -6.61 | 1.35 | 1.41 |
| 26 | 1H | 1332 | G | N9-C8 | 6.61 | 1.42 | 1.37 |
| 26 | 14 | 909 | A | C5-C4 | -6.61 | 1.34 | 1.38 |
| 26 | 1H | 1945 | G | C6-N1 | -6.61 | 1.34 | 1.39 |
| 26 | 1H | 2055 | C | N3-C4 | -6.61 | 1.29 | 1.33 |
| 26 | 1H | 2361 | A | N3-C4 | -6.61 | 1.30 | 1.34 |
| 26 | 1H | 2509 | G | N9-C8 | -6.61 | 1.33 | 1.37 |
| 26 | 14 | 1989 | G | N3-C4 | -6.61 | 1.30 | 1.35 |
| 26 | 14 | 1349 | A | N9-C8 | 6.60 | 1.43 | 1.37 |
| 26 | 1H | 564 | C | N1-C6 | -6.60 | 1.33 | 1.37 |
| 26 | 1H | 2296 | U | N3-C4 | 6.60 | 1.44 | 1.38 |
| 26 | 1H | 2584 | U | C4-C5 | 6.60 | 1.49 | 1.43 |
| 26 | 1H | 1647 | G | N1-C2 | -6.60 | 1.32 | 1.37 |
| 38 | 45 | 60 | ARG | NE-CZ | -6.59 | 1.24 | 1.33 |
| 26 | 1H | 1109 | C | P-O5' | 6.59 | 1.66 | 1.59 |
| 27 | 1J | 102 | G | N7-C5 | 6.59 | 1.43 | 1.39 |
| 1 | 13 | 1429 | C | N1-C6 | -6.59 | 1.33 | 1.37 |
| 26 | 1H | 390 | A | N3-C4 | -6.59 | 1.30 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 1H | 621 | A | C5-C6 | -6.59 | 1.35 | 1.41 |
| 26 | 14 | 129 | C | N1-C6 | -6.59 | 1.33 | 1.37 |
| 26 | 14 | 2621 | A | N9-C4 | -6.59 | 1.33 | 1.37 |
| 26 | 1H | 768 | G | C5-C4 | -6.58 | 1.33 | 1.38 |
| 14 | 5A | 43 | CYS | CB-SG | -6.58 | 1.71 | 1.82 |
| 26 | 1H | 1321 | A | N9-C4 | -6.58 | 1.33 | 1.37 |
| 26 | 1H | 2064 | C | N3-C4 | -6.58 | 1.29 | 1.33 |
| 26 | 1H | 2451 | A | N3-C4 | -6.58 | 1.30 | 1.34 |
| 26 | 14 | 21 | A | N3-C4 | -6.58 | 1.30 | 1.34 |
| 26 | 14 | 215 | G | N9-C8 | -6.58 | 1.33 | 1.37 |
| 26 | 1H | 2346 | A | N7-C5 | -6.58 | 1.35 | 1.39 |
| 26 | 1H | 1826 | G | C8-N7 | -6.58 | 1.27 | 1.30 |
| 26 | 1H | 1829 | A | N9-C4 | -6.57 | 1.33 | 1.37 |
| 26 | 1H | 838 | C | N1-C6 | -6.57 | 1.33 | 1.37 |
| 26 | 14 | 125 | G | N7-C5 | 6.57 | 1.43 | 1.39 |
| 26 | 1H | 429 | A | N3-C4 | -6.57 | 1.30 | 1.34 |
| 26 | 1H | 1331 | A | N3-C4 | -6.57 | 1.30 | 1.34 |
| 26 | 1H | 2469 | A | N9-C4 | -6.57 | 1.33 | 1.37 |
| 26 | 1H | 2518 | A | C5-C6 | -6.57 | 1.35 | 1.41 |
| 1 | 1G | 293 | G | C6-N1 | -6.57 | 1.34 | 1.39 |
| 26 | 14 | 788 | A | N3-C4 | 6.56 | 1.38 | 1.34 |
| 26 | 14 | 1655 | A | C5-C4 | -6.56 | 1.34 | 1.38 |
| 26 | 14 | 2252 | G | C6-N1 | -6.56 | 1.34 | 1.39 |
| 26 | 1H | 2288 | A | N3-C4 | 6.56 | 1.38 | 1.34 |
| 26 | 14 | 71 | A | C5-C4 | 6.56 | 1.43 | 1.38 |
| 1 | 13 | 1125 | U | C2-N3 | 6.56 | 1.42 | 1.37 |
| 26 | 1H | 691 | C | N1-C6 | -6.55 | 1.33 | 1.37 |
| 26 | 14 | 2555 | U | N1-C2 | -6.55 | 1.32 | 1.38 |
| 1 | 1G | 231 | G | N3-C4 | -6.55 | 1.30 | 1.35 |
| 26 | 14 | 2327 | A | N9-C4 | -6.55 | 1.33 | 1.37 |
| 26 | 1H | 1644 | C | N3-C4 | -6.55 | 1.29 | 1.33 |
| 26 | 1H | 1950 | G | C2-N2 | 6.55 | 1.41 | 1.34 |
| 26 | 14 | 2267 | A | N9-C4 | 6.55 | 1.41 | 1.37 |
| 26 | 1H | 749 | C | N1-C6 | -6.54 | 1.33 | 1.37 |
| 26 | 14 | 2434 | A | N3-C4 | -6.54 | 1.30 | 1.34 |
| 26 | 14 | 2878 | U | C4-O4 | 6.54 | 1.28 | 1.23 |
| 1 | 1G | 482 | A | N9-C4 | -6.54 | 1.33 | 1.37 |
| 1 | 13 | 1486 | G | N9-C4 | -6.54 | 1.32 | 1.38 |
| 26 | 1H | 1158 | C | C2-N3 | -6.54 | 1.30 | 1.35 |
| 26 | 1H | 2052 | G | N9-C8 | -6.53 | 1.33 | 1.37 |
| 26 | 1H | 2373 | G | N9-C8 | -6.53 | 1.33 | 1.37 |
| 26 | 1H | 2510 | C | N3-C4 | -6.53 | 1.29 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 14 | 447 | A | C6-N1 | -6.53 | 1.30 | 1.35 |
| 26 | 1H | 448 | U | N1-C6 | -6.53 | 1.32 | 1.38 |
| 1 | 13 | 570 | G | N3-C4 | -6.53 | 1.30 | 1.35 |
| 26 | 14 | 810 | U | C4-O4 | 6.53 | 1.28 | 1.23 |
| 26 | 1H | 675 | A | C6-N1 | -6.53 | 1.30 | 1.35 |
| 26 | 1H | 245 | G | N7-C5 | -6.52 | 1.35 | 1.39 |
| 26 | 14 | 1355 | G | N7-C5 | -6.52 | 1.35 | 1.39 |
| 26 | 1H | 474 | G | C2-N3 | -6.52 | 1.27 | 1.32 |
| 26 | 1H | 528 | A | C5-C4 | 6.52 | 1.43 | 1.38 |
| 26 | 1H | 2226 | C | N3-C4 | -6.52 | 1.29 | 1.33 |
| 26 | 1H | 798 | G | N9-C4 | -6.52 | 1.32 | 1.38 |
| 1 | 13 | 1432 | G | C6-O6 | 6.52 | 1.30 | 1.24 |
| 26 | 1H | 1681 | G | N7-C5 | 6.52 | 1.43 | 1.39 |
| 26 | 1H | 1286 | A | N9-C8 | -6.52 | 1.32 | 1.37 |
| 26 | 1H | 1311 | G | N7-C5 | -6.52 | 1.35 | 1.39 |
| 26 | 1H | 1496 | A | C6-N1 | 6.52 | 1.40 | 1.35 |
| 26 | 1H | 2542 | A | N9-C4 | -6.51 | 1.33 | 1.37 |
| 26 | 14 | 215 | G | N3-C4 | 6.51 | 1.40 | 1.35 |
| 26 | 1H | 432 | A | C5-C6 | -6.51 | 1.35 | 1.41 |
| 26 | 14 | 1607 | C | N3-C4 | 6.51 | 1.38 | 1.33 |
| 26 | 1H | 120 | U | N3-C4 | -6.51 | 1.32 | 1.38 |
| 26 | 1H | 2046 | G | C5-C4 | -6.51 | 1.33 | 1.38 |
| 26 | 1H | 1026 | U | C2-N3 | 6.51 | 1.42 | 1.37 |
| 26 | 1H | 1156 | A | C6-N1 | -6.51 | 1.30 | 1.35 |
| 26 | 1H | 2819 | G | C5-C4 | -6.50 | 1.33 | 1.38 |
| 26 | 1H | 2057 | A | N3-C4 | -6.50 | 1.30 | 1.34 |
| 26 | 1H | 676 | A | N3-C4 | -6.50 | 1.30 | 1.34 |
| 26 | 1H | 2059 | A | N3-C4 | -6.50 | 1.30 | 1.34 |
| 1 | 13 | 1418 | A | N9-C4 | -6.50 | 1.33 | 1.37 |
| 26 | 1H | 54 | G | C8-N7 | -6.50 | 1.27 | 1.30 |
| 26 | 1H | 695 | G | C6-N1 | -6.49 | 1.35 | 1.39 |
| 26 | 1H | 1973 | G | C6-N1 | -6.49 | 1.35 | 1.39 |
| 26 | 1H | 1190 | G | N9-C4 | -6.49 | 1.32 | 1.38 |
| 26 | 1H | 1945 | G | C5-C4 | -6.49 | 1.33 | 1.38 |
| 26 | 1H | 1968 | G | C5-C4 | -6.49 | 1.33 | 1.38 |
| 26 | 14 | 808 | G | N9-C8 | -6.49 | 1.33 | 1.37 |
| 26 | 14 | 483 | A | N9-C4 | -6.49 | 1.33 | 1.37 |
| 26 | 14 | 1346 | G | C6-N1 | -6.48 | 1.35 | 1.39 |
| 26 | 1H | 140 | A | N9-C8 | 6.48 | 1.43 | 1.37 |
| 26 | 1H | 2611 | U | N3-C4 | -6.48 | 1.32 | 1.38 |
| 26 | 1H | 1354 | A | N3-C4 | -6.47 | 1.30 | 1.34 |
| 26 | 1H | 2025 | C | N3-C4 | -6.47 | 1.29 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|--------|------|--------|-------|-------------|----------|
| 26 | 1H | 775 | G | N9-C8 | -6.47 | 1.33 | 1.37 |
| 23 | 2K | 21 | U | N1-C2 | 6.47 | 1.44 | 1.38 |
| 26 | 1H | 1668 | A | N1-C2 | -6.47 | 1.28 | 1.34 |
| 26 | 1H | 1402 | C | C4-C5 | -6.47 | 1.37 | 1.43 |
| 26 | 1H | 2452 | C | C2-O2 | 6.47 | 1.30 | 1.24 |
| 26 | 1H | 1701 | A | N9-C4 | -6.46 | 1.33 | 1.37 |
| 26 | 14 | 2244 | U | N1-C2 | -6.46 | 1.32 | 1.38 |
| 26 | 1H | 577 | G | C6-N1 | -6.46 | 1.35 | 1.39 |
| 26 | 1H | 787 | U | C2-O2 | -6.46 | 1.16 | 1.22 |
| 1 | 1G | 352 | C | N1-C6 | -6.46 | 1.33 | 1.37 |
| 26 | 14 | 1379 | A | N9-C8 | 6.46 | 1.43 | 1.37 |
| 26 | 1H | 665 | C | N1-C6 | -6.46 | 1.33 | 1.37 |
| 26 | 1H | 1948 | G | C6-N1 | -6.46 | 1.35 | 1.39 |
| 26 | 1H | 1215 | G | N7-C5 | -6.45 | 1.35 | 1.39 |
| 4 | 32 | 191 | ARG | NE-CZ | -6.45 | 1.24 | 1.33 |
| 26 | 1H | 1918 | A | N9-C4 | -6.45 | 1.33 | 1.37 |
| 1 | 13 | 1498 | U | N1-C2 | 6.45 | 1.44 | 1.38 |
| 26 | 1H | 138 | G | C5-C4 | 6.45 | 1.42 | 1.38 |
| 26 | 1H | 270(R) | G | C5-C4 | 6.45 | 1.42 | 1.38 |
| 26 | 1H | 778 | G | N7-C5 | -6.45 | 1.35 | 1.39 |
| 26 | 1H | 947 | G | C2-N3 | -6.45 | 1.27 | 1.32 |
| 26 | 1H | 1803 | A | N3-C4 | 6.44 | 1.38 | 1.34 |
| 24 | 3K | 44 | U | N1-C2 | 6.44 | 1.44 | 1.38 |
| 26 | 1H | 1191 | G | N9-C8 | -6.44 | 1.33 | 1.37 |
| 26 | 1H | 2051 | A | N9-C4 | -6.44 | 1.33 | 1.37 |
| 26 | 1H | 2390 | U | N1-C6 | -6.44 | 1.32 | 1.38 |
| 45 | F8 | 15 | GLU | CG-CD | 6.44 | 1.61 | 1.51 |
| 26 | 14 | 1845 | G | N3-C4 | -6.44 | 1.30 | 1.35 |
| 26 | 1H | 1652 | A | N3-C4 | -6.44 | 1.30 | 1.34 |
| 26 | 1H | 2518 | A | C6-N1 | 6.44 | 1.40 | 1.35 |
| 26 | 14 | 1952 | A | N9-C4 | -6.44 | 1.33 | 1.37 |
| 26 | 14 | 2454 | G | C5-C6 | -6.44 | 1.35 | 1.42 |
| 34 | 69 | 85 | GLU | CD-OE1 | -6.44 | 1.18 | 1.25 |
| 26 | 1H | 1828 | G | C6-N1 | 6.44 | 1.44 | 1.39 |
| 26 | 1H | 2502 | G | N7-C5 | 6.44 | 1.43 | 1.39 |
| 26 | 14 | 71 | A | N3-C4 | -6.44 | 1.30 | 1.34 |
| 26 | 1H | 480 | A | N9-C4 | -6.43 | 1.33 | 1.37 |
| 26 | 14 | 1786 | A | N7-C5 | -6.43 | 1.35 | 1.39 |
| 26 | 14 | 1802 | A | N3-C4 | -6.43 | 1.30 | 1.34 |
| 26 | 14 | 2246 | G | C8-N7 | -6.43 | 1.27 | 1.30 |
| 26 | 1H | 2863 | C | N3-C4 | -6.43 | 1.29 | 1.33 |
| 26 | 14 | 2041 | U | N1-C6 | -6.43 | 1.32 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 14 | 252 | G | N1-C2 | -6.43 | 1.32 | 1.37 |
| 26 | 1H | 1251 | C | N1-C6 | -6.43 | 1.33 | 1.37 |
| 26 | 14 | 1354 | A | N3-C4 | -6.43 | 1.30 | 1.34 |
| 1 | 13 | 1407 | C | N3-C4 | -6.43 | 1.29 | 1.33 |
| 26 | 1H | 51 | G | C5-C4 | -6.43 | 1.33 | 1.38 |
| 26 | 1H | 229 | A | N9-C4 | 6.42 | 1.41 | 1.37 |
| 26 | 1H | 1309 | G | C6-O6 | 6.42 | 1.29 | 1.24 |
| 26 | 1H | 1626 | G | C2-N3 | -6.42 | 1.27 | 1.32 |
| 26 | 1H | 2607 | G | C2-N3 | -6.42 | 1.27 | 1.32 |
| 1 | 13 | 1407 | C | C2-N3 | -6.42 | 1.30 | 1.35 |
| 26 | 1H | 124 | G | C5-C4 | -6.42 | 1.33 | 1.38 |
| 26 | 1H | 799 | G | C5-C4 | -6.42 | 1.33 | 1.38 |
| 26 | 14 | 73 | A | N7-C5 | -6.41 | 1.35 | 1.39 |
| 26 | 1H | 294 | A | C5-C4 | -6.41 | 1.34 | 1.38 |
| 26 | 14 | 458 | G | C8-N7 | 6.41 | 1.34 | 1.30 |
| 26 | 1H | 197 | A | N7-C5 | -6.41 | 1.35 | 1.39 |
| 26 | 1H | 508 | G | N9-C8 | 6.41 | 1.42 | 1.37 |
| 26 | 1H | 2484 | G | N9-C8 | -6.41 | 1.33 | 1.37 |
| 26 | 1H | 2578 | G | N9-C8 | -6.41 | 1.33 | 1.37 |
| 26 | 1H | 2772 | C | N1-C6 | -6.40 | 1.33 | 1.37 |
| 26 | 1H | 1272 | A | C8-N7 | 6.40 | 1.36 | 1.31 |
| 26 | 1H | 1351 | C | N3-C4 | -6.40 | 1.29 | 1.33 |
| 26 | 1H | 1401 | G | N9-C4 | 6.40 | 1.43 | 1.38 |
| 26 | 1H | 1678 | G | N3-C4 | -6.40 | 1.30 | 1.35 |
| 26 | 1H | 728 | G | C6-O6 | 6.39 | 1.29 | 1.24 |
| 26 | 14 | 2352 | A | N9-C4 | -6.39 | 1.34 | 1.37 |
| 26 | 1H | 1948 | G | N1-C2 | -6.39 | 1.32 | 1.37 |
| 26 | 14 | 2045 | C | N1-C6 | -6.39 | 1.33 | 1.37 |
| 26 | 1H | 2670 | A | N3-C4 | -6.39 | 1.31 | 1.34 |
| 23 | 2K | 75 | C | N1-C6 | -6.38 | 1.33 | 1.37 |
| 26 | 1H | 1556 | C | N3-C4 | -6.38 | 1.29 | 1.33 |
| 27 | 16 | 29 | A | N9-C4 | 6.38 | 1.41 | 1.37 |
| 26 | 1H | 1806 | C | N1-C6 | -6.38 | 1.33 | 1.37 |
| 26 | 14 | 2672 | G | C6-N1 | -6.38 | 1.35 | 1.39 |
| 26 | 14 | 562 | U | C2-O2 | -6.38 | 1.16 | 1.22 |
| 26 | 14 | 1599 | C | N1-C6 | -6.38 | 1.33 | 1.37 |
| 26 | 1H | 1938 | A | N3-C4 | -6.38 | 1.31 | 1.34 |
| 26 | 1H | 2438 | U | C2-N3 | -6.37 | 1.33 | 1.37 |
| 26 | 1H | 942 | G | N3-C4 | -6.37 | 1.30 | 1.35 |
| 26 | 1H | 2252 | G | N3-C4 | -6.37 | 1.30 | 1.35 |
| 26 | 1H | 2454 | G | N3-C4 | -6.37 | 1.30 | 1.35 |
| 26 | 1H | 258 | G | C5-C4 | -6.36 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 1H | 845 | G | C2-N3 | 6.36 | 1.37 | 1.32 |
| 41 | B8 | 89 | VAL | CB-CG2 | -6.36 | 1.39 | 1.52 |
| 3 | 22 | 173 | VAL | C-N | 6.36 | 1.46 | 1.34 |
| 26 | 14 | 265 | A | C5-C6 | -6.36 | 1.35 | 1.41 |
| 26 | 14 | 2551 | C | N3-C4 | -6.36 | 1.29 | 1.33 |
| 26 | 1H | 659 | C | N1-C6 | -6.36 | 1.33 | 1.37 |
| 26 | 1H | 1624 | G | N9-C4 | -6.36 | 1.32 | 1.38 |
| 51 | L8 | 10 | LYS | CE-NZ | 6.36 | 1.65 | 1.49 |
| 26 | 1H | 1965 | C | C2-N3 | -6.36 | 1.30 | 1.35 |
| 1 | 13 | 694 | A | N9-C4 | -6.36 | 1.34 | 1.37 |
| 26 | 1H | 1671 | U | N1-C2 | -6.36 | 1.32 | 1.38 |
| 26 | 14 | 816 | C | C2-O2 | 6.36 | 1.30 | 1.24 |
| 26 | 14 | 1792 | G | C2-N2 | -6.36 | 1.28 | 1.34 |
| 1 | 13 | 244 | U | C2-O2 | 6.35 | 1.28 | 1.22 |
| 26 | 1H | 2398 | U | N3-C4 | -6.35 | 1.32 | 1.38 |
| 26 | 1H | 1661 | G | C5-C4 | -6.35 | 1.33 | 1.38 |
| 29 | 11 | 7 | LYS | C-N | -6.35 | 1.22 | 1.34 |
| 43 | 95 | 80 | GLN | CG-CD | 6.35 | 1.65 | 1.51 |
| 1 | 13 | 5 | U | C2-N3 | 6.34 | 1.42 | 1.37 |
| 1 | 13 | 1502 | A | N7-C5 | -6.34 | 1.35 | 1.39 |
| 26 | 14 | 575 | A | C6-N1 | -6.34 | 1.31 | 1.35 |
| 26 | 14 | 2618 | G | C6-O6 | 6.34 | 1.29 | 1.24 |
| 40 | 65 | 69 | VAL | CB-CG2 | -6.34 | 1.39 | 1.52 |
| 26 | 1H | 251 | A | N9-C4 | 6.34 | 1.41 | 1.37 |
| 26 | 1H | 536 | A | N3-C4 | -6.34 | 1.31 | 1.34 |
| 31 | 31 | 59 | TYR | CD2-CE2 | -6.34 | 1.29 | 1.39 |
| 26 | 14 | 1460 | A | N3-C4 | 6.34 | 1.38 | 1.34 |
| 26 | 14 | 398 | G | N3-C4 | -6.34 | 1.31 | 1.35 |
| 26 | 1H | 2600 | A | C6-N1 | -6.33 | 1.31 | 1.35 |
| 26 | 14 | 1326 | U | C2-O2 | -6.33 | 1.16 | 1.22 |
| 26 | 1H | 2004 | G | N3-C4 | -6.33 | 1.31 | 1.35 |
| 26 | 1H | 2330 | G | N3-C4 | -6.33 | 1.31 | 1.35 |
| 26 | 1H | 2062 | A | C5-C4 | 6.33 | 1.43 | 1.38 |
| 27 | 16 | 78 | A | N3-C4 | -6.33 | 1.31 | 1.34 |
| 26 | 1H | 2764 | A | N3-C4 | -6.33 | 1.31 | 1.34 |
| 26 | 14 | 669 | G | N3-C4 | -6.33 | 1.31 | 1.35 |
| 26 | 14 | 698 | C | N1-C6 | -6.33 | 1.33 | 1.37 |
| 26 | 1H | 258 | G | N1-C2 | -6.33 | 1.32 | 1.37 |
| 26 | 1H | 297 | C | C2-N3 | -6.33 | 1.30 | 1.35 |
| 26 | 1H | 1353 | A | N3-C4 | -6.33 | 1.31 | 1.34 |
| 26 | 1H | 1634 | A | N9-C8 | -6.33 | 1.32 | 1.37 |
| 26 | 1H | 1241 | A | N7-C5 | -6.32 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 31 | 39 | 38 | ARG | CZ-NH1 | -6.32 | 1.24 | 1.33 |
| 26 | 14 | 238 | C | N3-C4 | -6.32 | 1.29 | 1.33 |
| 26 | 14 | 2392 | A | N9-C8 | 6.32 | 1.42 | 1.37 |
| 26 | 1H | 2282 | G | C2-N3 | -6.32 | 1.27 | 1.32 |
| 26 | 14 | 2488 | A | N3-C4 | -6.32 | 1.31 | 1.34 |
| 26 | 1H | 1605 | C | N1-C6 | -6.32 | 1.33 | 1.37 |
| 26 | 1H | 1965 | C | N1-C2 | -6.32 | 1.33 | 1.40 |
| 26 | 1H | 2287 | A | N3-C4 | -6.32 | 1.31 | 1.34 |
| 26 | 14 | 981 | A | C6-N1 | -6.32 | 1.31 | 1.35 |
| 26 | 14 | 1816 | G | C5-C6 | 6.32 | 1.48 | 1.42 |
| 1 | 13 | 1513 | A | C5-C4 | -6.32 | 1.34 | 1.38 |
| 26 | 14 | 6 | A | N9-C4 | 6.32 | 1.41 | 1.37 |
| 1 | 13 | 903 | G | N9-C8 | -6.31 | 1.33 | 1.37 |
| 26 | 14 | 1978 | A | N7-C5 | -6.31 | 1.35 | 1.39 |
| 26 | 1H | 619 | G | N9-C8 | -6.31 | 1.33 | 1.37 |
| 26 | 1H | 1967 | C | N3-C4 | -6.31 | 1.29 | 1.33 |
| 26 | 1H | 2603 | G | N7-C5 | -6.31 | 1.35 | 1.39 |
| 26 | 14 | 252 | G | N9-C8 | -6.31 | 1.33 | 1.37 |
| 26 | 14 | 835 | A | C5-C4 | -6.31 | 1.34 | 1.38 |
| 26 | 14 | 1525 | G | N9-C8 | -6.31 | 1.33 | 1.37 |
| 26 | 14 | 1613 | G | N1-C2 | -6.31 | 1.32 | 1.37 |
| 38 | 45 | 60 | ARG | CZ-NH1 | -6.31 | 1.24 | 1.33 |
| 26 | 1H | 1606 | G | C5-C4 | -6.31 | 1.33 | 1.38 |
| 49 | F5 | 4 | VAL | CB-CG1 | -6.31 | 1.39 | 1.52 |
| 26 | 1H | 2521 | C | N1-C6 | -6.30 | 1.33 | 1.37 |
| 26 | 14 | 1807 | G | N9-C8 | -6.30 | 1.33 | 1.37 |
| 26 | 1H | 860 | U | C5-C6 | -6.30 | 1.28 | 1.34 |
| 26 | 1H | 729 | G | C5-C6 | -6.30 | 1.36 | 1.42 |
| 26 | 14 | 1676 | A | N3-C4 | -6.30 | 1.31 | 1.34 |
| 26 | 14 | 2713 | A | C5-C4 | 6.30 | 1.43 | 1.38 |
| 26 | 1H | 425 | G | N9-C8 | -6.30 | 1.33 | 1.37 |
| 26 | 1H | 800 | A | N7-C5 | -6.30 | 1.35 | 1.39 |
| 26 | 1H | 1697 | G | N7-C5 | -6.30 | 1.35 | 1.39 |
| 26 | 1H | 1843 | C | N1-C6 | -6.30 | 1.33 | 1.37 |
| 26 | 14 | 2601 | C | C4-N4 | -6.30 | 1.28 | 1.33 |
| 26 | 1H | 1263 | U | C4-O4 | -6.29 | 1.18 | 1.23 |
| 26 | 1H | 1815 | A | C6-N1 | -6.29 | 1.31 | 1.35 |
| 26 | 1H | 2590 | A | N9-C4 | -6.29 | 1.34 | 1.37 |
| 26 | 1H | 1616 | A | N9-C8 | 6.29 | 1.42 | 1.37 |
| 26 | 1H | 1696 | G | C6-N1 | -6.29 | 1.35 | 1.39 |
| 25 | 4K | 25 | A | C5-C4 | 6.29 | 1.43 | 1.38 |
| 26 | 1H | 1623 | G | N1-C2 | -6.29 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 1H | 1668 | A | C5-C4 | -6.29 | 1.34 | 1.38 |
| 26 | 14 | 1158 | C | N3-C4 | -6.29 | 1.29 | 1.33 |
| 26 | 14 | 2441 | C | N3-C4 | -6.29 | 1.29 | 1.33 |
| 26 | 1H | 346 | A | N9-C4 | -6.29 | 1.34 | 1.37 |
| 26 | 14 | 1308 | A | C6-N1 | -6.28 | 1.31 | 1.35 |
| 26 | 1H | 799 | G | N3-C4 | -6.28 | 1.31 | 1.35 |
| 26 | 14 | 1945 | G | C6-N1 | -6.28 | 1.35 | 1.39 |
| 26 | 1H | 621 | A | N3-C4 | -6.27 | 1.31 | 1.34 |
| 26 | 1H | 1255 | U | C4-O4 | 6.27 | 1.28 | 1.23 |
| 26 | 1H | 2845 | G | N3-C4 | -6.27 | 1.31 | 1.35 |
| 26 | 1H | 2453 | A | C6-N6 | -6.27 | 1.28 | 1.33 |
| 26 | 14 | 199 | A | N3-C4 | 6.27 | 1.38 | 1.34 |
| 26 | 14 | 981 | A | N3-C4 | -6.27 | 1.31 | 1.34 |
| 26 | 1H | 699 | A | C5-C4 | -6.27 | 1.34 | 1.38 |
| 26 | 14 | 770 | G | C5-C4 | -6.27 | 1.33 | 1.38 |
| 26 | 1H | 2069 | G | C5-C4 | -6.27 | 1.33 | 1.38 |
| 26 | 1H | 1815 | A | C6-N6 | -6.26 | 1.28 | 1.33 |
| 26 | 1H | 2597 | G | C5-C6 | -6.26 | 1.36 | 1.42 |
| 26 | 14 | 1342 | A | C5-C6 | -6.26 | 1.35 | 1.41 |
| 26 | 1H | 593 | G | N3-C4 | -6.26 | 1.31 | 1.35 |
| 26 | 1H | 1326 | U | C2-N3 | -6.26 | 1.33 | 1.37 |
| 26 | 1H | 1783 | A | N7-C5 | -6.26 | 1.35 | 1.39 |
| 26 | 1H | 1695 | G | C8-N7 | -6.26 | 1.27 | 1.30 |
| 26 | 14 | 1812 | A | N3-C4 | -6.26 | 1.31 | 1.34 |
| 26 | 1H | 1263 | U | C4-C5 | -6.25 | 1.38 | 1.43 |
| 1 | 13 | 755 | G | C6-O6 | 6.25 | 1.29 | 1.24 |
| 1 | 13 | 1404 | C | N1-C6 | 6.25 | 1.41 | 1.37 |
| 1 | 1G | 1469 | G | C6-O6 | 6.25 | 1.29 | 1.24 |
| 14 | 5I | 43 | CYS | CB-SG | -6.25 | 1.71 | 1.82 |
| 26 | 1H | 1618 | A | N7-C5 | -6.25 | 1.35 | 1.39 |
| 26 | 1H | 1271 | G | C4'-C3' | -6.25 | 1.46 | 1.53 |
| 1 | 13 | 1403 | C | N1-C2 | -6.25 | 1.33 | 1.40 |
| 26 | 1H | 1366 | A | N3-C4 | -6.25 | 1.31 | 1.34 |
| 26 | 1H | 2421 | G | C5-C4 | -6.25 | 1.33 | 1.38 |
| 26 | 14 | 1829 | A | C5-C4 | -6.25 | 1.34 | 1.38 |
| 26 | 14 | 2304 | G | C5-C4 | 6.25 | 1.42 | 1.38 |
| 26 | 1H | 183 | C | N1-C6 | -6.24 | 1.33 | 1.37 |
| 1 | 13 | 670 | G | N7-C5 | -6.24 | 1.35 | 1.39 |
| 26 | 1H | 955 | C | N3-C4 | -6.24 | 1.29 | 1.33 |
| 26 | 1H | 2049 | G | C2-N3 | -6.24 | 1.27 | 1.32 |
| 26 | 14 | 621 | A | N9-C8 | 6.24 | 1.42 | 1.37 |
| 26 | 1H | 718 | A | C5-C6 | -6.24 | 1.35 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 1H | 1670 | C | C2-N3 | 6.24 | 1.40 | 1.35 |
| 26 | 14 | 2606 | C | N3-C4 | -6.24 | 1.29 | 1.33 |
| 26 | 1H | 2383 | G | C6-O6 | -6.24 | 1.18 | 1.24 |
| 26 | 1H | 1889 | A | N3-C4 | -6.24 | 1.31 | 1.34 |
| 1 | 1G | 781 | A | N9-C4 | 6.24 | 1.41 | 1.37 |
| 26 | 1H | 2373 | G | C6-O6 | 6.24 | 1.29 | 1.24 |
| 26 | 14 | 1297 | C | N3-C4 | -6.23 | 1.29 | 1.33 |
| 26 | 14 | 1776 | G | C6-N1 | -6.23 | 1.35 | 1.39 |
| 4 | 3E | 31 | CYS | CB-SG | -6.23 | 1.71 | 1.82 |
| 26 | 14 | 2577 | A | N3-C4 | -6.23 | 1.31 | 1.34 |
| 26 | 14 | 2618 | G | C5-C6 | 6.23 | 1.48 | 1.42 |
| 26 | 14 | 210 | C | N1-C6 | -6.23 | 1.33 | 1.37 |
| 26 | 1H | 913 | U | C2-N3 | -6.22 | 1.33 | 1.37 |
| 26 | 1H | 1247 | A | N7-C5 | -6.22 | 1.35 | 1.39 |
| 26 | 14 | 211 | A | C5-C4 | -6.22 | 1.34 | 1.38 |
| 26 | 1H | 1330 | C | N1-C6 | -6.22 | 1.33 | 1.37 |
| 1 | 13 | 544 | G | N7-C5 | -6.22 | 1.35 | 1.39 |
| 26 | 1H | 2250 | G | N9-C4 | 6.22 | 1.43 | 1.38 |
| 26 | 1H | 2412 | A | N3-C4 | -6.22 | 1.31 | 1.34 |
| 26 | 1H | 2426 | A | C6-N1 | -6.22 | 1.31 | 1.35 |
| 26 | 14 | 2772 | C | N1-C6 | -6.22 | 1.33 | 1.37 |
| 26 | 1H | 584 | C | C2-N3 | 6.22 | 1.40 | 1.35 |
| 26 | 14 | 1379 | A | C5-C6 | -6.22 | 1.35 | 1.41 |
| 23 | 2K | 24 | C | N3-C4 | -6.21 | 1.29 | 1.33 |
| 26 | 1H | 1419 | A | N9-C4 | -6.21 | 1.34 | 1.37 |
| 27 | 16 | 42 | C | N1-C6 | -6.21 | 1.33 | 1.37 |
| 26 | 1H | 1472 | A | N3-C4 | -6.21 | 1.31 | 1.34 |
| 26 | 1H | 458 | G | C2-N3 | -6.21 | 1.27 | 1.32 |
| 26 | 1H | 832 | G | C6-N1 | -6.21 | 1.35 | 1.39 |
| 26 | 14 | 2826 | A | N7-C5 | -6.21 | 1.35 | 1.39 |
| 26 | 1H | 957 | A | C6-N6 | 6.20 | 1.39 | 1.33 |
| 26 | 14 | 1429 | G | N9-C8 | -6.20 | 1.33 | 1.37 |
| 1 | 13 | 961 | U | C2-N3 | -6.20 | 1.33 | 1.37 |
| 26 | 14 | 1802 | A | C6-N6 | -6.20 | 1.28 | 1.33 |
| 26 | 1H | 1992 | G | C6-O6 | -6.20 | 1.18 | 1.24 |
| 26 | 1H | 1992 | G | N7-C5 | -6.20 | 1.35 | 1.39 |
| 26 | 1H | 2051 | A | N7-C5 | -6.20 | 1.35 | 1.39 |
| 26 | 1H | 2267 | A | C6-N1 | -6.20 | 1.31 | 1.35 |
| 26 | 1H | 252 | G | N9-C4 | -6.20 | 1.32 | 1.38 |
| 26 | 14 | 1393 | A | N1-C2 | -6.20 | 1.28 | 1.34 |
| 26 | 1H | 189 | G | C5-C4 | -6.20 | 1.34 | 1.38 |
| 26 | 1H | 2392 | A | N1-C2 | 6.20 | 1.40 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|---------|------|---------|-------|-------------|----------|
| 26 | 1H | 789 | A | N9-C4 | -6.19 | 1.34 | 1.37 |
| 26 | 14 | 1300 | U | C4-O4 | 6.19 | 1.28 | 1.23 |
| 39 | 55 | 21 | TYR | CD2-CE2 | -6.19 | 1.30 | 1.39 |
| 26 | 14 | 447 | A | N3-C4 | -6.19 | 1.31 | 1.34 |
| 26 | 1H | 2826 | A | N9-C8 | -6.19 | 1.32 | 1.37 |
| 26 | 14 | 1346 | G | N1-C2 | -6.19 | 1.32 | 1.37 |
| 26 | 1H | 1496 | A | N9-C8 | 6.19 | 1.42 | 1.37 |
| 26 | 1H | 2250 | G | C2-N3 | -6.18 | 1.27 | 1.32 |
| 27 | 16 | 87 | G | N9-C4 | -6.18 | 1.33 | 1.38 |
| 26 | 14 | 613 | U | N1-C2 | 6.18 | 1.44 | 1.38 |
| 26 | 1H | 2781 | A | C6-N1 | -6.18 | 1.31 | 1.35 |
| 26 | 1H | 2781 | A | C5-C6 | -6.18 | 1.35 | 1.41 |
| 26 | 14 | 195 | A | C6-N1 | 6.18 | 1.39 | 1.35 |
| 26 | 14 | 2258 | C | N1-C6 | -6.18 | 1.33 | 1.37 |
| 26 | 14 | 2448 | A | C6-N1 | -6.18 | 1.31 | 1.35 |
| 26 | 1H | 144 | C | N1-C6 | -6.18 | 1.33 | 1.37 |
| 26 | 14 | 530 | G | C2-N3 | 6.17 | 1.37 | 1.32 |
| 26 | 1H | 2595 | G | N1-C2 | -6.17 | 1.32 | 1.37 |
| 26 | 1H | 746 | A | N3-C4 | -6.17 | 1.31 | 1.34 |
| 26 | 1H | 1768 | U | N1-C2 | -6.17 | 1.33 | 1.38 |
| 26 | 14 | 1311 | G | C6-N1 | -6.17 | 1.35 | 1.39 |
| 26 | 1H | 1952 | A | N3-C4 | -6.17 | 1.31 | 1.34 |
| 26 | 1H | 32 | C | N3-C4 | -6.16 | 1.29 | 1.33 |
| 26 | 1H | 449 | A | N3-C4 | -6.16 | 1.31 | 1.34 |
| 26 | 14 | 334 | C | N1-C6 | -6.16 | 1.33 | 1.37 |
| 1 | 13 | 364 | A | N3-C4 | -6.16 | 1.31 | 1.34 |
| 1 | 13 | 606 | G | N9-C4 | 6.16 | 1.42 | 1.38 |
| 26 | 1H | 67 | U | C2-N3 | -6.16 | 1.33 | 1.37 |
| 26 | 1H | 1229(A) | G | N9-C4 | -6.16 | 1.33 | 1.38 |
| 26 | 1H | 539 | G | C6-O6 | 6.16 | 1.29 | 1.24 |
| 26 | 14 | 1899 | G | N9-C8 | 6.16 | 1.42 | 1.37 |
| 26 | 14 | 2578 | G | N9-C8 | -6.15 | 1.33 | 1.37 |
| 26 | 1H | 252 | G | C5-C4 | -6.15 | 1.34 | 1.38 |
| 26 | 1H | 1904 | G | N9-C8 | -6.15 | 1.33 | 1.37 |
| 26 | 1H | 1784 | A | C5-C4 | 6.15 | 1.43 | 1.38 |
| 26 | 14 | 114 | U | C2-N3 | -6.15 | 1.33 | 1.37 |
| 26 | 1H | 996 | A | C6-N1 | -6.15 | 1.31 | 1.35 |
| 26 | 14 | 2048 | G | C5-C6 | 6.15 | 1.48 | 1.42 |
| 26 | 1H | 189 | G | N1-C2 | 6.15 | 1.42 | 1.37 |
| 26 | 1H | 2079 | U | C4-C5 | -6.15 | 1.38 | 1.43 |
| 26 | 1H | 2259 | G | N3-C4 | -6.15 | 1.31 | 1.35 |
| 26 | 14 | 101 | G | N9-C4 | 6.15 | 1.42 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 41 | 75 | 13 | ARG | CZ-NH2 | -6.15 | 1.25 | 1.33 |
| 1 | 13 | 1518 | A | N9-C8 | -6.14 | 1.32 | 1.37 |
| 26 | 1H | 605 | C | N1-C6 | -6.14 | 1.33 | 1.37 |
| 26 | 14 | 1821 | A | N3-C4 | -6.14 | 1.31 | 1.34 |
| 26 | 14 | 2246 | G | N9-C8 | -6.14 | 1.33 | 1.37 |
| 26 | 1H | 2639 | A | C5-C6 | -6.14 | 1.35 | 1.41 |
| 26 | 1H | 1614 | A | C5-C6 | -6.14 | 1.35 | 1.41 |
| 26 | 1H | 2409 | G | C5-C4 | -6.14 | 1.34 | 1.38 |
| 26 | 1H | 746 | A | C8-N7 | 6.14 | 1.35 | 1.31 |
| 26 | 14 | 783 | A | N3-C4 | -6.14 | 1.31 | 1.34 |
| 26 | 14 | 1606 | G | C6-N1 | -6.14 | 1.35 | 1.39 |
| 26 | 1H | 1836 | C | C2-N3 | -6.14 | 1.30 | 1.35 |
| 26 | 14 | 1756 | G | N3-C4 | -6.14 | 1.31 | 1.35 |
| 26 | 1H | 1982 | C | C2-O2 | 6.13 | 1.29 | 1.24 |
| 26 | 1H | 911 | A | N7-C5 | -6.13 | 1.35 | 1.39 |
| 1 | 13 | 548 | G | N7-C5 | -6.13 | 1.35 | 1.39 |
| 26 | 1H | 2252 | G | C6-N1 | -6.13 | 1.35 | 1.39 |
| 5 | 42 | 79 | GLU | CG-CD | -6.13 | 1.42 | 1.51 |
| 26 | 1H | 744 | G | C6-N1 | -6.13 | 1.35 | 1.39 |
| 1 | 1G | 795 | C | N1-C6 | -6.13 | 1.33 | 1.37 |
| 26 | 1H | 56 | A | C6-N1 | -6.12 | 1.31 | 1.35 |
| 26 | 1H | 244 | A | N9-C4 | -6.12 | 1.34 | 1.37 |
| 26 | 1H | 772 | C | C2-O2 | 6.12 | 1.29 | 1.24 |
| 26 | 1H | 1654 | A | N9-C8 | -6.12 | 1.32 | 1.37 |
| 26 | 1H | 2494 | G | C2-N3 | -6.12 | 1.27 | 1.32 |
| 26 | 14 | 582 | G | N7-C5 | -6.12 | 1.35 | 1.39 |
| 1 | 13 | 1433 | A | N3-C4 | -6.12 | 1.31 | 1.34 |
| 26 | 1H | 1683 | C | N3-C4 | -6.11 | 1.29 | 1.33 |
| 26 | 14 | 621 | A | C5-C4 | 6.11 | 1.43 | 1.38 |
| 26 | 1H | 407 | G | C6-N1 | -6.11 | 1.35 | 1.39 |
| 26 | 14 | 1646 | C | N1-C6 | -6.11 | 1.33 | 1.37 |
| 26 | 1H | 1001 | A | C6-N1 | -6.11 | 1.31 | 1.35 |
| 26 | 1H | 1244 | G | N9-C4 | -6.11 | 1.33 | 1.38 |
| 26 | 1H | 2557 | G | C5-C4 | -6.11 | 1.34 | 1.38 |
| 26 | 1H | 399 | G | N7-C5 | 6.10 | 1.43 | 1.39 |
| 26 | 1H | 1472 | A | N9-C4 | -6.10 | 1.34 | 1.37 |
| 26 | 1H | 2070 | G | C2-N2 | -6.10 | 1.28 | 1.34 |
| 26 | 14 | 181 | A | N9-C4 | -6.10 | 1.34 | 1.37 |
| 26 | 1H | 638 | G | N7-C5 | -6.10 | 1.35 | 1.39 |
| 26 | 1H | 1829 | A | N9-C8 | -6.10 | 1.32 | 1.37 |
| 26 | 1H | 372 | G | C6-N1 | -6.10 | 1.35 | 1.39 |
| 26 | 1H | 533 | G | N1-C2 | -6.10 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 1H | 1807 | G | C5-C6 | -6.10 | 1.36 | 1.42 |
| 1 | 13 | 1403 | C | N3-C4 | -6.10 | 1.29 | 1.33 |
| 27 | 16 | 46 | A | N9-C4 | -6.10 | 1.34 | 1.37 |
| 26 | 14 | 828 | U | N3-C4 | -6.09 | 1.32 | 1.38 |
| 26 | 14 | 1819 | A | N7-C5 | -6.09 | 1.35 | 1.39 |
| 26 | 14 | 2315 | G | N9-C4 | 6.09 | 1.42 | 1.38 |
| 26 | 1H | 2311 | A | C5-C6 | -6.09 | 1.35 | 1.41 |
| 26 | 1H | 2564 | A | N7-C5 | -6.09 | 1.35 | 1.39 |
| 26 | 14 | 1762 | A | N9-C8 | 6.09 | 1.42 | 1.37 |
| 26 | 1H | 1248 | G | C6-O6 | 6.09 | 1.29 | 1.24 |
| 29 | 11 | 193 | VAL | CB-CG2 | -6.09 | 1.40 | 1.52 |
| 1 | 1G | 576 | G | C5-C4 | 6.09 | 1.42 | 1.38 |
| 26 | 14 | 183 | C | C2-N3 | -6.09 | 1.30 | 1.35 |
| 26 | 1H | 196 | A | C5-C6 | -6.08 | 1.35 | 1.41 |
| 26 | 1H | 284 | U | N1-C2 | -6.08 | 1.33 | 1.38 |
| 26 | 1H | 1815 | A | C5-C6 | -6.08 | 1.35 | 1.41 |
| 26 | 1H | 1323 | U | C4-O4 | 6.08 | 1.28 | 1.23 |
| 27 | 1J | 36 | C | N3-C4 | 6.08 | 1.38 | 1.33 |
| 26 | 1H | 184 | C | N3-C4 | -6.08 | 1.29 | 1.33 |
| 26 | 1H | 1125 | G | N3-C4 | -6.08 | 1.31 | 1.35 |
| 26 | 1H | 2063 | C | N1-C6 | -6.08 | 1.33 | 1.37 |
| 26 | 1H | 2082 | A | N3-C4 | -6.08 | 1.31 | 1.34 |
| 26 | 1H | 1977 | A | C6-N1 | -6.07 | 1.31 | 1.35 |
| 31 | 31 | 84 | VAL | CB-CG1 | -6.07 | 1.40 | 1.52 |
| 26 | 14 | 2586 | C | N3-C4 | 6.07 | 1.38 | 1.33 |
| 26 | 1H | 1815 | A | N9-C4 | -6.07 | 1.34 | 1.37 |
| 26 | 14 | 1556 | C | N3-C4 | -6.07 | 1.29 | 1.33 |
| 26 | 1H | 473 | G | N9-C8 | -6.06 | 1.33 | 1.37 |
| 26 | 1H | 792 | G | N7-C5 | -6.06 | 1.35 | 1.39 |
| 26 | 14 | 1986 | A | N7-C5 | -6.06 | 1.35 | 1.39 |
| 26 | 1H | 199 | A | C5-C4 | -6.06 | 1.34 | 1.38 |
| 26 | 14 | 746 | A | N9-C4 | -6.06 | 1.34 | 1.37 |
| 26 | 1H | 1918 | A | C8-N7 | -6.06 | 1.27 | 1.31 |
| 26 | 1H | 2461 | C | N3-C4 | -6.06 | 1.29 | 1.33 |
| 26 | 1H | 1427 | A | N7-C5 | -6.05 | 1.35 | 1.39 |
| 26 | 14 | 188 | G | C2-N3 | 6.05 | 1.37 | 1.32 |
| 26 | 1H | 2025 | C | C4-C5 | -6.05 | 1.38 | 1.43 |
| 26 | 14 | 2740 | A | N9-C4 | -6.05 | 1.34 | 1.37 |
| 26 | 1H | 1120 | G | C6-N1 | 6.05 | 1.43 | 1.39 |
| 26 | 1H | 1528 | A | N7-C5 | -6.05 | 1.35 | 1.39 |
| 26 | 1H | 497 | A | C5-C4 | -6.05 | 1.34 | 1.38 |
| 26 | 1H | 1674 | G | N7-C5 | -6.05 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 1 | 1G | 630 | G | N9-C4 | 6.05 | 1.42 | 1.38 |
| 26 | 1H | 188 | G | C6-O6 | -6.05 | 1.18 | 1.24 |
| 26 | 1H | 2053 | G | C5-C4 | -6.05 | 1.34 | 1.38 |
| 26 | 14 | 2443 | C | N1-C6 | -6.05 | 1.33 | 1.37 |
| 26 | 1H | 915 | C | C4-N4 | 6.04 | 1.39 | 1.33 |
| 26 | 1H | 977 | G | C6-N1 | -6.04 | 1.35 | 1.39 |
| 26 | 14 | 191 | A | C5-C6 | -6.04 | 1.35 | 1.41 |
| 26 | 14 | 1247 | A | C6-N1 | -6.04 | 1.31 | 1.35 |
| 26 | 14 | 1285 | G | C5-C4 | -6.04 | 1.34 | 1.38 |
| 26 | 1H | 229 | A | N3-C4 | 6.04 | 1.38 | 1.34 |
| 26 | 14 | 2345 | G | N3-C4 | -6.04 | 1.31 | 1.35 |
| 26 | 14 | 452 | G | C2-N3 | -6.04 | 1.27 | 1.32 |
| 26 | 14 | 1496 | A | C5-C6 | -6.04 | 1.35 | 1.41 |
| 26 | 1H | 1235 | G | N7-C5 | -6.04 | 1.35 | 1.39 |
| 26 | 14 | 1285 | G | N7-C5 | -6.04 | 1.35 | 1.39 |
| 26 | 1H | 763 | G | N3-C4 | -6.03 | 1.31 | 1.35 |
| 26 | 14 | 123 | G | N3-C4 | -6.03 | 1.31 | 1.35 |
| 26 | 1H | 2247 | A | N3-C4 | -6.03 | 1.31 | 1.34 |
| 23 | 2K | 39 | A | C5-C4 | -6.03 | 1.34 | 1.38 |
| 26 | 14 | 2324 | C | C2-O2 | 6.03 | 1.29 | 1.24 |
| 1 | 13 | 741 | G | N9-C4 | -6.03 | 1.33 | 1.38 |
| 26 | 14 | 1616 | A | N7-C5 | -6.03 | 1.35 | 1.39 |
| 26 | 14 | 2597 | G | C6-O6 | 6.03 | 1.29 | 1.24 |
| 27 | 16 | 46 | A | N3-C4 | -6.02 | 1.31 | 1.34 |
| 26 | 1H | 1304 | C | C4-N4 | -6.02 | 1.28 | 1.33 |
| 26 | 1H | 2251 | G | N9-C8 | -6.02 | 1.33 | 1.37 |
| 1 | 13 | 237 | C | N3-C4 | -6.02 | 1.29 | 1.33 |
| 26 | 14 | 74 | A | N7-C5 | -6.02 | 1.35 | 1.39 |
| 26 | 1H | 813 | U | N1-C6 | -6.02 | 1.32 | 1.38 |
| 26 | 1H | 2329 | G | N7-C5 | 6.02 | 1.42 | 1.39 |
| 1 | 13 | 671 | G | C5-C4 | -6.02 | 1.34 | 1.38 |
| 26 | 14 | 1274 | A | N3-C4 | -6.02 | 1.31 | 1.34 |
| 26 | 1H | 805 | G | C5-C6 | -6.01 | 1.36 | 1.42 |
| 26 | 1H | 1203 | G | N3-C4 | 6.01 | 1.39 | 1.35 |
| 57 | 3L | 76 | A | N9-C8 | 6.01 | 1.42 | 1.37 |
| 26 | 14 | 548 | A | N9-C4 | 6.01 | 1.41 | 1.37 |
| 26 | 14 | 1982 | C | N1-C6 | -6.01 | 1.33 | 1.37 |
| 26 | 14 | 2718 | G | N3-C4 | -6.01 | 1.31 | 1.35 |
| 26 | 1H | 1910 | G | N3-C4 | -6.01 | 1.31 | 1.35 |
| 26 | 1H | 2015 | A | N9-C4 | -6.01 | 1.34 | 1.37 |
| 26 | 1H | 2537 | U | N3-C4 | -6.01 | 1.33 | 1.38 |
| 26 | 1H | 260 | G | C5-C4 | -6.01 | 1.34 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 14 | 2288 | A | N3-C4 | 6.01 | 1.38 | 1.34 |
| 26 | 1H | 551 | G | N9-C4 | -6.01 | 1.33 | 1.38 |
| 26 | 1H | 789 | A | N7-C5 | -6.01 | 1.35 | 1.39 |
| 26 | 1H | 1966 | A | N3-C4 | -6.01 | 1.31 | 1.34 |
| 26 | 1H | 2072 | G | C5-C4 | -6.00 | 1.34 | 1.38 |
| 26 | 14 | 1827 | C | N3-C4 | -6.00 | 1.29 | 1.33 |
| 26 | 14 | 1158 | C | N1-C6 | -6.00 | 1.33 | 1.37 |
| 26 | 1H | 116 | C | N3-C4 | -6.00 | 1.29 | 1.33 |
| 26 | 1H | 2229 | C | C4'-C3' | -6.00 | 1.46 | 1.52 |
| 26 | 1H | 298 | G | N9-C4 | -6.00 | 1.33 | 1.38 |
| 1 | 13 | 795 | C | N1-C6 | -5.99 | 1.33 | 1.37 |
| 26 | 1H | 381 | G | N9-C8 | -5.99 | 1.33 | 1.37 |
| 26 | 1H | 621 | A | N9-C8 | 5.99 | 1.42 | 1.37 |
| 26 | 1H | 2453 | A | N9-C4 | -5.99 | 1.34 | 1.37 |
| 1 | 13 | 965 | A | C6-N6 | 5.99 | 1.38 | 1.33 |
| 26 | 1H | 1204 | A | N9-C4 | -5.99 | 1.34 | 1.37 |
| 26 | 1H | 2428 | G | C6-O6 | 5.99 | 1.29 | 1.24 |
| 1 | 1G | 1469 | G | N1-C2 | 5.99 | 1.42 | 1.37 |
| 26 | 14 | 51 | G | N9-C8 | -5.99 | 1.33 | 1.37 |
| 26 | 14 | 2426 | A | C5-C6 | -5.99 | 1.35 | 1.41 |
| 26 | 1H | 1817 | G | C5-C6 | 5.99 | 1.48 | 1.42 |
| 30 | 21 | 196 | VAL | CB-CG2 | -5.99 | 1.40 | 1.52 |
| 1 | 13 | 1205 | U | C4-O4 | 5.99 | 1.28 | 1.23 |
| 26 | 1H | 698 | C | C2-O2 | 5.98 | 1.29 | 1.24 |
| 26 | 1H | 652 | C | C2-N3 | 5.98 | 1.40 | 1.35 |
| 57 | 3L | 42 | A | N9-C4 | 5.98 | 1.41 | 1.37 |
| 26 | 1H | 718 | A | N7-C5 | -5.98 | 1.35 | 1.39 |
| 26 | 1H | 1762 | A | N3-C4 | 5.98 | 1.38 | 1.34 |
| 26 | 14 | 1378 | A | N7-C5 | 5.98 | 1.42 | 1.39 |
| 26 | 1H | 2438 | U | C4'-C3' | -5.98 | 1.46 | 1.52 |
| 26 | 14 | 945 | A | N7-C5 | -5.98 | 1.35 | 1.39 |
| 26 | 1H | 933 | A | N7-C5 | -5.98 | 1.35 | 1.39 |
| 22 | 1K | 74 | C | C2-O2 | 5.97 | 1.29 | 1.24 |
| 26 | 1H | 441 | U | C5-C6 | -5.97 | 1.28 | 1.34 |
| 26 | 14 | 1606 | G | C5-C4 | -5.97 | 1.34 | 1.38 |
| 26 | 1H | 2422 | A | N7-C5 | -5.97 | 1.35 | 1.39 |
| 26 | 14 | 2377 | A | N9-C4 | -5.97 | 1.34 | 1.37 |
| 26 | 14 | 2070 | G | N7-C5 | -5.96 | 1.35 | 1.39 |
| 26 | 1H | 2199 | A | N9-C4 | 5.96 | 1.41 | 1.37 |
| 26 | 1H | 1243 | G | N9-C4 | -5.96 | 1.33 | 1.38 |
| 26 | 1H | 1931 | U | C2-N3 | -5.96 | 1.33 | 1.37 |
| 26 | 14 | 388 | G | C2-N3 | -5.96 | 1.27 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 1H | 1967 | C | C2-N3 | -5.96 | 1.30 | 1.35 |
| 26 | 1H | 1907 | G | N3-C4 | -5.96 | 1.31 | 1.35 |
| 26 | 1H | 2291 | U | C4-O4 | 5.96 | 1.28 | 1.23 |
| 26 | 1H | 1810 | A | N3-C4 | -5.96 | 1.31 | 1.34 |
| 26 | 1H | 2346 | A | N9-C8 | 5.96 | 1.42 | 1.37 |
| 26 | 14 | 204 | A | N9-C4 | -5.96 | 1.34 | 1.37 |
| 26 | 1H | 917 | A | C5-C4 | 5.95 | 1.43 | 1.38 |
| 26 | 1H | 2392 | A | N3-C4 | -5.95 | 1.31 | 1.34 |
| 26 | 1H | 2599 | G | N9-C8 | -5.95 | 1.33 | 1.37 |
| 26 | 1H | 768 | G | N7-C5 | -5.95 | 1.35 | 1.39 |
| 26 | 1H | 2826 | A | C5-C4 | -5.95 | 1.34 | 1.38 |
| 26 | 1H | 1302 | A | N3-C4 | -5.95 | 1.31 | 1.34 |
| 26 | 1H | 1630 | G | N7-C5 | 5.95 | 1.42 | 1.39 |
| 26 | 14 | 1783 | A | N7-C5 | -5.95 | 1.35 | 1.39 |
| 26 | 1H | 74 | A | N9-C8 | 5.95 | 1.42 | 1.37 |
| 26 | 1H | 1785 | A | N3-C4 | 5.95 | 1.38 | 1.34 |
| 26 | 14 | 578 | A | N3-C4 | -5.95 | 1.31 | 1.34 |
| 26 | 1H | 413 | C | N1-C2 | -5.95 | 1.34 | 1.40 |
| 26 | 1H | 402 | A | N3-C4 | -5.95 | 1.31 | 1.34 |
| 26 | 1H | 796 | C | C5-C6 | -5.95 | 1.29 | 1.34 |
| 26 | 14 | 1951 | U | C4-O4 | 5.95 | 1.28 | 1.23 |
| 1 | 13 | 767 | A | N3-C4 | -5.94 | 1.31 | 1.34 |
| 26 | 14 | 2690 | C | N3-C4 | -5.94 | 1.29 | 1.33 |
| 26 | 14 | 1268 | A | C5-C4 | -5.94 | 1.34 | 1.38 |
| 26 | 14 | 2873 | A | C5-C6 | -5.94 | 1.35 | 1.41 |
| 26 | 1H | 2643 | G | N9-C4 | -5.94 | 1.33 | 1.38 |
| 1 | 1G | 1402 | C | N1-C6 | -5.94 | 1.33 | 1.37 |
| 26 | 14 | 1490 | A | C6-N1 | 5.94 | 1.39 | 1.35 |
| 1 | 1G | 117 | G | N7-C5 | -5.94 | 1.35 | 1.39 |
| 26 | 1H | 1639 | U | C2-N3 | -5.94 | 1.33 | 1.37 |
| 26 | 14 | 979 | G | C6-O6 | 5.94 | 1.29 | 1.24 |
| 26 | 14 | 2248 | C | N3-C4 | -5.94 | 1.29 | 1.33 |
| 26 | 1H | 2404 | C | N3-C4 | -5.94 | 1.29 | 1.33 |
| 26 | 14 | 466 | A | N9-C4 | 5.94 | 1.41 | 1.37 |
| 1 | 1G | 1483 | A | N9-C4 | -5.93 | 1.34 | 1.37 |
| 26 | 14 | 123 | G | C6-N1 | -5.93 | 1.35 | 1.39 |
| 26 | 14 | 1359 | A | N3-C4 | 5.93 | 1.38 | 1.34 |
| 26 | 14 | 1638 | C | N3-C4 | -5.93 | 1.29 | 1.33 |
| 26 | 14 | 1784 | A | N7-C5 | 5.93 | 1.42 | 1.39 |
| 26 | 14 | 2610 | C | C2-O2 | 5.93 | 1.29 | 1.24 |
| 26 | 1H | 1988 | C | N3-C4 | -5.93 | 1.29 | 1.33 |
| 26 | 1H | 2072 | G | C6-N1 | -5.93 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 1 | 1G | 314 | C | N1-C6 | -5.93 | 1.33 | 1.37 |
| 26 | 14 | 1641 | A | C5-C4 | -5.93 | 1.34 | 1.38 |
| 26 | 1H | 1616 | A | N1-C2 | 5.93 | 1.39 | 1.34 |
| 26 | 14 | 751 | A | N9-C8 | -5.93 | 1.33 | 1.37 |
| 26 | 14 | 772 | C | N1-C6 | -5.93 | 1.33 | 1.37 |
| 26 | 14 | 1903 | G | C5-C4 | -5.93 | 1.34 | 1.38 |
| 1 | 13 | 1483 | A | N9-C4 | -5.92 | 1.34 | 1.37 |
| 26 | 14 | 769 | G | C6-N1 | -5.92 | 1.35 | 1.39 |
| 26 | 14 | 752 | A | C5-C4 | -5.92 | 1.34 | 1.38 |
| 26 | 14 | 1525 | G | N7-C5 | -5.92 | 1.35 | 1.39 |
| 26 | 14 | 562 | U | N3-C4 | -5.92 | 1.33 | 1.38 |
| 26 | 14 | 689 | A | C5-C4 | -5.92 | 1.34 | 1.38 |
| 26 | 14 | 1628 | G | N1-C2 | -5.92 | 1.33 | 1.37 |
| 26 | 1H | 212 | G | C5-C4 | -5.92 | 1.34 | 1.38 |
| 26 | 1H | 863 | A | N9-C4 | 5.92 | 1.41 | 1.37 |
| 26 | 1H | 2330 | G | C2-N3 | 5.92 | 1.37 | 1.32 |
| 26 | 1H | 2387 | U | C4-C5 | 5.92 | 1.48 | 1.43 |
| 1 | 1G | 1483 | A | C5-C4 | -5.92 | 1.34 | 1.38 |
| 26 | 1H | 94 | G | C6-O6 | 5.91 | 1.29 | 1.24 |
| 26 | 1H | 593 | G | N9-C4 | -5.91 | 1.33 | 1.38 |
| 26 | 14 | 745 | G | N9-C8 | -5.91 | 1.33 | 1.37 |
| 1 | 13 | 1493 | A | N3-C4 | -5.91 | 1.31 | 1.34 |
| 27 | 16 | 66 | A | N9-C4 | 5.91 | 1.41 | 1.37 |
| 26 | 14 | 1001 | A | N9-C4 | -5.91 | 1.34 | 1.37 |
| 26 | 1H | 1897 | G | N7-C5 | -5.91 | 1.35 | 1.39 |
| 26 | 1H | 2079 | U | C4-O4 | -5.91 | 1.19 | 1.23 |
| 26 | 1H | 762 | U | C2-O2 | 5.91 | 1.27 | 1.22 |
| 1 | 1G | 1408 | A | N3-C4 | -5.91 | 1.31 | 1.34 |
| 26 | 1H | 1310 | G | C6-N1 | 5.91 | 1.43 | 1.39 |
| 38 | 88 | 55 | VAL | CB-CG2 | -5.91 | 1.40 | 1.52 |
| 26 | 14 | 120 | U | C2-N3 | -5.91 | 1.33 | 1.37 |
| 1 | 13 | 769 | G | C8-N7 | -5.90 | 1.27 | 1.30 |
| 26 | 1H | 190 | A | N9-C4 | -5.90 | 1.34 | 1.37 |
| 26 | 1H | 1210 | A | N7-C5 | -5.90 | 1.35 | 1.39 |
| 26 | 1H | 1765 | C | C2-N3 | -5.90 | 1.31 | 1.35 |
| 26 | 14 | 1397 | U | C2-N3 | -5.90 | 1.33 | 1.37 |
| 15 | 6A | 62 | GLN | CD-OE1 | -5.90 | 1.10 | 1.24 |
| 26 | 1H | 682 | G | N1-C2 | -5.90 | 1.33 | 1.37 |
| 1 | 1G | 1503 | A | N9-C4 | 5.90 | 1.41 | 1.37 |
| 26 | 1H | 779 | U | C4-O4 | -5.90 | 1.19 | 1.23 |
| 26 | 1H | 1109 | C | O3'-P | 5.90 | 1.68 | 1.61 |
| 26 | 1H | 1346 | G | C6-N1 | -5.90 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 1H | 2713 | A | N1-C2 | 5.90 | 1.39 | 1.34 |
| 26 | 14 | 2490 | G | N1-C2 | 5.90 | 1.42 | 1.37 |
| 26 | 1H | 1271 | G | C8-N7 | -5.90 | 1.27 | 1.30 |
| 26 | 1H | 1619 | G | N1-C2 | -5.90 | 1.33 | 1.37 |
| 26 | 1H | 548 | A | N3-C4 | 5.89 | 1.38 | 1.34 |
| 26 | 1H | 1128 | A | C5-C6 | -5.89 | 1.35 | 1.41 |
| 26 | 14 | 1358 | G | C6-N1 | -5.89 | 1.35 | 1.39 |
| 26 | 14 | 1020 | A | N9-C4 | -5.89 | 1.34 | 1.37 |
| 23 | 2K | 9 | G | N1-C2 | 5.89 | 1.42 | 1.37 |
| 26 | 1H | 247 | G | N1-C2 | -5.89 | 1.33 | 1.37 |
| 26 | 14 | 1762 | A | C6-N1 | 5.89 | 1.39 | 1.35 |
| 26 | 1H | 208 | C | N1-C6 | -5.88 | 1.33 | 1.37 |
| 1 | 13 | 120 | A | C6-N1 | 5.88 | 1.39 | 1.35 |
| 1 | 13 | 894 | G | N9-C8 | -5.88 | 1.33 | 1.37 |
| 26 | 1H | 1435 | G | C6-N1 | -5.88 | 1.35 | 1.39 |
| 26 | 14 | 1216 | G | N9-C4 | 5.88 | 1.42 | 1.38 |
| 26 | 14 | 1899 | G | C6-N1 | -5.88 | 1.35 | 1.39 |
| 26 | 14 | 2267 | A | C5-C4 | -5.88 | 1.34 | 1.38 |
| 26 | 1H | 637 | A | C6-N6 | 5.87 | 1.38 | 1.33 |
| 26 | 1H | 952 | G | C5-C4 | -5.87 | 1.34 | 1.38 |
| 26 | 1H | 1892 | C | N1-C6 | -5.87 | 1.33 | 1.37 |
| 26 | 14 | 186 | G | N7-C5 | 5.87 | 1.42 | 1.39 |
| 26 | 1H | 990 | A | C6-N1 | -5.87 | 1.31 | 1.35 |
| 26 | 1H | 1303 | G | C6-N1 | -5.87 | 1.35 | 1.39 |
| 26 | 1H | 2246 | G | C5-C4 | -5.87 | 1.34 | 1.38 |
| 22 | 1K | 64 | G | N3-C4 | 5.87 | 1.39 | 1.35 |
| 26 | 1H | 508 | G | C2-N2 | 5.87 | 1.40 | 1.34 |
| 26 | 1H | 1333 | C | C4-C5 | -5.87 | 1.38 | 1.43 |
| 26 | 14 | 2006 | C | C2-O2 | 5.87 | 1.29 | 1.24 |
| 26 | 1H | 212 | G | C6-N1 | -5.86 | 1.35 | 1.39 |
| 26 | 1H | 258 | G | N9-C8 | -5.86 | 1.33 | 1.37 |
| 26 | 14 | 2076 | U | N1-C2 | -5.86 | 1.33 | 1.38 |
| 1 | 13 | 884 | U | C2-O2 | 5.86 | 1.27 | 1.22 |
| 26 | 1H | 109 | G | C6-N1 | -5.86 | 1.35 | 1.39 |
| 26 | 1H | 2768 | C | N1-C6 | -5.86 | 1.33 | 1.37 |
| 26 | 1H | 2465 | C | N1-C6 | -5.86 | 1.33 | 1.37 |
| 26 | 1H | 2600 | A | N3-C4 | -5.86 | 1.31 | 1.34 |
| 26 | 1H | 678 | C | C4-N4 | -5.86 | 1.28 | 1.33 |
| 26 | 1H | 2025 | C | N1-C6 | -5.86 | 1.33 | 1.37 |
| 26 | 1H | 2082 | A | C5-C4 | -5.86 | 1.34 | 1.38 |
| 26 | 1H | 2252 | G | C5-C4 | -5.86 | 1.34 | 1.38 |
| 26 | 14 | 1966 | A | N7-C5 | -5.86 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 14 | 2287 | A | N3-C4 | -5.86 | 1.31 | 1.34 |
| 26 | 1H | 2588 | G | N7-C5 | -5.85 | 1.35 | 1.39 |
| 26 | 14 | 564 | C | N1-C6 | -5.85 | 1.33 | 1.37 |
| 26 | 14 | 21 | A | N9-C4 | -5.85 | 1.34 | 1.37 |
| 26 | 14 | 2602 | A | N7-C5 | 5.85 | 1.42 | 1.39 |
| 26 | 1H | 196 | A | N3-C4 | 5.85 | 1.38 | 1.34 |
| 26 | 1H | 777 | A | N7-C5 | -5.85 | 1.35 | 1.39 |
| 26 | 14 | 1330 | C | N1-C6 | -5.85 | 1.33 | 1.37 |
| 26 | 1H | 1676 | A | N9-C4 | -5.84 | 1.34 | 1.37 |
| 26 | 1H | 1789 | A | C5-C4 | -5.84 | 1.34 | 1.38 |
| 26 | 1H | 2530 | A | C5-C6 | -5.84 | 1.35 | 1.41 |
| 26 | 14 | 122 | G | N9-C4 | -5.84 | 1.33 | 1.38 |
| 26 | 1H | 212 | G | N9-C8 | -5.84 | 1.33 | 1.37 |
| 26 | 1H | 1767 | C | N1-C6 | -5.84 | 1.33 | 1.37 |
| 26 | 1H | 2469 | A | N7-C5 | -5.84 | 1.35 | 1.39 |
| 26 | 14 | 929 | G | C6-N1 | 5.84 | 1.43 | 1.39 |
| 41 | B8 | 49 | VAL | CB-CG1 | -5.84 | 1.40 | 1.52 |
| 26 | 1H | 1378 | A | N9-C4 | -5.84 | 1.34 | 1.37 |
| 26 | 1H | 2376 | A | N9-C4 | -5.84 | 1.34 | 1.37 |
| 26 | 14 | 810 | U | N3-C4 | 5.84 | 1.43 | 1.38 |
| 26 | 14 | 2623 | G | C5-C4 | -5.84 | 1.34 | 1.38 |
| 1 | 13 | 427 | U | N1-C2 | 5.83 | 1.43 | 1.38 |
| 26 | 14 | 320 | A | N3-C4 | -5.83 | 1.31 | 1.34 |
| 1 | 13 | 1491 | G | N9-C4 | -5.83 | 1.33 | 1.38 |
| 26 | 1H | 199 | A | N9-C4 | 5.83 | 1.41 | 1.37 |
| 26 | 1H | 1785 | A | N7-C5 | -5.83 | 1.35 | 1.39 |
| 26 | 1H | 841 | A | N9-C4 | -5.83 | 1.34 | 1.37 |
| 26 | 14 | 1309 | G | N3-C4 | -5.83 | 1.31 | 1.35 |
| 26 | 1H | 1823 | G | N9-C8 | -5.83 | 1.33 | 1.37 |
| 26 | 1H | 575 | A | N7-C5 | 5.83 | 1.42 | 1.39 |
| 1 | 1G | 327 | A | N9-C8 | -5.83 | 1.33 | 1.37 |
| 26 | 14 | 819 | A | N9-C4 | 5.83 | 1.41 | 1.37 |
| 26 | 14 | 2447 | G | N7-C5 | -5.83 | 1.35 | 1.39 |
| 1 | 13 | 1401 | G | C2-N3 | -5.82 | 1.28 | 1.32 |
| 26 | 1H | 964 | C | N1-C6 | -5.82 | 1.33 | 1.37 |
| 57 | 3L | 42 | A | N3-C4 | 5.82 | 1.38 | 1.34 |
| 26 | 14 | 1819 | A | N9-C8 | -5.82 | 1.33 | 1.37 |
| 26 | 1H | 2280 | G | C5-C4 | -5.82 | 1.34 | 1.38 |
| 26 | 1H | 701 | G | N3-C4 | -5.82 | 1.31 | 1.35 |
| 26 | 14 | 2782 | G | N3-C4 | -5.82 | 1.31 | 1.35 |
| 26 | 14 | 691 | C | N1-C6 | -5.82 | 1.33 | 1.37 |
| 26 | 14 | 187 | G | N9-C4 | -5.82 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 14 | 57 | C | N1-C2 | -5.82 | 1.34 | 1.40 |
| 1 | 1G | 715 | A | N9-C4 | -5.81 | 1.34 | 1.37 |
| 23 | 2K | 24 | C | N1-C6 | -5.81 | 1.33 | 1.37 |
| 26 | 14 | 2326 | C | N3-C4 | -5.81 | 1.29 | 1.33 |
| 26 | 1H | 869 | G | C6-N1 | -5.81 | 1.35 | 1.39 |
| 26 | 14 | 1608 | A | C5-C4 | -5.81 | 1.34 | 1.38 |
| 1 | 13 | 1233 | G | C6-N1 | -5.81 | 1.35 | 1.39 |
| 26 | 1H | 133 | C | N1-C6 | -5.81 | 1.33 | 1.37 |
| 26 | 1H | 450 | G | N9-C8 | -5.81 | 1.33 | 1.37 |
| 26 | 1H | 1569 | A | N9-C4 | -5.81 | 1.34 | 1.37 |
| 26 | 1H | 1570 | A | N9-C4 | -5.81 | 1.34 | 1.37 |
| 26 | 14 | 1844 | C | C4-C5 | -5.81 | 1.38 | 1.43 |
| 1 | 13 | 1517 | G | N9-C4 | -5.80 | 1.33 | 1.38 |
| 23 | 2K | 77 | A | C5-C6 | -5.80 | 1.35 | 1.41 |
| 26 | 1H | 1628 | G | C5-C4 | -5.80 | 1.34 | 1.38 |
| 48 | I8 | 51 | VAL | CB-CG1 | -5.80 | 1.40 | 1.52 |
| 26 | 1H | 1489 | U | C2-N3 | -5.80 | 1.33 | 1.37 |
| 26 | 1H | 2847 | U | N1-C2 | -5.80 | 1.33 | 1.38 |
| 1 | 1G | 117 | G | N1-C2 | 5.80 | 1.42 | 1.37 |
| 26 | 14 | 2088 | G | N3-C4 | -5.80 | 1.31 | 1.35 |
| 26 | 14 | 1986 | A | N3-C4 | -5.80 | 1.31 | 1.34 |
| 27 | 16 | 24 | G | N9-C4 | 5.80 | 1.42 | 1.38 |
| 26 | 14 | 2495 | G | N3-C4 | -5.79 | 1.31 | 1.35 |
| 26 | 14 | 1637 | A | C6-N1 | -5.79 | 1.31 | 1.35 |
| 26 | 1H | 1602 | U | C2-O2 | -5.79 | 1.17 | 1.22 |
| 26 | 1H | 2224 | G | N9-C4 | -5.79 | 1.33 | 1.38 |
| 42 | C8 | 69 | CYS | CB-SG | -5.79 | 1.72 | 1.81 |
| 26 | 14 | 2326 | C | N1-C2 | -5.79 | 1.34 | 1.40 |
| 1 | 13 | 766 | A | N9-C4 | -5.79 | 1.34 | 1.37 |
| 17 | 8I | 101 | ARG | CZ-NH2 | -5.79 | 1.25 | 1.33 |
| 26 | 1H | 1623 | G | C5-C6 | 5.79 | 1.48 | 1.42 |
| 26 | 1H | 2234 | G | N9-C4 | -5.79 | 1.33 | 1.38 |
| 46 | G8 | 79 | CYS | CB-SG | 5.79 | 1.92 | 1.82 |
| 26 | 1H | 189 | G | C6-N1 | 5.79 | 1.43 | 1.39 |
| 26 | 1H | 1675 | C | N1-C6 | -5.79 | 1.33 | 1.37 |
| 26 | 1H | 2519 | U | N1-C2 | -5.79 | 1.33 | 1.38 |
| 26 | 14 | 1138 | G | C5-C6 | -5.79 | 1.36 | 1.42 |
| 26 | 1H | 745 | G | N7-C5 | -5.79 | 1.35 | 1.39 |
| 26 | 1H | 88 | G | N7-C5 | -5.79 | 1.35 | 1.39 |
| 26 | 14 | 2464 | C | C2-O2 | 5.79 | 1.29 | 1.24 |
| 26 | 1H | 526 | A | N3-C4 | -5.78 | 1.31 | 1.34 |
| 26 | 14 | 324 | A | N3-C4 | -5.78 | 1.31 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 1H | 1189 | A | N9-C4 | -5.78 | 1.34 | 1.37 |
| 26 | 1H | 1906 | G | C6-N1 | -5.78 | 1.35 | 1.39 |
| 26 | 1H | 2429 | G | C6-O6 | 5.78 | 1.29 | 1.24 |
| 26 | 14 | 211 | A | N9-C4 | -5.78 | 1.34 | 1.37 |
| 26 | 14 | 861 | A | N9-C4 | 5.78 | 1.41 | 1.37 |
| 26 | 14 | 1807 | G | C5-C4 | -5.78 | 1.34 | 1.38 |
| 26 | 1H | 1568 | G | N7-C5 | 5.78 | 1.42 | 1.39 |
| 22 | 1K | 76 | A | N9-C8 | 5.78 | 1.42 | 1.37 |
| 26 | 1H | 414 | C | N1-C6 | -5.78 | 1.33 | 1.37 |
| 26 | 1H | 138 | G | N3-C4 | 5.77 | 1.39 | 1.35 |
| 26 | 1H | 17 | G | N1-C2 | -5.77 | 1.33 | 1.37 |
| 26 | 1H | 1343 | G | C8-N7 | -5.77 | 1.27 | 1.30 |
| 26 | 1H | 1899 | G | N3-C4 | -5.77 | 1.31 | 1.35 |
| 9 | 82 | 83 | ARG | CZ-NH2 | -5.77 | 1.25 | 1.33 |
| 26 | 14 | 2021 | C | C4-C5 | -5.77 | 1.38 | 1.43 |
| 26 | 14 | 2058 | A | N3-C4 | -5.77 | 1.31 | 1.34 |
| 26 | 14 | 2303 | G | C5-C4 | 5.77 | 1.42 | 1.38 |
| 1 | 13 | 1128 | C | N1-C2 | 5.77 | 1.46 | 1.40 |
| 26 | 1H | 1950 | G | C5-C4 | 5.77 | 1.42 | 1.38 |
| 26 | 1H | 2456 | C | N1-C6 | -5.76 | 1.33 | 1.37 |
| 26 | 14 | 223 | A | N7-C5 | -5.76 | 1.35 | 1.39 |
| 26 | 1H | 332 | A | N3-C4 | -5.76 | 1.31 | 1.34 |
| 26 | 1H | 1046 | A | N9-C4 | 5.76 | 1.41 | 1.37 |
| 26 | 1H | 1262 | A | N9-C4 | -5.76 | 1.34 | 1.37 |
| 26 | 1H | 2031 | A | N9-C4 | 5.76 | 1.41 | 1.37 |
| 26 | 14 | 2082 | A | C5-C4 | -5.76 | 1.34 | 1.38 |
| 1 | 13 | 1482 | G | C6-N1 | 5.75 | 1.43 | 1.39 |
| 26 | 1H | 467 | G | C8-N7 | -5.75 | 1.27 | 1.30 |
| 49 | J8 | 25 | LYS | CD-CE | 5.75 | 1.65 | 1.51 |
| 26 | 14 | 1275 | A | N9-C4 | -5.75 | 1.34 | 1.37 |
| 26 | 14 | 2268 | A | N7-C5 | -5.75 | 1.35 | 1.39 |
| 26 | 14 | 2490 | G | N3-C4 | 5.75 | 1.39 | 1.35 |
| 26 | 14 | 2681 | C | N3-C4 | -5.75 | 1.29 | 1.33 |
| 1 | 1G | 1464 | G | C6-O6 | 5.75 | 1.29 | 1.24 |
| 26 | 14 | 794 | G | N9-C8 | -5.75 | 1.33 | 1.37 |
| 26 | 1H | 2252 | G | N9-C4 | -5.75 | 1.33 | 1.38 |
| 49 | J8 | 4 | VAL | CB-CG2 | -5.75 | 1.40 | 1.52 |
| 26 | 14 | 691 | C | C2-O2 | -5.75 | 1.19 | 1.24 |
| 26 | 1H | 1434 | A | N9-C4 | -5.75 | 1.34 | 1.37 |
| 26 | 1H | 20 | C | N1-C6 | -5.75 | 1.33 | 1.37 |
| 29 | 19 | 205 | VAL | CB-CG1 | -5.75 | 1.40 | 1.52 |
| 26 | 1H | 1899 | G | N7-C5 | -5.74 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 1 | 1G | 22 | G | N7-C5 | 5.74 | 1.42 | 1.39 |
| 26 | 1H | 119 | A | C6-N1 | -5.74 | 1.31 | 1.35 |
| 26 | 1H | 946 | G | N3-C4 | -5.74 | 1.31 | 1.35 |
| 49 | J8 | 93 | GLU | CB-CG | 5.74 | 1.63 | 1.52 |
| 26 | 14 | 559 | G | C6-O6 | 5.74 | 1.29 | 1.24 |
| 26 | 1H | 751 | A | N3-C4 | -5.74 | 1.31 | 1.34 |
| 26 | 1H | 2269 | A | N9-C4 | -5.74 | 1.34 | 1.37 |
| 26 | 1H | 2393 | A | N9-C8 | -5.74 | 1.33 | 1.37 |
| 26 | 1H | 2494 | G | N3-C4 | -5.74 | 1.31 | 1.35 |
| 26 | 1H | 194 | G | C5-C4 | -5.74 | 1.34 | 1.38 |
| 26 | 1H | 1219 | G | C6-N1 | -5.74 | 1.35 | 1.39 |
| 26 | 1H | 1566 | A | C8-N7 | 5.74 | 1.35 | 1.31 |
| 26 | 14 | 1354 | A | C5-C4 | -5.73 | 1.34 | 1.38 |
| 1 | 13 | 712 | A | C6-N1 | -5.73 | 1.31 | 1.35 |
| 26 | 14 | 2020 | A | N3-C4 | -5.73 | 1.31 | 1.34 |
| 26 | 1H | 1130 | U | N1-C6 | -5.73 | 1.32 | 1.38 |
| 26 | 1H | 1823 | G | N7-C5 | -5.73 | 1.35 | 1.39 |
| 26 | 1H | 2373 | G | N9-C4 | -5.73 | 1.33 | 1.38 |
| 26 | 1H | 150 | C | N3-C4 | -5.73 | 1.29 | 1.33 |
| 26 | 1H | 2578 | G | C8-N7 | -5.73 | 1.27 | 1.30 |
| 1 | 1G | 1428 | A | N3-C4 | -5.73 | 1.31 | 1.34 |
| 26 | 14 | 2587 | A | N9-C8 | -5.73 | 1.33 | 1.37 |
| 26 | 1H | 768 | G | C6-N1 | -5.73 | 1.35 | 1.39 |
| 45 | F8 | 12 | VAL | CB-CG2 | -5.73 | 1.40 | 1.52 |
| 26 | 1H | 259 | G | C6-O6 | 5.72 | 1.29 | 1.24 |
| 26 | 1H | 1427 | A | N3-C4 | -5.72 | 1.31 | 1.34 |
| 57 | 3L | 76 | A | C5-C4 | 5.72 | 1.42 | 1.38 |
| 26 | 1H | 669 | G | N1-C2 | -5.72 | 1.33 | 1.37 |
| 26 | 14 | 1637 | A | N3-C4 | -5.72 | 1.31 | 1.34 |
| 26 | 14 | 1853 | A | N3-C4 | -5.72 | 1.31 | 1.34 |
| 26 | 14 | 2822 | G | N9-C4 | -5.72 | 1.33 | 1.38 |
| 26 | 1H | 781 | A | C5-C4 | -5.72 | 1.34 | 1.38 |
| 26 | 1H | 2438 | U | N1-C6 | -5.72 | 1.32 | 1.38 |
| 26 | 1H | 2713 | A | N9-C8 | 5.72 | 1.42 | 1.37 |
| 26 | 14 | 2845 | G | N9-C4 | -5.72 | 1.33 | 1.38 |
| 27 | 16 | 21 | G | C6-N1 | 5.72 | 1.43 | 1.39 |
| 27 | 16 | 50 | G | N7-C5 | -5.72 | 1.35 | 1.39 |
| 26 | 14 | 1441 | G | C5-C4 | -5.72 | 1.34 | 1.38 |
| 26 | 1H | 1369 | G | C6-O6 | 5.71 | 1.29 | 1.24 |
| 26 | 14 | 2518 | A | N7-C5 | -5.71 | 1.35 | 1.39 |
| 26 | 1H | 452 | G | N1-C2 | -5.71 | 1.33 | 1.37 |
| 26 | 1H | 1210 | A | C5-C6 | -5.71 | 1.35 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 1H | 2380 | C | C4-C5 | 5.71 | 1.47 | 1.43 |
| 26 | 1H | 1993 | U | C2-O2 | -5.71 | 1.17 | 1.22 |
| 1 | 1G | 1502 | A | N9-C4 | -5.71 | 1.34 | 1.37 |
| 26 | 1H | 110 | G | N9-C8 | -5.71 | 1.33 | 1.37 |
| 26 | 1H | 261 | G | N9-C8 | -5.71 | 1.33 | 1.37 |
| 26 | 1H | 1128 | A | N7-C5 | -5.71 | 1.35 | 1.39 |
| 26 | 1H | 1905 | C | N1-C2 | -5.71 | 1.34 | 1.40 |
| 26 | 1H | 2727 | G | N7-C5 | -5.71 | 1.35 | 1.39 |
| 26 | 14 | 36 | G | C6-N1 | -5.71 | 1.35 | 1.39 |
| 26 | 1H | 2070 | G | N7-C5 | -5.71 | 1.35 | 1.39 |
| 26 | 1H | 2230 | G | N3-C4 | -5.71 | 1.31 | 1.35 |
| 26 | 1H | 2500 | U | C4-O4 | -5.71 | 1.19 | 1.23 |
| 26 | 1H | 2695 | C | N1-C6 | -5.71 | 1.33 | 1.37 |
| 26 | 14 | 16 | G | N3-C4 | -5.71 | 1.31 | 1.35 |
| 26 | 14 | 567 | A | N9-C4 | -5.71 | 1.34 | 1.37 |
| 26 | 14 | 1658 | C | N1-C6 | -5.70 | 1.33 | 1.37 |
| 26 | 1H | 297 | C | N3-C4 | -5.70 | 1.29 | 1.33 |
| 26 | 1H | 1786 | A | N3-C4 | -5.70 | 1.31 | 1.34 |
| 1 | 13 | 778 | G | C6-O6 | 5.70 | 1.29 | 1.24 |
| 1 | 1G | 87 | A | N9-C4 | 5.70 | 1.41 | 1.37 |
| 26 | 14 | 783 | A | C5-C4 | 5.70 | 1.42 | 1.38 |
| 26 | 1H | 390 | A | C5-C6 | -5.70 | 1.35 | 1.41 |
| 26 | 1H | 1375 | C | C4-C5 | -5.70 | 1.38 | 1.43 |
| 26 | 1H | 2230 | G | N9-C4 | -5.70 | 1.33 | 1.38 |
| 26 | 1H | 2318 | G | N9-C8 | 5.69 | 1.41 | 1.37 |
| 23 | 2K | 58 | A | N3-C4 | -5.69 | 1.31 | 1.34 |
| 26 | 1H | 1840 | G | N9-C4 | -5.69 | 1.33 | 1.38 |
| 26 | 1H | 1892 | C | N1-C2 | -5.69 | 1.34 | 1.40 |
| 26 | 1H | 2576 | G | C8-N7 | -5.69 | 1.27 | 1.30 |
| 26 | 14 | 44 | A | C6-N6 | 5.69 | 1.38 | 1.33 |
| 26 | 1H | 848 | G | N3-C4 | -5.69 | 1.31 | 1.35 |
| 26 | 1H | 1393 | A | N9-C4 | -5.69 | 1.34 | 1.37 |
| 26 | 1H | 737 | C | O3'-P | -5.69 | 1.54 | 1.61 |
| 1 | 13 | 1199 | U | C2-N3 | -5.68 | 1.33 | 1.37 |
| 1 | 13 | 1434 | A | N3-C4 | -5.68 | 1.31 | 1.34 |
| 26 | 1H | 2280 | G | N3-C4 | -5.68 | 1.31 | 1.35 |
| 26 | 1H | 678 | C | C4'-C3' | -5.68 | 1.46 | 1.52 |
| 1 | 13 | 1455 | G | N9-C4 | -5.68 | 1.33 | 1.38 |
| 26 | 1H | 1931 | U | N3-C4 | -5.68 | 1.33 | 1.38 |
| 26 | 14 | 1662 | C | N1-C6 | -5.68 | 1.33 | 1.37 |
| 26 | 14 | 32 | C | N1-C6 | -5.67 | 1.33 | 1.37 |
| 26 | 14 | 1450 | C | N1-C6 | -5.67 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 1H | 1937 | A | N7-C5 | -5.67 | 1.35 | 1.39 |
| 26 | 14 | 2488 | A | N9-C4 | -5.67 | 1.34 | 1.37 |
| 26 | 14 | 70 | G | N1-C2 | -5.67 | 1.33 | 1.37 |
| 26 | 14 | 516 | C | N1-C6 | -5.67 | 1.33 | 1.37 |
| 26 | 14 | 2280 | G | C6-O6 | 5.67 | 1.29 | 1.24 |
| 26 | 1H | 1929 | G | N1-C2 | -5.67 | 1.33 | 1.37 |
| 1 | 13 | 397 | A | N3-C4 | -5.67 | 1.31 | 1.34 |
| 26 | 1H | 309 | G | N9-C4 | 5.67 | 1.42 | 1.38 |
| 26 | 1H | 929 | G | N9-C4 | -5.67 | 1.33 | 1.38 |
| 26 | 1H | 27 | G | N7-C5 | -5.66 | 1.35 | 1.39 |
| 26 | 1H | 573 | G | C8-N7 | -5.66 | 1.27 | 1.30 |
| 1 | 1G | 108 | G | C6-N1 | 5.66 | 1.43 | 1.39 |
| 26 | 1H | 257 | A | N7-C5 | -5.66 | 1.35 | 1.39 |
| 26 | 14 | 251 | A | N3-C4 | -5.66 | 1.31 | 1.34 |
| 26 | 14 | 796 | C | C4-N4 | -5.66 | 1.28 | 1.33 |
| 1 | 13 | 1486 | G | C6-O6 | 5.66 | 1.29 | 1.24 |
| 26 | 1H | 1376 | C | N1-C6 | -5.66 | 1.33 | 1.37 |
| 26 | 14 | 68 | G | N7-C5 | -5.66 | 1.35 | 1.39 |
| 1 | 13 | 535 | A | C6-N1 | -5.66 | 1.31 | 1.35 |
| 26 | 14 | 1653 | G | N9-C4 | 5.66 | 1.42 | 1.38 |
| 55 | M5 | 49 | VAL | CA-CB | 5.65 | 1.66 | 1.54 |
| 26 | 1H | 839 | U | N1-C2 | -5.65 | 1.33 | 1.38 |
| 26 | 1H | 1599 | C | C2-N3 | -5.65 | 1.31 | 1.35 |
| 26 | 14 | 770 | G | C6-N1 | -5.65 | 1.35 | 1.39 |
| 26 | 14 | 2217 | G | C6-N1 | 5.65 | 1.43 | 1.39 |
| 26 | 1H | 669 | G | N3-C4 | -5.65 | 1.31 | 1.35 |
| 26 | 1H | 1779 | U | N1-C6 | -5.65 | 1.32 | 1.38 |
| 26 | 1H | 1827 | C | P-O5' | -5.65 | 1.54 | 1.59 |
| 26 | 14 | 2502 | G | C6-N1 | -5.65 | 1.35 | 1.39 |
| 32 | 41 | 14 | GLU | CB-CG | 5.65 | 1.62 | 1.52 |
| 1 | 1G | 576 | G | N9-C4 | 5.65 | 1.42 | 1.38 |
| 26 | 14 | 770 | G | C4'-C3' | -5.65 | 1.47 | 1.52 |
| 26 | 1H | 1941 | C | N1-C6 | -5.64 | 1.33 | 1.37 |
| 26 | 1H | 2622 | C | N3-C4 | -5.64 | 1.30 | 1.33 |
| 26 | 14 | 264 | C | N1-C6 | -5.64 | 1.33 | 1.37 |
| 26 | 1H | 2233 | U | N1-C2 | -5.64 | 1.33 | 1.38 |
| 26 | 1H | 2588 | G | N9-C8 | -5.64 | 1.33 | 1.37 |
| 26 | 14 | 2323 | G | C6-N1 | 5.64 | 1.43 | 1.39 |
| 26 | 14 | 265 | A | N9-C4 | -5.63 | 1.34 | 1.37 |
| 26 | 14 | 2600 | A | N7-C5 | -5.63 | 1.35 | 1.39 |
| 1 | 13 | 1401 | G | N9-C4 | -5.63 | 1.33 | 1.38 |
| 26 | 14 | 607 | U | C2-N3 | -5.63 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | 13 | 1304 | G | C6-O6 | 5.63 | 1.29 | 1.24 |
| 26 | 1H | 640 | C | N3-C4 | -5.63 | 1.30 | 1.33 |
| 1 | 1G | 770 | C | N1-C6 | -5.63 | 1.33 | 1.37 |
| 26 | 14 | 2445 | G | N7-C5 | -5.63 | 1.35 | 1.39 |
| 26 | 1H | 1106 | G | N9-C4 | 5.63 | 1.42 | 1.38 |
| 26 | 1H | 1807 | G | N9-C8 | -5.63 | 1.33 | 1.37 |
| 26 | 1H | 2644 | G | N3-C4 | -5.63 | 1.31 | 1.35 |
| 26 | 1H | 586 | A | N3-C4 | 5.63 | 1.38 | 1.34 |
| 26 | 14 | 2445 | G | C2-N2 | -5.63 | 1.28 | 1.34 |
| 26 | 14 | 2506 | U | N3-C4 | 5.62 | 1.43 | 1.38 |
| 26 | 1H | 1810 | A | N9-C4 | -5.62 | 1.34 | 1.37 |
| 1 | 1G | 263 | A | N9-C4 | -5.62 | 1.34 | 1.37 |
| 26 | 1H | 1110 | G | C4'-C3' | 5.62 | 1.59 | 1.53 |
| 1 | 1G | 823 | G | N9-C4 | -5.62 | 1.33 | 1.38 |
| 7 | 62 | 91 | VAL | C-N | 5.62 | 1.47 | 1.34 |
| 26 | 1H | 330 | A | C5-C4 | 5.62 | 1.42 | 1.38 |
| 26 | 1H | 1210 | A | C5-C4 | 5.62 | 1.42 | 1.38 |
| 26 | 14 | 773 | U | N3-C4 | -5.62 | 1.33 | 1.38 |
| 1 | 13 | 1473 | A | N3-C4 | -5.62 | 1.31 | 1.34 |
| 26 | 1H | 2599 | G | C2-N2 | -5.62 | 1.28 | 1.34 |
| 26 | 14 | 1578 | U | N3-C4 | -5.62 | 1.33 | 1.38 |
| 26 | 14 | 2422 | A | N3-C4 | 5.62 | 1.38 | 1.34 |
| 26 | 1H | 372 | G | N3-C4 | -5.61 | 1.31 | 1.35 |
| 26 | 1H | 764 | A | C6-N1 | -5.61 | 1.31 | 1.35 |
| 26 | 1H | 2604 | U | N1-C2 | -5.61 | 1.33 | 1.38 |
| 26 | 14 | 56 | A | C6-N1 | -5.61 | 1.31 | 1.35 |
| 26 | 1H | 909 | A | C5-C4 | -5.61 | 1.34 | 1.38 |
| 1 | 1G | 621 | A | N9-C4 | -5.61 | 1.34 | 1.37 |
| 25 | 4L | 14 | A | N9-C4 | 5.61 | 1.41 | 1.37 |
| 27 | 1J | 52 | A | N7-C5 | 5.61 | 1.42 | 1.39 |
| 26 | 1H | 2068 | U | N3-C4 | -5.61 | 1.33 | 1.38 |
| 26 | 1H | 2331 | G | C5-C6 | -5.61 | 1.36 | 1.42 |
| 26 | 1H | 795 | C | N3-C4 | -5.60 | 1.30 | 1.33 |
| 26 | 1H | 191 | A | N9-C4 | 5.60 | 1.41 | 1.37 |
| 26 | 1H | 325 | G | C6-N1 | -5.60 | 1.35 | 1.39 |
| 26 | 1H | 1332 | G | N3-C4 | -5.60 | 1.31 | 1.35 |
| 26 | 1H | 1826 | G | N9-C4 | 5.60 | 1.42 | 1.38 |
| 43 | 95 | 81 | TYR | CG-CD2 | -5.60 | 1.31 | 1.39 |
| 26 | 1H | 782 | A | N3-C4 | -5.60 | 1.31 | 1.34 |
| 26 | 14 | 1925 | C | N3-C4 | -5.60 | 1.30 | 1.33 |
| 26 | 1H | 441 | U | C2-N3 | -5.60 | 1.33 | 1.37 |
| 26 | 1H | 871 | U | N3-C4 | 5.60 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|--------|------|-------|-------|-------------|----------|
| 26 | 1H | 1348 | G | C8-N7 | -5.60 | 1.27 | 1.30 |
| 26 | 1H | 2429 | G | N9-C8 | -5.60 | 1.33 | 1.37 |
| 26 | 14 | 1758 | G | N3-C4 | -5.60 | 1.31 | 1.35 |
| 26 | 14 | 2029 | G | C6-N1 | -5.60 | 1.35 | 1.39 |
| 26 | 14 | 2033 | A | N9-C4 | -5.60 | 1.34 | 1.37 |
| 17 | 8I | 24 | GLU | CG-CD | 5.60 | 1.60 | 1.51 |
| 26 | 14 | 941 | A | N7-C5 | -5.59 | 1.35 | 1.39 |
| 26 | 14 | 1645 | G | C6-N1 | -5.59 | 1.35 | 1.39 |
| 41 | 75 | 8 | LYS | CB-CG | -5.59 | 1.37 | 1.52 |
| 26 | 1H | 805 | G | N7-C5 | -5.59 | 1.35 | 1.39 |
| 26 | 1H | 1204 | A | N7-C5 | -5.59 | 1.35 | 1.39 |
| 26 | 1H | 1884 | A | N9-C4 | -5.59 | 1.34 | 1.37 |
| 26 | 1H | 2267 | A | N7-C5 | -5.59 | 1.35 | 1.39 |
| 26 | 14 | 2320 | A | N3-C4 | 5.59 | 1.38 | 1.34 |
| 26 | 14 | 575 | A | N7-C5 | 5.59 | 1.42 | 1.39 |
| 26 | 14 | 584 | C | N1-C6 | -5.59 | 1.33 | 1.37 |
| 26 | 1H | 566 | U | C2-O2 | 5.59 | 1.27 | 1.22 |
| 26 | 1H | 2762 | G | C6-N1 | -5.59 | 1.35 | 1.39 |
| 26 | 1H | 52 | A | N9-C4 | 5.59 | 1.41 | 1.37 |
| 26 | 1H | 1291 | C | C4-N4 | -5.59 | 1.28 | 1.33 |
| 26 | 1H | 1838 | C | C4-N4 | -5.59 | 1.28 | 1.33 |
| 26 | 1H | 1987 | G | C2-N3 | -5.59 | 1.28 | 1.32 |
| 26 | 14 | 1342 | A | N3-C4 | -5.59 | 1.31 | 1.34 |
| 26 | 14 | 2772 | C | N3-C4 | -5.59 | 1.30 | 1.33 |
| 26 | 1H | 1793 | C | N1-C6 | -5.58 | 1.33 | 1.37 |
| 26 | 1H | 2038 | G | C5-C4 | -5.58 | 1.34 | 1.38 |
| 26 | 1H | 2041 | U | N1-C6 | -5.58 | 1.32 | 1.38 |
| 1 | 13 | 132 | C | N1-C6 | -5.58 | 1.33 | 1.37 |
| 26 | 1H | 771 | G | C2-N3 | -5.58 | 1.28 | 1.32 |
| 26 | 14 | 2873 | A | N7-C5 | -5.58 | 1.35 | 1.39 |
| 46 | C5 | 84 | ARG | CD-NE | -5.58 | 1.36 | 1.46 |
| 26 | 14 | 946 | G | N9-C4 | -5.58 | 1.33 | 1.38 |
| 26 | 14 | 974(A) | C | N1-C6 | 5.58 | 1.40 | 1.37 |
| 26 | 14 | 2087 | G | C6-N1 | -5.58 | 1.35 | 1.39 |
| 26 | 1H | 567 | A | N9-C4 | -5.58 | 1.34 | 1.37 |
| 26 | 14 | 2637 | U | C2-N3 | 5.58 | 1.41 | 1.37 |
| 1 | 13 | 539 | A | N3-C4 | -5.58 | 1.31 | 1.34 |
| 26 | 1H | 470 | A | C6-N6 | -5.57 | 1.29 | 1.33 |
| 26 | 14 | 1788 | C | N3-C4 | -5.57 | 1.30 | 1.33 |
| 26 | 14 | 2019 | A | N9-C4 | -5.57 | 1.34 | 1.37 |
| 26 | 1H | 1849 | G | N3-C4 | -5.57 | 1.31 | 1.35 |
| 26 | 14 | 755 | C | N1-C2 | -5.57 | 1.34 | 1.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 1H | 1031 | G | C6-N1 | -5.57 | 1.35 | 1.39 |
| 26 | 1H | 1419 | A | N3-C4 | -5.57 | 1.31 | 1.34 |
| 26 | 1H | 2503 | A | C5-C4 | -5.57 | 1.34 | 1.38 |
| 26 | 1H | 1614 | A | N7-C5 | -5.57 | 1.35 | 1.39 |
| 22 | 1K | 35 | U | N1-C2 | 5.57 | 1.43 | 1.38 |
| 26 | 1H | 774 | A | C5-C6 | -5.57 | 1.36 | 1.41 |
| 26 | 14 | 2238 | G | N7-C5 | 5.57 | 1.42 | 1.39 |
| 26 | 1H | 2267 | A | C5-C4 | -5.56 | 1.34 | 1.38 |
| 26 | 1H | 478 | A | N9-C8 | -5.56 | 1.33 | 1.37 |
| 26 | 1H | 1244 | G | N3-C4 | -5.56 | 1.31 | 1.35 |
| 26 | 1H | 2675 | A | N7-C5 | -5.56 | 1.35 | 1.39 |
| 44 | E8 | 76 | VAL | CB-CG1 | -5.56 | 1.41 | 1.52 |
| 26 | 1H | 1313 | U | C2-N3 | 5.56 | 1.41 | 1.37 |
| 26 | 1H | 1379 | A | C5-C4 | 5.56 | 1.42 | 1.38 |
| 26 | 1H | 476 | G | C2-N3 | -5.56 | 1.28 | 1.32 |
| 26 | 14 | 1608 | A | C6-N1 | -5.56 | 1.31 | 1.35 |
| 26 | 1H | 802 | A | C6-N1 | -5.55 | 1.31 | 1.35 |
| 26 | 1H | 439 | G | N3-C4 | -5.55 | 1.31 | 1.35 |
| 26 | 14 | 773 | U | C2-N3 | -5.55 | 1.33 | 1.37 |
| 26 | 1H | 1903 | G | C6-N1 | -5.55 | 1.35 | 1.39 |
| 1 | 1G | 1474 | G | N7-C5 | -5.55 | 1.35 | 1.39 |
| 26 | 14 | 2071 | A | N7-C5 | -5.55 | 1.35 | 1.39 |
| 26 | 1H | 1914 | C | C4-C5 | 5.55 | 1.47 | 1.43 |
| 26 | 1H | 805 | G | C6-N1 | -5.55 | 1.35 | 1.39 |
| 26 | 1H | 666 | G | N9-C4 | -5.54 | 1.33 | 1.38 |
| 26 | 1H | 722 | A | N9-C4 | -5.54 | 1.34 | 1.37 |
| 26 | 1H | 871 | U | C4-O4 | 5.54 | 1.28 | 1.23 |
| 26 | 1H | 385 | C | N1-C2 | -5.54 | 1.34 | 1.40 |
| 26 | 14 | 17 | G | N7-C5 | -5.54 | 1.35 | 1.39 |
| 26 | 14 | 1772 | G | C5-C6 | -5.54 | 1.36 | 1.42 |
| 26 | 1H | 550 | G | N9-C4 | -5.54 | 1.33 | 1.38 |
| 26 | 1H | 1828 | G | N7-C5 | -5.54 | 1.35 | 1.39 |
| 1 | 13 | 918 | A | N7-C5 | -5.54 | 1.35 | 1.39 |
| 1 | 1G | 1524 | C | N1-C6 | -5.54 | 1.33 | 1.37 |
| 26 | 14 | 487 | C | N1-C6 | -5.54 | 1.33 | 1.37 |
| 26 | 14 | 1264 | G | C6-O6 | 5.54 | 1.29 | 1.24 |
| 26 | 14 | 2327 | A | N3-C4 | -5.54 | 1.31 | 1.34 |
| 26 | 1H | 138 | G | N7-C5 | 5.54 | 1.42 | 1.39 |
| 26 | 1H | 1570 | A | C5-C6 | -5.54 | 1.36 | 1.41 |
| 46 | C5 | 71 | LYS | CD-CE | -5.54 | 1.37 | 1.51 |
| 26 | 1H | 141 | A | C5-C4 | 5.53 | 1.42 | 1.38 |
| 26 | 1H | 675 | A | N7-C5 | 5.53 | 1.42 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 14 | 1603 | A | N7-C5 | -5.53 | 1.35 | 1.39 |
| 53 | J5 | 51 | TYR | CD1-CE1 | 5.53 | 1.47 | 1.39 |
| 26 | 1H | 479 | A | N3-C4 | -5.53 | 1.31 | 1.34 |
| 26 | 14 | 2251 | G | N9-C4 | -5.53 | 1.33 | 1.38 |
| 38 | 88 | 21 | THR | CB-CG2 | 5.53 | 1.70 | 1.52 |
| 1 | 13 | 977 | A | N9-C4 | 5.53 | 1.41 | 1.37 |
| 26 | 1H | 389 | G | C8-N7 | -5.53 | 1.27 | 1.30 |
| 26 | 14 | 330 | A | N9-C8 | 5.53 | 1.42 | 1.37 |
| 26 | 1H | 1937 | A | N9-C8 | -5.53 | 1.33 | 1.37 |
| 26 | 14 | 71 | A | N9-C8 | 5.53 | 1.42 | 1.37 |
| 27 | 1J | 36 | C | N1-C6 | 5.53 | 1.40 | 1.37 |
| 26 | 1H | 552 | G | N3-C4 | -5.52 | 1.31 | 1.35 |
| 26 | 1H | 2030 | A | C6-N1 | 5.52 | 1.39 | 1.35 |
| 26 | 1H | 1313 | U | N1-C2 | -5.52 | 1.33 | 1.38 |
| 26 | 1H | 347 | A | N9-C4 | -5.52 | 1.34 | 1.37 |
| 1 | 13 | 1432 | G | C6-N1 | 5.52 | 1.43 | 1.39 |
| 26 | 1H | 666 | G | N9-C8 | -5.52 | 1.33 | 1.37 |
| 26 | 1H | 1844 | C | N1-C6 | -5.52 | 1.33 | 1.37 |
| 1 | 1G | 1428 | A | N7-C5 | -5.52 | 1.35 | 1.39 |
| 26 | 14 | 1906 | G | C2-N3 | -5.52 | 1.28 | 1.32 |
| 26 | 1H | 649 | G | N3-C4 | -5.52 | 1.31 | 1.35 |
| 26 | 1H | 2581 | G | N1-C2 | -5.52 | 1.33 | 1.37 |
| 1 | 1G | 887 | G | C5-C6 | -5.52 | 1.36 | 1.42 |
| 26 | 14 | 1266 | G | N7-C5 | 5.52 | 1.42 | 1.39 |
| 26 | 1H | 1351 | C | N1-C6 | -5.51 | 1.33 | 1.37 |
| 26 | 1H | 1946 | U | N3-C4 | -5.51 | 1.33 | 1.38 |
| 26 | 14 | 1783 | A | N9-C4 | 5.51 | 1.41 | 1.37 |
| 26 | 1H | 1668 | A | N3-C4 | -5.51 | 1.31 | 1.34 |
| 57 | 3L | 3 | G | C6-N1 | 5.51 | 1.43 | 1.39 |
| 26 | 1H | 615 | G | N3-C4 | 5.51 | 1.39 | 1.35 |
| 26 | 14 | 464 | U | C4-O4 | -5.51 | 1.19 | 1.23 |
| 26 | 1H | 1219 | G | N3-C4 | -5.51 | 1.31 | 1.35 |
| 26 | 1H | 2072 | G | C8-N7 | -5.51 | 1.27 | 1.30 |
| 33 | 51 | 167 | GLU | CD-OE2 | -5.51 | 1.19 | 1.25 |
| 26 | 14 | 199 | A | N9-C4 | 5.51 | 1.41 | 1.37 |
| 26 | 1H | 2489 | G | N9-C8 | -5.51 | 1.33 | 1.37 |
| 27 | 16 | 102 | G | N7-C5 | 5.51 | 1.42 | 1.39 |
| 1 | 13 | 975 | A | N9-C4 | -5.51 | 1.34 | 1.37 |
| 25 | 4K | 14 | A | N3-C4 | 5.51 | 1.38 | 1.34 |
| 13 | 4I | 8 | GLU | CG-CD | 5.50 | 1.60 | 1.51 |
| 26 | 1H | 1987 | G | N3-C4 | -5.50 | 1.31 | 1.35 |
| 26 | 14 | 2198 | A | N9-C4 | -5.50 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 14 | 2449 | U | C2-O2 | 5.50 | 1.27 | 1.22 |
| 26 | 1H | 2322 | A | N7-C5 | 5.50 | 1.42 | 1.39 |
| 1 | 1G | 144 | G | N9-C4 | 5.50 | 1.42 | 1.38 |
| 26 | 14 | 517 | C | N3-C4 | -5.50 | 1.30 | 1.33 |
| 26 | 14 | 689 | A | N7-C5 | -5.50 | 1.35 | 1.39 |
| 26 | 14 | 2091 | U | C2-N3 | -5.50 | 1.33 | 1.37 |
| 26 | 14 | 2585 | U | N1-C2 | 5.50 | 1.43 | 1.38 |
| 26 | 14 | 1695 | G | N3-C4 | -5.50 | 1.31 | 1.35 |
| 8 | 72 | 135 | CYS | CB-SG | -5.50 | 1.72 | 1.81 |
| 11 | 2A | 99 | GLN | CD-OE1 | -5.50 | 1.11 | 1.24 |
| 26 | 1H | 214 | G | N7-C5 | -5.50 | 1.35 | 1.39 |
| 26 | 1H | 906 | G | C6-N1 | 5.50 | 1.43 | 1.39 |
| 26 | 14 | 621 | A | C5-C6 | -5.50 | 1.36 | 1.41 |
| 26 | 1H | 1613 | G | C6-N1 | -5.50 | 1.35 | 1.39 |
| 1 | 13 | 1512 | U | C2-N3 | -5.49 | 1.33 | 1.37 |
| 26 | 1H | 2640 | G | N3-C4 | -5.49 | 1.31 | 1.35 |
| 26 | 14 | 1465 | G | N9-C4 | -5.49 | 1.33 | 1.38 |
| 26 | 1H | 59 | U | C4-O4 | 5.49 | 1.28 | 1.23 |
| 26 | 1H | 1937 | A | C5-C4 | -5.49 | 1.34 | 1.38 |
| 31 | 31 | 83 | PHE | CD2-CE2 | -5.49 | 1.28 | 1.39 |
| 26 | 14 | 1773 | A | N3-C4 | -5.49 | 1.31 | 1.34 |
| 26 | 14 | 2725 | A | N3-C4 | -5.49 | 1.31 | 1.34 |
| 26 | 1H | 772 | C | C2-N3 | 5.49 | 1.40 | 1.35 |
| 34 | 69 | 85 | GLU | CD-OE2 | -5.49 | 1.19 | 1.25 |
| 1 | 13 | 830 | G | C6-O6 | 5.49 | 1.29 | 1.24 |
| 26 | 1H | 1428 | C | C4-C5 | 5.49 | 1.47 | 1.43 |
| 26 | 1H | 636 | G | C8-N7 | -5.48 | 1.27 | 1.30 |
| 26 | 1H | 1109 | C | C5'-C4' | 5.48 | 1.57 | 1.51 |
| 26 | 14 | 34 | C | N1-C2 | 5.48 | 1.45 | 1.40 |
| 26 | 14 | 2459 | A | N3-C4 | 5.48 | 1.38 | 1.34 |
| 1 | 13 | 891 | U | P-OP2 | 5.48 | 1.58 | 1.49 |
| 26 | 1H | 1616 | A | C6-N1 | 5.48 | 1.39 | 1.35 |
| 26 | 14 | 752 | A | C8-N7 | -5.48 | 1.27 | 1.31 |
| 26 | 1H | 1354 | A | C5-C6 | -5.48 | 1.36 | 1.41 |
| 26 | 1H | 591 | C | N1-C6 | -5.48 | 1.33 | 1.37 |
| 26 | 1H | 770 | G | C6-O6 | 5.48 | 1.29 | 1.24 |
| 26 | 1H | 2822 | G | C5-C6 | -5.48 | 1.36 | 1.42 |
| 26 | 1H | 1324 | G | C2-N3 | -5.48 | 1.28 | 1.32 |
| 26 | 14 | 1241 | A | N9-C4 | -5.48 | 1.34 | 1.37 |
| 26 | 1H | 298 | G | C6-N1 | 5.47 | 1.43 | 1.39 |
| 26 | 1H | 527 | C | C5-C6 | -5.47 | 1.29 | 1.34 |
| 2 | 12 | 170 | GLU | CD-OE1 | -5.47 | 1.19 | 1.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|---------|------|---------|-------|-------------|----------|
| 26 | 14 | 1970 | A | N7-C5 | -5.47 | 1.35 | 1.39 |
| 26 | 1H | 465 | G | C6-N1 | 5.47 | 1.43 | 1.39 |
| 26 | 14 | 2579 | C | N3-C4 | -5.47 | 1.30 | 1.33 |
| 26 | 1H | 788 | A | C6-N1 | 5.47 | 1.39 | 1.35 |
| 26 | 1H | 1630(A) | C | N3-C4 | -5.47 | 1.30 | 1.33 |
| 26 | 1H | 1265 | A | N7-C5 | -5.47 | 1.35 | 1.39 |
| 26 | 1H | 146 | G | N9-C4 | -5.47 | 1.33 | 1.38 |
| 26 | 1H | 2071 | A | N7-C5 | -5.47 | 1.35 | 1.39 |
| 1 | 13 | 352 | C | C4-C5 | -5.46 | 1.38 | 1.43 |
| 26 | 1H | 1335 | U | C3'-C2' | -5.46 | 1.46 | 1.52 |
| 26 | 14 | 1906 | G | N7-C5 | -5.46 | 1.35 | 1.39 |
| 26 | 1H | 621 | A | N1-C2 | 5.46 | 1.39 | 1.34 |
| 26 | 1H | 1817 | G | N9-C8 | -5.46 | 1.34 | 1.37 |
| 13 | 4I | 117 | VAL | CB-CG2 | 5.46 | 1.64 | 1.52 |
| 26 | 1H | 710 | G | N3-C4 | -5.46 | 1.31 | 1.35 |
| 26 | 1H | 842 | G | C6-N1 | 5.46 | 1.43 | 1.39 |
| 26 | 1H | 1626 | G | N3-C4 | -5.46 | 1.31 | 1.35 |
| 26 | 1H | 2375 | G | C8-N7 | 5.46 | 1.34 | 1.30 |
| 26 | 14 | 1260 | G | N7-C5 | -5.46 | 1.35 | 1.39 |
| 26 | 1H | 1677 | A | N9-C8 | -5.46 | 1.33 | 1.37 |
| 1 | 1G | 319 | G | N9-C4 | -5.46 | 1.33 | 1.38 |
| 26 | 1H | 1696 | G | N7-C5 | -5.46 | 1.35 | 1.39 |
| 23 | 2K | 28 | U | C2-N3 | 5.46 | 1.41 | 1.37 |
| 26 | 1H | 1782 | C | C2-O2 | 5.46 | 1.29 | 1.24 |
| 26 | 14 | 457 | A | C6-N1 | -5.45 | 1.31 | 1.35 |
| 26 | 1H | 2234 | G | N3-C4 | -5.45 | 1.31 | 1.35 |
| 26 | 1H | 2324 | C | C2-O2 | 5.45 | 1.29 | 1.24 |
| 26 | 1H | 669 | G | C5-C6 | -5.45 | 1.36 | 1.42 |
| 26 | 14 | 1696 | G | N3-C4 | -5.45 | 1.31 | 1.35 |
| 1 | 13 | 325 | A | N3-C4 | 5.45 | 1.38 | 1.34 |
| 1 | 1G | 238 | G | N9-C4 | -5.45 | 1.33 | 1.38 |
| 26 | 14 | 1696 | G | N1-C2 | -5.45 | 1.33 | 1.37 |
| 26 | 1H | 71 | A | C6-N6 | -5.44 | 1.29 | 1.33 |
| 26 | 1H | 836 | G | N9-C4 | 5.44 | 1.42 | 1.38 |
| 26 | 14 | 2302 | G | N9-C4 | 5.44 | 1.42 | 1.38 |
| 26 | 1H | 195 | A | C5-C6 | -5.44 | 1.36 | 1.41 |
| 26 | 1H | 2020 | A | N7-C5 | -5.44 | 1.35 | 1.39 |
| 26 | 14 | 1983 | C | C4-C5 | -5.44 | 1.38 | 1.43 |
| 37 | 78 | 64 | LYS | CB-CG | 5.44 | 1.67 | 1.52 |
| 26 | 14 | 2637 | U | C4-O4 | 5.44 | 1.27 | 1.23 |
| 26 | 1H | 202 | U | C2-N3 | -5.43 | 1.33 | 1.37 |
| 26 | 1H | 1184 | G | C2-N3 | -5.43 | 1.28 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 14 | 1349 | A | C5-C4 | 5.43 | 1.42 | 1.38 |
| 23 | 2K | 28 | U | C4-O4 | 5.43 | 1.27 | 1.23 |
| 26 | 1H | 1204 | A | C5-C6 | -5.43 | 1.36 | 1.41 |
| 1 | 1G | 111 | G | N3-C4 | -5.43 | 1.31 | 1.35 |
| 26 | 14 | 194 | G | C6-N1 | 5.43 | 1.43 | 1.39 |
| 1 | 13 | 244 | U | C2-N3 | 5.43 | 1.41 | 1.37 |
| 26 | 14 | 2557 | G | C8-N7 | -5.43 | 1.27 | 1.30 |
| 26 | 1H | 41 | C | C2-N3 | -5.43 | 1.31 | 1.35 |
| 26 | 1H | 977 | G | C2-N3 | -5.43 | 1.28 | 1.32 |
| 26 | 1H | 252 | G | N3-C4 | -5.42 | 1.31 | 1.35 |
| 26 | 1H | 2490 | G | C6-O6 | 5.42 | 1.29 | 1.24 |
| 15 | 6I | 17 | ARG | CZ-NH2 | -5.42 | 1.25 | 1.33 |
| 26 | 1H | 2053 | G | N1-C2 | -5.42 | 1.33 | 1.37 |
| 1 | 1G | 739 | C | C2-N3 | 5.42 | 1.40 | 1.35 |
| 26 | 14 | 2289 | G | C6-N1 | 5.42 | 1.43 | 1.39 |
| 1 | 13 | 915 | A | N3-C4 | -5.42 | 1.31 | 1.34 |
| 26 | 1H | 2446 | G | N9-C8 | -5.42 | 1.34 | 1.37 |
| 56 | 1L | 37 | A | N3-C4 | 5.42 | 1.38 | 1.34 |
| 26 | 14 | 213 | A | N9-C4 | -5.42 | 1.34 | 1.37 |
| 26 | 1H | 744 | G | N7-C5 | -5.42 | 1.35 | 1.39 |
| 1 | 1G | 253 | U | N1-C2 | -5.42 | 1.33 | 1.38 |
| 26 | 1H | 964 | C | N3-C4 | -5.42 | 1.30 | 1.33 |
| 1 | 1G | 1530 | G | C6-N1 | 5.42 | 1.43 | 1.39 |
| 26 | 14 | 2249 | U | C2-N3 | 5.42 | 1.41 | 1.37 |
| 26 | 1H | 88 | G | C6-N1 | -5.42 | 1.35 | 1.39 |
| 26 | 1H | 1052 | C | N1-C6 | 5.42 | 1.40 | 1.37 |
| 26 | 14 | 802 | A | N3-C4 | -5.42 | 1.31 | 1.34 |
| 27 | 16 | 108 | C | N1-C6 | -5.41 | 1.33 | 1.37 |
| 26 | 1H | 1823 | G | C6-N1 | -5.41 | 1.35 | 1.39 |
| 1 | 13 | 239 | U | C4-O4 | 5.41 | 1.27 | 1.23 |
| 1 | 13 | 733 | A | N9-C8 | -5.41 | 1.33 | 1.37 |
| 26 | 1H | 1347 | G | C5-C4 | -5.41 | 1.34 | 1.38 |
| 26 | 1H | 1950 | G | N7-C5 | -5.41 | 1.36 | 1.39 |
| 26 | 14 | 2520 | C | C2-N3 | -5.41 | 1.31 | 1.35 |
| 23 | 2K | 39 | A | N3-C4 | -5.41 | 1.31 | 1.34 |
| 26 | 1H | 809 | G | C5-C6 | -5.41 | 1.36 | 1.42 |
| 26 | 1H | 1697 | G | N9-C8 | -5.41 | 1.34 | 1.37 |
| 1 | 1G | 730 | G | C5-C6 | 5.41 | 1.47 | 1.42 |
| 26 | 14 | 1257 | C | N3-C4 | -5.41 | 1.30 | 1.33 |
| 26 | 14 | 676 | A | C6-N6 | -5.41 | 1.29 | 1.33 |
| 26 | 1H | 457 | A | N3-C4 | 5.41 | 1.38 | 1.34 |
| 26 | 1H | 2278 | A | N3-C4 | -5.41 | 1.31 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|---------|------|---------|-------|-------------|----------|
| 26 | 1H | 2599 | G | N1-C2 | -5.41 | 1.33 | 1.37 |
| 26 | 14 | 693 | C | C2-N3 | -5.41 | 1.31 | 1.35 |
| 26 | 14 | 866 | A | N3-C4 | 5.41 | 1.38 | 1.34 |
| 26 | 14 | 1465 | G | N3-C4 | -5.41 | 1.31 | 1.35 |
| 26 | 1H | 2371 | G | C2-N3 | 5.40 | 1.37 | 1.32 |
| 26 | 14 | 1369 | G | C4'-C3' | -5.40 | 1.47 | 1.52 |
| 26 | 14 | 774 | A | N7-C5 | -5.40 | 1.36 | 1.39 |
| 26 | 14 | 783 | A | N1-C2 | 5.40 | 1.39 | 1.34 |
| 26 | 1H | 1436 | G | C5-C4 | -5.40 | 1.34 | 1.38 |
| 26 | 1H | 2871 | C | N3-C4 | -5.40 | 1.30 | 1.33 |
| 26 | 14 | 2331 | G | C2-N3 | 5.40 | 1.37 | 1.32 |
| 27 | 1J | 102 | G | C5-C6 | 5.40 | 1.47 | 1.42 |
| 26 | 1H | 1950 | G | N1-C2 | 5.40 | 1.42 | 1.37 |
| 26 | 1H | 2359 | C | N3-C4 | -5.40 | 1.30 | 1.33 |
| 26 | 14 | 970 | C | N1-C6 | 5.40 | 1.40 | 1.37 |
| 26 | 14 | 1378 | A | N3-C4 | 5.40 | 1.38 | 1.34 |
| 1 | 1G | 331 | G | C6-N1 | 5.40 | 1.43 | 1.39 |
| 26 | 14 | 1945 | G | N1-C2 | -5.40 | 1.33 | 1.37 |
| 26 | 1H | 422 | A | N9-C4 | -5.39 | 1.34 | 1.37 |
| 26 | 14 | 675 | A | C8-N7 | -5.39 | 1.27 | 1.31 |
| 23 | 2K | 11 | A | N9-C4 | -5.39 | 1.34 | 1.37 |
| 26 | 1H | 962 | G | N1-C2 | -5.39 | 1.33 | 1.37 |
| 23 | 2K | 17 | C | C2-O2 | 5.39 | 1.29 | 1.24 |
| 26 | 1H | 2585 | U | N1-C2 | 5.39 | 1.43 | 1.38 |
| 45 | F8 | 16 | LYS | CB-CG | 5.39 | 1.67 | 1.52 |
| 26 | 14 | 2686 | G | N3-C4 | 5.39 | 1.39 | 1.35 |
| 1 | 13 | 696 | A | N3-C4 | -5.39 | 1.31 | 1.34 |
| 26 | 1H | 2425 | A | N3-C4 | -5.39 | 1.31 | 1.34 |
| 26 | 14 | 2627 | G | N9-C4 | -5.39 | 1.33 | 1.38 |
| 1 | 13 | 1064 | G | N9-C8 | -5.39 | 1.34 | 1.37 |
| 26 | 1H | 52 | A | N3-C4 | 5.39 | 1.38 | 1.34 |
| 26 | 1H | 2312 | U | C2-N3 | 5.39 | 1.41 | 1.37 |
| 26 | 14 | 1229(A) | G | N9-C4 | -5.39 | 1.33 | 1.38 |
| 46 | G8 | 55 | TYR | CG-CD2 | -5.38 | 1.32 | 1.39 |
| 26 | 14 | 1285 | G | C8-N7 | -5.38 | 1.27 | 1.30 |
| 26 | 14 | 1833 | U | C2-O2 | -5.38 | 1.17 | 1.22 |
| 26 | 14 | 1933 | G | N9-C8 | -5.38 | 1.34 | 1.37 |
| 26 | 14 | 1950 | G | C2-N2 | 5.38 | 1.40 | 1.34 |
| 26 | 14 | 2392 | A | N7-C5 | -5.38 | 1.36 | 1.39 |
| 26 | 14 | 2594 | C | N1-C2 | -5.38 | 1.34 | 1.40 |
| 26 | 14 | 1348 | G | C8-N7 | -5.38 | 1.27 | 1.30 |
| 26 | 14 | 2611 | U | N1-C6 | -5.38 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 1H | 2607 | G | N3-C4 | -5.38 | 1.31 | 1.35 |
| 26 | 14 | 567 | A | C5-C4 | -5.38 | 1.34 | 1.38 |
| 26 | 14 | 1996 | C | N1-C6 | -5.38 | 1.33 | 1.37 |
| 26 | 1H | 2237 | G | N3-C4 | 5.38 | 1.39 | 1.35 |
| 26 | 1H | 848 | G | N9-C8 | -5.38 | 1.34 | 1.37 |
| 26 | 1H | 1282 | U | N1-C6 | -5.38 | 1.33 | 1.38 |
| 26 | 1H | 2219 | G | N9-C4 | -5.38 | 1.33 | 1.38 |
| 26 | 14 | 2552 | U | C2-N3 | -5.38 | 1.33 | 1.37 |
| 22 | 1K | 26 | A | N9-C4 | 5.38 | 1.41 | 1.37 |
| 26 | 1H | 2665 | A | N7-C5 | -5.38 | 1.36 | 1.39 |
| 26 | 14 | 196 | A | C6-N1 | -5.38 | 1.31 | 1.35 |
| 26 | 14 | 2359 | C | N1-C6 | -5.38 | 1.33 | 1.37 |
| 26 | 14 | 2697 | G | N9-C8 | -5.38 | 1.34 | 1.37 |
| 32 | 41 | 35 | GLU | CG-CD | 5.38 | 1.60 | 1.51 |
| 26 | 1H | 210 | C | N1-C6 | -5.37 | 1.33 | 1.37 |
| 26 | 1H | 1192 | G | C5-C4 | -5.37 | 1.34 | 1.38 |
| 26 | 1H | 1494 | A | C6-N1 | -5.37 | 1.31 | 1.35 |
| 26 | 1H | 2699 | C | C2-O2 | 5.37 | 1.29 | 1.24 |
| 26 | 14 | 1930 | G | C5-C6 | 5.37 | 1.47 | 1.42 |
| 26 | 14 | 2625 | G | N7-C5 | -5.37 | 1.36 | 1.39 |
| 1 | 13 | 690 | G | C5-C6 | -5.37 | 1.36 | 1.42 |
| 26 | 1H | 316 | C | N3-C4 | -5.37 | 1.30 | 1.33 |
| 26 | 14 | 2248 | C | N1-C6 | -5.37 | 1.33 | 1.37 |
| 26 | 1H | 621 | A | C5-C4 | 5.37 | 1.42 | 1.38 |
| 26 | 1H | 1295 | C | N3-C4 | -5.37 | 1.30 | 1.33 |
| 26 | 14 | 2693 | A | N9-C4 | -5.37 | 1.34 | 1.37 |
| 26 | 1H | 196 | A | C2-N3 | -5.37 | 1.28 | 1.33 |
| 26 | 1H | 2430 | A | N9-C8 | 5.37 | 1.42 | 1.37 |
| 26 | 1H | 2059 | A | C5-C4 | -5.36 | 1.34 | 1.38 |
| 1 | 1G | 518 | C | N1-C6 | -5.36 | 1.33 | 1.37 |
| 1 | 1G | 535 | A | N9-C8 | -5.36 | 1.33 | 1.37 |
| 26 | 14 | 1309 | G | C6-O6 | 5.36 | 1.28 | 1.24 |
| 1 | 13 | 977 | A | C5-C6 | 5.36 | 1.45 | 1.41 |
| 26 | 1H | 680 | G | N7-C5 | -5.36 | 1.36 | 1.39 |
| 26 | 1H | 1185 | C | C4-C5 | -5.36 | 1.38 | 1.43 |
| 26 | 1H | 1810 | A | C5-C6 | -5.36 | 1.36 | 1.41 |
| 26 | 1H | 205 | G | C2-N3 | 5.36 | 1.37 | 1.32 |
| 26 | 14 | 80 | G | C6-N1 | -5.36 | 1.35 | 1.39 |
| 26 | 14 | 1633 | G | N9-C8 | -5.36 | 1.34 | 1.37 |
| 26 | 1H | 1701 | A | C6-N1 | -5.36 | 1.31 | 1.35 |
| 26 | 14 | 508 | G | N7-C5 | 5.36 | 1.42 | 1.39 |
| 26 | 14 | 494 | G | N7-C5 | -5.36 | 1.36 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 14 | 1792 | G | N9-C8 | -5.36 | 1.34 | 1.37 |
| 26 | 14 | 2873 | A | C5-C4 | 5.36 | 1.42 | 1.38 |
| 26 | 1H | 516 | C | C4-C5 | -5.35 | 1.38 | 1.43 |
| 26 | 1H | 1913 | A | N9-C4 | 5.35 | 1.41 | 1.37 |
| 26 | 1H | 2581 | G | C5-C6 | -5.35 | 1.36 | 1.42 |
| 26 | 1H | 1321 | A | N7-C5 | 5.35 | 1.42 | 1.39 |
| 26 | 1H | 1401 | G | C6-O6 | 5.35 | 1.28 | 1.24 |
| 26 | 1H | 2259 | G | N9-C4 | -5.35 | 1.33 | 1.38 |
| 26 | 1H | 702 | G | N3-C4 | -5.35 | 1.31 | 1.35 |
| 26 | 1H | 2436 | G | N9-C8 | -5.35 | 1.34 | 1.37 |
| 1 | 13 | 800 | G | N3-C4 | -5.35 | 1.31 | 1.35 |
| 26 | 1H | 180 | G | N9-C4 | -5.35 | 1.33 | 1.38 |
| 26 | 1H | 2198 | A | N9-C4 | -5.35 | 1.34 | 1.37 |
| 26 | 14 | 1270 | C | N3-C4 | -5.35 | 1.30 | 1.33 |
| 26 | 14 | 1288 | U | C2-N3 | -5.35 | 1.34 | 1.37 |
| 26 | 1H | 785 | G | C2-N2 | -5.35 | 1.29 | 1.34 |
| 1 | 1G | 232 | G | N3-C4 | -5.35 | 1.31 | 1.35 |
| 26 | 14 | 2459 | A | N9-C4 | 5.35 | 1.41 | 1.37 |
| 1 | 13 | 767 | A | N9-C4 | -5.34 | 1.34 | 1.37 |
| 1 | 13 | 1199 | U | C2-O2 | -5.34 | 1.17 | 1.22 |
| 26 | 1H | 2061 | G | C6-N1 | -5.34 | 1.35 | 1.39 |
| 26 | 1H | 2440 | C | N1-C6 | -5.34 | 1.33 | 1.37 |
| 26 | 14 | 213 | A | N7-C5 | 5.34 | 1.42 | 1.39 |
| 26 | 1H | 1543 | A | C5-C6 | -5.34 | 1.36 | 1.41 |
| 26 | 14 | 2324 | C | N3-C4 | 5.34 | 1.37 | 1.33 |
| 26 | 1H | 692 | C | C5-C6 | -5.34 | 1.30 | 1.34 |
| 26 | 1H | 2246 | G | N1-C2 | -5.34 | 1.33 | 1.37 |
| 1 | 1G | 1467 | G | C6-O6 | 5.34 | 1.28 | 1.24 |
| 26 | 1H | 1229 | G | N9-C8 | -5.34 | 1.34 | 1.37 |
| 1 | 1G | 1196 | U | N1-C2 | 5.34 | 1.43 | 1.38 |
| 26 | 14 | 125 | G | C2-N2 | 5.34 | 1.39 | 1.34 |
| 26 | 14 | 216 | A | N9-C4 | -5.34 | 1.34 | 1.37 |
| 26 | 14 | 2827 | C | N1-C6 | -5.34 | 1.33 | 1.37 |
| 26 | 1H | 330 | A | C6-N1 | -5.34 | 1.31 | 1.35 |
| 26 | 1H | 2007 | C | C3'-C2' | -5.34 | 1.46 | 1.52 |
| 26 | 1H | 938 | G | N9-C4 | -5.34 | 1.33 | 1.38 |
| 26 | 1H | 1161 | C | C2-N3 | 5.34 | 1.40 | 1.35 |
| 1 | 1G | 332 | G | N9-C4 | -5.34 | 1.33 | 1.38 |
| 26 | 14 | 177 | G | N9-C8 | -5.34 | 1.34 | 1.37 |
| 26 | 1H | 442 | G | N1-C2 | -5.33 | 1.33 | 1.37 |
| 26 | 1H | 1324 | G | N1-C2 | 5.33 | 1.42 | 1.37 |
| 25 | 4K | 9 | G | N9-C4 | 5.33 | 1.42 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 1H | 776 | G | C2-N3 | -5.33 | 1.28 | 1.32 |
| 26 | 1H | 1939 | U | C5-C6 | -5.33 | 1.29 | 1.34 |
| 26 | 14 | 1393 | A | C5-C4 | -5.33 | 1.35 | 1.38 |
| 26 | 1H | 570 | G | N3-C4 | -5.33 | 1.31 | 1.35 |
| 26 | 1H | 1698 | A | C5-C4 | 5.33 | 1.42 | 1.38 |
| 26 | 1H | 2604 | U | N3-C4 | -5.33 | 1.33 | 1.38 |
| 26 | 14 | 571 | A | N9-C4 | 5.33 | 1.41 | 1.37 |
| 26 | 1H | 1601 | G | C8-N7 | -5.33 | 1.27 | 1.30 |
| 26 | 14 | 1630 | G | C6-N1 | -5.33 | 1.35 | 1.39 |
| 37 | 78 | 71 | VAL | CB-CG1 | -5.33 | 1.41 | 1.52 |
| 26 | 1H | 1752 | C | N1-C6 | -5.33 | 1.33 | 1.37 |
| 1 | 13 | 1486 | G | N3-C4 | -5.33 | 1.31 | 1.35 |
| 26 | 1H | 2517 | C | N3-C4 | -5.33 | 1.30 | 1.33 |
| 26 | 14 | 2276 | G | N3-C4 | -5.33 | 1.31 | 1.35 |
| 1 | 13 | 910 | C | N1-C6 | -5.32 | 1.33 | 1.37 |
| 38 | 88 | 85 | LYS | N-CA | -5.32 | 1.35 | 1.46 |
| 26 | 1H | 1778 | U | C2-N3 | -5.32 | 1.34 | 1.37 |
| 26 | 14 | 2509 | G | N9-C8 | -5.32 | 1.34 | 1.37 |
| 26 | 1H | 390 | A | N9-C4 | -5.32 | 1.34 | 1.37 |
| 26 | 1H | 1268 | A | N9-C4 | -5.32 | 1.34 | 1.37 |
| 26 | 1H | 2436 | G | C2-N2 | -5.32 | 1.29 | 1.34 |
| 1 | 13 | 1488 | G | C6-N1 | -5.32 | 1.35 | 1.39 |
| 26 | 14 | 701 | G | N9-C8 | -5.32 | 1.34 | 1.37 |
| 26 | 14 | 1621 | U | N1-C2 | -5.32 | 1.33 | 1.38 |
| 23 | 2K | 25 | U | C2-N3 | -5.32 | 1.34 | 1.37 |
| 26 | 1H | 1607 | C | N3-C4 | 5.32 | 1.37 | 1.33 |
| 26 | 14 | 1377 | G | C6-O6 | 5.32 | 1.28 | 1.24 |
| 26 | 14 | 1787 | A | N3-C4 | 5.32 | 1.38 | 1.34 |
| 26 | 1H | 1902 | C | N1-C2 | -5.31 | 1.34 | 1.40 |
| 35 | 58 | 103 | VAL | CB-CG1 | -5.31 | 1.41 | 1.52 |
| 26 | 1H | 1549 | C | C2-N3 | -5.31 | 1.31 | 1.35 |
| 26 | 14 | 682 | G | C5-C4 | -5.31 | 1.34 | 1.38 |
| 26 | 1H | 796 | C | C2-O2 | 5.31 | 1.29 | 1.24 |
| 26 | 1H | 1423 | G | C6-N1 | -5.31 | 1.35 | 1.39 |
| 26 | 14 | 1287 | A | C8-N7 | -5.31 | 1.27 | 1.31 |
| 1 | 13 | 1053 | G | C5-C4 | -5.31 | 1.34 | 1.38 |
| 1 | 1G | 366 | C | N1-C6 | -5.31 | 1.33 | 1.37 |
| 26 | 1H | 188 | G | C5-C6 | -5.31 | 1.37 | 1.42 |
| 1 | 13 | 151 | A | N9-C4 | 5.30 | 1.41 | 1.37 |
| 26 | 1H | 74 | A | C5-C6 | -5.30 | 1.36 | 1.41 |
| 26 | 1H | 1989 | G | N9-C8 | -5.30 | 1.34 | 1.37 |
| 26 | 1H | 2301 | C | N3-C4 | -5.30 | 1.30 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 14 | 1979 | C | C4-N4 | -5.30 | 1.29 | 1.33 |
| 26 | 14 | 2854 | G | C6-N1 | -5.30 | 1.35 | 1.39 |
| 26 | 14 | 675 | A | N7-C5 | 5.30 | 1.42 | 1.39 |
| 26 | 14 | 1678 | G | N9-C8 | 5.30 | 1.41 | 1.37 |
| 53 | N8 | 6 | VAL | CB-CG2 | -5.30 | 1.41 | 1.52 |
| 26 | 14 | 2082 | A | N7-C5 | -5.30 | 1.36 | 1.39 |
| 1 | 13 | 1419 | G | C6-O6 | 5.30 | 1.28 | 1.24 |
| 26 | 1H | 2610 | C | C2-O2 | 5.30 | 1.29 | 1.24 |
| 1 | 13 | 1280 | A | N9-C4 | -5.30 | 1.34 | 1.37 |
| 26 | 1H | 514 | A | C5-C4 | -5.30 | 1.35 | 1.38 |
| 23 | 2K | 31 | G | C6-O6 | 5.29 | 1.28 | 1.24 |
| 26 | 1H | 43 | G | C6-N1 | -5.29 | 1.35 | 1.39 |
| 26 | 1H | 986 | C | N1-C6 | 5.29 | 1.40 | 1.37 |
| 26 | 1H | 2077 | A | C6-N6 | -5.29 | 1.29 | 1.33 |
| 27 | 16 | 42 | C | N1-C2 | -5.29 | 1.34 | 1.40 |
| 23 | 2K | 75 | C | N3-C4 | -5.29 | 1.30 | 1.33 |
| 26 | 1H | 692 | C | N1-C6 | -5.29 | 1.33 | 1.37 |
| 46 | G8 | 27 | VAL | CB-CG2 | -5.29 | 1.41 | 1.52 |
| 26 | 14 | 562 | U | C2-N3 | -5.29 | 1.34 | 1.37 |
| 26 | 1H | 2679 | A | N9-C4 | -5.29 | 1.34 | 1.37 |
| 40 | A8 | 46 | VAL | CB-CG1 | -5.29 | 1.41 | 1.52 |
| 26 | 14 | 1278 | A | C6-N6 | -5.29 | 1.29 | 1.33 |
| 26 | 1H | 2476 | A | O3'-P | 5.29 | 1.67 | 1.61 |
| 1 | 13 | 790 | A | C6-N1 | 5.29 | 1.39 | 1.35 |
| 26 | 1H | 1704 | G | N7-C5 | -5.29 | 1.36 | 1.39 |
| 1 | 13 | 1516 | G | N3-C4 | 5.29 | 1.39 | 1.35 |
| 26 | 1H | 344 | G | C6-N1 | -5.29 | 1.35 | 1.39 |
| 26 | 14 | 472 | A | N9-C4 | -5.29 | 1.34 | 1.37 |
| 26 | 14 | 947 | G | C5-C6 | 5.29 | 1.47 | 1.42 |
| 26 | 14 | 2386 | C | N1-C6 | -5.29 | 1.33 | 1.37 |
| 23 | 2K | 43 | G | C6-N1 | -5.28 | 1.35 | 1.39 |
| 1 | 13 | 904 | C | N3-C4 | -5.28 | 1.30 | 1.33 |
| 26 | 1H | 410 | G | N9-C4 | -5.28 | 1.33 | 1.38 |
| 1 | 1G | 790 | A | C5-C6 | 5.28 | 1.45 | 1.41 |
| 26 | 1H | 694 | U | C5-C6 | 5.28 | 1.39 | 1.34 |
| 26 | 1H | 996 | A | C5-C4 | -5.28 | 1.35 | 1.38 |
| 26 | 1H | 2541 | A | C5-C4 | -5.28 | 1.35 | 1.38 |
| 26 | 1H | 2621 | A | N7-C5 | 5.28 | 1.42 | 1.39 |
| 47 | H8 | 24 | LEU | C-N | -5.28 | 1.24 | 1.34 |
| 26 | 14 | 603 | A | N9-C4 | -5.28 | 1.34 | 1.37 |
| 26 | 14 | 1578 | U | C2-N3 | -5.28 | 1.34 | 1.37 |
| 30 | 29 | 200 | GLU | CG-CD | 5.28 | 1.59 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 26 | 1H | 1788 | C | C4-N4 | -5.28 | 1.29 | 1.33 |
| 26 | 1H | 1905 | C | N1-C6 | -5.28 | 1.33 | 1.37 |
| 1 | 1G | 894 | G | N9-C4 | -5.28 | 1.33 | 1.38 |
| 27 | 1J | 89 | G | N3-C4 | 5.28 | 1.39 | 1.35 |
| 26 | 1H | 23 | G | N7-C5 | 5.27 | 1.42 | 1.39 |
| 26 | 14 | 1328 | G | C5-C6 | -5.27 | 1.37 | 1.42 |
| 26 | 14 | 1772 | G | N9-C4 | -5.27 | 1.33 | 1.38 |
| 26 | 1H | 2502 | G | C6-N1 | -5.27 | 1.35 | 1.39 |
| 26 | 14 | 1900 | A | C6-N1 | -5.27 | 1.31 | 1.35 |
| 26 | 1H | 294 | A | N9-C8 | -5.27 | 1.33 | 1.37 |
| 26 | 1H | 701 | G | C6-N1 | -5.27 | 1.35 | 1.39 |
| 26 | 1H | 1264 | G | C6-O6 | 5.27 | 1.28 | 1.24 |
| 26 | 14 | 2371 | G | N1-C2 | 5.27 | 1.42 | 1.37 |
| 26 | 1H | 573 | G | C5-C6 | 5.27 | 1.47 | 1.42 |
| 26 | 1H | 645 | C | N1-C2 | 5.27 | 1.45 | 1.40 |
| 26 | 1H | 2516 | G | N3-C4 | -5.27 | 1.31 | 1.35 |
| 26 | 14 | 969 | U | C2-N3 | -5.27 | 1.34 | 1.37 |
| 26 | 14 | 2060 | A | N3-C4 | 5.27 | 1.38 | 1.34 |
| 26 | 14 | 2777 | G | N9-C8 | -5.27 | 1.34 | 1.37 |
| 1 | 13 | 691 | G | N9-C4 | -5.27 | 1.33 | 1.38 |
| 26 | 1H | 71 | A | C5-C4 | 5.27 | 1.42 | 1.38 |
| 26 | 1H | 2083 | G | N3-C4 | -5.26 | 1.31 | 1.35 |
| 27 | 16 | 45 | A | C5-C4 | 5.26 | 1.42 | 1.38 |
| 26 | 14 | 1383 | C | C2-N3 | 5.26 | 1.40 | 1.35 |
| 26 | 14 | 1888 | G | C6-N1 | 5.26 | 1.43 | 1.39 |
| 26 | 1H | 729 | G | C5-C4 | -5.26 | 1.34 | 1.38 |
| 1 | 13 | 885 | G | N3-C4 | -5.26 | 1.31 | 1.35 |
| 26 | 1H | 326 | G | C6-N1 | 5.26 | 1.43 | 1.39 |
| 26 | 1H | 2761 | G | N3-C4 | -5.26 | 1.31 | 1.35 |
| 1 | 13 | 761 | G | C6-N1 | -5.26 | 1.35 | 1.39 |
| 26 | 1H | 2555 | U | N1-C2 | -5.26 | 1.33 | 1.38 |
| 1 | 1G | 1204 | A | N9-C4 | 5.26 | 1.41 | 1.37 |
| 26 | 1H | 1593 | G | C8-N7 | -5.26 | 1.27 | 1.30 |
| 26 | 1H | 2584 | U | C4-O4 | 5.26 | 1.27 | 1.23 |
| 26 | 14 | 1275 | A | N7-C5 | -5.26 | 1.36 | 1.39 |
| 26 | 1H | 846 | C | N1-C6 | -5.26 | 1.33 | 1.37 |
| 26 | 14 | 1698 | A | N1-C2 | 5.26 | 1.39 | 1.34 |
| 26 | 14 | 2330 | G | C5-C4 | 5.26 | 1.42 | 1.38 |
| 26 | 14 | 2515 | C | N1-C6 | -5.25 | 1.33 | 1.37 |
| 26 | 1H | 661 | C | N1-C6 | -5.25 | 1.33 | 1.37 |
| 26 | 1H | 2271 | G | N3-C4 | -5.25 | 1.31 | 1.35 |
| 26 | 1H | 2599 | G | C2-N3 | -5.25 | 1.28 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 14 | 606 | U | N3-C4 | -5.25 | 1.33 | 1.38 |
| 26 | 1H | 1655 | A | N7-C5 | -5.25 | 1.36 | 1.39 |
| 43 | D8 | 37 | VAL | CA-CB | 5.25 | 1.65 | 1.54 |
| 1 | 1G | 573 | A | N9-C4 | 5.25 | 1.41 | 1.37 |
| 26 | 14 | 1627 | G | C6-O6 | 5.25 | 1.28 | 1.24 |
| 26 | 1H | 609 | A | C5-C6 | -5.25 | 1.36 | 1.41 |
| 26 | 1H | 1966 | A | C6-N1 | -5.25 | 1.31 | 1.35 |
| 26 | 1H | 2418 | A | N1-C2 | -5.25 | 1.29 | 1.34 |
| 26 | 14 | 2371 | G | C6-N1 | 5.25 | 1.43 | 1.39 |
| 26 | 1H | 1216 | G | C5-C4 | -5.25 | 1.34 | 1.38 |
| 26 | 1H | 2383 | G | C6-N1 | -5.25 | 1.35 | 1.39 |
| 26 | 1H | 2645 | G | C5-C4 | 5.25 | 1.42 | 1.38 |
| 25 | 4L | 20 | U | N1-C2 | 5.25 | 1.43 | 1.38 |
| 1 | 13 | 976 | G | C6-O6 | 5.25 | 1.28 | 1.24 |
| 1 | 13 | 1126 | U | N1-C2 | 5.25 | 1.43 | 1.38 |
| 26 | 1H | 128 | C | C4-N4 | -5.25 | 1.29 | 1.33 |
| 1 | 13 | 518 | C | N1-C6 | -5.25 | 1.34 | 1.37 |
| 26 | 1H | 142 | G | N9-C4 | -5.25 | 1.33 | 1.38 |
| 26 | 14 | 812 | C | N1-C6 | -5.25 | 1.34 | 1.37 |
| 26 | 14 | 1948 | G | N9-C4 | -5.24 | 1.33 | 1.38 |
| 26 | 1H | 1426 | G | C8-N7 | 5.24 | 1.34 | 1.30 |
| 8 | 7E | 102 | ARG | CD-NE | -5.24 | 1.37 | 1.46 |
| 26 | 1H | 691 | C | N1-C2 | -5.24 | 1.34 | 1.40 |
| 26 | 1H | 1231 | G | N9-C4 | -5.24 | 1.33 | 1.38 |
| 25 | 4L | 19 | A | N9-C4 | 5.24 | 1.41 | 1.37 |
| 26 | 14 | 756 | C | C4-C5 | -5.24 | 1.38 | 1.43 |
| 26 | 1H | 111 | A | N9-C4 | -5.24 | 1.34 | 1.37 |
| 26 | 1H | 774 | A | C5-C4 | 5.24 | 1.42 | 1.38 |
| 26 | 1H | 1646 | C | N1-C6 | -5.24 | 1.34 | 1.37 |
| 45 | F8 | 54 | VAL | CB-CG1 | -5.24 | 1.41 | 1.52 |
| 26 | 14 | 768 | G | C2-N2 | -5.24 | 1.29 | 1.34 |
| 23 | 2K | 38 | A | C5-C4 | -5.24 | 1.35 | 1.38 |
| 26 | 1H | 449 | A | N9-C4 | -5.24 | 1.34 | 1.37 |
| 26 | 14 | 1697 | G | N3-C4 | -5.24 | 1.31 | 1.35 |
| 26 | 14 | 2433 | A | N3-C4 | -5.24 | 1.31 | 1.34 |
| 26 | 1H | 14 | A | N3-C4 | 5.24 | 1.38 | 1.34 |
| 26 | 1H | 1156 | A | N9-C4 | -5.24 | 1.34 | 1.37 |
| 26 | 1H | 1346 | G | N1-C2 | -5.24 | 1.33 | 1.37 |
| 26 | 1H | 2711 | A | N3-C4 | 5.24 | 1.38 | 1.34 |
| 26 | 14 | 305 | U | C4-O4 | 5.24 | 1.27 | 1.23 |
| 26 | 14 | 1815 | A | C5-C6 | -5.24 | 1.36 | 1.41 |
| 1 | 13 | 511 | C | N1-C6 | -5.23 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|--------|------|--------|-------|-------------|----------|
| 26 | 1H | 1340 | U | C2-N3 | 5.23 | 1.41 | 1.37 |
| 27 | 16 | 72 | G | N9-C4 | -5.23 | 1.33 | 1.38 |
| 30 | 21 | 73 | GLU | CG-CD | 5.23 | 1.59 | 1.51 |
| 26 | 14 | 479 | A | N3-C4 | -5.23 | 1.31 | 1.34 |
| 26 | 14 | 521 | G | C5-C6 | -5.23 | 1.37 | 1.42 |
| 26 | 14 | 1664 | A | N3-C4 | -5.23 | 1.31 | 1.34 |
| 26 | 14 | 2063 | C | N1-C6 | -5.23 | 1.34 | 1.37 |
| 26 | 1H | 1161 | C | N3-C4 | 5.23 | 1.37 | 1.33 |
| 26 | 1H | 1704 | G | N9-C8 | -5.23 | 1.34 | 1.37 |
| 26 | 1H | 1899 | G | N9-C8 | 5.23 | 1.41 | 1.37 |
| 26 | 14 | 703 | U | N1-C2 | -5.23 | 1.33 | 1.38 |
| 26 | 14 | 1690 | A | N9-C4 | -5.23 | 1.34 | 1.37 |
| 26 | 1H | 182 | A | C5-C6 | -5.23 | 1.36 | 1.41 |
| 26 | 1H | 458 | G | C5-C6 | 5.23 | 1.47 | 1.42 |
| 26 | 1H | 472 | A | C5-C4 | -5.23 | 1.35 | 1.38 |
| 26 | 14 | 791 | C | C4-N4 | -5.23 | 1.29 | 1.33 |
| 26 | 14 | 974(A) | C | C4-N4 | 5.23 | 1.38 | 1.33 |
| 26 | 1H | 242 | G | C5-C4 | -5.23 | 1.34 | 1.38 |
| 26 | 1H | 1586 | A | N7-C5 | -5.23 | 1.36 | 1.39 |
| 26 | 14 | 1991 | U | C2-N3 | -5.23 | 1.34 | 1.37 |
| 26 | 1H | 793 | A | C5-C4 | -5.22 | 1.35 | 1.38 |
| 26 | 1H | 2557 | G | C2-N3 | -5.22 | 1.28 | 1.32 |
| 26 | 1H | 2818 | G | C2-N3 | -5.22 | 1.28 | 1.32 |
| 26 | 14 | 512 | G | N9-C4 | -5.22 | 1.33 | 1.38 |
| 26 | 14 | 1321 | A | N9-C8 | -5.22 | 1.33 | 1.37 |
| 1 | 13 | 1183 | A | N9-C4 | -5.22 | 1.34 | 1.37 |
| 26 | 1H | 2512 | C | C2-N3 | -5.22 | 1.31 | 1.35 |
| 26 | 14 | 2839 | G | C6-N1 | -5.22 | 1.35 | 1.39 |
| 26 | 1H | 199 | A | N1-C2 | -5.22 | 1.29 | 1.34 |
| 26 | 14 | 1695 | G | N7-C5 | -5.22 | 1.36 | 1.39 |
| 26 | 1H | 1854 | A | N7-C5 | 5.22 | 1.42 | 1.39 |
| 55 | M5 | 14 | VAL | CB-CG1 | -5.22 | 1.41 | 1.52 |
| 26 | 1H | 806 | C | C4-C5 | -5.22 | 1.38 | 1.43 |
| 26 | 1H | 821 | A | N7-C5 | -5.22 | 1.36 | 1.39 |
| 26 | 14 | 82 | G | N9-C8 | -5.22 | 1.34 | 1.37 |
| 26 | 14 | 1769 | G | N9-C4 | 5.22 | 1.42 | 1.38 |
| 24 | 3K | 35 | U | P-O5' | 5.21 | 1.65 | 1.59 |
| 26 | 1H | 127 | A | C5-C6 | -5.21 | 1.36 | 1.41 |
| 26 | 14 | 194 | G | N1-C2 | 5.21 | 1.42 | 1.37 |
| 26 | 14 | 2454 | G | C5-C4 | -5.21 | 1.34 | 1.38 |
| 26 | 1H | 629 | G | N9-C4 | -5.21 | 1.33 | 1.38 |
| 26 | 1H | 1346 | G | C5-C4 | -5.21 | 1.34 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | 1G | 688 | G | C6-N1 | -5.21 | 1.35 | 1.39 |
| 26 | 1H | 308 | G | N1-C2 | -5.21 | 1.33 | 1.37 |
| 26 | 1H | 787 | U | C2-N3 | -5.21 | 1.34 | 1.37 |
| 26 | 1H | 940 | G | N3-C4 | -5.21 | 1.31 | 1.35 |
| 26 | 1H | 1569 | A | C5-C6 | -5.21 | 1.36 | 1.41 |
| 1 | 1G | 1432 | G | C5-C4 | 5.21 | 1.42 | 1.38 |
| 26 | 1H | 1384 | A | C5-C4 | -5.21 | 1.35 | 1.38 |
| 26 | 1H | 1993 | U | N1-C2 | -5.21 | 1.33 | 1.38 |
| 26 | 1H | 2527 | C | C2-O2 | 5.21 | 1.29 | 1.24 |
| 27 | 16 | 45 | A | N9-C4 | 5.21 | 1.41 | 1.37 |
| 26 | 14 | 1302 | A | N7-C5 | 5.21 | 1.42 | 1.39 |
| 26 | 14 | 2610 | C | C5-C6 | -5.21 | 1.30 | 1.34 |
| 26 | 1H | 1029 | A | C5-C6 | -5.20 | 1.36 | 1.41 |
| 26 | 1H | 1626 | G | N7-C5 | -5.20 | 1.36 | 1.39 |
| 26 | 1H | 1982 | C | N1-C6 | -5.20 | 1.34 | 1.37 |
| 26 | 1H | 2005 | A | C6-N6 | 5.20 | 1.38 | 1.33 |
| 26 | 14 | 738 | G | N9-C8 | -5.20 | 1.34 | 1.37 |
| 26 | 14 | 2073 | C | N3-C4 | -5.20 | 1.30 | 1.33 |
| 26 | 1H | 2581 | G | C2-N2 | -5.20 | 1.29 | 1.34 |
| 26 | 1H | 79 | G | N7-C5 | -5.20 | 1.36 | 1.39 |
| 26 | 1H | 1366 | A | N9-C4 | -5.20 | 1.34 | 1.37 |
| 26 | 1H | 2632 | A | N9-C4 | -5.20 | 1.34 | 1.37 |
| 26 | 14 | 101 | G | N3-C4 | 5.20 | 1.39 | 1.35 |
| 26 | 14 | 695 | G | C6-O6 | 5.20 | 1.28 | 1.24 |
| 26 | 14 | 834 | C | N1-C6 | -5.20 | 1.34 | 1.37 |
| 26 | 1H | 1190 | G | C4'-C3' | -5.20 | 1.47 | 1.52 |
| 26 | 1H | 1383 | C | N1-C2 | 5.20 | 1.45 | 1.40 |
| 26 | 14 | 193 | U | C4'-C3' | -5.20 | 1.47 | 1.52 |
| 26 | 14 | 1379 | A | C8-N7 | 5.20 | 1.35 | 1.31 |
| 26 | 14 | 2304 | G | N9-C4 | 5.20 | 1.42 | 1.38 |
| 26 | 14 | 2444 | G | C5-C4 | -5.20 | 1.34 | 1.38 |
| 1 | 13 | 16 | A | N3-C4 | -5.20 | 1.31 | 1.34 |
| 26 | 14 | 2612 | C | N1-C2 | 5.20 | 1.45 | 1.40 |
| 26 | 1H | 1111 | A | P-O5' | 5.20 | 1.65 | 1.59 |
| 26 | 1H | 2503 | A | C6-N1 | 5.20 | 1.39 | 1.35 |
| 26 | 14 | 2826 | A | N3-C4 | -5.20 | 1.31 | 1.34 |
| 57 | 3L | 3 | G | N3-C4 | 5.19 | 1.39 | 1.35 |
| 12 | 3I | 96 | VAL | CB-CG1 | -5.19 | 1.42 | 1.52 |
| 26 | 1H | 1129 | A | C6-N1 | -5.19 | 1.31 | 1.35 |
| 26 | 1H | 1776 | G | C8-N7 | -5.19 | 1.27 | 1.30 |
| 26 | 1H | 1935 | G | C2-N3 | -5.19 | 1.28 | 1.32 |
| 26 | 1H | 2089 | U | N1-C6 | -5.19 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 1 | 1G | 1060 | C | N1-C6 | 5.19 | 1.40 | 1.37 |
| 26 | 14 | 2239 | G | N7-C5 | 5.19 | 1.42 | 1.39 |
| 26 | 14 | 2515 | C | N3-C4 | -5.19 | 1.30 | 1.33 |
| 26 | 1H | 931 | G | N7-C5 | -5.19 | 1.36 | 1.39 |
| 26 | 1H | 2705 | A | C6-N1 | 5.19 | 1.39 | 1.35 |
| 26 | 14 | 2818 | G | C5-C6 | -5.19 | 1.37 | 1.42 |
| 1 | 13 | 1503 | A | C5-C6 | 5.19 | 1.45 | 1.41 |
| 26 | 1H | 72 | U | N1-C2 | 5.19 | 1.43 | 1.38 |
| 26 | 1H | 1971 | A | C6-N6 | -5.19 | 1.29 | 1.33 |
| 26 | 14 | 929 | G | C5-C6 | -5.19 | 1.37 | 1.42 |
| 1 | 13 | 1417 | G | N7-C5 | 5.19 | 1.42 | 1.39 |
| 26 | 1H | 859 | G | N9-C4 | -5.19 | 1.33 | 1.38 |
| 26 | 1H | 2248 | C | C4-N4 | -5.19 | 1.29 | 1.33 |
| 26 | 14 | 265 | A | C5-C4 | 5.19 | 1.42 | 1.38 |
| 1 | 13 | 886 | G | N3-C4 | -5.18 | 1.31 | 1.35 |
| 1 | 13 | 1512 | U | C4-O4 | 5.18 | 1.27 | 1.23 |
| 26 | 1H | 815 | C | C5-C6 | -5.18 | 1.30 | 1.34 |
| 26 | 1H | 824 | A | C6-N6 | -5.18 | 1.29 | 1.33 |
| 55 | M5 | 49 | VAL | CB-CG1 | 5.18 | 1.63 | 1.52 |
| 26 | 1H | 1377 | G | N3-C4 | -5.18 | 1.31 | 1.35 |
| 26 | 14 | 2819 | G | N9-C4 | -5.18 | 1.33 | 1.38 |
| 26 | 1H | 240 | G | N3-C4 | -5.18 | 1.31 | 1.35 |
| 26 | 14 | 1828 | G | C5-C6 | 5.18 | 1.47 | 1.42 |
| 26 | 14 | 2706 | G | N9-C4 | -5.18 | 1.33 | 1.38 |
| 1 | 13 | 362 | G | N9-C4 | -5.18 | 1.33 | 1.38 |
| 26 | 14 | 1384 | A | C5-C4 | -5.18 | 1.35 | 1.38 |
| 1 | 13 | 765 | G | N9-C8 | 5.18 | 1.41 | 1.37 |
| 26 | 14 | 1203 | G | C6-O6 | 5.18 | 1.28 | 1.24 |
| 26 | 1H | 1661 | G | C6-N1 | -5.18 | 1.35 | 1.39 |
| 26 | 1H | 2442 | C | N1-C6 | -5.18 | 1.34 | 1.37 |
| 26 | 1H | 2572 | A | C5-C4 | -5.18 | 1.35 | 1.38 |
| 26 | 14 | 2028 | U | C2-N3 | 5.18 | 1.41 | 1.37 |
| 26 | 1H | 249 | C | N1-C6 | -5.17 | 1.34 | 1.37 |
| 26 | 1H | 1985 | G | P-OP2 | 5.17 | 1.57 | 1.49 |
| 32 | 41 | 13 | GLU | CB-CG | 5.17 | 1.61 | 1.52 |
| 1 | 1G | 559 | A | N9-C4 | -5.17 | 1.34 | 1.37 |
| 26 | 14 | 2444 | G | N3-C4 | -5.17 | 1.31 | 1.35 |
| 1 | 13 | 1055 | A | N3-C4 | -5.17 | 1.31 | 1.34 |
| 26 | 1H | 736 | C | N3-C4 | 5.17 | 1.37 | 1.33 |
| 1 | 13 | 785 | G | C2-N3 | -5.17 | 1.28 | 1.32 |
| 26 | 1H | 763 | G | C6-N1 | -5.17 | 1.35 | 1.39 |
| 26 | 1H | 2622 | C | N1-C6 | -5.17 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 30 | 21 | 119 | ARG | CD-NE | -5.17 | 1.37 | 1.46 |
| 26 | 14 | 1568 | G | N9-C4 | -5.17 | 1.33 | 1.38 |
| 26 | 14 | 1815 | A | N7-C5 | -5.17 | 1.36 | 1.39 |
| 26 | 1H | 1193 | G | N3-C4 | -5.17 | 1.31 | 1.35 |
| 26 | 1H | 265 | A | N9-C4 | -5.17 | 1.34 | 1.37 |
| 26 | 1H | 1334 | G | C8-N7 | -5.17 | 1.27 | 1.30 |
| 26 | 1H | 2053 | G | C2-N3 | -5.17 | 1.28 | 1.32 |
| 26 | 1H | 2427 | C | N1-C6 | -5.17 | 1.34 | 1.37 |
| 26 | 14 | 781 | A | N9-C4 | 5.17 | 1.41 | 1.37 |
| 1 | 13 | 521 | G | C5-C4 | -5.17 | 1.34 | 1.38 |
| 25 | 4K | 21 | A | N9-C4 | -5.17 | 1.34 | 1.37 |
| 26 | 1H | 348 | G | C6-N1 | -5.17 | 1.35 | 1.39 |
| 26 | 1H | 786 | C | C4'-C3' | -5.17 | 1.47 | 1.52 |
| 26 | 1H | 819 | A | C6-N6 | -5.17 | 1.29 | 1.33 |
| 26 | 1H | 2433 | A | C8-N7 | -5.17 | 1.27 | 1.31 |
| 26 | 1H | 669 | G | N9-C4 | -5.17 | 1.33 | 1.38 |
| 26 | 1H | 2066 | C | C5-C6 | -5.17 | 1.30 | 1.34 |
| 26 | 1H | 2708 | G | N9-C4 | -5.17 | 1.33 | 1.38 |
| 26 | 1H | 755 | C | N1-C6 | -5.16 | 1.34 | 1.37 |
| 26 | 1H | 2274 | A | N7-C5 | -5.16 | 1.36 | 1.39 |
| 26 | 1H | 2477 | C | O3'-P | 5.16 | 1.67 | 1.61 |
| 26 | 14 | 1819 | A | C5-C4 | -5.16 | 1.35 | 1.38 |
| 26 | 14 | 2600 | A | N9-C8 | -5.16 | 1.33 | 1.37 |
| 26 | 1H | 721 | C | N1-C2 | -5.16 | 1.34 | 1.40 |
| 26 | 1H | 982 | C | C4-C5 | -5.16 | 1.38 | 1.43 |
| 26 | 1H | 1224 | G | N7-C5 | 5.16 | 1.42 | 1.39 |
| 26 | 1H | 26 | G | C8-N7 | -5.16 | 1.27 | 1.30 |
| 26 | 1H | 2248 | C | C4-C5 | -5.16 | 1.38 | 1.43 |
| 26 | 14 | 676 | A | N3-C4 | -5.16 | 1.31 | 1.34 |
| 26 | 14 | 1634 | A | C6-N1 | -5.16 | 1.31 | 1.35 |
| 26 | 1H | 1364 | G | C5-C4 | -5.16 | 1.34 | 1.38 |
| 26 | 14 | 72 | U | C2-N3 | -5.16 | 1.34 | 1.37 |
| 26 | 14 | 2058 | A | C5-C4 | -5.16 | 1.35 | 1.38 |
| 26 | 14 | 2313 | C | N1-C2 | 5.16 | 1.45 | 1.40 |
| 53 | J5 | 51 | TYR | CE1-CZ | 5.16 | 1.45 | 1.38 |
| 26 | 1H | 71 | A | N1-C2 | 5.16 | 1.39 | 1.34 |
| 26 | 1H | 739 | G | N9-C8 | -5.16 | 1.34 | 1.37 |
| 26 | 1H | 696 | G | N3-C4 | 5.16 | 1.39 | 1.35 |
| 26 | 14 | 784 | A | N9-C4 | -5.16 | 1.34 | 1.37 |
| 26 | 14 | 2009 | G | N1-C2 | -5.15 | 1.33 | 1.37 |
| 26 | 1H | 567 | A | N7-C5 | -5.15 | 1.36 | 1.39 |
| 26 | 1H | 819 | A | N3-C4 | 5.15 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 1H | 2038 | G | N1-C2 | -5.15 | 1.33 | 1.37 |
| 26 | 14 | 16 | G | C6-O6 | 5.15 | 1.28 | 1.24 |
| 26 | 14 | 809 | G | N7-C5 | -5.15 | 1.36 | 1.39 |
| 26 | 1H | 476 | G | C6-O6 | 5.15 | 1.28 | 1.24 |
| 26 | 1H | 2277 | G | N9-C8 | -5.15 | 1.34 | 1.37 |
| 26 | 14 | 16 | G | C6-N1 | 5.15 | 1.43 | 1.39 |
| 1 | 13 | 893 | C | C4'-C3' | -5.15 | 1.47 | 1.52 |
| 26 | 1H | 518 | G | C6-N1 | -5.15 | 1.35 | 1.39 |
| 26 | 1H | 862 | G | N9-C4 | 5.15 | 1.42 | 1.38 |
| 26 | 1H | 1974 | C | C3'-C2' | -5.15 | 1.47 | 1.52 |
| 26 | 14 | 53 | A | N9-C4 | -5.15 | 1.34 | 1.37 |
| 26 | 14 | 1216 | G | C6-O6 | 5.15 | 1.28 | 1.24 |
| 26 | 14 | 2402 | C | N1-C6 | 5.15 | 1.40 | 1.37 |
| 26 | 1H | 51 | G | N9-C8 | -5.15 | 1.34 | 1.37 |
| 26 | 1H | 1623 | G | N7-C5 | 5.14 | 1.42 | 1.39 |
| 1 | 1G | 529 | G | N3-C4 | 5.14 | 1.39 | 1.35 |
| 26 | 14 | 2441 | C | C4-N4 | -5.14 | 1.29 | 1.33 |
| 29 | 19 | 242 | ARG | CG-CD | -5.14 | 1.39 | 1.51 |
| 22 | 1K | 36 | U | N1-C2 | 5.14 | 1.43 | 1.38 |
| 26 | 1H | 2031 | A | C8-N7 | 5.14 | 1.35 | 1.31 |
| 12 | 3I | 43 | VAL | C-N | -5.14 | 1.22 | 1.34 |
| 26 | 1H | 202 | U | N1-C2 | -5.14 | 1.33 | 1.38 |
| 26 | 1H | 452 | G | C2-N3 | -5.14 | 1.28 | 1.32 |
| 26 | 1H | 2460 | U | N1-C2 | -5.14 | 1.33 | 1.38 |
| 26 | 14 | 681 | G | C2-N2 | -5.14 | 1.29 | 1.34 |
| 1 | 13 | 760 | G | N1-C2 | 5.14 | 1.41 | 1.37 |
| 24 | 3K | 76 | A | N9-C4 | -5.14 | 1.34 | 1.37 |
| 26 | 1H | 2071 | A | C5-C6 | -5.14 | 1.36 | 1.41 |
| 26 | 14 | 2217 | G | C6-O6 | 5.14 | 1.28 | 1.24 |
| 26 | 14 | 2839 | G | N9-C8 | -5.14 | 1.34 | 1.37 |
| 26 | 1H | 2084 | C | N1-C6 | -5.14 | 1.34 | 1.37 |
| 1 | 1G | 890 | G | C5-C6 | 5.14 | 1.47 | 1.42 |
| 26 | 14 | 2257 | U | C2-N3 | -5.14 | 1.34 | 1.37 |
| 1 | 13 | 956 | U | C2-O2 | -5.13 | 1.17 | 1.22 |
| 26 | 1H | 128 | C | C2-O2 | 5.13 | 1.29 | 1.24 |
| 26 | 1H | 770 | G | C8-N7 | -5.13 | 1.27 | 1.30 |
| 27 | 16 | 76 | G | N9-C4 | -5.13 | 1.33 | 1.38 |
| 30 | 21 | 83 | ASP | CB-CG | 5.13 | 1.62 | 1.51 |
| 26 | 14 | 469 | G | C6-O6 | -5.13 | 1.19 | 1.24 |
| 26 | 14 | 1431 | U | C4-O4 | -5.13 | 1.19 | 1.23 |
| 26 | 14 | 1999 | C | N3-C4 | -5.13 | 1.30 | 1.33 |
| 26 | 14 | 2009 | G | C6-N1 | -5.13 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|--------|------|-------|-------|-------------|----------|
| 26 | 14 | 2069 | G | N9-C8 | -5.13 | 1.34 | 1.37 |
| 26 | 1H | 557 | U | C2-N3 | -5.13 | 1.34 | 1.37 |
| 26 | 14 | 1845 | G | C2-N3 | -5.13 | 1.28 | 1.32 |
| 26 | 1H | 262 | A | N9-C8 | -5.13 | 1.33 | 1.37 |
| 26 | 1H | 2559 | C | N1-C6 | -5.13 | 1.34 | 1.37 |
| 26 | 14 | 1903 | G | C2-N3 | -5.13 | 1.28 | 1.32 |
| 26 | 1H | 968 | G | N7-C5 | -5.13 | 1.36 | 1.39 |
| 26 | 14 | 775 | G | N9-C8 | -5.13 | 1.34 | 1.37 |
| 26 | 14 | 2029 | G | N1-C2 | -5.13 | 1.33 | 1.37 |
| 1 | 13 | 765 | G | N3-C4 | -5.13 | 1.31 | 1.35 |
| 26 | 14 | 1649 | G | N3-C4 | -5.13 | 1.31 | 1.35 |
| 24 | 3K | 65 | C | N1-C6 | 5.12 | 1.40 | 1.37 |
| 26 | 1H | 821 | A | N9-C8 | -5.12 | 1.33 | 1.37 |
| 26 | 1H | 917 | A | C2-N3 | -5.12 | 1.28 | 1.33 |
| 26 | 1H | 2077 | A | N9-C4 | -5.12 | 1.34 | 1.37 |
| 1 | 13 | 33 | A | N3-C4 | -5.12 | 1.31 | 1.34 |
| 25 | 4K | 13 | A | N9-C4 | 5.12 | 1.41 | 1.37 |
| 26 | 1H | 306 | U | C2-N3 | -5.12 | 1.34 | 1.37 |
| 26 | 1H | 778 | G | C6-O6 | 5.12 | 1.28 | 1.24 |
| 26 | 1H | 1025 | G | N7-C5 | -5.12 | 1.36 | 1.39 |
| 26 | 1H | 1980 | G | N7-C5 | 5.12 | 1.42 | 1.39 |
| 26 | 1H | 2781 | A | C6-N6 | -5.12 | 1.29 | 1.33 |
| 1 | 1G | 1139 | G | N9-C4 | -5.12 | 1.33 | 1.38 |
| 26 | 14 | 475 | U | C4-C5 | -5.12 | 1.39 | 1.43 |
| 26 | 14 | 2610 | C | N1-C6 | -5.12 | 1.34 | 1.37 |
| 26 | 1H | 597 | U | C2-N3 | -5.12 | 1.34 | 1.37 |
| 26 | 1H | 1972 | A | N7-C5 | -5.12 | 1.36 | 1.39 |
| 26 | 14 | 414 | C | N3-C4 | -5.12 | 1.30 | 1.33 |
| 1 | 13 | 1288 | A | N3-C4 | -5.12 | 1.31 | 1.34 |
| 26 | 1H | 1922 | G | C5-C4 | -5.12 | 1.34 | 1.38 |
| 26 | 1H | 2345 | G | N3-C4 | -5.12 | 1.31 | 1.35 |
| 27 | 16 | 98 | G | C5-C6 | -5.12 | 1.37 | 1.42 |
| 1 | 1G | 1523 | G | C6-O6 | 5.12 | 1.28 | 1.24 |
| 26 | 14 | 247 | G | N9-C8 | -5.12 | 1.34 | 1.37 |
| 26 | 14 | 445 | C | N1-C2 | -5.12 | 1.35 | 1.40 |
| 26 | 1H | 137(A) | G | C8-N7 | 5.12 | 1.34 | 1.30 |
| 26 | 1H | 728 | G | N9-C8 | -5.12 | 1.34 | 1.37 |
| 26 | 1H | 1216 | G | N9-C8 | -5.12 | 1.34 | 1.37 |
| 26 | 1H | 1899 | G | C5-C6 | -5.12 | 1.37 | 1.42 |
| 1 | 1G | 1502 | A | N3-C4 | -5.12 | 1.31 | 1.34 |
| 26 | 1H | 2580 | U | C4-O4 | 5.12 | 1.27 | 1.23 |
| 26 | 14 | 1260 | G | N9-C8 | -5.12 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 14 | 1783 | A | N9-C8 | -5.12 | 1.33 | 1.37 |
| 26 | 14 | 2594 | C | N1-C6 | -5.12 | 1.34 | 1.37 |
| 1 | 13 | 808 | C | N1-C6 | -5.11 | 1.34 | 1.37 |
| 26 | 1H | 2509 | G | N7-C5 | -5.11 | 1.36 | 1.39 |
| 26 | 14 | 575 | A | N3-C4 | -5.11 | 1.31 | 1.34 |
| 26 | 1H | 117 | G | C6-O6 | -5.11 | 1.19 | 1.24 |
| 26 | 1H | 432 | A | C6-N6 | -5.11 | 1.29 | 1.33 |
| 26 | 1H | 1475 | G | C2-N3 | -5.11 | 1.28 | 1.32 |
| 26 | 1H | 2236 | C | N1-C6 | -5.11 | 1.34 | 1.37 |
| 29 | 11 | 28 | GLU | CB-CG | 5.11 | 1.61 | 1.52 |
| 1 | 1G | 19 | C | N3-C4 | -5.11 | 1.30 | 1.33 |
| 26 | 14 | 265 | A | N7-C5 | -5.11 | 1.36 | 1.39 |
| 1 | 13 | 608 | A | N9-C4 | -5.11 | 1.34 | 1.37 |
| 26 | 1H | 1697 | G | N3-C4 | 5.11 | 1.39 | 1.35 |
| 26 | 1H | 669 | G | C5-C4 | -5.11 | 1.34 | 1.38 |
| 26 | 1H | 762 | U | N1-C2 | 5.11 | 1.43 | 1.38 |
| 27 | 16 | 81 | G | C5-C4 | 5.11 | 1.42 | 1.38 |
| 26 | 14 | 1845 | G | N9-C4 | -5.11 | 1.33 | 1.38 |
| 27 | 1J | 82 | G | N9-C4 | -5.11 | 1.33 | 1.38 |
| 46 | G8 | 84 | ARG | CD-NE | 5.11 | 1.55 | 1.46 |
| 26 | 14 | 1241 | A | N7-C5 | -5.11 | 1.36 | 1.39 |
| 1 | 13 | 715 | A | N9-C4 | -5.10 | 1.34 | 1.37 |
| 26 | 1H | 1598 | C | N1-C2 | 5.10 | 1.45 | 1.40 |
| 26 | 1H | 1786 | A | N1-C2 | 5.10 | 1.39 | 1.34 |
| 26 | 1H | 2713 | A | N3-C4 | -5.10 | 1.31 | 1.34 |
| 26 | 14 | 1130 | U | N1-C2 | -5.10 | 1.33 | 1.38 |
| 26 | 14 | 2426 | A | N9-C4 | -5.10 | 1.34 | 1.37 |
| 26 | 14 | 2697 | G | C8-N7 | -5.10 | 1.27 | 1.30 |
| 26 | 14 | 450 | G | N9-C8 | -5.10 | 1.34 | 1.37 |
| 26 | 14 | 2820 | A | C5-C4 | 5.10 | 1.42 | 1.38 |
| 26 | 1H | 1930 | G | N7-C5 | 5.10 | 1.42 | 1.39 |
| 26 | 14 | 2437 | U | N3-C4 | -5.10 | 1.33 | 1.38 |
| 26 | 1H | 1534 | G | N9-C4 | 5.10 | 1.42 | 1.38 |
| 26 | 1H | 2737 | G | C5-C6 | -5.10 | 1.37 | 1.42 |
| 26 | 14 | 1937 | A | N9-C4 | -5.10 | 1.34 | 1.37 |
| 26 | 1H | 2623 | G | N1-C2 | -5.10 | 1.33 | 1.37 |
| 26 | 1H | 692 | C | N3-C4 | -5.09 | 1.30 | 1.33 |
| 26 | 1H | 2247 | A | N9-C4 | -5.09 | 1.34 | 1.37 |
| 26 | 1H | 2298 | A | C5-C4 | -5.09 | 1.35 | 1.38 |
| 1 | 1G | 598 | U | N1-C2 | -5.09 | 1.33 | 1.38 |
| 15 | 6A | 62 | GLN | CD-NE2 | -5.09 | 1.20 | 1.32 |
| 43 | 95 | 80 | GLN | CB-CG | 5.09 | 1.66 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 1H | 188 | G | N9-C4 | -5.09 | 1.33 | 1.38 |
| 1 | 13 | 664 | G | N9-C4 | -5.09 | 1.33 | 1.38 |
| 26 | 1H | 217 | G | C5-C6 | 5.09 | 1.47 | 1.42 |
| 26 | 1H | 693 | C | N1-C6 | -5.09 | 1.34 | 1.37 |
| 26 | 1H | 2277 | G | N7-C5 | -5.09 | 1.36 | 1.39 |
| 1 | 13 | 186 | C | N1-C6 | 5.09 | 1.40 | 1.37 |
| 1 | 13 | 581 | G | C5-C6 | -5.09 | 1.37 | 1.42 |
| 1 | 13 | 1470 | G | N9-C4 | -5.09 | 1.33 | 1.38 |
| 26 | 1H | 1922 | G | N9-C8 | -5.09 | 1.34 | 1.37 |
| 26 | 1H | 2449 | U | N1-C6 | -5.09 | 1.33 | 1.38 |
| 26 | 14 | 1570 | A | N3-C4 | -5.09 | 1.31 | 1.34 |
| 26 | 14 | 1764 | G | C6-N1 | -5.09 | 1.35 | 1.39 |
| 26 | 14 | 2584 | U | N1-C2 | 5.09 | 1.43 | 1.38 |
| 26 | 1H | 780 | G | N9-C4 | -5.08 | 1.33 | 1.38 |
| 26 | 1H | 917 | A | C8-N7 | 5.08 | 1.35 | 1.31 |
| 26 | 1H | 1392 | A | N9-C4 | 5.08 | 1.41 | 1.37 |
| 45 | F8 | 63 | LYS | CD-CE | 5.08 | 1.64 | 1.51 |
| 1 | 13 | 260 | G | N9-C8 | -5.08 | 1.34 | 1.37 |
| 26 | 1H | 1765 | C | C4'-C3' | -5.08 | 1.47 | 1.52 |
| 26 | 1H | 413 | C | N1-C6 | -5.08 | 1.34 | 1.37 |
| 26 | 1H | 599 | G | N9-C8 | -5.08 | 1.34 | 1.37 |
| 26 | 1H | 613 | U | N3-C4 | -5.08 | 1.33 | 1.38 |
| 26 | 1H | 801 | G | C6-N1 | -5.08 | 1.35 | 1.39 |
| 1 | 1G | 304 | U | C4-O4 | 5.08 | 1.27 | 1.23 |
| 26 | 14 | 758 | C | C2-O2 | -5.08 | 1.19 | 1.24 |
| 26 | 1H | 2678 | C | N1-C6 | -5.08 | 1.34 | 1.37 |
| 26 | 14 | 608 | A | N3-C4 | -5.08 | 1.31 | 1.34 |
| 26 | 1H | 1597 | A | N9-C8 | -5.08 | 1.33 | 1.37 |
| 26 | 14 | 43 | G | N7-C5 | -5.08 | 1.36 | 1.39 |
| 26 | 14 | 1337 | G | N7-C5 | 5.08 | 1.42 | 1.39 |
| 26 | 14 | 1579 | A | N9-C4 | -5.08 | 1.34 | 1.37 |
| 26 | 14 | 1644 | C | N1-C6 | -5.08 | 1.34 | 1.37 |
| 27 | 1J | 88 | C | N1-C6 | 5.08 | 1.40 | 1.37 |
| 26 | 1H | 765 | G | N7-C5 | 5.08 | 1.42 | 1.39 |
| 26 | 1H | 911 | A | N9-C8 | -5.08 | 1.33 | 1.37 |
| 26 | 1H | 2464 | C | N1-C6 | -5.08 | 1.34 | 1.37 |
| 26 | 1H | 2495 | G | C2-N3 | -5.08 | 1.28 | 1.32 |
| 26 | 14 | 1596 | A | C6-N1 | -5.08 | 1.31 | 1.35 |
| 1 | 13 | 117 | G | C5-C6 | -5.07 | 1.37 | 1.42 |
| 1 | 13 | 946 | A | N7-C5 | 5.07 | 1.42 | 1.39 |
| 26 | 1H | 593 | G | C6-N1 | -5.07 | 1.35 | 1.39 |
| 26 | 1H | 919 | G | C6-N1 | -5.07 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|-------|-------------|----------|
| 26 | 1H | 2341 | G | C6-O6 | 5.07 | 1.28 | 1.24 |
| 26 | 14 | 2242 | G | N7-C5 | 5.07 | 1.42 | 1.39 |
| 1 | 1G | 900 | A | N9-C4 | -5.07 | 1.34 | 1.37 |
| 26 | 14 | 1978 | A | C6-N1 | -5.07 | 1.31 | 1.35 |
| 42 | C8 | 108 | GLU | CD-OE1 | -5.07 | 1.20 | 1.25 |
| 26 | 14 | 1811 | G | N9-C4 | -5.07 | 1.33 | 1.38 |
| 26 | 1H | 115 | C | N3-C4 | 5.07 | 1.37 | 1.33 |
| 26 | 1H | 478 | A | N3-C4 | -5.07 | 1.31 | 1.34 |
| 26 | 1H | 2844 | G | C6-N1 | -5.07 | 1.36 | 1.39 |
| 26 | 14 | 2049 | G | N7-C5 | -5.07 | 1.36 | 1.39 |
| 26 | 14 | 2500 | U | C2-N3 | -5.07 | 1.34 | 1.37 |
| 26 | 1H | 386 | G | C5-C6 | -5.06 | 1.37 | 1.42 |
| 26 | 1H | 771 | G | C5-C4 | -5.06 | 1.34 | 1.38 |
| 1 | 13 | 794 | A | N7-C5 | -5.06 | 1.36 | 1.39 |
| 26 | 1H | 513 | A | N7-C5 | -5.06 | 1.36 | 1.39 |
| 26 | 1H | 675 | A | N3-C4 | -5.06 | 1.31 | 1.34 |
| 26 | 1H | 2259 | G | N9-C8 | -5.06 | 1.34 | 1.37 |
| 1 | 1G | 331 | G | C6-O6 | 5.06 | 1.28 | 1.24 |
| 26 | 14 | 657 | U | C2-N3 | -5.06 | 1.34 | 1.37 |
| 26 | 14 | 1495 | A | N3-C4 | -5.06 | 1.31 | 1.34 |
| 26 | 14 | 2525 | G | N9-C4 | -5.06 | 1.33 | 1.38 |
| 26 | 14 | 2586 | C | C4-C5 | -5.06 | 1.39 | 1.43 |
| 26 | 1H | 858 | U | C2-N3 | -5.06 | 1.34 | 1.37 |
| 26 | 1H | 1335 | U | N3-C4 | -5.06 | 1.33 | 1.38 |
| 26 | 1H | 1624 | G | N3-C4 | -5.06 | 1.31 | 1.35 |
| 26 | 1H | 2533 | A | N7-C5 | 5.06 | 1.42 | 1.39 |
| 1 | 1G | 338 | A | N9-C4 | -5.06 | 1.34 | 1.37 |
| 26 | 14 | 1393 | A | C6-N1 | -5.06 | 1.32 | 1.35 |
| 1 | 13 | 606 | G | N3-C4 | 5.06 | 1.39 | 1.35 |
| 26 | 1H | 2431 | U | N1-C2 | -5.06 | 1.33 | 1.38 |
| 26 | 1H | 2644 | G | N9-C4 | -5.06 | 1.33 | 1.38 |
| 26 | 1H | 2378 | A | C6-N6 | 5.06 | 1.38 | 1.33 |
| 26 | 1H | 2049 | G | C2-N2 | -5.05 | 1.29 | 1.34 |
| 1 | 1G | 804 | U | C2-N3 | -5.05 | 1.34 | 1.37 |
| 26 | 14 | 1294 | U | N1-C2 | -5.05 | 1.34 | 1.38 |
| 26 | 14 | 2396 | G | C5-C6 | -5.05 | 1.37 | 1.42 |
| 1 | 13 | 712 | A | N7-C5 | 5.05 | 1.42 | 1.39 |
| 26 | 14 | 459 | U | C2-N3 | -5.05 | 1.34 | 1.37 |
| 26 | 14 | 1269 | A | C6-N1 | -5.05 | 1.32 | 1.35 |
| 26 | 14 | 2688 | U | C2-N3 | -5.05 | 1.34 | 1.37 |
| 1 | 13 | 47 | C | N3-C4 | -5.05 | 1.30 | 1.33 |
| 1 | 13 | 1400 | C | C2-N3 | 5.05 | 1.39 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|---------|------|---------|-------|-------------|----------|
| 26 | 1H | 1189 | A | C2-N3 | 5.05 | 1.38 | 1.33 |
| 26 | 1H | 2261 | C | N1-C6 | 5.05 | 1.40 | 1.37 |
| 26 | 14 | 2719 | G | N7-C5 | -5.05 | 1.36 | 1.39 |
| 29 | 11 | 28 | GLU | CD-OE1 | 5.05 | 1.31 | 1.25 |
| 6 | 5E | 86 | ARG | CB-CG | -5.05 | 1.39 | 1.52 |
| 26 | 1H | 1324 | G | N3-C4 | -5.05 | 1.31 | 1.35 |
| 1 | 1G | 1434 | A | N9-C4 | -5.05 | 1.34 | 1.37 |
| 26 | 1H | 2227 | A | N9-C4 | -5.04 | 1.34 | 1.37 |
| 26 | 14 | 2571 | C | C2-O2 | -5.04 | 1.20 | 1.24 |
| 26 | 1H | 592 | G | N3-C4 | -5.04 | 1.31 | 1.35 |
| 26 | 14 | 248 | G | N7-C5 | -5.04 | 1.36 | 1.39 |
| 26 | 14 | 2376 | A | N3-C4 | 5.04 | 1.37 | 1.34 |
| 26 | 1H | 946 | G | N9-C4 | -5.04 | 1.33 | 1.38 |
| 26 | 14 | 802 | A | C6-N1 | -5.04 | 1.32 | 1.35 |
| 26 | 14 | 2821 | A | N9-C4 | -5.04 | 1.34 | 1.37 |
| 26 | 14 | 1293 | C | C5-C6 | -5.04 | 1.30 | 1.34 |
| 26 | 1H | 536 | A | C5-C4 | -5.04 | 1.35 | 1.38 |
| 26 | 1H | 1109 | C | C3'-O3' | 5.04 | 1.49 | 1.42 |
| 26 | 1H | 2486 | G | C5-C4 | -5.04 | 1.34 | 1.38 |
| 26 | 14 | 1842 | G | N9-C8 | -5.04 | 1.34 | 1.37 |
| 26 | 1H | 630 | G | N1-C2 | 5.04 | 1.41 | 1.37 |
| 26 | 1H | 800 | A | N9-C4 | -5.04 | 1.34 | 1.37 |
| 26 | 14 | 113 | G | C2-N3 | 5.04 | 1.36 | 1.32 |
| 26 | 14 | 1601 | G | N1-C2 | -5.04 | 1.33 | 1.37 |
| 1 | 13 | 575 | G | C5-C4 | -5.04 | 1.34 | 1.38 |
| 26 | 1H | 1628 | G | C6-O6 | 5.04 | 1.28 | 1.24 |
| 26 | 1H | 1981 | A | N9-C4 | -5.04 | 1.34 | 1.37 |
| 26 | 14 | 1791 | A | N9-C4 | -5.04 | 1.34 | 1.37 |
| 26 | 1H | 1443 | G | N3-C4 | -5.03 | 1.31 | 1.35 |
| 26 | 14 | 1229(A) | G | N3-C4 | -5.03 | 1.31 | 1.35 |
| 1 | 13 | 1467 | G | N3-C4 | -5.03 | 1.31 | 1.35 |
| 22 | 1K | 74 | C | N3-C4 | 5.03 | 1.37 | 1.33 |
| 26 | 1H | 120 | U | N1-C2 | 5.03 | 1.43 | 1.38 |
| 26 | 1H | 1936 | A | C5-C6 | -5.03 | 1.36 | 1.41 |
| 27 | 16 | 72 | G | N3-C4 | -5.03 | 1.31 | 1.35 |
| 26 | 14 | 2581 | G | N9-C8 | -5.03 | 1.34 | 1.37 |
| 1 | 13 | 1408 | A | N7-C5 | -5.03 | 1.36 | 1.39 |
| 26 | 1H | 460 | A | C6-N1 | 5.03 | 1.39 | 1.35 |
| 26 | 1H | 1821 | A | N7-C5 | -5.03 | 1.36 | 1.39 |
| 26 | 1H | 1825 | A | C6-N6 | -5.03 | 1.29 | 1.33 |
| 42 | C8 | 94 | ASN | CB-CG | 5.03 | 1.62 | 1.51 |
| 1 | 1G | 1073 | U | C2-N3 | 5.03 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | 1G | 1462 | G | N9-C4 | -5.03 | 1.33 | 1.38 |
| 26 | 14 | 530 | G | C5-C6 | -5.03 | 1.37 | 1.42 |
| 26 | 14 | 1950 | G | N9-C8 | 5.03 | 1.41 | 1.37 |
| 1 | 13 | 959 | A | N3-C4 | 5.03 | 1.37 | 1.34 |
| 26 | 1H | 389 | G | N9-C8 | -5.03 | 1.34 | 1.37 |
| 26 | 1H | 664 | C | N1-C6 | -5.03 | 1.34 | 1.37 |
| 1 | 13 | 749 | C | N1-C6 | 5.03 | 1.40 | 1.37 |
| 26 | 14 | 1476 | C | N1-C2 | -5.03 | 1.35 | 1.40 |
| 44 | A5 | 77 | ASP | CB-CG | 5.03 | 1.62 | 1.51 |
| 26 | 1H | 795 | C | N1-C2 | -5.03 | 1.35 | 1.40 |
| 26 | 1H | 1775 | U | N1-C6 | -5.03 | 1.33 | 1.38 |
| 26 | 1H | 1787 | A | C4'-C3' | -5.03 | 1.47 | 1.52 |
| 26 | 14 | 1827 | C | N1-C2 | 5.03 | 1.45 | 1.40 |
| 1 | 13 | 369 | C | N1-C6 | -5.02 | 1.34 | 1.37 |
| 1 | 13 | 513 | C | C4-C5 | -5.02 | 1.39 | 1.43 |
| 1 | 13 | 1435 | G | C6-O6 | 5.02 | 1.28 | 1.24 |
| 26 | 1H | 326 | G | C2-N3 | -5.02 | 1.28 | 1.32 |
| 26 | 14 | 1346 | G | N9-C8 | -5.02 | 1.34 | 1.37 |
| 26 | 14 | 2713 | A | N9-C8 | 5.02 | 1.41 | 1.37 |
| 26 | 1H | 126 | A | C6-N6 | 5.02 | 1.38 | 1.33 |
| 26 | 1H | 799 | G | N9-C4 | -5.02 | 1.33 | 1.38 |
| 1 | 13 | 581 | G | N3-C4 | -5.02 | 1.31 | 1.35 |
| 26 | 1H | 500 | G | N3-C4 | -5.02 | 1.31 | 1.35 |
| 26 | 1H | 913 | U | C2-O2 | -5.02 | 1.17 | 1.22 |
| 27 | 16 | 81 | G | C6-O6 | -5.02 | 1.19 | 1.24 |
| 26 | 14 | 1816 | G | N7-C5 | 5.02 | 1.42 | 1.39 |
| 49 | F5 | 5 | CYS | CB-SG | -5.02 | 1.73 | 1.81 |
| 26 | 14 | 677 | A | N3-C4 | -5.02 | 1.31 | 1.34 |
| 26 | 1H | 1638 | C | N3-C4 | -5.02 | 1.30 | 1.33 |
| 26 | 14 | 826 | U | C4-O4 | 5.02 | 1.27 | 1.23 |
| 26 | 14 | 2391 | G | C8-N7 | 5.02 | 1.33 | 1.30 |
| 26 | 1H | 188 | G | C6-N1 | -5.01 | 1.36 | 1.39 |
| 26 | 1H | 188 | G | N7-C5 | -5.01 | 1.36 | 1.39 |
| 26 | 1H | 802 | A | N7-C5 | 5.01 | 1.42 | 1.39 |
| 26 | 14 | 228 | A | N9-C4 | -5.01 | 1.34 | 1.37 |
| 26 | 14 | 574 | C | P-O5' | -5.01 | 1.54 | 1.59 |
| 1 | 13 | 810 | C | N3-C4 | -5.01 | 1.30 | 1.33 |
| 26 | 1H | 1284 | A | N9-C8 | 5.01 | 1.41 | 1.37 |
| 26 | 1H | 1846 | G | N9-C8 | -5.01 | 1.34 | 1.37 |
| 1 | 13 | 1299 | A | N7-C5 | -5.01 | 1.36 | 1.39 |
| 26 | 1H | 615 | G | C5-C6 | 5.01 | 1.47 | 1.42 |
| 26 | 1H | 745 | G | C8-N7 | -5.01 | 1.27 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | 1H | 1376 | C | C4-C5 | -5.01 | 1.39 | 1.43 |
| 26 | 1H | 1579 | A | N7-C5 | -5.01 | 1.36 | 1.39 |
| 26 | 1H | 2476 | A | C5-C4 | 5.01 | 1.42 | 1.38 |
| 26 | 1H | 2709 | G | N3-C4 | -5.01 | 1.31 | 1.35 |
| 45 | B5 | 69 | TYR | CB-CG | 5.01 | 1.59 | 1.51 |
| 26 | 1H | 205 | G | N3-C4 | 5.01 | 1.39 | 1.35 |
| 26 | 1H | 1161 | C | C3'-C2' | -5.01 | 1.47 | 1.52 |
| 1 | 1G | 706 | A | N3-C4 | -5.01 | 1.31 | 1.34 |
| 26 | 14 | 1605 | C | N3-C4 | -5.01 | 1.30 | 1.33 |
| 26 | 1H | 1021 | A | N7-C5 | -5.01 | 1.36 | 1.39 |
| 26 | 1H | 2246 | G | C2-N2 | -5.01 | 1.29 | 1.34 |
| 26 | 1H | 2436 | G | N9-C4 | -5.01 | 1.33 | 1.38 |
| 38 | 88 | 93 | TYR | CB-CG | -5.01 | 1.44 | 1.51 |
| 1 | 1G | 577 | G | C5-C4 | -5.01 | 1.34 | 1.38 |
| 26 | 1H | 563 | G | C2-N3 | -5.00 | 1.28 | 1.32 |
| 26 | 1H | 975 | G | N9-C4 | -5.00 | 1.33 | 1.38 |
| 41 | B8 | 3 | ARG | CB-CG | 5.00 | 1.66 | 1.52 |
| 1 | 13 | 1386 | G | C6-N1 | 5.00 | 1.43 | 1.39 |
| 26 | 14 | 320 | A | N9-C4 | -5.00 | 1.34 | 1.37 |

All (26956) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|----------|--------|-------------|----------|
| 26 | 14 | 783 | A | C2-N3-C4 | -38.22 | 91.49 | 110.60 |
| 26 | 1H | 783 | A | C2-N3-C4 | -32.53 | 94.33 | 110.60 |
| 26 | 1H | 1899 | G | C2-N3-C4 | -29.93 | 96.93 | 111.90 |
| 26 | 1H | 676 | A | C2-N3-C4 | -28.68 | 96.26 | 110.60 |
| 26 | 14 | 929 | G | N1-C6-O6 | 25.84 | 135.40 | 119.90 |
| 26 | 14 | 1698 | A | N1-C6-N6 | 25.22 | 133.73 | 118.60 |
| 26 | 14 | 2363 | C | C6-N1-C2 | 24.94 | 130.28 | 120.30 |
| 26 | 1H | 2287 | A | C2-N3-C4 | -24.86 | 98.17 | 110.60 |
| 26 | 1H | 1616 | A | N1-C6-N6 | 24.81 | 133.49 | 118.60 |
| 26 | 1H | 783 | A | C5-N7-C8 | -24.65 | 91.58 | 103.90 |
| 26 | 14 | 676 | A | C5-N7-C8 | -23.93 | 91.93 | 103.90 |
| 26 | 1H | 676 | A | C5-N7-C8 | -23.87 | 91.97 | 103.90 |
| 26 | 14 | 2324 | C | C6-N1-C2 | 23.80 | 129.82 | 120.30 |
| 26 | 1H | 195 | A | N1-C6-N6 | 23.69 | 132.82 | 118.60 |
| 26 | 14 | 74 | A | C2-N3-C4 | -23.39 | 98.90 | 110.60 |
| 26 | 1H | 2713 | A | C2-N3-C4 | -23.24 | 98.98 | 110.60 |
| 26 | 1H | 133 | C | C6-N1-C2 | 22.98 | 129.49 | 120.30 |
| 26 | 1H | 1950 | G | N7-C8-N9 | 22.94 | 124.57 | 113.10 |
| 26 | 1H | 774 | A | C2-N3-C4 | -22.64 | 99.28 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 783 | A | C5-C6-N1 | -22.48 | 106.46 | 117.70 |
| 26 | 1H | 698 | C | C6-N1-C2 | 22.39 | 129.25 | 120.30 |
| 26 | 1H | 1786 | A | C5-N7-C8 | -22.38 | 92.71 | 103.90 |
| 26 | 14 | 133 | C | C6-N1-C2 | 22.25 | 129.20 | 120.30 |
| 26 | 1H | 2552 | U | N1-C2-O2 | -22.12 | 107.32 | 122.80 |
| 26 | 1H | 1616 | A | C5-N7-C8 | -22.10 | 92.85 | 103.90 |
| 26 | 1H | 140 | A | N1-C6-N6 | 22.10 | 131.86 | 118.60 |
| 26 | 1H | 1698 | A | C2-N3-C4 | -21.85 | 99.68 | 110.60 |
| 26 | 1H | 2518 | A | N1-C6-N6 | 21.75 | 131.65 | 118.60 |
| 26 | 1H | 389 | G | C8-N9-C4 | 21.75 | 115.10 | 106.40 |
| 26 | 1H | 621 | A | C2-N3-C4 | -21.69 | 99.75 | 110.60 |
| 26 | 1H | 1950 | G | C8-N9-C4 | -21.67 | 97.73 | 106.40 |
| 26 | 1H | 140 | A | C5-N7-C8 | -21.43 | 93.19 | 103.90 |
| 26 | 14 | 783 | A | C5-N7-C8 | -21.37 | 93.21 | 103.90 |
| 26 | 1H | 1950 | G | C5-N7-C8 | -21.35 | 93.62 | 104.30 |
| 26 | 14 | 1967 | C | O5'-P-OP2 | -21.32 | 85.11 | 110.70 |
| 26 | 14 | 1647 | G | O5'-P-OP2 | -21.31 | 85.13 | 110.70 |
| 26 | 1H | 676 | A | N3-C4-C5 | 21.23 | 141.66 | 126.80 |
| 26 | 1H | 1332 | G | C6-C5-N7 | -21.22 | 117.67 | 130.40 |
| 26 | 14 | 945 | A | N1-C6-N6 | 21.15 | 131.29 | 118.60 |
| 26 | 1H | 1332 | G | C4-C5-N7 | 20.95 | 119.18 | 110.80 |
| 26 | 1H | 389 | G | O5'-P-OP1 | -20.82 | 85.72 | 110.70 |
| 26 | 14 | 74 | A | C5-C6-N1 | -20.82 | 107.29 | 117.70 |
| 26 | 1H | 2490 | G | N3-C4-N9 | -20.81 | 113.52 | 126.00 |
| 26 | 1H | 796 | C | C6-N1-C2 | 20.63 | 128.55 | 120.30 |
| 26 | 1H | 2688 | U | N3-C4-O4 | -20.60 | 104.98 | 119.40 |
| 26 | 1H | 783 | A | C8-N9-C4 | -20.56 | 97.58 | 105.80 |
| 26 | 1H | 783 | A | N1-C2-N3 | 20.39 | 139.50 | 129.30 |
| 24 | 3K | 76 | A | N1-C6-N6 | 20.37 | 130.82 | 118.60 |
| 26 | 1H | 144 | C | C6-N1-C2 | 20.32 | 128.43 | 120.30 |
| 26 | 1H | 1332 | G | C5-N7-C8 | -20.28 | 94.16 | 104.30 |
| 1 | 1G | 117 | G | N1-C6-O6 | 20.13 | 131.98 | 119.90 |
| 26 | 14 | 774 | A | C2-N3-C4 | -20.07 | 100.56 | 110.60 |
| 26 | 1H | 1626 | G | N3-C2-N2 | -20.05 | 105.86 | 119.90 |
| 26 | 1H | 2490 | G | C8-N9-C4 | -20.01 | 98.40 | 106.40 |
| 26 | 1H | 2329 | G | C8-N9-C4 | 19.91 | 114.37 | 106.40 |
| 26 | 1H | 2392 | A | C5-C6-N1 | -19.86 | 107.77 | 117.70 |
| 26 | 1H | 1136 | G | O5'-P-OP2 | -19.84 | 86.90 | 110.70 |
| 26 | 1H | 783 | A | N7-C8-N9 | 19.82 | 123.71 | 113.80 |
| 26 | 1H | 210 | C | C6-N1-C2 | 19.79 | 128.22 | 120.30 |
| 26 | 14 | 783 | A | N3-C4-C5 | 19.78 | 140.64 | 126.80 |
| 26 | 1H | 2006 | C | C6-N1-C2 | 19.75 | 128.20 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1021 | A | C2-N3-C4 | -19.73 | 100.73 | 110.60 |
| 1 | 13 | 1502 | A | C5-N7-C8 | -19.71 | 94.05 | 103.90 |
| 27 | 16 | 13 | A | O5'-P-OP2 | -19.70 | 87.07 | 110.70 |
| 26 | 1H | 2271 | G | C5-C6-O6 | -19.62 | 116.83 | 128.60 |
| 26 | 1H | 621 | A | N1-C6-N6 | 19.55 | 130.33 | 118.60 |
| 26 | 1H | 1332 | G | C2-N3-C4 | -19.54 | 102.13 | 111.90 |
| 26 | 1H | 2689 | U | C5-C4-O4 | 19.54 | 137.62 | 125.90 |
| 26 | 1H | 389 | G | N9-C4-C5 | -19.54 | 97.58 | 105.40 |
| 26 | 1H | 2700 | C | C6-N1-C2 | 19.51 | 128.10 | 120.30 |
| 26 | 14 | 528 | A | C2-N3-C4 | -19.48 | 100.86 | 110.60 |
| 26 | 14 | 917 | A | O5'-P-OP1 | -19.47 | 87.34 | 110.70 |
| 26 | 14 | 929 | G | C6-C5-N7 | -19.41 | 118.76 | 130.40 |
| 26 | 1H | 676 | A | N3-C4-N9 | -19.41 | 111.88 | 127.40 |
| 26 | 1H | 942 | G | N9-C4-C5 | 19.36 | 113.14 | 105.40 |
| 26 | 14 | 676 | A | C4-C5-N7 | 19.33 | 120.36 | 110.70 |
| 26 | 1H | 1786 | A | C2-N3-C4 | -19.32 | 100.94 | 110.60 |
| 26 | 1H | 138 | G | C4-C5-N7 | 19.30 | 118.52 | 110.80 |
| 26 | 1H | 783 | A | C6-C5-N7 | -19.24 | 118.83 | 132.30 |
| 26 | 1H | 863 | A | O5'-P-OP2 | -19.22 | 87.63 | 110.70 |
| 26 | 14 | 454 | A | O5'-P-OP2 | -19.20 | 87.66 | 110.70 |
| 26 | 1H | 952 | G | C4-C5-N7 | 19.20 | 118.48 | 110.80 |
| 26 | 1H | 140 | A | C4-C5-N7 | 19.14 | 120.27 | 110.70 |
| 26 | 1H | 2430 | A | C5-N7-C8 | -19.14 | 94.33 | 103.90 |
| 26 | 1H | 1616 | A | C4-C5-N7 | 19.08 | 120.24 | 110.70 |
| 26 | 1H | 974 | G | O5'-P-OP2 | -19.05 | 87.84 | 110.70 |
| 26 | 1H | 1698 | A | N1-C6-N6 | 19.04 | 130.03 | 118.60 |
| 26 | 1H | 71 | A | C2-N3-C4 | -19.01 | 101.09 | 110.60 |
| 26 | 1H | 74 | A | C2-N3-C4 | -19.01 | 101.09 | 110.60 |
| 26 | 14 | 1816 | G | O5'-P-OP1 | -19.00 | 87.90 | 110.70 |
| 26 | 1H | 1616 | A | C5-C6-N6 | -18.95 | 108.54 | 123.70 |
| 26 | 1H | 2346 | A | N1-C2-N3 | 18.92 | 138.76 | 129.30 |
| 26 | 1H | 1950 | G | C4-C5-N7 | 18.91 | 118.37 | 110.80 |
| 26 | 1H | 1899 | G | N3-C4-N9 | -18.89 | 114.67 | 126.00 |
| 26 | 1H | 138 | G | C5-N7-C8 | -18.85 | 94.87 | 104.30 |
| 26 | 1H | 828 | U | C5-C4-O4 | 18.85 | 137.21 | 125.90 |
| 1 | 1G | 110 | C | C6-N1-C2 | 18.76 | 127.81 | 120.30 |
| 26 | 1H | 2490 | G | N3-C4-C5 | 18.74 | 137.97 | 128.60 |
| 26 | 14 | 945 | A | C4-C5-N7 | 18.74 | 120.07 | 110.70 |
| 26 | 1H | 1614 | A | C2-N3-C4 | -18.71 | 101.24 | 110.60 |
| 26 | 1H | 2392 | A | C2-N3-C4 | -18.71 | 101.25 | 110.60 |
| 26 | 14 | 676 | A | C2-N3-C4 | -18.69 | 101.25 | 110.60 |
| 26 | 1H | 2688 | U | C5-C4-O4 | 18.68 | 137.11 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 2264 | C | C6-N1-C2 | -18.68 | 112.83 | 120.30 |
| 26 | 14 | 2464 | C | C6-N1-C2 | 18.66 | 127.77 | 120.30 |
| 26 | 1H | 71 | A | N1-C6-N6 | 18.65 | 129.79 | 118.60 |
| 26 | 14 | 140 | A | N1-C6-N6 | 18.63 | 129.78 | 118.60 |
| 26 | 14 | 783 | A | N1-C6-N6 | 18.59 | 129.76 | 118.60 |
| 26 | 1H | 71 | A | C5-N7-C8 | -18.59 | 94.61 | 103.90 |
| 26 | 1H | 2503 | A | N1-C6-N6 | 18.51 | 129.70 | 118.60 |
| 26 | 1H | 942 | G | C8-N9-C4 | -18.49 | 99.01 | 106.40 |
| 26 | 1H | 1006 | C | O5'-P-OP1 | -18.40 | 88.61 | 110.70 |
| 26 | 1H | 710 | G | N1-C6-O6 | 18.40 | 130.94 | 119.90 |
| 26 | 1H | 1817 | G | C5-C6-O6 | 18.38 | 139.63 | 128.60 |
| 1 | 13 | 1517 | G | O5'-P-OP2 | -18.38 | 88.64 | 110.70 |
| 26 | 1H | 1616 | A | C6-C5-N7 | -18.31 | 119.48 | 132.30 |
| 26 | 14 | 2430 | A | C2-N3-C4 | -18.29 | 101.45 | 110.60 |
| 26 | 14 | 1984 | G | O5'-P-OP2 | -18.29 | 88.75 | 110.70 |
| 26 | 1H | 942 | G | N3-C2-N2 | -18.28 | 107.10 | 119.90 |
| 26 | 1H | 1647 | G | O5'-P-OP1 | -18.28 | 88.77 | 110.70 |
| 26 | 1H | 2085 | C | O5'-P-OP2 | -18.25 | 88.80 | 110.70 |
| 26 | 1H | 2430 | A | C2-N3-C4 | -18.21 | 101.50 | 110.60 |
| 26 | 1H | 1614 | A | N1-C6-N6 | 18.21 | 129.53 | 118.60 |
| 26 | 1H | 1899 | G | N3-C4-C5 | 18.19 | 137.70 | 128.60 |
| 26 | 14 | 1607 | C | C5-C4-N4 | -18.18 | 107.47 | 120.20 |
| 26 | 1H | 831 | G | C8-N9-C4 | 18.16 | 113.67 | 106.40 |
| 26 | 14 | 810 | U | N3-C4-O4 | 18.16 | 132.11 | 119.40 |
| 26 | 1H | 2584 | U | C5-C4-O4 | 18.15 | 136.79 | 125.90 |
| 1 | 13 | 965 | A | N1-C6-N6 | 18.11 | 129.46 | 118.60 |
| 26 | 1H | 690 | G | C8-N9-C4 | 18.09 | 113.64 | 106.40 |
| 26 | 1H | 2490 | G | N7-C8-N9 | 18.06 | 122.13 | 113.10 |
| 26 | 14 | 562 | U | N1-C2-N3 | 18.03 | 125.72 | 114.90 |
| 26 | 14 | 783 | A | C4-C5-N7 | 18.03 | 119.72 | 110.70 |
| 26 | 14 | 2873 | A | C2-N3-C4 | -18.02 | 101.59 | 110.60 |
| 26 | 1H | 62 | C | C6-N1-C2 | 18.01 | 127.50 | 120.30 |
| 26 | 1H | 945 | A | N1-C6-N6 | 17.99 | 129.39 | 118.60 |
| 26 | 1H | 1662 | C | C6-N1-C2 | 17.96 | 127.48 | 120.30 |
| 26 | 14 | 783 | A | C6-C5-N7 | -17.94 | 119.74 | 132.30 |
| 26 | 14 | 2287 | A | C2-N3-C4 | -17.92 | 101.64 | 110.60 |
| 26 | 1H | 839 | U | O5'-P-OP2 | -17.91 | 89.21 | 110.70 |
| 26 | 1H | 2017 | U | N1-C2-O2 | -17.91 | 110.27 | 122.80 |
| 26 | 1H | 691 | C | C6-N1-C2 | 17.85 | 127.44 | 120.30 |
| 26 | 1H | 945 | A | C6-C5-N7 | -17.82 | 119.83 | 132.30 |
| 26 | 14 | 802 | A | O5'-P-OP2 | -17.80 | 89.34 | 110.70 |
| 26 | 1H | 2490 | G | C2-N3-C4 | -17.79 | 103.01 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 2829 | C | C6-N1-C2 | 17.77 | 127.41 | 120.30 |
| 26 | 1H | 115 | C | C5-C4-N4 | -17.73 | 107.79 | 120.20 |
| 26 | 1H | 774 | A | C5-C6-N1 | -17.73 | 108.84 | 117.70 |
| 26 | 14 | 1558 | A | C2-N3-C4 | -17.73 | 101.74 | 110.60 |
| 26 | 1H | 1899 | G | N1-C2-N3 | 17.71 | 134.53 | 123.90 |
| 26 | 1H | 122 | G | N1-C6-O6 | 17.61 | 130.47 | 119.90 |
| 26 | 14 | 945 | A | C5-N7-C8 | -17.60 | 95.10 | 103.90 |
| 26 | 1H | 945 | A | C2-N3-C4 | -17.56 | 101.82 | 110.60 |
| 26 | 1H | 783 | A | N1-C6-N6 | 17.55 | 129.13 | 118.60 |
| 26 | 14 | 1786 | A | C2-N3-C4 | -17.55 | 101.83 | 110.60 |
| 26 | 1H | 2507 | C | C6-N1-C2 | -17.54 | 113.28 | 120.30 |
| 26 | 14 | 2502 | G | O5'-P-OP1 | -17.53 | 89.66 | 110.70 |
| 26 | 14 | 2503 | A | O5'-P-OP2 | -17.52 | 89.68 | 110.70 |
| 26 | 14 | 465 | G | O5'-P-OP2 | 17.52 | 131.72 | 110.70 |
| 26 | 14 | 2326 | C | O5'-P-OP1 | -17.49 | 89.72 | 110.70 |
| 26 | 14 | 1698 | A | C2-N3-C4 | -17.47 | 101.86 | 110.60 |
| 26 | 1H | 1518 | C | O5'-P-OP1 | -17.46 | 89.75 | 110.70 |
| 26 | 14 | 2346 | A | C2-N3-C4 | -17.42 | 101.89 | 110.60 |
| 26 | 1H | 2311 | A | C2-N3-C4 | -17.34 | 101.93 | 110.60 |
| 26 | 1H | 1210 | A | C5-N7-C8 | -17.33 | 95.23 | 103.90 |
| 26 | 14 | 2005 | A | O5'-P-OP2 | -17.33 | 89.90 | 110.70 |
| 26 | 1H | 2476 | A | C8-N9-C4 | -17.31 | 98.88 | 105.80 |
| 1 | 13 | 690 | G | C6-C5-N7 | -17.29 | 120.02 | 130.40 |
| 26 | 1H | 1616 | A | N7-C8-N9 | 17.27 | 122.44 | 113.80 |
| 26 | 1H | 2710 | C | C6-N1-C2 | 17.26 | 127.20 | 120.30 |
| 26 | 1H | 2689 | U | N3-C4-O4 | -17.24 | 107.33 | 119.40 |
| 26 | 14 | 1558 | A | C5-C6-N1 | -17.24 | 109.08 | 117.70 |
| 26 | 1H | 1786 | A | N7-C8-N9 | 17.21 | 122.41 | 113.80 |
| 26 | 1H | 2698 | U | O5'-P-OP2 | -17.20 | 90.06 | 110.70 |
| 26 | 1H | 1942 | C | C4-C5-C6 | -17.19 | 108.80 | 117.40 |
| 26 | 14 | 676 | A | N3-C4-C5 | 17.16 | 138.81 | 126.80 |
| 26 | 1H | 1373 | A | O5'-P-OP2 | -17.15 | 90.12 | 110.70 |
| 22 | 1K | 74 | C | N1-C2-O2 | 17.15 | 129.19 | 118.90 |
| 26 | 14 | 1277 | G | C8-N9-C4 | 17.14 | 113.25 | 106.40 |
| 23 | 2K | 77 | A | C5-C6-N6 | -17.13 | 110.00 | 123.70 |
| 26 | 14 | 2258 | C | O5'-P-OP1 | -17.12 | 90.15 | 110.70 |
| 26 | 14 | 945 | A | C2-N3-C4 | -17.07 | 102.06 | 110.60 |
| 26 | 1H | 783 | A | C5-C6-N1 | -17.06 | 109.17 | 117.70 |
| 26 | 1H | 2030 | A | O5'-P-OP2 | -17.06 | 90.23 | 110.70 |
| 26 | 1H | 774 | A | O5'-P-OP2 | -17.05 | 90.24 | 110.70 |
| 26 | 14 | 2579 | C | O5'-P-OP2 | -17.04 | 90.25 | 110.70 |
| 26 | 14 | 1332 | G | C6-C5-N7 | -17.04 | 120.18 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 2030 | A | C5-C6-N6 | -17.04 | 110.07 | 123.70 |
| 26 | 14 | 621 | A | N1-C6-N6 | 17.00 | 128.80 | 118.60 |
| 26 | 1H | 2346 | A | C2-N3-C4 | -16.99 | 102.11 | 110.60 |
| 26 | 14 | 2827 | C | C6-N1-C2 | 16.94 | 127.08 | 120.30 |
| 1 | 13 | 1502 | A | C4-C5-N7 | 16.92 | 119.16 | 110.70 |
| 26 | 14 | 330 | A | C2-N3-C4 | -16.90 | 102.15 | 110.60 |
| 26 | 1H | 945 | A | C4-C5-C6 | 16.86 | 125.43 | 117.00 |
| 1 | 1G | 1469 | G | C5-C6-N1 | -16.85 | 103.08 | 111.50 |
| 26 | 1H | 1271 | G | C8-N9-C4 | 16.82 | 113.13 | 106.40 |
| 26 | 1H | 1496 | A | C5-N7-C8 | -16.80 | 95.50 | 103.90 |
| 26 | 1H | 1794 | U | O5'-P-OP2 | -16.79 | 90.55 | 110.70 |
| 26 | 1H | 609 | A | N1-C6-N6 | 16.78 | 128.67 | 118.60 |
| 26 | 1H | 195 | A | C5-C6-N6 | -16.76 | 110.29 | 123.70 |
| 1 | 13 | 977 | A | N1-C6-N6 | -16.75 | 108.55 | 118.60 |
| 26 | 1H | 2603 | G | O5'-P-OP1 | -16.73 | 90.62 | 110.70 |
| 26 | 1H | 2029 | G | O5'-P-OP1 | -16.72 | 90.63 | 110.70 |
| 26 | 1H | 682 | G | O5'-P-OP2 | -16.72 | 90.64 | 110.70 |
| 26 | 1H | 2280 | G | C4-C5-N7 | -16.72 | 104.11 | 110.80 |
| 26 | 1H | 628 | G | N1-C6-O6 | -16.71 | 109.87 | 119.90 |
| 26 | 1H | 1817 | G | C4-C5-N7 | -16.71 | 104.12 | 110.80 |
| 26 | 14 | 863 | A | C8-N9-C4 | -16.70 | 99.12 | 105.80 |
| 26 | 1H | 2490 | G | C5-N7-C8 | -16.70 | 95.95 | 104.30 |
| 26 | 1H | 566 | U | C6-N1-C2 | 16.70 | 131.02 | 121.00 |
| 26 | 14 | 774 | A | N1-C6-N6 | 16.65 | 128.59 | 118.60 |
| 26 | 1H | 1915 | U | N3-C2-O2 | -16.65 | 110.55 | 122.20 |
| 26 | 1H | 2591 | C | O5'-P-OP2 | -16.63 | 90.73 | 105.70 |
| 26 | 14 | 2062 | A | C8-N9-C4 | 16.61 | 112.44 | 105.80 |
| 26 | 14 | 1698 | A | C4-C5-N7 | 16.59 | 118.99 | 110.70 |
| 26 | 1H | 2430 | A | C8-N9-C4 | -16.55 | 99.18 | 105.80 |
| 26 | 1H | 2503 | A | C5-C6-N6 | -16.51 | 110.49 | 123.70 |
| 26 | 14 | 1899 | G | C2-N3-C4 | -16.51 | 103.64 | 111.90 |
| 26 | 1H | 2331 | G | C2-N3-C4 | -16.51 | 103.65 | 111.90 |
| 1 | 13 | 690 | G | N1-C6-O6 | 16.50 | 129.80 | 119.90 |
| 26 | 1H | 1300 | U | N1-C2-N3 | 16.49 | 124.80 | 114.90 |
| 26 | 1H | 1332 | G | N1-C6-O6 | 16.49 | 129.79 | 119.90 |
| 26 | 14 | 74 | A | N1-C6-N6 | 16.47 | 128.48 | 118.60 |
| 26 | 1H | 391 | G | N1-C6-O6 | 16.47 | 129.78 | 119.90 |
| 26 | 14 | 2617 | C | C6-N1-C2 | 16.47 | 126.89 | 120.30 |
| 26 | 1H | 2331 | G | N1-C6-O6 | 16.46 | 129.78 | 119.90 |
| 26 | 1H | 2392 | A | N7-C8-N9 | 16.43 | 122.02 | 113.80 |
| 26 | 1H | 1321 | A | C8-N9-C4 | 16.43 | 112.37 | 105.80 |
| 26 | 1H | 1021 | A | C5-C6-N1 | -16.42 | 109.49 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1786 | A | C4-C5-N7 | 16.40 | 118.90 | 110.70 |
| 26 | 14 | 2430 | A | N1-C6-N6 | 16.39 | 128.44 | 118.60 |
| 26 | 1H | 2392 | A | C5-N7-C8 | -16.38 | 95.71 | 103.90 |
| 26 | 1H | 2286 | A | O5'-P-OP2 | -16.38 | 90.96 | 105.70 |
| 26 | 1H | 1698 | A | C5-C6-N1 | -16.37 | 109.52 | 117.70 |
| 26 | 14 | 1698 | A | C5-N7-C8 | -16.35 | 95.72 | 103.90 |
| 26 | 1H | 124 | G | C8-N9-C4 | 16.35 | 112.94 | 106.40 |
| 26 | 14 | 140 | A | C5-N7-C8 | -16.33 | 95.73 | 103.90 |
| 26 | 1H | 593 | G | O5'-P-OP2 | -16.32 | 91.01 | 105.70 |
| 26 | 1H | 2593 | U | C6-N1-C2 | -16.32 | 111.21 | 121.00 |
| 26 | 1H | 2713 | A | N1-C6-N6 | 16.30 | 128.38 | 118.60 |
| 26 | 14 | 2438 | U | O5'-P-OP2 | -16.30 | 91.03 | 105.70 |
| 26 | 14 | 1616 | A | N1-C6-N6 | 16.30 | 128.38 | 118.60 |
| 26 | 1H | 128 | C | N3-C4-C5 | 16.26 | 128.41 | 121.90 |
| 26 | 1H | 698 | C | C5-C6-N1 | -16.25 | 112.87 | 121.00 |
| 26 | 1H | 74 | A | N7-C8-N9 | 16.25 | 121.92 | 113.80 |
| 27 | 1J | 114 | G | C8-N9-C4 | 16.23 | 112.89 | 106.40 |
| 26 | 1H | 2458 | G | N3-C2-N2 | -16.21 | 108.55 | 119.90 |
| 26 | 1H | 847 | U | N3-C2-O2 | -16.21 | 110.85 | 122.20 |
| 26 | 1H | 2698 | U | C5-C6-N1 | -16.21 | 114.59 | 122.70 |
| 26 | 14 | 929 | G | C5-C6-N1 | -16.20 | 103.40 | 111.50 |
| 26 | 14 | 1698 | A | C6-C5-N7 | -16.20 | 120.96 | 132.30 |
| 26 | 1H | 2552 | U | C4-C5-C6 | 16.19 | 129.42 | 119.70 |
| 26 | 1H | 1975 | G | C5-C6-O6 | -16.19 | 118.89 | 128.60 |
| 26 | 1H | 2507 | C | N3-C4-C5 | -16.18 | 115.43 | 121.90 |
| 26 | 1H | 1989 | G | N1-C6-O6 | 16.18 | 129.61 | 119.90 |
| 26 | 14 | 510 | C | O5'-P-OP2 | -16.12 | 91.19 | 105.70 |
| 26 | 1H | 2430 | A | N7-C8-N9 | 16.12 | 121.86 | 113.80 |
| 26 | 1H | 1021 | A | C5-N7-C8 | -16.11 | 95.84 | 103.90 |
| 26 | 1H | 2607 | G | C5-C6-N1 | -16.10 | 103.45 | 111.50 |
| 26 | 14 | 1379 | A | N1-C6-N6 | 16.10 | 128.26 | 118.60 |
| 26 | 1H | 1826 | G | C5-N7-C8 | 16.09 | 112.35 | 104.30 |
| 1 | 13 | 1435 | G | C2-N3-C4 | -16.08 | 103.86 | 111.90 |
| 1 | 13 | 1493 | A | O5'-P-OP1 | -16.07 | 91.24 | 105.70 |
| 26 | 1H | 952 | G | C5-C6-O6 | -16.07 | 118.96 | 128.60 |
| 26 | 14 | 2033 | A | O5'-P-OP2 | -16.07 | 91.24 | 105.70 |
| 26 | 14 | 774 | A | N3-C4-C5 | 16.05 | 138.04 | 126.80 |
| 26 | 1H | 1162 | G | C8-N9-C4 | -16.05 | 99.98 | 106.40 |
| 26 | 1H | 203 | C | C5-C4-N4 | -16.04 | 108.97 | 120.20 |
| 26 | 1H | 2552 | U | N3-C4-O4 | 15.99 | 130.59 | 119.40 |
| 26 | 1H | 676 | A | N7-C8-N9 | 15.98 | 121.79 | 113.80 |
| 26 | 1H | 71 | A | C6-C5-N7 | -15.97 | 121.12 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 140 | A | C4-C5-N7 | 15.97 | 118.68 | 110.70 |
| 26 | 14 | 1616 | A | C5-N7-C8 | -15.96 | 95.92 | 103.90 |
| 26 | 14 | 921 | G | C8-N9-C4 | -15.96 | 100.02 | 106.40 |
| 26 | 1H | 2430 | A | N1-C6-N6 | 15.95 | 128.17 | 118.60 |
| 26 | 1H | 1324 | G | N3-C2-N2 | -15.94 | 108.74 | 119.90 |
| 26 | 14 | 1767 | C | N3-C2-O2 | -15.93 | 110.75 | 121.90 |
| 26 | 14 | 1187 | G | C8-N9-C4 | -15.92 | 100.03 | 106.40 |
| 26 | 1H | 2430 | A | N3-C4-N9 | -15.91 | 114.67 | 127.40 |
| 26 | 14 | 2592 | G | O5'-P-OP2 | -15.90 | 91.39 | 105.70 |
| 26 | 14 | 2595 | G | C5-C6-O6 | -15.89 | 119.06 | 128.60 |
| 26 | 1H | 783 | A | C4-C5-N7 | 15.88 | 118.64 | 110.70 |
| 26 | 1H | 2447 | G | C6-N1-C2 | -15.88 | 115.57 | 125.10 |
| 26 | 14 | 129 | C | C5-C6-N1 | -15.87 | 113.06 | 121.00 |
| 26 | 1H | 746 | A | O5'-P-OP2 | 15.87 | 129.74 | 110.70 |
| 26 | 1H | 2319 | G | O5'-P-OP2 | -15.87 | 91.42 | 105.70 |
| 26 | 1H | 2417 | C | O5'-P-OP2 | -15.87 | 91.42 | 105.70 |
| 26 | 1H | 1399 | C | C6-N1-C2 | -15.85 | 113.96 | 120.30 |
| 27 | 16 | 32 | C | N1-C2-O2 | 15.82 | 128.39 | 118.90 |
| 26 | 1H | 1836 | C | N3-C4-N4 | -15.81 | 106.93 | 118.00 |
| 26 | 14 | 783 | A | N1-C2-N3 | 15.80 | 137.20 | 129.30 |
| 26 | 14 | 828 | U | N3-C2-O2 | -15.81 | 111.14 | 122.20 |
| 26 | 1H | 189 | G | N1-C6-O6 | 15.80 | 129.38 | 119.90 |
| 26 | 1H | 1771 | C | C6-N1-C2 | -15.80 | 113.98 | 120.30 |
| 26 | 14 | 2518 | A | C2-N3-C4 | -15.78 | 102.71 | 110.60 |
| 26 | 14 | 1302 | A | N1-C6-N6 | -15.78 | 109.13 | 118.60 |
| 26 | 1H | 74 | A | C5-N7-C8 | -15.77 | 96.01 | 103.90 |
| 26 | 14 | 1681 | G | N3-C4-C5 | 15.76 | 136.48 | 128.60 |
| 26 | 1H | 1984 | G | O5'-P-OP2 | -15.76 | 91.52 | 105.70 |
| 26 | 14 | 205 | G | C8-N9-C4 | 15.76 | 112.70 | 106.40 |
| 26 | 1H | 815 | C | C6-N1-C2 | 15.73 | 126.59 | 120.30 |
| 26 | 1H | 683 | C | C2-N3-C4 | -15.72 | 112.04 | 119.90 |
| 26 | 14 | 530 | G | C6-C5-N7 | -15.70 | 120.98 | 130.40 |
| 26 | 1H | 2592 | G | O5'-P-OP2 | -15.69 | 91.58 | 105.70 |
| 26 | 1H | 2713 | A | C5-C6-N1 | -15.69 | 109.86 | 117.70 |
| 26 | 1H | 510 | C | O5'-P-OP2 | -15.68 | 91.59 | 105.70 |
| 26 | 1H | 140 | A | C6-C5-N7 | -15.67 | 121.33 | 132.30 |
| 26 | 1H | 1241 | A | N1-C6-N6 | 15.65 | 127.99 | 118.60 |
| 26 | 1H | 2403 | C | C6-N1-C2 | -15.65 | 114.04 | 120.30 |
| 26 | 1H | 683 | C | C5-C6-N1 | -15.65 | 113.18 | 121.00 |
| 26 | 1H | 1313 | U | N3-C4-O4 | 15.64 | 130.34 | 119.40 |
| 1 | 13 | 1327 | C | C6-N1-C2 | 15.62 | 126.55 | 120.30 |
| 1 | 13 | 783 | C | C6-N1-C2 | 15.60 | 126.54 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|--------|-------------|----------|
| 26 | 1H | 2685 | G | C5-C6-N1 | -15.60 | 103.70 | 111.50 |
| 26 | 14 | 252 | G | N1-C6-O6 | -15.58 | 110.55 | 119.90 |
| 26 | 1H | 2483 | C | O5'-P-OP1 | -15.57 | 91.68 | 105.70 |
| 26 | 1H | 386 | G | C5-C6-O6 | -15.57 | 119.26 | 128.60 |
| 26 | 1H | 2518 | A | C5-C6-N6 | -15.57 | 111.24 | 123.70 |
| 1 | 13 | 553 | A | C8-N9-C4 | -15.54 | 99.59 | 105.80 |
| 26 | 1H | 74 | A | C8-N9-C4 | -15.53 | 99.59 | 105.80 |
| 26 | 1H | 662 | G | O5'-P-OP2 | -15.52 | 91.73 | 105.70 |
| 26 | 1H | 445 | C | C6-N1-C2 | -15.52 | 114.09 | 120.30 |
| 26 | 14 | 1930 | G | C4-C5-N7 | -15.50 | 104.60 | 110.80 |
| 26 | 14 | 2023 | G | O5'-P-OP2 | -15.49 | 91.76 | 105.70 |
| 26 | 1H | 678 | C | C6-N1-C2 | 15.48 | 126.49 | 120.30 |
| 26 | 1H | 2518 | A | C5-N7-C8 | -15.48 | 96.16 | 103.90 |
| 26 | 1H | 225 | A | C8-N9-C4 | 15.48 | 111.99 | 105.80 |
| 26 | 1H | 796 | C | N3-C4-C5 | 15.47 | 128.09 | 121.90 |
| 26 | 1H | 1992 | G | C5-C6-N1 | 15.47 | 119.24 | 111.50 |
| 26 | 1H | 1413 | G | C8-N9-C4 | -15.47 | 100.21 | 106.40 |
| 26 | 1H | 1603 | A | C8-N9-C4 | -15.47 | 99.61 | 105.80 |
| 26 | 1H | 1617 | C | O5'-P-OP1 | -15.46 | 91.79 | 105.70 |
| 26 | 1H | 1678 | G | C2-N3-C4 | -15.43 | 104.19 | 111.90 |
| 26 | 1H | 1528 | A | C8-N9-C4 | -15.42 | 99.63 | 105.80 |
| 26 | 1H | 1931 | U | C5-C6-N1 | -15.41 | 114.99 | 122.70 |
| 26 | 1H | 783 | A | N3-C4-N9 | -15.41 | 115.07 | 127.40 |
| 26 | 14 | 796 | C | N3-C4-C5 | 15.40 | 128.06 | 121.90 |
| 26 | 1H | 683 | C | N3-C4-C5 | 15.39 | 128.06 | 121.90 |
| 26 | 1H | 2584 | U | N3-C2-O2 | -15.38 | 111.43 | 122.20 |
| 26 | 14 | 265 | A | C2-N3-C4 | -15.37 | 102.91 | 110.60 |
| 26 | 1H | 140 | A | C5-C6-N6 | -15.37 | 111.41 | 123.70 |
| 26 | 14 | 1965 | C | C6-N1-C2 | 15.36 | 126.44 | 120.30 |
| 26 | 1H | 1767 | C | O5'-P-OP1 | -15.36 | 91.88 | 105.70 |
| 26 | 1H | 1052 | C | C6-N1-C2 | -15.34 | 114.16 | 120.30 |
| 26 | 14 | 1950 | G | N3-C4-C5 | -15.34 | 120.93 | 128.60 |
| 26 | 14 | 2870 | C | C6-N1-C2 | -15.34 | 114.17 | 120.30 |
| 1 | 13 | 1502 | A | N7-C8-N9 | 15.33 | 121.47 | 113.80 |
| 26 | 1H | 691 | C | N3-C2-O2 | 15.32 | 132.63 | 121.90 |
| 26 | 1H | 1623 | G | N1-C6-O6 | -15.32 | 110.70 | 119.90 |
| 26 | 14 | 1630(A) | C | N1-C2-O2 | -15.32 | 109.70 | 118.90 |
| 26 | 14 | 2603 | G | O5'-P-OP1 | -15.31 | 91.92 | 105.70 |
| 26 | 1H | 1614 | A | C5-N7-C8 | -15.31 | 96.24 | 103.90 |
| 26 | 1H | 2451 | A | N1-C6-N6 | -15.31 | 109.41 | 118.60 |
| 26 | 14 | 308 | G | O5'-P-OP2 | -15.29 | 91.94 | 105.70 |
| 26 | 14 | 462 | C | O5'-P-OP2 | -15.28 | 91.95 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 1 | 13 | 1525 | G | C8-N9-C4 | 15.27 | 112.51 | 106.40 |
| 1 | 1G | 117 | G | C5-C6-N1 | -15.26 | 103.87 | 111.50 |
| 26 | 1H | 1548 | C | O5'-P-OP2 | -15.26 | 91.97 | 105.70 |
| 26 | 1H | 1387 | C | O5'-P-OP1 | -15.25 | 91.98 | 105.70 |
| 26 | 1H | 1004 | C | N3-C4-C5 | -15.23 | 115.81 | 121.90 |
| 26 | 1H | 144 | C | C5-C6-N1 | -15.23 | 113.39 | 121.00 |
| 26 | 1H | 2287 | A | C5-C6-N1 | -15.22 | 110.09 | 117.70 |
| 26 | 14 | 665 | C | N3-C4-C5 | 15.21 | 127.98 | 121.90 |
| 26 | 1H | 2710 | C | C5-C6-N1 | -15.20 | 113.40 | 121.00 |
| 26 | 14 | 675 | A | N9-C4-C5 | -15.20 | 99.72 | 105.80 |
| 26 | 1H | 1698 | A | C5-N7-C8 | -15.19 | 96.31 | 103.90 |
| 26 | 14 | 2000 | G | O5'-P-OP1 | 15.18 | 128.92 | 110.70 |
| 26 | 14 | 1816 | G | N1-C6-O6 | -15.17 | 110.80 | 119.90 |
| 26 | 1H | 676 | A | C5-C6-N1 | -15.17 | 110.12 | 117.70 |
| 26 | 14 | 1379 | A | C5-N7-C8 | -15.14 | 96.33 | 103.90 |
| 1 | 13 | 760 | G | N1-C6-O6 | 15.13 | 128.98 | 119.90 |
| 26 | 1H | 140 | A | N7-C8-N9 | 15.13 | 121.36 | 113.80 |
| 26 | 14 | 2873 | A | C5-N7-C8 | -15.13 | 96.34 | 103.90 |
| 26 | 1H | 138 | G | N7-C8-N9 | 15.12 | 120.66 | 113.10 |
| 26 | 1H | 735 | A | C8-N9-C4 | 15.12 | 111.85 | 105.80 |
| 26 | 14 | 148 | C | C6-N1-C2 | 15.11 | 126.34 | 120.30 |
| 26 | 1H | 788 | A | N1-C6-N6 | 15.11 | 127.67 | 118.60 |
| 26 | 1H | 2022 | U | O5'-P-OP2 | -15.10 | 92.11 | 105.70 |
| 26 | 1H | 1767 | C | C2-N3-C4 | -15.10 | 112.35 | 119.90 |
| 26 | 14 | 1266 | G | C8-N9-C4 | 15.10 | 112.44 | 106.40 |
| 26 | 14 | 1950 | G | C2-N3-C4 | 15.10 | 119.45 | 111.90 |
| 26 | 14 | 1826 | G | C4-C5-N7 | -15.09 | 104.76 | 110.80 |
| 26 | 1H | 1404 | C | C6-N1-C2 | 15.09 | 126.34 | 120.30 |
| 26 | 1H | 685 | A | O5'-P-OP2 | -15.08 | 92.12 | 105.70 |
| 26 | 14 | 1681 | G | C2-N3-C4 | -15.05 | 104.37 | 111.90 |
| 26 | 1H | 918 | A | O5'-P-OP1 | -15.04 | 92.17 | 105.70 |
| 26 | 1H | 330 | A | C2-N3-C4 | -15.02 | 103.09 | 110.60 |
| 26 | 1H | 1639 | U | N3-C2-O2 | -15.01 | 111.69 | 122.20 |
| 26 | 1H | 815 | C | N3-C4-C5 | 15.01 | 127.90 | 121.90 |
| 26 | 14 | 1678 | G | N3-C4-C5 | 14.99 | 136.09 | 128.60 |
| 26 | 1H | 1969 | A | O5'-P-OP2 | 14.98 | 128.68 | 110.70 |
| 26 | 1H | 198 | C | N3-C4-C5 | 14.98 | 127.89 | 121.90 |
| 27 | 16 | 81 | G | C4-C5-N7 | 14.98 | 116.79 | 110.80 |
| 26 | 14 | 2424 | C | O5'-P-OP1 | -14.97 | 92.23 | 105.70 |
| 26 | 1H | 1784 | A | N1-C6-N6 | -14.96 | 109.62 | 118.60 |
| 26 | 1H | 2346 | A | N1-C6-N6 | 14.96 | 127.58 | 118.60 |
| 26 | 1H | 2600 | A | N1-C6-N6 | -14.96 | 109.62 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 1955 | U | N1-C2-N3 | 14.95 | 123.87 | 114.90 |
| 26 | 14 | 2595 | G | C4-C5-N7 | 14.94 | 116.78 | 110.80 |
| 1 | 13 | 816 | A | C8-N9-C4 | -14.94 | 99.82 | 105.80 |
| 26 | 1H | 1569 | A | C5-C6-N1 | -14.91 | 110.24 | 117.70 |
| 26 | 1H | 1428 | C | C5-C6-N1 | -14.91 | 113.54 | 121.00 |
| 26 | 1H | 2019 | A | N1-C6-N6 | 14.91 | 127.55 | 118.60 |
| 1 | 13 | 867 | G | N1-C6-O6 | -14.88 | 110.97 | 119.90 |
| 26 | 1H | 859 | G | N3-C4-C5 | 14.88 | 136.04 | 128.60 |
| 26 | 14 | 252 | G | O5'-P-OP2 | -14.87 | 92.32 | 105.70 |
| 26 | 14 | 675 | A | C8-N9-C4 | 14.87 | 111.75 | 105.80 |
| 26 | 1H | 2392 | A | C8-N9-C4 | -14.86 | 99.85 | 105.80 |
| 26 | 1H | 2700 | C | N3-C4-C5 | 14.85 | 127.84 | 121.90 |
| 1 | 1G | 1474 | G | N1-C6-O6 | 14.85 | 128.81 | 119.90 |
| 26 | 14 | 2297 | C | O5'-P-OP1 | -14.84 | 92.35 | 105.70 |
| 26 | 1H | 789 | A | O5'-P-OP1 | -14.84 | 92.35 | 105.70 |
| 26 | 14 | 945 | A | C6-C5-N7 | -14.83 | 121.92 | 132.30 |
| 26 | 14 | 684 | G | O5'-P-OP2 | -14.82 | 92.36 | 105.70 |
| 26 | 1H | 1376 | C | O5'-P-OP1 | -14.82 | 92.36 | 105.70 |
| 26 | 1H | 2022 | U | O5'-P-OP1 | 14.81 | 128.47 | 110.70 |
| 26 | 1H | 676 | A | C4-C5-N7 | 14.81 | 118.10 | 110.70 |
| 26 | 14 | 2062 | A | N9-C4-C5 | -14.79 | 99.88 | 105.80 |
| 1 | 13 | 328 | C | O5'-P-OP1 | -14.79 | 92.39 | 105.70 |
| 26 | 1H | 122 | G | C5-C6-O6 | -14.79 | 119.72 | 128.60 |
| 26 | 14 | 1496 | A | N1-C6-N6 | 14.79 | 127.47 | 118.60 |
| 26 | 1H | 2699 | C | C6-N1-C2 | 14.78 | 126.21 | 120.30 |
| 1 | 13 | 570 | G | N1-C6-O6 | 14.78 | 128.77 | 119.90 |
| 26 | 14 | 2374 | C | C6-N1-C2 | 14.77 | 126.21 | 120.30 |
| 1 | 13 | 1486 | G | N1-C6-O6 | 14.77 | 128.76 | 119.90 |
| 26 | 1H | 1698 | A | C6-C5-N7 | -14.76 | 121.97 | 132.30 |
| 26 | 1H | 710 | G | C6-C5-N7 | -14.76 | 121.55 | 130.40 |
| 26 | 1H | 1496 | A | N7-C8-N9 | 14.76 | 121.18 | 113.80 |
| 26 | 1H | 1752 | C | C6-N1-C2 | 14.75 | 126.20 | 120.30 |
| 26 | 1H | 691 | C | N1-C2-O2 | -14.74 | 110.06 | 118.90 |
| 26 | 1H | 1446 | C | C6-N1-C2 | -14.74 | 114.40 | 120.30 |
| 26 | 14 | 2610 | C | C6-N1-C2 | 14.73 | 126.19 | 120.30 |
| 26 | 14 | 2461 | C | O5'-P-OP2 | -14.72 | 92.45 | 105.70 |
| 26 | 1H | 1021 | A | N1-C6-N6 | 14.72 | 127.43 | 118.60 |
| 26 | 1H | 1496 | A | C4-C5-N7 | 14.72 | 118.06 | 110.70 |
| 26 | 1H | 2346 | A | C8-N9-C4 | -14.72 | 99.91 | 105.80 |
| 26 | 1H | 2830 | G | C8-N9-C4 | -14.72 | 100.51 | 106.40 |
| 26 | 14 | 2329 | G | C8-N9-C4 | 14.71 | 112.28 | 106.40 |
| 26 | 1H | 621 | A | C5-C6-N1 | -14.70 | 110.35 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1829 | A | N1-C6-N6 | -14.69 | 109.79 | 118.60 |
| 26 | 1H | 977 | G | C5-C6-O6 | 14.68 | 137.41 | 128.60 |
| 26 | 1H | 1497 | U | C5-C4-O4 | -14.68 | 117.09 | 125.90 |
| 26 | 14 | 2510 | C | C2-N3-C4 | -14.68 | 112.56 | 119.90 |
| 26 | 1H | 141(A) | C | O5'-P-OP1 | -14.67 | 92.49 | 105.70 |
| 26 | 14 | 1332 | G | N7-C8-N9 | 14.67 | 120.44 | 113.10 |
| 26 | 14 | 2392 | A | C8-N9-C4 | -14.67 | 99.93 | 105.80 |
| 26 | 1H | 728 | G | C5-C6-N1 | -14.66 | 104.17 | 111.50 |
| 26 | 1H | 1624 | G | C8-N9-C4 | 14.66 | 112.27 | 106.40 |
| 1 | 13 | 972 | C | OP1-P-OP2 | -14.66 | 97.61 | 119.60 |
| 26 | 1H | 952 | G | N9-C4-C5 | -14.66 | 99.54 | 105.40 |
| 26 | 1H | 690 | G | N7-C8-N9 | -14.64 | 105.78 | 113.10 |
| 26 | 1H | 1528 | A | N7-C8-N9 | 14.63 | 121.12 | 113.80 |
| 26 | 1H | 199 | A | C2-N3-C4 | 14.63 | 117.91 | 110.60 |
| 1 | 13 | 1203 | C | C6-N1-C2 | -14.62 | 114.45 | 120.30 |
| 26 | 1H | 730 | C | O5'-P-OP1 | 14.62 | 128.25 | 110.70 |
| 26 | 14 | 1786 | A | C8-N9-C4 | -14.62 | 99.95 | 105.80 |
| 26 | 1H | 1404 | C | O5'-P-OP2 | -14.61 | 92.55 | 105.70 |
| 26 | 1H | 1210 | A | N1-C6-N6 | 14.60 | 127.36 | 118.60 |
| 27 | 16 | 42 | C | N1-C2-O2 | -14.59 | 110.15 | 118.90 |
| 26 | 14 | 195 | A | N1-C6-N6 | 14.59 | 127.35 | 118.60 |
| 26 | 14 | 621 | A | C5-N7-C8 | -14.59 | 96.61 | 103.90 |
| 26 | 1H | 1623 | G | C5-C6-O6 | 14.58 | 137.35 | 128.60 |
| 26 | 1H | 2390 | U | N3-C4-O4 | 14.58 | 129.60 | 119.40 |
| 26 | 14 | 133 | C | C5-C6-N1 | -14.58 | 113.71 | 121.00 |
| 26 | 1H | 1333 | C | C4-C5-C6 | -14.57 | 110.11 | 117.40 |
| 26 | 1H | 1803 | A | N1-C2-N3 | -14.57 | 122.01 | 129.30 |
| 26 | 1H | 1332 | G | N7-C8-N9 | 14.56 | 120.38 | 113.10 |
| 26 | 1H | 1193 | G | O5'-P-OP2 | -14.55 | 92.61 | 105.70 |
| 26 | 14 | 1629 | U | N3-C4-C5 | -14.54 | 105.88 | 114.60 |
| 26 | 1H | 831 | G | N9-C4-C5 | -14.53 | 99.59 | 105.40 |
| 26 | 1H | 1978 | A | N1-C6-N6 | -14.53 | 109.88 | 118.60 |
| 26 | 14 | 783 | A | N7-C8-N9 | 14.52 | 121.06 | 113.80 |
| 26 | 1H | 945 | A | N7-C8-N9 | 14.51 | 121.05 | 113.80 |
| 26 | 14 | 1627 | G | C5-C6-N1 | -14.49 | 104.26 | 111.50 |
| 26 | 1H | 422 | A | C2-N3-C4 | -14.49 | 103.36 | 110.60 |
| 26 | 1H | 2018 | G | C8-N9-C4 | -14.48 | 100.61 | 106.40 |
| 26 | 1H | 1818 | U | O5'-P-OP2 | -14.48 | 92.67 | 105.70 |
| 26 | 1H | 2307 | G | O5'-P-OP2 | -14.48 | 92.67 | 105.70 |
| 26 | 1H | 2358 | G | N1-C6-O6 | -14.47 | 111.22 | 119.90 |
| 26 | 1H | 2296 | U | N3-C4-O4 | 14.47 | 129.53 | 119.40 |
| 26 | 14 | 199 | A | C2-N3-C4 | 14.46 | 117.83 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 736 | C | N3-C2-O2 | 14.46 | 132.02 | 121.90 |
| 26 | 1H | 2272 | U | O5'-P-OP2 | -14.46 | 92.69 | 105.70 |
| 26 | 1H | 704 | G | C8-N9-C4 | -14.45 | 100.62 | 106.40 |
| 26 | 1H | 2272 | U | O5'-P-OP1 | 14.46 | 128.05 | 110.70 |
| 27 | 16 | 81 | G | C5-N7-C8 | -14.43 | 97.08 | 104.30 |
| 26 | 1H | 2351 | G | N1-C6-O6 | -14.43 | 111.24 | 119.90 |
| 26 | 1H | 1403 | C | O5'-P-OP2 | -14.42 | 92.72 | 105.70 |
| 26 | 1H | 1979 | C | C6-N1-C2 | -14.42 | 114.53 | 120.30 |
| 26 | 1H | 2280 | G | C5-C6-N1 | -14.41 | 104.29 | 111.50 |
| 26 | 14 | 494 | G | N1-C6-O6 | 14.41 | 128.55 | 119.90 |
| 26 | 14 | 793 | A | O5'-P-OP2 | -14.41 | 92.73 | 105.70 |
| 26 | 14 | 1378 | A | N1-C2-N3 | -14.39 | 122.11 | 129.30 |
| 26 | 1H | 848 | G | O5'-P-OP2 | -14.38 | 92.75 | 105.70 |
| 26 | 1H | 189 | G | C5-C6-O6 | -14.38 | 119.97 | 128.60 |
| 26 | 1H | 945 | A | N1-C2-N3 | 14.37 | 136.49 | 129.30 |
| 26 | 14 | 774 | A | C4-C5-N7 | 14.36 | 117.88 | 110.70 |
| 26 | 14 | 774 | A | C5-N7-C8 | -14.36 | 96.72 | 103.90 |
| 26 | 1H | 2327 | A | C8-N9-C4 | 14.35 | 111.54 | 105.80 |
| 26 | 1H | 1914 | C | C6-N1-C2 | -14.34 | 114.56 | 120.30 |
| 26 | 1H | 1930 | G | O5'-P-OP2 | -14.34 | 92.79 | 105.70 |
| 26 | 1H | 815 | C | C2-N3-C4 | -14.34 | 112.73 | 119.90 |
| 26 | 1H | 1800 | C | O5'-P-OP2 | 14.33 | 127.90 | 110.70 |
| 26 | 14 | 935 | C | C6-N1-C2 | 14.33 | 126.03 | 120.30 |
| 26 | 1H | 1204 | A | C5-N7-C8 | -14.32 | 96.74 | 103.90 |
| 26 | 14 | 783 | A | N3-C4-N9 | -14.32 | 115.94 | 127.40 |
| 26 | 1H | 2600 | A | N9-C4-C5 | 14.32 | 111.53 | 105.80 |
| 26 | 1H | 678 | C | N3-C4-C5 | 14.31 | 127.63 | 121.90 |
| 26 | 14 | 16 | G | N3-C2-N2 | -14.31 | 109.88 | 119.90 |
| 26 | 1H | 2430 | A | N3-C4-C5 | 14.31 | 136.82 | 126.80 |
| 26 | 14 | 2325 | G | N3-C2-N2 | -14.31 | 109.89 | 119.90 |
| 26 | 1H | 189 | G | C8-N9-C4 | 14.30 | 112.12 | 106.40 |
| 1 | 13 | 319 | G | C8-N9-C4 | 14.29 | 112.12 | 106.40 |
| 26 | 14 | 566 | U | C5-C6-N1 | -14.29 | 115.55 | 122.70 |
| 26 | 14 | 676 | A | N7-C8-N9 | 14.29 | 120.95 | 113.80 |
| 26 | 14 | 2873 | A | N7-C8-N9 | 14.28 | 120.94 | 113.80 |
| 26 | 1H | 246 | C | C6-N1-C2 | 14.28 | 126.01 | 120.30 |
| 26 | 14 | 1585 | C | N1-C2-O2 | 14.27 | 127.46 | 118.90 |
| 26 | 1H | 120 | U | N3-C2-O2 | -14.26 | 112.22 | 122.20 |
| 26 | 1H | 2374 | C | C5-C6-N1 | -14.25 | 113.87 | 121.00 |
| 1 | 13 | 521 | G | C8-N9-C4 | 14.24 | 112.10 | 106.40 |
| 26 | 1H | 2464 | C | C5-C4-N4 | -14.24 | 110.23 | 120.20 |
| 1 | 13 | 712 | A | N1-C6-N6 | -14.24 | 110.06 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|--------|-------------|----------|
| 26 | 1H | 329 | G | O5'-P-OP2 | -14.24 | 92.89 | 105.70 |
| 26 | 14 | 786 | C | O5'-P-OP2 | -14.24 | 92.89 | 105.70 |
| 27 | 16 | 100 | G | C8-N9-C4 | 14.23 | 112.09 | 106.40 |
| 26 | 14 | 2068 | U | O5'-P-OP1 | -14.23 | 92.90 | 105.70 |
| 1 | 13 | 1486 | G | O5'-P-OP2 | -14.22 | 92.90 | 105.70 |
| 26 | 14 | 2068 | U | N1-C2-N3 | -14.21 | 106.37 | 114.90 |
| 26 | 1H | 1556 | C | O5'-P-OP1 | -14.21 | 92.91 | 105.70 |
| 26 | 14 | 1380 | G | C8-N9-C4 | 14.21 | 112.08 | 106.40 |
| 26 | 1H | 797 | C | C5-C6-N1 | -14.21 | 113.90 | 121.00 |
| 26 | 1H | 928 | G | N3-C4-C5 | 14.21 | 135.70 | 128.60 |
| 26 | 1H | 1769 | G | C5-C6-N1 | -14.19 | 104.40 | 111.50 |
| 26 | 1H | 347 | A | C5-C6-N1 | -14.19 | 110.61 | 117.70 |
| 1 | 13 | 690 | G | C2-N3-C4 | -14.18 | 104.81 | 111.90 |
| 27 | 16 | 115 | G | C4-C5-N7 | 14.18 | 116.47 | 110.80 |
| 26 | 14 | 827 | U | N3-C2-O2 | 14.18 | 132.12 | 122.20 |
| 1 | 13 | 1335 | C | C6-N1-C2 | 14.17 | 125.97 | 120.30 |
| 1 | 13 | 733 | A | C8-N9-C4 | 14.17 | 111.47 | 105.80 |
| 26 | 1H | 1393 | A | O5'-P-OP2 | -14.16 | 92.95 | 105.70 |
| 26 | 1H | 1204 | A | O4'-C1'-N9 | 14.15 | 119.52 | 108.20 |
| 22 | 1K | 76 | A | N7-C8-N9 | 14.15 | 120.88 | 113.80 |
| 26 | 1H | 2503 | A | N1-C2-N3 | -14.15 | 122.22 | 129.30 |
| 26 | 1H | 915 | C | N1-C2-O2 | 14.13 | 127.38 | 118.90 |
| 1 | 13 | 668 | G | O5'-P-OP1 | -14.13 | 92.98 | 105.70 |
| 26 | 14 | 2392 | A | N7-C8-N9 | 14.12 | 120.86 | 113.80 |
| 26 | 1H | 1670 | C | C4-C5-C6 | 14.10 | 124.45 | 117.40 |
| 26 | 1H | 966 | G | N1-C6-O6 | -14.10 | 111.44 | 119.90 |
| 26 | 1H | 2447 | G | C5-C6-N1 | 14.10 | 118.55 | 111.50 |
| 26 | 14 | 2593 | U | N3-C4-C5 | -14.10 | 106.14 | 114.60 |
| 26 | 1H | 1616 | A | C8-N9-C4 | -14.09 | 100.16 | 105.80 |
| 26 | 14 | 530 | G | C4-C5-N7 | 14.09 | 116.44 | 110.80 |
| 26 | 1H | 1324 | G | C5-C6-N1 | -14.08 | 104.46 | 111.50 |
| 1 | 1G | 366 | C | C6-N1-C2 | 14.08 | 125.93 | 120.30 |
| 26 | 1H | 774 | A | N3-C4-C5 | 14.07 | 136.65 | 126.80 |
| 26 | 1H | 1989 | G | N3-C2-N2 | -14.07 | 110.05 | 119.90 |
| 26 | 14 | 2441 | C | C5-C6-N1 | -14.06 | 113.97 | 121.00 |
| 26 | 14 | 974(A) | C | C5-C4-N4 | 14.05 | 130.04 | 120.20 |
| 26 | 1H | 1210 | A | N7-C8-N9 | 14.04 | 120.82 | 113.80 |
| 26 | 14 | 2038 | G | OP1-P-OP2 | -14.04 | 98.53 | 119.60 |
| 26 | 1H | 1203 | G | N1-C6-O6 | -14.04 | 111.48 | 119.90 |
| 26 | 1H | 71 | A | C4-C5-N7 | 14.04 | 117.72 | 110.70 |
| 26 | 1H | 1303 | G | N1-C6-O6 | -14.03 | 111.48 | 119.90 |
| 26 | 1H | 2009 | G | C8-N9-C4 | 14.02 | 112.01 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 1678 | G | C5-N7-C8 | -14.02 | 97.29 | 104.30 |
| 26 | 14 | 2268 | A | C8-N9-C4 | -14.02 | 100.19 | 105.80 |
| 27 | 16 | 32 | C | N3-C2-O2 | -14.02 | 112.09 | 121.90 |
| 26 | 14 | 665 | C | C6-N1-C2 | 14.01 | 125.90 | 120.30 |
| 26 | 14 | 691 | C | N1-C2-O2 | -14.01 | 110.50 | 118.90 |
| 23 | 2K | 6 | G | C8-N9-C4 | 14.00 | 112.00 | 106.40 |
| 1 | 1G | 117 | G | C6-C5-N7 | -14.00 | 122.00 | 130.40 |
| 26 | 14 | 795 | C | N1-C2-O2 | 14.00 | 127.30 | 118.90 |
| 26 | 14 | 666 | G | C8-N9-C4 | 14.00 | 112.00 | 106.40 |
| 26 | 1H | 2346 | A | N7-C8-N9 | 13.98 | 120.79 | 113.80 |
| 26 | 1H | 514 | A | O5'-P-OP2 | -13.98 | 93.12 | 105.70 |
| 26 | 1H | 2311 | A | N1-C2-N3 | 13.98 | 136.29 | 129.30 |
| 26 | 14 | 2346 | A | C5-C6-N1 | -13.98 | 110.71 | 117.70 |
| 1 | 13 | 1502 | A | N1-C6-N6 | 13.97 | 126.98 | 118.60 |
| 26 | 14 | 750 | A | C8-N9-C4 | -13.97 | 100.21 | 105.80 |
| 26 | 1H | 617 | G | C8-N9-C4 | 13.96 | 111.98 | 106.40 |
| 26 | 1H | 1623 | G | C4-C5-N7 | -13.96 | 105.22 | 110.80 |
| 26 | 1H | 443 | A | O5'-P-OP2 | -13.96 | 93.14 | 105.70 |
| 26 | 14 | 1939 | U | C5-C6-N1 | -13.96 | 115.72 | 122.70 |
| 26 | 1H | 2830 | G | N7-C8-N9 | 13.95 | 120.08 | 113.10 |
| 1 | 1G | 331 | G | N1-C6-O6 | 13.95 | 128.27 | 119.90 |
| 1 | 13 | 867 | G | C5-C6-O6 | 13.95 | 136.97 | 128.60 |
| 57 | 3L | 76 | A | C5-N7-C8 | -13.95 | 96.93 | 103.90 |
| 26 | 14 | 2338 | G | O5'-P-OP1 | -13.95 | 93.15 | 105.70 |
| 26 | 14 | 2386 | C | C5-C6-N1 | -13.95 | 114.03 | 121.00 |
| 26 | 1H | 1948 | G | N1-C6-O6 | -13.94 | 111.54 | 119.90 |
| 26 | 1H | 793 | A | N1-C6-N6 | 13.94 | 126.96 | 118.60 |
| 26 | 1H | 2376 | A | C8-N9-C4 | 13.93 | 111.37 | 105.80 |
| 1 | 13 | 878 | G | C8-N9-C4 | 13.93 | 111.97 | 106.40 |
| 26 | 1H | 794 | G | C8-N9-C4 | 13.93 | 111.97 | 106.40 |
| 27 | 16 | 47 | C | C6-N1-C2 | 13.92 | 125.87 | 120.30 |
| 26 | 14 | 2510 | C | C5-C6-N1 | -13.92 | 114.04 | 121.00 |
| 26 | 1H | 516 | C | C6-N1-C2 | -13.91 | 114.73 | 120.30 |
| 54 | P8 | 39 | ARG | NE-CZ-NH2 | -13.91 | 113.34 | 120.30 |
| 1 | 13 | 1412 | C | C6-N1-C2 | 13.90 | 125.86 | 120.30 |
| 26 | 14 | 1661 | G | C8-N9-C4 | 13.90 | 111.96 | 106.40 |
| 26 | 14 | 1342 | A | N1-C6-N6 | 13.89 | 126.93 | 118.60 |
| 26 | 14 | 1520 | U | C5-C4-O4 | 13.89 | 134.23 | 125.90 |
| 26 | 1H | 2490 | G | C5-C6-N1 | -13.88 | 104.56 | 111.50 |
| 26 | 14 | 2700 | C | C6-N1-C2 | 13.88 | 125.85 | 120.30 |
| 26 | 1H | 1939 | U | N3-C4-C5 | 13.87 | 122.92 | 114.60 |
| 26 | 14 | 2542 | A | O5'-P-OP2 | -13.87 | 93.22 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 211 | A | C2-N3-C4 | -13.86 | 103.67 | 110.60 |
| 26 | 1H | 451 | C | N1-C2-O2 | -13.85 | 110.59 | 118.90 |
| 26 | 1H | 783 | A | N3-C4-C5 | 13.84 | 136.49 | 126.80 |
| 26 | 1H | 1808 | U | C5-C4-O4 | -13.84 | 117.60 | 125.90 |
| 26 | 14 | 211 | A | N1-C6-N6 | 13.83 | 126.90 | 118.60 |
| 26 | 1H | 1661 | G | C8-N9-C4 | 13.83 | 111.93 | 106.40 |
| 27 | 16 | 105 | G | C8-N9-C4 | -13.83 | 100.87 | 106.40 |
| 26 | 14 | 1643 | G | O5'-P-OP1 | -13.83 | 93.25 | 105.70 |
| 26 | 14 | 1336 | A | N1-C6-N6 | -13.82 | 110.31 | 118.60 |
| 1 | 13 | 1369 | C | O5'-P-OP2 | -13.82 | 93.26 | 105.70 |
| 57 | 3L | 76 | A | N7-C8-N9 | 13.82 | 120.71 | 113.80 |
| 26 | 1H | 1204 | A | N1-C6-N6 | 13.81 | 126.89 | 118.60 |
| 26 | 1H | 2364 | C | O5'-P-OP2 | -13.81 | 93.27 | 105.70 |
| 26 | 14 | 16 | G | N1-C6-O6 | 13.81 | 128.19 | 119.90 |
| 26 | 14 | 1607 | C | N3-C4-N4 | 13.80 | 127.66 | 118.00 |
| 26 | 1H | 683 | C | C6-N1-C2 | 13.80 | 125.82 | 120.30 |
| 26 | 1H | 1950 | G | C6-C5-N7 | -13.80 | 122.12 | 130.40 |
| 26 | 1H | 2713 | A | C5-N7-C8 | -13.80 | 97.00 | 103.90 |
| 26 | 1H | 659 | C | C6-N1-C2 | 13.79 | 125.82 | 120.30 |
| 26 | 1H | 2374 | C | C6-N1-C2 | 13.79 | 125.82 | 120.30 |
| 26 | 1H | 2603 | G | C8-N9-C4 | -13.79 | 100.89 | 106.40 |
| 26 | 1H | 2665 | A | N1-C6-N6 | 13.78 | 126.87 | 118.60 |
| 26 | 1H | 2295 | C | C6-N1-C2 | -13.78 | 114.79 | 120.30 |
| 26 | 14 | 2249 | U | N3-C4-C5 | -13.77 | 106.34 | 114.60 |
| 26 | 1H | 474 | G | C8-N9-C4 | -13.77 | 100.89 | 106.40 |
| 26 | 1H | 1915 | U | N3-C4-C5 | 13.76 | 122.86 | 114.60 |
| 26 | 1H | 1602 | U | C4-C5-C6 | 13.75 | 127.95 | 119.70 |
| 26 | 1H | 1120 | G | N1-C6-O6 | 13.74 | 128.15 | 119.90 |
| 26 | 1H | 1356 | G | O5'-P-OP1 | -13.73 | 93.34 | 105.70 |
| 26 | 1H | 2585 | U | N1-C2-O2 | 13.73 | 132.41 | 122.80 |
| 26 | 1H | 474 | G | N9-C4-C5 | 13.73 | 110.89 | 105.40 |
| 26 | 14 | 2612 | C | N1-C2-O2 | 13.72 | 127.13 | 118.90 |
| 26 | 14 | 1602 | U | O5'-P-OP2 | 13.72 | 127.16 | 110.70 |
| 26 | 1H | 458 | G | C5-C6-O6 | 13.71 | 136.83 | 128.60 |
| 26 | 1H | 651 | G | C8-N9-C4 | -13.71 | 100.92 | 106.40 |
| 26 | 1H | 138 | G | C5-C6-N1 | 13.71 | 118.35 | 111.50 |
| 26 | 1H | 1823 | G | C2-N3-C4 | -13.70 | 105.05 | 111.90 |
| 26 | 1H | 2390 | U | O5'-P-OP1 | -13.69 | 93.38 | 105.70 |
| 1 | 13 | 577 | G | N1-C6-O6 | 13.69 | 128.11 | 119.90 |
| 26 | 14 | 1786 | A | N7-C8-N9 | 13.69 | 120.64 | 113.80 |
| 26 | 14 | 2287 | A | C5-C6-N1 | -13.68 | 110.86 | 117.70 |
| 26 | 1H | 2330 | G | N1-C6-O6 | 13.68 | 128.11 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 774 | A | N3-C4-N9 | -13.66 | 116.47 | 127.40 |
| 26 | 1H | 2054 | A | C8-N9-C4 | -13.66 | 100.34 | 105.80 |
| 26 | 14 | 2346 | A | N1-C2-N3 | 13.66 | 136.13 | 129.30 |
| 1 | 13 | 353 | A | C8-N9-C4 | -13.66 | 100.34 | 105.80 |
| 26 | 1H | 1244 | G | N1-C6-O6 | 13.65 | 128.09 | 119.90 |
| 26 | 1H | 2503 | A | C4-C5-N7 | 13.65 | 117.53 | 110.70 |
| 26 | 14 | 687 | C | O5'-P-OP1 | -13.65 | 93.41 | 105.70 |
| 26 | 14 | 2443 | C | O5'-P-OP2 | 13.65 | 127.08 | 110.70 |
| 26 | 14 | 2619 | C | C6-N1-C2 | 13.65 | 125.76 | 120.30 |
| 26 | 1H | 1428 | C | C6-N1-C2 | 13.64 | 125.76 | 120.30 |
| 26 | 14 | 2610 | C | N1-C2-O2 | 13.64 | 127.08 | 118.90 |
| 1 | 13 | 827 | U | N3-C2-O2 | -13.63 | 112.66 | 122.20 |
| 26 | 14 | 2365 | G | N1-C6-O6 | 13.63 | 128.08 | 119.90 |
| 26 | 1H | 793 | A | C5-C6-N6 | -13.63 | 112.80 | 123.70 |
| 26 | 1H | 930 | U | C5-C4-O4 | 13.62 | 134.07 | 125.90 |
| 26 | 1H | 2688 | U | C5-C6-N1 | -13.62 | 115.89 | 122.70 |
| 26 | 14 | 1616 | A | C4-C5-N7 | 13.62 | 117.51 | 110.70 |
| 26 | 14 | 2217 | G | N1-C6-O6 | 13.60 | 128.06 | 119.90 |
| 26 | 14 | 71 | A | C5-N7-C8 | -13.60 | 97.10 | 103.90 |
| 26 | 1H | 621 | A | C4-C5-N7 | 13.60 | 117.50 | 110.70 |
| 1 | 13 | 776 | G | O5'-P-OP1 | -13.59 | 93.47 | 105.70 |
| 26 | 1H | 2424 | C | N1-C2-O2 | 13.59 | 127.05 | 118.90 |
| 26 | 1H | 966 | G | C5-C6-O6 | 13.58 | 136.75 | 128.60 |
| 26 | 1H | 2509 | G | C5-C6-O6 | -13.58 | 120.45 | 128.60 |
| 26 | 1H | 530 | G | N3-C2-N2 | 13.58 | 129.41 | 119.90 |
| 26 | 1H | 2690 | C | N3-C4-C5 | -13.58 | 116.47 | 121.90 |
| 26 | 1H | 1833 | U | N3-C2-O2 | -13.58 | 112.70 | 122.20 |
| 26 | 1H | 2225 | A | N1-C6-N6 | -13.58 | 110.45 | 118.60 |
| 26 | 14 | 1779 | U | C5-C6-N1 | -13.58 | 115.91 | 122.70 |
| 26 | 1H | 621 | A | C5-N7-C8 | -13.57 | 97.11 | 103.90 |
| 26 | 1H | 122 | G | C2-N3-C4 | -13.57 | 105.11 | 111.90 |
| 27 | 16 | 61 | G | O5'-P-OP1 | -13.57 | 93.49 | 105.70 |
| 26 | 1H | 2070 | G | C2-N3-C4 | -13.56 | 105.12 | 111.90 |
| 26 | 1H | 2006 | C | N3-C4-C5 | 13.56 | 127.32 | 121.90 |
| 26 | 1H | 864 | G | C2-N3-C4 | 13.56 | 118.68 | 111.90 |
| 26 | 14 | 955 | C | O5'-P-OP2 | -13.55 | 93.50 | 105.70 |
| 26 | 14 | 660 | G | C5-C6-N1 | -13.54 | 104.73 | 111.50 |
| 26 | 1H | 107 | C | C6-N1-C2 | 13.53 | 125.71 | 120.30 |
| 26 | 14 | 672 | C | O5'-P-OP2 | -13.53 | 93.53 | 105.70 |
| 26 | 1H | 842 | G | N3-C4-C5 | 13.51 | 135.35 | 128.60 |
| 26 | 14 | 2441 | C | N3-C2-O2 | -13.51 | 112.44 | 121.90 |
| 26 | 1H | 2543 | G | N1-C6-O6 | -13.51 | 111.80 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 2363 | C | C5-C6-N1 | -13.50 | 114.25 | 121.00 |
| 26 | 1H | 676 | A | C6-N1-C2 | 13.50 | 126.70 | 118.60 |
| 26 | 1H | 2271 | G | C6-N1-C2 | -13.49 | 117.00 | 125.10 |
| 23 | 2K | 77 | A | C5-C6-N1 | 13.49 | 124.45 | 117.70 |
| 26 | 14 | 621 | A | C2-N3-C4 | -13.48 | 103.86 | 110.60 |
| 23 | 2K | 62 | C | C6-N1-C2 | -13.48 | 114.91 | 120.30 |
| 26 | 1H | 347 | A | C2-N3-C4 | -13.48 | 103.86 | 110.60 |
| 27 | 16 | 29 | A | C8-N9-C4 | -13.48 | 100.41 | 105.80 |
| 26 | 1H | 141 | A | C5-N7-C8 | -13.47 | 97.17 | 103.90 |
| 26 | 14 | 409 | C | C6-N1-C2 | 13.46 | 125.69 | 120.30 |
| 26 | 1H | 917 | A | N1-C6-N6 | 13.46 | 126.68 | 118.60 |
| 26 | 1H | 1496 | A | N1-C6-N6 | 13.46 | 126.68 | 118.60 |
| 26 | 14 | 856 | C | O5'-P-OP1 | -13.46 | 93.58 | 105.70 |
| 26 | 1H | 203 | C | C2-N3-C4 | -13.45 | 113.17 | 119.90 |
| 26 | 1H | 400 | G | C8-N9-C4 | -13.45 | 101.02 | 106.40 |
| 26 | 14 | 2710 | C | C6-N1-C2 | 13.45 | 125.68 | 120.30 |
| 26 | 14 | 2598 | A | C5-C6-N6 | -13.44 | 112.94 | 123.70 |
| 26 | 1H | 1642 | G | O5'-P-OP1 | -13.44 | 93.60 | 105.70 |
| 26 | 1H | 658 | C | O5'-P-OP2 | -13.44 | 93.60 | 105.70 |
| 26 | 14 | 2386 | C | C6-N1-C2 | 13.43 | 125.67 | 120.30 |
| 26 | 1H | 621 | A | C6-C5-N7 | -13.43 | 122.90 | 132.30 |
| 26 | 1H | 2684 | U | C5-C6-N1 | -13.43 | 115.98 | 122.70 |
| 26 | 1H | 1191 | G | C8-N9-C4 | 13.43 | 111.77 | 106.40 |
| 26 | 14 | 1933 | G | C8-N9-C4 | 13.43 | 111.77 | 106.40 |
| 26 | 1H | 1402 | C | C5-C6-N1 | 13.43 | 127.71 | 121.00 |
| 26 | 1H | 530 | G | N1-C2-N2 | -13.42 | 104.12 | 116.20 |
| 26 | 14 | 74 | A | C5-N7-C8 | -13.42 | 97.19 | 103.90 |
| 1 | 13 | 869 | G | N1-C6-O6 | 13.41 | 127.95 | 119.90 |
| 26 | 1H | 115 | C | C6-N1-C2 | 13.41 | 125.66 | 120.30 |
| 26 | 14 | 2363 | C | N3-C4-C5 | 13.40 | 127.26 | 121.90 |
| 26 | 14 | 2607 | G | C5-C6-N1 | -13.40 | 104.80 | 111.50 |
| 26 | 14 | 2426 | A | C5-N7-C8 | -13.40 | 97.20 | 103.90 |
| 26 | 14 | 1379 | A | C4-C5-N7 | 13.39 | 117.39 | 110.70 |
| 26 | 1H | 1413 | G | N7-C8-N9 | 13.38 | 119.79 | 113.10 |
| 26 | 14 | 2700 | C | C5-C6-N1 | -13.38 | 114.31 | 121.00 |
| 23 | 2L | 40 | C | C6-N1-C2 | -13.37 | 114.95 | 120.30 |
| 26 | 1H | 1614 | A | C4-C5-N7 | 13.37 | 117.38 | 110.70 |
| 26 | 14 | 1221 | C | C6-N1-C2 | 13.37 | 125.65 | 120.30 |
| 26 | 1H | 2291 | U | C5-C4-O4 | 13.36 | 133.92 | 125.90 |
| 26 | 14 | 2219 | G | C8-N9-C4 | 13.36 | 111.75 | 106.40 |
| 26 | 1H | 655 | A | N1-C6-N6 | 13.36 | 126.62 | 118.60 |
| 26 | 1H | 1971 | A | C5-C6-N1 | 13.36 | 124.38 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 945 | A | C5-N7-C8 | -13.34 | 97.23 | 103.90 |
| 26 | 14 | 2873 | A | C5-C6-N1 | -13.34 | 111.03 | 117.70 |
| 26 | 1H | 683 | C | C5-C4-N4 | -13.34 | 110.86 | 120.20 |
| 26 | 1H | 132 | G | C5-C6-N1 | -13.34 | 104.83 | 111.50 |
| 26 | 1H | 2679 | A | O5'-P-OP2 | -13.32 | 93.71 | 105.70 |
| 26 | 1H | 205 | G | O5'-P-OP2 | -13.32 | 93.71 | 105.70 |
| 26 | 14 | 2492 | U | O5'-P-OP2 | 13.32 | 126.68 | 110.70 |
| 26 | 14 | 265 | A | C5-N7-C8 | -13.31 | 97.24 | 103.90 |
| 26 | 1H | 2484 | G | C8-N9-C4 | 13.30 | 111.72 | 106.40 |
| 26 | 14 | 684 | G | C8-N9-C4 | -13.30 | 101.08 | 106.40 |
| 26 | 1H | 1287 | A | O5'-P-OP2 | -13.30 | 93.73 | 105.70 |
| 26 | 1H | 1304 | C | N3-C4-C5 | 13.30 | 127.22 | 121.90 |
| 26 | 14 | 1659 | U | O5'-P-OP2 | -13.30 | 93.73 | 105.70 |
| 26 | 1H | 977 | G | N1-C6-O6 | -13.30 | 111.92 | 119.90 |
| 26 | 1H | 2506 | U | N1-C2-O2 | 13.30 | 132.11 | 122.80 |
| 26 | 14 | 1309 | G | C5-C6-N1 | -13.29 | 104.85 | 111.50 |
| 1 | 13 | 1512 | U | O5'-P-OP2 | -13.29 | 93.74 | 105.70 |
| 26 | 1H | 786 | C | C5-C4-N4 | 13.29 | 129.50 | 120.20 |
| 26 | 1H | 1253 | A | N1-C2-N3 | -13.29 | 122.65 | 129.30 |
| 26 | 1H | 1430 | C | C6-N1-C2 | -13.29 | 114.98 | 120.30 |
| 26 | 1H | 1373 | A | O5'-P-OP1 | 13.29 | 126.64 | 110.70 |
| 26 | 1H | 1628 | G | O5'-P-OP1 | 13.29 | 126.64 | 110.70 |
| 26 | 14 | 621 | A | C5-C6-N1 | -13.29 | 111.06 | 117.70 |
| 1 | 1G | 232 | G | C5-C6-N1 | -13.28 | 104.86 | 111.50 |
| 26 | 1H | 1161 | C | C6-N1-C2 | -13.28 | 114.99 | 120.30 |
| 26 | 14 | 773 | U | N1-C2-N3 | 13.28 | 122.87 | 114.90 |
| 26 | 14 | 2587 | A | O5'-P-OP1 | -13.28 | 93.75 | 105.70 |
| 26 | 14 | 1645 | G | N1-C6-O6 | -13.28 | 111.93 | 119.90 |
| 26 | 1H | 1241 | A | C5-C6-N1 | -13.28 | 111.06 | 117.70 |
| 26 | 1H | 1271 | G | N7-C8-N9 | -13.27 | 106.47 | 113.10 |
| 26 | 1H | 1629 | U | O5'-P-OP2 | 13.26 | 126.62 | 110.70 |
| 26 | 1H | 858 | U | N3-C4-O4 | -13.26 | 110.12 | 119.40 |
| 26 | 1H | 942 | G | N1-C2-N2 | 13.26 | 128.13 | 116.20 |
| 26 | 1H | 141 | A | N7-C8-N9 | 13.26 | 120.43 | 113.80 |
| 26 | 1H | 576 | U | C6-N1-C2 | 13.26 | 128.95 | 121.00 |
| 26 | 1H | 1602 | U | N1-C2-N3 | 13.26 | 122.85 | 114.90 |
| 26 | 1H | 409 | C | C6-N1-C2 | 13.25 | 125.60 | 120.30 |
| 26 | 1H | 690 | G | C5-N7-C8 | 13.25 | 110.92 | 104.30 |
| 26 | 1H | 2331 | G | C4-C5-N7 | 13.25 | 116.10 | 110.80 |
| 26 | 1H | 1473 | G | O5'-P-OP2 | -13.23 | 93.79 | 105.70 |
| 26 | 1H | 2518 | A | C6-C5-N7 | -13.23 | 123.04 | 132.30 |
| 26 | 14 | 1379 | A | C5-C6-N6 | -13.23 | 113.12 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1514 | U | O5'-P-OP1 | -13.22 | 93.80 | 105.70 |
| 26 | 1H | 2577 | A | N1-C6-N6 | -13.22 | 110.67 | 118.60 |
| 26 | 1H | 2521 | C | C6-N1-C2 | 13.21 | 125.58 | 120.30 |
| 1 | 13 | 740 | U | O5'-P-OP2 | -13.21 | 93.81 | 105.70 |
| 26 | 1H | 1363 | C | O5'-P-OP2 | -13.21 | 93.81 | 105.70 |
| 26 | 1H | 1333 | C | C5-C4-N4 | -13.20 | 110.96 | 120.20 |
| 26 | 1H | 756 | C | N1-C2-O2 | -13.20 | 110.98 | 118.90 |
| 26 | 14 | 621 | A | N7-C8-N9 | 13.20 | 120.40 | 113.80 |
| 26 | 1H | 1333 | C | N3-C4-C5 | 13.19 | 127.18 | 121.90 |
| 26 | 1H | 71 | A | N1-C2-N3 | 13.19 | 135.90 | 129.30 |
| 26 | 1H | 1803 | A | N9-C4-C5 | -13.18 | 100.53 | 105.80 |
| 26 | 14 | 2092 | U | N1-C2-N3 | 13.18 | 122.81 | 114.90 |
| 1 | 13 | 892 | A | N1-C6-N6 | 13.17 | 126.50 | 118.60 |
| 26 | 1H | 928 | G | C4-C5-N7 | 13.17 | 116.07 | 110.80 |
| 26 | 1H | 1786 | A | C5-C6-N1 | -13.17 | 111.11 | 117.70 |
| 26 | 1H | 2665 | A | C4-C5-N7 | 13.17 | 117.28 | 110.70 |
| 26 | 14 | 828 | U | N1-C2-N3 | 13.17 | 122.80 | 114.90 |
| 26 | 14 | 562 | U | N3-C2-O2 | -13.16 | 112.99 | 122.20 |
| 26 | 14 | 2392 | A | C5-C6-N1 | -13.16 | 111.12 | 117.70 |
| 26 | 14 | 2610 | C | N3-C4-C5 | 13.16 | 127.17 | 121.90 |
| 26 | 14 | 2441 | C | C2-N3-C4 | -13.16 | 113.32 | 119.90 |
| 26 | 14 | 741 | G | C5-C6-O6 | -13.15 | 120.71 | 128.60 |
| 26 | 1H | 917 | A | C2-N3-C4 | -13.15 | 104.03 | 110.60 |
| 26 | 1H | 189 | G | N7-C8-N9 | -13.14 | 106.53 | 113.10 |
| 26 | 1H | 52 | A | O5'-P-OP2 | -13.13 | 93.88 | 105.70 |
| 26 | 1H | 2346 | A | C5-N7-C8 | -13.13 | 97.33 | 103.90 |
| 26 | 1H | 294 | A | C8-N9-C4 | 13.12 | 111.05 | 105.80 |
| 26 | 14 | 507 | A | OP1-P-OP2 | -13.12 | 99.91 | 119.60 |
| 26 | 14 | 133 | C | N3-C4-C5 | 13.12 | 127.15 | 121.90 |
| 1 | 13 | 300 | A | O5'-P-OP1 | -13.12 | 93.90 | 105.70 |
| 26 | 1H | 693 | C | N3-C4-N4 | -13.12 | 108.82 | 118.00 |
| 26 | 14 | 788 | A | N9-C4-C5 | -13.12 | 100.55 | 105.80 |
| 26 | 14 | 1319 | G | O5'-P-OP1 | -13.12 | 93.90 | 105.70 |
| 26 | 1H | 1784 | A | C5-C6-N6 | 13.10 | 134.18 | 123.70 |
| 26 | 1H | 2030 | A | N1-C6-N6 | 13.10 | 126.46 | 118.60 |
| 26 | 1H | 217 | G | C4-C5-N7 | -13.10 | 105.56 | 110.80 |
| 26 | 1H | 1942 | C | C5-C6-N1 | 13.09 | 127.55 | 121.00 |
| 26 | 1H | 2857 | G | O5'-P-OP1 | -13.09 | 93.92 | 105.70 |
| 26 | 14 | 921 | G | N7-C8-N9 | 13.09 | 119.64 | 113.10 |
| 26 | 14 | 1816 | G | C2-N3-C4 | 13.09 | 118.44 | 111.90 |
| 26 | 1H | 330 | A | N1-C2-N3 | 13.09 | 135.84 | 129.30 |
| 26 | 1H | 446 | G | N9-C4-C5 | -13.09 | 100.17 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1558 | A | O5'-P-OP1 | -13.09 | 93.92 | 105.70 |
| 26 | 1H | 473 | G | O5'-P-OP2 | -13.08 | 93.93 | 105.70 |
| 26 | 14 | 768 | G | C6-C5-N7 | -13.08 | 122.55 | 130.40 |
| 26 | 1H | 2409 | G | C5-C6-O6 | -13.08 | 120.75 | 128.60 |
| 26 | 1H | 1803 | A | C8-N9-C4 | 13.07 | 111.03 | 105.80 |
| 1 | 13 | 260 | G | C4-C5-N7 | -13.07 | 105.57 | 110.80 |
| 23 | 2K | 77 | A | C4-C5-N7 | 13.06 | 117.23 | 110.70 |
| 26 | 1H | 20 | C | C2-N3-C4 | -13.06 | 113.37 | 119.90 |
| 26 | 1H | 693 | C | C5-C4-N4 | 13.06 | 129.34 | 120.20 |
| 26 | 1H | 1254 | A | N9-C4-C5 | -13.05 | 100.58 | 105.80 |
| 26 | 14 | 1930 | G | O5'-P-OP1 | -13.05 | 93.95 | 105.70 |
| 26 | 1H | 1614 | A | C5-C6-N1 | -13.05 | 111.17 | 117.70 |
| 26 | 1H | 1614 | A | C6-C5-N7 | -13.05 | 123.17 | 132.30 |
| 26 | 1H | 2226 | C | N3-C4-N4 | -13.05 | 108.87 | 118.00 |
| 26 | 14 | 2038 | G | O5'-P-OP2 | 13.05 | 126.36 | 110.70 |
| 1 | 13 | 30 | U | O5'-P-OP1 | -13.04 | 93.96 | 105.70 |
| 1 | 13 | 965 | A | C5-C6-N1 | -13.04 | 111.18 | 117.70 |
| 26 | 1H | 1658 | C | N1-C2-O2 | -13.04 | 111.07 | 118.90 |
| 26 | 1H | 2287 | A | N3-C4-C5 | 13.04 | 135.93 | 126.80 |
| 26 | 14 | 676 | A | N3-C4-N9 | -13.04 | 116.97 | 127.40 |
| 26 | 14 | 2595 | G | C5-N7-C8 | -13.04 | 97.78 | 104.30 |
| 26 | 14 | 1603 | A | C8-N9-C4 | -13.04 | 100.58 | 105.80 |
| 26 | 1H | 2584 | U | N1-C2-N3 | 13.03 | 122.72 | 114.90 |
| 27 | 1J | 81 | G | C4-C5-N7 | 13.02 | 116.01 | 110.80 |
| 26 | 14 | 1298 | C | N3-C4-C5 | -13.01 | 116.69 | 121.90 |
| 26 | 14 | 1786 | A | N1-C2-N3 | 13.01 | 135.81 | 129.30 |
| 26 | 1H | 265 | A | C2-N3-C4 | -13.01 | 104.10 | 110.60 |
| 24 | 3K | 76 | A | C6-C5-N7 | -13.00 | 123.20 | 132.30 |
| 26 | 1H | 1244 | G | N3-C2-N2 | -13.00 | 110.80 | 119.90 |
| 26 | 14 | 199 | A | C5-C6-N1 | 13.00 | 124.20 | 117.70 |
| 26 | 1H | 2690 | C | C4-C5-C6 | 13.00 | 123.90 | 117.40 |
| 26 | 14 | 528 | A | N1-C2-N3 | 12.99 | 135.80 | 129.30 |
| 26 | 1H | 1626 | G | C8-N9-C4 | -12.99 | 101.20 | 106.40 |
| 26 | 14 | 1807 | G | O5'-P-OP1 | -12.99 | 94.01 | 105.70 |
| 26 | 14 | 2873 | A | C6-C5-N7 | -12.98 | 123.21 | 132.30 |
| 26 | 1H | 528 | A | C6-N1-C2 | 12.98 | 126.39 | 118.60 |
| 26 | 1H | 1230 | C | C6-N1-C2 | 12.98 | 125.49 | 120.30 |
| 26 | 1H | 1627 | G | C8-N9-C4 | 12.98 | 111.59 | 106.40 |
| 26 | 1H | 1786 | A | N3-C4-C5 | 12.97 | 135.88 | 126.80 |
| 26 | 1H | 2586 | C | N3-C4-C5 | 12.97 | 127.09 | 121.90 |
| 26 | 14 | 786 | C | C5-C6-N1 | -12.96 | 114.52 | 121.00 |
| 26 | 14 | 121 | G | C5-C6-O6 | -12.96 | 120.82 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 2281 | C | C5-C4-N4 | -12.96 | 111.13 | 120.20 |
| 26 | 1H | 1826 | G | N7-C8-N9 | -12.96 | 106.62 | 113.10 |
| 26 | 14 | 1772 | G | O5'-P-OP2 | -12.96 | 94.04 | 105.70 |
| 26 | 1H | 1754 | C | N1-C2-O2 | 12.96 | 126.67 | 118.90 |
| 1 | 13 | 227 | G | C8-N9-C4 | 12.95 | 111.58 | 106.40 |
| 26 | 1H | 842 | G | N3-C2-N2 | -12.95 | 110.83 | 119.90 |
| 26 | 14 | 2505 | G | C5-C6-N1 | -12.95 | 105.03 | 111.50 |
| 26 | 14 | 1692 | U | C5-C6-N1 | -12.94 | 116.23 | 122.70 |
| 1 | 1G | 1465 | C | C6-N1-C2 | -12.94 | 115.12 | 120.30 |
| 26 | 14 | 676 | A | N1-C6-N6 | 12.94 | 126.36 | 118.60 |
| 1 | 13 | 333 | G | C5-C6-N1 | -12.93 | 105.03 | 111.50 |
| 26 | 1H | 1321 | A | N7-C8-N9 | -12.93 | 107.34 | 113.80 |
| 26 | 1H | 113 | G | N1-C6-O6 | 12.92 | 127.65 | 119.90 |
| 26 | 1H | 1617 | C | N1-C2-O2 | -12.92 | 111.15 | 118.90 |
| 1 | 13 | 1412 | C | C5-C6-N1 | -12.92 | 114.54 | 121.00 |
| 26 | 14 | 1300 | U | O5'-P-OP2 | -12.92 | 94.07 | 105.70 |
| 1 | 13 | 1502 | A | C6-C5-N7 | -12.92 | 123.26 | 132.30 |
| 26 | 1H | 391 | G | C2-N3-C4 | -12.92 | 105.44 | 111.90 |
| 26 | 1H | 2424 | C | C2-N3-C4 | 12.91 | 126.36 | 119.90 |
| 26 | 1H | 2281 | C | N3-C4-N4 | 12.91 | 127.03 | 118.00 |
| 26 | 14 | 835 | A | C8-N9-C4 | 12.90 | 110.96 | 105.80 |
| 26 | 14 | 2622 | C | C5-C6-N1 | -12.90 | 114.55 | 121.00 |
| 26 | 1H | 478 | A | C6-N1-C2 | -12.90 | 110.86 | 118.60 |
| 26 | 1H | 347 | A | N1-C6-N6 | 12.90 | 126.34 | 118.60 |
| 26 | 1H | 1678 | G | N3-C4-C5 | 12.90 | 135.05 | 128.60 |
| 26 | 1H | 2398 | U | C5-C4-O4 | 12.90 | 133.64 | 125.90 |
| 26 | 14 | 2518 | A | N3-C4-C5 | 12.89 | 135.82 | 126.80 |
| 26 | 14 | 2697 | G | C8-N9-C4 | 12.89 | 111.56 | 106.40 |
| 26 | 1H | 211 | A | N1-C6-N6 | 12.89 | 126.33 | 118.60 |
| 26 | 1H | 2247 | A | C2-N3-C4 | -12.89 | 104.16 | 110.60 |
| 26 | 14 | 2365 | G | C5-C6-O6 | -12.88 | 120.87 | 128.60 |
| 26 | 1H | 2259 | G | OP1-P-OP2 | -12.88 | 100.28 | 119.60 |
| 26 | 1H | 115 | C | N1-C2-O2 | -12.88 | 111.17 | 118.90 |
| 26 | 14 | 2446 | G | O5'-P-OP2 | -12.88 | 94.11 | 105.70 |
| 26 | 1H | 530 | G | N1-C6-O6 | -12.86 | 112.18 | 119.90 |
| 26 | 1H | 2701 | C | C2-N3-C4 | -12.86 | 113.47 | 119.90 |
| 26 | 14 | 129 | C | C4-C5-C6 | 12.86 | 123.83 | 117.40 |
| 26 | 1H | 247 | G | C5-C6-O6 | 12.85 | 136.31 | 128.60 |
| 26 | 1H | 2561 | A | N1-C6-N6 | -12.85 | 110.89 | 118.60 |
| 26 | 1H | 2600 | A | C4-C5-N7 | -12.85 | 104.28 | 110.70 |
| 26 | 14 | 1614 | A | N1-C6-N6 | 12.85 | 126.31 | 118.60 |
| 26 | 1H | 2079 | U | C5-C4-O4 | -12.85 | 118.19 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 22 | 1K | 35 | U | N3-C2-O2 | -12.84 | 113.21 | 122.20 |
| 26 | 1H | 141 | A | C8-N9-C4 | -12.84 | 100.67 | 105.80 |
| 26 | 1H | 1204 | A | N7-C8-N9 | 12.84 | 120.22 | 113.80 |
| 26 | 14 | 571 | A | N1-C6-N6 | 12.84 | 126.30 | 118.60 |
| 1 | 13 | 956 | U | C6-N1-C2 | -12.83 | 113.30 | 121.00 |
| 26 | 1H | 115 | C | N3-C4-N4 | 12.83 | 126.98 | 118.00 |
| 26 | 1H | 2256 | G | O5'-P-OP2 | -12.83 | 94.16 | 105.70 |
| 26 | 1H | 2250 | G | N9-C4-C5 | 12.82 | 110.53 | 105.40 |
| 26 | 1H | 2360 | A | C2-N3-C4 | -12.82 | 104.19 | 110.60 |
| 26 | 1H | 2464 | C | C6-N1-C2 | 12.82 | 125.43 | 120.30 |
| 1 | 13 | 1435 | G | N1-C6-O6 | 12.82 | 127.59 | 119.90 |
| 26 | 1H | 863 | A | O5'-P-OP1 | 12.81 | 126.08 | 110.70 |
| 26 | 1H | 1408 | C | N1-C2-O2 | -12.81 | 111.21 | 118.90 |
| 26 | 1H | 2469 | A | N1-C6-N6 | 12.81 | 126.29 | 118.60 |
| 26 | 1H | 74 | A | N1-C2-N3 | 12.81 | 135.70 | 129.30 |
| 26 | 1H | 1786 | A | C8-N9-C4 | -12.80 | 100.68 | 105.80 |
| 26 | 1H | 581 | C | C2-N3-C4 | 12.80 | 126.30 | 119.90 |
| 26 | 1H | 2028 | U | N3-C4-C5 | -12.80 | 106.92 | 114.60 |
| 26 | 14 | 2712 | U | C2-N3-C4 | -12.80 | 119.32 | 127.00 |
| 26 | 14 | 464 | U | C2-N3-C4 | -12.80 | 119.32 | 127.00 |
| 26 | 1H | 628 | G | OP1-P-OP2 | 12.80 | 138.80 | 119.60 |
| 26 | 1H | 1427 | A | N9-C4-C5 | 12.79 | 110.92 | 105.80 |
| 26 | 1H | 2030 | A | C8-N9-C4 | 12.79 | 110.92 | 105.80 |
| 26 | 14 | 2072 | G | OP1-P-OP2 | -12.79 | 100.41 | 119.60 |
| 26 | 1H | 1810 | A | C5-C6-N1 | 12.79 | 124.09 | 117.70 |
| 26 | 1H | 1678 | G | C5-N7-C8 | -12.78 | 97.91 | 104.30 |
| 26 | 1H | 179 | G | N1-C6-O6 | 12.78 | 127.57 | 119.90 |
| 27 | 1J | 114 | G | N7-C8-N9 | -12.78 | 106.71 | 113.10 |
| 26 | 14 | 1804 | C | C6-N1-C2 | -12.78 | 115.19 | 120.30 |
| 26 | 1H | 138 | G | C8-N9-C4 | -12.77 | 101.29 | 106.40 |
| 26 | 1H | 1324 | G | N1-C6-O6 | 12.77 | 127.56 | 119.90 |
| 26 | 1H | 1830 | C | N3-C4-C5 | 12.77 | 127.01 | 121.90 |
| 26 | 1H | 115 | C | N3-C2-O2 | 12.77 | 130.84 | 121.90 |
| 26 | 1H | 2409 | G | C4-C5-N7 | 12.77 | 115.91 | 110.80 |
| 26 | 14 | 1827 | C | N3-C2-O2 | -12.77 | 112.96 | 121.90 |
| 1 | 13 | 623 | C | C6-N1-C2 | -12.76 | 115.19 | 120.30 |
| 26 | 1H | 735 | A | N1-C6-N6 | 12.76 | 126.26 | 118.60 |
| 1 | 13 | 974 | A | C2-N3-C4 | -12.76 | 104.22 | 110.60 |
| 26 | 1H | 2070 | G | N1-C2-N2 | -12.76 | 104.72 | 116.20 |
| 27 | 16 | 45 | A | C8-N9-C4 | -12.76 | 100.70 | 105.80 |
| 1 | 13 | 1494 | G | C5-C6-N1 | 12.76 | 117.88 | 111.50 |
| 26 | 1H | 71 | A | N7-C8-N9 | 12.75 | 120.18 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 122 | G | C6-C5-N7 | -12.75 | 122.75 | 130.40 |
| 26 | 1H | 2490 | G | C5-C6-O6 | 12.75 | 136.25 | 128.60 |
| 26 | 1H | 2380 | C | C2-N3-C4 | -12.75 | 113.52 | 119.90 |
| 26 | 14 | 1780 | A | N9-C4-C5 | 12.75 | 110.90 | 105.80 |
| 26 | 1H | 452 | G | N1-C6-O6 | -12.75 | 112.25 | 119.90 |
| 26 | 1H | 2357 | U | O5'-P-OP2 | -12.74 | 94.23 | 105.70 |
| 26 | 14 | 1899 | G | N1-C2-N2 | -12.74 | 104.73 | 116.20 |
| 1 | 13 | 1435 | G | C5-C6-N1 | -12.74 | 105.13 | 111.50 |
| 26 | 1H | 541 | C | N3-C4-C5 | -12.74 | 116.81 | 121.90 |
| 26 | 1H | 2628 | C | C6-N1-C2 | 12.74 | 125.40 | 120.30 |
| 26 | 1H | 1241 | A | C5-N7-C8 | -12.74 | 97.53 | 103.90 |
| 26 | 14 | 1627 | G | C5-C6-O6 | 12.74 | 136.24 | 128.60 |
| 26 | 14 | 140 | A | N7-C8-N9 | 12.73 | 120.17 | 113.80 |
| 26 | 1H | 1662 | C | C5-C6-N1 | -12.73 | 114.64 | 121.00 |
| 26 | 14 | 2048 | G | C5-C6-O6 | 12.73 | 136.24 | 128.60 |
| 26 | 14 | 2365 | G | C6-C5-N7 | -12.73 | 122.76 | 130.40 |
| 26 | 14 | 1340 | U | C6-N1-C2 | 12.72 | 128.63 | 121.00 |
| 26 | 1H | 491 | G | O5'-P-OP1 | -12.72 | 94.25 | 105.70 |
| 26 | 1H | 736 | C | C6-N1-C2 | 12.72 | 125.39 | 120.30 |
| 26 | 1H | 1838 | C | C5-C4-N4 | -12.72 | 111.30 | 120.20 |
| 26 | 1H | 1595 | G | O5'-P-OP1 | -12.71 | 94.26 | 105.70 |
| 26 | 1H | 1823 | G | N1-C2-N3 | 12.71 | 131.53 | 123.90 |
| 26 | 1H | 1975 | G | N1-C6-O6 | 12.71 | 127.53 | 119.90 |
| 26 | 1H | 2271 | G | C5-C6-N1 | 12.71 | 117.86 | 111.50 |
| 26 | 14 | 2268 | A | N7-C8-N9 | 12.71 | 120.15 | 113.80 |
| 26 | 14 | 666 | G | C2-N3-C4 | -12.70 | 105.55 | 111.90 |
| 26 | 14 | 947 | G | C5-C6-N1 | -12.70 | 105.15 | 111.50 |
| 1 | 13 | 738 | C | C6-N1-C2 | -12.70 | 115.22 | 120.30 |
| 26 | 14 | 1605 | C | C4-C5-C6 | 12.70 | 123.75 | 117.40 |
| 1 | 13 | 774 | G | C5-C6-O6 | -12.69 | 120.99 | 128.60 |
| 26 | 1H | 1647 | G | O5'-P-OP2 | 12.69 | 125.92 | 110.70 |
| 26 | 1H | 138 | G | C2-N3-C4 | 12.68 | 118.24 | 111.90 |
| 26 | 14 | 1554 | A | C8-N9-C4 | -12.68 | 100.73 | 105.80 |
| 26 | 1H | 2845 | G | C5-C6-N1 | -12.67 | 105.16 | 111.50 |
| 26 | 1H | 237 | C | N1-C2-O2 | -12.67 | 111.30 | 118.90 |
| 26 | 1H | 2518 | A | N7-C8-N9 | 12.67 | 120.13 | 113.80 |
| 26 | 1H | 2681 | C | N3-C2-O2 | -12.67 | 113.03 | 121.90 |
| 27 | 16 | 7 | G | C8-N9-C4 | 12.67 | 111.47 | 106.40 |
| 26 | 1H | 1698 | A | C4-C5-N7 | 12.66 | 117.03 | 110.70 |
| 26 | 1H | 2502 | G | C6-N1-C2 | -12.66 | 117.50 | 125.10 |
| 26 | 1H | 386 | G | N1-C6-O6 | 12.65 | 127.49 | 119.90 |
| 26 | 1H | 1215 | G | C5-C6-O6 | -12.65 | 121.01 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1300 | U | C2-N3-C4 | -12.65 | 119.41 | 127.00 |
| 26 | 1H | 1942 | C | N1-C2-O2 | 12.65 | 126.49 | 118.90 |
| 26 | 1H | 2331 | G | C6-C5-N7 | -12.65 | 122.81 | 130.40 |
| 26 | 14 | 1826 | G | C5-N7-C8 | 12.65 | 110.62 | 104.30 |
| 26 | 1H | 2429 | G | C8-N9-C4 | -12.64 | 101.34 | 106.40 |
| 26 | 14 | 759 | G | N3-C2-N2 | -12.64 | 111.05 | 119.90 |
| 26 | 14 | 1648 | C | C6-N1-C2 | -12.64 | 115.24 | 120.30 |
| 26 | 1H | 263 | C | O5'-P-OP2 | -12.64 | 94.33 | 105.70 |
| 27 | 16 | 65 | C | O5'-P-OP1 | -12.62 | 94.34 | 105.70 |
| 26 | 1H | 1948 | G | C5-C6-O6 | 12.62 | 136.17 | 128.60 |
| 26 | 1H | 1345 | C | C4-C5-C6 | -12.62 | 111.09 | 117.40 |
| 26 | 14 | 737 | C | N1-C2-O2 | -12.62 | 111.33 | 118.90 |
| 26 | 14 | 747 | U | C6-N1-C2 | 12.62 | 128.57 | 121.00 |
| 26 | 14 | 915 | C | C6-N1-C2 | -12.61 | 115.26 | 120.30 |
| 26 | 14 | 2518 | A | C5-N7-C8 | -12.61 | 97.59 | 103.90 |
| 26 | 14 | 140 | A | C6-C5-N7 | -12.61 | 123.47 | 132.30 |
| 26 | 14 | 1332 | G | C4-N9-C1' | 12.61 | 142.89 | 126.50 |
| 26 | 14 | 941 | A | C8-N9-C4 | -12.61 | 100.76 | 105.80 |
| 26 | 14 | 1658 | C | N3-C4-C5 | -12.61 | 116.86 | 121.90 |
| 26 | 14 | 1379 | A | N7-C8-N9 | 12.60 | 120.10 | 113.80 |
| 26 | 14 | 1332 | G | C5-N7-C8 | -12.60 | 98.00 | 104.30 |
| 26 | 14 | 1277 | G | N9-C4-C5 | -12.60 | 100.36 | 105.40 |
| 26 | 14 | 1281 | G | C4-C5-N7 | 12.60 | 115.84 | 110.80 |
| 26 | 1H | 1210 | A | C4-C5-N7 | 12.59 | 117.00 | 110.70 |
| 26 | 1H | 2051 | A | C2-N3-C4 | -12.59 | 104.30 | 110.60 |
| 26 | 1H | 2822 | G | N1-C6-O6 | 12.59 | 127.45 | 119.90 |
| 26 | 1H | 124 | G | N7-C8-N9 | -12.59 | 106.81 | 113.10 |
| 26 | 14 | 1646 | C | O5'-P-OP1 | -12.59 | 94.37 | 105.70 |
| 26 | 1H | 2330 | G | C5-C6-O6 | -12.59 | 121.05 | 128.60 |
| 26 | 14 | 2069 | G | O5'-P-OP1 | -12.59 | 94.37 | 105.70 |
| 27 | 1J | 30 | C | C6-N1-C2 | -12.59 | 115.27 | 120.30 |
| 26 | 14 | 2362 | G | C8-N9-C4 | 12.58 | 111.43 | 106.40 |
| 26 | 14 | 1466 | G | O5'-P-OP1 | -12.58 | 94.38 | 105.70 |
| 26 | 1H | 1306 | C | N3-C4-C5 | 12.57 | 126.93 | 121.90 |
| 26 | 14 | 469 | G | C5-C6-N1 | 12.57 | 117.79 | 111.50 |
| 26 | 1H | 467 | G | O5'-P-OP2 | -12.57 | 94.39 | 105.70 |
| 1 | 13 | 644 | G | C8-N9-C4 | 12.56 | 111.43 | 106.40 |
| 26 | 14 | 2387 | U | C5-C6-N1 | -12.56 | 116.42 | 122.70 |
| 26 | 1H | 474 | G | N3-C2-N2 | -12.56 | 111.11 | 119.90 |
| 1 | 13 | 974 | A | N1-C6-N6 | 12.56 | 126.13 | 118.60 |
| 26 | 1H | 736 | C | N1-C2-O2 | -12.55 | 111.37 | 118.90 |
| 26 | 1H | 2247 | A | N1-C2-N3 | 12.55 | 135.57 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 26 | 1H | 1158 | C | N3-C4-N4 | -12.54 | 109.22 | 118.00 |
| 26 | 1H | 194 | G | C5-C6-O6 | -12.54 | 121.08 | 128.60 |
| 26 | 14 | 704 | G | N1-C6-O6 | 12.54 | 127.42 | 119.90 |
| 26 | 14 | 205 | G | N9-C4-C5 | -12.54 | 100.39 | 105.40 |
| 26 | 14 | 1692 | U | C2-N1-C1' | -12.54 | 102.66 | 117.70 |
| 26 | 1H | 2387 | U | C5-C6-N1 | -12.53 | 116.44 | 122.70 |
| 26 | 1H | 1702 | G | C8-N9-C4 | 12.53 | 111.41 | 106.40 |
| 26 | 14 | 2554 | U | O5'-P-OP1 | -12.53 | 94.43 | 105.70 |
| 1 | 13 | 893 | C | N3-C4-C5 | 12.52 | 126.91 | 121.90 |
| 26 | 1H | 1829 | A | O5'-P-OP1 | -12.52 | 94.43 | 105.70 |
| 26 | 1H | 828 | U | N3-C4-O4 | -12.52 | 110.64 | 119.40 |
| 26 | 14 | 530 | G | N1-C6-O6 | 12.52 | 127.41 | 119.90 |
| 1 | 13 | 548 | G | O5'-P-OP2 | -12.52 | 94.44 | 105.70 |
| 26 | 1H | 772 | C | N3-C4-N4 | 12.52 | 126.76 | 118.00 |
| 26 | 14 | 2079 | U | O5'-P-OP1 | -12.52 | 94.44 | 105.70 |
| 26 | 1H | 1190 | G | O5'-P-OP1 | -12.51 | 94.44 | 105.70 |
| 26 | 14 | 2463 | C | C6-N1-C2 | 12.51 | 125.30 | 120.30 |
| 26 | 14 | 2598 | A | N1-C6-N6 | 12.51 | 126.11 | 118.60 |
| 26 | 14 | 1613 | G | N1-C6-O6 | -12.51 | 112.40 | 119.90 |
| 26 | 1H | 1931 | U | N1-C2-N3 | 12.50 | 122.40 | 114.90 |
| 26 | 14 | 1187 | G | N7-C8-N9 | 12.50 | 119.35 | 113.10 |
| 26 | 1H | 138 | G | C5-C6-O6 | -12.50 | 121.10 | 128.60 |
| 26 | 14 | 205 | G | N3-C2-N2 | 12.50 | 128.65 | 119.90 |
| 26 | 1H | 704 | G | N7-C8-N9 | 12.49 | 119.35 | 113.10 |
| 26 | 1H | 1610 | A | N1-C6-N6 | 12.49 | 126.10 | 118.60 |
| 26 | 1H | 2040 | C | C6-N1-C2 | 12.49 | 125.30 | 120.30 |
| 26 | 1H | 1332 | G | C5-C6-N1 | -12.49 | 105.25 | 111.50 |
| 26 | 14 | 2092 | U | C5-C4-O4 | 12.49 | 133.39 | 125.90 |
| 26 | 1H | 389 | G | N3-C2-N2 | 12.48 | 128.64 | 119.90 |
| 26 | 1H | 1437 | C | C6-N1-C2 | -12.48 | 115.31 | 120.30 |
| 1 | 13 | 1433 | A | O5'-P-OP1 | -12.48 | 94.47 | 105.70 |
| 26 | 1H | 326 | G | N3-C2-N2 | -12.48 | 111.16 | 119.90 |
| 26 | 1H | 2291 | U | N3-C4-C5 | -12.48 | 107.11 | 114.60 |
| 26 | 1H | 692 | C | C2-N3-C4 | -12.47 | 113.66 | 119.90 |
| 26 | 14 | 1939 | U | C2-N3-C4 | -12.47 | 119.52 | 127.00 |
| 26 | 14 | 1304 | C | C6-N1-C2 | 12.47 | 125.29 | 120.30 |
| 1 | 13 | 1518 | A | C8-N9-C4 | 12.47 | 110.79 | 105.80 |
| 26 | 1H | 2552 | U | N1-C2-N3 | 12.47 | 122.38 | 114.90 |
| 26 | 1H | 2830 | G | C5-N7-C8 | -12.47 | 98.07 | 104.30 |
| 26 | 14 | 2558 | C | C6-N1-C2 | 12.47 | 125.29 | 120.30 |
| 26 | 14 | 1348 | G | O5'-P-OP2 | 12.46 | 125.66 | 110.70 |
| 26 | 1H | 2346 | A | O4'-C1'-N9 | 12.46 | 118.17 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1021 | A | N7-C8-N9 | 12.46 | 120.03 | 113.80 |
| 26 | 1H | 2447 | G | N3-C4-C5 | -12.46 | 122.37 | 128.60 |
| 1 | 1G | 1522 | U | N1-C2-N3 | 12.46 | 122.37 | 114.90 |
| 26 | 1H | 945 | A | C8-N9-C4 | -12.45 | 100.82 | 105.80 |
| 26 | 1H | 1563 | G | N1-C6-O6 | -12.45 | 112.43 | 119.90 |
| 26 | 14 | 746 | A | O5'-P-OP2 | 12.45 | 125.64 | 110.70 |
| 26 | 1H | 1957 | C | O5'-P-OP2 | -12.45 | 94.50 | 105.70 |
| 26 | 14 | 201 | C | C5-C6-N1 | -12.45 | 114.78 | 121.00 |
| 26 | 1H | 1829 | A | C6-N1-C2 | -12.44 | 111.14 | 118.60 |
| 1 | 13 | 1205 | U | N1-C2-O2 | -12.44 | 114.10 | 122.80 |
| 1 | 13 | 1486 | G | C5-C6-N1 | -12.43 | 105.28 | 111.50 |
| 26 | 14 | 745 | G | C8-N9-C4 | 12.43 | 111.37 | 106.40 |
| 26 | 14 | 770 | G | OP1-P-OP2 | -12.43 | 100.96 | 119.60 |
| 26 | 1H | 1528 | A | C5-N7-C8 | -12.43 | 97.69 | 103.90 |
| 1 | 13 | 732 | C | N1-C2-O2 | 12.42 | 126.35 | 118.90 |
| 26 | 1H | 1021 | A | C4-C5-N7 | 12.42 | 116.91 | 110.70 |
| 26 | 1H | 1340 | U | C5-C4-O4 | -12.42 | 118.45 | 125.90 |
| 26 | 1H | 1806 | C | O5'-P-OP2 | -12.42 | 94.53 | 105.70 |
| 26 | 14 | 1379 | A | C8-N9-C4 | -12.41 | 100.83 | 105.80 |
| 26 | 1H | 2251 | G | C4-C5-N7 | -12.41 | 105.83 | 110.80 |
| 26 | 1H | 606 | U | O5'-P-OP2 | -12.41 | 94.53 | 105.70 |
| 26 | 14 | 74 | A | N3-C4-C5 | 12.41 | 135.49 | 126.80 |
| 26 | 1H | 2373 | G | N1-C6-O6 | 12.40 | 127.34 | 119.90 |
| 1 | 13 | 1412 | C | N3-C4-C5 | 12.40 | 126.86 | 121.90 |
| 26 | 14 | 1658 | C | N1-C2-O2 | -12.40 | 111.46 | 118.90 |
| 1 | 13 | 186 | C | C6-N1-C2 | -12.39 | 115.34 | 120.30 |
| 26 | 14 | 1332 | G | N1-C2-N2 | -12.39 | 105.05 | 116.20 |
| 26 | 1H | 1569 | A | C2-N3-C4 | -12.38 | 104.41 | 110.60 |
| 26 | 14 | 1969 | A | O5'-P-OP1 | -12.39 | 94.55 | 105.70 |
| 26 | 14 | 55 | G | C5-C6-N1 | 12.38 | 117.69 | 111.50 |
| 26 | 14 | 1966 | A | C6-N1-C2 | -12.38 | 111.17 | 118.60 |
| 26 | 1H | 2028 | U | N3-C4-O4 | 12.38 | 128.06 | 119.40 |
| 26 | 1H | 698 | C | C4-C5-C6 | 12.38 | 123.59 | 117.40 |
| 26 | 14 | 247 | G | C2-N3-C4 | -12.38 | 105.71 | 111.90 |
| 26 | 14 | 929 | G | C5-C6-O6 | -12.38 | 121.17 | 128.60 |
| 26 | 14 | 2323 | G | C8-N9-C4 | 12.37 | 111.35 | 106.40 |
| 26 | 14 | 2820 | A | C2-N3-C4 | -12.38 | 104.41 | 110.60 |
| 26 | 1H | 1029 | A | N1-C6-N6 | 12.37 | 126.02 | 118.60 |
| 26 | 1H | 1879 | C | C6-N1-C2 | -12.37 | 115.35 | 120.30 |
| 26 | 1H | 1302 | A | O5'-P-OP1 | -12.37 | 94.57 | 105.70 |
| 26 | 1H | 436 | C | C6-N1-C2 | 12.37 | 125.25 | 120.30 |
| 26 | 14 | 1021 | A | C2-N3-C4 | -12.36 | 104.42 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 2019 | A | C6-C5-N7 | -12.35 | 123.65 | 132.30 |
| 26 | 14 | 1308 | A | N1-C2-N3 | 12.35 | 135.48 | 129.30 |
| 26 | 1H | 2360 | A | N1-C6-N6 | 12.35 | 126.01 | 118.60 |
| 26 | 14 | 400 | G | N1-C6-O6 | 12.35 | 127.31 | 119.90 |
| 26 | 14 | 988 | A | N1-C6-N6 | 12.35 | 126.01 | 118.60 |
| 26 | 1H | 1309 | G | N1-C6-O6 | 12.35 | 127.31 | 119.90 |
| 26 | 1H | 1601 | G | OP1-P-OP2 | -12.34 | 101.09 | 119.60 |
| 26 | 1H | 1618 | A | O5'-P-OP1 | -12.34 | 94.60 | 105.70 |
| 26 | 1H | 600 | G | N1-C6-O6 | 12.34 | 127.30 | 119.90 |
| 26 | 14 | 665 | C | C4-C5-C6 | -12.34 | 111.23 | 117.40 |
| 26 | 14 | 122 | G | C8-N9-C4 | 12.33 | 111.33 | 106.40 |
| 26 | 1H | 569 | U | C5-C6-N1 | -12.32 | 116.54 | 122.70 |
| 26 | 14 | 1977 | A | N1-C2-N3 | 12.32 | 135.46 | 129.30 |
| 26 | 14 | 786 | C | N3-C4-N4 | -12.32 | 109.38 | 118.00 |
| 26 | 14 | 1772 | G | N1-C6-O6 | 12.32 | 127.29 | 119.90 |
| 26 | 1H | 815 | C | C5-C6-N1 | -12.31 | 114.84 | 121.00 |
| 26 | 1H | 37 | C | C2-N3-C4 | 12.31 | 126.05 | 119.90 |
| 26 | 14 | 524 | U | N3-C2-O2 | -12.31 | 113.59 | 122.20 |
| 26 | 14 | 1780 | A | N1-C2-N3 | 12.30 | 135.45 | 129.30 |
| 26 | 14 | 765 | G | C8-N9-C4 | -12.30 | 101.48 | 106.40 |
| 26 | 14 | 1762 | A | C6-N1-C2 | 12.30 | 125.98 | 118.60 |
| 26 | 1H | 1814 | G | O5'-P-OP2 | -12.30 | 94.63 | 105.70 |
| 26 | 1H | 2439 | A | O5'-P-OP2 | -12.30 | 94.63 | 105.70 |
| 26 | 1H | 2380 | C | C5-C6-N1 | -12.29 | 114.85 | 121.00 |
| 26 | 14 | 2270 | G | C8-N9-C4 | -12.29 | 101.48 | 106.40 |
| 26 | 14 | 2542 | A | C8-N9-C4 | 12.29 | 110.72 | 105.80 |
| 26 | 14 | 1816 | G | C5-C6-N1 | 12.29 | 117.64 | 111.50 |
| 26 | 1H | 299 | A | C8-N9-C4 | -12.29 | 100.89 | 105.80 |
| 26 | 1H | 659 | C | C5-C6-N1 | -12.29 | 114.86 | 121.00 |
| 26 | 14 | 457 | A | N1-C6-N6 | -12.29 | 111.23 | 118.60 |
| 1 | 13 | 492 | G | N1-C6-O6 | 12.28 | 127.27 | 119.90 |
| 26 | 1H | 1939 | U | C4-C5-C6 | -12.28 | 112.33 | 119.70 |
| 26 | 1H | 1161 | C | C5-C6-N1 | 12.28 | 127.14 | 121.00 |
| 26 | 1H | 2430 | A | C5-C6-N1 | -12.28 | 111.56 | 117.70 |
| 27 | 16 | 8 | U | O5'-P-OP1 | 12.28 | 125.43 | 110.70 |
| 23 | 2K | 27 | G | C5-C6-O6 | -12.27 | 121.24 | 128.60 |
| 26 | 1H | 1955 | U | N1-C2-N3 | 12.27 | 122.26 | 114.90 |
| 26 | 14 | 1162 | G | O5'-P-OP1 | -12.27 | 94.66 | 105.70 |
| 26 | 14 | 755 | C | C5-C6-N1 | 12.26 | 127.13 | 121.00 |
| 26 | 14 | 2441 | C | N3-C4-N4 | -12.26 | 109.42 | 118.00 |
| 26 | 1H | 420 | C | C6-N1-C2 | 12.25 | 125.20 | 120.30 |
| 26 | 14 | 428 | A | C8-N9-C4 | -12.25 | 100.90 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 2337 | G | C8-N9-C4 | -12.25 | 101.50 | 106.40 |
| 26 | 1H | 773 | U | C5-C6-N1 | -12.24 | 116.58 | 122.70 |
| 27 | 16 | 45 | A | N7-C8-N9 | 12.24 | 119.92 | 113.80 |
| 1 | 13 | 880 | C | C6-N1-C2 | 12.24 | 125.20 | 120.30 |
| 27 | 16 | 81 | G | N7-C8-N9 | 12.24 | 119.22 | 113.10 |
| 26 | 1H | 1162 | G | N7-C8-N9 | 12.23 | 119.22 | 113.10 |
| 26 | 1H | 2543 | G | C5-C6-N1 | 12.23 | 117.61 | 111.50 |
| 26 | 14 | 621 | A | C4-C5-N7 | 12.22 | 116.81 | 110.70 |
| 26 | 1H | 533 | G | N1-C6-O6 | -12.22 | 112.57 | 119.90 |
| 26 | 14 | 436 | C | N3-C4-C5 | 12.22 | 126.79 | 121.90 |
| 26 | 14 | 2345 | G | N1-C2-N3 | 12.22 | 131.23 | 123.90 |
| 1 | 13 | 354 | G | O5'-P-OP2 | -12.22 | 94.70 | 105.70 |
| 26 | 1H | 575 | A | C8-N9-C4 | 12.22 | 110.69 | 105.80 |
| 26 | 14 | 773 | U | N3-C2-O2 | -12.21 | 113.66 | 122.20 |
| 26 | 14 | 2595 | G | O5'-P-OP1 | -12.20 | 94.72 | 105.70 |
| 26 | 1H | 452 | G | C2-N3-C4 | 12.20 | 118.00 | 111.90 |
| 1 | 13 | 1386 | G | N1-C6-O6 | 12.20 | 127.22 | 119.90 |
| 26 | 1H | 110 | G | C8-N9-C4 | 12.20 | 111.28 | 106.40 |
| 26 | 1H | 2585 | U | N3-C4-O4 | -12.20 | 110.86 | 119.40 |
| 1 | 1G | 230 | G | C2-N3-C4 | -12.19 | 105.80 | 111.90 |
| 26 | 1H | 919 | G | N1-C6-O6 | -12.19 | 112.59 | 119.90 |
| 26 | 14 | 929 | G | C4-C5-C6 | 12.19 | 126.11 | 118.80 |
| 26 | 1H | 74 | A | C6-C5-N7 | -12.19 | 123.77 | 132.30 |
| 26 | 14 | 2766 | G | N1-C6-O6 | 12.19 | 127.21 | 119.90 |
| 26 | 1H | 85 | G | O5'-P-OP1 | 12.18 | 125.32 | 110.70 |
| 26 | 14 | 828 | U | C5-C4-O4 | 12.18 | 133.21 | 125.90 |
| 26 | 1H | 944 | G | C6-N1-C2 | 12.18 | 132.41 | 125.10 |
| 26 | 1H | 190 | A | N1-C6-N6 | 12.18 | 125.91 | 118.60 |
| 26 | 1H | 2311 | A | C5-C6-N1 | -12.18 | 111.61 | 117.70 |
| 26 | 14 | 137 | C | C6-N1-C2 | -12.18 | 115.43 | 120.30 |
| 26 | 1H | 685 | A | OP1-P-OP2 | 12.18 | 137.87 | 119.60 |
| 26 | 1H | 1590 | U | O5'-P-OP1 | -12.18 | 94.74 | 105.70 |
| 26 | 1H | 2707 | G | C8-N9-C4 | 12.18 | 111.27 | 106.40 |
| 26 | 1H | 2710 | C | C2-N3-C4 | -12.17 | 113.81 | 119.90 |
| 26 | 1H | 2449 | U | C6-N1-C2 | -12.17 | 113.70 | 121.00 |
| 1 | 13 | 966 | G | C5-C6-O6 | -12.16 | 121.31 | 128.60 |
| 1 | 13 | 789 | U | N1-C2-N3 | 12.15 | 122.19 | 114.90 |
| 26 | 14 | 24 | G | C2-N3-C4 | -12.15 | 105.83 | 111.90 |
| 26 | 14 | 972 | G | C8-N9-C4 | -12.14 | 101.54 | 106.40 |
| 1 | 13 | 1433 | A | N1-C2-N3 | 12.14 | 135.37 | 129.30 |
| 26 | 14 | 1698 | A | C5-C6-N6 | -12.14 | 113.99 | 123.70 |
| 26 | 1H | 1616 | A | OP1-P-OP2 | 12.14 | 137.80 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|--------|-------------|----------|
| 26 | 1H | 67 | U | N3-C2-O2 | -12.13 | 113.71 | 122.20 |
| 26 | 14 | 863 | A | N9-C4-C5 | 12.13 | 110.65 | 105.80 |
| 26 | 1H | 845 | G | C4-C5-N7 | 12.13 | 115.65 | 110.80 |
| 26 | 14 | 212 | G | O5'-P-OP2 | -12.13 | 94.78 | 105.70 |
| 27 | 16 | 77 | U | C5-C4-O4 | -12.13 | 118.62 | 125.90 |
| 26 | 14 | 324 | A | N1-C6-N6 | -12.13 | 111.32 | 118.60 |
| 26 | 1H | 2237 | G | N3-C2-N2 | 12.13 | 128.39 | 119.90 |
| 26 | 14 | 664 | C | C6-N1-C2 | 12.12 | 125.15 | 120.30 |
| 26 | 1H | 105 | C | C6-N1-C2 | -12.12 | 115.45 | 120.30 |
| 26 | 1H | 759 | G | N3-C2-N2 | -12.12 | 111.42 | 119.90 |
| 26 | 14 | 2394 | C | O5'-P-OP2 | -12.12 | 94.79 | 105.70 |
| 1 | 1G | 508 | C | C6-N1-C2 | 12.12 | 125.15 | 120.30 |
| 26 | 14 | 1608 | A | N1-C6-N6 | -12.12 | 111.33 | 118.60 |
| 26 | 1H | 68 | G | N3-C2-N2 | -12.12 | 111.42 | 119.90 |
| 26 | 1H | 774 | A | C5-N7-C8 | -12.12 | 97.84 | 103.90 |
| 26 | 1H | 835 | A | C6-N1-C2 | -12.12 | 111.33 | 118.60 |
| 26 | 1H | 2518 | A | C4-C5-N7 | 12.12 | 116.76 | 110.70 |
| 26 | 14 | 1662 | C | C4-C5-C6 | 12.11 | 123.46 | 117.40 |
| 26 | 14 | 2505 | G | C5-C6-O6 | 12.11 | 135.87 | 128.60 |
| 26 | 1H | 128 | C | C6-N1-C2 | 12.11 | 125.14 | 120.30 |
| 26 | 1H | 1624 | G | N7-C8-N9 | -12.11 | 107.05 | 113.10 |
| 26 | 1H | 2584 | U | C5-C6-N1 | -12.11 | 116.65 | 122.70 |
| 26 | 1H | 2311 | A | C6-C5-N7 | -12.11 | 123.83 | 132.30 |
| 27 | 16 | 7 | G | N9-C4-C5 | -12.11 | 100.56 | 105.40 |
| 26 | 1H | 858 | U | O5'-P-OP2 | -12.10 | 94.81 | 105.70 |
| 26 | 1H | 2392 | A | O5'-P-OP1 | -12.10 | 94.81 | 105.70 |
| 26 | 14 | 2873 | A | N1-C6-N6 | 12.10 | 125.86 | 118.60 |
| 26 | 1H | 2559 | C | O5'-P-OP2 | -12.10 | 94.81 | 105.70 |
| 22 | 1K | 76 | A | C8-N9-C4 | -12.10 | 100.96 | 105.80 |
| 26 | 1H | 2666 | C | C6-N1-C2 | -12.10 | 115.46 | 120.30 |
| 26 | 1H | 194 | G | N1-C6-O6 | 12.10 | 127.16 | 119.90 |
| 26 | 1H | 197 | A | C2-N3-C4 | -12.09 | 104.55 | 110.60 |
| 26 | 1H | 863 | A | C5-C6-N1 | 12.09 | 123.75 | 117.70 |
| 26 | 1H | 1142(A) | A | C2-N3-C4 | -12.09 | 104.55 | 110.60 |
| 1 | 1G | 483 | C | C6-N1-C2 | 12.09 | 125.14 | 120.30 |
| 26 | 14 | 2464 | C | N3-C4-C5 | 12.09 | 126.73 | 121.90 |
| 26 | 14 | 707 | G | C5-C6-N1 | -12.08 | 105.46 | 111.50 |
| 26 | 14 | 2365 | G | C4-C5-N7 | 12.08 | 115.63 | 110.80 |
| 26 | 1H | 1786 | A | C6-C5-N7 | -12.08 | 123.84 | 132.30 |
| 26 | 1H | 189 | G | N3-C2-N2 | -12.08 | 111.44 | 119.90 |
| 1 | 13 | 516 | U | N3-C2-O2 | -12.08 | 113.75 | 122.20 |
| 1 | 13 | 811 | C | C5-C6-N1 | -12.08 | 114.96 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 640 | C | O5'-P-OP2 | -12.08 | 94.83 | 105.70 |
| 26 | 1H | 2241 | A | N1-C6-N6 | -12.08 | 111.35 | 118.60 |
| 26 | 1H | 2311 | A | N1-C6-N6 | 12.07 | 125.84 | 118.60 |
| 26 | 1H | 1285 | G | O5'-P-OP1 | -12.07 | 94.83 | 105.70 |
| 26 | 1H | 2708 | G | C8-N9-C4 | 12.07 | 111.23 | 106.40 |
| 26 | 1H | 328 | U | C6-N1-C2 | -12.07 | 113.76 | 121.00 |
| 26 | 1H | 2238 | G | O5'-P-OP2 | -12.07 | 94.84 | 105.70 |
| 1 | 1G | 1416 | G | C5-C6-N1 | -12.07 | 105.47 | 111.50 |
| 1 | 1G | 898 | G | C8-N9-C4 | 12.06 | 111.23 | 106.40 |
| 26 | 14 | 1972 | A | O5'-P-OP2 | -12.06 | 94.84 | 105.70 |
| 26 | 14 | 2084 | C | N1-C2-O2 | -12.06 | 111.66 | 118.90 |
| 26 | 1H | 94 | G | N1-C6-O6 | 12.06 | 127.14 | 119.90 |
| 26 | 14 | 223 | A | C8-N9-C4 | -12.06 | 100.98 | 105.80 |
| 26 | 14 | 2873 | A | N1-C2-N3 | 12.05 | 135.32 | 129.30 |
| 26 | 1H | 862 | G | N1-C6-O6 | -12.05 | 112.67 | 119.90 |
| 26 | 1H | 180 | G | C8-N9-C4 | 12.04 | 111.22 | 106.40 |
| 26 | 14 | 2430 | A | C5-C6-N1 | -12.04 | 111.68 | 117.70 |
| 26 | 1H | 198 | C | C6-N1-C2 | 12.04 | 125.12 | 120.30 |
| 26 | 1H | 2070 | G | N3-C2-N2 | 12.04 | 128.33 | 119.90 |
| 1 | 1G | 1496 | C | O5'-P-OP2 | -12.04 | 94.86 | 105.70 |
| 26 | 14 | 1326 | U | N1-C2-N3 | 12.04 | 122.12 | 114.90 |
| 26 | 14 | 1605 | C | C5-C6-N1 | -12.04 | 114.98 | 121.00 |
| 24 | 3K | 76 | A | C5-N7-C8 | -12.03 | 97.88 | 103.90 |
| 1 | 1G | 1495 | U | O5'-P-OP1 | -12.03 | 94.87 | 105.70 |
| 26 | 1H | 196 | A | C6-N1-C2 | 12.03 | 125.81 | 118.60 |
| 1 | 1G | 416 | G | C5-C6-N1 | -12.02 | 105.49 | 111.50 |
| 26 | 14 | 1496 | A | C5-N7-C8 | -12.02 | 97.89 | 103.90 |
| 22 | 1K | 76 | A | C5-N7-C8 | -12.02 | 97.89 | 103.90 |
| 26 | 14 | 179 | G | OP1-P-OP2 | 12.02 | 137.63 | 119.60 |
| 26 | 14 | 333 | G | C5-C6-O6 | -12.02 | 121.39 | 128.60 |
| 26 | 1H | 1525 | G | O5'-P-OP2 | -12.02 | 94.89 | 105.70 |
| 26 | 1H | 2779 | U | N3-C2-O2 | -12.02 | 113.79 | 122.20 |
| 26 | 1H | 2469 | A | C5-N7-C8 | -12.01 | 97.89 | 103.90 |
| 26 | 1H | 2009 | G | N1-C6-O6 | 12.01 | 127.11 | 119.90 |
| 26 | 1H | 2539 | C | O5'-P-OP2 | -12.01 | 94.89 | 105.70 |
| 26 | 1H | 328 | U | O5'-P-OP2 | -12.01 | 94.89 | 105.70 |
| 26 | 1H | 710 | G | N7-C8-N9 | 12.01 | 119.10 | 113.10 |
| 26 | 1H | 2688 | U | N3-C2-O2 | -12.01 | 113.80 | 122.20 |
| 1 | 13 | 123 | C | O5'-P-OP2 | -12.01 | 94.89 | 105.70 |
| 26 | 1H | 1640 | C | C6-N1-C2 | 12.01 | 125.10 | 120.30 |
| 26 | 14 | 1930 | G | N1-C6-O6 | -12.01 | 112.70 | 119.90 |
| 26 | 1H | 2441 | C | N1-C2-O2 | 12.00 | 126.10 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 140 | A | C8-N9-C4 | -12.00 | 101.00 | 105.80 |
| 26 | 14 | 929 | G | N7-C8-N9 | 12.00 | 119.10 | 113.10 |
| 26 | 1H | 739 | G | N7-C8-N9 | -11.99 | 107.10 | 113.10 |
| 26 | 14 | 972 | G | N9-C4-C5 | 11.99 | 110.20 | 105.40 |
| 26 | 1H | 945 | A | C5-C6-N1 | -11.99 | 111.71 | 117.70 |
| 26 | 1H | 859 | G | N3-C4-N9 | -11.98 | 118.81 | 126.00 |
| 26 | 1H | 2280 | G | C5-N7-C8 | 11.98 | 110.29 | 104.30 |
| 1 | 13 | 1401 | G | N3-C2-N2 | -11.98 | 111.52 | 119.90 |
| 26 | 1H | 1274 | A | C8-N9-C4 | -11.97 | 101.01 | 105.80 |
| 26 | 1H | 2499 | C | C2-N3-C4 | -11.97 | 113.92 | 119.90 |
| 26 | 1H | 1285 | G | N1-C6-O6 | 11.96 | 127.08 | 119.90 |
| 27 | 16 | 32 | C | N3-C4-N4 | -11.96 | 109.63 | 118.00 |
| 26 | 1H | 246 | C | C5-C6-N1 | -11.96 | 115.02 | 121.00 |
| 26 | 1H | 2351 | G | C5-C6-O6 | 11.96 | 135.78 | 128.60 |
| 26 | 1H | 259 | G | N1-C6-O6 | 11.96 | 127.08 | 119.90 |
| 1 | 1G | 623 | C | C6-N1-C2 | -11.96 | 115.52 | 120.30 |
| 26 | 1H | 35 | G | N1-C6-O6 | -11.96 | 112.73 | 119.90 |
| 26 | 1H | 1302 | A | OP1-P-OP2 | 11.96 | 137.53 | 119.60 |
| 27 | 16 | 60 | C | C5-C6-N1 | 11.96 | 126.98 | 121.00 |
| 26 | 1H | 1931 | U | C2-N3-C4 | -11.95 | 119.83 | 127.00 |
| 26 | 1H | 2600 | A | C5-C6-N6 | 11.95 | 133.26 | 123.70 |
| 26 | 14 | 1959 | G | N1-C6-O6 | -11.95 | 112.73 | 119.90 |
| 26 | 1H | 963 | U | OP1-P-OP2 | -11.95 | 101.67 | 119.60 |
| 26 | 1H | 1559 | G | N3-C4-C5 | 11.95 | 134.57 | 128.60 |
| 26 | 14 | 2740 | A | C8-N9-C4 | 11.95 | 110.58 | 105.80 |
| 26 | 1H | 1346 | G | N1-C6-O6 | -11.95 | 112.73 | 119.90 |
| 26 | 1H | 2478 | A | O5'-P-OP1 | -11.95 | 94.95 | 105.70 |
| 26 | 14 | 298 | G | N1-C6-O6 | 11.95 | 127.07 | 119.90 |
| 26 | 1H | 2449 | U | N3-C4-O4 | 11.94 | 127.76 | 119.40 |
| 26 | 14 | 641 | C | C6-N1-C2 | 11.94 | 125.08 | 120.30 |
| 26 | 1H | 1989 | G | C5-C6-N1 | -11.94 | 105.53 | 111.50 |
| 26 | 14 | 74 | A | C6-C5-N7 | -11.94 | 123.94 | 132.30 |
| 27 | 16 | 89 | G | O5'-P-OP2 | 11.94 | 125.02 | 110.70 |
| 26 | 14 | 1279 | G | N1-C6-O6 | -11.94 | 112.74 | 119.90 |
| 26 | 1H | 420 | C | C5-C6-N1 | -11.93 | 115.04 | 121.00 |
| 26 | 1H | 1919 | A | O5'-P-OP1 | -11.93 | 94.97 | 105.70 |
| 57 | 3L | 76 | A | C8-N9-C4 | -11.93 | 101.03 | 105.80 |
| 27 | 1J | 70 | C | C6-N1-C2 | -11.93 | 115.53 | 120.30 |
| 26 | 14 | 2247 | A | N1-C6-N6 | -11.92 | 111.44 | 118.60 |
| 26 | 14 | 2304 | G | C8-N9-C4 | -11.92 | 101.63 | 106.40 |
| 26 | 14 | 1382 | G | C4-C5-N7 | 11.92 | 115.57 | 110.80 |
| 26 | 14 | 835 | A | N7-C8-N9 | -11.91 | 107.84 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1829 | A | N1-C2-N3 | 11.91 | 135.26 | 129.30 |
| 26 | 14 | 1681 | G | N1-C6-O6 | 11.91 | 127.05 | 119.90 |
| 26 | 14 | 1779 | U | C2-N3-C4 | -11.91 | 119.85 | 127.00 |
| 26 | 1H | 2287 | A | N1-C6-N6 | 11.91 | 125.75 | 118.60 |
| 26 | 14 | 2712 | U | C5-C6-N1 | -11.91 | 116.74 | 122.70 |
| 1 | 13 | 731 | G | C8-N9-C4 | -11.91 | 101.64 | 106.40 |
| 26 | 1H | 516 | C | C5-C6-N1 | 11.91 | 126.95 | 121.00 |
| 26 | 14 | 1302 | A | OP1-P-OP2 | 11.91 | 137.46 | 119.60 |
| 26 | 1H | 1599 | C | N1-C2-O2 | 11.91 | 126.05 | 118.90 |
| 26 | 14 | 834 | C | N1-C2-O2 | -11.91 | 111.75 | 118.90 |
| 26 | 1H | 1520 | U | C6-N1-C2 | -11.91 | 113.86 | 121.00 |
| 26 | 1H | 626 | U | N1-C2-O2 | -11.90 | 114.47 | 122.80 |
| 26 | 1H | 2331 | G | N9-C4-C5 | -11.90 | 100.64 | 105.40 |
| 26 | 14 | 2518 | A | C4-C5-N7 | 11.90 | 116.65 | 110.70 |
| 26 | 14 | 1408 | C | N1-C2-O2 | -11.90 | 111.76 | 118.90 |
| 26 | 1H | 1271 | G | C5-N7-C8 | 11.90 | 110.25 | 104.30 |
| 26 | 14 | 2578 | G | N3-C2-N2 | -11.90 | 111.57 | 119.90 |
| 26 | 14 | 1001 | A | N1-C6-N6 | -11.90 | 111.46 | 118.60 |
| 26 | 14 | 1378 | A | C4-C5-C6 | -11.89 | 111.05 | 117.00 |
| 1 | 13 | 47 | C | N1-C2-O2 | -11.89 | 111.77 | 118.90 |
| 26 | 14 | 1788 | C | N1-C2-O2 | 11.89 | 126.03 | 118.90 |
| 26 | 14 | 2365 | G | N9-C4-C5 | -11.89 | 100.64 | 105.40 |
| 1 | 1G | 789 | U | C6-N1-C2 | -11.88 | 113.87 | 121.00 |
| 26 | 14 | 791 | C | N3-C4-C5 | 11.88 | 126.65 | 121.90 |
| 1 | 13 | 893 | C | C6-N1-C2 | 11.88 | 125.05 | 120.30 |
| 26 | 1H | 1443 | G | C5-C6-N1 | -11.88 | 105.56 | 111.50 |
| 26 | 1H | 1915 | U | C2-N3-C4 | -11.88 | 119.87 | 127.00 |
| 26 | 1H | 623 | G | O5'-P-OP2 | -11.88 | 95.01 | 105.70 |
| 26 | 1H | 1661 | G | N7-C8-N9 | -11.88 | 107.16 | 113.10 |
| 26 | 1H | 2331 | G | N3-C4-C5 | 11.88 | 134.54 | 128.60 |
| 26 | 14 | 1336 | A | O5'-P-OP2 | -11.88 | 95.01 | 105.70 |
| 26 | 14 | 1678 | G | C4-C5-N7 | 11.87 | 115.55 | 110.80 |
| 1 | 13 | 1478 | C | C6-N1-C2 | 11.87 | 125.05 | 120.30 |
| 26 | 1H | 2539 | C | C6-N1-C2 | 11.87 | 125.05 | 120.30 |
| 26 | 1H | 1303 | G | C5-C6-O6 | 11.87 | 135.72 | 128.60 |
| 26 | 1H | 1263 | U | O5'-P-OP2 | -11.86 | 95.02 | 105.70 |
| 27 | 16 | 105 | G | N7-C8-N9 | 11.86 | 119.03 | 113.10 |
| 23 | 2L | 19 | G | N3-C4-C5 | 11.86 | 134.53 | 128.60 |
| 1 | 13 | 1435 | G | C6-C5-N7 | -11.85 | 123.29 | 130.40 |
| 26 | 1H | 688 | U | O5'-P-OP2 | -11.84 | 95.04 | 105.70 |
| 26 | 14 | 1604 | C | O5'-P-OP1 | -11.84 | 95.04 | 105.70 |
| 26 | 14 | 2352 | A | C2-N3-C4 | -11.84 | 104.68 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|--------|-------------|----------|
| 1 | 13 | 527 | G | N1-C6-O6 | -11.84 | 112.80 | 119.90 |
| 26 | 14 | 2577 | A | C5-C6-N1 | -11.84 | 111.78 | 117.70 |
| 26 | 14 | 650 | C | C6-N1-C2 | -11.84 | 115.56 | 120.30 |
| 26 | 14 | 2290 | G | N3-C2-N2 | -11.84 | 111.62 | 119.90 |
| 26 | 1H | 247 | G | C2-N3-C4 | -11.83 | 105.98 | 111.90 |
| 26 | 1H | 2532 | G | N1-C6-O6 | 11.83 | 127.00 | 119.90 |
| 1 | 1G | 1096 | C | C6-N1-C2 | -11.83 | 115.57 | 120.30 |
| 26 | 14 | 265 | A | N7-C8-N9 | 11.82 | 119.71 | 113.80 |
| 26 | 14 | 315 | G | C8-N9-C4 | 11.82 | 111.13 | 106.40 |
| 26 | 14 | 1328 | G | C5-C6-O6 | -11.82 | 121.51 | 128.60 |
| 27 | 1J | 102 | G | C5-C6-O6 | 11.82 | 135.69 | 128.60 |
| 26 | 1H | 225 | A | C2-N3-C4 | -11.82 | 104.69 | 110.60 |
| 26 | 14 | 2067 | G | O5'-P-OP1 | -11.82 | 95.06 | 105.70 |
| 26 | 1H | 2412 | A | C6-N1-C2 | -11.81 | 111.51 | 118.60 |
| 26 | 14 | 270(Y) | G | C5-C6-O6 | 11.81 | 135.69 | 128.60 |
| 26 | 1H | 1352 | U | C5-C4-O4 | -11.81 | 118.81 | 125.90 |
| 26 | 1H | 464 | U | N3-C4-C5 | -11.81 | 107.51 | 114.60 |
| 26 | 14 | 1930 | G | N9-C4-C5 | 11.81 | 110.12 | 105.40 |
| 26 | 1H | 913 | U | O5'-P-OP2 | -11.80 | 95.08 | 105.70 |
| 26 | 1H | 930 | U | N3-C4-O4 | -11.80 | 111.14 | 119.40 |
| 26 | 1H | 1951 | U | N3-C4-C5 | -11.80 | 107.52 | 114.60 |
| 26 | 1H | 2261 | C | C6-N1-C2 | -11.80 | 115.58 | 120.30 |
| 26 | 14 | 1951 | U | C6-N1-C2 | -11.80 | 113.92 | 121.00 |
| 26 | 1H | 203 | C | O5'-P-OP2 | 11.80 | 124.86 | 110.70 |
| 26 | 1H | 1611 | C | C2-N3-C4 | -11.80 | 114.00 | 119.90 |
| 26 | 14 | 1826 | G | N7-C8-N9 | -11.80 | 107.20 | 113.10 |
| 26 | 1H | 2525 | G | C8-N9-C4 | 11.80 | 111.12 | 106.40 |
| 26 | 14 | 2820 | A | C5-C6-N1 | -11.80 | 111.80 | 117.70 |
| 1 | 13 | 1404 | C | N3-C4-C5 | 11.79 | 126.62 | 121.90 |
| 26 | 1H | 2620 | C | C6-N1-C2 | 11.79 | 125.02 | 120.30 |
| 26 | 14 | 783 | A | O5'-P-OP2 | -11.79 | 95.09 | 105.70 |
| 26 | 14 | 1681 | G | C5-N7-C8 | -11.79 | 98.40 | 104.30 |
| 26 | 1H | 2049 | G | N3-C2-N2 | -11.78 | 111.65 | 119.90 |
| 26 | 14 | 188 | G | OP1-P-OP2 | 11.78 | 137.27 | 119.60 |
| 26 | 1H | 2501 | C | C6-N1-C2 | 11.78 | 125.01 | 120.30 |
| 26 | 1H | 535 | C | O5'-P-OP2 | -11.77 | 95.10 | 105.70 |
| 26 | 14 | 330 | A | C5-C6-N1 | -11.77 | 111.81 | 117.70 |
| 26 | 14 | 2244 | U | N1-C2-O2 | -11.77 | 114.56 | 122.80 |
| 26 | 14 | 945 | A | C5-C6-N1 | -11.77 | 111.82 | 117.70 |
| 26 | 1H | 2447 | G | N3-C2-N2 | -11.76 | 111.67 | 119.90 |
| 26 | 14 | 810 | U | C6-N1-C2 | -11.76 | 113.94 | 121.00 |
| 26 | 1H | 1399 | C | C5-C6-N1 | 11.76 | 126.88 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 386 | G | C4-C5-N7 | 11.76 | 115.50 | 110.80 |
| 26 | 1H | 828 | U | N1-C2-O2 | 11.76 | 131.03 | 122.80 |
| 26 | 14 | 800 | A | N1-C6-N6 | -11.76 | 111.55 | 118.60 |
| 26 | 1H | 1303 | G | N1-C2-N2 | -11.76 | 105.62 | 116.20 |
| 26 | 14 | 1308 | A | N1-C6-N6 | -11.75 | 111.55 | 118.60 |
| 23 | 2K | 73 | A | C8-N9-C4 | 11.75 | 110.50 | 105.80 |
| 26 | 1H | 2075 | U | C5-C6-N1 | -11.75 | 116.83 | 122.70 |
| 26 | 1H | 513 | A | C8-N9-C4 | -11.75 | 101.10 | 105.80 |
| 26 | 1H | 626 | U | N1-C2-N3 | 11.75 | 121.95 | 114.90 |
| 26 | 1H | 944 | G | C5-C6-N1 | -11.75 | 105.63 | 111.50 |
| 26 | 1H | 600 | G | C8-N9-C4 | 11.74 | 111.10 | 106.40 |
| 26 | 1H | 2449 | U | N1-C2-N3 | 11.74 | 121.95 | 114.90 |
| 26 | 14 | 2374 | C | C5-C6-N1 | -11.74 | 115.13 | 121.00 |
| 26 | 1H | 987 | G | C8-N9-C4 | -11.74 | 101.70 | 106.40 |
| 26 | 1H | 1299 | G | O5'-P-OP2 | 11.74 | 124.79 | 110.70 |
| 26 | 1H | 1571 | A | O5'-P-OP2 | -11.74 | 95.14 | 105.70 |
| 26 | 1H | 1626 | G | O5'-P-OP2 | 11.74 | 124.78 | 110.70 |
| 26 | 1H | 674 | G | C8-N9-C4 | 11.73 | 111.09 | 106.40 |
| 26 | 1H | 1160 | G | C8-N9-C4 | -11.73 | 101.71 | 106.40 |
| 26 | 1H | 2446 | G | O5'-P-OP2 | -11.73 | 95.14 | 105.70 |
| 26 | 1H | 2584 | U | N3-C4-O4 | -11.73 | 111.19 | 119.40 |
| 26 | 14 | 607 | U | O5'-P-OP2 | -11.73 | 95.14 | 105.70 |
| 1 | 13 | 575 | G | N1-C6-O6 | -11.73 | 112.86 | 119.90 |
| 26 | 1H | 1623 | G | N1-C2-N2 | -11.72 | 105.65 | 116.20 |
| 1 | 13 | 1338 | G | C5-C6-O6 | 11.72 | 135.63 | 128.60 |
| 26 | 1H | 2331 | G | C8-N9-C4 | 11.72 | 111.09 | 106.40 |
| 1 | 13 | 570 | G | N3-C2-N2 | -11.72 | 111.70 | 119.90 |
| 26 | 1H | 1278 | A | N1-C2-N3 | 11.72 | 135.16 | 129.30 |
| 26 | 1H | 2012 | G | C5-C6-N1 | 11.72 | 117.36 | 111.50 |
| 26 | 14 | 2273 | A | O5'-P-OP2 | -11.72 | 95.16 | 105.70 |
| 26 | 1H | 104 | U | N1-C2-O2 | -11.71 | 114.60 | 122.80 |
| 26 | 1H | 2392 | A | C6-N1-C2 | 11.71 | 125.63 | 118.60 |
| 26 | 1H | 613 | U | N3-C2-O2 | -11.71 | 114.00 | 122.20 |
| 26 | 1H | 1254 | A | C8-N9-C4 | 11.71 | 110.48 | 105.80 |
| 26 | 1H | 842 | G | N1-C6-O6 | 11.71 | 126.92 | 119.90 |
| 26 | 1H | 180 | G | C2-N3-C4 | -11.71 | 106.05 | 111.90 |
| 1 | 13 | 481 | G | C5-C6-N1 | -11.70 | 105.65 | 111.50 |
| 26 | 1H | 2869 | G | C8-N9-C4 | -11.70 | 101.72 | 106.40 |
| 26 | 1H | 629 | G | C8-N9-C4 | 11.70 | 111.08 | 106.40 |
| 26 | 1H | 566 | U | N3-C4-C5 | 11.70 | 121.62 | 114.60 |
| 26 | 14 | 1820 | U | C5-C6-N1 | -11.70 | 116.85 | 122.70 |
| 26 | 14 | 2868 | A | N1-C6-N6 | 11.70 | 125.62 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 2607 | G | C2-N3-C4 | -11.70 | 106.05 | 111.90 |
| 26 | 14 | 524 | U | C6-N1-C2 | -11.70 | 113.98 | 121.00 |
| 26 | 1H | 928 | G | N1-C6-O6 | 11.70 | 126.92 | 119.90 |
| 26 | 1H | 2713 | A | N3-C4-C5 | 11.69 | 134.99 | 126.80 |
| 26 | 1H | 2827 | C | N1-C2-O2 | -11.69 | 111.88 | 118.90 |
| 26 | 14 | 2779 | U | C2-N1-C1' | 11.69 | 131.73 | 117.70 |
| 1 | 13 | 516 | U | C6-N1-C2 | -11.69 | 113.99 | 121.00 |
| 26 | 1H | 2503 | A | N9-C4-C5 | -11.69 | 101.12 | 105.80 |
| 26 | 14 | 1309 | G | O5'-P-OP1 | 11.68 | 124.72 | 110.70 |
| 26 | 1H | 795 | C | O5'-P-OP2 | -11.68 | 95.19 | 105.70 |
| 26 | 1H | 942 | G | C4-C5-N7 | -11.68 | 106.13 | 110.80 |
| 26 | 1H | 2017 | U | N3-C2-O2 | 11.68 | 130.37 | 122.20 |
| 26 | 14 | 51 | G | C8-N9-C4 | 11.68 | 111.07 | 106.40 |
| 26 | 14 | 2313 | C | C6-N1-C2 | -11.68 | 115.63 | 120.30 |
| 1 | 13 | 1354 | C | C6-N1-C2 | -11.67 | 115.63 | 120.30 |
| 26 | 1H | 2313 | C | C6-N1-C2 | -11.67 | 115.63 | 120.30 |
| 26 | 1H | 734 | A | O5'-P-OP2 | -11.67 | 95.20 | 105.70 |
| 26 | 1H | 2509 | G | C5-C6-N1 | 11.67 | 117.33 | 111.50 |
| 1 | 1G | 117 | G | C4-C5-C6 | 11.67 | 125.80 | 118.80 |
| 26 | 1H | 445 | C | N3-C4-C5 | -11.67 | 117.23 | 121.90 |
| 26 | 1H | 1628 | G | O5'-P-OP2 | -11.66 | 95.20 | 105.70 |
| 26 | 1H | 463 | G | N3-C2-N2 | 11.66 | 128.06 | 119.90 |
| 26 | 14 | 2447 | G | N1-C6-O6 | 11.66 | 126.90 | 119.90 |
| 27 | 16 | 100 | G | N3-C2-N2 | 11.66 | 128.06 | 119.90 |
| 1 | 1G | 1479 | C | C6-N1-C2 | -11.66 | 115.64 | 120.30 |
| 26 | 1H | 871 | U | N3-C4-O4 | 11.65 | 127.56 | 119.40 |
| 26 | 14 | 945 | A | N9-C4-C5 | -11.65 | 101.14 | 105.80 |
| 26 | 14 | 1304 | C | O5'-P-OP2 | -11.65 | 95.21 | 105.70 |
| 27 | 16 | 16 | G | N1-C6-O6 | 11.65 | 126.89 | 119.90 |
| 26 | 14 | 2068 | U | N3-C2-O2 | 11.65 | 130.35 | 122.20 |
| 1 | 13 | 1478 | C | C5-C6-N1 | -11.65 | 115.18 | 121.00 |
| 26 | 1H | 1975 | G | N9-C4-C5 | -11.65 | 100.74 | 105.40 |
| 26 | 1H | 2408 | U | C2-N3-C4 | -11.65 | 120.01 | 127.00 |
| 26 | 1H | 199 | A | C5-C6-N1 | 11.64 | 123.52 | 117.70 |
| 26 | 1H | 2401 | U | C5-C6-N1 | 11.64 | 128.52 | 122.70 |
| 1 | 1G | 730 | G | O5'-P-OP1 | -11.64 | 95.23 | 105.70 |
| 22 | 1K | 36 | U | N1-C2-O2 | 11.63 | 130.94 | 122.80 |
| 26 | 1H | 122 | G | N9-C4-C5 | -11.64 | 100.75 | 105.40 |
| 26 | 14 | 576 | U | C5-C4-O4 | -11.64 | 118.92 | 125.90 |
| 26 | 1H | 1603 | A | N7-C8-N9 | 11.63 | 119.62 | 113.80 |
| 26 | 14 | 428 | A | N9-C4-C5 | 11.63 | 110.45 | 105.80 |
| 26 | 1H | 972 | G | N1-C6-O6 | -11.63 | 112.92 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|--------|-------------|----------|
| 26 | 14 | 2005 | A | N1-C6-N6 | -11.63 | 111.62 | 118.60 |
| 1 | 13 | 122 | G | N1-C6-O6 | 11.63 | 126.88 | 119.90 |
| 26 | 1H | 1022 | G | C6-N1-C2 | -11.63 | 118.12 | 125.10 |
| 26 | 1H | 220 | G | N1-C6-O6 | 11.62 | 126.87 | 119.90 |
| 26 | 14 | 2374 | C | O5'-P-OP2 | -11.62 | 95.24 | 105.70 |
| 26 | 14 | 178 | G | C8-N9-C4 | -11.62 | 101.75 | 106.40 |
| 26 | 14 | 129 | C | C6-N1-C2 | 11.62 | 124.95 | 120.30 |
| 1 | 13 | 892 | A | C2-N3-C4 | -11.61 | 104.79 | 110.60 |
| 26 | 14 | 1790 | C | N1-C2-O2 | -11.61 | 111.93 | 118.90 |
| 1 | 1G | 697 | U | C5-C6-N1 | -11.61 | 116.89 | 122.70 |
| 26 | 14 | 699 | A | N1-C6-N6 | -11.61 | 111.63 | 118.60 |
| 26 | 1H | 2708 | G | C5-C6-O6 | -11.61 | 121.64 | 128.60 |
| 26 | 14 | 2644 | G | N3-C4-N9 | -11.61 | 119.03 | 126.00 |
| 26 | 1H | 844 | C | C4-C5-C6 | 11.61 | 123.20 | 117.40 |
| 26 | 1H | 71 | A | C5-C6-N6 | -11.61 | 114.42 | 123.70 |
| 26 | 1H | 1658 | C | O5'-P-OP1 | -11.61 | 95.25 | 105.70 |
| 26 | 1H | 2700 | C | C5-C6-N1 | -11.60 | 115.20 | 121.00 |
| 26 | 1H | 676 | A | O4'-C1'-N9 | 11.60 | 117.48 | 108.20 |
| 26 | 1H | 1568 | G | C8-N9-C4 | 11.60 | 111.04 | 106.40 |
| 1 | 13 | 574 | A | C8-N9-C4 | 11.60 | 110.44 | 105.80 |
| 26 | 1H | 201 | C | C6-N1-C2 | 11.60 | 124.94 | 120.30 |
| 1 | 1G | 809 | G | O5'-P-OP2 | -11.60 | 95.26 | 105.70 |
| 26 | 14 | 1763 | G | C8-N9-C4 | 11.59 | 111.04 | 106.40 |
| 26 | 1H | 793 | A | C6-N1-C2 | -11.59 | 111.64 | 118.60 |
| 1 | 1G | 232 | G | N1-C6-O6 | 11.59 | 126.85 | 119.90 |
| 26 | 14 | 1733 | G | N1-C6-O6 | 11.59 | 126.85 | 119.90 |
| 1 | 13 | 833 | U | C5-C4-O4 | 11.59 | 132.85 | 125.90 |
| 23 | 2K | 77 | A | N1-C6-N6 | 11.58 | 125.55 | 118.60 |
| 26 | 1H | 775 | G | C2-N3-C4 | -11.58 | 106.11 | 111.90 |
| 1 | 13 | 961 | U | N3-C4-O4 | -11.58 | 111.30 | 119.40 |
| 26 | 1H | 2528 | U | C5-C6-N1 | -11.58 | 116.91 | 122.70 |
| 1 | 13 | 481 | G | N1-C6-O6 | 11.58 | 126.85 | 119.90 |
| 26 | 1H | 1698 | A | N1-C2-N3 | 11.58 | 135.09 | 129.30 |
| 26 | 14 | 265 | A | N1-C6-N6 | 11.57 | 125.54 | 118.60 |
| 26 | 1H | 710 | G | C5-N7-C8 | -11.57 | 98.52 | 104.30 |
| 26 | 1H | 735 | A | N7-C8-N9 | -11.57 | 108.02 | 113.80 |
| 26 | 1H | 2552 | U | N3-C2-O2 | 11.57 | 130.30 | 122.20 |
| 24 | 3K | 76 | A | C4-C5-N7 | 11.57 | 116.48 | 110.70 |
| 26 | 14 | 974(A) | C | C4-C5-C6 | 11.56 | 123.18 | 117.40 |
| 26 | 14 | 1373 | A | C8-N9-C4 | 11.56 | 110.42 | 105.80 |
| 26 | 1H | 217 | G | C5-C6-O6 | 11.56 | 135.53 | 128.60 |
| 26 | 1H | 190 | A | C5-C6-N6 | -11.55 | 114.46 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 1802 | A | C6-N1-C2 | -11.55 | 111.67 | 118.60 |
| 26 | 14 | 2045 | C | C5-C6-N1 | -11.55 | 115.22 | 121.00 |
| 26 | 1H | 1159 | U | N3-C2-O2 | -11.55 | 114.11 | 122.20 |
| 26 | 1H | 2012 | G | C5-C6-O6 | -11.55 | 121.67 | 128.60 |
| 1 | 13 | 623 | C | C5-C6-N1 | 11.55 | 126.77 | 121.00 |
| 26 | 1H | 621 | A | N3-C4-C5 | 11.55 | 134.88 | 126.80 |
| 26 | 1H | 1036 | G | C8-N9-C4 | 11.55 | 111.02 | 106.40 |
| 26 | 1H | 210 | C | N3-C4-C5 | 11.54 | 126.52 | 121.90 |
| 26 | 1H | 613 | U | N1-C2-N3 | 11.54 | 121.83 | 114.90 |
| 26 | 1H | 964 | C | N1-C2-O2 | -11.54 | 111.97 | 118.90 |
| 26 | 1H | 1822 | G | N3-C2-N2 | -11.54 | 111.82 | 119.90 |
| 26 | 14 | 265 | A | C5-C6-N1 | -11.55 | 111.93 | 117.70 |
| 26 | 1H | 2494 | G | C5-C6-O6 | 11.54 | 135.53 | 128.60 |
| 26 | 1H | 330 | A | C5-N7-C8 | -11.54 | 98.13 | 103.90 |
| 26 | 1H | 1286 | A | C6-N1-C2 | -11.54 | 111.67 | 118.60 |
| 26 | 1H | 608 | A | O5'-P-OP1 | 11.54 | 124.55 | 110.70 |
| 26 | 1H | 965 | C | OP1-P-OP2 | 11.53 | 136.90 | 119.60 |
| 26 | 1H | 2030 | A | C5-C6-N1 | 11.53 | 123.47 | 117.70 |
| 26 | 14 | 1612 | C | N1-C2-O2 | -11.53 | 111.98 | 118.90 |
| 26 | 14 | 1678 | G | N3-C4-N9 | -11.53 | 119.08 | 126.00 |
| 26 | 14 | 2683 | C | N3-C4-C5 | -11.53 | 117.29 | 121.90 |
| 26 | 1H | 701 | G | N9-C4-C5 | 11.53 | 110.01 | 105.40 |
| 26 | 14 | 1806 | C | O5'-P-OP1 | -11.53 | 95.33 | 105.70 |
| 26 | 14 | 530 | G | N9-C4-C5 | -11.53 | 100.79 | 105.40 |
| 26 | 1H | 936 | C | C6-N1-C2 | 11.52 | 124.91 | 120.30 |
| 26 | 14 | 810 | U | N3-C4-C5 | -11.52 | 107.69 | 114.60 |
| 26 | 14 | 1284 | A | O5'-P-OP2 | -11.52 | 95.33 | 105.70 |
| 26 | 14 | 1950 | G | C4-N9-C1' | 11.52 | 141.47 | 126.50 |
| 26 | 14 | 2581 | G | C2-N3-C4 | -11.52 | 106.14 | 111.90 |
| 1 | 13 | 866 | C | N1-C2-O2 | -11.51 | 112.00 | 118.90 |
| 26 | 1H | 1497 | U | N3-C4-O4 | 11.51 | 127.45 | 119.40 |
| 26 | 14 | 2048 | G | N9-C4-C5 | 11.50 | 110.00 | 105.40 |
| 1 | 13 | 280 | C | C6-N1-C2 | 11.50 | 124.90 | 120.30 |
| 26 | 1H | 1021 | A | N3-C4-C5 | 11.50 | 134.85 | 126.80 |
| 26 | 1H | 409 | C | N3-C4-C5 | 11.50 | 126.50 | 121.90 |
| 26 | 14 | 400 | G | C4-C5-N7 | 11.50 | 115.40 | 110.80 |
| 26 | 14 | 1257 | C | N1-C2-O2 | -11.50 | 112.00 | 118.90 |
| 26 | 14 | 1328 | G | N9-C4-C5 | -11.50 | 100.80 | 105.40 |
| 26 | 1H | 1148 | A | N1-C6-N6 | -11.49 | 111.70 | 118.60 |
| 26 | 1H | 2346 | A | C6-C5-N7 | -11.49 | 124.26 | 132.30 |
| 1 | 1G | 1328 | C | C6-N1-C2 | 11.49 | 124.90 | 120.30 |
| 1 | 13 | 625 | G | C8-N9-C4 | -11.49 | 101.80 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 815 | C | C5-C4-N4 | -11.49 | 112.16 | 120.20 |
| 26 | 1H | 1228 | G | N1-C2-N3 | 11.49 | 130.79 | 123.90 |
| 26 | 14 | 1955 | U | C2-N3-C4 | -11.49 | 120.11 | 127.00 |
| 1 | 13 | 952 | U | N3-C2-O2 | -11.49 | 114.16 | 122.20 |
| 26 | 1H | 2713 | A | C6-C5-N7 | -11.49 | 124.26 | 132.30 |
| 1 | 1G | 1469 | G | N1-C6-O6 | 11.49 | 126.79 | 119.90 |
| 26 | 14 | 348 | G | C8-N9-C4 | 11.49 | 111.00 | 106.40 |
| 26 | 14 | 1294 | U | N3-C2-O2 | 11.49 | 130.24 | 122.20 |
| 26 | 14 | 2777 | G | N3-C2-N2 | -11.49 | 111.86 | 119.90 |
| 26 | 1H | 1204 | A | C6-C5-N7 | -11.48 | 124.26 | 132.30 |
| 1 | 13 | 1519 | A | O5'-P-OP2 | -11.48 | 95.37 | 105.70 |
| 26 | 14 | 1662 | C | C5-C6-N1 | -11.48 | 115.26 | 121.00 |
| 26 | 1H | 860 | U | C2-N3-C4 | -11.47 | 120.12 | 127.00 |
| 26 | 1H | 1989 | G | C4-C5-C6 | 11.47 | 125.68 | 118.80 |
| 1 | 13 | 758 | G | N1-C6-O6 | 11.47 | 126.78 | 119.90 |
| 26 | 1H | 218 | A | C2-N3-C4 | -11.47 | 104.87 | 110.60 |
| 26 | 1H | 1229 | G | C8-N9-C4 | 11.47 | 110.99 | 106.40 |
| 26 | 1H | 2367 | G | C8-N9-C4 | -11.47 | 101.81 | 106.40 |
| 27 | 16 | 114 | G | C8-N9-C4 | 11.46 | 110.99 | 106.40 |
| 26 | 14 | 1359 | A | C8-N9-C4 | 11.47 | 110.39 | 105.80 |
| 26 | 14 | 2433 | A | O5'-P-OP2 | 11.46 | 124.46 | 110.70 |
| 1 | 13 | 733 | A | N7-C8-N9 | -11.46 | 108.07 | 113.80 |
| 26 | 1H | 826 | U | C4-C5-C6 | 11.46 | 126.58 | 119.70 |
| 26 | 1H | 1605 | C | C2-N3-C4 | -11.46 | 114.17 | 119.90 |
| 26 | 1H | 710 | G | C5-C6-N1 | -11.45 | 105.77 | 111.50 |
| 26 | 1H | 814 | C | C6-N1-C2 | 11.45 | 124.88 | 120.30 |
| 26 | 14 | 400 | G | C5-N7-C8 | -11.45 | 98.57 | 104.30 |
| 26 | 14 | 1827 | C | C2-N3-C4 | -11.45 | 114.17 | 119.90 |
| 23 | 2K | 62 | C | O5'-P-OP2 | -11.45 | 95.40 | 105.70 |
| 26 | 14 | 2581 | G | C5-C6-N1 | -11.45 | 105.78 | 111.50 |
| 26 | 14 | 2818 | G | C8-N9-C4 | 11.45 | 110.98 | 106.40 |
| 26 | 1H | 1606 | G | C8-N9-C4 | 11.44 | 110.98 | 106.40 |
| 26 | 1H | 2453 | A | O5'-P-OP1 | 11.44 | 124.43 | 110.70 |
| 26 | 14 | 121 | G | N1-C6-O6 | 11.44 | 126.77 | 119.90 |
| 26 | 1H | 2550 | G | C5-C6-O6 | -11.44 | 121.74 | 128.60 |
| 26 | 14 | 1348 | G | C5-C6-O6 | -11.44 | 121.74 | 128.60 |
| 26 | 14 | 2491 | U | N3-C2-O2 | 11.44 | 130.21 | 122.20 |
| 26 | 1H | 2572 | A | O5'-P-OP2 | -11.44 | 95.41 | 105.70 |
| 26 | 14 | 491 | G | C5-C6-O6 | 11.44 | 135.46 | 128.60 |
| 26 | 14 | 788 | A | C8-N9-C4 | 11.44 | 110.37 | 105.80 |
| 26 | 14 | 2595 | G | N1-C6-O6 | 11.44 | 126.76 | 119.90 |
| 26 | 1H | 743 | G | O5'-P-OP1 | -11.43 | 95.41 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|--------|-------------|----------|
| 26 | 14 | 1336 | A | C2-N3-C4 | 11.43 | 116.31 | 110.60 |
| 26 | 1H | 1308 | A | N1-C2-N3 | 11.43 | 135.01 | 129.30 |
| 26 | 14 | 945 | A | N3-C4-C5 | 11.43 | 134.80 | 126.80 |
| 26 | 14 | 1334 | G | N1-C6-O6 | 11.43 | 126.76 | 119.90 |
| 26 | 1H | 37 | C | N3-C4-C5 | -11.42 | 117.33 | 121.90 |
| 26 | 1H | 624 | C | C6-N1-C2 | 11.42 | 124.87 | 120.30 |
| 26 | 1H | 2877 | G | C5-C6-N1 | -11.42 | 105.79 | 111.50 |
| 1 | 13 | 976 | G | C5-C6-N1 | -11.42 | 105.79 | 111.50 |
| 26 | 14 | 1283 | G | OP1-P-OP2 | 11.42 | 136.72 | 119.60 |
| 26 | 1H | 1769 | G | O5'-P-OP2 | -11.41 | 95.43 | 105.70 |
| 26 | 14 | 326 | G | C5-C6-N1 | -11.41 | 105.79 | 111.50 |
| 26 | 14 | 2000 | G | O5'-P-OP2 | -11.41 | 95.43 | 105.70 |
| 26 | 1H | 129 | C | C5-C6-N1 | -11.41 | 115.30 | 121.00 |
| 26 | 14 | 750 | A | N7-C8-N9 | 11.41 | 119.50 | 113.80 |
| 26 | 1H | 328 | U | N3-C4-C5 | -11.41 | 107.76 | 114.60 |
| 26 | 1H | 2557 | G | C5-C6-N1 | 11.41 | 117.20 | 111.50 |
| 26 | 14 | 1962 | C | N3-C4-C5 | 11.40 | 126.46 | 121.90 |
| 1 | 1G | 1433 | A | O5'-P-OP1 | -11.40 | 95.44 | 105.70 |
| 26 | 14 | 1339 | G | O5'-P-OP1 | -11.40 | 95.44 | 105.70 |
| 1 | 13 | 667 | G | N3-C2-N2 | -11.40 | 111.92 | 119.90 |
| 26 | 14 | 1950 | G | N3-C4-N9 | 11.40 | 132.84 | 126.00 |
| 26 | 1H | 1817 | G | N1-C6-O6 | -11.40 | 113.06 | 119.90 |
| 26 | 1H | 974(A) | C | N3-C4-C5 | -11.39 | 117.34 | 121.90 |
| 26 | 1H | 2469 | A | C4-C5-N7 | 11.39 | 116.40 | 110.70 |
| 26 | 14 | 2542 | A | N7-C8-N9 | -11.39 | 108.10 | 113.80 |
| 29 | 11 | 60 | ARG | NE-CZ-NH2 | -11.39 | 114.60 | 120.30 |
| 26 | 14 | 1817 | G | C5-C6-O6 | 11.39 | 135.44 | 128.60 |
| 26 | 14 | 2301 | C | C6-N1-C2 | -11.39 | 115.74 | 120.30 |
| 26 | 1H | 774 | A | N1-C6-N6 | 11.39 | 125.43 | 118.60 |
| 26 | 1H | 1021 | A | C6-C5-N7 | -11.39 | 124.33 | 132.30 |
| 26 | 14 | 2518 | A | N1-C6-N6 | 11.39 | 125.43 | 118.60 |
| 1 | 13 | 377 | G | C8-N9-C4 | 11.38 | 110.95 | 106.40 |
| 26 | 1H | 1198 | U | C2-N3-C4 | -11.38 | 120.17 | 127.00 |
| 26 | 1H | 1244 | G | C5-C6-O6 | -11.38 | 121.77 | 128.60 |
| 26 | 1H | 2271 | G | C4-C5-N7 | 11.38 | 115.35 | 110.80 |
| 26 | 14 | 1378 | A | C8-N9-C4 | 11.38 | 110.35 | 105.80 |
| 26 | 1H | 2424 | C | OP1-P-OP2 | 11.38 | 136.67 | 119.60 |
| 26 | 14 | 1559 | G | C5-C6-N1 | -11.38 | 105.81 | 111.50 |
| 26 | 1H | 815 | C | O5'-P-OP1 | 11.38 | 124.36 | 110.70 |
| 26 | 1H | 1002 | G | C5-C6-O6 | 11.38 | 135.43 | 128.60 |
| 26 | 1H | 2330 | G | C2-N3-C4 | -11.38 | 106.21 | 111.90 |
| 23 | 2K | 41 | C | N3-C4-C5 | 11.38 | 126.45 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1162 | G | N9-C4-C5 | 11.37 | 109.95 | 105.40 |
| 26 | 1H | 1915 | U | N1-C2-O2 | 11.37 | 130.76 | 122.80 |
| 26 | 14 | 2591 | C | N1-C2-O2 | -11.37 | 112.08 | 118.90 |
| 26 | 14 | 2821 | A | C2-N3-C4 | -11.37 | 104.92 | 110.60 |
| 26 | 1H | 344 | G | N1-C6-O6 | -11.36 | 113.08 | 119.90 |
| 1 | 13 | 529 | G | C5-C6-O6 | -11.36 | 121.78 | 128.60 |
| 1 | 13 | 755 | G | C4-C5-N7 | -11.36 | 106.26 | 110.80 |
| 26 | 1H | 928 | G | C5-N7-C8 | -11.35 | 98.62 | 104.30 |
| 26 | 1H | 2760 | C | N3-C4-C5 | 11.35 | 126.44 | 121.90 |
| 26 | 14 | 247 | G | C8-N9-C4 | 11.35 | 110.94 | 106.40 |
| 26 | 1H | 772 | C | N3-C2-O2 | 11.35 | 129.84 | 121.90 |
| 26 | 1H | 1660 | C | N3-C4-C5 | 11.35 | 126.44 | 121.90 |
| 26 | 1H | 122 | G | C4-C5-N7 | 11.35 | 115.34 | 110.80 |
| 26 | 1H | 1672 | C | C6-N1-C2 | 11.35 | 124.84 | 120.30 |
| 26 | 14 | 265 | A | C6-C5-N7 | -11.35 | 124.36 | 132.30 |
| 26 | 1H | 2447 | G | C5-C6-O6 | -11.34 | 121.80 | 128.60 |
| 26 | 14 | 1603 | A | N7-C8-N9 | 11.34 | 119.47 | 113.80 |
| 26 | 1H | 780 | G | N1-C6-O6 | 11.34 | 126.70 | 119.90 |
| 26 | 1H | 2451 | A | N9-C4-C5 | 11.34 | 110.34 | 105.80 |
| 26 | 1H | 2757 | A | O5'-P-OP2 | -11.34 | 95.49 | 105.70 |
| 26 | 14 | 1241 | A | O5'-P-OP1 | -11.34 | 95.50 | 105.70 |
| 26 | 1H | 808 | G | C2-N3-C4 | -11.34 | 106.23 | 111.90 |
| 26 | 1H | 1379 | A | N7-C8-N9 | 11.34 | 119.47 | 113.80 |
| 26 | 1H | 1602 | U | N3-C4-C5 | -11.34 | 107.80 | 114.60 |
| 1 | 1G | 598 | U | N1-C2-O2 | -11.34 | 114.87 | 122.80 |
| 26 | 14 | 1239 | G | N1-C6-O6 | 11.34 | 126.70 | 119.90 |
| 22 | 1K | 36 | U | N3-C2-O2 | -11.33 | 114.27 | 122.20 |
| 26 | 1H | 580 | C | C6-N1-C2 | -11.33 | 115.77 | 120.30 |
| 26 | 1H | 1022 | G | C5-C6-N1 | 11.33 | 117.17 | 111.50 |
| 26 | 1H | 1836 | C | C5-C4-N4 | 11.33 | 128.13 | 120.20 |
| 1 | 13 | 1482 | G | N1-C6-O6 | 11.33 | 126.70 | 119.90 |
| 1 | 13 | 778 | G | C5-C6-N1 | -11.33 | 105.84 | 111.50 |
| 1 | 13 | 1516 | G | OP2-P-O3' | 11.33 | 130.12 | 105.20 |
| 26 | 14 | 746 | A | C6-N1-C2 | -11.33 | 111.80 | 118.60 |
| 26 | 1H | 1678 | G | C4-C5-N7 | 11.32 | 115.33 | 110.80 |
| 26 | 1H | 1278 | A | C6-N1-C2 | -11.31 | 111.81 | 118.60 |
| 26 | 1H | 1547 | C | N3-C2-O2 | -11.31 | 113.98 | 121.90 |
| 26 | 14 | 826 | U | N1-C2-N3 | 11.31 | 121.69 | 114.90 |
| 1 | 13 | 545 | C | C6-N1-C2 | 11.31 | 124.82 | 120.30 |
| 26 | 1H | 1643 | G | O5'-P-OP1 | -11.31 | 95.52 | 105.70 |
| 26 | 14 | 2392 | A | C5-N7-C8 | -11.31 | 98.24 | 103.90 |
| 26 | 14 | 1130 | U | N1-C2-N3 | 11.31 | 121.69 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1821 | A | N1-C2-N3 | 11.31 | 134.95 | 129.30 |
| 26 | 14 | 315 | G | O5'-P-OP2 | -11.30 | 95.53 | 105.70 |
| 26 | 14 | 1476 | C | N1-C2-O2 | -11.30 | 112.12 | 118.90 |
| 26 | 1H | 673 | C | O5'-P-OP1 | 11.30 | 124.26 | 110.70 |
| 26 | 1H | 2251 | G | C5-C6-O6 | 11.30 | 135.38 | 128.60 |
| 26 | 14 | 1381 | G | C8-N9-C4 | 11.30 | 110.92 | 106.40 |
| 26 | 14 | 2244 | U | C2-N1-C1' | -11.30 | 104.14 | 117.70 |
| 1 | 1G | 738 | C | N3-C4-C5 | -11.30 | 117.38 | 121.90 |
| 26 | 1H | 205 | G | C8-N9-C4 | 11.30 | 110.92 | 106.40 |
| 26 | 1H | 786 | C | N3-C4-N4 | -11.30 | 110.09 | 118.00 |
| 26 | 1H | 1367 | A | N1-C2-N3 | 11.30 | 134.95 | 129.30 |
| 27 | 16 | 102 | G | N1-C6-O6 | -11.30 | 113.12 | 119.90 |
| 26 | 1H | 2277 | G | C5-C6-O6 | 11.29 | 135.38 | 128.60 |
| 26 | 1H | 195 | A | C4-C5-N7 | 11.29 | 116.35 | 110.70 |
| 26 | 1H | 984 | A | O5'-P-OP2 | -11.29 | 95.54 | 105.70 |
| 26 | 14 | 22 | C | N3-C4-C5 | 11.29 | 126.42 | 121.90 |
| 26 | 1H | 776 | G | N3-C2-N2 | -11.29 | 112.00 | 119.90 |
| 1 | 1G | 1502 | A | C5-N7-C8 | -11.29 | 98.25 | 103.90 |
| 26 | 1H | 2728 | U | N3-C2-O2 | -11.29 | 114.30 | 122.20 |
| 26 | 14 | 2461 | C | C6-N1-C2 | 11.29 | 124.81 | 120.30 |
| 26 | 1H | 1973 | G | C5-C6-O6 | 11.28 | 135.37 | 128.60 |
| 26 | 1H | 2713 | A | N7-C8-N9 | 11.28 | 119.44 | 113.80 |
| 26 | 14 | 1323 | U | N3-C2-O2 | 11.28 | 130.10 | 122.20 |
| 26 | 1H | 923 | C | C6-N1-C2 | -11.28 | 115.79 | 120.30 |
| 26 | 1H | 247 | G | N1-C6-O6 | -11.28 | 113.13 | 119.90 |
| 26 | 1H | 2239 | G | O5'-P-OP1 | -11.28 | 95.55 | 105.70 |
| 26 | 1H | 825 | C | C4-C5-C6 | 11.28 | 123.04 | 117.40 |
| 26 | 1H | 1609 | A | N1-C6-N6 | -11.28 | 111.83 | 118.60 |
| 26 | 14 | 130 | C | C6-N1-C2 | 11.28 | 124.81 | 120.30 |
| 26 | 1H | 1807 | G | C5-C6-O6 | -11.27 | 121.84 | 128.60 |
| 26 | 14 | 826 | U | N1-C2-O2 | -11.27 | 114.91 | 122.80 |
| 26 | 14 | 2048 | G | C8-N9-C4 | -11.27 | 101.89 | 106.40 |
| 26 | 1H | 2418 | A | C2-N3-C4 | 11.27 | 116.23 | 110.60 |
| 26 | 1H | 2491 | U | O5'-P-OP1 | -11.27 | 95.56 | 105.70 |
| 27 | 16 | 29 | A | N7-C8-N9 | 11.26 | 119.43 | 113.80 |
| 24 | 3K | 76 | A | C2-N3-C4 | -11.26 | 104.97 | 110.60 |
| 26 | 1H | 1996 | C | C5-C6-N1 | -11.26 | 115.37 | 121.00 |
| 1 | 1G | 1467 | G | C5-C6-N1 | -11.26 | 105.87 | 111.50 |
| 1 | 13 | 760 | G | C6-C5-N7 | -11.25 | 123.65 | 130.40 |
| 26 | 1H | 458 | G | N9-C4-C5 | 11.25 | 109.90 | 105.40 |
| 26 | 14 | 2766 | G | C5-C6-O6 | -11.25 | 121.85 | 128.60 |
| 1 | 1G | 1205 | U | C5-C6-N1 | 11.25 | 128.33 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 120 | U | C5-C4-O4 | 11.25 | 132.65 | 125.90 |
| 26 | 14 | 2724 | C | C4-C5-C6 | 11.25 | 123.02 | 117.40 |
| 26 | 1H | 2503 | A | OP1-P-OP2 | -11.24 | 102.73 | 119.60 |
| 1 | 13 | 1400 | C | C5-C4-N4 | -11.24 | 112.33 | 120.20 |
| 26 | 1H | 513 | A | N1-C6-N6 | -11.24 | 111.86 | 118.60 |
| 26 | 1H | 1767 | C | C5-C6-N1 | -11.24 | 115.38 | 121.00 |
| 26 | 1H | 1819 | A | O5'-P-OP1 | -11.24 | 95.58 | 105.70 |
| 26 | 1H | 2392 | A | N3-C4-C5 | 11.24 | 134.67 | 126.80 |
| 26 | 14 | 204 | A | C5-C6-N6 | -11.24 | 114.71 | 123.70 |
| 26 | 14 | 1336 | A | C5-C6-N1 | 11.24 | 123.32 | 117.70 |
| 26 | 14 | 2430 | A | N1-C2-N3 | 11.24 | 134.92 | 129.30 |
| 26 | 14 | 2495 | G | O5'-P-OP2 | -11.24 | 95.58 | 105.70 |
| 26 | 1H | 458 | G | N1-C6-O6 | -11.24 | 113.16 | 119.90 |
| 26 | 1H | 628 | G | C5-C6-N1 | 11.24 | 117.12 | 111.50 |
| 26 | 1H | 2258 | C | O5'-P-OP1 | -11.23 | 95.59 | 105.70 |
| 26 | 14 | 1824 | G | N3-C2-N2 | -11.23 | 112.04 | 119.90 |
| 26 | 14 | 2585 | U | O5'-P-OP2 | 11.23 | 124.18 | 110.70 |
| 26 | 1H | 700 | G | C8-N9-C4 | -11.23 | 101.91 | 106.40 |
| 26 | 1H | 1670 | C | C2-N3-C4 | -11.23 | 114.28 | 119.90 |
| 26 | 1H | 2575 | C | C4-C5-C6 | 11.23 | 123.01 | 117.40 |
| 26 | 1H | 122 | G | C8-N9-C4 | 11.22 | 110.89 | 106.40 |
| 26 | 14 | 769 | G | N1-C6-O6 | -11.22 | 113.17 | 119.90 |
| 1 | 13 | 1412 | C | C2-N3-C4 | -11.22 | 114.29 | 119.90 |
| 26 | 1H | 1927 | A | O5'-P-OP2 | -11.22 | 95.60 | 105.70 |
| 26 | 14 | 1356 | G | O5'-P-OP1 | -11.22 | 95.60 | 105.70 |
| 26 | 14 | 1332 | G | C2-N3-C4 | -11.21 | 106.29 | 111.90 |
| 26 | 14 | 1496 | A | N7-C8-N9 | 11.21 | 119.41 | 113.80 |
| 26 | 1H | 835 | A | N9-C4-C5 | 11.21 | 110.28 | 105.80 |
| 26 | 1H | 2360 | A | C5-C6-N1 | -11.21 | 112.09 | 117.70 |
| 26 | 14 | 1312 | U | O5'-P-OP1 | -11.21 | 95.61 | 105.70 |
| 26 | 1H | 2250 | G | C8-N9-C4 | -11.21 | 101.92 | 106.40 |
| 26 | 1H | 1443 | G | N1-C6-O6 | 11.20 | 126.62 | 119.90 |
| 26 | 1H | 982 | C | C5-C6-N1 | 11.20 | 126.60 | 121.00 |
| 26 | 1H | 2000 | G | C5-C6-O6 | -11.20 | 121.88 | 128.60 |
| 26 | 1H | 2685 | G | C2-N3-C4 | -11.20 | 106.30 | 111.90 |
| 1 | 13 | 244 | U | N1-C2-N3 | -11.19 | 108.18 | 114.90 |
| 26 | 1H | 1496 | A | C8-N9-C4 | -11.19 | 101.32 | 105.80 |
| 26 | 14 | 2539 | C | C6-N1-C2 | 11.19 | 124.78 | 120.30 |
| 26 | 1H | 797 | C | C4-C5-C6 | 11.19 | 123.00 | 117.40 |
| 26 | 1H | 1157 | G | C6-C5-N7 | -11.19 | 123.69 | 130.40 |
| 26 | 1H | 2321 | G | O5'-P-OP2 | -11.19 | 95.63 | 105.70 |
| 26 | 1H | 2598 | A | C8-N9-C4 | 11.19 | 110.27 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 1 | 1G | 360 | A | C8-N9-C4 | 11.19 | 110.28 | 105.80 |
| 26 | 14 | 639 | U | C5-C4-O4 | 11.19 | 132.61 | 125.90 |
| 26 | 1H | 1224 | G | N1-C2-N3 | -11.18 | 117.19 | 123.90 |
| 1 | 13 | 767 | A | C5-C6-N1 | -11.18 | 112.11 | 117.70 |
| 26 | 1H | 964 | C | C6-N1-C2 | -11.18 | 115.83 | 120.30 |
| 26 | 14 | 864 | G | C8-N9-C4 | -11.18 | 101.93 | 106.40 |
| 26 | 1H | 316 | C | N3-C4-C5 | 11.18 | 126.37 | 121.90 |
| 26 | 14 | 298 | G | C5-N7-C8 | -11.18 | 98.71 | 104.30 |
| 26 | 1H | 2055 | C | N3-C2-O2 | -11.18 | 114.08 | 121.90 |
| 26 | 1H | 2516 | G | O5'-P-OP1 | 11.18 | 124.11 | 110.70 |
| 26 | 1H | 1210 | A | C6-C5-N7 | -11.17 | 124.48 | 132.30 |
| 26 | 1H | 2271 | G | N3-C4-N9 | 11.17 | 132.70 | 126.00 |
| 26 | 1H | 1200 | C | C2-N3-C4 | -11.17 | 114.32 | 119.90 |
| 26 | 1H | 2346 | A | C4-C5-C6 | 11.17 | 122.58 | 117.00 |
| 26 | 1H | 2458 | G | N1-C6-O6 | 11.17 | 126.60 | 119.90 |
| 26 | 14 | 2056 | G | N1-C6-O6 | 11.17 | 126.60 | 119.90 |
| 26 | 14 | 2588 | G | C5-C6-O6 | 11.17 | 135.30 | 128.60 |
| 26 | 1H | 1904 | G | O5'-P-OP2 | -11.17 | 95.65 | 105.70 |
| 27 | 1J | 54 | G | C8-N9-C4 | -11.17 | 101.93 | 106.40 |
| 54 | P8 | 35 | ARG | NE-CZ-NH1 | -11.16 | 114.72 | 120.30 |
| 1 | 1G | 1416 | G | C2-N3-C4 | -11.16 | 106.32 | 111.90 |
| 26 | 1H | 1310 | G | N1-C6-O6 | 11.16 | 126.60 | 119.90 |
| 26 | 1H | 1427 | A | C8-N9-C4 | -11.16 | 101.34 | 105.80 |
| 26 | 14 | 1835 | G | C8-N9-C4 | 11.16 | 110.86 | 106.40 |
| 1 | 1G | 1470 | G | O5'-P-OP1 | -11.16 | 95.66 | 105.70 |
| 26 | 14 | 2056 | G | C5-C6-O6 | -11.16 | 121.91 | 128.60 |
| 26 | 1H | 217 | G | N1-C6-O6 | -11.15 | 113.21 | 119.90 |
| 26 | 1H | 664 | C | C6-N1-C2 | 11.15 | 124.76 | 120.30 |
| 26 | 1H | 950 | G | N1-C6-O6 | -11.15 | 113.21 | 119.90 |
| 26 | 14 | 1695 | G | C6-C5-N7 | -11.15 | 123.71 | 130.40 |
| 26 | 14 | 1026 | U | C6-N1-C2 | -11.15 | 114.31 | 121.00 |
| 27 | 1J | 74 | U | C5-C4-O4 | 11.15 | 132.59 | 125.90 |
| 1 | 13 | 585 | G | C8-N9-C4 | 11.15 | 110.86 | 106.40 |
| 26 | 14 | 563 | G | C5-N7-C8 | -11.15 | 98.72 | 104.30 |
| 26 | 1H | 464 | U | C5-C4-O4 | 11.15 | 132.59 | 125.90 |
| 26 | 14 | 1930 | G | C6-C5-N7 | 11.15 | 137.09 | 130.40 |
| 26 | 1H | 410 | G | O5'-P-OP1 | -11.15 | 95.67 | 105.70 |
| 26 | 14 | 621 | A | C6-C5-N7 | -11.15 | 124.50 | 132.30 |
| 26 | 14 | 675 | A | N1-C2-N3 | -11.15 | 123.72 | 129.30 |
| 26 | 14 | 1628 | G | O5'-P-OP2 | -11.15 | 95.67 | 105.70 |
| 26 | 1H | 676 | A | OP1-P-OP2 | 11.14 | 136.32 | 119.60 |
| 26 | 14 | 1350 | C | C6-N1-C2 | 11.14 | 124.76 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 778 | G | C5-C6-O6 | 11.14 | 135.29 | 128.60 |
| 26 | 14 | 1816 | G | C6-C5-N7 | 11.14 | 137.09 | 130.40 |
| 26 | 1H | 1241 | A | C4-C5-N7 | 11.14 | 116.27 | 110.70 |
| 26 | 1H | 2822 | G | C5-C6-O6 | -11.14 | 121.92 | 128.60 |
| 26 | 14 | 665 | C | N3-C4-N4 | -11.14 | 110.20 | 118.00 |
| 26 | 14 | 1767 | C | N1-C2-O2 | 11.14 | 125.58 | 118.90 |
| 26 | 14 | 1939 | U | N1-C2-N3 | 11.14 | 121.58 | 114.90 |
| 26 | 1H | 1013 | C | N1-C2-O2 | -11.13 | 112.22 | 118.90 |
| 26 | 14 | 462 | C | C4-C5-C6 | 11.13 | 122.97 | 117.40 |
| 26 | 1H | 20 | C | C5-C6-N1 | -11.13 | 115.44 | 121.00 |
| 26 | 1H | 772 | C | N1-C2-O2 | -11.13 | 112.22 | 118.90 |
| 26 | 1H | 793 | A | O5'-P-OP2 | -11.13 | 95.69 | 105.70 |
| 26 | 1H | 2070 | G | C5-C6-O6 | 11.13 | 135.28 | 128.60 |
| 26 | 1H | 1933 | G | C8-N9-C4 | -11.12 | 101.95 | 106.40 |
| 26 | 1H | 2665 | A | C6-C5-N7 | -11.12 | 124.51 | 132.30 |
| 26 | 1H | 2737 | G | N1-C6-O6 | 11.12 | 126.58 | 119.90 |
| 26 | 1H | 2539 | C | OP1-P-OP2 | 11.12 | 136.28 | 119.60 |
| 26 | 1H | 2365 | G | C5-C6-O6 | -11.12 | 121.93 | 128.60 |
| 26 | 1H | 2822 | G | C4-C5-N7 | 11.12 | 115.25 | 110.80 |
| 26 | 1H | 2312 | U | O5'-P-OP1 | -11.12 | 95.70 | 105.70 |
| 26 | 14 | 1857 | G | C5-C6-N1 | -11.12 | 105.94 | 111.50 |
| 26 | 14 | 2593 | U | N3-C4-O4 | 11.12 | 127.18 | 119.40 |
| 26 | 1H | 780 | G | N1-C2-N3 | 11.11 | 130.57 | 123.90 |
| 1 | 13 | 881 | G | OP1-P-OP2 | -11.11 | 102.93 | 119.60 |
| 26 | 1H | 1710 | C | C6-N1-C2 | 11.11 | 124.75 | 120.30 |
| 26 | 1H | 197 | A | N1-C2-N3 | 11.11 | 134.85 | 129.30 |
| 1 | 1G | 232 | G | C4-C5-C6 | 11.11 | 125.47 | 118.80 |
| 1 | 1G | 1464 | G | C5-C6-N1 | -11.11 | 105.95 | 111.50 |
| 26 | 14 | 788 | A | N1-C6-N6 | 11.11 | 125.26 | 118.60 |
| 26 | 1H | 391 | G | N3-C2-N2 | -11.10 | 112.13 | 119.90 |
| 26 | 1H | 839 | U | N1-C2-O2 | -11.10 | 115.03 | 122.80 |
| 26 | 1H | 2502 | G | O5'-P-OP1 | -11.10 | 95.71 | 105.70 |
| 26 | 14 | 1602 | U | C4-C5-C6 | 11.10 | 126.36 | 119.70 |
| 1 | 13 | 172 | A | C8-N9-C4 | -11.10 | 101.36 | 105.80 |
| 26 | 14 | 179 | G | N1-C6-O6 | 11.10 | 126.56 | 119.90 |
| 26 | 1H | 1844 | C | C6-N1-C2 | 11.10 | 124.74 | 120.30 |
| 26 | 14 | 791 | C | C6-N1-C2 | 11.09 | 124.74 | 120.30 |
| 1 | 13 | 1485 | U | N1-C2-N3 | 11.09 | 121.55 | 114.90 |
| 26 | 1H | 127 | A | N9-C4-C5 | -11.09 | 101.36 | 105.80 |
| 26 | 1H | 1338 | G | C2-N3-C4 | 11.09 | 117.44 | 111.90 |
| 26 | 1H | 2038 | G | C8-N9-C4 | 11.09 | 110.83 | 106.40 |
| 1 | 13 | 1273 | G | C8-N9-C4 | 11.08 | 110.83 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 810 | U | C5-C6-N1 | 11.08 | 128.24 | 122.70 |
| 1 | 13 | 541 | G | OP1-P-OP2 | -11.08 | 102.98 | 119.60 |
| 26 | 1H | 23 | G | C5-C6-O6 | 11.08 | 135.25 | 128.60 |
| 1 | 13 | 767 | A | C2-N3-C4 | -11.08 | 105.06 | 110.60 |
| 1 | 13 | 1502 | A | C2-N3-C4 | -11.08 | 105.06 | 110.60 |
| 26 | 1H | 701 | G | C8-N9-C4 | -11.08 | 101.97 | 106.40 |
| 26 | 14 | 1271 | G | O5'-P-OP2 | -11.08 | 95.73 | 105.70 |
| 26 | 1H | 1643 | G | N1-C6-O6 | -11.08 | 113.25 | 119.90 |
| 26 | 1H | 2299 | G | N1-C6-O6 | 11.08 | 126.55 | 119.90 |
| 26 | 14 | 918 | A | C8-N9-C4 | -11.08 | 101.37 | 105.80 |
| 26 | 1H | 140 | A | C2-N3-C4 | -11.07 | 105.06 | 110.60 |
| 26 | 1H | 581 | C | C6-N1-C2 | -11.07 | 115.87 | 120.30 |
| 26 | 14 | 1946 | U | O5'-P-OP2 | -11.07 | 95.74 | 105.70 |
| 1 | 13 | 503 | C | N3-C4-C5 | -11.07 | 117.47 | 121.90 |
| 23 | 2K | 77 | A | C5-N7-C8 | -11.07 | 98.37 | 103.90 |
| 26 | 1H | 199 | A | N1-C2-N3 | -11.07 | 123.77 | 129.30 |
| 26 | 1H | 2247 | A | O5'-P-OP1 | -11.07 | 95.74 | 105.70 |
| 26 | 14 | 226 | G | C5-C6-N1 | -11.07 | 105.97 | 111.50 |
| 26 | 1H | 1241 | A | C6-C5-N7 | -11.07 | 124.55 | 132.30 |
| 1 | 13 | 413 | G | N1-C6-O6 | -11.06 | 113.26 | 119.90 |
| 26 | 1H | 788 | A | N9-C4-C5 | -11.06 | 101.37 | 105.80 |
| 1 | 13 | 789 | U | C5-C4-O4 | 11.06 | 132.54 | 125.90 |
| 26 | 1H | 948 | G | N1-C6-O6 | 11.06 | 126.54 | 119.90 |
| 26 | 14 | 2005 | A | C5-C6-N6 | 11.06 | 132.55 | 123.70 |
| 1 | 13 | 766 | A | N9-C4-C5 | -11.06 | 101.38 | 105.80 |
| 26 | 1H | 2287 | A | N1-C2-N3 | 11.06 | 134.83 | 129.30 |
| 26 | 1H | 783 | A | C4-C5-C6 | 11.06 | 122.53 | 117.00 |
| 1 | 13 | 392 | G | N1-C6-O6 | 11.06 | 126.53 | 119.90 |
| 26 | 1H | 306 | U | N3-C2-O2 | -11.05 | 114.46 | 122.20 |
| 23 | 2K | 77 | A | N1-C2-N3 | -11.05 | 123.77 | 129.30 |
| 26 | 1H | 1965 | C | O5'-P-OP1 | -11.05 | 95.75 | 105.70 |
| 26 | 1H | 2082 | A | C6-N1-C2 | -11.05 | 111.97 | 118.60 |
| 26 | 1H | 399 | G | O5'-P-OP2 | -11.05 | 95.75 | 105.70 |
| 26 | 14 | 1934 | C | C6-N1-C2 | 11.05 | 124.72 | 120.30 |
| 26 | 1H | 1029 | A | C5-C6-N6 | -11.05 | 114.86 | 123.70 |
| 1 | 13 | 1236 | A | C5-C6-N1 | -11.04 | 112.18 | 117.70 |
| 26 | 1H | 1345 | C | N3-C4-C5 | 11.04 | 126.32 | 121.90 |
| 1 | 13 | 692 | U | C5-C6-N1 | -11.04 | 117.18 | 122.70 |
| 27 | 16 | 111 | U | C5-C6-N1 | -11.04 | 117.18 | 122.70 |
| 26 | 1H | 1428 | C | O5'-P-OP1 | -11.04 | 95.77 | 105.70 |
| 26 | 1H | 2543 | G | O5'-P-OP1 | -11.04 | 95.77 | 105.70 |
| 26 | 14 | 388 | G | N3-C4-N9 | -11.04 | 119.38 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|--------|-------------|----------|
| 26 | 1H | 722 | A | C2-N3-C4 | -11.04 | 105.08 | 110.60 |
| 26 | 14 | 2545 | G | C5-C6-N1 | -11.04 | 105.98 | 111.50 |
| 26 | 14 | 1822 | G | N3-C2-N2 | -11.03 | 112.18 | 119.90 |
| 1 | 1G | 328 | C | N3-C2-O2 | -11.03 | 114.18 | 121.90 |
| 26 | 14 | 1197 | G | C5-C6-O6 | 11.03 | 135.22 | 128.60 |
| 26 | 1H | 348 | G | N1-C6-O6 | -11.03 | 113.28 | 119.90 |
| 1 | 1G | 556 | C | O5'-P-OP1 | -11.03 | 95.77 | 105.70 |
| 26 | 1H | 805 | G | O5'-P-OP2 | -11.03 | 95.78 | 105.70 |
| 1 | 1G | 811 | C | N1-C2-O2 | -11.03 | 112.28 | 118.90 |
| 26 | 1H | 736 | C | C5-C4-N4 | -11.03 | 112.48 | 120.20 |
| 26 | 14 | 2741 | A | N1-C6-N6 | 11.02 | 125.21 | 118.60 |
| 26 | 1H | 734 | A | OP1-P-OP2 | 11.02 | 136.13 | 119.60 |
| 1 | 13 | 894 | G | C8-N9-C4 | 11.02 | 110.81 | 106.40 |
| 26 | 1H | 258 | G | N1-C6-O6 | -11.02 | 113.29 | 119.90 |
| 26 | 1H | 822 | U | N3-C2-O2 | -11.02 | 114.49 | 122.20 |
| 26 | 1H | 1331 | A | N1-C2-N3 | 11.02 | 134.81 | 129.30 |
| 26 | 1H | 1779 | U | O5'-P-OP1 | -11.02 | 95.78 | 105.70 |
| 26 | 1H | 1964 | G | O5'-P-OP2 | -11.02 | 95.78 | 105.70 |
| 26 | 14 | 2819 | G | C8-N9-C4 | 11.02 | 110.81 | 106.40 |
| 1 | 13 | 1455 | G | N3-C4-C5 | 11.02 | 134.11 | 128.60 |
| 26 | 14 | 738 | G | O5'-P-OP2 | -11.02 | 95.79 | 105.70 |
| 1 | 1G | 230 | G | C5-C6-N1 | -11.01 | 105.99 | 111.50 |
| 26 | 14 | 2618 | G | C5-C6-O6 | 11.01 | 135.21 | 128.60 |
| 26 | 1H | 593 | G | N1-C2-N3 | 11.01 | 130.50 | 123.90 |
| 26 | 1H | 1142(A) | A | C5-N7-C8 | -11.01 | 98.40 | 103.90 |
| 26 | 14 | 669 | G | O5'-P-OP1 | 11.01 | 123.91 | 110.70 |
| 26 | 14 | 1197 | G | C5-C6-N1 | -11.01 | 106.00 | 111.50 |
| 26 | 1H | 1191 | G | N7-C8-N9 | -11.00 | 107.60 | 113.10 |
| 26 | 1H | 1342 | A | O5'-P-OP1 | -11.00 | 95.80 | 105.70 |
| 26 | 1H | 989 | G | N1-C6-O6 | 11.00 | 126.50 | 119.90 |
| 26 | 1H | 2001 | A | C8-N9-C4 | -11.00 | 101.40 | 105.80 |
| 26 | 1H | 2070 | G | C8-N9-C4 | 11.00 | 110.80 | 106.40 |
| 26 | 14 | 197 | A | C2-N3-C4 | -11.00 | 105.10 | 110.60 |
| 26 | 14 | 1985 | G | C8-N9-C4 | 11.00 | 110.80 | 106.40 |
| 26 | 1H | 208 | C | C6-N1-C2 | 11.00 | 124.70 | 120.30 |
| 26 | 14 | 2829 | C | N3-C4-C5 | 11.00 | 126.30 | 121.90 |
| 26 | 1H | 829 | A | C2-N3-C4 | -11.00 | 105.10 | 110.60 |
| 26 | 1H | 933 | A | O5'-P-OP2 | -11.00 | 95.80 | 105.70 |
| 26 | 1H | 1984 | G | C8-N9-C4 | 11.00 | 110.80 | 106.40 |
| 26 | 1H | 2490 | G | C6-N1-C2 | 11.00 | 131.70 | 125.10 |
| 26 | 14 | 2084 | C | C5-C6-N1 | -11.00 | 115.50 | 121.00 |
| 1 | 13 | 569 | C | N1-C2-O2 | 10.99 | 125.50 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 26 | 1H | 2585 | U | O5'-P-OP2 | 10.99 | 123.89 | 110.70 |
| 26 | 14 | 952 | G | C8-N9-C4 | -10.99 | 102.00 | 106.40 |
| 26 | 14 | 1304 | C | N3-C4-C5 | 10.99 | 126.30 | 121.90 |
| 1 | 13 | 741 | G | O5'-P-OP2 | -10.99 | 95.81 | 105.70 |
| 26 | 1H | 391 | G | N1-C2-N3 | 10.99 | 130.49 | 123.90 |
| 26 | 1H | 618 | G | C8-N9-C4 | 10.99 | 110.80 | 106.40 |
| 26 | 1H | 1333 | C | N3-C2-O2 | 10.99 | 129.59 | 121.90 |
| 26 | 1H | 1340 | U | N3-C4-O4 | 10.99 | 127.09 | 119.40 |
| 26 | 1H | 2618 | G | C4-C5-N7 | -10.99 | 106.40 | 110.80 |
| 1 | 1G | 585 | G | N3-C4-C5 | -10.99 | 123.11 | 128.60 |
| 26 | 1H | 213 | A | C8-N9-C4 | 10.99 | 110.19 | 105.80 |
| 26 | 1H | 1563 | G | C5-C6-O6 | 10.99 | 135.19 | 128.60 |
| 26 | 14 | 684 | G | N7-C8-N9 | 10.99 | 118.59 | 113.10 |
| 26 | 14 | 527 | C | C2-N1-C1' | 10.98 | 130.88 | 118.80 |
| 26 | 14 | 584 | C | C5-C4-N4 | -10.98 | 112.51 | 120.20 |
| 26 | 14 | 1790 | C | C5-C4-N4 | -10.98 | 112.51 | 120.20 |
| 1 | 13 | 542 | G | O5'-P-OP1 | -10.98 | 95.82 | 105.70 |
| 26 | 1H | 1823 | G | C5-C6-N1 | -10.98 | 106.01 | 111.50 |
| 26 | 14 | 1449 | A | O5'-P-OP2 | -10.98 | 95.82 | 105.70 |
| 29 | 11 | 229 | VAL | CG1-CB-CG2 | -10.98 | 93.33 | 110.90 |
| 26 | 14 | 1121 | C | C6-N1-C2 | 10.98 | 124.69 | 120.30 |
| 26 | 1H | 2450 | A | N1-C6-N6 | -10.97 | 112.02 | 118.60 |
| 26 | 14 | 2724 | C | C5-C6-N1 | -10.97 | 115.51 | 121.00 |
| 26 | 1H | 1303 | G | N3-C2-N2 | 10.97 | 127.58 | 119.90 |
| 26 | 1H | 444 | C | C6-N1-C2 | -10.97 | 115.91 | 120.30 |
| 26 | 1H | 2502 | G | N3-C2-N2 | -10.96 | 112.22 | 119.90 |
| 26 | 14 | 1977 | A | C2-N3-C4 | -10.97 | 105.12 | 110.60 |
| 26 | 1H | 847 | U | N1-C2-O2 | 10.96 | 130.47 | 122.80 |
| 26 | 1H | 1312 | U | O5'-P-OP1 | -10.96 | 95.83 | 105.70 |
| 1 | 1G | 267 | C | O5'-P-OP1 | -10.96 | 95.83 | 105.70 |
| 26 | 1H | 1598 | C | OP1-P-O3' | 10.96 | 129.31 | 105.20 |
| 26 | 14 | 915 | C | N3-C4-C5 | -10.96 | 117.52 | 121.90 |
| 1 | 13 | 1113 | C | C6-N1-C2 | -10.95 | 115.92 | 120.30 |
| 23 | 2K | 39 | A | N1-C6-N6 | -10.95 | 112.03 | 118.60 |
| 26 | 1H | 2331 | G | C5-C6-O6 | -10.95 | 122.03 | 128.60 |
| 1 | 13 | 690 | G | C4-C5-N7 | 10.95 | 115.18 | 110.80 |
| 26 | 1H | 468 | G | OP1-P-OP2 | -10.95 | 103.17 | 119.60 |
| 26 | 1H | 1333 | C | C5-C6-N1 | 10.95 | 126.47 | 121.00 |
| 26 | 14 | 929 | G | C5-N7-C8 | -10.95 | 98.83 | 104.30 |
| 1 | 1G | 390 | C | C5-C6-N1 | -10.95 | 115.53 | 121.00 |
| 26 | 14 | 1396 | U | N3-C2-O2 | -10.94 | 114.54 | 122.20 |
| 26 | 1H | 1761 | C | N3-C2-O2 | 10.94 | 129.56 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1189 | A | C5-C6-N6 | -10.94 | 114.95 | 123.70 |
| 1 | 13 | 1209 | C | C6-N1-C2 | 10.94 | 124.67 | 120.30 |
| 26 | 14 | 544 | C | C6-N1-C2 | -10.94 | 115.92 | 120.30 |
| 1 | 13 | 867 | G | C4-C5-N7 | -10.94 | 106.42 | 110.80 |
| 1 | 13 | 1512 | U | O5'-P-OP1 | 10.94 | 123.82 | 110.70 |
| 26 | 1H | 385 | C | O5'-P-OP1 | -10.94 | 95.86 | 105.70 |
| 26 | 1H | 1669 | A | C5-N7-C8 | -10.94 | 98.43 | 103.90 |
| 26 | 1H | 1975 | G | C4-C5-N7 | 10.94 | 115.17 | 110.80 |
| 26 | 1H | 2646 | C | O5'-P-OP2 | -10.94 | 95.86 | 105.70 |
| 26 | 1H | 1519 | G | O5'-P-OP1 | -10.94 | 95.86 | 105.70 |
| 26 | 14 | 521 | G | C4-C5-N7 | 10.94 | 115.17 | 110.80 |
| 1 | 13 | 1524 | C | N3-C4-C5 | 10.93 | 126.27 | 121.90 |
| 26 | 14 | 769 | G | OP1-P-O3' | 10.93 | 129.25 | 105.20 |
| 26 | 14 | 2045 | C | C6-N1-C2 | 10.93 | 124.67 | 120.30 |
| 26 | 1H | 34 | C | O5'-P-OP2 | 10.93 | 123.82 | 110.70 |
| 26 | 1H | 51 | G | N7-C8-N9 | -10.93 | 107.64 | 113.10 |
| 26 | 1H | 2739 | U | O5'-P-OP1 | -10.93 | 95.86 | 105.70 |
| 26 | 1H | 2358 | G | C4-C5-N7 | -10.93 | 106.43 | 110.80 |
| 26 | 1H | 2845 | G | C4-C5-N7 | -10.92 | 106.43 | 110.80 |
| 1 | 1G | 611 | A | C8-N9-C4 | 10.92 | 110.17 | 105.80 |
| 26 | 14 | 671 | C | C2-N3-C4 | -10.92 | 114.44 | 119.90 |
| 26 | 14 | 1681 | G | C4-C5-N7 | 10.92 | 115.17 | 110.80 |
| 26 | 14 | 2495 | G | N3-C2-N2 | -10.92 | 112.25 | 119.90 |
| 26 | 14 | 2546 | U | OP1-P-OP2 | 10.92 | 135.99 | 119.60 |
| 26 | 1H | 468 | G | N1-C6-O6 | 10.92 | 126.45 | 119.90 |
| 26 | 1H | 968 | G | C8-N9-C4 | -10.92 | 102.03 | 106.40 |
| 26 | 1H | 1513 | C | C6-N1-C2 | -10.92 | 115.93 | 120.30 |
| 26 | 14 | 2619 | C | N3-C4-C5 | 10.92 | 126.27 | 121.90 |
| 26 | 1H | 20 | C | C4-C5-C6 | 10.92 | 122.86 | 117.40 |
| 26 | 1H | 463 | G | N9-C4-C5 | -10.92 | 101.03 | 105.40 |
| 26 | 1H | 1640 | C | N3-C4-N4 | -10.92 | 110.36 | 118.00 |
| 26 | 14 | 1328 | G | N1-C6-O6 | 10.92 | 126.45 | 119.90 |
| 1 | 13 | 781 | A | C5-C6-N6 | -10.91 | 114.97 | 123.70 |
| 26 | 14 | 527 | C | N1-C2-O2 | 10.91 | 125.45 | 118.90 |
| 26 | 1H | 647 | G | OP1-P-OP2 | -10.91 | 103.24 | 119.60 |
| 26 | 14 | 1332 | G | C4-C5-C6 | 10.91 | 125.34 | 118.80 |
| 26 | 14 | 2495 | G | C5-C6-N1 | -10.90 | 106.05 | 111.50 |
| 26 | 1H | 2722 | G | N1-C6-O6 | -10.90 | 113.36 | 119.90 |
| 26 | 1H | 1383 | C | N1-C2-O2 | 10.90 | 125.44 | 118.90 |
| 26 | 1H | 2426 | A | N1-C6-N6 | -10.90 | 112.06 | 118.60 |
| 26 | 1H | 383 | U | C5-C4-O4 | 10.90 | 132.44 | 125.90 |
| 26 | 1H | 803 | U | C5-C6-N1 | -10.90 | 117.25 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 566 | U | C6-N1-C2 | 10.90 | 127.54 | 121.00 |
| 1 | 13 | 1355 | G | C8-N9-C4 | -10.89 | 102.04 | 106.40 |
| 26 | 1H | 1394 | U | C5-C6-N1 | 10.89 | 128.15 | 122.70 |
| 26 | 14 | 1772 | G | C5-C6-O6 | -10.89 | 122.06 | 128.60 |
| 26 | 1H | 1559 | G | C2-N3-C4 | -10.89 | 106.46 | 111.90 |
| 26 | 1H | 1589 | C | O5'-P-OP2 | 10.89 | 123.77 | 110.70 |
| 26 | 1H | 1931 | U | N3-C2-O2 | -10.89 | 114.58 | 122.20 |
| 26 | 14 | 1960 | A | N1-C6-N6 | -10.89 | 112.07 | 118.60 |
| 26 | 1H | 2311 | A | N7-C8-N9 | 10.89 | 119.24 | 113.80 |
| 26 | 1H | 2698 | U | C6-N1-C2 | 10.88 | 127.53 | 121.00 |
| 26 | 14 | 972 | G | C5-C6-O6 | 10.89 | 135.13 | 128.60 |
| 26 | 14 | 929 | G | C2-N3-C4 | -10.88 | 106.46 | 111.90 |
| 26 | 14 | 1950 | G | N3-C2-N2 | 10.88 | 127.52 | 119.90 |
| 26 | 14 | 1281 | G | C5-N7-C8 | -10.88 | 98.86 | 104.30 |
| 26 | 1H | 28 | A | N1-C6-N6 | 10.88 | 125.12 | 118.60 |
| 1 | 13 | 1468 | A | C5-C6-N6 | -10.87 | 115.00 | 123.70 |
| 26 | 1H | 2256 | G | N1-C6-O6 | -10.88 | 113.38 | 119.90 |
| 26 | 1H | 2491 | U | N1-C2-N3 | -10.88 | 108.38 | 114.90 |
| 1 | 13 | 1500 | A | N1-C2-N3 | 10.87 | 134.74 | 129.30 |
| 1 | 1G | 1483 | A | C5-C6-N1 | 10.87 | 123.13 | 117.70 |
| 26 | 14 | 1325 | G | O5'-P-OP2 | -10.87 | 95.92 | 105.70 |
| 1 | 13 | 1424 | C | C6-N1-C2 | 10.87 | 124.65 | 120.30 |
| 26 | 1H | 2430 | A | C4-C5-N7 | 10.87 | 116.13 | 110.70 |
| 1 | 13 | 1525 | G | N7-C8-N9 | -10.86 | 107.67 | 113.10 |
| 26 | 14 | 1807 | G | C8-N9-C4 | 10.86 | 110.75 | 106.40 |
| 26 | 14 | 2766 | G | O5'-P-OP2 | -10.86 | 95.93 | 105.70 |
| 26 | 14 | 2879 | C | O5'-P-OP2 | 10.86 | 123.73 | 110.70 |
| 26 | 14 | 2586 | C | C5-C4-N4 | -10.86 | 112.60 | 120.20 |
| 26 | 1H | 148 | C | C6-N1-C2 | 10.85 | 124.64 | 120.30 |
| 26 | 1H | 917 | A | N1-C2-N3 | 10.85 | 134.73 | 129.30 |
| 26 | 1H | 921 | G | C8-N9-C4 | -10.85 | 102.06 | 106.40 |
| 26 | 14 | 1941 | C | O5'-P-OP1 | -10.85 | 95.93 | 105.70 |
| 26 | 14 | 2007 | C | N1-C2-O2 | -10.85 | 112.39 | 118.90 |
| 26 | 1H | 1218 | C | O5'-P-OP2 | -10.85 | 95.94 | 105.70 |
| 1 | 1G | 45 | U | C6-N1-C2 | 10.85 | 127.51 | 121.00 |
| 26 | 1H | 1979 | C | C4-C5-C6 | 10.85 | 122.82 | 117.40 |
| 26 | 14 | 528 | A | C5-C6-N1 | -10.85 | 112.28 | 117.70 |
| 26 | 14 | 2519 | U | O5'-P-OP2 | -10.85 | 95.94 | 105.70 |
| 26 | 1H | 1992 | G | C5-C6-O6 | -10.85 | 122.09 | 128.60 |
| 26 | 14 | 1698 | A | C5-C6-N1 | -10.85 | 112.28 | 117.70 |
| 26 | 1H | 1241 | A | C2-N3-C4 | -10.84 | 105.18 | 110.60 |
| 26 | 1H | 1700 | A | O5'-P-OP2 | -10.84 | 95.94 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|--------|-------------|----------|
| 26 | 1H | 519 | U | O5'-P-OP2 | -10.84 | 95.94 | 105.70 |
| 25 | 4K | 16 | A | C8-N9-C4 | 10.84 | 110.14 | 105.80 |
| 1 | 1G | 730 | G | C4-C5-N7 | -10.84 | 106.47 | 110.80 |
| 26 | 1H | 389 | G | N1-C2-N2 | -10.84 | 106.45 | 116.20 |
| 26 | 1H | 2068 | U | N3-C4-O4 | -10.84 | 111.81 | 119.40 |
| 26 | 14 | 1695 | G | N1-C6-O6 | 10.84 | 126.40 | 119.90 |
| 26 | 14 | 201 | C | C6-N1-C2 | 10.84 | 124.63 | 120.30 |
| 23 | 2K | 17 | C | O5'-P-OP1 | -10.83 | 95.95 | 105.70 |
| 26 | 1H | 729 | G | C6-C5-N7 | -10.83 | 123.90 | 130.40 |
| 26 | 1H | 2007 | C | O5'-P-OP2 | -10.83 | 95.95 | 105.70 |
| 26 | 14 | 50 | U | C6-N1-C2 | 10.83 | 127.50 | 121.00 |
| 26 | 14 | 380 | U | C6-N1-C2 | -10.83 | 114.50 | 121.00 |
| 26 | 14 | 2014 | A | C8-N9-C4 | 10.83 | 110.13 | 105.80 |
| 26 | 14 | 1630(A) | C | N3-C2-O2 | 10.83 | 129.48 | 121.90 |
| 1 | 13 | 567 | G | O5'-P-OP1 | -10.82 | 95.96 | 105.70 |
| 26 | 1H | 124 | G | C5-C6-O6 | -10.82 | 122.11 | 128.60 |
| 26 | 1H | 232 | G | N1-C6-O6 | 10.82 | 126.39 | 119.90 |
| 1 | 1G | 111 | G | C5-C6-N1 | -10.82 | 106.09 | 111.50 |
| 26 | 14 | 2514 | U | C5-C6-N1 | -10.82 | 117.29 | 122.70 |
| 26 | 1H | 1204 | A | C4-C5-N7 | 10.82 | 116.11 | 110.70 |
| 1 | 1G | 1484 | C | OP1-P-OP2 | 10.81 | 135.82 | 119.60 |
| 26 | 14 | 55 | G | N1-C6-O6 | -10.81 | 113.41 | 119.90 |
| 26 | 14 | 561 | G | C8-N9-C4 | -10.81 | 102.08 | 106.40 |
| 1 | 1G | 769 | G | C5-C6-O6 | -10.81 | 122.11 | 128.60 |
| 26 | 1H | 926 | A | C8-N9-C4 | -10.81 | 101.48 | 105.80 |
| 26 | 1H | 1291 | C | N3-C2-O2 | -10.81 | 114.33 | 121.90 |
| 26 | 1H | 667 | U | C5-C4-O4 | -10.80 | 119.42 | 125.90 |
| 26 | 1H | 918 | A | O5'-P-OP2 | 10.80 | 123.67 | 110.70 |
| 26 | 1H | 661 | C | C6-N1-C2 | 10.80 | 124.62 | 120.30 |
| 26 | 14 | 336 | C | C6-N1-C2 | 10.80 | 124.62 | 120.30 |
| 26 | 1H | 692 | C | C5-C6-N1 | -10.80 | 115.60 | 121.00 |
| 26 | 1H | 816 | C | C6-N1-C2 | 10.80 | 124.62 | 120.30 |
| 26 | 1H | 1669 | A | C8-N9-C4 | -10.80 | 101.48 | 105.80 |
| 26 | 1H | 1915 | U | N3-C4-O4 | -10.80 | 111.84 | 119.40 |
| 26 | 14 | 911 | A | C8-N9-C4 | -10.80 | 101.48 | 105.80 |
| 26 | 1H | 452 | G | C6-C5-N7 | 10.79 | 136.88 | 130.40 |
| 26 | 1H | 1422 | G | C8-N9-C4 | -10.79 | 102.08 | 106.40 |
| 1 | 1G | 305 | G | C5-C6-O6 | 10.79 | 135.07 | 128.60 |
| 26 | 14 | 2726 | U | C5-C4-O4 | 10.79 | 132.37 | 125.90 |
| 1 | 13 | 1382 | C | N1-C2-O2 | 10.79 | 125.37 | 118.90 |
| 26 | 1H | 476 | G | C5-C6-N1 | -10.79 | 106.11 | 111.50 |
| 26 | 1H | 2041 | U | OP1-P-OP2 | 10.79 | 135.78 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|--------|-------------|----------|
| 26 | 14 | 2454 | G | C4-C5-N7 | 10.79 | 115.11 | 110.80 |
| 26 | 1H | 1626 | G | N1-C2-N2 | 10.79 | 125.91 | 116.20 |
| 1 | 1G | 666 | G | N1-C6-O6 | 10.79 | 126.37 | 119.90 |
| 26 | 14 | 758 | C | O5'-P-OP2 | -10.79 | 95.99 | 105.70 |
| 26 | 1H | 1959 | G | N1-C6-O6 | -10.78 | 113.43 | 119.90 |
| 26 | 14 | 828 | U | C5-C6-N1 | -10.79 | 117.31 | 122.70 |
| 26 | 14 | 2084 | C | C2-N3-C4 | -10.78 | 114.51 | 119.90 |
| 26 | 1H | 2311 | A | C5-N7-C8 | -10.78 | 98.51 | 103.90 |
| 26 | 1H | 2392 | A | N3-C4-N9 | -10.78 | 118.78 | 127.40 |
| 26 | 14 | 929 | G | C4-C5-N7 | 10.78 | 115.11 | 110.80 |
| 26 | 14 | 2525 | G | C2-N3-C4 | -10.78 | 106.51 | 111.90 |
| 26 | 1H | 2677 | G | C8-N9-C4 | 10.78 | 110.71 | 106.40 |
| 26 | 1H | 1634 | A | C4-C5-C6 | 10.78 | 122.39 | 117.00 |
| 26 | 14 | 32 | C | O5'-P-OP2 | -10.78 | 96.00 | 105.70 |
| 26 | 14 | 270(B) | A | N1-C6-N6 | 10.77 | 125.06 | 118.60 |
| 26 | 14 | 751 | A | C8-N9-C4 | 10.77 | 110.11 | 105.80 |
| 26 | 1H | 1592 | C | N3-C4-C5 | 10.77 | 126.21 | 121.90 |
| 26 | 14 | 2426 | A | C4-C5-N7 | 10.77 | 116.08 | 110.70 |
| 26 | 14 | 2848 | G | C5-C6-N1 | -10.77 | 106.11 | 111.50 |
| 1 | 13 | 503 | C | C6-N1-C2 | -10.77 | 115.99 | 120.30 |
| 26 | 1H | 801 | G | N1-C2-N3 | 10.77 | 130.36 | 123.90 |
| 26 | 14 | 729 | G | C5-C6-O6 | -10.77 | 122.14 | 128.60 |
| 1 | 13 | 974 | A | C5-C6-N1 | -10.76 | 112.32 | 117.70 |
| 1 | 13 | 1205 | U | N3-C4-C5 | -10.76 | 108.14 | 114.60 |
| 1 | 1G | 110 | C | C5-C6-N1 | -10.76 | 115.62 | 121.00 |
| 26 | 1H | 1323 | U | OP1-P-OP2 | -10.76 | 103.46 | 119.60 |
| 26 | 1H | 2610 | C | C6-N1-C2 | 10.76 | 124.61 | 120.30 |
| 26 | 1H | 267 | C | N3-C4-C5 | 10.76 | 126.20 | 121.90 |
| 26 | 1H | 1971 | A | C2-N3-C4 | 10.76 | 115.98 | 110.60 |
| 26 | 14 | 2726 | U | N3-C4-O4 | -10.76 | 111.87 | 119.40 |
| 1 | 1G | 569 | C | C6-N1-C2 | -10.75 | 116.00 | 120.30 |
| 26 | 14 | 1830 | C | N3-C4-C5 | 10.75 | 126.20 | 121.90 |
| 26 | 14 | 2586 | C | N3-C2-O2 | 10.75 | 129.42 | 121.90 |
| 26 | 1H | 1021 | A | C6-N1-C2 | 10.74 | 125.05 | 118.60 |
| 26 | 1H | 1429 | G | C5-C6-O6 | 10.74 | 135.05 | 128.60 |
| 26 | 1H | 2329 | G | N9-C4-C5 | -10.74 | 101.10 | 105.40 |
| 26 | 14 | 186 | G | N1-C6-O6 | -10.74 | 113.45 | 119.90 |
| 26 | 14 | 809 | G | C8-N9-C4 | -10.74 | 102.10 | 106.40 |
| 26 | 1H | 1268 | A | C2-N3-C4 | -10.74 | 105.23 | 110.60 |
| 26 | 1H | 2379 | G | C8-N9-C4 | 10.74 | 110.70 | 106.40 |
| 1 | 13 | 830 | G | C5-C6-N1 | -10.74 | 106.13 | 111.50 |
| 1 | 13 | 742 | G | C8-N9-C4 | 10.73 | 110.69 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 206 | U | C6-N1-C2 | 10.73 | 127.44 | 121.00 |
| 27 | 1J | 81 | G | C6-C5-N7 | -10.73 | 123.96 | 130.40 |
| 26 | 14 | 2570 | G | N1-C6-O6 | 10.73 | 126.34 | 119.90 |
| 26 | 14 | 816 | C | O5'-P-OP2 | -10.73 | 96.04 | 105.70 |
| 26 | 1H | 1605 | C | C4-C5-C6 | 10.73 | 122.76 | 117.40 |
| 26 | 14 | 2001 | A | N1-C6-N6 | 10.73 | 125.03 | 118.60 |
| 26 | 14 | 2339 | G | O5'-P-OP2 | -10.72 | 96.05 | 105.70 |
| 1 | 13 | 569 | C | N3-C2-O2 | -10.72 | 114.39 | 121.90 |
| 23 | 2K | 2 | G | C8-N9-C4 | 10.72 | 110.69 | 106.40 |
| 26 | 1H | 1988 | C | N3-C4-N4 | -10.72 | 110.49 | 118.00 |
| 26 | 14 | 699 | A | C5-N7-C8 | 10.72 | 109.26 | 103.90 |
| 26 | 1H | 1763 | G | O5'-P-OP2 | -10.72 | 96.05 | 105.70 |
| 26 | 1H | 2494 | G | C5-C6-N1 | -10.72 | 106.14 | 111.50 |
| 1 | 13 | 346 | G | N7-C8-N9 | 10.72 | 118.46 | 113.10 |
| 27 | 1J | 89 | G | C4-C5-N7 | 10.72 | 115.09 | 110.80 |
| 26 | 14 | 2057 | A | C8-N9-C4 | 10.72 | 110.09 | 105.80 |
| 26 | 1H | 1489 | U | C5-C4-O4 | 10.71 | 132.33 | 125.90 |
| 26 | 1H | 1013 | C | N3-C2-O2 | 10.71 | 129.40 | 121.90 |
| 26 | 1H | 2597 | G | C5-C6-O6 | -10.71 | 122.17 | 128.60 |
| 26 | 14 | 685 | A | O5'-P-OP1 | -10.71 | 96.06 | 105.70 |
| 26 | 14 | 1817 | G | C5-C6-N1 | -10.71 | 106.14 | 111.50 |
| 26 | 14 | 1955 | U | C5-C6-N1 | -10.71 | 117.34 | 122.70 |
| 1 | 13 | 362 | G | N3-C4-C5 | 10.71 | 133.95 | 128.60 |
| 26 | 1H | 465 | G | C5-C6-N1 | -10.71 | 106.15 | 111.50 |
| 26 | 14 | 1786 | A | C5-C6-N1 | -10.71 | 112.35 | 117.70 |
| 1 | 13 | 545 | C | N3-C4-C5 | 10.71 | 126.18 | 121.90 |
| 26 | 1H | 539 | G | C5-C6-N1 | -10.71 | 106.15 | 111.50 |
| 26 | 1H | 2681 | C | C6-N1-C2 | -10.71 | 116.02 | 120.30 |
| 26 | 14 | 333 | G | N1-C6-O6 | 10.70 | 126.32 | 119.90 |
| 26 | 1H | 795 | C | O5'-P-OP1 | -10.70 | 96.07 | 105.70 |
| 26 | 14 | 1470 | G | N1-C6-O6 | 10.70 | 126.32 | 119.90 |
| 26 | 14 | 2392 | A | C2-N3-C4 | -10.70 | 105.25 | 110.60 |
| 26 | 14 | 1828 | G | C4-C5-N7 | -10.70 | 106.52 | 110.80 |
| 27 | 1J | 32 | C | C6-N1-C2 | 10.70 | 124.58 | 120.30 |
| 26 | 1H | 704 | G | C5-N7-C8 | -10.70 | 98.95 | 104.30 |
| 26 | 14 | 372 | G | C5-C6-N1 | 10.70 | 116.85 | 111.50 |
| 26 | 1H | 185 | U | C5-C6-N1 | -10.69 | 117.35 | 122.70 |
| 26 | 1H | 2544 | G | C5-C6-O6 | -10.69 | 122.19 | 128.60 |
| 26 | 1H | 1443 | G | N3-C2-N2 | -10.69 | 112.42 | 119.90 |
| 26 | 1H | 1548 | C | N1-C2-O2 | 10.69 | 125.31 | 118.90 |
| 26 | 1H | 2502 | G | N9-C4-C5 | 10.69 | 109.67 | 105.40 |
| 26 | 14 | 951 | C | N1-C2-O2 | 10.69 | 125.31 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 26 | 14 | 1393 | A | C5-C6-N1 | 10.69 | 123.04 | 117.70 |
| 26 | 1H | 456 | C | OP1-P-OP2 | 10.68 | 135.62 | 119.60 |
| 26 | 1H | 661 | C | N3-C4-C5 | 10.68 | 126.17 | 121.90 |
| 26 | 1H | 1313 | U | N3-C4-C5 | -10.68 | 108.19 | 114.60 |
| 1 | 1G | 1432 | G | C5-C6-N1 | -10.68 | 106.16 | 111.50 |
| 26 | 1H | 613 | U | C5-C4-O4 | 10.68 | 132.31 | 125.90 |
| 26 | 1H | 2233 | U | C5-C6-N1 | -10.68 | 117.36 | 122.70 |
| 1 | 13 | 481 | G | C4-C5-C6 | 10.67 | 125.20 | 118.80 |
| 26 | 1H | 1544 | C | C6-N1-C2 | 10.67 | 124.57 | 120.30 |
| 26 | 1H | 2296 | U | C5-C4-O4 | -10.67 | 119.50 | 125.90 |
| 26 | 14 | 2289 | G | C2-N3-C4 | 10.67 | 117.24 | 111.90 |
| 26 | 1H | 1586 | A | N1-C6-N6 | 10.67 | 125.00 | 118.60 |
| 26 | 1H | 2022 | U | N3-C4-C5 | 10.67 | 121.00 | 114.60 |
| 26 | 1H | 2449 | U | N3-C4-C5 | -10.67 | 108.20 | 114.60 |
| 26 | 14 | 777 | A | C6-N1-C2 | -10.67 | 112.20 | 118.60 |
| 26 | 14 | 2449 | U | C5-C4-O4 | -10.67 | 119.50 | 125.90 |
| 26 | 1H | 866 | A | O4'-C1'-N9 | -10.67 | 99.67 | 108.20 |
| 26 | 1H | 2465 | C | C6-N1-C2 | 10.66 | 124.57 | 120.30 |
| 26 | 14 | 247 | G | C5-C6-N1 | -10.66 | 106.17 | 111.50 |
| 26 | 14 | 1569 | A | O5'-P-OP2 | -10.66 | 96.10 | 105.70 |
| 26 | 14 | 1388 | G | O5'-P-OP2 | -10.66 | 96.11 | 105.70 |
| 26 | 1H | 1834 | U | O5'-P-OP1 | -10.66 | 96.11 | 105.70 |
| 26 | 1H | 679 | C | N3-C4-N4 | -10.65 | 110.54 | 118.00 |
| 26 | 1H | 874 | G | O5'-P-OP2 | -10.65 | 96.11 | 105.70 |
| 26 | 1H | 1614 | A | N3-C4-C5 | 10.65 | 134.26 | 126.80 |
| 26 | 1H | 1754 | C | O5'-P-OP2 | -10.65 | 96.11 | 105.70 |
| 26 | 14 | 1351 | C | C6-N1-C2 | 10.65 | 124.56 | 120.30 |
| 26 | 1H | 1786 | A | N3-C4-N9 | -10.65 | 118.88 | 127.40 |
| 26 | 14 | 1616 | A | N7-C8-N9 | 10.64 | 119.12 | 113.80 |
| 26 | 1H | 59 | U | C6-N1-C2 | -10.64 | 114.62 | 121.00 |
| 26 | 1H | 528 | A | C5-C6-N1 | -10.64 | 112.38 | 117.70 |
| 26 | 1H | 2028 | U | C6-N1-C2 | -10.64 | 114.62 | 121.00 |
| 26 | 1H | 2330 | G | C8-N9-C4 | 10.64 | 110.66 | 106.40 |
| 26 | 14 | 1332 | G | O5'-P-OP2 | -10.64 | 96.12 | 105.70 |
| 27 | 16 | 67 | G | N1-C6-O6 | 10.64 | 126.28 | 119.90 |
| 1 | 13 | 569 | C | C6-N1-C2 | -10.63 | 116.05 | 120.30 |
| 26 | 14 | 1786 | A | C5-N7-C8 | -10.63 | 98.58 | 103.90 |
| 26 | 1H | 1350 | C | C6-N1-C2 | 10.63 | 124.55 | 120.30 |
| 26 | 14 | 1696 | G | O5'-P-OP2 | -10.63 | 96.13 | 105.70 |
| 26 | 1H | 2419 | U | N3-C4-O4 | 10.63 | 126.84 | 119.40 |
| 26 | 1H | 143 | C | C6-N1-C2 | 10.63 | 124.55 | 120.30 |
| 26 | 14 | 1977 | A | C5-C6-N6 | 10.63 | 132.20 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 294 | A | N7-C8-N9 | -10.62 | 108.49 | 113.80 |
| 26 | 1H | 1123 | C | N1-C2-O2 | -10.62 | 112.53 | 118.90 |
| 1 | 13 | 505 | G | C5-C6-O6 | -10.62 | 122.23 | 128.60 |
| 26 | 1H | 2322 | A | O5'-P-OP1 | -10.62 | 96.14 | 105.70 |
| 26 | 14 | 200 | U | O5'-P-OP1 | -10.62 | 96.14 | 105.70 |
| 1 | 13 | 286 | G | O5'-P-OP1 | -10.62 | 96.15 | 105.70 |
| 26 | 1H | 375 | C | N3-C4-C5 | 10.61 | 126.15 | 121.90 |
| 26 | 1H | 1434 | A | C8-N9-C4 | 10.61 | 110.05 | 105.80 |
| 26 | 1H | 1158 | C | N3-C4-C5 | 10.61 | 126.14 | 121.90 |
| 26 | 1H | 1344 | G | N1-C6-O6 | 10.61 | 126.27 | 119.90 |
| 26 | 1H | 1366 | A | N1-C2-N3 | 10.61 | 134.61 | 129.30 |
| 26 | 1H | 1379 | A | C5-N7-C8 | -10.61 | 98.59 | 103.90 |
| 26 | 1H | 2018 | G | N9-C4-C5 | 10.61 | 109.64 | 105.40 |
| 57 | 3L | 76 | A | C4-C5-N7 | 10.61 | 116.00 | 110.70 |
| 26 | 1H | 581 | C | C5-C6-N1 | 10.61 | 126.31 | 121.00 |
| 26 | 14 | 2427 | C | C6-N1-C2 | 10.61 | 124.54 | 120.30 |
| 1 | 13 | 1236 | A | N1-C6-N6 | 10.61 | 124.97 | 118.60 |
| 26 | 1H | 337 | C | C6-N1-C2 | 10.61 | 124.54 | 120.30 |
| 26 | 14 | 197 | A | N1-C6-N6 | 10.61 | 124.97 | 118.60 |
| 26 | 1H | 86 | C | C6-N1-C2 | 10.61 | 124.54 | 120.30 |
| 26 | 1H | 2689 | U | C5-C6-N1 | -10.61 | 117.40 | 122.70 |
| 26 | 14 | 736 | C | N3-C2-O2 | 10.61 | 129.32 | 121.90 |
| 26 | 14 | 1617 | C | O5'-P-OP2 | -10.61 | 96.15 | 105.70 |
| 1 | 13 | 264 | U | C5-C4-O4 | -10.60 | 119.54 | 125.90 |
| 26 | 1H | 2427 | C | O5'-P-OP2 | 10.60 | 123.42 | 110.70 |
| 1 | 13 | 1304 | G | C5-C6-N1 | -10.60 | 106.20 | 111.50 |
| 26 | 1H | 850 | C | C6-N1-C2 | 10.60 | 124.54 | 120.30 |
| 26 | 1H | 1432 | C | C6-N1-C2 | 10.60 | 124.54 | 120.30 |
| 26 | 14 | 666 | G | N9-C4-C5 | -10.60 | 101.16 | 105.40 |
| 26 | 14 | 947 | G | C5-C6-O6 | 10.60 | 134.96 | 128.60 |
| 26 | 14 | 2249 | U | C2-N3-C4 | 10.60 | 133.36 | 127.00 |
| 26 | 1H | 98 | G | N1-C6-O6 | 10.60 | 126.26 | 119.90 |
| 26 | 14 | 1653 | G | C2-N3-C4 | 10.60 | 117.20 | 111.90 |
| 26 | 14 | 195 | A | C5-C6-N6 | -10.60 | 115.22 | 123.70 |
| 26 | 14 | 1978 | A | C2-N3-C4 | -10.60 | 105.30 | 110.60 |
| 26 | 1H | 127 | A | N1-C6-N6 | 10.60 | 124.96 | 118.60 |
| 26 | 14 | 35 | G | C8-N9-C4 | -10.60 | 102.16 | 106.40 |
| 26 | 14 | 122 | G | C5-C6-O6 | -10.60 | 122.24 | 128.60 |
| 26 | 1H | 52 | A | O5'-P-OP1 | -10.59 | 96.17 | 105.70 |
| 26 | 1H | 844 | C | C5-C6-N1 | -10.59 | 115.70 | 121.00 |
| 26 | 1H | 1473 | G | C8-N9-C4 | 10.59 | 110.64 | 106.40 |
| 26 | 14 | 1819 | A | C6-N1-C2 | -10.59 | 112.24 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 1469 | A | O5'-P-OP1 | -10.59 | 96.17 | 105.70 |
| 26 | 1H | 1466 | G | C4-C5-N7 | -10.58 | 106.57 | 110.80 |
| 26 | 1H | 678 | C | C2-N3-C4 | -10.58 | 114.61 | 119.90 |
| 26 | 14 | 1614 | A | C2-N3-C4 | -10.58 | 105.31 | 110.60 |
| 26 | 14 | 2596 | U | N3-C4-O4 | -10.58 | 111.99 | 119.40 |
| 26 | 1H | 736 | C | O5'-P-OP2 | 10.58 | 123.39 | 110.70 |
| 26 | 1H | 2208 | U | N3-C2-O2 | 10.58 | 129.60 | 122.20 |
| 26 | 1H | 2311 | A | C4-C5-C6 | 10.58 | 122.29 | 117.00 |
| 27 | 16 | 6 | C | C6-N1-C2 | 10.57 | 124.53 | 120.30 |
| 26 | 14 | 2208 | U | C5-C6-N1 | -10.57 | 117.41 | 122.70 |
| 26 | 14 | 226 | G | N1-C6-O6 | 10.57 | 126.24 | 119.90 |
| 26 | 1H | 569 | U | C2-N3-C4 | -10.57 | 120.66 | 127.00 |
| 26 | 1H | 1863 | G | O5'-P-OP1 | -10.57 | 96.19 | 105.70 |
| 26 | 1H | 2006 | C | N3-C2-O2 | 10.57 | 129.30 | 121.90 |
| 26 | 14 | 1296 | G | O5'-P-OP1 | 10.57 | 123.38 | 110.70 |
| 26 | 1H | 195 | A | C6-C5-N7 | -10.57 | 124.90 | 132.30 |
| 26 | 1H | 1929 | G | N1-C6-O6 | -10.57 | 113.56 | 119.90 |
| 26 | 1H | 2390 | U | C5-C4-O4 | -10.57 | 119.56 | 125.90 |
| 26 | 1H | 2665 | A | C5-N7-C8 | -10.56 | 98.62 | 103.90 |
| 26 | 14 | 1234 | U | C5-C4-O4 | 10.56 | 132.24 | 125.90 |
| 26 | 1H | 2312 | U | N3-C2-O2 | 10.56 | 129.59 | 122.20 |
| 26 | 14 | 667 | U | N3-C2-O2 | 10.56 | 129.59 | 122.20 |
| 1 | 13 | 353 | A | N7-C8-N9 | 10.56 | 119.08 | 113.80 |
| 26 | 1H | 744 | G | N3-C4-C5 | -10.56 | 123.32 | 128.60 |
| 26 | 1H | 836 | G | C5-C6-O6 | 10.56 | 134.94 | 128.60 |
| 26 | 1H | 1406 | U | C5-C6-N1 | 10.56 | 127.98 | 122.70 |
| 26 | 14 | 68 | G | N1-C6-O6 | 10.56 | 126.24 | 119.90 |
| 1 | 13 | 319 | G | N3-C4-C5 | 10.56 | 133.88 | 128.60 |
| 1 | 13 | 333 | G | C2-N3-C4 | -10.56 | 106.62 | 111.90 |
| 23 | 2K | 38 | A | N1-C2-N3 | 10.56 | 134.58 | 129.30 |
| 1 | 13 | 827 | U | C5-C4-O4 | 10.55 | 132.23 | 125.90 |
| 26 | 14 | 912 | C | C6-N1-C2 | -10.56 | 116.08 | 120.30 |
| 23 | 2K | 25 | U | N3-C4-O4 | -10.55 | 112.01 | 119.40 |
| 26 | 1H | 1313 | U | C2-N1-C1' | 10.55 | 130.37 | 117.70 |
| 26 | 1H | 1639 | U | N1-C2-N3 | 10.55 | 121.23 | 114.90 |
| 26 | 1H | 650 | C | C6-N1-C2 | -10.55 | 116.08 | 120.30 |
| 26 | 1H | 1307 | A | O5'-P-OP1 | -10.55 | 96.20 | 105.70 |
| 26 | 1H | 2264 | C | N3-C4-C5 | -10.55 | 117.68 | 121.90 |
| 26 | 1H | 115 | C | C2-N3-C4 | -10.55 | 114.63 | 119.90 |
| 26 | 1H | 909 | A | O5'-P-OP2 | -10.55 | 96.21 | 105.70 |
| 26 | 14 | 660 | G | C5-C6-O6 | 10.55 | 134.93 | 128.60 |
| 26 | 14 | 689 | A | O5'-P-OP2 | -10.55 | 96.21 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 708 | C | N3-C2-O2 | -10.55 | 114.52 | 121.90 |
| 26 | 14 | 1822 | G | N1-C6-O6 | 10.55 | 126.23 | 119.90 |
| 1 | 1G | 1469 | G | C2-N3-C4 | -10.54 | 106.63 | 111.90 |
| 1 | 1G | 1479 | C | N3-C2-O2 | -10.54 | 114.52 | 121.90 |
| 26 | 14 | 1328 | G | C4-C5-N7 | 10.54 | 115.02 | 110.80 |
| 26 | 14 | 2452 | C | C6-N1-C2 | 10.54 | 124.52 | 120.30 |
| 26 | 14 | 1308 | A | N9-C4-C5 | 10.54 | 110.02 | 105.80 |
| 26 | 14 | 2362 | G | C5-C6-O6 | -10.53 | 122.28 | 128.60 |
| 26 | 14 | 2778 | A | O5'-P-OP2 | -10.53 | 96.22 | 105.70 |
| 26 | 1H | 1402 | C | C5-C4-N4 | -10.53 | 112.83 | 120.20 |
| 26 | 1H | 1698 | A | N7-C8-N9 | 10.53 | 119.06 | 113.80 |
| 26 | 14 | 189 | G | C8-N9-C4 | 10.53 | 110.61 | 106.40 |
| 26 | 14 | 703 | U | C5-C4-O4 | 10.53 | 132.22 | 125.90 |
| 25 | 4K | 19 | A | N1-C6-N6 | 10.53 | 124.92 | 118.60 |
| 26 | 1H | 1814 | G | OP1-P-OP2 | 10.53 | 135.39 | 119.60 |
| 1 | 1G | 584 | G | N1-C6-O6 | 10.53 | 126.22 | 119.90 |
| 26 | 1H | 482 | A | C8-N9-C4 | -10.52 | 101.59 | 105.80 |
| 26 | 1H | 298 | G | C5-C6-O6 | -10.52 | 122.29 | 128.60 |
| 26 | 14 | 1695 | G | C5-C6-N1 | -10.52 | 106.24 | 111.50 |
| 26 | 14 | 270 | A | C2-N3-C4 | -10.52 | 105.34 | 110.60 |
| 26 | 1H | 2494 | G | O5'-P-OP1 | -10.52 | 96.24 | 105.70 |
| 27 | 1J | 55 | U | O5'-P-OP1 | -10.52 | 96.23 | 105.70 |
| 1 | 13 | 112 | G | C5-C6-O6 | -10.51 | 122.29 | 128.60 |
| 1 | 13 | 538 | G | C8-N9-C4 | 10.51 | 110.61 | 106.40 |
| 1 | 13 | 664 | G | O5'-P-OP2 | -10.51 | 96.24 | 105.70 |
| 26 | 14 | 1029 | A | O5'-P-OP2 | -10.51 | 96.24 | 105.70 |
| 26 | 14 | 2240 | C | N3-C4-C5 | -10.51 | 117.69 | 121.90 |
| 26 | 1H | 2053 | G | C2-N3-C4 | 10.51 | 117.16 | 111.90 |
| 26 | 1H | 2639 | A | C4-C5-N7 | 10.51 | 115.96 | 110.70 |
| 26 | 14 | 613 | U | N3-C2-O2 | -10.51 | 114.84 | 122.20 |
| 26 | 14 | 2386 | C | C2-N3-C4 | -10.51 | 114.64 | 119.90 |
| 26 | 14 | 2722 | G | C5-C6-O6 | -10.51 | 122.29 | 128.60 |
| 26 | 1H | 2688 | U | C2-N3-C4 | -10.50 | 120.70 | 127.00 |
| 27 | 16 | 98 | G | N9-C4-C5 | -10.50 | 101.20 | 105.40 |
| 26 | 14 | 1332 | G | C5-C6-N1 | -10.50 | 106.25 | 111.50 |
| 26 | 1H | 2295 | C | OP1-P-OP2 | -10.50 | 103.85 | 119.60 |
| 26 | 1H | 2296 | U | N3-C2-O2 | 10.50 | 129.55 | 122.20 |
| 1 | 13 | 406 | G | O5'-P-OP1 | -10.50 | 96.25 | 105.70 |
| 26 | 1H | 1254 | A | C5-C6-N6 | -10.50 | 115.30 | 123.70 |
| 26 | 1H | 534 | U | OP2-P-O3' | 10.50 | 128.29 | 105.20 |
| 26 | 1H | 568 | U | C5-C6-N1 | -10.50 | 117.45 | 122.70 |
| 26 | 1H | 2525 | G | N9-C4-C5 | -10.50 | 101.20 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 51 | G | O5'-P-OP1 | -10.49 | 96.26 | 105.70 |
| 26 | 1H | 203 | C | N3-C4-N4 | 10.49 | 125.34 | 118.00 |
| 26 | 1H | 581 | C | N3-C4-C5 | -10.49 | 117.70 | 121.90 |
| 26 | 1H | 2002 | G | C6-N1-C2 | -10.49 | 118.81 | 125.10 |
| 26 | 1H | 1786 | A | C6-N1-C2 | 10.49 | 124.89 | 118.60 |
| 26 | 1H | 212 | G | C8-N9-C4 | 10.49 | 110.59 | 106.40 |
| 26 | 1H | 389 | G | N7-C8-N9 | -10.48 | 107.86 | 113.10 |
| 26 | 1H | 1672 | C | N3-C2-O2 | 10.48 | 129.24 | 121.90 |
| 26 | 1H | 46 | C | C6-N1-C2 | -10.48 | 116.11 | 120.30 |
| 26 | 1H | 2435 | A | C5-C6-N6 | 10.48 | 132.09 | 123.70 |
| 26 | 14 | 1138 | G | C4-C5-N7 | 10.48 | 114.99 | 110.80 |
| 26 | 1H | 2707 | G | C5-C6-O6 | -10.48 | 122.31 | 128.60 |
| 26 | 14 | 2584 | U | O5'-P-OP1 | 10.48 | 123.28 | 110.70 |
| 26 | 1H | 296 | C | C5-C6-N1 | -10.48 | 115.76 | 121.00 |
| 26 | 1H | 2358 | G | C5-C6-O6 | 10.48 | 134.89 | 128.60 |
| 26 | 14 | 681 | G | N1-C2-N3 | 10.48 | 130.19 | 123.90 |
| 26 | 14 | 774 | A | N3-C4-N9 | -10.48 | 119.02 | 127.40 |
| 26 | 14 | 2625 | G | N1-C6-O6 | 10.48 | 126.19 | 119.90 |
| 26 | 14 | 2818 | G | N9-C4-C5 | -10.48 | 101.21 | 105.40 |
| 26 | 1H | 1899 | G | C5-C6-N1 | -10.47 | 106.26 | 111.50 |
| 26 | 1H | 2490 | G | C4-C5-N7 | 10.47 | 114.99 | 110.80 |
| 26 | 1H | 2577 | A | C5-C6-N6 | 10.47 | 132.08 | 123.70 |
| 27 | 16 | 74 | U | C5-C4-O4 | 10.47 | 132.19 | 125.90 |
| 26 | 14 | 2441 | C | N3-C4-C5 | 10.47 | 126.09 | 121.90 |
| 26 | 14 | 2615 | U | C5-C4-O4 | -10.47 | 119.62 | 125.90 |
| 26 | 1H | 1402 | C | C4-C5-C6 | -10.47 | 112.17 | 117.40 |
| 26 | 1H | 775 | G | N1-C2-N3 | 10.47 | 130.18 | 123.90 |
| 26 | 1H | 2689 | U | C2-N1-C1' | -10.47 | 105.14 | 117.70 |
| 26 | 14 | 2688 | U | N3-C2-O2 | -10.47 | 114.87 | 122.20 |
| 1 | 13 | 377 | G | N7-C8-N9 | -10.47 | 107.87 | 113.10 |
| 26 | 14 | 460 | A | N1-C6-N6 | 10.47 | 124.88 | 118.60 |
| 26 | 1H | 220 | G | OP1-P-OP2 | -10.47 | 103.90 | 119.60 |
| 26 | 1H | 243 | U | N1-C2-O2 | 10.47 | 130.13 | 122.80 |
| 26 | 1H | 573 | G | C2-N3-C4 | 10.46 | 117.13 | 111.90 |
| 26 | 1H | 942 | G | N3-C4-N9 | -10.47 | 119.72 | 126.00 |
| 26 | 1H | 797 | C | C2-N3-C4 | -10.46 | 114.67 | 119.90 |
| 26 | 1H | 2299 | G | C2-N3-C4 | -10.46 | 106.67 | 111.90 |
| 26 | 14 | 252 | G | O5'-P-OP1 | 10.46 | 123.26 | 110.70 |
| 26 | 14 | 679 | C | N1-C2-O2 | -10.46 | 112.62 | 118.90 |
| 26 | 1H | 772 | C | C6-N1-C2 | 10.46 | 124.48 | 120.30 |
| 1 | 1G | 416 | G | N1-C6-O6 | 10.46 | 126.18 | 119.90 |
| 26 | 14 | 2502 | G | N3-C2-N2 | -10.46 | 112.58 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 133 | C | C5-C6-N1 | -10.46 | 115.77 | 121.00 |
| 26 | 1H | 207 | A | C5-C6-N6 | -10.46 | 115.33 | 123.70 |
| 1 | 1G | 873 | A | N1-C6-N6 | -10.46 | 112.32 | 118.60 |
| 26 | 14 | 459 | U | O5'-P-OP2 | -10.46 | 96.29 | 105.70 |
| 26 | 1H | 207 | A | N1-C6-N6 | 10.46 | 124.88 | 118.60 |
| 26 | 14 | 704 | G | C2-N3-C4 | -10.46 | 106.67 | 111.90 |
| 26 | 1H | 576 | U | N3-C2-O2 | 10.46 | 129.52 | 122.20 |
| 1 | 13 | 1519 | A | C5-C6-N6 | 10.46 | 132.06 | 123.70 |
| 1 | 13 | 1276 | G | O5'-P-OP1 | -10.45 | 96.29 | 105.70 |
| 26 | 1H | 141 | A | C4-C5-N7 | 10.46 | 115.93 | 110.70 |
| 26 | 14 | 1998 | G | C2-N3-C4 | -10.46 | 106.67 | 111.90 |
| 26 | 1H | 1382 | G | O5'-P-OP1 | 10.45 | 123.25 | 110.70 |
| 26 | 14 | 871 | U | O5'-P-OP2 | 10.45 | 123.25 | 110.70 |
| 26 | 1H | 776 | G | N9-C4-C5 | 10.45 | 109.58 | 105.40 |
| 26 | 1H | 1680 | U | C5-C4-O4 | -10.45 | 119.63 | 125.90 |
| 26 | 1H | 2764 | A | C2-N3-C4 | -10.45 | 105.38 | 110.60 |
| 26 | 1H | 2330 | G | C6-C5-N7 | -10.45 | 124.13 | 130.40 |
| 26 | 14 | 1951 | U | C5-C6-N1 | 10.45 | 127.92 | 122.70 |
| 26 | 1H | 330 | A | N7-C8-N9 | 10.45 | 119.02 | 113.80 |
| 26 | 1H | 2779 | U | N1-C2-N3 | 10.45 | 121.17 | 114.90 |
| 26 | 14 | 2581 | G | N1-C2-N3 | 10.45 | 130.17 | 123.90 |
| 26 | 14 | 37 | C | C6-N1-C2 | -10.45 | 116.12 | 120.30 |
| 26 | 14 | 1688 | U | N1-C2-O2 | -10.44 | 115.49 | 122.80 |
| 26 | 14 | 2854 | G | C8-N9-C4 | -10.44 | 102.22 | 106.40 |
| 1 | 13 | 768 | A | N1-C2-N3 | 10.44 | 134.52 | 129.30 |
| 1 | 13 | 1502 | A | O5'-P-OP2 | -10.44 | 96.31 | 105.70 |
| 26 | 1H | 2286 | A | O5'-P-OP1 | 10.44 | 123.23 | 110.70 |
| 26 | 1H | 1310 | G | O5'-P-OP2 | 10.43 | 123.22 | 110.70 |
| 26 | 14 | 565 | C | C6-N1-C2 | 10.43 | 124.47 | 120.30 |
| 26 | 1H | 758 | C | N3-C4-N4 | -10.43 | 110.70 | 118.00 |
| 26 | 1H | 1993 | U | N1-C2-O2 | -10.43 | 115.50 | 122.80 |
| 26 | 14 | 1629 | U | C2-N3-C4 | 10.43 | 133.26 | 127.00 |
| 1 | 13 | 1381 | U | N3-C2-O2 | -10.43 | 114.90 | 122.20 |
| 26 | 1H | 1760 | A | C8-N9-C4 | -10.43 | 101.63 | 105.80 |
| 26 | 1H | 2392 | A | C6-C5-N7 | -10.43 | 125.00 | 132.30 |
| 26 | 14 | 414 | C | N3-C2-O2 | -10.43 | 114.60 | 121.90 |
| 26 | 14 | 1688 | U | N1-C2-N3 | 10.43 | 121.16 | 114.90 |
| 26 | 1H | 1955 | U | C2-N3-C4 | -10.43 | 120.74 | 127.00 |
| 26 | 14 | 2281 | C | C5-C4-N4 | -10.43 | 112.90 | 120.20 |
| 26 | 14 | 2333 | A | N7-C8-N9 | -10.43 | 108.59 | 113.80 |
| 26 | 14 | 2549 | G | C5-C6-N1 | -10.43 | 106.29 | 111.50 |
| 26 | 14 | 2426 | A | N1-C6-N6 | 10.42 | 124.85 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 1 | 1G | 231 | G | C5-C6-N1 | -10.42 | 106.29 | 111.50 |
| 26 | 1H | 2265 | U | O5'-P-OP1 | -10.42 | 96.32 | 105.70 |
| 1 | 13 | 346 | G | C5-N7-C8 | -10.42 | 99.09 | 104.30 |
| 1 | 13 | 762 | C | C6-N1-C2 | 10.42 | 124.47 | 120.30 |
| 26 | 14 | 1789 | A | C6-N1-C2 | -10.42 | 112.35 | 118.60 |
| 26 | 1H | 999 | U | C5-C4-O4 | 10.41 | 132.15 | 125.90 |
| 26 | 1H | 2491 | U | C4-C5-C6 | -10.41 | 113.45 | 119.70 |
| 1 | 1G | 305 | G | N1-C6-O6 | -10.41 | 113.65 | 119.90 |
| 26 | 14 | 1251 | C | OP1-P-OP2 | 10.41 | 135.22 | 119.60 |
| 1 | 1G | 219 | C | C6-N1-C2 | -10.41 | 116.14 | 120.30 |
| 26 | 14 | 1496 | A | C6-C5-N7 | -10.41 | 125.01 | 132.30 |
| 26 | 1H | 2083 | G | C5-C6-N1 | -10.41 | 106.30 | 111.50 |
| 26 | 14 | 1806 | C | O5'-P-OP2 | -10.41 | 96.33 | 105.70 |
| 1 | 13 | 954 | G | N1-C6-O6 | 10.40 | 126.14 | 119.90 |
| 26 | 1H | 1249 | U | N1-C2-O2 | -10.40 | 115.52 | 122.80 |
| 27 | 16 | 71 | C | N3-C4-C5 | -10.40 | 117.74 | 121.90 |
| 26 | 14 | 793 | A | C2-N3-C4 | -10.40 | 105.40 | 110.60 |
| 26 | 1H | 916 | G | O5'-P-OP2 | 10.40 | 123.18 | 110.70 |
| 26 | 1H | 1840 | G | C2-N3-C4 | -10.40 | 106.70 | 111.90 |
| 26 | 1H | 2429 | G | OP1-P-OP2 | -10.40 | 104.00 | 119.60 |
| 26 | 1H | 2554 | U | C5-C4-O4 | -10.40 | 119.66 | 125.90 |
| 1 | 1G | 284 | G | N1-C6-O6 | 10.40 | 126.14 | 119.90 |
| 26 | 14 | 1780 | A | N1-C6-N6 | -10.40 | 112.36 | 118.60 |
| 26 | 14 | 2365 | G | N3-C4-N9 | 10.40 | 132.24 | 126.00 |
| 1 | 13 | 1126 | U | N3-C2-O2 | -10.40 | 114.92 | 122.20 |
| 1 | 1G | 442 | C | C6-N1-C2 | -10.40 | 116.14 | 120.30 |
| 26 | 14 | 1977 | A | N1-C6-N6 | -10.40 | 112.36 | 118.60 |
| 26 | 1H | 1313 | U | C4-C5-C6 | 10.40 | 125.94 | 119.70 |
| 26 | 14 | 1790 | C | C2-N3-C4 | -10.40 | 114.70 | 119.90 |
| 26 | 1H | 2240 | C | N3-C2-O2 | 10.39 | 129.18 | 121.90 |
| 26 | 1H | 132 | G | C2-N3-C4 | -10.39 | 106.70 | 111.90 |
| 26 | 1H | 1324 | G | N1-C2-N2 | 10.39 | 125.55 | 116.20 |
| 26 | 1H | 1669 | A | N7-C8-N9 | 10.39 | 119.00 | 113.80 |
| 26 | 14 | 116 | C | C6-N1-C2 | -10.39 | 116.14 | 120.30 |
| 26 | 14 | 1648 | C | N3-C4-C5 | -10.39 | 117.74 | 121.90 |
| 26 | 14 | 2782 | G | N1-C6-O6 | 10.39 | 126.13 | 119.90 |
| 26 | 1H | 968 | G | C5-C6-O6 | 10.39 | 134.83 | 128.60 |
| 26 | 1H | 1553 | A | C5-N7-C8 | 10.39 | 109.09 | 103.90 |
| 1 | 1G | 519 | C | C6-N1-C2 | 10.39 | 124.46 | 120.30 |
| 26 | 1H | 1926 | U | O5'-P-OP2 | -10.39 | 96.35 | 105.70 |
| 26 | 1H | 74 | A | C5-C6-N1 | -10.38 | 112.51 | 117.70 |
| 1 | 13 | 529 | G | N1-C6-O6 | 10.38 | 126.13 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|--------|-------------|----------|
| 26 | 1H | 576 | U | C5-C6-N1 | -10.38 | 117.51 | 122.70 |
| 26 | 14 | 71 | A | C2-N3-C4 | -10.38 | 105.41 | 110.60 |
| 26 | 14 | 2713 | A | C5-N7-C8 | -10.38 | 98.71 | 103.90 |
| 26 | 14 | 225 | A | C8-N9-C4 | 10.37 | 109.95 | 105.80 |
| 26 | 1H | 131 | G | C5-C6-O6 | -10.37 | 122.38 | 128.60 |
| 26 | 1H | 1622 | G | N1-C2-N3 | 10.37 | 130.12 | 123.90 |
| 26 | 14 | 89 | G | C8-N9-C4 | 10.37 | 110.55 | 106.40 |
| 26 | 14 | 1853 | A | O5'-P-OP1 | -10.37 | 96.37 | 105.70 |
| 26 | 1H | 386 | G | C6-C5-N7 | -10.37 | 124.18 | 130.40 |
| 26 | 1H | 1128 | A | C8-N9-C4 | -10.37 | 101.65 | 105.80 |
| 26 | 1H | 2572 | A | O5'-P-OP1 | 10.37 | 123.14 | 110.70 |
| 26 | 14 | 1277 | G | N7-C8-N9 | -10.37 | 107.92 | 113.10 |
| 26 | 14 | 829 | A | O5'-P-OP1 | -10.36 | 96.37 | 105.70 |
| 26 | 14 | 1592 | C | N3-C4-C5 | -10.36 | 117.75 | 121.90 |
| 26 | 14 | 974(A) | C | C5-C6-N1 | -10.36 | 115.82 | 121.00 |
| 26 | 14 | 2249 | U | C6-N1-C2 | -10.36 | 114.78 | 121.00 |
| 26 | 1H | 1301 | A | C5-C6-N1 | -10.36 | 112.52 | 117.70 |
| 26 | 1H | 1950 | G | O4'-C1'-N9 | 10.36 | 116.49 | 108.20 |
| 26 | 14 | 492 | A | O5'-P-OP2 | -10.36 | 96.38 | 105.70 |
| 1 | 13 | 1400 | C | N3-C4-N4 | 10.36 | 125.25 | 118.00 |
| 26 | 1H | 938 | G | C8-N9-C4 | 10.36 | 110.54 | 106.40 |
| 1 | 13 | 553 | A | N7-C8-N9 | 10.36 | 118.98 | 113.80 |
| 1 | 13 | 1516 | G | N1-C6-O6 | -10.36 | 113.69 | 119.90 |
| 26 | 1H | 1279 | G | N1-C6-O6 | -10.36 | 113.69 | 119.90 |
| 26 | 14 | 191 | A | N1-C6-N6 | 10.36 | 124.81 | 118.60 |
| 26 | 14 | 1294 | U | N1-C2-O2 | -10.36 | 115.55 | 122.80 |
| 1 | 13 | 1327 | C | C5-C6-N1 | -10.35 | 115.82 | 121.00 |
| 26 | 1H | 1203 | G | N3-C2-N2 | 10.35 | 127.15 | 119.90 |
| 26 | 14 | 2426 | A | N7-C8-N9 | 10.35 | 118.98 | 113.80 |
| 26 | 14 | 324 | A | C5-C6-N6 | 10.35 | 131.98 | 123.70 |
| 26 | 14 | 1200 | C | N3-C4-C5 | -10.35 | 117.76 | 121.90 |
| 26 | 14 | 2430 | A | N3-C4-C5 | 10.35 | 134.04 | 126.80 |
| 26 | 1H | 2593 | U | C5-C6-N1 | 10.35 | 127.87 | 122.70 |
| 1 | 1G | 690 | G | N3-C4-N9 | -10.35 | 119.79 | 126.00 |
| 26 | 14 | 1306 | C | O5'-P-OP1 | -10.35 | 96.39 | 105.70 |
| 26 | 1H | 1003 | G | C5-C6-N1 | -10.34 | 106.33 | 111.50 |
| 26 | 14 | 768 | G | O5'-P-OP2 | -10.34 | 96.39 | 105.70 |
| 26 | 14 | 2332 | U | C5-C6-N1 | -10.34 | 117.53 | 122.70 |
| 1 | 13 | 31 | G | C5-C6-O6 | -10.34 | 122.40 | 128.60 |
| 26 | 1H | 1254 | A | N1-C6-N6 | 10.34 | 124.80 | 118.60 |
| 1 | 13 | 1482 | G | O5'-P-OP2 | -10.34 | 96.39 | 105.70 |
| 27 | 16 | 32 | C | C5-C4-N4 | 10.34 | 127.44 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 563 | G | C4-C5-N7 | 10.34 | 114.94 | 110.80 |
| 26 | 14 | 2326 | C | N3-C4-C5 | -10.34 | 117.76 | 121.90 |
| 26 | 14 | 397 | G | N1-C6-O6 | 10.34 | 126.10 | 119.90 |
| 26 | 14 | 2581 | G | C4-C5-C6 | 10.34 | 125.00 | 118.80 |
| 26 | 14 | 828 | U | C4-C5-C6 | 10.33 | 125.90 | 119.70 |
| 26 | 14 | 2377 | A | C2-N3-C4 | -10.33 | 105.44 | 110.60 |
| 26 | 1H | 1257 | C | C4-C5-C6 | 10.33 | 122.56 | 117.40 |
| 26 | 1H | 2247 | A | C5-C6-N6 | 10.33 | 131.96 | 123.70 |
| 26 | 1H | 1224 | G | C4-C5-C6 | -10.32 | 112.61 | 118.80 |
| 26 | 1H | 1829 | A | N9-C4-C5 | 10.32 | 109.93 | 105.80 |
| 26 | 1H | 2476 | A | N3-C4-C5 | -10.32 | 119.57 | 126.80 |
| 26 | 14 | 2766 | G | C4-C5-N7 | 10.32 | 114.93 | 110.80 |
| 26 | 1H | 593 | G | C2-N3-C4 | -10.32 | 106.74 | 111.90 |
| 26 | 14 | 2593 | U | C4-C5-C6 | 10.32 | 125.89 | 119.70 |
| 26 | 14 | 1787 | A | OP1-P-OP2 | -10.32 | 104.12 | 119.60 |
| 26 | 1H | 1314 | C | N1-C2-O2 | 10.32 | 125.09 | 118.90 |
| 26 | 14 | 747 | U | N1-C2-N3 | -10.32 | 108.71 | 114.90 |
| 26 | 1H | 796 | C | C2-N1-C1' | -10.31 | 107.45 | 118.80 |
| 26 | 1H | 1184 | G | N3-C2-N2 | -10.31 | 112.68 | 119.90 |
| 26 | 1H | 146 | G | C4-C5-N7 | 10.31 | 114.92 | 110.80 |
| 1 | 1G | 1512 | U | O5'-P-OP2 | -10.31 | 96.42 | 105.70 |
| 26 | 14 | 1357 | U | C4-C5-C6 | 10.31 | 125.89 | 119.70 |
| 26 | 14 | 2779 | U | C5-C4-O4 | -10.31 | 119.71 | 125.90 |
| 26 | 1H | 773 | U | C4-C5-C6 | 10.31 | 125.89 | 119.70 |
| 26 | 14 | 2078 | C | O5'-P-OP2 | 10.31 | 123.07 | 110.70 |
| 26 | 14 | 786 | C | C4-C5-C6 | 10.31 | 122.55 | 117.40 |
| 26 | 14 | 1409 | C | O5'-P-OP2 | -10.31 | 96.42 | 105.70 |
| 26 | 14 | 2741 | A | C8-N9-C4 | 10.30 | 109.92 | 105.80 |
| 1 | 13 | 398 | C | N1-C2-O2 | 10.30 | 125.08 | 118.90 |
| 26 | 1H | 2428 | G | C5-C6-O6 | 10.30 | 134.78 | 128.60 |
| 1 | 13 | 582 | U | C5-C6-N1 | -10.30 | 117.55 | 122.70 |
| 26 | 1H | 770 | G | C2-N3-C4 | -10.30 | 106.75 | 111.90 |
| 26 | 1H | 1969 | A | O5'-P-OP1 | -10.30 | 96.43 | 105.70 |
| 27 | 16 | 33 | G | N9-C4-C5 | -10.30 | 101.28 | 105.40 |
| 1 | 1G | 332 | G | C8-N9-C4 | 10.30 | 110.52 | 106.40 |
| 1 | 1G | 232 | G | C6-C5-N7 | -10.30 | 124.22 | 130.40 |
| 26 | 14 | 922 | U | O5'-P-OP1 | -10.30 | 96.43 | 105.70 |
| 26 | 1H | 676 | A | C8-N9-C4 | -10.30 | 101.68 | 105.80 |
| 26 | 1H | 747 | U | O5'-P-OP1 | -10.30 | 96.43 | 105.70 |
| 26 | 1H | 805 | G | C8-N9-C4 | 10.30 | 110.52 | 106.40 |
| 26 | 1H | 832 | G | O5'-P-OP2 | -10.29 | 96.44 | 105.70 |
| 1 | 1G | 1474 | G | C5-C6-N1 | -10.29 | 106.35 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 1334 | G | N3-C2-N2 | -10.29 | 112.69 | 119.90 |
| 26 | 1H | 501 | A | N1-C6-N6 | -10.29 | 112.42 | 118.60 |
| 26 | 1H | 503 | A | C8-N9-C4 | 10.29 | 109.92 | 105.80 |
| 26 | 1H | 1238 | G | N1-C6-O6 | -10.29 | 113.72 | 119.90 |
| 26 | 1H | 1931 | U | C4-C5-C6 | 10.29 | 125.88 | 119.70 |
| 26 | 1H | 2329 | G | N7-C8-N9 | -10.29 | 107.95 | 113.10 |
| 26 | 14 | 1953 | A | O5'-P-OP2 | 10.29 | 123.05 | 110.70 |
| 1 | 13 | 1338 | G | N1-C6-O6 | -10.29 | 113.73 | 119.90 |
| 26 | 1H | 777 | A | N1-C2-N3 | 10.29 | 134.44 | 129.30 |
| 26 | 14 | 1355 | G | C8-N9-C4 | -10.28 | 102.29 | 106.40 |
| 1 | 1G | 326 | G | C5-C6-N1 | -10.28 | 106.36 | 111.50 |
| 26 | 14 | 179 | G | C5-C6-O6 | -10.28 | 122.43 | 128.60 |
| 1 | 1G | 816 | A | C8-N9-C4 | -10.28 | 101.69 | 105.80 |
| 1 | 13 | 890 | G | N1-C6-O6 | -10.28 | 113.73 | 119.90 |
| 1 | 13 | 1485 | U | C5-C4-O4 | 10.28 | 132.07 | 125.90 |
| 1 | 13 | 1486 | G | N3-C4-C5 | 10.28 | 133.74 | 128.60 |
| 26 | 14 | 2352 | A | N1-C2-N3 | 10.27 | 134.44 | 129.30 |
| 26 | 14 | 2394 | C | C6-N1-C2 | 10.27 | 124.41 | 120.30 |
| 26 | 1H | 306 | U | N1-C2-N3 | 10.27 | 121.06 | 114.90 |
| 26 | 1H | 528 | A | N3-C4-C5 | 10.27 | 133.99 | 126.80 |
| 26 | 1H | 973 | A | C2-N3-C4 | -10.27 | 105.47 | 110.60 |
| 26 | 14 | 913 | U | O5'-P-OP2 | -10.27 | 96.46 | 105.70 |
| 26 | 14 | 1935 | G | O5'-P-OP1 | 10.27 | 123.02 | 110.70 |
| 26 | 14 | 1945 | G | N1-C6-O6 | -10.27 | 113.74 | 119.90 |
| 26 | 1H | 2584 | U | C4-C5-C6 | 10.26 | 125.86 | 119.70 |
| 1 | 13 | 1462 | G | O5'-P-OP2 | -10.26 | 96.47 | 105.70 |
| 26 | 1H | 763 | G | C2-N3-C4 | -10.26 | 106.77 | 111.90 |
| 26 | 1H | 514 | A | C6-N1-C2 | -10.26 | 112.45 | 118.60 |
| 26 | 1H | 735 | A | C2-N3-C4 | -10.26 | 105.47 | 110.60 |
| 26 | 1H | 915 | C | C2-N3-C4 | 10.26 | 125.03 | 119.90 |
| 1 | 1G | 1060 | C | C6-N1-C2 | -10.26 | 116.20 | 120.30 |
| 1 | 13 | 893 | C | N1-C2-O2 | 10.26 | 125.05 | 118.90 |
| 26 | 14 | 843 | G | N1-C6-O6 | 10.26 | 126.05 | 119.90 |
| 26 | 1H | 955 | C | C4-C5-C6 | 10.25 | 122.53 | 117.40 |
| 26 | 1H | 1630 | G | C5-C6-N1 | 10.25 | 116.63 | 111.50 |
| 26 | 1H | 2392 | A | C4-C5-N7 | 10.25 | 115.83 | 110.70 |
| 26 | 1H | 2674 | G | N1-C2-N3 | 10.25 | 130.05 | 123.90 |
| 26 | 1H | 691 | C | C5-C4-N4 | -10.25 | 113.03 | 120.20 |
| 26 | 1H | 2226 | C | N3-C4-C5 | 10.25 | 126.00 | 121.90 |
| 26 | 14 | 1496 | A | C4-C5-N7 | 10.25 | 115.83 | 110.70 |
| 1 | 13 | 555 | C | C6-N1-C2 | -10.25 | 116.20 | 120.30 |
| 26 | 1H | 458 | G | C4-C5-N7 | -10.25 | 106.70 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 2639 | A | C5-N7-C8 | -10.25 | 98.78 | 103.90 |
| 26 | 14 | 728 | G | O5'-P-OP2 | -10.25 | 96.48 | 105.70 |
| 1 | 13 | 319 | G | N9-C4-C5 | -10.24 | 101.30 | 105.40 |
| 26 | 1H | 26 | G | N1-C6-O6 | 10.24 | 126.05 | 119.90 |
| 26 | 1H | 859 | G | C2-N3-C4 | -10.24 | 106.78 | 111.90 |
| 26 | 1H | 2054 | A | N7-C8-N9 | 10.24 | 118.92 | 113.80 |
| 26 | 14 | 690 | G | C5-N7-C8 | 10.24 | 109.42 | 104.30 |
| 26 | 1H | 2619 | C | O5'-P-OP2 | -10.24 | 96.49 | 105.70 |
| 26 | 1H | 2352 | A | O5'-P-OP1 | -10.23 | 96.49 | 105.70 |
| 26 | 14 | 462 | C | C2-N3-C4 | -10.23 | 114.78 | 119.90 |
| 26 | 14 | 2033 | A | OP1-P-OP2 | 10.23 | 134.95 | 119.60 |
| 26 | 1H | 487 | C | O5'-P-OP1 | -10.23 | 96.49 | 105.70 |
| 1 | 13 | 267 | C | O5'-P-OP1 | -10.23 | 96.49 | 105.70 |
| 26 | 14 | 1925 | C | C6-N1-C2 | -10.23 | 116.21 | 120.30 |
| 26 | 1H | 710 | G | C8-N9-C4 | -10.23 | 102.31 | 106.40 |
| 26 | 1H | 796 | C | C5-C6-N1 | -10.23 | 115.89 | 121.00 |
| 26 | 1H | 2441 | C | N3-C2-O2 | -10.23 | 114.74 | 121.90 |
| 27 | 16 | 101 | A | C8-N9-C4 | 10.23 | 109.89 | 105.80 |
| 26 | 1H | 2593 | U | N3-C4-C5 | -10.23 | 108.46 | 114.60 |
| 1 | 1G | 236 | G | C5-C6-N1 | -10.23 | 106.39 | 111.50 |
| 26 | 14 | 558 | G | C8-N9-C4 | 10.23 | 110.49 | 106.40 |
| 26 | 14 | 1655 | A | N7-C8-N9 | -10.22 | 108.69 | 113.80 |
| 26 | 14 | 1694 | C | C6-N1-C2 | 10.22 | 124.39 | 120.30 |
| 26 | 14 | 2440 | C | C6-N1-C2 | 10.22 | 124.39 | 120.30 |
| 1 | 13 | 581 | G | C4-C5-N7 | 10.22 | 114.89 | 110.80 |
| 26 | 14 | 1195 | G | N1-C6-O6 | -10.22 | 113.77 | 119.90 |
| 26 | 14 | 1616 | A | C6-C5-N7 | -10.22 | 125.15 | 132.30 |
| 1 | 13 | 945 | G | O5'-P-OP2 | -10.22 | 96.50 | 105.70 |
| 26 | 1H | 199 | A | C4-C5-C6 | -10.22 | 111.89 | 117.00 |
| 26 | 1H | 613 | U | N3-C4-O4 | -10.22 | 112.25 | 119.40 |
| 26 | 1H | 1765 | C | C5-C6-N1 | -10.22 | 115.89 | 121.00 |
| 1 | 1G | 108 | G | C5-C6-O6 | -10.22 | 122.47 | 128.60 |
| 26 | 14 | 179 | G | C8-N9-C4 | 10.22 | 110.49 | 106.40 |
| 26 | 1H | 2311 | A | C8-N9-C4 | -10.22 | 101.71 | 105.80 |
| 1 | 13 | 1404 | C | N3-C4-N4 | -10.21 | 110.85 | 118.00 |
| 26 | 1H | 2040 | C | O5'-P-OP1 | -10.21 | 96.51 | 105.70 |
| 26 | 1H | 627 | A | C8-N9-C4 | 10.21 | 109.88 | 105.80 |
| 1 | 1G | 311 | C | N3-C4-N4 | 10.21 | 125.14 | 118.00 |
| 1 | 13 | 909 | A | C8-N9-C4 | 10.20 | 109.88 | 105.80 |
| 26 | 1H | 2722 | G | C5-C6-N1 | 10.20 | 116.60 | 111.50 |
| 27 | 16 | 33 | G | C8-N9-C4 | 10.20 | 110.48 | 106.40 |
| 26 | 14 | 464 | U | N1-C2-N3 | 10.20 | 121.02 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 14 | 1309 | G | N3-C2-N2 | -10.20 | 112.76 | 119.90 |
| 26 | 14 | 308 | G | N1-C6-O6 | 10.20 | 126.02 | 119.90 |
| 26 | 14 | 400 | G | C6-C5-N7 | -10.20 | 124.28 | 130.40 |
| 26 | 14 | 2229 | C | N1-C2-O2 | -10.20 | 112.78 | 118.90 |
| 1 | 13 | 394 | G | C5-C6-N1 | -10.20 | 106.40 | 111.50 |
| 26 | 1H | 788 | A | C5-C6-N1 | -10.20 | 112.60 | 117.70 |
| 1 | 1G | 585 | G | N1-C6-O6 | -10.20 | 113.78 | 119.90 |
| 26 | 14 | 2728 | U | N1-C2-O2 | -10.20 | 115.66 | 122.80 |
| 26 | 1H | 684 | G | OP2-P-O3' | 10.19 | 127.62 | 105.20 |
| 26 | 1H | 1339 | G | O5'-P-OP2 | 10.19 | 122.93 | 110.70 |
| 27 | 16 | 115 | G | N9-C4-C5 | -10.19 | 101.32 | 105.40 |
| 26 | 14 | 74 | A | N7-C8-N9 | 10.19 | 118.90 | 113.80 |
| 26 | 14 | 1278 | A | N1-C6-N6 | -10.19 | 112.49 | 118.60 |
| 1 | 13 | 405 | U | C5-C6-N1 | 10.19 | 127.80 | 122.70 |
| 1 | 13 | 884 | U | O5'-P-OP2 | -10.19 | 96.53 | 105.70 |
| 26 | 1H | 625 | G | C5-C6-N1 | 10.19 | 116.59 | 111.50 |
| 26 | 1H | 1802 | A | C6-N1-C2 | -10.19 | 112.49 | 118.60 |
| 26 | 1H | 212 | G | N7-C8-N9 | -10.19 | 108.01 | 113.10 |
| 26 | 14 | 704 | G | N3-C4-C5 | 10.19 | 133.69 | 128.60 |
| 26 | 1H | 871 | U | N3-C4-C5 | -10.19 | 108.49 | 114.60 |
| 26 | 1H | 377 | C | C6-N1-C2 | 10.18 | 124.37 | 120.30 |
| 26 | 1H | 1280 | G | OP1-P-OP2 | -10.18 | 104.33 | 119.60 |
| 26 | 1H | 1158 | C | N3-C2-O2 | -10.18 | 114.78 | 121.90 |
| 26 | 1H | 1843 | C | C5-C6-N1 | -10.18 | 115.91 | 121.00 |
| 26 | 1H | 1936 | A | C5-C6-N6 | -10.18 | 115.56 | 123.70 |
| 26 | 14 | 527 | C | C6-N1-C1' | -10.18 | 108.58 | 120.80 |
| 26 | 14 | 2249 | U | C5-C6-N1 | 10.18 | 127.79 | 122.70 |
| 1 | 13 | 581 | G | C2-N3-C4 | -10.18 | 106.81 | 111.90 |
| 26 | 14 | 1602 | U | C5-C6-N1 | -10.17 | 117.61 | 122.70 |
| 26 | 1H | 514 | A | C5-C6-N1 | 10.17 | 122.78 | 117.70 |
| 1 | 1G | 733 | A | N1-C6-N6 | 10.17 | 124.70 | 118.60 |
| 26 | 14 | 909 | A | C5-C6-N1 | 10.17 | 122.78 | 117.70 |
| 26 | 1H | 919 | G | N1-C2-N3 | 10.17 | 130.00 | 123.90 |
| 1 | 1G | 921 | U | O5'-P-OP1 | 10.17 | 122.90 | 110.70 |
| 26 | 14 | 2586 | C | N3-C4-N4 | 10.17 | 125.12 | 118.00 |
| 26 | 14 | 1602 | U | N3-C4-C5 | -10.17 | 108.50 | 114.60 |
| 26 | 1H | 1516 | U | N3-C4-O4 | -10.16 | 112.28 | 119.40 |
| 1 | 1G | 909 | A | C8-N9-C4 | 10.16 | 109.87 | 105.80 |
| 26 | 14 | 946 | G | C2-N3-C4 | -10.16 | 106.82 | 111.90 |
| 27 | 1J | 98 | G | N1-C6-O6 | 10.16 | 126.00 | 119.90 |
| 26 | 1H | 625 | G | N3-C4-C5 | -10.16 | 123.52 | 128.60 |
| 26 | 14 | 1955 | U | C4-C5-C6 | 10.16 | 125.80 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 425 | G | C5-C6-N1 | 10.16 | 116.58 | 111.50 |
| 26 | 14 | 1373 | A | N7-C8-N9 | -10.16 | 108.72 | 113.80 |
| 26 | 1H | 466 | A | N1-C6-N6 | 10.16 | 124.69 | 118.60 |
| 1 | 1G | 1242 | C | C6-N1-C2 | 10.16 | 124.36 | 120.30 |
| 26 | 14 | 2604 | U | O5'-P-OP1 | -10.16 | 96.56 | 105.70 |
| 1 | 13 | 1356 | G | C8-N9-C4 | -10.15 | 102.34 | 106.40 |
| 26 | 1H | 860 | U | C5-C6-N1 | -10.15 | 117.62 | 122.70 |
| 26 | 1H | 2264 | C | C5-C6-N1 | 10.15 | 126.08 | 121.00 |
| 26 | 14 | 2265 | U | C5-C6-N1 | 10.15 | 127.78 | 122.70 |
| 26 | 14 | 2448 | A | N1-C6-N6 | -10.15 | 112.51 | 118.60 |
| 26 | 14 | 2736 | G | C5-C6-N1 | -10.15 | 106.42 | 111.50 |
| 1 | 13 | 1407 | C | N3-C4-C5 | 10.15 | 125.96 | 121.90 |
| 26 | 1H | 663 | G | C6-C5-N7 | -10.15 | 124.31 | 130.40 |
| 26 | 14 | 2775 | A | O5'-P-OP1 | -10.15 | 96.56 | 105.70 |
| 1 | 13 | 966 | G | C8-N9-C4 | 10.15 | 110.46 | 106.40 |
| 26 | 1H | 744 | G | C8-N9-C4 | -10.15 | 102.34 | 106.40 |
| 26 | 1H | 1376 | C | N3-C4-N4 | 10.15 | 125.10 | 118.00 |
| 26 | 1H | 2324 | C | C6-N1-C2 | 10.15 | 124.36 | 120.30 |
| 26 | 1H | 2690 | C | C6-N1-C2 | -10.15 | 116.24 | 120.30 |
| 27 | 16 | 81 | G | C8-N9-C4 | -10.15 | 102.34 | 106.40 |
| 26 | 14 | 530 | G | N3-C2-N2 | 10.14 | 127.00 | 119.90 |
| 26 | 14 | 1559 | G | C2-N3-C4 | -10.14 | 106.83 | 111.90 |
| 26 | 14 | 1930 | G | C5-N7-C8 | 10.14 | 109.37 | 104.30 |
| 26 | 1H | 801 | G | O5'-P-OP2 | -10.14 | 96.57 | 105.70 |
| 24 | 3K | 76 | A | C5-C6-N1 | -10.14 | 112.63 | 117.70 |
| 26 | 1H | 2871 | C | N3-C4-N4 | -10.14 | 110.90 | 118.00 |
| 27 | 16 | 74 | U | N3-C4-O4 | -10.14 | 112.30 | 119.40 |
| 26 | 14 | 998 | C | N1-C2-O2 | 10.14 | 124.98 | 118.90 |
| 26 | 14 | 2337 | G | N7-C8-N9 | 10.14 | 118.17 | 113.10 |
| 26 | 1H | 760 | G | N3-C2-N2 | -10.14 | 112.80 | 119.90 |
| 26 | 1H | 2436 | G | C4-C5-N7 | -10.14 | 106.75 | 110.80 |
| 1 | 1G | 304 | U | N3-C4-C5 | -10.14 | 108.52 | 114.60 |
| 27 | 1J | 113 | C | C6-N1-C2 | 10.14 | 124.36 | 120.30 |
| 26 | 1H | 862 | G | C5-C6-O6 | 10.13 | 134.68 | 128.60 |
| 26 | 14 | 827 | U | N1-C2-O2 | -10.13 | 115.71 | 122.80 |
| 26 | 1H | 1595 | G | O5'-P-OP2 | 10.13 | 122.86 | 110.70 |
| 26 | 14 | 2072 | G | O5'-P-OP2 | 10.13 | 122.86 | 110.70 |
| 26 | 1H | 372 | G | N1-C6-O6 | -10.13 | 113.82 | 119.90 |
| 26 | 14 | 84 | A | C8-N9-C4 | 10.13 | 109.85 | 105.80 |
| 26 | 1H | 148 | C | C5-C6-N1 | -10.13 | 115.94 | 121.00 |
| 26 | 14 | 741 | G | N3-C2-N2 | -10.13 | 112.81 | 119.90 |
| 26 | 1H | 1349 | A | O5'-P-OP1 | -10.13 | 96.59 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 2871 | C | C5-C4-N4 | 10.13 | 127.29 | 120.20 |
| 1 | 13 | 581 | G | C6-C5-N7 | -10.13 | 124.33 | 130.40 |
| 26 | 1H | 386 | G | C5-N7-C8 | -10.12 | 99.24 | 104.30 |
| 1 | 13 | 789 | U | C6-N1-C2 | -10.12 | 114.93 | 121.00 |
| 26 | 1H | 528 | A | C5-N7-C8 | -10.12 | 98.84 | 103.90 |
| 26 | 14 | 203 | C | N1-C2-O2 | -10.12 | 112.83 | 118.90 |
| 26 | 14 | 2255 | G | N1-C6-O6 | -10.12 | 113.83 | 119.90 |
| 1 | 13 | 1518 | A | C5-C6-N1 | -10.12 | 112.64 | 117.70 |
| 1 | 13 | 1522 | U | C5-C6-N1 | -10.12 | 117.64 | 122.70 |
| 26 | 1H | 28 | A | C5-C6-N6 | -10.12 | 115.61 | 123.70 |
| 26 | 1H | 528 | A | C2-N3-C4 | -10.12 | 105.54 | 110.60 |
| 26 | 14 | 1892 | C | C6-N1-C2 | -10.12 | 116.25 | 120.30 |
| 26 | 1H | 1204 | A | C2-N3-C4 | -10.11 | 105.54 | 110.60 |
| 26 | 1H | 1818 | U | OP1-P-OP2 | 10.11 | 134.77 | 119.60 |
| 26 | 1H | 381 | G | C8-N9-C4 | 10.11 | 110.44 | 106.40 |
| 26 | 1H | 1274 | A | N7-C8-N9 | 10.11 | 118.86 | 113.80 |
| 26 | 1H | 1290 | C | C6-N1-C2 | 10.11 | 124.34 | 120.30 |
| 26 | 1H | 67 | U | O5'-P-OP2 | 10.10 | 122.82 | 110.70 |
| 26 | 14 | 1965 | C | O5'-P-OP1 | -10.10 | 96.61 | 105.70 |
| 26 | 1H | 345 | A | O5'-P-OP2 | -10.10 | 96.61 | 105.70 |
| 26 | 1H | 2700 | C | C2-N3-C4 | -10.10 | 114.85 | 119.90 |
| 26 | 1H | 259 | G | C5-C6-N1 | -10.10 | 106.45 | 111.50 |
| 26 | 1H | 730 | C | OP1-P-OP2 | -10.10 | 104.45 | 119.60 |
| 26 | 1H | 743 | G | OP1-P-OP2 | 10.10 | 134.75 | 119.60 |
| 26 | 14 | 1761 | C | N1-C2-O2 | -10.10 | 112.84 | 118.90 |
| 26 | 1H | 866 | A | N9-C4-C5 | -10.10 | 101.76 | 105.80 |
| 26 | 14 | 2882 | A | C8-N9-C4 | 10.10 | 109.84 | 105.80 |
| 26 | 1H | 2561 | A | C5-C6-N6 | 10.09 | 131.78 | 123.70 |
| 26 | 1H | 409 | C | C4-C5-C6 | -10.09 | 112.35 | 117.40 |
| 26 | 1H | 481 | G | N1-C6-O6 | 10.09 | 125.95 | 119.90 |
| 26 | 1H | 2070 | G | N9-C4-C5 | -10.09 | 101.36 | 105.40 |
| 26 | 1H | 263 | C | N1-C2-O2 | 10.09 | 124.95 | 118.90 |
| 26 | 1H | 222 | A | C8-N9-C4 | 10.09 | 109.83 | 105.80 |
| 26 | 1H | 1167 | U | N3-C2-O2 | 10.09 | 129.26 | 122.20 |
| 26 | 1H | 2033 | A | N1-C6-N6 | -10.09 | 112.55 | 118.60 |
| 1 | 13 | 1355 | G | N7-C8-N9 | 10.09 | 118.14 | 113.10 |
| 26 | 1H | 1167 | U | N1-C2-O2 | -10.08 | 115.74 | 122.80 |
| 26 | 14 | 678 | C | C6-N1-C2 | 10.08 | 124.33 | 120.30 |
| 26 | 14 | 2688 | U | N3-C4-O4 | -10.08 | 112.34 | 119.40 |
| 26 | 1H | 1950 | G | N3-C2-N2 | 10.08 | 126.96 | 119.90 |
| 26 | 1H | 2439 | A | OP1-P-O3' | 10.08 | 127.37 | 105.20 |
| 1 | 13 | 975 | A | O5'-P-OP1 | -10.08 | 96.63 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 26 | 1H | 872 | A | O5'-P-OP1 | -10.08 | 96.63 | 105.70 |
| 26 | 14 | 543 | C | N1-C2-O2 | 10.08 | 124.95 | 118.90 |
| 26 | 14 | 1966 | A | N1-C2-N3 | 10.07 | 134.34 | 129.30 |
| 26 | 14 | 2818 | G | C4-C5-N7 | 10.07 | 114.83 | 110.80 |
| 26 | 1H | 1759 | A | O5'-P-OP1 | -10.07 | 96.63 | 105.70 |
| 26 | 1H | 584 | C | N3-C2-O2 | 10.07 | 128.95 | 121.90 |
| 26 | 1H | 2019 | A | C5-C6-N6 | -10.07 | 115.64 | 123.70 |
| 26 | 14 | 1594 | G | C8-N9-C4 | -10.07 | 102.37 | 106.40 |
| 26 | 1H | 716 | A | O5'-P-OP1 | -10.07 | 96.64 | 105.70 |
| 26 | 1H | 1677 | A | C5-C6-N1 | -10.07 | 112.67 | 117.70 |
| 26 | 1H | 2556 | C | N3-C4-C5 | 10.07 | 125.93 | 121.90 |
| 1 | 13 | 905 | U | N3-C4-O4 | -10.06 | 112.35 | 119.40 |
| 26 | 1H | 842 | G | N3-C4-N9 | -10.06 | 119.96 | 126.00 |
| 1 | 1G | 1523 | G | C5-C6-N1 | -10.06 | 106.47 | 111.50 |
| 26 | 1H | 127 | A | C4-C5-N7 | 10.06 | 115.73 | 110.70 |
| 26 | 1H | 476 | G | N3-C2-N2 | -10.06 | 112.86 | 119.90 |
| 26 | 1H | 2822 | G | N9-C4-C5 | -10.06 | 101.38 | 105.40 |
| 26 | 14 | 673 | C | N1-C2-O2 | 10.06 | 124.93 | 118.90 |
| 26 | 1H | 831 | G | N7-C8-N9 | -10.06 | 108.07 | 113.10 |
| 26 | 14 | 70 | G | N1-C6-O6 | -10.05 | 113.87 | 119.90 |
| 26 | 14 | 1653 | G | N3-C4-C5 | -10.05 | 123.57 | 128.60 |
| 26 | 1H | 2246 | G | N3-C4-C5 | -10.05 | 123.57 | 128.60 |
| 26 | 1H | 463 | G | C4-C5-N7 | 10.05 | 114.82 | 110.80 |
| 26 | 1H | 1900 | A | C2-N3-C4 | 10.05 | 115.63 | 110.60 |
| 26 | 14 | 500 | G | C5-C6-N1 | -10.05 | 106.47 | 111.50 |
| 26 | 14 | 863 | A | C2-N3-C4 | 10.05 | 115.62 | 110.60 |
| 26 | 14 | 1266 | G | N9-C4-C5 | -10.05 | 101.38 | 105.40 |
| 1 | 13 | 527 | G | C5-C6-O6 | 10.04 | 134.63 | 128.60 |
| 26 | 1H | 633 | A | N1-C6-N6 | 10.04 | 124.63 | 118.60 |
| 26 | 1H | 2561 | A | N9-C4-C5 | 10.04 | 109.82 | 105.80 |
| 1 | 1G | 1471 | G | O5'-P-OP2 | -10.04 | 96.66 | 105.70 |
| 1 | 13 | 326 | G | C4-C5-N7 | -10.04 | 106.78 | 110.80 |
| 26 | 1H | 2346 | A | C5-C6-N1 | -10.04 | 112.68 | 117.70 |
| 1 | 13 | 1504 | G | O5'-P-OP1 | -10.04 | 96.66 | 105.70 |
| 26 | 1H | 620 | G | O5'-P-OP2 | -10.04 | 96.66 | 105.70 |
| 26 | 1H | 623 | G | O5'-P-OP1 | 10.04 | 122.75 | 110.70 |
| 26 | 1H | 1253 | A | C2-N3-C4 | 10.04 | 115.62 | 110.60 |
| 26 | 1H | 1316 | U | N3-C2-O2 | -10.04 | 115.17 | 122.20 |
| 26 | 14 | 795 | C | O5'-P-OP2 | -10.04 | 96.66 | 105.70 |
| 26 | 14 | 1692 | U | N3-C4-O4 | -10.04 | 112.37 | 119.40 |
| 26 | 1H | 128 | C | C2-N3-C4 | -10.04 | 114.88 | 119.90 |
| 26 | 1H | 1390 | U | C5-C4-O4 | 10.04 | 131.92 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 26 | 1H | 1678 | G | N1-C6-O6 | 10.04 | 125.92 | 119.90 |
| 26 | 1H | 1779 | U | C5-C6-N1 | -10.04 | 117.68 | 122.70 |
| 26 | 1H | 2374 | C | N3-C4-C5 | 10.04 | 125.92 | 121.90 |
| 26 | 1H | 2525 | G | O5'-P-OP2 | -10.04 | 96.67 | 105.70 |
| 26 | 14 | 676 | A | O4'-C1'-N9 | 10.04 | 116.23 | 108.20 |
| 26 | 14 | 600 | G | N1-C6-O6 | 10.04 | 125.92 | 119.90 |
| 26 | 14 | 2509 | G | O5'-P-OP1 | -10.03 | 96.67 | 105.70 |
| 26 | 1H | 2432 | A | C2-N3-C4 | -10.03 | 105.58 | 110.60 |
| 26 | 1H | 2555 | U | O5'-P-OP1 | -10.03 | 96.67 | 105.70 |
| 26 | 1H | 2609 | U | C4-C5-C6 | 10.03 | 125.72 | 119.70 |
| 26 | 14 | 2525 | G | C5-C6-N1 | -10.03 | 106.48 | 111.50 |
| 26 | 1H | 127 | A | C8-N9-C4 | 10.03 | 109.81 | 105.80 |
| 26 | 1H | 472 | A | C6-N1-C2 | -10.03 | 112.58 | 118.60 |
| 26 | 1H | 690 | G | C4-C5-N7 | -10.03 | 106.79 | 110.80 |
| 26 | 1H | 1653 | G | N3-C2-N2 | 10.03 | 126.92 | 119.90 |
| 26 | 1H | 2500 | U | N3-C4-C5 | 10.03 | 120.62 | 114.60 |
| 1 | 1G | 883 | C | O5'-P-OP1 | -10.03 | 96.67 | 105.70 |
| 26 | 14 | 936 | C | C6-N1-C2 | 10.03 | 124.31 | 120.30 |
| 26 | 14 | 178 | G | N7-C8-N9 | 10.03 | 118.11 | 113.10 |
| 1 | 13 | 1502 | A | C8-N9-C4 | -10.03 | 101.79 | 105.80 |
| 26 | 1H | 474 | G | N3-C4-N9 | -10.03 | 119.98 | 126.00 |
| 1 | 13 | 1279 | A | N1-C6-N6 | 10.02 | 124.61 | 118.60 |
| 26 | 1H | 328 | U | N1-C2-N3 | 10.02 | 120.91 | 114.90 |
| 26 | 1H | 404 | C | C6-N1-C2 | 10.02 | 124.31 | 120.30 |
| 26 | 1H | 827 | U | O5'-P-OP2 | -10.02 | 96.68 | 105.70 |
| 26 | 1H | 2640 | G | C5-C6-N1 | -10.02 | 106.49 | 111.50 |
| 26 | 14 | 1349 | A | N1-C6-N6 | 10.02 | 124.61 | 118.60 |
| 26 | 14 | 512 | G | O5'-P-OP1 | -10.02 | 96.68 | 105.70 |
| 26 | 14 | 606 | U | C5-C4-O4 | 10.02 | 131.91 | 125.90 |
| 26 | 1H | 140 | A | O4'-C1'-N9 | 10.02 | 116.22 | 108.20 |
| 26 | 1H | 217 | G | C6-C5-N7 | 10.02 | 136.41 | 130.40 |
| 26 | 1H | 57 | C | C5-C4-N4 | 10.02 | 127.21 | 120.20 |
| 26 | 1H | 679 | C | C2-N1-C1' | -10.02 | 107.78 | 118.80 |
| 26 | 1H | 2552 | U | N3-C4-C5 | -10.02 | 108.59 | 114.60 |
| 27 | 16 | 81 | G | C6-C5-N7 | -10.02 | 124.39 | 130.40 |
| 26 | 1H | 464 | U | C4-C5-C6 | 10.01 | 125.71 | 119.70 |
| 26 | 1H | 1618 | A | C5-N7-C8 | -10.01 | 98.89 | 103.90 |
| 26 | 14 | 1977 | A | N9-C4-C5 | 10.01 | 109.81 | 105.80 |
| 26 | 14 | 2224 | G | C5-C6-O6 | -10.01 | 122.59 | 128.60 |
| 26 | 1H | 51 | G | C8-N9-C4 | 10.01 | 110.40 | 106.40 |
| 26 | 1H | 1128 | A | C5-C6-N6 | -10.01 | 115.70 | 123.70 |
| 26 | 1H | 1203 | G | N3-C4-C5 | -10.01 | 123.60 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|--------|-------------|----------|
| 26 | 1H | 2644 | G | N3-C4-N9 | -10.01 | 120.00 | 126.00 |
| 26 | 14 | 691 | C | C4-C5-C6 | 10.01 | 122.40 | 117.40 |
| 1 | 13 | 221 | C | C6-N1-C2 | -10.00 | 116.30 | 120.30 |
| 26 | 1H | 1449(A) | G | C5-C6-O6 | 10.00 | 134.60 | 128.60 |
| 26 | 1H | 2645 | G | C2-N3-C4 | -10.00 | 106.90 | 111.90 |
| 26 | 14 | 327 | G | C5-C6-N1 | -10.00 | 106.50 | 111.50 |
| 26 | 14 | 194 | G | OP1-P-OP2 | -10.00 | 104.60 | 119.60 |
| 26 | 14 | 1332 | G | N1-C6-O6 | 10.00 | 125.90 | 119.90 |
| 26 | 14 | 265 | A | C4-C5-N7 | 10.00 | 115.70 | 110.70 |
| 1 | 13 | 346 | G | C4-C5-N7 | 10.00 | 114.80 | 110.80 |
| 26 | 1H | 2699 | C | N3-C4-C5 | 10.00 | 125.90 | 121.90 |
| 26 | 1H | 2246 | G | C4-C5-N7 | -10.00 | 106.80 | 110.80 |
| 26 | 14 | 571 | A | C6-C5-N7 | -9.99 | 125.30 | 132.30 |
| 1 | 13 | 690 | G | C4-C5-C6 | 9.99 | 124.80 | 118.80 |
| 26 | 14 | 2510 | C | C4-C5-C6 | 9.99 | 122.40 | 117.40 |
| 1 | 13 | 1429 | C | C5-C6-N1 | -9.99 | 116.00 | 121.00 |
| 23 | 2K | 6 | G | N9-C4-C5 | -9.99 | 101.40 | 105.40 |
| 26 | 14 | 1342 | A | C2-N3-C4 | -9.99 | 105.60 | 110.60 |
| 1 | 13 | 528 | C | C6-N1-C2 | 9.99 | 124.30 | 120.30 |
| 26 | 1H | 505 | A | C5-C6-N6 | -9.99 | 115.71 | 123.70 |
| 26 | 14 | 1340 | U | N1-C2-N3 | -9.99 | 108.91 | 114.90 |
| 26 | 1H | 2785 | C | C6-N1-C2 | -9.99 | 116.31 | 120.30 |
| 26 | 1H | 501 | A | C5-C6-N6 | 9.99 | 131.69 | 123.70 |
| 26 | 1H | 2006 | C | N1-C2-N3 | -9.99 | 112.21 | 119.20 |
| 26 | 14 | 1934 | C | N1-C2-O2 | 9.99 | 124.89 | 118.90 |
| 26 | 14 | 1554 | A | N7-C8-N9 | 9.99 | 118.79 | 113.80 |
| 26 | 14 | 2326 | C | C6-N1-C2 | -9.99 | 116.31 | 120.30 |
| 26 | 1H | 1934 | C | C6-N1-C2 | 9.98 | 124.29 | 120.30 |
| 26 | 14 | 2020 | A | N1-C6-N6 | -9.98 | 112.61 | 118.60 |
| 1 | 13 | 1240 | U | N1-C2-N3 | -9.98 | 108.91 | 114.90 |
| 23 | 2K | 69 | C | C6-N1-C2 | 9.98 | 124.29 | 120.30 |
| 26 | 14 | 660 | G | C2-N3-C4 | -9.98 | 106.91 | 111.90 |
| 26 | 14 | 2358 | G | N1-C6-O6 | -9.98 | 113.91 | 119.90 |
| 1 | 13 | 27 | G | C5-C6-O6 | 9.98 | 134.59 | 128.60 |
| 26 | 1H | 138 | G | N1-C2-N3 | -9.98 | 117.91 | 123.90 |
| 26 | 1H | 270(Z) | U | N3-C2-O2 | -9.98 | 115.21 | 122.20 |
| 26 | 14 | 2253 | G | O5'-P-OP2 | -9.98 | 96.72 | 105.70 |
| 26 | 1H | 755 | C | C4-C5-C6 | 9.98 | 122.39 | 117.40 |
| 26 | 14 | 137(A) | G | N1-C6-O6 | 9.98 | 125.89 | 119.90 |
| 26 | 1H | 383 | U | C5-C6-N1 | -9.98 | 117.71 | 122.70 |
| 26 | 1H | 1815 | A | C2-N3-C4 | -9.98 | 105.61 | 110.60 |
| 26 | 14 | 786 | C | C5-C4-N4 | 9.98 | 127.19 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2828 | C | O5'-P-OP2 | -9.98 | 96.72 | 105.70 |
| 26 | 14 | 2779 | U | C6-N1-C1' | -9.98 | 107.23 | 121.20 |
| 1 | 13 | 690 | G | C5-C6-N1 | -9.97 | 106.51 | 111.50 |
| 26 | 1H | 1211 | U | N1-C2-N3 | -9.97 | 108.92 | 114.90 |
| 26 | 1H | 1647 | G | C5-C6-O6 | 9.97 | 134.58 | 128.60 |
| 26 | 14 | 27 | G | O5'-P-OP2 | -9.97 | 96.72 | 105.70 |
| 26 | 14 | 808 | G | C5-C6-O6 | 9.97 | 134.59 | 128.60 |
| 26 | 1H | 59 | U | N3-C4-C5 | -9.97 | 108.62 | 114.60 |
| 26 | 1H | 2063 | C | C6-N1-C2 | 9.97 | 124.29 | 120.30 |
| 26 | 1H | 2263 | C | N3-C4-C5 | -9.97 | 117.91 | 121.90 |
| 26 | 1H | 1189 | A | N1-C6-N6 | 9.96 | 124.58 | 118.60 |
| 26 | 14 | 1359 | A | N1-C2-N3 | -9.97 | 124.32 | 129.30 |
| 26 | 1H | 2737 | G | N3-C4-C5 | 9.96 | 133.58 | 128.60 |
| 27 | 16 | 98 | G | OP1-P-OP2 | 9.96 | 134.55 | 119.60 |
| 26 | 14 | 2084 | C | C5-C4-N4 | -9.96 | 113.22 | 120.20 |
| 26 | 1H | 1640 | C | N3-C4-C5 | 9.96 | 125.89 | 121.90 |
| 26 | 14 | 2286 | A | N1-C6-N6 | 9.96 | 124.58 | 118.60 |
| 26 | 14 | 1404 | C | N1-C2-O2 | 9.96 | 124.88 | 118.90 |
| 26 | 1H | 1210 | A | C8-N9-C4 | -9.96 | 101.82 | 105.80 |
| 26 | 1H | 1286 | A | N1-C2-N3 | 9.96 | 134.28 | 129.30 |
| 26 | 1H | 1965 | C | C4-C5-C6 | -9.96 | 112.42 | 117.40 |
| 27 | 16 | 109 | G | C8-N9-C4 | -9.96 | 102.42 | 106.40 |
| 1 | 1G | 337 | C | C5-C6-N1 | 9.96 | 125.98 | 121.00 |
| 26 | 1H | 1400 | G | O5'-P-OP1 | 9.96 | 122.65 | 110.70 |
| 26 | 1H | 2329 | G | OP1-P-OP2 | 9.95 | 134.53 | 119.60 |
| 26 | 14 | 2079 | U | C4-C5-C6 | 9.95 | 125.67 | 119.70 |
| 26 | 1H | 2373 | G | C4-C5-C6 | 9.95 | 124.77 | 118.80 |
| 26 | 14 | 756 | C | N3-C4-N4 | 9.95 | 124.97 | 118.00 |
| 26 | 14 | 1397 | U | C5-C4-O4 | 9.95 | 131.87 | 125.90 |
| 26 | 14 | 2570 | G | C2-N3-C4 | -9.95 | 106.92 | 111.90 |
| 26 | 14 | 2688 | U | C5-C4-O4 | 9.95 | 131.87 | 125.90 |
| 1 | 13 | 1361 | G | C5-C6-N1 | 9.95 | 116.47 | 111.50 |
| 26 | 1H | 625 | G | C2-N3-C4 | 9.95 | 116.88 | 111.90 |
| 26 | 1H | 936 | C | N3-C4-C5 | 9.95 | 125.88 | 121.90 |
| 26 | 1H | 2665 | A | C2-N3-C4 | -9.95 | 105.63 | 110.60 |
| 1 | 1G | 114 | U | O5'-P-OP2 | -9.95 | 96.75 | 105.70 |
| 26 | 14 | 1681 | G | C5-C6-N1 | -9.95 | 106.53 | 111.50 |
| 26 | 1H | 1379 | A | N1-C6-N6 | 9.95 | 124.57 | 118.60 |
| 26 | 1H | 1691 | C | C6-N1-C2 | -9.95 | 116.32 | 120.30 |
| 23 | 2K | 11 | A | N1-C6-N6 | -9.95 | 112.63 | 118.60 |
| 26 | 1H | 770 | G | N3-C4-C5 | 9.95 | 133.57 | 128.60 |
| 26 | 14 | 1379 | A | C6-C5-N7 | -9.95 | 125.34 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 998 | C | C6-N1-C2 | -9.94 | 116.32 | 120.30 |
| 26 | 1H | 1950 | G | C4-N9-C1' | 9.94 | 139.43 | 126.50 |
| 26 | 14 | 1004 | C | C2-N3-C4 | 9.94 | 124.87 | 119.90 |
| 1 | 13 | 1446 | A | O5'-P-OP1 | 9.94 | 122.63 | 110.70 |
| 26 | 1H | 1446 | C | C5-C6-N1 | 9.94 | 125.97 | 121.00 |
| 26 | 14 | 1302 | A | C5-C6-N6 | 9.94 | 131.66 | 123.70 |
| 26 | 1H | 829 | A | C8-N9-C4 | 9.94 | 109.78 | 105.80 |
| 26 | 1H | 1015 | G | O5'-P-OP1 | 9.94 | 122.63 | 110.70 |
| 27 | 16 | 111 | U | C5-C4-O4 | 9.94 | 131.86 | 125.90 |
| 26 | 14 | 115 | C | C5-C6-N1 | -9.94 | 116.03 | 121.00 |
| 26 | 14 | 678 | C | C2-N3-C4 | -9.94 | 114.93 | 119.90 |
| 26 | 1H | 205 | G | N9-C4-C5 | -9.94 | 101.42 | 105.40 |
| 26 | 1H | 663 | G | N1-C2-N3 | 9.94 | 129.86 | 123.90 |
| 26 | 1H | 871 | U | N1-C2-O2 | -9.94 | 115.84 | 122.80 |
| 26 | 14 | 2092 | U | C4-C5-C6 | 9.94 | 125.66 | 119.70 |
| 26 | 1H | 1264 | G | C5-C6-O6 | 9.93 | 134.56 | 128.60 |
| 26 | 1H | 1941 | C | O5'-P-OP1 | -9.93 | 96.76 | 105.70 |
| 26 | 14 | 879 | G | N3-C4-C5 | -9.93 | 123.63 | 128.60 |
| 26 | 1H | 2721 | A | C2-N3-C4 | -9.93 | 105.63 | 110.60 |
| 1 | 13 | 333 | G | N1-C2-N3 | 9.93 | 129.86 | 123.90 |
| 26 | 1H | 72 | U | C2-N3-C4 | -9.93 | 121.04 | 127.00 |
| 26 | 1H | 2232 | U | C5-C4-O4 | 9.93 | 131.86 | 125.90 |
| 24 | 3K | 29 | U | N3-C2-O2 | -9.93 | 115.25 | 122.20 |
| 26 | 1H | 109 | G | N1-C2-N3 | 9.93 | 129.86 | 123.90 |
| 27 | 16 | 102 | G | C5-C6-O6 | 9.93 | 134.56 | 128.60 |
| 26 | 14 | 579 | G | N3-C2-N2 | -9.93 | 112.95 | 119.90 |
| 26 | 14 | 632 | A | N1-C6-N6 | 9.93 | 124.56 | 118.60 |
| 27 | 1J | 40 | U | N1-C2-O2 | -9.93 | 115.85 | 122.80 |
| 26 | 1H | 270(R) | G | C5-C6-N1 | -9.93 | 106.54 | 111.50 |
| 1 | 13 | 741 | G | OP1-P-OP2 | 9.93 | 134.49 | 119.60 |
| 26 | 1H | 2271 | G | C6-C5-N7 | -9.93 | 124.44 | 130.40 |
| 26 | 14 | 932 | G | C5-C6-O6 | 9.93 | 134.56 | 128.60 |
| 26 | 14 | 1001 | A | N9-C4-C5 | 9.93 | 109.77 | 105.80 |
| 26 | 1H | 2447 | G | C2-N3-C4 | 9.92 | 116.86 | 111.90 |
| 1 | 13 | 523 | A | N9-C4-C5 | -9.92 | 101.83 | 105.80 |
| 26 | 14 | 2755 | C | C2-N1-C1' | 9.92 | 129.71 | 118.80 |
| 26 | 1H | 1752 | C | N3-C2-O2 | 9.92 | 128.84 | 121.90 |
| 26 | 1H | 2698 | U | OP1-P-OP2 | 9.92 | 134.48 | 119.60 |
| 26 | 14 | 2578 | G | N1-C6-O6 | 9.92 | 125.85 | 119.90 |
| 1 | 13 | 305 | G | C8-N9-C4 | 9.92 | 110.37 | 106.40 |
| 26 | 1H | 1311 | G | C2-N3-C4 | -9.92 | 106.94 | 111.90 |
| 26 | 1H | 1554 | A | C4-C5-C6 | 9.92 | 121.96 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2276 | G | C4-C5-N7 | -9.92 | 106.83 | 110.80 |
| 26 | 1H | 1363 | C | N3-C4-N4 | -9.92 | 111.06 | 118.00 |
| 26 | 1H | 2458 | G | C5-C6-O6 | -9.92 | 122.65 | 128.60 |
| 26 | 14 | 1311 | G | C5-C6-O6 | 9.92 | 134.55 | 128.60 |
| 26 | 14 | 1323 | U | N1-C2-O2 | -9.92 | 115.86 | 122.80 |
| 1 | 13 | 690 | G | N1-C2-N3 | 9.91 | 129.85 | 123.90 |
| 26 | 1H | 1262 | A | O5'-P-OP2 | -9.91 | 96.78 | 105.70 |
| 57 | 3L | 34 | U | N1-C2-O2 | 9.91 | 129.74 | 122.80 |
| 26 | 1H | 1311 | G | N1-C6-O6 | 9.91 | 125.85 | 119.90 |
| 26 | 14 | 2021 | C | C6-N1-C2 | -9.91 | 116.33 | 120.30 |
| 26 | 14 | 2321 | G | C8-N9-C4 | -9.91 | 102.43 | 106.40 |
| 26 | 1H | 475 | U | N3-C4-O4 | 9.91 | 126.34 | 119.40 |
| 26 | 1H | 1765 | C | N3-C2-O2 | -9.91 | 114.96 | 121.90 |
| 26 | 14 | 1682 | G | C5-C6-N1 | -9.91 | 106.54 | 111.50 |
| 26 | 1H | 2497 | A | C6-N1-C2 | -9.91 | 112.65 | 118.60 |
| 26 | 1H | 2590 | A | C2-N3-C4 | -9.91 | 105.64 | 110.60 |
| 26 | 1H | 826 | U | N1-C2-O2 | -9.91 | 115.86 | 122.80 |
| 26 | 14 | 985 | C | N1-C2-O2 | 9.91 | 124.84 | 118.90 |
| 1 | 13 | 728 | A | C8-N9-C4 | -9.91 | 101.84 | 105.80 |
| 26 | 1H | 2009 | G | C5-C6-O6 | -9.91 | 122.66 | 128.60 |
| 26 | 1H | 2364 | C | O5'-P-OP1 | 9.91 | 122.59 | 110.70 |
| 31 | 31 | 64 | ILE | CG1-CB-CG2 | -9.91 | 89.61 | 111.40 |
| 57 | 3L | 44 | U | C5-C6-N1 | 9.91 | 127.65 | 122.70 |
| 26 | 14 | 1342 | A | OP1-P-OP2 | -9.91 | 104.74 | 119.60 |
| 26 | 1H | 508 | G | C4-C5-N7 | 9.90 | 114.76 | 110.80 |
| 26 | 1H | 508 | G | O5'-P-OP1 | -9.90 | 96.79 | 105.70 |
| 23 | 2K | 58 | A | O5'-P-OP2 | 9.90 | 122.58 | 110.70 |
| 26 | 1H | 963 | U | O5'-P-OP2 | 9.90 | 122.58 | 110.70 |
| 26 | 1H | 1279 | G | C5-C6-O6 | 9.90 | 134.54 | 128.60 |
| 26 | 1H | 1982 | C | O5'-P-OP1 | -9.90 | 96.79 | 105.70 |
| 26 | 1H | 391 | G | C6-C5-N7 | -9.90 | 124.46 | 130.40 |
| 26 | 1H | 1264 | G | O5'-P-OP1 | -9.90 | 96.79 | 105.70 |
| 25 | 4L | 16 | A | C8-N9-C4 | 9.90 | 109.76 | 105.80 |
| 26 | 14 | 1027 | A | C8-N9-C4 | 9.90 | 109.76 | 105.80 |
| 1 | 13 | 880 | C | N3-C4-C5 | 9.89 | 125.86 | 121.90 |
| 1 | 13 | 977 | A | C5-C6-N6 | 9.89 | 131.62 | 123.70 |
| 26 | 1H | 1993 | U | O5'-P-OP1 | -9.89 | 96.80 | 105.70 |
| 1 | 1G | 906 | G | C5-C6-O6 | -9.89 | 122.66 | 128.60 |
| 1 | 1G | 972 | C | O5'-P-OP2 | -9.89 | 96.80 | 105.70 |
| 26 | 14 | 805 | G | O5'-P-OP1 | -9.89 | 96.80 | 105.70 |
| 1 | 1G | 721 | G | C5-C6-N1 | -9.89 | 106.55 | 111.50 |
| 26 | 14 | 1660 | C | N3-C4-N4 | -9.89 | 111.08 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 599 | G | C5-N7-C8 | 9.89 | 109.25 | 104.30 |
| 26 | 1H | 956 | G | O5'-P-OP2 | -9.89 | 96.80 | 105.70 |
| 26 | 1H | 84 | A | C8-N9-C4 | 9.89 | 109.75 | 105.80 |
| 26 | 1H | 870 | A | OP1-P-O3' | 9.89 | 126.95 | 105.20 |
| 26 | 1H | 194 | G | C8-N9-C4 | 9.88 | 110.35 | 106.40 |
| 26 | 14 | 793 | A | C8-N9-C4 | 9.88 | 109.75 | 105.80 |
| 26 | 14 | 1382 | G | N1-C6-O6 | 9.88 | 125.83 | 119.90 |
| 26 | 14 | 2394 | C | C5-C6-N1 | -9.88 | 116.06 | 121.00 |
| 26 | 14 | 1293 | C | N3-C4-C5 | 9.88 | 125.85 | 121.90 |
| 1 | 13 | 581 | G | N1-C2-N2 | -9.88 | 107.31 | 116.20 |
| 26 | 1H | 2239 | G | C4-C5-N7 | 9.88 | 114.75 | 110.80 |
| 26 | 1H | 1914 | C | N1-C2-N3 | 9.88 | 126.11 | 119.20 |
| 26 | 1H | 2374 | C | O5'-P-OP2 | -9.88 | 96.81 | 105.70 |
| 26 | 14 | 949 | C | N1-C2-O2 | -9.88 | 112.97 | 118.90 |
| 26 | 14 | 1767 | C | N3-C4-N4 | -9.88 | 111.09 | 118.00 |
| 26 | 1H | 209 | C | N3-C4-C5 | 9.88 | 125.85 | 121.90 |
| 26 | 14 | 1347 | G | OP1-P-O3' | 9.88 | 126.93 | 105.20 |
| 26 | 1H | 1325 | G | OP1-P-OP2 | -9.87 | 104.79 | 119.60 |
| 26 | 1H | 2297 | C | OP1-P-OP2 | 9.88 | 134.41 | 119.60 |
| 26 | 1H | 2562 | U | C5-C6-N1 | -9.87 | 117.76 | 122.70 |
| 26 | 14 | 465 | G | C5-C6-O6 | 9.88 | 134.53 | 128.60 |
| 1 | 13 | 1488 | G | N1-C6-O6 | -9.87 | 113.98 | 119.90 |
| 26 | 1H | 508 | G | C5-N7-C8 | -9.87 | 99.36 | 104.30 |
| 26 | 1H | 958 | U | O5'-P-OP1 | -9.87 | 96.82 | 105.70 |
| 26 | 1H | 1610 | A | N9-C4-C5 | -9.87 | 101.85 | 105.80 |
| 26 | 14 | 768 | G | N1-C6-O6 | 9.87 | 125.82 | 119.90 |
| 26 | 14 | 2600 | A | N1-C6-N6 | -9.87 | 112.68 | 118.60 |
| 1 | 13 | 740 | U | OP1-P-OP2 | 9.87 | 134.40 | 119.60 |
| 26 | 1H | 1204 | A | C8-N9-C4 | -9.87 | 101.85 | 105.80 |
| 26 | 1H | 2737 | G | C4-C5-N7 | 9.87 | 114.75 | 110.80 |
| 1 | 13 | 1202 | G | C2-N3-C4 | -9.87 | 106.97 | 111.90 |
| 26 | 1H | 379 | G | C5-C6-N1 | 9.87 | 116.43 | 111.50 |
| 26 | 1H | 1566 | A | O5'-P-OP2 | -9.87 | 96.82 | 105.70 |
| 26 | 1H | 1808 | U | N3-C4-O4 | 9.87 | 126.31 | 119.40 |
| 26 | 1H | 1985 | G | N1-C6-O6 | -9.87 | 113.98 | 119.90 |
| 54 | P8 | 39 | ARG | NE-CZ-NH1 | 9.87 | 125.23 | 120.30 |
| 26 | 1H | 1904 | G | N1-C2-N3 | -9.87 | 117.98 | 123.90 |
| 26 | 1H | 1427 | A | N1-C2-N3 | 9.87 | 134.23 | 129.30 |
| 26 | 1H | 2038 | G | N7-C8-N9 | -9.86 | 108.17 | 113.10 |
| 26 | 14 | 1973 | G | C5-C6-O6 | 9.87 | 134.52 | 128.60 |
| 26 | 14 | 2081 | C | N1-C2-O2 | 9.87 | 124.82 | 118.90 |
| 26 | 14 | 2769 | C | C6-N1-C2 | -9.86 | 116.35 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 13 | 892 | A | N1-C2-N3 | 9.86 | 134.23 | 129.30 |
| 26 | 1H | 344 | G | C2-N3-C4 | 9.86 | 116.83 | 111.90 |
| 26 | 1H | 2677 | G | N7-C8-N9 | -9.86 | 108.17 | 113.10 |
| 26 | 1H | 2028 | U | C4-C5-C6 | 9.86 | 125.62 | 119.70 |
| 26 | 14 | 2495 | G | N3-C4-C5 | 9.86 | 133.53 | 128.60 |
| 26 | 1H | 952 | G | O5'-P-OP2 | 9.86 | 122.53 | 110.70 |
| 26 | 1H | 2002 | G | N3-C2-N2 | -9.86 | 113.00 | 119.90 |
| 26 | 1H | 508 | G | C5-C6-O6 | -9.86 | 122.69 | 128.60 |
| 26 | 1H | 767 | U | O5'-P-OP2 | -9.86 | 96.83 | 105.70 |
| 26 | 14 | 2048 | G | N1-C6-O6 | -9.86 | 113.99 | 119.90 |
| 26 | 1H | 1204 | A | C5-C6-N1 | -9.85 | 112.77 | 117.70 |
| 26 | 1H | 1368 | G | N3-C2-N2 | -9.85 | 113.00 | 119.90 |
| 26 | 1H | 1904 | G | C8-N9-C4 | 9.85 | 110.34 | 106.40 |
| 26 | 1H | 2394 | C | N3-C4-C5 | 9.85 | 125.84 | 121.90 |
| 26 | 14 | 669 | G | N9-C4-C5 | 9.85 | 109.34 | 105.40 |
| 26 | 14 | 2386 | C | C4-C5-C6 | 9.85 | 122.33 | 117.40 |
| 1 | 13 | 60 | A | O5'-P-OP1 | 9.85 | 122.52 | 110.70 |
| 26 | 1H | 74 | A | N1-C6-N6 | 9.85 | 124.51 | 118.60 |
| 26 | 1H | 1693 | U | O5'-P-OP1 | -9.85 | 96.83 | 105.70 |
| 26 | 1H | 739 | G | C8-N9-C4 | 9.85 | 110.34 | 106.40 |
| 26 | 1H | 1828 | G | C2-N3-C4 | -9.85 | 106.98 | 111.90 |
| 26 | 1H | 2713 | A | C4-C5-N7 | 9.85 | 115.62 | 110.70 |
| 26 | 1H | 397 | G | C2-N3-C4 | -9.85 | 106.98 | 111.90 |
| 26 | 1H | 1259 | G | C5-C6-O6 | 9.85 | 134.51 | 128.60 |
| 26 | 14 | 2622 | C | C4-C5-C6 | 9.85 | 122.32 | 117.40 |
| 1 | 13 | 492 | G | C8-N9-C4 | -9.84 | 102.46 | 106.40 |
| 26 | 1H | 1052 | C | C5-C6-N1 | 9.84 | 125.92 | 121.00 |
| 1 | 1G | 858 | G | N1-C6-O6 | 9.84 | 125.81 | 119.90 |
| 26 | 14 | 971 | C | N3-C4-C5 | -9.84 | 117.96 | 121.90 |
| 26 | 1H | 2033 | A | C5-C6-N1 | 9.84 | 122.62 | 117.70 |
| 26 | 14 | 974(A) | C | N1-C2-N3 | 9.84 | 126.09 | 119.20 |
| 1 | 13 | 941 | G | N1-C6-O6 | -9.84 | 114.00 | 119.90 |
| 26 | 1H | 1829 | A | C4-C5-N7 | -9.84 | 105.78 | 110.70 |
| 26 | 14 | 267 | C | N1-C2-O2 | 9.84 | 124.80 | 118.90 |
| 26 | 1H | 1807 | G | N1-C6-O6 | 9.84 | 125.80 | 119.90 |
| 26 | 14 | 478 | A | O5'-P-OP1 | -9.84 | 96.85 | 105.70 |
| 26 | 1H | 1599 | C | N3-C4-C5 | 9.83 | 125.83 | 121.90 |
| 26 | 1H | 2766 | G | C6-C5-N7 | -9.83 | 124.50 | 130.40 |
| 1 | 1G | 413 | G | C6-C5-N7 | 9.83 | 136.30 | 130.40 |
| 26 | 14 | 1135 | C | N1-C2-O2 | 9.83 | 124.80 | 118.90 |
| 1 | 13 | 816 | A | N7-C8-N9 | 9.83 | 118.72 | 113.80 |
| 26 | 14 | 562 | U | C4-C5-C6 | 9.83 | 125.60 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2612 | C | N3-C4-C5 | 9.83 | 125.83 | 121.90 |
| 26 | 14 | 2700 | C | C2-N3-C4 | -9.83 | 114.98 | 119.90 |
| 26 | 14 | 83 | G | C2-N3-C4 | -9.83 | 106.99 | 111.90 |
| 1 | 13 | 781 | A | N1-C6-N6 | 9.82 | 124.49 | 118.60 |
| 26 | 1H | 23 | G | C5-C6-N1 | -9.82 | 106.59 | 111.50 |
| 27 | 16 | 29 | A | OP1-P-OP2 | -9.82 | 104.86 | 119.60 |
| 26 | 14 | 1155 | A | C8-N9-C4 | -9.82 | 101.87 | 105.80 |
| 1 | 13 | 1517 | G | C5-N7-C8 | -9.82 | 99.39 | 104.30 |
| 26 | 1H | 2004 | G | C5-N7-C8 | -9.82 | 99.39 | 104.30 |
| 26 | 1H | 2544 | G | N1-C6-O6 | 9.82 | 125.79 | 119.90 |
| 26 | 14 | 2389 | G | C8-N9-C4 | -9.82 | 102.47 | 106.40 |
| 1 | 13 | 774 | G | C2-N3-C4 | 9.82 | 116.81 | 111.90 |
| 26 | 14 | 1674 | G | C8-N9-C4 | 9.82 | 110.33 | 106.40 |
| 26 | 14 | 2602 | A | N1-C6-N6 | -9.82 | 112.71 | 118.60 |
| 26 | 1H | 120 | U | C4-C5-C6 | 9.82 | 125.59 | 119.70 |
| 1 | 1G | 890 | G | C4-C5-N7 | -9.82 | 106.87 | 110.80 |
| 26 | 14 | 115 | C | C6-N1-C2 | 9.82 | 124.23 | 120.30 |
| 26 | 14 | 829 | A | OP1-P-OP2 | 9.82 | 134.32 | 119.60 |
| 26 | 1H | 98 | G | OP1-P-OP2 | 9.81 | 134.32 | 119.60 |
| 26 | 1H | 196 | A | C5-C6-N1 | -9.81 | 112.79 | 117.70 |
| 26 | 1H | 208 | C | OP1-P-OP2 | 9.81 | 134.32 | 119.60 |
| 26 | 1H | 2609 | U | C5-C6-N1 | -9.81 | 117.79 | 122.70 |
| 26 | 14 | 2006 | C | C6-N1-C2 | 9.81 | 124.23 | 120.30 |
| 26 | 14 | 774 | A | C5-C6-N1 | -9.81 | 112.79 | 117.70 |
| 1 | 13 | 956 | U | N3-C2-O2 | -9.81 | 115.33 | 122.20 |
| 26 | 1H | 1779 | U | C4-C5-C6 | 9.81 | 125.59 | 119.70 |
| 26 | 1H | 1553 | A | C4-C5-N7 | -9.81 | 105.80 | 110.70 |
| 26 | 14 | 488 | G | C5-C6-O6 | -9.81 | 122.71 | 128.60 |
| 26 | 1H | 2726 | U | C5-C4-O4 | 9.81 | 131.78 | 125.90 |
| 26 | 14 | 544 | C | C5-C6-N1 | 9.81 | 125.90 | 121.00 |
| 26 | 14 | 2333 | A | C5-N7-C8 | 9.81 | 108.81 | 103.90 |
| 26 | 1H | 667 | U | N3-C4-O4 | 9.81 | 126.27 | 119.40 |
| 26 | 1H | 1914 | C | C5-C4-N4 | 9.81 | 127.06 | 120.20 |
| 26 | 1H | 2674 | G | N1-C2-N2 | -9.81 | 107.37 | 116.20 |
| 27 | 16 | 100 | G | N7-C8-N9 | -9.81 | 108.20 | 113.10 |
| 1 | 1G | 452 | A | C8-N9-C4 | 9.81 | 109.72 | 105.80 |
| 26 | 14 | 988 | A | O5'-P-OP1 | -9.80 | 96.88 | 105.70 |
| 26 | 14 | 1837 | C | O5'-P-OP2 | 9.80 | 122.46 | 110.70 |
| 26 | 14 | 1559 | G | N3-C4-C5 | 9.80 | 133.50 | 128.60 |
| 26 | 1H | 1599 | C | C6-N1-C2 | 9.80 | 124.22 | 120.30 |
| 1 | 1G | 14 | U | C5-C6-N1 | 9.80 | 127.60 | 122.70 |
| 26 | 14 | 2340 | G | C8-N9-C4 | 9.80 | 110.32 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 66 | C | C2-N3-C4 | 9.80 | 124.80 | 119.90 |
| 26 | 1H | 2000 | G | N1-C6-O6 | 9.80 | 125.78 | 119.90 |
| 26 | 1H | 2824 | C | C6-N1-C2 | 9.80 | 124.22 | 120.30 |
| 26 | 14 | 2766 | G | C6-C5-N7 | -9.80 | 124.52 | 130.40 |
| 26 | 1H | 728 | G | O5'-P-OP2 | -9.80 | 96.88 | 105.70 |
| 26 | 1H | 805 | G | N9-C4-C5 | -9.79 | 101.48 | 105.40 |
| 26 | 1H | 929 | G | O5'-P-OP1 | -9.79 | 96.89 | 105.70 |
| 26 | 14 | 1268 | A | N7-C8-N9 | -9.79 | 108.90 | 113.80 |
| 26 | 1H | 423 | A | C8-N9-C4 | 9.79 | 109.72 | 105.80 |
| 26 | 1H | 950 | G | N3-C4-C5 | -9.79 | 123.70 | 128.60 |
| 26 | 1H | 966 | G | C4-C5-N7 | -9.79 | 106.88 | 110.80 |
| 26 | 1H | 1284 | A | C5-N7-C8 | -9.79 | 99.00 | 103.90 |
| 26 | 1H | 1386 | C | N1-C2-O2 | -9.79 | 113.03 | 118.90 |
| 27 | 16 | 36 | C | C6-N1-C2 | 9.79 | 124.22 | 120.30 |
| 1 | 13 | 251 | G | C5-C6-O6 | -9.79 | 122.73 | 128.60 |
| 1 | 13 | 774 | G | C5-C6-N1 | 9.79 | 116.39 | 111.50 |
| 26 | 1H | 2250 | G | C5-C6-O6 | 9.79 | 134.47 | 128.60 |
| 26 | 1H | 2436 | G | N3-C2-N2 | -9.79 | 113.05 | 119.90 |
| 26 | 14 | 187 | G | C4-C5-N7 | 9.79 | 114.72 | 110.80 |
| 26 | 14 | 2490 | G | C6-N1-C2 | 9.79 | 130.97 | 125.10 |
| 26 | 1H | 2440 | C | C2-N3-C4 | 9.79 | 124.79 | 119.90 |
| 27 | 16 | 11 | C | N1-C2-O2 | 9.79 | 124.77 | 118.90 |
| 26 | 1H | 696 | G | O5'-P-OP2 | 9.78 | 122.44 | 110.70 |
| 26 | 1H | 990 | A | C2-N3-C4 | -9.78 | 105.71 | 110.60 |
| 26 | 14 | 1605 | C | C2-N3-C4 | -9.78 | 115.01 | 119.90 |
| 26 | 14 | 2512 | C | C6-N1-C2 | 9.78 | 124.21 | 120.30 |
| 1 | 13 | 798 | G | C5-C6-N1 | -9.78 | 106.61 | 111.50 |
| 26 | 1H | 203 | C | N1-C2-O2 | -9.78 | 113.03 | 118.90 |
| 26 | 1H | 2819 | G | N3-C2-N2 | -9.78 | 113.06 | 119.90 |
| 1 | 13 | 622 | A | N1-C6-N6 | -9.78 | 112.73 | 118.60 |
| 26 | 1H | 842 | G | N1-C2-N2 | 9.78 | 125.00 | 116.20 |
| 26 | 1H | 1520 | U | N3-C2-O2 | -9.78 | 115.36 | 122.20 |
| 26 | 14 | 1896 | G | O5'-P-OP1 | -9.77 | 96.90 | 105.70 |
| 26 | 14 | 2692 | C | O5'-P-OP1 | -9.77 | 96.90 | 105.70 |
| 1 | 13 | 219 | C | C6-N1-C2 | -9.77 | 116.39 | 120.30 |
| 26 | 1H | 1837 | C | C4-C5-C6 | -9.77 | 112.52 | 117.40 |
| 26 | 1H | 2280 | G | N9-C4-C5 | 9.77 | 109.31 | 105.40 |
| 26 | 14 | 179 | G | N9-C4-C5 | -9.77 | 101.49 | 105.40 |
| 26 | 1H | 1197 | G | C4-C5-N7 | -9.77 | 106.89 | 110.80 |
| 26 | 1H | 2570 | G | N1-C6-O6 | 9.77 | 125.76 | 119.90 |
| 27 | 16 | 87 | G | N3-C4-C5 | 9.77 | 133.48 | 128.60 |
| 26 | 14 | 1276 | A | C5-N7-C8 | -9.77 | 99.02 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 919 | G | C5-C6-O6 | 9.77 | 134.46 | 128.60 |
| 26 | 1H | 2575 | C | N1-C2-N3 | 9.77 | 126.04 | 119.20 |
| 26 | 14 | 471 | A | C2-N3-C4 | -9.77 | 105.72 | 110.60 |
| 26 | 14 | 1244 | G | C5-C6-O6 | -9.77 | 122.74 | 128.60 |
| 26 | 14 | 1762 | A | C5-C6-N1 | -9.77 | 112.82 | 117.70 |
| 26 | 14 | 1610 | A | N1-C6-N6 | 9.76 | 124.46 | 118.60 |
| 1 | 13 | 14 | U | O5'-P-OP1 | -9.76 | 96.92 | 105.70 |
| 26 | 1H | 639 | U | C5-C4-O4 | 9.76 | 131.76 | 125.90 |
| 26 | 1H | 1972 | A | N1-C6-N6 | 9.76 | 124.46 | 118.60 |
| 26 | 14 | 18 | C | N1-C2-O2 | -9.76 | 113.04 | 118.90 |
| 26 | 14 | 2094 | G | O5'-P-OP2 | -9.76 | 96.92 | 105.70 |
| 26 | 14 | 2247 | A | O5'-P-OP1 | -9.76 | 96.92 | 105.70 |
| 23 | 2K | 58 | A | OP1-P-OP2 | -9.76 | 104.97 | 119.60 |
| 26 | 14 | 130 | C | N1-C2-O2 | -9.76 | 113.05 | 118.90 |
| 26 | 14 | 856 | C | C6-N1-C2 | -9.76 | 116.40 | 120.30 |
| 26 | 1H | 1828 | G | N1-C6-O6 | 9.75 | 125.75 | 119.90 |
| 26 | 1H | 2032 | G | C2-N3-C4 | -9.75 | 107.02 | 111.90 |
| 26 | 14 | 2495 | G | N1-C6-O6 | 9.75 | 125.75 | 119.90 |
| 1 | 13 | 1493 | A | O5'-P-OP2 | 9.75 | 122.40 | 110.70 |
| 26 | 1H | 1786 | A | OP1-P-O3' | 9.75 | 126.66 | 105.20 |
| 27 | 16 | 115 | G | C2-N3-C4 | -9.75 | 107.03 | 111.90 |
| 26 | 1H | 739 | G | C5-C6-N1 | -9.75 | 106.62 | 111.50 |
| 26 | 1H | 2369 | A | N1-C6-N6 | -9.75 | 112.75 | 118.60 |
| 26 | 1H | 2516 | G | O5'-P-OP2 | -9.75 | 96.93 | 105.70 |
| 26 | 14 | 685 | A | O4'-C1'-N9 | 9.75 | 116.00 | 108.20 |
| 26 | 14 | 1367 | A | C5-N7-C8 | -9.75 | 99.03 | 103.90 |
| 1 | 13 | 956 | U | N3-C4-C5 | -9.75 | 108.75 | 114.60 |
| 26 | 1H | 830 | G | C8-N9-C4 | -9.75 | 102.50 | 106.40 |
| 26 | 1H | 834 | C | O5'-P-OP2 | -9.75 | 96.93 | 105.70 |
| 26 | 14 | 562 | U | C2-N3-C4 | -9.75 | 121.15 | 127.00 |
| 1 | 1G | 905 | U | C5-C6-N1 | -9.75 | 117.83 | 122.70 |
| 26 | 1H | 917 | A | C5-C6-N1 | -9.74 | 112.83 | 117.70 |
| 26 | 14 | 211 | A | C5-C6-N6 | -9.74 | 115.91 | 123.70 |
| 26 | 1H | 1296 | G | N1-C6-O6 | -9.74 | 114.06 | 119.90 |
| 26 | 14 | 1342 | A | C6-C5-N7 | -9.74 | 125.48 | 132.30 |
| 26 | 14 | 2873 | A | C8-N9-C4 | -9.74 | 101.90 | 105.80 |
| 1 | 13 | 277 | C | O5'-P-OP1 | -9.74 | 96.93 | 105.70 |
| 26 | 1H | 1992 | G | N3-C4-C5 | -9.74 | 123.73 | 128.60 |
| 26 | 1H | 2618 | G | C5-C6-O6 | 9.74 | 134.44 | 128.60 |
| 1 | 1G | 866 | C | C6-N1-C2 | -9.74 | 116.40 | 120.30 |
| 1 | 1G | 1462 | G | N3-C4-C5 | 9.74 | 133.47 | 128.60 |
| 26 | 14 | 1961 | C | C6-N1-C2 | 9.74 | 124.20 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2827 | C | N3-C4-N4 | 9.74 | 124.82 | 118.00 |
| 26 | 1H | 475 | U | N1-C2-O2 | -9.74 | 115.98 | 122.80 |
| 26 | 1H | 802 | A | O5'-P-OP2 | -9.74 | 96.94 | 105.70 |
| 26 | 1H | 2267 | A | C2-N3-C4 | -9.74 | 105.73 | 110.60 |
| 1 | 1G | 818 | G | C5-C6-N1 | -9.74 | 106.63 | 111.50 |
| 26 | 1H | 1922 | G | C8-N9-C4 | 9.74 | 110.29 | 106.40 |
| 26 | 14 | 855 | G | C8-N9-C4 | -9.74 | 102.50 | 106.40 |
| 26 | 1H | 1411 | C | O5'-P-OP2 | -9.73 | 96.94 | 105.70 |
| 26 | 1H | 86 | C | C5-C6-N1 | -9.73 | 116.13 | 121.00 |
| 26 | 1H | 1942 | C | N3-C4-C5 | 9.73 | 125.79 | 121.90 |
| 26 | 14 | 1940 | U | N3-C4-O4 | 9.73 | 126.21 | 119.40 |
| 26 | 14 | 16 | G | C8-N9-C4 | -9.73 | 102.51 | 106.40 |
| 26 | 14 | 941 | A | N7-C8-N9 | 9.73 | 118.66 | 113.80 |
| 26 | 14 | 1956 | U | O5'-P-OP2 | -9.73 | 96.95 | 105.70 |
| 26 | 14 | 2854 | G | C5-C6-O6 | 9.73 | 134.44 | 128.60 |
| 27 | 16 | 89 | G | O5'-P-OP1 | -9.72 | 96.95 | 105.70 |
| 26 | 1H | 1969 | A | OP1-P-OP2 | -9.72 | 105.02 | 119.60 |
| 23 | 2K | 60 | A | N1-C6-N6 | -9.72 | 112.77 | 118.60 |
| 1 | 13 | 570 | G | C6-C5-N7 | -9.72 | 124.57 | 130.40 |
| 1 | 13 | 904 | C | N3-C4-C5 | 9.72 | 125.79 | 121.90 |
| 23 | 2K | 42 | C | O5'-P-OP2 | -9.72 | 96.95 | 105.70 |
| 26 | 1H | 1784 | A | O4'-C1'-N9 | -9.72 | 100.42 | 108.20 |
| 26 | 14 | 23 | G | C8-N9-C4 | 9.72 | 110.29 | 106.40 |
| 27 | 1J | 103 | U | C5-C6-N1 | -9.72 | 117.84 | 122.70 |
| 1 | 13 | 1239 | A | C2-N3-C4 | -9.72 | 105.74 | 110.60 |
| 27 | 16 | 115 | G | C6-C5-N7 | -9.72 | 124.57 | 130.40 |
| 23 | 2L | 19 | G | N3-C4-N9 | -9.72 | 120.17 | 126.00 |
| 26 | 14 | 983 | A | OP1-P-OP2 | -9.72 | 105.02 | 119.60 |
| 26 | 14 | 130 | C | N3-C4-C5 | 9.72 | 125.79 | 121.90 |
| 26 | 14 | 2329 | G | N1-C2-N2 | -9.72 | 107.46 | 116.20 |
| 1 | 13 | 605 | U | N1-C2-O2 | -9.71 | 116.00 | 122.80 |
| 26 | 1H | 393 | C | C6-N1-C2 | 9.71 | 124.19 | 120.30 |
| 26 | 1H | 624 | C | N3-C2-O2 | 9.71 | 128.70 | 121.90 |
| 26 | 1H | 1559 | G | N1-C6-O6 | 9.71 | 125.73 | 119.90 |
| 26 | 1H | 2380 | C | C6-N1-C2 | 9.71 | 124.19 | 120.30 |
| 26 | 14 | 621 | A | C8-N9-C4 | -9.71 | 101.92 | 105.80 |
| 26 | 1H | 708 | C | O5'-P-OP2 | -9.71 | 96.96 | 105.70 |
| 26 | 1H | 2445 | G | C8-N9-C4 | -9.71 | 102.52 | 106.40 |
| 26 | 14 | 765 | G | N7-C8-N9 | 9.71 | 117.96 | 113.10 |
| 26 | 14 | 1559 | G | N1-C6-O6 | 9.71 | 125.73 | 119.90 |
| 26 | 14 | 1683 | C | C6-N1-C2 | -9.71 | 116.42 | 120.30 |
| 26 | 14 | 2463 | C | C2-N3-C4 | -9.71 | 115.04 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1255 | U | N3-C2-O2 | 9.71 | 129.00 | 122.20 |
| 26 | 14 | 110 | G | N1-C6-O6 | 9.71 | 125.72 | 119.90 |
| 26 | 1H | 475 | U | N3-C4-C5 | -9.71 | 108.78 | 114.60 |
| 26 | 1H | 609 | A | N9-C4-C5 | -9.70 | 101.92 | 105.80 |
| 26 | 1H | 808 | G | N1-C2-N3 | 9.71 | 129.72 | 123.90 |
| 26 | 1H | 950 | G | C4-C5-N7 | -9.71 | 106.92 | 110.80 |
| 26 | 1H | 2451 | A | C5-C6-N6 | 9.71 | 131.46 | 123.70 |
| 26 | 14 | 411 | G | O5'-P-OP2 | -9.71 | 96.97 | 105.70 |
| 26 | 14 | 1282 | U | N1-C2-N3 | 9.71 | 120.72 | 114.90 |
| 1 | 1G | 508 | C | N3-C4-C5 | 9.70 | 125.78 | 121.90 |
| 26 | 14 | 1788 | C | N3-C2-O2 | -9.70 | 115.11 | 121.90 |
| 26 | 1H | 741 | G | C6-N1-C2 | -9.70 | 119.28 | 125.10 |
| 1 | 13 | 1429 | C | C2-N3-C4 | -9.70 | 115.05 | 119.90 |
| 26 | 1H | 1031 | G | N1-C6-O6 | -9.70 | 114.08 | 119.90 |
| 26 | 1H | 1237 | A | C2-N3-C4 | -9.70 | 105.75 | 110.60 |
| 26 | 1H | 2697 | G | OP1-P-OP2 | 9.70 | 134.15 | 119.60 |
| 26 | 14 | 74 | A | C6-N1-C2 | 9.70 | 124.42 | 118.60 |
| 26 | 14 | 375 | C | O5'-P-OP2 | -9.70 | 96.97 | 105.70 |
| 1 | 13 | 766 | A | N1-C6-N6 | 9.70 | 124.42 | 118.60 |
| 1 | 13 | 1019 | C | C6-N1-C2 | -9.70 | 116.42 | 120.30 |
| 26 | 1H | 1554 | A | N1-C2-N3 | 9.70 | 134.15 | 129.30 |
| 26 | 1H | 1672 | C | OP1-P-OP2 | -9.70 | 105.05 | 119.60 |
| 26 | 1H | 621 | A | N1-C2-N3 | 9.69 | 134.15 | 129.30 |
| 26 | 1H | 2841 | C | C6-N1-C2 | 9.69 | 124.18 | 120.30 |
| 1 | 1G | 558 | G | C5-C6-O6 | 9.69 | 134.42 | 128.60 |
| 1 | 1G | 1395 | C | O5'-P-OP1 | -9.70 | 96.97 | 105.70 |
| 26 | 14 | 585 | G | C5-N7-C8 | -9.70 | 99.45 | 104.30 |
| 26 | 14 | 1351 | C | C5-C6-N1 | -9.70 | 116.15 | 121.00 |
| 1 | 13 | 904 | C | N3-C2-O2 | -9.69 | 115.12 | 121.90 |
| 1 | 13 | 1321 | C | N3-C4-C5 | -9.69 | 118.02 | 121.90 |
| 26 | 1H | 2767 | C | N1-C2-O2 | 9.69 | 124.72 | 118.90 |
| 26 | 14 | 71 | A | N7-C8-N9 | 9.69 | 118.65 | 113.80 |
| 26 | 1H | 2688 | U | N1-C2-N3 | 9.69 | 120.71 | 114.90 |
| 27 | 16 | 72 | G | OP1-P-OP2 | 9.69 | 134.14 | 119.60 |
| 26 | 14 | 2827 | C | C5-C6-N1 | -9.69 | 116.15 | 121.00 |
| 26 | 1H | 1159 | U | C4-C5-C6 | 9.69 | 125.51 | 119.70 |
| 26 | 1H | 1349 | A | C2-N3-C4 | -9.69 | 105.75 | 110.60 |
| 26 | 14 | 2385 | C | C6-N1-C2 | 9.69 | 124.17 | 120.30 |
| 26 | 14 | 2565 | A | C5-C6-N1 | 9.69 | 122.54 | 117.70 |
| 26 | 1H | 2627 | G | N1-C2-N2 | -9.68 | 107.48 | 116.20 |
| 26 | 14 | 17 | G | C8-N9-C4 | -9.68 | 102.53 | 106.40 |
| 26 | 14 | 1999 | C | C6-N1-C2 | 9.68 | 124.17 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1177 | G | C8-N9-C4 | 9.68 | 110.27 | 106.40 |
| 26 | 1H | 446 | G | C8-N9-C4 | 9.68 | 110.27 | 106.40 |
| 26 | 1H | 845 | G | C5-N7-C8 | -9.68 | 99.46 | 104.30 |
| 1 | 1G | 111 | G | N3-C4-C5 | 9.68 | 133.44 | 128.60 |
| 26 | 1H | 2299 | G | C5-N7-C8 | -9.68 | 99.46 | 104.30 |
| 27 | 1J | 103 | U | O5'-P-OP1 | 9.68 | 122.32 | 110.70 |
| 26 | 1H | 1952 | A | C6-N1-C2 | -9.68 | 112.79 | 118.60 |
| 26 | 14 | 2074 | U | O5'-P-OP1 | -9.68 | 96.99 | 105.70 |
| 1 | 13 | 1205 | U | C6-N1-C2 | -9.68 | 115.19 | 121.00 |
| 26 | 1H | 252 | G | O5'-P-OP1 | 9.68 | 122.31 | 110.70 |
| 26 | 1H | 1410 | G | C8-N9-C4 | 9.68 | 110.27 | 106.40 |
| 26 | 1H | 1496 | A | C5-C6-N6 | -9.68 | 115.96 | 123.70 |
| 1 | 1G | 232 | G | C2-N3-C4 | -9.68 | 107.06 | 111.90 |
| 26 | 1H | 1304 | C | C4-C5-C6 | -9.67 | 112.56 | 117.40 |
| 1 | 1G | 402 | G | C8-N9-C4 | 9.67 | 110.27 | 106.40 |
| 26 | 14 | 1641 | A | C6-N1-C2 | -9.67 | 112.80 | 118.60 |
| 1 | 13 | 580 | U | C5-C6-N1 | -9.67 | 117.86 | 122.70 |
| 26 | 1H | 1678 | G | N3-C4-N9 | -9.67 | 120.20 | 126.00 |
| 1 | 13 | 776 | G | N1-C6-O6 | 9.67 | 125.70 | 119.90 |
| 1 | 1G | 1196 | U | C6-N1-C2 | -9.67 | 115.20 | 121.00 |
| 26 | 14 | 499 | U | N3-C2-O2 | -9.67 | 115.43 | 122.20 |
| 26 | 14 | 664 | C | C5-C6-N1 | -9.67 | 116.17 | 121.00 |
| 26 | 14 | 1821 | A | N1-C6-N6 | 9.67 | 124.40 | 118.60 |
| 1 | 13 | 906 | G | C5-C6-O6 | -9.67 | 122.80 | 128.60 |
| 26 | 1H | 638 | G | O5'-P-OP1 | -9.67 | 97.00 | 105.70 |
| 26 | 1H | 1275 | A | O5'-P-OP1 | -9.67 | 97.00 | 105.70 |
| 26 | 14 | 698 | C | OP1-P-OP2 | 9.67 | 134.10 | 119.60 |
| 26 | 1H | 1817 | G | C6-C5-N7 | 9.66 | 136.20 | 130.40 |
| 1 | 1G | 789 | U | N3-C4-C5 | -9.66 | 108.80 | 114.60 |
| 26 | 14 | 452 | G | C8-N9-C4 | -9.66 | 102.53 | 106.40 |
| 26 | 14 | 494 | G | N3-C2-N2 | -9.66 | 113.14 | 119.90 |
| 26 | 14 | 729 | G | N1-C2-N2 | 9.66 | 124.90 | 116.20 |
| 26 | 1H | 1658 | C | N3-C4-N4 | 9.66 | 124.76 | 118.00 |
| 1 | 13 | 1519 | A | N9-C4-C5 | 9.66 | 109.66 | 105.80 |
| 26 | 14 | 298 | G | C4-C5-N7 | 9.66 | 114.66 | 110.80 |
| 26 | 14 | 1819 | A | N1-C2-N3 | 9.66 | 134.13 | 129.30 |
| 26 | 1H | 2609 | U | O5'-P-OP2 | -9.66 | 97.01 | 105.70 |
| 26 | 14 | 1135 | C | C6-N1-C2 | 9.66 | 124.16 | 120.30 |
| 26 | 1H | 212 | G | N1-C6-O6 | -9.66 | 114.11 | 119.90 |
| 26 | 1H | 590 | A | C8-N9-C4 | -9.66 | 101.94 | 105.80 |
| 26 | 1H | 1838 | C | N3-C4-C5 | 9.66 | 125.76 | 121.90 |
| 26 | 14 | 1200 | C | C6-N1-C2 | -9.66 | 116.44 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1248 | G | O5'-P-OP1 | 9.66 | 122.29 | 110.70 |
| 27 | 16 | 96 | G | C5-C6-O6 | -9.65 | 122.81 | 128.60 |
| 26 | 1H | 1244 | G | C8-N9-C4 | 9.65 | 110.26 | 106.40 |
| 26 | 14 | 188 | G | O5'-P-OP1 | -9.65 | 97.02 | 105.70 |
| 26 | 1H | 1683 | C | C2-N3-C4 | -9.65 | 115.08 | 119.90 |
| 26 | 14 | 465 | G | C5-C6-N1 | -9.65 | 106.68 | 111.50 |
| 26 | 14 | 826 | U | C4-C5-C6 | 9.65 | 125.49 | 119.70 |
| 26 | 14 | 1298 | C | C2-N3-C4 | 9.65 | 124.72 | 119.90 |
| 26 | 1H | 1253 | A | N9-C4-C5 | -9.65 | 101.94 | 105.80 |
| 26 | 1H | 2101 | G | C5-C6-N1 | -9.65 | 106.68 | 111.50 |
| 26 | 1H | 2449 | U | C4-C5-C6 | 9.65 | 125.49 | 119.70 |
| 26 | 14 | 2840 | C | C5-C6-N1 | -9.65 | 116.18 | 121.00 |
| 26 | 1H | 687 | C | O5'-P-OP1 | -9.64 | 97.02 | 105.70 |
| 26 | 1H | 466 | A | C5-C6-N6 | -9.64 | 115.98 | 123.70 |
| 26 | 1H | 834 | C | C4-C5-C6 | 9.64 | 122.22 | 117.40 |
| 26 | 1H | 2011 | U | N3-C2-O2 | 9.64 | 128.95 | 122.20 |
| 26 | 1H | 995 | C | O5'-P-OP2 | 9.64 | 122.27 | 110.70 |
| 26 | 1H | 2408 | U | N3-C4-C5 | 9.64 | 120.39 | 114.60 |
| 26 | 1H | 2465 | C | N3-C4-C5 | 9.64 | 125.76 | 121.90 |
| 26 | 14 | 1682 | G | O5'-P-OP2 | -9.64 | 97.02 | 105.70 |
| 26 | 1H | 1450 | C | C6-N1-C2 | 9.64 | 124.16 | 120.30 |
| 26 | 14 | 270(T) | G | C5-C6-N1 | -9.64 | 106.68 | 111.50 |
| 26 | 14 | 397 | G | C5-C6-O6 | -9.64 | 122.82 | 128.60 |
| 1 | 13 | 766 | A | C6-N1-C2 | 9.64 | 124.38 | 118.60 |
| 1 | 13 | 972 | C | N1-C2-O2 | 9.63 | 124.68 | 118.90 |
| 1 | 1G | 769 | G | N1-C6-O6 | 9.63 | 125.68 | 119.90 |
| 26 | 14 | 1378 | A | C2-N3-C4 | 9.64 | 115.42 | 110.60 |
| 26 | 14 | 2470 | G | C8-N9-C4 | -9.64 | 102.55 | 106.40 |
| 26 | 1H | 1672 | C | O5'-P-OP2 | 9.63 | 122.26 | 110.70 |
| 26 | 14 | 828 | U | OP1-P-OP2 | 9.63 | 134.05 | 119.60 |
| 26 | 14 | 945 | A | N7-C8-N9 | 9.63 | 118.62 | 113.80 |
| 1 | 13 | 260 | G | C5-N7-C8 | 9.63 | 109.11 | 104.30 |
| 26 | 1H | 44 | A | C8-N9-C4 | -9.63 | 101.95 | 105.80 |
| 1 | 13 | 388 | G | OP1-P-OP2 | -9.63 | 105.16 | 119.60 |
| 1 | 13 | 532 | A | C5-N7-C8 | -9.63 | 99.09 | 103.90 |
| 1 | 1G | 63 | C | C6-N1-C2 | -9.63 | 116.45 | 120.30 |
| 26 | 14 | 685 | A | C8-N9-C4 | -9.63 | 101.95 | 105.80 |
| 26 | 14 | 2862 | G | N1-C6-O6 | 9.63 | 125.68 | 119.90 |
| 1 | 13 | 1455 | G | C8-N9-C4 | 9.62 | 110.25 | 106.40 |
| 26 | 1H | 280 | C | N1-C2-O2 | 9.62 | 124.67 | 118.90 |
| 26 | 1H | 445 | C | N3-C2-O2 | -9.62 | 115.16 | 121.90 |
| 26 | 1H | 692 | C | N3-C4-C5 | 9.62 | 125.75 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1354 | A | C5-N7-C8 | -9.62 | 99.09 | 103.90 |
| 26 | 14 | 2521 | C | O5'-P-OP1 | -9.62 | 97.04 | 105.70 |
| 26 | 1H | 55 | G | C6-N1-C2 | -9.62 | 119.33 | 125.10 |
| 26 | 1H | 2419 | U | N3-C4-C5 | -9.62 | 108.83 | 114.60 |
| 26 | 14 | 133 | C | C2-N3-C4 | -9.62 | 115.09 | 119.90 |
| 27 | 1J | 74 | U | N3-C4-O4 | -9.62 | 112.67 | 119.40 |
| 26 | 14 | 914 | C | N1-C2-O2 | 9.62 | 124.67 | 118.90 |
| 26 | 14 | 1698 | A | N3-C4-C5 | 9.62 | 133.53 | 126.80 |
| 26 | 1H | 2459 | A | N9-C4-C5 | 9.62 | 109.65 | 105.80 |
| 26 | 1H | 2761 | G | C5-C6-O6 | 9.62 | 134.37 | 128.60 |
| 26 | 14 | 776 | G | C8-N9-C4 | 9.62 | 110.25 | 106.40 |
| 26 | 1H | 400 | G | N7-C8-N9 | 9.61 | 117.91 | 113.10 |
| 26 | 1H | 2503 | A | O5'-P-OP1 | 9.61 | 122.23 | 110.70 |
| 26 | 1H | 829 | A | O5'-P-OP2 | -9.61 | 97.05 | 105.70 |
| 1 | 1G | 112 | G | N3-C2-N2 | -9.61 | 113.17 | 119.90 |
| 26 | 14 | 2363 | C | C2-N3-C4 | -9.61 | 115.09 | 119.90 |
| 26 | 14 | 547 | A | C8-N9-C4 | -9.61 | 101.96 | 105.80 |
| 26 | 1H | 591 | C | N1-C2-O2 | -9.61 | 113.14 | 118.90 |
| 26 | 1H | 1939 | U | N3-C4-O4 | -9.61 | 112.67 | 119.40 |
| 26 | 1H | 2582 | G | C8-N9-C4 | -9.61 | 102.56 | 106.40 |
| 26 | 14 | 2434 | A | C5-C6-N6 | 9.61 | 131.39 | 123.70 |
| 26 | 14 | 372 | G | C4-C5-N7 | 9.61 | 114.64 | 110.80 |
| 26 | 14 | 1202 | C | N1-C2-O2 | -9.61 | 113.14 | 118.90 |
| 1 | 13 | 1060 | C | C5-C6-N1 | 9.60 | 125.80 | 121.00 |
| 26 | 14 | 1187 | G | N9-C4-C5 | 9.60 | 109.24 | 105.40 |
| 26 | 1H | 1617 | C | C6-N1-C2 | -9.60 | 116.46 | 120.30 |
| 26 | 1H | 737 | C | N1-C2-O2 | -9.60 | 113.14 | 118.90 |
| 26 | 1H | 2517 | C | C5-C6-N1 | -9.60 | 116.20 | 121.00 |
| 26 | 14 | 2634 | G | C8-N9-C4 | 9.60 | 110.24 | 106.40 |
| 23 | 2K | 21 | U | N3-C2-O2 | -9.60 | 115.48 | 122.20 |
| 26 | 14 | 1779 | U | C5-C4-O4 | -9.60 | 120.14 | 125.90 |
| 1 | 13 | 967 | C | C5-C4-N4 | -9.60 | 113.48 | 120.20 |
| 26 | 1H | 1404 | C | O5'-P-OP1 | -9.60 | 97.06 | 105.70 |
| 26 | 1H | 1820 | U | C5-C6-N1 | -9.60 | 117.90 | 122.70 |
| 1 | 1G | 529 | G | C5-C6-O6 | -9.60 | 122.84 | 128.60 |
| 1 | 1G | 741 | G | N1-C6-O6 | 9.60 | 125.66 | 119.90 |
| 26 | 14 | 2497 | A | O5'-P-OP2 | 9.60 | 122.22 | 110.70 |
| 1 | 13 | 135 | C | N1-C2-O2 | -9.59 | 113.14 | 118.90 |
| 26 | 1H | 566 | U | N1-C2-N3 | -9.59 | 109.14 | 114.90 |
| 26 | 1H | 1210 | A | C2-N3-C4 | -9.59 | 105.80 | 110.60 |
| 26 | 1H | 1764 | G | C5-C6-O6 | 9.59 | 134.36 | 128.60 |
| 26 | 1H | 1985 | G | C5-C6-N1 | 9.59 | 116.30 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2469 | A | C6-C5-N7 | -9.59 | 125.58 | 132.30 |
| 26 | 1H | 2871 | C | N3-C2-O2 | -9.59 | 115.19 | 121.90 |
| 26 | 14 | 1332 | G | C8-N9-C4 | -9.59 | 102.56 | 106.40 |
| 1 | 13 | 1518 | A | N7-C8-N9 | -9.59 | 109.00 | 113.80 |
| 26 | 1H | 593 | G | N1-C2-N2 | -9.59 | 107.57 | 116.20 |
| 26 | 1H | 1332 | G | N1-C2-N2 | -9.59 | 107.57 | 116.20 |
| 26 | 1H | 1827 | C | C6-N1-C2 | -9.59 | 116.46 | 120.30 |
| 26 | 14 | 1332 | G | C8-N9-C1' | -9.59 | 114.53 | 127.00 |
| 26 | 14 | 1568 | G | N1-C6-O6 | 9.59 | 125.66 | 119.90 |
| 26 | 14 | 1598 | C | C5-C4-N4 | -9.59 | 113.49 | 120.20 |
| 26 | 14 | 2250 | G | O5'-P-OP1 | -9.59 | 97.07 | 105.70 |
| 26 | 1H | 26 | G | C6-C5-N7 | -9.59 | 124.65 | 130.40 |
| 26 | 1H | 840 | C | C5-C6-N1 | -9.59 | 116.21 | 121.00 |
| 26 | 1H | 1400 | G | C8-N9-C4 | -9.59 | 102.56 | 106.40 |
| 26 | 1H | 2618 | G | N9-C4-C5 | 9.59 | 109.23 | 105.40 |
| 26 | 1H | 1517 | G | OP1-P-O3' | 9.59 | 126.29 | 105.20 |
| 26 | 1H | 2423 | U | C6-N1-C2 | 9.59 | 126.75 | 121.00 |
| 26 | 1H | 2698 | U | C4-C5-C6 | 9.59 | 125.45 | 119.70 |
| 26 | 1H | 2845 | G | N1-C2-N3 | 9.59 | 129.65 | 123.90 |
| 1 | 13 | 502 | G | N3-C2-N2 | -9.58 | 113.19 | 119.90 |
| 1 | 13 | 976 | G | N1-C6-O6 | 9.58 | 125.65 | 119.90 |
| 26 | 1H | 127 | A | C5-C6-N6 | -9.58 | 116.03 | 123.70 |
| 26 | 14 | 572 | A | C5-C6-N6 | -9.58 | 116.03 | 123.70 |
| 26 | 1H | 46 | C | N3-C4-N4 | 9.58 | 124.71 | 118.00 |
| 26 | 14 | 72 | U | C5-C6-N1 | -9.58 | 117.91 | 122.70 |
| 26 | 14 | 2067 | G | N3-C2-N2 | -9.58 | 113.19 | 119.90 |
| 1 | 13 | 746 | A | N1-C6-N6 | -9.58 | 112.85 | 118.60 |
| 1 | 13 | 906 | G | N1-C6-O6 | 9.58 | 125.65 | 119.90 |
| 26 | 1H | 265 | A | C5-C6-N1 | -9.58 | 112.91 | 117.70 |
| 26 | 1H | 808 | G | OP1-P-OP2 | 9.58 | 133.97 | 119.60 |
| 26 | 1H | 1183 | G | C5-C6-O6 | -9.58 | 122.85 | 128.60 |
| 26 | 1H | 802 | A | O5'-P-OP1 | 9.58 | 122.19 | 110.70 |
| 26 | 1H | 1912 | A | N1-C6-N6 | -9.58 | 112.85 | 118.60 |
| 26 | 14 | 678 | C | N3-C4-C5 | 9.58 | 125.73 | 121.90 |
| 26 | 14 | 731 | C | N1-C2-O2 | -9.58 | 113.15 | 118.90 |
| 26 | 14 | 1380 | G | N9-C4-C5 | -9.58 | 101.57 | 105.40 |
| 26 | 14 | 1474 | C | C6-N1-C2 | -9.58 | 116.47 | 120.30 |
| 26 | 1H | 842 | G | C5-C6-O6 | -9.58 | 122.85 | 128.60 |
| 26 | 1H | 2197 | U | N1-C2-N3 | 9.58 | 120.65 | 114.90 |
| 1 | 1G | 789 | U | N1-C2-N3 | 9.58 | 120.65 | 114.90 |
| 26 | 14 | 1128 | A | N1-C6-N6 | -9.58 | 112.86 | 118.60 |
| 26 | 14 | 879 | G | C8-N9-C4 | -9.57 | 102.57 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2681 | C | N3-C4-N4 | -9.57 | 111.30 | 118.00 |
| 26 | 1H | 2684 | U | C6-N1-C2 | 9.57 | 126.74 | 121.00 |
| 26 | 1H | 2377 | A | C2-N3-C4 | -9.57 | 105.81 | 110.60 |
| 26 | 14 | 559 | G | C5-C6-N1 | -9.57 | 106.72 | 111.50 |
| 26 | 14 | 1965 | C | N3-C4-C5 | 9.57 | 125.73 | 121.90 |
| 26 | 1H | 326 | G | N1-C2-N2 | 9.57 | 124.81 | 116.20 |
| 26 | 1H | 452 | G | N9-C4-C5 | 9.57 | 109.23 | 105.40 |
| 26 | 14 | 204 | A | C6-N1-C2 | -9.57 | 112.86 | 118.60 |
| 26 | 14 | 494 | G | C5-C6-N1 | -9.57 | 106.72 | 111.50 |
| 26 | 14 | 2325 | G | OP1-P-OP2 | 9.57 | 133.95 | 119.60 |
| 1 | 13 | 442 | C | C6-N1-C2 | -9.56 | 116.47 | 120.30 |
| 26 | 1H | 436 | C | N1-C2-N3 | -9.56 | 112.50 | 119.20 |
| 26 | 1H | 2604 | U | C6-N1-C2 | -9.56 | 115.26 | 121.00 |
| 26 | 1H | 2779 | U | C5-C6-N1 | -9.56 | 117.92 | 122.70 |
| 26 | 14 | 271(A) | C | N3-C4-C5 | -9.56 | 118.07 | 121.90 |
| 1 | 13 | 553 | A | N9-C4-C5 | 9.56 | 109.62 | 105.80 |
| 26 | 1H | 812 | C | N1-C2-O2 | -9.56 | 113.16 | 118.90 |
| 26 | 1H | 1974 | C | O5'-P-OP2 | -9.56 | 97.09 | 105.70 |
| 26 | 14 | 946 | G | C8-N9-C4 | 9.56 | 110.22 | 106.40 |
| 26 | 14 | 488 | G | N1-C6-O6 | 9.56 | 125.64 | 119.90 |
| 26 | 14 | 575 | A | C8-N9-C4 | 9.56 | 109.62 | 105.80 |
| 26 | 1H | 154 | G | N1-C6-O6 | 9.56 | 125.64 | 119.90 |
| 26 | 1H | 1466 | G | N9-C4-C5 | 9.56 | 109.22 | 105.40 |
| 26 | 1H | 2575 | C | N1-C2-O2 | -9.56 | 113.16 | 118.90 |
| 1 | 13 | 492 | G | N7-C8-N9 | 9.56 | 117.88 | 113.10 |
| 23 | 2K | 28 | U | N1-C2-O2 | -9.56 | 116.11 | 122.80 |
| 26 | 1H | 746 | A | OP1-P-OP2 | -9.56 | 105.26 | 119.60 |
| 26 | 1H | 2608 | G | C8-N9-C4 | -9.56 | 102.58 | 106.40 |
| 26 | 1H | 2713 | A | N1-C2-N3 | 9.56 | 134.08 | 129.30 |
| 26 | 14 | 521 | G | C5-C6-O6 | -9.56 | 122.86 | 128.60 |
| 26 | 1H | 1547 | C | N1-C2-O2 | 9.55 | 124.63 | 118.90 |
| 26 | 14 | 1641 | A | C5-C6-N1 | 9.55 | 122.48 | 117.70 |
| 26 | 14 | 2598 | A | C4-C5-N7 | 9.55 | 115.48 | 110.70 |
| 26 | 14 | 1188 | U | OP1-P-OP2 | -9.55 | 105.27 | 119.60 |
| 26 | 14 | 1408 | C | C6-N1-C2 | -9.55 | 116.48 | 120.30 |
| 1 | 13 | 730 | G | C4-C5-N7 | -9.55 | 106.98 | 110.80 |
| 27 | 1J | 102 | G | C4-C5-N7 | -9.55 | 106.98 | 110.80 |
| 26 | 1H | 232 | G | C6-C5-N7 | -9.55 | 124.67 | 130.40 |
| 26 | 14 | 2620 | C | C5-C6-N1 | -9.55 | 116.23 | 121.00 |
| 27 | 1J | 60 | C | C6-N1-C2 | -9.55 | 116.48 | 120.30 |
| 1 | 1G | 573 | A | N1-C6-N6 | -9.55 | 112.87 | 118.60 |
| 26 | 1H | 120 | U | C5-C6-N1 | -9.54 | 117.93 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 122 | G | N3-C4-C5 | 9.54 | 133.37 | 128.60 |
| 26 | 14 | 236 | C | C6-N1-C2 | 9.54 | 124.12 | 120.30 |
| 26 | 14 | 1624 | G | C5-C6-O6 | -9.54 | 122.88 | 128.60 |
| 26 | 1H | 510 | C | OP1-P-OP2 | 9.54 | 133.91 | 119.60 |
| 27 | 16 | 115 | G | C5-N7-C8 | -9.54 | 99.53 | 104.30 |
| 26 | 14 | 807 | U | C4-C5-C6 | 9.54 | 125.42 | 119.70 |
| 26 | 14 | 1465 | G | C2-N3-C4 | -9.54 | 107.13 | 111.90 |
| 1 | 1G | 231 | G | C2-N3-C4 | -9.54 | 107.13 | 111.90 |
| 1 | 13 | 1233 | G | N1-C6-O6 | -9.54 | 114.18 | 119.90 |
| 26 | 1H | 557 | U | O5'-P-OP2 | -9.54 | 97.12 | 105.70 |
| 26 | 1H | 594 | U | C5-C6-N1 | -9.54 | 117.93 | 122.70 |
| 26 | 1H | 834 | C | C2-N3-C4 | -9.54 | 115.13 | 119.90 |
| 26 | 1H | 860 | U | N3-C2-O2 | -9.54 | 115.53 | 122.20 |
| 26 | 1H | 2263 | C | C5-C4-N4 | 9.54 | 126.87 | 120.20 |
| 1 | 1G | 191(B) | G | O5'-P-OP2 | -9.54 | 97.12 | 105.70 |
| 26 | 1H | 1344 | G | C5-C6-O6 | -9.53 | 122.88 | 128.60 |
| 26 | 1H | 1920 | C | C4-C5-C6 | -9.53 | 112.63 | 117.40 |
| 26 | 1H | 461 | C | O5'-P-OP1 | -9.53 | 97.12 | 105.70 |
| 26 | 1H | 1241 | A | C6-N1-C2 | 9.53 | 124.32 | 118.60 |
| 26 | 1H | 1337 | G | N1-C6-O6 | -9.53 | 114.18 | 119.90 |
| 26 | 1H | 2279 | G | N1-C6-O6 | -9.53 | 114.18 | 119.90 |
| 26 | 1H | 468 | G | C6-C5-N7 | -9.53 | 124.68 | 130.40 |
| 26 | 1H | 691 | C | C5-C6-N1 | -9.53 | 116.23 | 121.00 |
| 26 | 1H | 471 | A | C8-N9-C4 | 9.53 | 109.61 | 105.80 |
| 26 | 1H | 1207 | C | O5'-P-OP1 | -9.53 | 97.12 | 105.70 |
| 1 | 1G | 274 | A | C8-N9-C4 | 9.53 | 109.61 | 105.80 |
| 26 | 14 | 70 | G | N3-C2-N2 | 9.53 | 126.57 | 119.90 |
| 26 | 1H | 39 | C | N1-C2-O2 | -9.53 | 113.18 | 118.90 |
| 26 | 1H | 131 | G | C4-C5-N7 | 9.53 | 114.61 | 110.80 |
| 26 | 1H | 1647 | G | N1-C6-O6 | -9.53 | 114.18 | 119.90 |
| 26 | 1H | 2018 | G | N7-C8-N9 | 9.53 | 117.86 | 113.10 |
| 26 | 1H | 51 | G | OP1-P-OP2 | 9.52 | 133.88 | 119.60 |
| 26 | 1H | 862 | G | N3-C2-N2 | 9.52 | 126.57 | 119.90 |
| 26 | 1H | 1997 | G | N3-C4-N9 | -9.52 | 120.29 | 126.00 |
| 26 | 14 | 1907 | G | O5'-P-OP1 | -9.52 | 97.13 | 105.70 |
| 26 | 1H | 2252 | G | N3-C4-N9 | -9.52 | 120.29 | 126.00 |
| 26 | 14 | 911 | A | N3-C4-C5 | -9.52 | 120.14 | 126.80 |
| 26 | 14 | 2275 | C | N3-C2-O2 | -9.52 | 115.23 | 121.90 |
| 26 | 1H | 395 | U | N3-C2-O2 | -9.52 | 115.54 | 122.20 |
| 26 | 1H | 1857 | G | C5-C6-N1 | -9.52 | 106.74 | 111.50 |
| 26 | 1H | 1614 | A | N9-C4-C5 | -9.52 | 101.99 | 105.80 |
| 26 | 14 | 2297 | C | OP1-P-OP2 | 9.52 | 133.88 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 971 | C | C6-N1-C2 | -9.52 | 116.49 | 120.30 |
| 26 | 1H | 2626 | C | C4-C5-C6 | -9.52 | 112.64 | 117.40 |
| 26 | 14 | 140 | A | C2-N3-C4 | -9.52 | 105.84 | 110.60 |
| 26 | 1H | 839 | U | C4-C5-C6 | 9.51 | 125.41 | 119.70 |
| 26 | 1H | 1839 | G | C5-C6-O6 | 9.51 | 134.31 | 128.60 |
| 26 | 1H | 2031 | A | C2-N3-C4 | 9.51 | 115.36 | 110.60 |
| 1 | 1G | 619 | U | C5-C4-O4 | 9.51 | 131.61 | 125.90 |
| 26 | 1H | 138 | G | C4-C5-C6 | -9.51 | 113.09 | 118.80 |
| 26 | 1H | 1973 | G | N1-C6-O6 | -9.51 | 114.19 | 119.90 |
| 26 | 1H | 2236 | C | N3-C4-N4 | 9.51 | 124.66 | 118.00 |
| 26 | 14 | 566 | U | C2-N3-C4 | -9.51 | 121.29 | 127.00 |
| 26 | 14 | 690 | G | N7-C8-N9 | -9.51 | 108.34 | 113.10 |
| 26 | 14 | 693 | C | OP2-P-O3' | 9.51 | 126.12 | 105.20 |
| 26 | 1H | 1794 | U | N1-C2-N3 | 9.51 | 120.60 | 114.90 |
| 26 | 1H | 2067 | G | C6-N1-C2 | -9.51 | 119.40 | 125.10 |
| 26 | 14 | 956 | G | O5'-P-OP2 | -9.51 | 97.14 | 105.70 |
| 26 | 1H | 1310 | G | C5-C6-O6 | -9.50 | 122.90 | 128.60 |
| 26 | 1H | 2476 | A | N7-C8-N9 | 9.50 | 118.55 | 113.80 |
| 1 | 13 | 934 | C | N1-C2-O2 | -9.50 | 113.20 | 118.90 |
| 27 | 16 | 100 | G | N9-C4-C5 | -9.50 | 101.60 | 105.40 |
| 26 | 14 | 574 | C | N3-C4-C5 | 9.50 | 125.70 | 121.90 |
| 26 | 14 | 2873 | A | C4-C5-N7 | 9.50 | 115.45 | 110.70 |
| 23 | 2K | 40 | C | C5-C4-N4 | -9.50 | 113.55 | 120.20 |
| 26 | 1H | 517 | C | N1-C2-O2 | 9.50 | 124.60 | 118.90 |
| 26 | 1H | 1199 | U | N1-C2-O2 | -9.50 | 116.15 | 122.80 |
| 26 | 14 | 571 | A | C5-C6-N6 | -9.50 | 116.10 | 123.70 |
| 26 | 14 | 2062 | A | N1-C6-N6 | 9.50 | 124.30 | 118.60 |
| 1 | 13 | 1205 | U | N1-C2-N3 | 9.50 | 120.60 | 114.90 |
| 26 | 1H | 282 | A | N1-C6-N6 | -9.50 | 112.90 | 118.60 |
| 26 | 1H | 2739 | U | C5-C6-N1 | -9.50 | 117.95 | 122.70 |
| 26 | 14 | 2247 | A | C5-C6-N6 | 9.50 | 131.30 | 123.70 |
| 27 | 16 | 56 | G | O5'-P-OP2 | -9.49 | 97.16 | 105.70 |
| 26 | 1H | 399 | G | OP1-P-OP2 | 9.49 | 133.84 | 119.60 |
| 26 | 1H | 806 | C | N3-C4-C5 | 9.49 | 125.70 | 121.90 |
| 26 | 1H | 2622 | C | C4-C5-C6 | 9.49 | 122.15 | 117.40 |
| 26 | 14 | 810 | U | C5-C4-O4 | -9.49 | 120.20 | 125.90 |
| 1 | 1G | 55 | A | C8-N9-C4 | -9.49 | 102.00 | 105.80 |
| 26 | 14 | 2440 | C | N1-C2-O2 | 9.49 | 124.59 | 118.90 |
| 26 | 1H | 234 | C | C2-N3-C4 | -9.49 | 115.16 | 119.90 |
| 26 | 1H | 809 | G | C5-C6-O6 | -9.49 | 122.91 | 128.60 |
| 26 | 14 | 314 | A | N1-C6-N6 | -9.49 | 112.91 | 118.60 |
| 26 | 14 | 970 | C | N1-C2-O2 | -9.49 | 113.21 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1376 | C | N3-C4-C5 | -9.49 | 118.11 | 121.90 |
| 26 | 14 | 1387 | C | C6-N1-C2 | -9.49 | 116.50 | 120.30 |
| 26 | 14 | 2581 | G | C6-C5-N7 | -9.49 | 124.71 | 130.40 |
| 1 | 13 | 122 | G | C5-C6-N1 | -9.48 | 106.76 | 111.50 |
| 1 | 13 | 617 | G | N1-C6-O6 | 9.48 | 125.59 | 119.90 |
| 26 | 1H | 2510 | C | N3-C4-N4 | -9.48 | 111.36 | 118.00 |
| 26 | 1H | 1249 | U | C2-N3-C4 | -9.48 | 121.31 | 127.00 |
| 1 | 1G | 1380 | U | C5-C6-N1 | -9.48 | 117.96 | 122.70 |
| 26 | 14 | 600 | G | C5-C6-O6 | -9.48 | 122.91 | 128.60 |
| 26 | 14 | 787 | U | O5'-P-OP1 | 9.48 | 122.08 | 110.70 |
| 26 | 14 | 1469 | A | C8-N9-C4 | -9.48 | 102.01 | 105.80 |
| 26 | 14 | 1266 | G | C5-C6-N1 | 9.48 | 116.24 | 111.50 |
| 26 | 1H | 624 | C | C5-C4-N4 | -9.48 | 113.56 | 120.20 |
| 26 | 1H | 826 | U | N3-C4-C5 | -9.48 | 108.91 | 114.60 |
| 26 | 1H | 1348 | G | C5-C6-O6 | -9.48 | 122.91 | 128.60 |
| 26 | 1H | 1376 | C | N3-C4-C5 | -9.48 | 118.11 | 121.90 |
| 1 | 1G | 910 | C | N3-C4-C5 | 9.48 | 125.69 | 121.90 |
| 26 | 14 | 606 | U | N3-C4-O4 | -9.48 | 112.76 | 119.40 |
| 1 | 13 | 812 | C | N1-C2-O2 | -9.48 | 113.21 | 118.90 |
| 26 | 1H | 468 | G | C4-C5-C6 | 9.48 | 124.49 | 118.80 |
| 26 | 1H | 2374 | C | OP1-P-OP2 | 9.48 | 133.82 | 119.60 |
| 26 | 14 | 125 | G | C5-C6-N1 | 9.48 | 116.24 | 111.50 |
| 26 | 14 | 1229(A) | G | C2-N3-C4 | -9.48 | 107.16 | 111.90 |
| 26 | 14 | 2383 | G | OP1-P-OP2 | 9.48 | 133.82 | 119.60 |
| 26 | 14 | 488 | G | N9-C4-C5 | -9.48 | 101.61 | 105.40 |
| 26 | 14 | 676 | A | C4-C5-C6 | -9.48 | 112.26 | 117.00 |
| 26 | 1H | 97 | C | O5'-P-OP1 | -9.47 | 97.17 | 105.70 |
| 26 | 1H | 763 | G | O5'-P-OP2 | -9.47 | 97.17 | 105.70 |
| 1 | 1G | 495 | A | C8-N9-C4 | 9.47 | 109.59 | 105.80 |
| 1 | 1G | 1060 | C | C5-C6-N1 | 9.47 | 125.74 | 121.00 |
| 26 | 14 | 391 | G | N1-C6-O6 | 9.47 | 125.58 | 119.90 |
| 26 | 14 | 2558 | C | N3-C4-C5 | 9.47 | 125.69 | 121.90 |
| 26 | 14 | 2589 | A | C2-N3-C4 | -9.47 | 105.86 | 110.60 |
| 26 | 14 | 19 | C | C6-N1-C2 | 9.47 | 124.09 | 120.30 |
| 26 | 1H | 566 | U | C5-C6-N1 | -9.47 | 117.97 | 122.70 |
| 26 | 1H | 716 | A | O5'-P-OP2 | 9.47 | 122.06 | 110.70 |
| 26 | 1H | 2543 | G | C6-N1-C2 | -9.47 | 119.42 | 125.10 |
| 1 | 1G | 46 | G | N1-C6-O6 | 9.47 | 125.58 | 119.90 |
| 26 | 14 | 2779 | U | N3-C2-O2 | -9.47 | 115.57 | 122.20 |
| 26 | 1H | 211 | A | C5-C6-N1 | -9.47 | 112.97 | 117.70 |
| 26 | 1H | 1611 | C | C5-C6-N1 | -9.47 | 116.27 | 121.00 |
| 22 | 1K | 76 | A | C6-C5-N7 | -9.46 | 125.67 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1825 | A | N1-C6-N6 | -9.46 | 112.92 | 118.60 |
| 26 | 14 | 1422 | G | N3-C4-C5 | 9.46 | 133.33 | 128.60 |
| 1 | 13 | 542 | G | N1-C6-O6 | 9.46 | 125.58 | 119.90 |
| 26 | 1H | 1606 | G | N7-C8-N9 | -9.46 | 108.37 | 113.10 |
| 26 | 1H | 2464 | C | N3-C4-N4 | 9.46 | 124.62 | 118.00 |
| 26 | 14 | 456 | C | C6-N1-C2 | 9.46 | 124.08 | 120.30 |
| 26 | 14 | 2447 | G | N3-C2-N2 | -9.46 | 113.28 | 119.90 |
| 26 | 1H | 427 | U | C5-C6-N1 | 9.46 | 127.43 | 122.70 |
| 26 | 1H | 2618 | G | N1-C6-O6 | -9.46 | 114.22 | 119.90 |
| 1 | 13 | 768 | A | C6-N1-C2 | -9.46 | 112.92 | 118.60 |
| 26 | 1H | 129 | C | C2-N3-C4 | -9.46 | 115.17 | 119.90 |
| 26 | 14 | 2588 | G | C8-N9-C4 | -9.46 | 102.62 | 106.40 |
| 26 | 1H | 1238 | G | C4-C5-N7 | -9.46 | 107.02 | 110.80 |
| 26 | 1H | 1698 | A | N3-C4-C5 | 9.46 | 133.42 | 126.80 |
| 26 | 1H | 2541 | A | O5'-P-OP1 | -9.46 | 97.19 | 105.70 |
| 26 | 14 | 1839 | G | C8-N9-C4 | 9.46 | 110.18 | 106.40 |
| 26 | 1H | 447 | A | N1-C6-N6 | -9.46 | 112.93 | 118.60 |
| 26 | 1H | 562 | U | N1-C2-O2 | 9.46 | 129.42 | 122.80 |
| 26 | 1H | 1607 | C | N3-C4-N4 | 9.45 | 124.62 | 118.00 |
| 26 | 1H | 2392 | A | O5'-P-OP2 | 9.46 | 122.05 | 110.70 |
| 26 | 14 | 122 | G | C6-N1-C2 | -9.46 | 119.43 | 125.10 |
| 26 | 14 | 1681 | G | N3-C4-N9 | -9.46 | 120.33 | 126.00 |
| 26 | 14 | 2874 | C | C6-N1-C2 | 9.45 | 124.08 | 120.30 |
| 26 | 1H | 2262 | U | O5'-P-OP1 | 9.45 | 122.04 | 110.70 |
| 26 | 14 | 1698 | A | N7-C8-N9 | 9.45 | 118.53 | 113.80 |
| 26 | 1H | 1345 | C | C6-N1-C2 | 9.45 | 124.08 | 120.30 |
| 26 | 1H | 1424 | G | O5'-P-OP1 | -9.45 | 97.19 | 105.70 |
| 26 | 14 | 2549 | G | C2-N3-C4 | -9.45 | 107.17 | 111.90 |
| 26 | 1H | 1781 | C | C5-C6-N1 | 9.45 | 125.72 | 121.00 |
| 1 | 1G | 411 | A | O5'-P-OP2 | -9.45 | 97.19 | 105.70 |
| 26 | 14 | 476 | G | O5'-P-OP2 | -9.45 | 97.20 | 105.70 |
| 26 | 14 | 1694 | C | N3-C4-C5 | 9.45 | 125.68 | 121.90 |
| 26 | 14 | 2782 | G | C5-C6-N1 | -9.45 | 106.78 | 111.50 |
| 26 | 1H | 195 | A | C5-N7-C8 | -9.45 | 99.18 | 103.90 |
| 26 | 1H | 825 | C | N3-C4-N4 | 9.45 | 124.61 | 118.00 |
| 40 | A8 | 24 | LEU | CA-CB-CG | 9.45 | 137.03 | 115.30 |
| 26 | 1H | 1205 | U | N1-C2-N3 | 9.44 | 120.57 | 114.90 |
| 1 | 13 | 1128 | C | C6-N1-C2 | -9.44 | 116.52 | 120.30 |
| 26 | 1H | 2622 | C | C5-C6-N1 | -9.44 | 116.28 | 121.00 |
| 26 | 14 | 2512 | C | C2-N3-C4 | -9.44 | 115.18 | 119.90 |
| 1 | 1G | 1502 | A | N1-C6-N6 | 9.44 | 124.26 | 118.60 |
| 26 | 14 | 2366 | A | O5'-P-OP2 | -9.44 | 97.20 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1496 | C | O5'-P-OP2 | -9.44 | 97.21 | 105.70 |
| 26 | 1H | 846 | C | C6-N1-C2 | 9.44 | 124.08 | 120.30 |
| 26 | 1H | 920 | G | C8-N9-C4 | 9.44 | 110.17 | 106.40 |
| 26 | 14 | 85 | G | C8-N9-C4 | 9.44 | 110.17 | 106.40 |
| 26 | 14 | 90 | U | N1-C2-O2 | 9.44 | 129.41 | 122.80 |
| 26 | 14 | 2315 | G | C5-C6-N1 | 9.44 | 116.22 | 111.50 |
| 26 | 1H | 387 | U | C2-N3-C4 | -9.44 | 121.34 | 127.00 |
| 26 | 1H | 463 | G | N1-C2-N2 | -9.43 | 107.71 | 116.20 |
| 26 | 14 | 704 | G | C5-C6-N1 | -9.43 | 106.78 | 111.50 |
| 26 | 1H | 651 | G | N7-C8-N9 | 9.43 | 117.81 | 113.10 |
| 1 | 13 | 874 | G | N1-C6-O6 | -9.43 | 114.24 | 119.90 |
| 26 | 1H | 664 | C | C5-C6-N1 | -9.43 | 116.28 | 121.00 |
| 26 | 14 | 389 | G | C5-C6-N1 | 9.43 | 116.22 | 111.50 |
| 1 | 13 | 801 | U | N1-C2-O2 | 9.43 | 129.40 | 122.80 |
| 26 | 1H | 537 | C | O5'-P-OP1 | 9.43 | 122.01 | 110.70 |
| 26 | 14 | 808 | G | C4-C5-N7 | -9.43 | 107.03 | 110.80 |
| 26 | 14 | 2644 | G | C2-N3-C4 | -9.42 | 107.19 | 111.90 |
| 26 | 14 | 2840 | C | C4-C5-C6 | 9.42 | 122.11 | 117.40 |
| 26 | 1H | 182 | A | C8-N9-C4 | 9.42 | 109.57 | 105.80 |
| 26 | 1H | 2025 | C | C6-N1-C2 | -9.42 | 116.53 | 120.30 |
| 1 | 1G | 585 | G | C2-N3-C4 | 9.42 | 116.61 | 111.90 |
| 26 | 14 | 2448 | A | C6-N1-C2 | -9.42 | 112.95 | 118.60 |
| 26 | 1H | 794 | G | N9-C4-C5 | -9.42 | 101.63 | 105.40 |
| 26 | 1H | 1930 | G | C2-N3-C4 | 9.42 | 116.61 | 111.90 |
| 26 | 14 | 1949 | G | C5-N7-C8 | 9.42 | 109.01 | 104.30 |
| 26 | 14 | 1579 | A | N1-C6-N6 | 9.41 | 124.25 | 118.60 |
| 1 | 13 | 766 | A | C4-C5-N7 | 9.41 | 115.41 | 110.70 |
| 26 | 1H | 67 | U | N1-C2-O2 | 9.41 | 129.39 | 122.80 |
| 26 | 1H | 1569 | A | C6-N1-C2 | 9.41 | 124.25 | 118.60 |
| 26 | 1H | 1837 | C | C5-C6-N1 | 9.41 | 125.71 | 121.00 |
| 26 | 14 | 974(A) | C | N3-C4-N4 | -9.41 | 111.41 | 118.00 |
| 26 | 1H | 195 | A | OP1-P-OP2 | -9.41 | 105.48 | 119.60 |
| 26 | 1H | 1147 | C | O5'-P-OP2 | -9.41 | 97.23 | 105.70 |
| 26 | 14 | 1026 | U | N3-C4-O4 | 9.41 | 125.99 | 119.40 |
| 26 | 14 | 1594 | G | O5'-P-OP2 | 9.41 | 121.99 | 110.70 |
| 26 | 14 | 1644 | C | O5'-P-OP1 | 9.41 | 121.99 | 110.70 |
| 26 | 14 | 2053 | G | C4-C5-N7 | -9.41 | 107.04 | 110.80 |
| 26 | 1H | 1379 | A | C8-N9-C4 | -9.41 | 102.04 | 105.80 |
| 26 | 1H | 1430 | C | OP1-P-O3' | 9.41 | 125.90 | 105.20 |
| 26 | 1H | 2599 | G | O5'-P-OP2 | -9.41 | 97.23 | 105.70 |
| 1 | 1G | 690 | G | N3-C4-C5 | 9.41 | 133.30 | 128.60 |
| 26 | 1H | 808 | G | N1-C2-N2 | -9.40 | 107.74 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 74 | A | C4-C5-N7 | 9.40 | 115.40 | 110.70 |
| 26 | 14 | 567 | A | C8-N9-C4 | 9.40 | 109.56 | 105.80 |
| 26 | 14 | 675 | A | C4-C5-N7 | 9.40 | 115.40 | 110.70 |
| 26 | 14 | 768 | G | OP1-P-OP2 | 9.40 | 133.71 | 119.60 |
| 26 | 14 | 2030 | A | O5'-P-OP2 | -9.40 | 97.23 | 105.70 |
| 26 | 14 | 2428 | G | N1-C6-O6 | -9.40 | 114.26 | 119.90 |
| 26 | 1H | 528 | A | N7-C8-N9 | 9.40 | 118.50 | 113.80 |
| 26 | 1H | 827 | U | N1-C2-O2 | -9.40 | 116.22 | 122.80 |
| 26 | 14 | 698 | C | O5'-P-OP2 | -9.40 | 97.24 | 105.70 |
| 1 | 13 | 760 | G | C5-C6-O6 | -9.40 | 122.96 | 128.60 |
| 26 | 1H | 1299 | G | OP1-P-OP2 | -9.40 | 105.50 | 119.60 |
| 1 | 13 | 869 | G | N3-C2-N2 | -9.40 | 113.32 | 119.90 |
| 1 | 1G | 1235 | U | C5-C6-N1 | 9.40 | 127.40 | 122.70 |
| 26 | 1H | 203 | C | N3-C4-C5 | 9.40 | 125.66 | 121.90 |
| 26 | 14 | 330 | A | N1-C6-N6 | 9.40 | 124.24 | 118.60 |
| 26 | 1H | 1278 | A | N1-C6-N6 | -9.39 | 112.96 | 118.60 |
| 26 | 14 | 35 | G | N9-C4-C5 | 9.39 | 109.16 | 105.40 |
| 26 | 14 | 2022 | U | N1-C2-N3 | -9.39 | 109.26 | 114.90 |
| 26 | 1H | 123 | G | N1-C2-N3 | 9.39 | 129.54 | 123.90 |
| 26 | 1H | 1477 | A | O5'-P-OP2 | -9.39 | 97.25 | 105.70 |
| 26 | 1H | 2713 | A | N3-C4-N9 | -9.39 | 119.89 | 127.40 |
| 26 | 14 | 2049 | G | C5-N7-C8 | -9.39 | 99.60 | 104.30 |
| 26 | 1H | 787 | U | O5'-P-OP1 | 9.39 | 121.97 | 110.70 |
| 26 | 1H | 609 | A | C5-C6-N6 | -9.39 | 116.19 | 123.70 |
| 26 | 1H | 738 | G | N1-C2-N2 | -9.39 | 107.75 | 116.20 |
| 26 | 1H | 1297 | C | C6-N1-C2 | -9.39 | 116.55 | 120.30 |
| 26 | 1H | 1906 | G | O5'-P-OP2 | -9.39 | 97.25 | 105.70 |
| 26 | 1H | 2327 | A | N7-C8-N9 | -9.39 | 109.11 | 113.80 |
| 26 | 1H | 2371 | G | C8-N9-C4 | 9.39 | 110.16 | 106.40 |
| 26 | 1H | 2429 | G | N9-C4-C5 | 9.39 | 109.16 | 105.40 |
| 26 | 1H | 2665 | A | C5-C6-N6 | -9.39 | 116.19 | 123.70 |
| 26 | 14 | 380 | U | N3-C2-O2 | -9.39 | 115.63 | 122.20 |
| 26 | 14 | 499 | U | N1-C2-N3 | 9.39 | 120.53 | 114.90 |
| 26 | 14 | 664 | C | N3-C4-N4 | -9.39 | 111.43 | 118.00 |
| 26 | 14 | 2447 | G | N1-C2-N3 | 9.39 | 129.53 | 123.90 |
| 1 | 13 | 394 | G | N3-C2-N2 | -9.38 | 113.33 | 119.90 |
| 26 | 1H | 505 | A | C5-N7-C8 | -9.38 | 99.21 | 103.90 |
| 26 | 1H | 1238 | G | C5-C6-O6 | 9.39 | 134.23 | 128.60 |
| 26 | 1H | 2603 | G | N7-C8-N9 | 9.39 | 117.79 | 113.10 |
| 26 | 14 | 459 | U | C5-C6-N1 | -9.38 | 118.01 | 122.70 |
| 26 | 14 | 2777 | G | N1-C6-O6 | 9.38 | 125.53 | 119.90 |
| 22 | 1K | 61 | C | C5-C6-N1 | 9.38 | 125.69 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 988 | A | C5-C6-N6 | -9.38 | 116.20 | 123.70 |
| 1 | 13 | 333 | G | C4-C5-N7 | -9.38 | 107.05 | 110.80 |
| 26 | 1H | 1941 | C | N3-C4-C5 | -9.38 | 118.15 | 121.90 |
| 1 | 1G | 859 | A | C8-N9-C4 | -9.38 | 102.05 | 105.80 |
| 26 | 14 | 863 | A | N1-C6-N6 | -9.38 | 112.97 | 118.60 |
| 26 | 14 | 2076 | U | O5'-P-OP2 | -9.38 | 97.26 | 105.70 |
| 26 | 14 | 2534 | A | N1-C6-N6 | 9.38 | 124.23 | 118.60 |
| 26 | 14 | 2854 | G | N1-C6-O6 | -9.38 | 114.27 | 119.90 |
| 27 | 1J | 102 | G | N1-C6-O6 | -9.38 | 114.27 | 119.90 |
| 23 | 2K | 40 | C | N3-C4-N4 | 9.38 | 124.56 | 118.00 |
| 26 | 1H | 124 | G | N9-C4-C5 | -9.38 | 101.65 | 105.40 |
| 26 | 1H | 821 | A | C2-N3-C4 | -9.38 | 105.91 | 110.60 |
| 26 | 1H | 1197 | G | C5-N7-C8 | 9.38 | 108.99 | 104.30 |
| 27 | 16 | 105 | G | C5-N7-C8 | -9.38 | 99.61 | 104.30 |
| 26 | 14 | 199 | A | N1-C2-N3 | -9.38 | 124.61 | 129.30 |
| 26 | 14 | 694 | U | N3-C2-O2 | -9.38 | 115.64 | 122.20 |
| 26 | 14 | 810 | U | C2-N1-C1' | 9.38 | 128.95 | 117.70 |
| 26 | 1H | 1129 | A | OP1-P-OP2 | 9.37 | 133.66 | 119.60 |
| 26 | 14 | 2727 | G | C8-N9-C4 | 9.38 | 110.15 | 106.40 |
| 1 | 13 | 813 | U | C5-C4-O4 | -9.37 | 120.28 | 125.90 |
| 26 | 1H | 85 | G | O5'-P-OP2 | -9.37 | 97.27 | 105.70 |
| 26 | 1H | 681 | G | O5'-P-OP2 | 9.37 | 121.95 | 110.70 |
| 26 | 14 | 1372 | U | N1-C2-O2 | -9.37 | 116.24 | 122.80 |
| 26 | 14 | 2329 | G | N7-C8-N9 | -9.37 | 108.41 | 113.10 |
| 1 | 13 | 307 | C | O5'-P-OP2 | -9.37 | 97.27 | 105.70 |
| 1 | 13 | 954 | G | OP1-P-OP2 | -9.37 | 105.55 | 119.60 |
| 26 | 1H | 817 | C | OP1-P-OP2 | -9.37 | 105.55 | 119.60 |
| 26 | 14 | 2335 | A | O4'-C1'-N9 | 9.37 | 115.69 | 108.20 |
| 1 | 13 | 1195 | C | C6-N1-C2 | -9.37 | 116.55 | 120.30 |
| 26 | 1H | 1771 | C | N1-C2-N3 | 9.37 | 125.76 | 119.20 |
| 26 | 1H | 2502 | G | C5-N7-C8 | -9.37 | 99.62 | 104.30 |
| 26 | 14 | 2280 | G | C5-C6-N1 | -9.37 | 106.82 | 111.50 |
| 26 | 14 | 1277 | G | N1-C6-O6 | 9.36 | 125.52 | 119.90 |
| 26 | 1H | 1991 | U | OP1-P-OP2 | -9.36 | 105.56 | 119.60 |
| 26 | 1H | 649 | G | N1-C6-O6 | 9.36 | 125.52 | 119.90 |
| 1 | 1G | 11 | G | C5-C6-N1 | -9.36 | 106.82 | 111.50 |
| 26 | 14 | 2335 | A | N1-C6-N6 | -9.36 | 112.98 | 118.60 |
| 26 | 1H | 116 | C | N3-C4-C5 | -9.36 | 118.16 | 121.90 |
| 1 | 1G | 1465 | C | N3-C2-O2 | -9.36 | 115.35 | 121.90 |
| 26 | 14 | 64 | A | C5-C6-N6 | -9.36 | 116.21 | 123.70 |
| 26 | 1H | 575 | A | N9-C4-C5 | -9.36 | 102.06 | 105.80 |
| 26 | 1H | 1287 | A | C8-N9-C4 | -9.36 | 102.06 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2218 | G | N1-C6-O6 | 9.36 | 125.52 | 119.90 |
| 26 | 14 | 1294 | U | C6-N1-C2 | 9.36 | 126.62 | 121.00 |
| 27 | 1J | 81 | G | C5-N7-C8 | -9.36 | 99.62 | 104.30 |
| 1 | 13 | 332 | G | O5'-P-OP1 | -9.36 | 97.28 | 105.70 |
| 26 | 1H | 1211 | U | C6-N1-C2 | 9.36 | 126.61 | 121.00 |
| 26 | 1H | 1047 | G | C8-N9-C4 | 9.35 | 110.14 | 106.40 |
| 1 | 13 | 300 | A | C8-N9-C4 | -9.35 | 102.06 | 105.80 |
| 26 | 1H | 536 | A | C6-N1-C2 | -9.35 | 112.99 | 118.60 |
| 26 | 1H | 821 | A | N1-C2-N3 | 9.35 | 133.98 | 129.30 |
| 26 | 1H | 2561 | A | N1-C2-N3 | 9.35 | 133.97 | 129.30 |
| 1 | 1G | 1259 | C | C6-N1-C2 | -9.35 | 116.56 | 120.30 |
| 26 | 14 | 1656 | C | N1-C2-O2 | -9.35 | 113.29 | 118.90 |
| 26 | 1H | 263 | C | N3-C2-O2 | -9.35 | 115.36 | 121.90 |
| 26 | 1H | 1761 | C | N1-C2-O2 | -9.35 | 113.29 | 118.90 |
| 26 | 1H | 151 | C | N3-C4-N4 | -9.35 | 111.46 | 118.00 |
| 1 | 1G | 1314 | C | C6-N1-C2 | -9.35 | 116.56 | 120.30 |
| 1 | 13 | 523 | A | N1-C6-N6 | 9.35 | 124.21 | 118.60 |
| 26 | 1H | 1224 | G | C6-C5-N7 | 9.35 | 136.01 | 130.40 |
| 26 | 14 | 632 | A | OP1-P-OP2 | -9.35 | 105.58 | 119.60 |
| 23 | 2K | 21 | U | N1-C2-O2 | 9.34 | 129.34 | 122.80 |
| 26 | 1H | 406 | G | C8-N9-C4 | -9.34 | 102.66 | 106.40 |
| 26 | 1H | 1381 | G | N3-C2-N2 | -9.34 | 113.36 | 119.90 |
| 26 | 1H | 2600 | A | C5-N7-C8 | 9.34 | 108.57 | 103.90 |
| 26 | 14 | 2236 | C | C5-C6-N1 | -9.34 | 116.33 | 121.00 |
| 26 | 14 | 2451 | A | N1-C2-N3 | 9.34 | 133.97 | 129.30 |
| 1 | 13 | 47 | C | C4-C5-C6 | 9.34 | 122.07 | 117.40 |
| 26 | 1H | 129 | C | C4-C5-C6 | 9.34 | 122.07 | 117.40 |
| 26 | 1H | 800 | A | C6-N1-C2 | -9.34 | 113.00 | 118.60 |
| 26 | 1H | 1443 | G | C2-N3-C4 | -9.34 | 107.23 | 111.90 |
| 26 | 14 | 2618 | G | N9-C4-C5 | 9.34 | 109.14 | 105.40 |
| 26 | 1H | 328 | U | C5-C4-O4 | 9.34 | 131.50 | 125.90 |
| 26 | 1H | 1658 | C | N3-C2-O2 | 9.34 | 128.44 | 121.90 |
| 26 | 1H | 2373 | G | C5-C6-N1 | -9.34 | 106.83 | 111.50 |
| 26 | 1H | 2379 | G | N9-C4-C5 | -9.34 | 101.67 | 105.40 |
| 26 | 1H | 779 | U | C5-C4-O4 | -9.33 | 120.30 | 125.90 |
| 1 | 13 | 1533 | C | C2-N1-C1' | 9.33 | 129.07 | 118.80 |
| 26 | 1H | 97 | C | OP1-P-OP2 | 9.33 | 133.60 | 119.60 |
| 26 | 1H | 242 | G | N1-C6-O6 | 9.33 | 125.50 | 119.90 |
| 26 | 1H | 250 | G | C2-N3-C4 | -9.33 | 107.23 | 111.90 |
| 26 | 1H | 1378 | A | C2-N3-C4 | -9.33 | 105.93 | 110.60 |
| 26 | 14 | 315 | G | N7-C8-N9 | -9.33 | 108.43 | 113.10 |
| 1 | 13 | 880 | C | C5-C4-N4 | -9.33 | 113.67 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 461 | C | N1-C2-O2 | -9.33 | 113.30 | 118.90 |
| 26 | 1H | 533 | G | C5-C6-O6 | 9.33 | 134.20 | 128.60 |
| 26 | 1H | 1802 | A | N1-C2-N3 | 9.33 | 133.97 | 129.30 |
| 26 | 1H | 1952 | A | C8-N9-C4 | -9.33 | 102.07 | 105.80 |
| 26 | 1H | 2429 | G | N3-C2-N2 | -9.33 | 113.37 | 119.90 |
| 26 | 14 | 1127 | A | C5-C6-N1 | 9.33 | 122.36 | 117.70 |
| 26 | 14 | 2362 | G | N9-C4-C5 | -9.33 | 101.67 | 105.40 |
| 1 | 13 | 117 | G | N1-C6-O6 | 9.33 | 125.50 | 119.90 |
| 26 | 1H | 767 | U | C5-C6-N1 | -9.33 | 118.04 | 122.70 |
| 26 | 1H | 1036 | G | N7-C8-N9 | -9.33 | 108.44 | 113.10 |
| 26 | 1H | 1799 | G | N3-C4-N9 | 9.33 | 131.60 | 126.00 |
| 27 | 16 | 64 | C | C6-N1-C2 | 9.33 | 124.03 | 120.30 |
| 26 | 14 | 2235 | G | C5-C6-O6 | -9.33 | 123.00 | 128.60 |
| 1 | 13 | 803 | G | C5-C6-O6 | 9.32 | 134.19 | 128.60 |
| 26 | 1H | 458 | G | C6-C5-N7 | 9.32 | 136.00 | 130.40 |
| 26 | 1H | 729 | G | C5-C6-O6 | -9.32 | 123.00 | 128.60 |
| 26 | 1H | 2075 | U | C2-N3-C4 | -9.32 | 121.41 | 127.00 |
| 26 | 14 | 2016 | U | C4-C5-C6 | 9.32 | 125.29 | 119.70 |
| 1 | 13 | 853 | G | C2-N3-C4 | -9.32 | 107.24 | 111.90 |
| 26 | 1H | 1344 | G | N3-C2-N2 | -9.32 | 113.37 | 119.90 |
| 26 | 1H | 1422 | G | N7-C8-N9 | 9.32 | 117.76 | 113.10 |
| 26 | 14 | 270(Y) | G | C5-C6-N1 | -9.32 | 106.84 | 111.50 |
| 26 | 14 | 1475 | G | C8-N9-C4 | -9.32 | 102.67 | 106.40 |
| 26 | 1H | 1700 | A | OP1-P-OP2 | 9.32 | 133.58 | 119.60 |
| 26 | 1H | 2030 | A | C6-N1-C2 | -9.32 | 113.01 | 118.60 |
| 26 | 14 | 2499 | C | C6-N1-C2 | -9.32 | 116.57 | 120.30 |
| 26 | 14 | 1906 | G | N7-C8-N9 | 9.32 | 117.76 | 113.10 |
| 1 | 13 | 402 | G | O5'-P-OP2 | -9.32 | 97.31 | 105.70 |
| 1 | 1G | 1528 | U | C5-C6-N1 | -9.32 | 118.04 | 122.70 |
| 26 | 14 | 2700 | C | C4-C5-C6 | 9.32 | 122.06 | 117.40 |
| 26 | 1H | 840 | C | N3-C4-N4 | -9.31 | 111.48 | 118.00 |
| 26 | 1H | 1553 | A | N1-C6-N6 | -9.31 | 113.01 | 118.60 |
| 26 | 1H | 1676 | A | C2-N3-C4 | -9.31 | 105.94 | 110.60 |
| 26 | 14 | 2284 | C | C6-N1-C2 | 9.31 | 124.03 | 120.30 |
| 26 | 14 | 2525 | G | N3-C4-C5 | 9.31 | 133.26 | 128.60 |
| 26 | 1H | 1937 | A | N1-C2-N3 | 9.31 | 133.96 | 129.30 |
| 26 | 14 | 2072 | G | C8-N9-C4 | 9.31 | 110.12 | 106.40 |
| 26 | 1H | 2022 | U | OP1-P-OP2 | -9.31 | 105.64 | 119.60 |
| 26 | 1H | 2442 | C | C5-C4-N4 | -9.31 | 113.68 | 120.20 |
| 26 | 14 | 2818 | G | N3-C4-C5 | 9.31 | 133.25 | 128.60 |
| 26 | 1H | 2384 | G | C2-N3-C4 | 9.31 | 116.56 | 111.90 |
| 26 | 14 | 1300 | U | N1-C2-O2 | -9.31 | 116.28 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 142 | G | N3-C2-N2 | -9.31 | 113.39 | 119.90 |
| 26 | 1H | 1324 | G | N3-C4-N9 | -9.31 | 120.42 | 126.00 |
| 26 | 1H | 2645 | G | C6-C5-N7 | -9.30 | 124.82 | 130.40 |
| 26 | 14 | 129 | C | C2-N3-C4 | -9.31 | 115.25 | 119.90 |
| 26 | 14 | 1021 | A | C5-C6-N1 | -9.30 | 113.05 | 117.70 |
| 26 | 14 | 1547 | C | N3-C2-O2 | -9.31 | 115.39 | 121.90 |
| 26 | 14 | 1812 | A | O5'-P-OP2 | -9.30 | 97.33 | 105.70 |
| 26 | 14 | 234 | C | N1-C2-O2 | 9.30 | 124.48 | 118.90 |
| 26 | 14 | 720 | C | C6-N1-C2 | 9.30 | 124.02 | 120.30 |
| 26 | 14 | 1403 | C | OP1-P-OP2 | 9.30 | 133.56 | 119.60 |
| 26 | 14 | 1406 | U | C5-C4-O4 | -9.30 | 120.32 | 125.90 |
| 26 | 14 | 1763 | G | C6-C5-N7 | 9.30 | 135.98 | 130.40 |
| 22 | 1K | 61 | C | C6-N1-C2 | -9.30 | 116.58 | 120.30 |
| 26 | 1H | 153 | C | N3-C4-N4 | 9.30 | 124.51 | 118.00 |
| 26 | 1H | 1760 | A | O5'-P-OP2 | -9.30 | 97.33 | 105.70 |
| 26 | 1H | 663 | G | C4-C5-C6 | 9.30 | 124.38 | 118.80 |
| 26 | 1H | 955 | C | N3-C4-C5 | -9.30 | 118.18 | 121.90 |
| 26 | 1H | 2327 | A | C5-C6-N1 | 9.30 | 122.35 | 117.70 |
| 26 | 1H | 195 | A | O5'-P-OP1 | 9.30 | 121.86 | 110.70 |
| 26 | 1H | 566 | U | C5-C4-O4 | -9.30 | 120.32 | 125.90 |
| 26 | 1H | 728 | G | C4-C5-C6 | 9.30 | 124.38 | 118.80 |
| 26 | 1H | 806 | C | C4-C5-C6 | -9.30 | 112.75 | 117.40 |
| 26 | 14 | 1815 | A | C8-N9-C4 | -9.30 | 102.08 | 105.80 |
| 26 | 14 | 2396 | G | C5-C6-O6 | -9.30 | 123.02 | 128.60 |
| 1 | 13 | 583 | A | O5'-P-OP1 | -9.29 | 97.33 | 105.70 |
| 26 | 1H | 2567 | G | O5'-P-OP1 | -9.29 | 97.33 | 105.70 |
| 26 | 14 | 2250 | G | C2-N3-C4 | 9.29 | 116.55 | 111.90 |
| 26 | 14 | 1650 | G | O5'-P-OP2 | -9.29 | 97.34 | 105.70 |
| 26 | 1H | 26 | G | O5'-P-OP2 | -9.29 | 97.34 | 105.70 |
| 26 | 1H | 1156 | A | O5'-P-OP1 | 9.29 | 121.85 | 110.70 |
| 26 | 1H | 2017 | U | N3-C4-O4 | 9.29 | 125.91 | 119.40 |
| 1 | 1G | 586 | C | C6-N1-C2 | -9.29 | 116.58 | 120.30 |
| 26 | 14 | 2324 | C | N3-C2-O2 | 9.29 | 128.41 | 121.90 |
| 26 | 14 | 2588 | G | N9-C4-C5 | 9.29 | 109.12 | 105.40 |
| 26 | 14 | 613 | U | C2-N1-C1' | 9.29 | 128.85 | 117.70 |
| 26 | 14 | 1260 | G | N3-C2-N2 | -9.29 | 113.40 | 119.90 |
| 26 | 14 | 2618 | G | C5-C6-N1 | -9.29 | 106.86 | 111.50 |
| 26 | 1H | 806 | C | C6-N1-C2 | 9.29 | 124.02 | 120.30 |
| 26 | 1H | 964 | C | N1-C2-N3 | 9.29 | 125.70 | 119.20 |
| 26 | 14 | 755 | C | C6-N1-C2 | -9.29 | 116.58 | 120.30 |
| 26 | 1H | 679 | C | C5-C4-N4 | 9.29 | 126.70 | 120.20 |
| 50 | K8 | 59 | ARG | NE-CZ-NH1 | -9.28 | 115.66 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 800 | G | C5-C6-N1 | -9.29 | 106.86 | 111.50 |
| 26 | 14 | 2010 | G | O5'-P-OP1 | -9.29 | 97.34 | 105.70 |
| 26 | 1H | 391 | G | C5-C6-O6 | -9.28 | 123.03 | 128.60 |
| 26 | 14 | 690 | G | C2-N3-C4 | -9.28 | 107.26 | 111.90 |
| 26 | 1H | 1888 | G | C8-N9-C4 | -9.28 | 102.69 | 106.40 |
| 26 | 1H | 2009 | G | N9-C4-C5 | -9.28 | 101.69 | 105.40 |
| 1 | 1G | 305 | G | C4-C5-N7 | -9.28 | 107.09 | 110.80 |
| 26 | 14 | 1272 | A | N1-C6-N6 | 9.28 | 124.17 | 118.60 |
| 1 | 13 | 748 | C | C6-N1-C2 | -9.28 | 116.59 | 120.30 |
| 26 | 1H | 1442 | G | C5-C6-N1 | -9.28 | 106.86 | 111.50 |
| 24 | 3K | 65 | C | C6-N1-C2 | -9.28 | 116.59 | 120.30 |
| 26 | 1H | 2285 | C | C4-C5-C6 | -9.28 | 112.76 | 117.40 |
| 26 | 14 | 2463 | C | N3-C4-C5 | 9.28 | 125.61 | 121.90 |
| 26 | 14 | 1831 | G | N3-C4-C5 | -9.27 | 123.96 | 128.60 |
| 26 | 1H | 574 | C | OP1-P-OP2 | 9.27 | 133.51 | 119.60 |
| 26 | 1H | 2824 | C | N1-C2-O2 | 9.27 | 124.46 | 118.90 |
| 25 | 4L | 14 | A | O4'-C1'-N9 | 9.27 | 115.62 | 108.20 |
| 26 | 14 | 458 | G | C5-N7-C8 | -9.27 | 99.66 | 104.30 |
| 26 | 1H | 2453 | A | O5'-P-OP2 | -9.27 | 97.36 | 105.70 |
| 27 | 16 | 98 | G | C8-N9-C4 | 9.27 | 110.11 | 106.40 |
| 26 | 14 | 2446 | G | OP2-P-O3' | 9.27 | 125.59 | 105.20 |
| 26 | 1H | 1368 | G | C6-N1-C2 | -9.27 | 119.54 | 125.10 |
| 26 | 1H | 2285 | C | N3-C4-N4 | -9.27 | 111.52 | 118.00 |
| 26 | 1H | 258 | G | C8-N9-C4 | 9.26 | 110.11 | 106.40 |
| 27 | 16 | 45 | A | O5'-P-OP2 | -9.26 | 97.36 | 105.70 |
| 26 | 14 | 2713 | A | N1-C6-N6 | 9.26 | 124.16 | 118.60 |
| 1 | 13 | 863 | U | C5-C4-O4 | 9.26 | 131.46 | 125.90 |
| 26 | 1H | 46 | C | O5'-P-OP1 | -9.26 | 97.37 | 105.70 |
| 1 | 1G | 562 | C | N1-C2-O2 | 9.26 | 124.46 | 118.90 |
| 1 | 1G | 596 | C | C6-N1-C2 | 9.26 | 124.00 | 120.30 |
| 1 | 13 | 1310 | G | O5'-P-OP2 | -9.26 | 97.37 | 105.70 |
| 26 | 1H | 1933 | G | N7-C8-N9 | 9.26 | 117.73 | 113.10 |
| 1 | 13 | 547 | A | N1-C6-N6 | -9.26 | 113.05 | 118.60 |
| 26 | 14 | 35 | G | N1-C6-O6 | -9.26 | 114.35 | 119.90 |
| 26 | 14 | 2224 | G | N1-C6-O6 | 9.26 | 125.45 | 119.90 |
| 26 | 14 | 2618 | G | C8-N9-C4 | -9.26 | 102.70 | 106.40 |
| 1 | 13 | 965 | A | C6-C5-N7 | -9.25 | 125.82 | 132.30 |
| 26 | 1H | 142 | G | N3-C4-C5 | 9.25 | 133.23 | 128.60 |
| 26 | 1H | 265 | A | N7-C8-N9 | 9.25 | 118.43 | 113.80 |
| 26 | 1H | 458 | G | N3-C4-N9 | -9.25 | 120.45 | 126.00 |
| 26 | 1H | 1370 | C | N1-C2-O2 | -9.25 | 113.35 | 118.90 |
| 26 | 1H | 2208 | U | N1-C2-O2 | -9.25 | 116.32 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2302 | G | C5-C6-O6 | 9.25 | 134.15 | 128.60 |
| 1 | 13 | 878 | G | N9-C4-C5 | -9.25 | 101.70 | 105.40 |
| 26 | 1H | 779 | U | N3-C4-C5 | 9.25 | 120.15 | 114.60 |
| 26 | 1H | 821 | A | C5-C6-N1 | -9.25 | 113.08 | 117.70 |
| 26 | 1H | 1611 | C | N3-C4-C5 | 9.25 | 125.60 | 121.90 |
| 26 | 1H | 2055 | C | N1-C2-O2 | 9.25 | 124.45 | 118.90 |
| 26 | 14 | 770 | G | C5-C6-N1 | 9.25 | 116.12 | 111.50 |
| 26 | 1H | 55 | G | C5-C6-O6 | -9.25 | 123.05 | 128.60 |
| 26 | 1H | 88 | G | C8-N9-C4 | -9.25 | 102.70 | 106.40 |
| 26 | 1H | 1022 | G | N3-C4-C5 | -9.25 | 123.98 | 128.60 |
| 26 | 1H | 1291 | C | N3-C4-N4 | -9.25 | 111.53 | 118.00 |
| 26 | 14 | 113 | G | C5-C6-N1 | 9.25 | 116.12 | 111.50 |
| 26 | 14 | 2041 | U | N1-C2-N3 | 9.25 | 120.45 | 114.90 |
| 26 | 14 | 2236 | C | C4-C5-C6 | 9.25 | 122.02 | 117.40 |
| 1 | 13 | 1333 | A | C6-N1-C2 | -9.24 | 113.05 | 118.60 |
| 26 | 1H | 119 | A | N9-C4-C5 | 9.24 | 109.50 | 105.80 |
| 26 | 1H | 483 | A | C5-C6-N1 | -9.24 | 113.08 | 117.70 |
| 26 | 1H | 1263 | U | C4-C5-C6 | -9.24 | 114.15 | 119.70 |
| 26 | 1H | 2442 | C | N3-C4-N4 | 9.24 | 124.47 | 118.00 |
| 26 | 14 | 2420 | C | O5'-P-OP1 | -9.24 | 97.38 | 105.70 |
| 26 | 1H | 535 | C | C6-N1-C2 | 9.24 | 124.00 | 120.30 |
| 26 | 1H | 1905 | C | N3-C4-N4 | 9.24 | 124.47 | 118.00 |
| 26 | 1H | 813 | U | C5-C6-N1 | -9.24 | 118.08 | 122.70 |
| 26 | 14 | 130 | C | C2-N3-C4 | -9.24 | 115.28 | 119.90 |
| 26 | 14 | 770 | G | C8-N9-C4 | 9.24 | 110.10 | 106.40 |
| 22 | 1K | 40 | C | N3-C2-O2 | -9.24 | 115.43 | 121.90 |
| 26 | 1H | 443 | A | OP1-P-OP2 | 9.24 | 133.45 | 119.60 |
| 26 | 1H | 514 | A | N1-C6-N6 | -9.24 | 113.06 | 118.60 |
| 26 | 1H | 527 | C | C6-N1-C2 | 9.24 | 124.00 | 120.30 |
| 26 | 14 | 2591 | C | N3-C4-C5 | -9.24 | 118.21 | 121.90 |
| 1 | 13 | 853 | G | C8-N9-C4 | 9.23 | 110.09 | 106.40 |
| 26 | 1H | 1785 | A | OP2-P-O3' | 9.23 | 125.52 | 105.20 |
| 26 | 1H | 2226 | C | N1-C2-O2 | 9.23 | 124.44 | 118.90 |
| 26 | 14 | 213 | A | C8-N9-C4 | 9.23 | 109.49 | 105.80 |
| 1 | 13 | 1519 | A | N1-C6-N6 | -9.23 | 113.06 | 118.60 |
| 26 | 1H | 1516 | U | C5-C4-O4 | 9.23 | 131.44 | 125.90 |
| 26 | 1H | 1934 | C | O5'-P-OP2 | -9.23 | 97.39 | 105.70 |
| 26 | 1H | 347 | A | C5-N7-C8 | -9.23 | 99.28 | 103.90 |
| 26 | 1H | 1955 | U | C5-C6-N1 | -9.23 | 118.08 | 122.70 |
| 26 | 1H | 2848 | G | N1-C6-O6 | -9.23 | 114.36 | 119.90 |
| 1 | 1G | 249 | U | O5'-P-OP2 | -9.23 | 97.39 | 105.70 |
| 26 | 14 | 428 | A | N3-C4-C5 | -9.23 | 120.34 | 126.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 4 | 32 | 191 | ARG | NE-CZ-NH1 | -9.23 | 115.69 | 120.30 |
| 26 | 14 | 1469 | A | N7-C8-N9 | 9.23 | 118.42 | 113.80 |
| 26 | 14 | 1596 | A | N1-C6-N6 | -9.23 | 113.06 | 118.60 |
| 1 | 13 | 1475 | G | N3-C2-N2 | -9.23 | 113.44 | 119.90 |
| 26 | 1H | 64 | A | N1-C6-N6 | -9.23 | 113.06 | 118.60 |
| 26 | 1H | 303 | U | C6-N1-C2 | -9.23 | 115.46 | 121.00 |
| 26 | 1H | 483 | A | C2-N3-C4 | -9.23 | 105.99 | 110.60 |
| 26 | 1H | 834 | C | C5-C6-N1 | -9.23 | 116.39 | 121.00 |
| 26 | 14 | 2362 | G | N1-C6-O6 | 9.23 | 125.44 | 119.90 |
| 26 | 14 | 71 | A | C4-C5-N7 | 9.23 | 115.31 | 110.70 |
| 26 | 14 | 2068 | U | C2-N3-C4 | 9.23 | 132.53 | 127.00 |
| 26 | 1H | 599 | G | N7-C8-N9 | -9.22 | 108.49 | 113.10 |
| 27 | 16 | 87 | G | C8-N9-C4 | 9.22 | 110.09 | 106.40 |
| 26 | 14 | 196 | A | N1-C6-N6 | -9.22 | 113.07 | 118.60 |
| 26 | 14 | 944 | G | O5'-P-OP1 | -9.22 | 97.40 | 105.70 |
| 26 | 1H | 1313 | U | N1-C2-O2 | -9.22 | 116.35 | 122.80 |
| 26 | 1H | 1826 | G | C5-C6-N1 | -9.22 | 106.89 | 111.50 |
| 26 | 14 | 22 | C | N3-C4-N4 | -9.22 | 111.55 | 118.00 |
| 26 | 14 | 123 | G | C2-N3-C4 | -9.22 | 107.29 | 111.90 |
| 26 | 14 | 2243 | U | OP1-P-OP2 | 9.22 | 133.43 | 119.60 |
| 26 | 14 | 2423 | U | C6-N1-C2 | 9.22 | 126.53 | 121.00 |
| 26 | 1H | 512 | G | O4'-C1'-N9 | 9.22 | 115.58 | 108.20 |
| 26 | 14 | 609 | A | C2-N3-C4 | 9.22 | 115.21 | 110.60 |
| 26 | 14 | 2264 | C | C6-N1-C2 | -9.22 | 116.61 | 120.30 |
| 26 | 1H | 2761 | G | N1-C2-N3 | 9.22 | 129.43 | 123.90 |
| 26 | 14 | 2447 | G | C4-C5-C6 | 9.22 | 124.33 | 118.80 |
| 24 | 3K | 43 | U | C6-N1-C2 | 9.22 | 126.53 | 121.00 |
| 26 | 1H | 1992 | G | C6-N1-C2 | -9.21 | 119.57 | 125.10 |
| 26 | 1H | 2287 | A | N3-C4-N9 | -9.22 | 120.03 | 127.40 |
| 26 | 14 | 706 | A | C2-N3-C4 | -9.21 | 105.99 | 110.60 |
| 26 | 14 | 2000 | G | C8-N9-C4 | 9.21 | 110.09 | 106.40 |
| 1 | 13 | 346 | G | C8-N9-C4 | -9.21 | 102.72 | 106.40 |
| 1 | 13 | 1072 | G | N1-C6-O6 | -9.21 | 114.37 | 119.90 |
| 24 | 3K | 39 | U | C5-C6-N1 | 9.21 | 127.31 | 122.70 |
| 26 | 1H | 2253 | G | C4-C5-N7 | 9.21 | 114.48 | 110.80 |
| 1 | 1G | 324 | G | C5-C6-O6 | 9.21 | 134.13 | 128.60 |
| 26 | 14 | 1271 | G | C2-N3-C4 | -9.21 | 107.30 | 111.90 |
| 1 | 13 | 1089 | G | N1-C6-O6 | 9.21 | 125.43 | 119.90 |
| 1 | 13 | 300 | A | N7-C8-N9 | 9.21 | 118.40 | 113.80 |
| 26 | 1H | 917 | A | C6-C5-N7 | -9.21 | 125.86 | 132.30 |
| 26 | 1H | 1354 | A | C4-C5-N7 | 9.21 | 115.30 | 110.70 |
| 26 | 1H | 2583 | G | N1-C2-N2 | -9.21 | 107.91 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1210 | A | C5-N7-C8 | -9.21 | 99.30 | 103.90 |
| 26 | 14 | 1826 | G | C2-N3-C4 | 9.21 | 116.50 | 111.90 |
| 1 | 13 | 789 | U | C4-C5-C6 | 9.21 | 125.22 | 119.70 |
| 1 | 13 | 826 | C | C6-N1-C2 | -9.21 | 116.62 | 120.30 |
| 26 | 1H | 1768 | U | C2-N3-C4 | 9.21 | 132.52 | 127.00 |
| 26 | 14 | 2555 | U | O5'-P-OP1 | -9.21 | 97.42 | 105.70 |
| 26 | 1H | 1157 | G | N1-C2-N3 | 9.20 | 129.42 | 123.90 |
| 26 | 1H | 2374 | C | C2-N3-C4 | -9.21 | 115.30 | 119.90 |
| 1 | 1G | 1476 | G | C8-N9-C4 | 9.21 | 110.08 | 106.40 |
| 26 | 14 | 744 | G | C2-N3-C4 | -9.21 | 107.30 | 111.90 |
| 27 | 1J | 109 | G | C8-N9-C4 | -9.20 | 102.72 | 106.40 |
| 1 | 13 | 577 | G | C5-N7-C8 | -9.20 | 99.70 | 104.30 |
| 26 | 1H | 705 | A | N1-C6-N6 | 9.20 | 124.12 | 118.60 |
| 26 | 1H | 915 | C | N3-C4-C5 | -9.20 | 118.22 | 121.90 |
| 26 | 14 | 1627 | G | C2-N3-C4 | -9.20 | 107.30 | 111.90 |
| 26 | 1H | 2871 | C | O5'-P-OP2 | -9.20 | 97.42 | 105.70 |
| 26 | 1H | 411 | G | N3-C4-C5 | -9.20 | 124.00 | 128.60 |
| 26 | 1H | 1300 | U | C4-C5-C6 | 9.20 | 125.22 | 119.70 |
| 26 | 14 | 1004 | C | C5-C6-N1 | 9.20 | 125.60 | 121.00 |
| 26 | 14 | 1316 | U | N3-C4-O4 | -9.20 | 112.96 | 119.40 |
| 26 | 1H | 873 | G | C8-N9-C4 | -9.19 | 102.72 | 106.40 |
| 26 | 1H | 2226 | C | N3-C2-O2 | -9.19 | 115.46 | 121.90 |
| 1 | 1G | 1522 | U | C6-N1-C2 | -9.20 | 115.48 | 121.00 |
| 26 | 14 | 1332 | G | C4-C5-N7 | 9.20 | 114.48 | 110.80 |
| 27 | 1J | 40 | U | N3-C2-O2 | 9.19 | 128.63 | 122.20 |
| 26 | 1H | 46 | C | N3-C4-C5 | -9.19 | 118.22 | 121.90 |
| 26 | 1H | 1623 | G | N3-C2-N2 | 9.19 | 126.33 | 119.90 |
| 23 | 2K | 41 | C | N3-C4-N4 | -9.19 | 111.57 | 118.00 |
| 26 | 1H | 356 | G | N1-C6-O6 | 9.19 | 125.41 | 119.90 |
| 26 | 1H | 1321 | A | N1-C2-N3 | 9.19 | 133.89 | 129.30 |
| 26 | 1H | 2330 | G | C4-C5-N7 | 9.19 | 114.48 | 110.80 |
| 1 | 1G | 357 | G | O5'-P-OP1 | -9.19 | 97.43 | 105.70 |
| 26 | 14 | 1130 | U | N1-C2-O2 | -9.19 | 116.37 | 122.80 |
| 26 | 14 | 2016 | U | N1-C2-N3 | 9.19 | 120.41 | 114.90 |
| 26 | 1H | 1623 | G | C5-N7-C8 | 9.19 | 108.89 | 104.30 |
| 26 | 1H | 1912 | A | C5-C6-N1 | 9.19 | 122.29 | 117.70 |
| 26 | 1H | 2544 | G | C6-N1-C2 | -9.19 | 119.59 | 125.10 |
| 1 | 1G | 858 | G | C5-C6-O6 | -9.19 | 123.09 | 128.60 |
| 26 | 1H | 1368 | G | N3-C4-C5 | -9.18 | 124.01 | 128.60 |
| 26 | 1H | 2297 | C | O5'-P-OP1 | -9.18 | 97.44 | 105.70 |
| 1 | 1G | 111 | G | N1-C6-O6 | 9.18 | 125.41 | 119.90 |
| 1 | 1G | 833 | U | N3-C2-O2 | -9.18 | 115.77 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 623 | G | C5-C6-O6 | -9.18 | 123.09 | 128.60 |
| 26 | 14 | 1889 | A | O5'-P-OP1 | -9.18 | 97.44 | 105.70 |
| 26 | 1H | 605 | C | O5'-P-OP1 | -9.18 | 97.44 | 105.70 |
| 26 | 1H | 1696 | G | C2-N3-C4 | -9.18 | 107.31 | 111.90 |
| 27 | 16 | 64 | C | OP1-P-O3' | 9.18 | 125.40 | 105.20 |
| 1 | 13 | 720 | C | N3-C2-O2 | -9.18 | 115.48 | 121.90 |
| 1 | 13 | 988 | G | N3-C4-C5 | -9.18 | 124.01 | 128.60 |
| 26 | 1H | 586 | A | C2-N3-C4 | 9.18 | 115.19 | 110.60 |
| 26 | 1H | 1516 | U | O5'-P-OP2 | -9.18 | 97.44 | 105.70 |
| 1 | 1G | 328 | C | N1-C2-O2 | 9.18 | 124.41 | 118.90 |
| 26 | 14 | 380 | U | O5'-P-OP2 | -9.18 | 97.44 | 105.70 |
| 26 | 1H | 870 | A | C5-C6-N1 | 9.17 | 122.29 | 117.70 |
| 26 | 1H | 2701 | C | N1-C2-N3 | 9.17 | 125.62 | 119.20 |
| 55 | Q8 | 50 | LEU | CA-CB-CG | -9.17 | 94.20 | 115.30 |
| 1 | 1G | 114 | U | N3-C2-O2 | -9.17 | 115.78 | 122.20 |
| 26 | 14 | 687 | C | N3-C4-C5 | 9.17 | 125.57 | 121.90 |
| 26 | 14 | 2329 | G | C5-C6-N1 | 9.17 | 116.09 | 111.50 |
| 1 | 13 | 952 | U | N1-C2-N3 | 9.17 | 120.40 | 114.90 |
| 26 | 1H | 695 | G | C5-C6-O6 | 9.17 | 134.10 | 128.60 |
| 1 | 1G | 1486 | G | C8-N9-C4 | 9.17 | 110.07 | 106.40 |
| 26 | 14 | 659 | C | N1-C2-O2 | -9.17 | 113.40 | 118.90 |
| 26 | 1H | 813 | U | OP1-P-OP2 | 9.17 | 133.35 | 119.60 |
| 26 | 14 | 741 | G | N1-C6-O6 | 9.17 | 125.40 | 119.90 |
| 26 | 14 | 952 | G | OP1-P-OP2 | -9.17 | 105.85 | 119.60 |
| 26 | 14 | 1332 | G | N1-C2-N3 | 9.17 | 129.40 | 123.90 |
| 26 | 14 | 1802 | A | C5-C6-N1 | 9.17 | 122.28 | 117.70 |
| 26 | 14 | 2385 | C | C5-C4-N4 | -9.17 | 113.78 | 120.20 |
| 26 | 1H | 2581 | G | C2-N3-C4 | -9.17 | 107.32 | 111.90 |
| 27 | 16 | 112 | G | O5'-P-OP1 | -9.17 | 97.45 | 105.70 |
| 26 | 14 | 136 | G | O5'-P-OP1 | -9.17 | 97.45 | 105.70 |
| 26 | 14 | 745 | G | N7-C8-N9 | -9.17 | 108.52 | 113.10 |
| 26 | 14 | 1658 | C | C4-C5-C6 | 9.17 | 121.98 | 117.40 |
| 26 | 14 | 1787 | A | O5'-P-OP1 | -9.17 | 97.45 | 105.70 |
| 1 | 13 | 333 | G | C4-C5-C6 | 9.17 | 124.30 | 118.80 |
| 26 | 1H | 420 | C | C2-N3-C4 | -9.17 | 115.32 | 119.90 |
| 26 | 1H | 729 | G | C4-C5-N7 | 9.17 | 114.47 | 110.80 |
| 26 | 1H | 787 | U | C5-C6-N1 | -9.17 | 118.12 | 122.70 |
| 26 | 1H | 844 | C | N1-C2-O2 | -9.17 | 113.40 | 118.90 |
| 26 | 14 | 1906 | G | C5-N7-C8 | -9.17 | 99.72 | 104.30 |
| 26 | 14 | 2261 | C | O5'-P-OP1 | 9.17 | 121.70 | 110.70 |
| 26 | 1H | 58 | G | C8-N9-C4 | -9.16 | 102.73 | 106.40 |
| 26 | 14 | 2570 | G | C5-C6-N1 | -9.16 | 106.92 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1209 | C | N3-C2-O2 | 9.16 | 128.31 | 121.90 |
| 26 | 1H | 182 | A | N9-C4-C5 | -9.16 | 102.14 | 105.80 |
| 26 | 1H | 199 | A | N1-C6-N6 | -9.16 | 113.10 | 118.60 |
| 26 | 1H | 1253 | A | C8-N9-C4 | 9.16 | 109.47 | 105.80 |
| 26 | 1H | 387 | U | C5-C6-N1 | -9.16 | 118.12 | 122.70 |
| 26 | 1H | 389 | G | C2-N3-C4 | -9.16 | 107.32 | 111.90 |
| 27 | 16 | 60 | C | C2-N3-C4 | 9.16 | 124.48 | 119.90 |
| 1 | 13 | 1323 | G | O5'-P-OP2 | 9.16 | 121.69 | 110.70 |
| 26 | 1H | 104 | U | O5'-P-OP1 | 9.16 | 121.69 | 110.70 |
| 26 | 1H | 1237 | A | N1-C2-N3 | 9.16 | 133.88 | 129.30 |
| 26 | 1H | 807 | U | OP1-P-OP2 | 9.16 | 133.34 | 119.60 |
| 1 | 1G | 722 | A | N1-C6-N6 | 9.16 | 124.09 | 118.60 |
| 26 | 14 | 1762 | A | OP2-P-O3' | 9.16 | 125.34 | 105.20 |
| 26 | 1H | 123 | G | C6-N1-C2 | -9.15 | 119.61 | 125.10 |
| 26 | 1H | 782 | A | N9-C4-C5 | 9.15 | 109.46 | 105.80 |
| 26 | 1H | 1257 | C | N1-C2-O2 | -9.15 | 113.41 | 118.90 |
| 54 | P8 | 12 | ARG | NE-CZ-NH1 | -9.15 | 115.72 | 120.30 |
| 1 | 1G | 324 | G | O5'-P-OP2 | -9.15 | 97.46 | 105.70 |
| 26 | 14 | 1806 | C | OP1-P-OP2 | 9.15 | 133.33 | 119.60 |
| 1 | 13 | 1416 | G | N1-C2-N3 | 9.15 | 129.39 | 123.90 |
| 26 | 14 | 1653 | G | C5-N7-C8 | 9.15 | 108.88 | 104.30 |
| 1 | 13 | 1311 | G | C8-N9-C4 | 9.15 | 110.06 | 106.40 |
| 26 | 1H | 50 | U | C5-C6-N1 | -9.15 | 118.12 | 122.70 |
| 1 | 1G | 1422 | G | N1-C6-O6 | -9.15 | 114.41 | 119.90 |
| 26 | 1H | 72 | U | C5-C4-O4 | -9.15 | 120.41 | 125.90 |
| 26 | 1H | 483 | A | O5'-P-OP1 | -9.15 | 97.47 | 105.70 |
| 26 | 1H | 1294 | U | N1-C2-O2 | -9.15 | 116.40 | 122.80 |
| 26 | 1H | 2761 | G | O5'-P-OP2 | -9.15 | 97.47 | 105.70 |
| 26 | 14 | 1381 | G | O5'-P-OP1 | -9.15 | 97.47 | 105.70 |
| 26 | 14 | 1382 | G | C5-N7-C8 | -9.15 | 99.72 | 104.30 |
| 26 | 14 | 2272 | U | O5'-P-OP1 | 9.15 | 121.68 | 110.70 |
| 26 | 1H | 735 | A | N9-C4-C5 | -9.15 | 102.14 | 105.80 |
| 1 | 1G | 1484 | C | O5'-P-OP2 | -9.15 | 97.47 | 105.70 |
| 26 | 14 | 237 | C | C6-N1-C2 | 9.15 | 123.96 | 120.30 |
| 26 | 1H | 52 | A | C2-N3-C4 | 9.14 | 115.17 | 110.60 |
| 26 | 1H | 1187 | G | C5-C6-O6 | -9.14 | 123.11 | 128.60 |
| 1 | 1G | 790 | A | N1-C6-N6 | -9.14 | 113.11 | 118.60 |
| 26 | 14 | 1376 | C | O5'-P-OP1 | -9.14 | 97.47 | 105.70 |
| 26 | 14 | 571 | A | C8-N9-C4 | -9.14 | 102.14 | 105.80 |
| 1 | 13 | 736 | C | N3-C4-C5 | 9.14 | 125.56 | 121.90 |
| 26 | 1H | 35 | G | C5-C6-O6 | 9.14 | 134.08 | 128.60 |
| 26 | 14 | 124 | G | O5'-P-OP2 | -9.14 | 97.47 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 247 | G | N3-C4-C5 | 9.14 | 133.17 | 128.60 |
| 1 | 13 | 790 | A | C2-N3-C4 | 9.14 | 115.17 | 110.60 |
| 26 | 14 | 1300 | U | N3-C4-C5 | -9.14 | 109.12 | 114.60 |
| 26 | 14 | 2299 | G | O5'-P-OP2 | 9.14 | 121.67 | 110.70 |
| 1 | 13 | 1404 | C | C4-C5-C6 | -9.14 | 112.83 | 117.40 |
| 1 | 1G | 789 | U | N3-C4-O4 | 9.14 | 125.80 | 119.40 |
| 27 | 1J | 115 | G | C8-N9-C4 | 9.14 | 110.06 | 106.40 |
| 26 | 1H | 919 | G | C4-C5-N7 | -9.13 | 107.15 | 110.80 |
| 26 | 1H | 2448 | A | C5-N7-C8 | -9.14 | 99.33 | 103.90 |
| 26 | 14 | 2512 | C | N3-C4-C5 | 9.13 | 125.55 | 121.90 |
| 26 | 1H | 1626 | G | N9-C4-C5 | 9.13 | 109.05 | 105.40 |
| 26 | 1H | 2400 | G | N9-C4-C5 | 9.13 | 109.05 | 105.40 |
| 26 | 14 | 1472 | A | O5'-P-OP1 | -9.13 | 97.48 | 105.70 |
| 26 | 1H | 62 | C | C5-C6-N1 | -9.13 | 116.44 | 121.00 |
| 26 | 1H | 1327 | C | N1-C2-O2 | -9.13 | 113.42 | 118.90 |
| 26 | 1H | 1463 | C | C6-N1-C2 | -9.13 | 116.65 | 120.30 |
| 26 | 1H | 1920 | C | N3-C4-C5 | 9.13 | 125.55 | 121.90 |
| 1 | 1G | 26 | A | O5'-P-OP2 | -9.13 | 97.48 | 105.70 |
| 26 | 1H | 2649 | U | C5-C6-N1 | -9.13 | 118.14 | 122.70 |
| 26 | 14 | 252 | G | C5-C6-N1 | 9.13 | 116.06 | 111.50 |
| 26 | 1H | 17 | G | O5'-P-OP2 | -9.13 | 97.49 | 105.70 |
| 27 | 16 | 31 | C | N3-C4-N4 | -9.13 | 111.61 | 118.00 |
| 26 | 14 | 1318 | C | O5'-P-OP2 | 9.13 | 121.65 | 110.70 |
| 26 | 14 | 1806 | C | C5-C6-N1 | -9.13 | 116.44 | 121.00 |
| 22 | 1K | 74 | C | N3-C2-O2 | -9.12 | 115.51 | 121.90 |
| 26 | 1H | 1904 | G | OP2-P-O3' | 9.12 | 125.27 | 105.20 |
| 26 | 14 | 974 | G | O5'-P-OP2 | -9.12 | 97.49 | 105.70 |
| 26 | 14 | 1187 | G | C5-N7-C8 | -9.12 | 99.74 | 104.30 |
| 26 | 14 | 1779 | U | C6-N1-C2 | 9.12 | 126.47 | 121.00 |
| 1 | 13 | 790 | A | C5-C6-N6 | -9.12 | 116.41 | 123.70 |
| 1 | 1G | 558 | G | C4-C5-N7 | -9.12 | 107.15 | 110.80 |
| 26 | 14 | 2259 | G | N1-C6-O6 | 9.12 | 125.37 | 119.90 |
| 1 | 13 | 1407 | C | C4-C5-C6 | -9.12 | 112.84 | 117.40 |
| 24 | 3K | 43 | U | N1-C2-N3 | -9.12 | 109.43 | 114.90 |
| 26 | 1H | 1421 | G | C5-C6-N1 | -9.12 | 106.94 | 111.50 |
| 26 | 1H | 1728 | G | C4-C5-N7 | 9.12 | 114.45 | 110.80 |
| 26 | 1H | 1459 | G | C8-N9-C4 | 9.12 | 110.05 | 106.40 |
| 26 | 1H | 473 | G | N1-C2-N2 | -9.12 | 108.00 | 116.20 |
| 26 | 1H | 326 | G | C8-N9-C4 | -9.11 | 102.75 | 106.40 |
| 1 | 1G | 9 | G | OP1-P-OP2 | -9.12 | 105.93 | 119.60 |
| 1 | 1G | 108 | G | C2-N3-C4 | 9.12 | 116.46 | 111.90 |
| 26 | 14 | 2578 | G | C8-N9-C4 | 9.12 | 110.05 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 553 | A | C8-N9-C4 | -9.11 | 102.16 | 105.80 |
| 26 | 14 | 51 | G | O5'-P-OP2 | -9.11 | 97.50 | 105.70 |
| 26 | 1H | 1215 | G | C6-C5-N7 | -9.11 | 124.93 | 130.40 |
| 26 | 1H | 2611 | U | N3-C4-O4 | -9.11 | 113.02 | 119.40 |
| 26 | 14 | 679 | C | C5-C4-N4 | -9.11 | 113.82 | 120.20 |
| 26 | 1H | 439 | G | N1-C2-N3 | 9.11 | 129.37 | 123.90 |
| 1 | 1G | 858 | G | C4-C5-N7 | 9.11 | 114.44 | 110.80 |
| 1 | 13 | 40 | C | N3-C4-C5 | -9.11 | 118.26 | 121.90 |
| 26 | 1H | 528 | A | N3-C4-N9 | -9.11 | 120.11 | 127.40 |
| 26 | 1H | 1231 | G | C5-C6-O6 | -9.11 | 123.14 | 128.60 |
| 26 | 1H | 1314 | C | N3-C2-O2 | -9.11 | 115.53 | 121.90 |
| 26 | 14 | 2477 | C | N1-C2-O2 | 9.11 | 124.36 | 118.90 |
| 1 | 13 | 904 | C | N3-C4-N4 | -9.11 | 111.62 | 118.00 |
| 26 | 1H | 1159 | U | N1-C2-O2 | 9.11 | 129.18 | 122.80 |
| 26 | 1H | 2052 | G | N3-C4-C5 | -9.11 | 124.05 | 128.60 |
| 26 | 14 | 1027 | A | C5-C6-N1 | 9.11 | 122.25 | 117.70 |
| 26 | 1H | 1817 | G | N9-C4-C5 | 9.11 | 109.04 | 105.40 |
| 26 | 1H | 2368 | C | O5'-P-OP1 | -9.11 | 97.50 | 105.70 |
| 26 | 14 | 2208 | U | C2-N1-C1' | -9.11 | 106.77 | 117.70 |
| 1 | 13 | 1359 | C | C6-N1-C2 | 9.10 | 123.94 | 120.30 |
| 26 | 1H | 120 | U | N1-C2-O2 | 9.10 | 129.17 | 122.80 |
| 26 | 1H | 316 | C | N3-C4-N4 | -9.10 | 111.63 | 118.00 |
| 26 | 1H | 1381 | G | N1-C2-N2 | 9.10 | 124.39 | 116.20 |
| 26 | 1H | 2772 | C | C6-N1-C2 | 9.10 | 123.94 | 120.30 |
| 26 | 14 | 2287 | A | N3-C4-C5 | 9.10 | 133.17 | 126.80 |
| 26 | 1H | 2019 | A | C4-C5-C6 | 9.10 | 121.55 | 117.00 |
| 26 | 14 | 1840 | G | N3-C2-N2 | -9.10 | 113.53 | 119.90 |
| 26 | 14 | 2463 | C | C5-C6-N1 | -9.10 | 116.45 | 121.00 |
| 26 | 14 | 1705 | G | C8-N9-C4 | 9.10 | 110.04 | 106.40 |
| 1 | 13 | 300 | A | O5'-P-OP2 | 9.10 | 121.62 | 110.70 |
| 26 | 1H | 2273 | A | N1-C6-N6 | -9.10 | 113.14 | 118.60 |
| 26 | 1H | 2561 | A | C2-N3-C4 | -9.10 | 106.05 | 110.60 |
| 29 | 11 | 37 | LEU | CA-CB-CG | -9.10 | 94.37 | 115.30 |
| 1 | 1G | 573 | A | C4-C5-N7 | -9.10 | 106.15 | 110.70 |
| 1 | 13 | 253 | U | O5'-P-OP2 | 9.10 | 121.61 | 110.70 |
| 1 | 13 | 1305 | G | C5-C6-N1 | -9.10 | 106.95 | 111.50 |
| 1 | 1G | 336 | C | N1-C2-N3 | -9.10 | 112.83 | 119.20 |
| 26 | 14 | 913 | U | N1-C2-N3 | -9.10 | 109.44 | 114.90 |
| 26 | 14 | 1336 | A | N9-C4-C5 | 9.10 | 109.44 | 105.80 |
| 1 | 13 | 244 | U | C5-C6-N1 | 9.09 | 127.25 | 122.70 |
| 26 | 1H | 617 | G | N7-C8-N9 | -9.09 | 108.55 | 113.10 |
| 26 | 1H | 1617 | C | C2-N3-C4 | -9.09 | 115.35 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 573 | A | N9-C4-C5 | 9.09 | 109.44 | 105.80 |
| 1 | 13 | 59 | A | O5'-P-OP1 | -9.09 | 97.52 | 105.70 |
| 1 | 13 | 1194 | U | C5-C4-O4 | 9.09 | 131.35 | 125.90 |
| 26 | 1H | 665 | C | C6-N1-C2 | 9.09 | 123.94 | 120.30 |
| 1 | 1G | 789 | U | N1-C2-O2 | -9.09 | 116.44 | 122.80 |
| 26 | 14 | 1547 | C | C6-N1-C2 | -9.09 | 116.66 | 120.30 |
| 26 | 14 | 2329 | G | N9-C4-C5 | -9.09 | 101.76 | 105.40 |
| 26 | 1H | 208 | C | C5-C6-N1 | -9.09 | 116.46 | 121.00 |
| 26 | 1H | 632 | A | C8-N9-C4 | -9.09 | 102.17 | 105.80 |
| 26 | 1H | 952 | G | C5-C6-N1 | 9.09 | 116.04 | 111.50 |
| 26 | 1H | 1806 | C | OP1-P-OP2 | 9.09 | 133.23 | 119.60 |
| 26 | 14 | 1300 | U | N3-C4-O4 | 9.09 | 125.76 | 119.40 |
| 26 | 14 | 1762 | A | N3-C4-C5 | 9.09 | 133.16 | 126.80 |
| 26 | 14 | 2569 | G | C8-N9-C4 | 9.09 | 110.03 | 106.40 |
| 26 | 1H | 1478 | G | O5'-P-OP2 | -9.09 | 97.52 | 105.70 |
| 26 | 1H | 1916 | A | N1-C2-N3 | 9.09 | 133.84 | 129.30 |
| 27 | 16 | 115 | G | N1-C2-N2 | -9.09 | 108.02 | 116.20 |
| 26 | 14 | 1403 | C | O5'-P-OP1 | -9.09 | 97.52 | 105.70 |
| 26 | 14 | 1616 | A | C2-N3-C4 | -9.09 | 106.06 | 110.60 |
| 26 | 14 | 1930 | G | C5-C6-O6 | 9.09 | 134.05 | 128.60 |
| 26 | 1H | 280 | C | N3-C2-O2 | -9.08 | 115.54 | 121.90 |
| 26 | 1H | 938 | G | N7-C8-N9 | -9.08 | 108.56 | 113.10 |
| 26 | 1H | 2440 | C | N3-C4-C5 | -9.08 | 118.27 | 121.90 |
| 1 | 1G | 114 | U | N1-C2-N3 | 9.08 | 120.35 | 114.90 |
| 1 | 13 | 823 | G | OP1-P-OP2 | -9.08 | 105.98 | 119.60 |
| 26 | 1H | 1543 | A | N1-C6-N6 | 9.08 | 124.05 | 118.60 |
| 26 | 14 | 462 | C | C5-C6-N1 | -9.08 | 116.46 | 121.00 |
| 26 | 14 | 2457 | U | OP2-P-O3' | 9.08 | 125.18 | 105.20 |
| 1 | 1G | 528 | C | C6-N1-C2 | 9.08 | 123.93 | 120.30 |
| 26 | 14 | 2546 | U | N3-C4-C5 | -9.08 | 109.15 | 114.60 |
| 26 | 1H | 774 | A | N7-C8-N9 | 9.08 | 118.34 | 113.80 |
| 26 | 1H | 1193 | G | C8-N9-C4 | 9.08 | 110.03 | 106.40 |
| 26 | 1H | 1680 | U | OP1-P-OP2 | -9.08 | 105.99 | 119.60 |
| 26 | 1H | 2502 | G | C5-C6-N1 | 9.08 | 116.04 | 111.50 |
| 1 | 1G | 784 | C | C6-N1-C2 | 9.08 | 123.93 | 120.30 |
| 26 | 14 | 2396 | G | C4-C5-N7 | 9.08 | 114.43 | 110.80 |
| 1 | 13 | 130 | A | N1-C6-N6 | 9.07 | 124.05 | 118.60 |
| 26 | 1H | 1759 | A | N1-C2-N3 | 9.07 | 133.84 | 129.30 |
| 40 | A8 | 110 | LEU | CA-CB-CG | 9.07 | 136.17 | 115.30 |
| 26 | 14 | 1158 | C | C5-C6-N1 | -9.07 | 116.46 | 121.00 |
| 26 | 14 | 1647 | G | C8-N9-C4 | -9.07 | 102.77 | 106.40 |
| 1 | 13 | 753 | A | O5'-P-OP1 | -9.07 | 97.53 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 570 | G | C5-C6-N1 | -9.07 | 106.96 | 111.50 |
| 26 | 1H | 2424 | C | N1-C2-N3 | -9.07 | 112.85 | 119.20 |
| 26 | 1H | 2432 | A | O5'-P-OP1 | -9.07 | 97.54 | 105.70 |
| 26 | 1H | 74 | A | C4-C5-N7 | 9.07 | 115.23 | 110.70 |
| 26 | 14 | 2085 | C | C5-C6-N1 | -9.07 | 116.47 | 121.00 |
| 1 | 13 | 950 | U | N3-C2-O2 | 9.06 | 128.54 | 122.20 |
| 26 | 1H | 1298 | C | N1-C2-O2 | 9.06 | 124.34 | 118.90 |
| 26 | 1H | 1786 | A | N1-C6-N6 | 9.06 | 124.04 | 118.60 |
| 26 | 1H | 1618 | A | C4-C5-N7 | 9.06 | 115.23 | 110.70 |
| 26 | 1H | 2367 | G | N7-C8-N9 | 9.06 | 117.63 | 113.10 |
| 26 | 1H | 2485 | G | C8-N9-C4 | 9.06 | 110.03 | 106.40 |
| 26 | 1H | 1767 | C | N3-C2-O2 | -9.06 | 115.56 | 121.90 |
| 26 | 1H | 2486 | G | C6-N1-C2 | -9.06 | 119.66 | 125.10 |
| 26 | 14 | 462 | C | N1-C2-N3 | 9.06 | 125.54 | 119.20 |
| 26 | 14 | 2853 | C | N3-C2-O2 | -9.06 | 115.56 | 121.90 |
| 26 | 1H | 2580 | U | N3-C4-O4 | 9.06 | 125.74 | 119.40 |
| 26 | 1H | 698 | C | OP1-P-OP2 | 9.06 | 133.19 | 119.60 |
| 26 | 1H | 2394 | C | N3-C4-N4 | -9.06 | 111.66 | 118.00 |
| 26 | 1H | 1183 | G | N1-C6-O6 | 9.06 | 125.33 | 119.90 |
| 26 | 1H | 2045 | C | N3-C4-N4 | -9.06 | 111.66 | 118.00 |
| 26 | 1H | 2613 | U | N3-C2-O2 | 9.06 | 128.54 | 122.20 |
| 26 | 14 | 2387 | U | C6-N1-C2 | 9.06 | 126.44 | 121.00 |
| 26 | 14 | 2782 | G | C6-C5-N7 | -9.06 | 124.97 | 130.40 |
| 26 | 1H | 69 | C | N3-C2-O2 | -9.05 | 115.56 | 121.90 |
| 26 | 1H | 220 | G | C5-C6-O6 | -9.06 | 123.17 | 128.60 |
| 26 | 14 | 398 | G | C5-C6-N1 | -9.06 | 106.97 | 111.50 |
| 26 | 14 | 736 | C | O5'-P-OP1 | -9.06 | 97.55 | 105.70 |
| 26 | 1H | 1158 | C | C2-N3-C4 | -9.05 | 115.37 | 119.90 |
| 1 | 1G | 730 | G | C5-C6-O6 | 9.05 | 134.03 | 128.60 |
| 26 | 14 | 130 | C | N3-C2-O2 | 9.05 | 128.24 | 121.90 |
| 26 | 14 | 1463 | C | C6-N1-C2 | -9.05 | 116.68 | 120.30 |
| 26 | 1H | 508 | G | N7-C8-N9 | 9.05 | 117.63 | 113.10 |
| 26 | 1H | 1486 | A | N1-C6-N6 | 9.05 | 124.03 | 118.60 |
| 1 | 1G | 336 | C | C2-N3-C4 | 9.05 | 124.43 | 119.90 |
| 26 | 1H | 2527 | C | C5-C6-N1 | 9.05 | 125.53 | 121.00 |
| 26 | 14 | 2679 | A | C8-N9-C4 | 9.05 | 109.42 | 105.80 |
| 26 | 1H | 110 | G | O5'-P-OP2 | -9.05 | 97.56 | 105.70 |
| 26 | 1H | 1630 | G | N1-C6-O6 | -9.05 | 114.47 | 119.90 |
| 26 | 1H | 1854 | A | N1-C6-N6 | -9.05 | 113.17 | 118.60 |
| 1 | 1G | 538 | G | O5'-P-OP1 | -9.05 | 97.56 | 105.70 |
| 1 | 1G | 1486 | G | O5'-P-OP1 | 9.05 | 121.56 | 110.70 |
| 26 | 14 | 1253 | A | C2-N3-C4 | 9.05 | 115.12 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2278 | A | O5'-P-OP2 | -9.05 | 97.56 | 105.70 |
| 26 | 14 | 2644 | G | N3-C4-C5 | 9.05 | 133.12 | 128.60 |
| 1 | 13 | 1279 | A | C6-C5-N7 | -9.05 | 125.97 | 132.30 |
| 26 | 1H | 827 | U | N3-C2-O2 | 9.05 | 128.53 | 122.20 |
| 1 | 1G | 1478 | C | O5'-P-OP2 | -9.05 | 97.56 | 105.70 |
| 26 | 14 | 1432 | C | N1-C2-O2 | -9.05 | 113.47 | 118.90 |
| 26 | 14 | 2078 | C | C6-N1-C2 | -9.05 | 116.68 | 120.30 |
| 26 | 1H | 2699 | C | C5-C6-N1 | -9.04 | 116.48 | 121.00 |
| 26 | 1H | 817 | C | C6-N1-C2 | -9.04 | 116.68 | 120.30 |
| 26 | 1H | 2556 | C | O5'-P-OP2 | -9.04 | 97.56 | 105.70 |
| 26 | 1H | 2574 | G | C5-C6-N1 | 9.04 | 116.02 | 111.50 |
| 26 | 1H | 234 | C | N3-C4-C5 | 9.04 | 125.52 | 121.90 |
| 26 | 1H | 1202 | C | N1-C2-O2 | -9.04 | 113.48 | 118.90 |
| 26 | 1H | 662 | G | N1-C6-O6 | -9.04 | 114.48 | 119.90 |
| 26 | 1H | 982 | C | C2-N3-C4 | 9.04 | 124.42 | 119.90 |
| 26 | 1H | 1153 | C | C5-C4-N4 | 9.04 | 126.53 | 120.20 |
| 26 | 14 | 199 | A | C5-C6-N6 | -9.04 | 116.47 | 123.70 |
| 26 | 14 | 571 | A | C4-C5-C6 | 9.04 | 121.52 | 117.00 |
| 26 | 14 | 761 | A | N1-C6-N6 | -9.04 | 113.18 | 118.60 |
| 26 | 14 | 2413 | G | N1-C6-O6 | 9.04 | 125.32 | 119.90 |
| 23 | 2K | 62 | C | C5-C6-N1 | 9.04 | 125.52 | 121.00 |
| 26 | 1H | 2268 | A | N9-C4-C5 | -9.04 | 102.19 | 105.80 |
| 1 | 1G | 1483 | A | C4-C5-C6 | -9.04 | 112.48 | 117.00 |
| 1 | 1G | 1487 | G | O5'-P-OP1 | 9.04 | 121.54 | 110.70 |
| 26 | 14 | 444 | C | C6-N1-C2 | 9.04 | 123.91 | 120.30 |
| 26 | 14 | 2048 | G | C4-C5-N7 | -9.04 | 107.19 | 110.80 |
| 1 | 13 | 792 | A | C5-C6-N1 | 9.03 | 122.22 | 117.70 |
| 26 | 14 | 121 | G | C6-C5-N7 | -9.03 | 124.98 | 130.40 |
| 26 | 14 | 1429 | G | C8-N9-C4 | -9.03 | 102.79 | 106.40 |
| 1 | 13 | 577 | G | C4-C5-N7 | 9.03 | 114.41 | 110.80 |
| 26 | 1H | 952 | G | C6-C5-N7 | -9.03 | 124.98 | 130.40 |
| 26 | 1H | 1129 | A | O5'-P-OP2 | -9.03 | 97.57 | 105.70 |
| 26 | 1H | 1258 | C | C6-N1-C2 | 9.03 | 123.91 | 120.30 |
| 26 | 1H | 2598 | A | OP2-P-O3' | 9.03 | 125.06 | 105.20 |
| 25 | 4L | 12 | A | N1-C6-N6 | 9.03 | 124.02 | 118.60 |
| 26 | 14 | 1277 | G | C5-C6-O6 | -9.03 | 123.18 | 128.60 |
| 26 | 14 | 1856 | G | N1-C6-O6 | 9.03 | 125.32 | 119.90 |
| 26 | 14 | 2741 | A | N9-C4-C5 | -9.03 | 102.19 | 105.80 |
| 1 | 13 | 392 | G | N3-C2-N2 | -9.03 | 113.58 | 119.90 |
| 26 | 1H | 970 | C | N3-C4-C5 | -9.03 | 118.29 | 121.90 |
| 26 | 1H | 2395 | C | C6-N1-C2 | 9.03 | 123.91 | 120.30 |
| 26 | 1H | 2559 | C | C2-N3-C4 | -9.03 | 115.39 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 911 | A | C6-N1-C2 | -9.03 | 113.18 | 118.60 |
| 26 | 14 | 2502 | G | C5-C6-O6 | -9.03 | 123.18 | 128.60 |
| 26 | 1H | 1574 | C | O5'-P-OP2 | -9.03 | 97.58 | 105.70 |
| 27 | 1J | 54 | G | N7-C8-N9 | 9.03 | 117.61 | 113.10 |
| 26 | 1H | 601 | C | C6-N1-C2 | 9.02 | 123.91 | 120.30 |
| 26 | 1H | 1244 | G | N1-C2-N2 | 9.02 | 124.32 | 116.20 |
| 1 | 1G | 690 | G | C5-N7-C8 | -9.02 | 99.79 | 104.30 |
| 26 | 14 | 988 | A | C5-C6-N6 | -9.02 | 116.48 | 123.70 |
| 26 | 14 | 2434 | A | C5-C6-N1 | -9.02 | 113.19 | 117.70 |
| 26 | 1H | 732 | C | N1-C2-O2 | -9.02 | 113.49 | 118.90 |
| 26 | 1H | 815 | C | O5'-P-OP2 | -9.02 | 97.58 | 105.70 |
| 26 | 1H | 1478 | G | C8-N9-C4 | -9.02 | 102.79 | 106.40 |
| 26 | 1H | 2280 | G | C5-C6-O6 | 9.02 | 134.01 | 128.60 |
| 26 | 1H | 1364 | G | C5-C6-O6 | -9.02 | 123.19 | 128.60 |
| 26 | 1H | 2387 | U | C2-N3-C4 | -9.02 | 121.59 | 127.00 |
| 26 | 14 | 729 | G | C2-N3-C4 | 9.02 | 116.41 | 111.90 |
| 27 | 1J | 101 | A | N1-C6-N6 | 9.02 | 124.01 | 118.60 |
| 26 | 1H | 34 | C | O5'-P-OP1 | -9.02 | 97.59 | 105.70 |
| 26 | 1H | 64 | A | C5-N7-C8 | 9.02 | 108.41 | 103.90 |
| 26 | 1H | 478 | A | N1-C2-N3 | 9.02 | 133.81 | 129.30 |
| 26 | 1H | 1165 | U | N3-C2-O2 | -9.02 | 115.89 | 122.20 |
| 26 | 1H | 2645 | G | C5-C6-N1 | -9.02 | 106.99 | 111.50 |
| 46 | G8 | 81 | LYS | C-N-CD | -9.02 | 100.77 | 120.60 |
| 1 | 1G | 1527 | C | C5-C6-N1 | -9.02 | 116.49 | 121.00 |
| 26 | 14 | 815 | C | O5'-P-OP1 | 9.02 | 121.52 | 110.70 |
| 26 | 14 | 530 | G | C2-N3-C4 | -9.02 | 107.39 | 111.90 |
| 26 | 14 | 1583 | A | N1-C6-N6 | 9.02 | 124.01 | 118.60 |
| 26 | 14 | 2848 | G | C2-N3-C4 | -9.02 | 107.39 | 111.90 |
| 1 | 13 | 532 | A | N7-C8-N9 | 9.01 | 118.31 | 113.80 |
| 26 | 1H | 85 | G | C5-C6-O6 | -9.01 | 123.19 | 128.60 |
| 26 | 1H | 188 | G | C4-C5-N7 | 9.01 | 114.41 | 110.80 |
| 26 | 1H | 447 | A | O5'-P-OP1 | -9.01 | 97.59 | 105.70 |
| 26 | 1H | 1595 | G | N1-C6-O6 | 9.01 | 125.31 | 119.90 |
| 26 | 1H | 1297 | C | OP1-P-O3' | 9.01 | 125.02 | 105.20 |
| 26 | 1H | 1618 | A | N1-C6-N6 | 9.01 | 124.01 | 118.60 |
| 26 | 1H | 2261 | C | OP2-P-O3' | 9.01 | 125.02 | 105.20 |
| 26 | 14 | 116 | C | N3-C4-C5 | -9.01 | 118.30 | 121.90 |
| 26 | 14 | 1630(A) | C | C5-C4-N4 | -9.01 | 113.89 | 120.20 |
| 26 | 14 | 1769 | G | N3-C4-C5 | -9.01 | 124.09 | 128.60 |
| 1 | 13 | 245 | C | N3-C4-C5 | 9.01 | 125.50 | 121.90 |
| 1 | 13 | 904 | C | C2-N3-C4 | -9.01 | 115.40 | 119.90 |
| 26 | 1H | 106 | C | O5'-P-OP2 | -9.01 | 97.59 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2824 | C | N1-C2-O2 | -9.01 | 113.50 | 118.90 |
| 26 | 1H | 2585 | U | N3-C2-O2 | -9.01 | 115.90 | 122.20 |
| 1 | 1G | 413 | G | C4-N9-C1' | -9.01 | 114.79 | 126.50 |
| 26 | 14 | 221 | A | O5'-P-OP1 | -9.01 | 97.60 | 105.70 |
| 26 | 1H | 593 | G | OP1-P-OP2 | 9.00 | 133.11 | 119.60 |
| 26 | 14 | 464 | U | C5-C6-N1 | -9.00 | 118.20 | 122.70 |
| 26 | 14 | 1822 | G | C5-C6-N1 | -9.00 | 107.00 | 111.50 |
| 1 | 13 | 805 | C | OP2-P-O3' | 9.00 | 125.00 | 105.20 |
| 26 | 1H | 439 | G | C8-N9-C4 | -9.00 | 102.80 | 106.40 |
| 1 | 1G | 721 | G | O5'-P-OP1 | 9.00 | 121.50 | 110.70 |
| 26 | 14 | 808 | G | O5'-P-OP1 | -9.00 | 97.60 | 105.70 |
| 26 | 14 | 2457 | U | N3-C2-O2 | -9.00 | 115.90 | 122.20 |
| 26 | 14 | 2511 | U | N3-C2-O2 | -9.00 | 115.90 | 122.20 |
| 26 | 1H | 425 | G | C2-N3-C4 | 9.00 | 116.40 | 111.90 |
| 26 | 1H | 2509 | G | C6-N1-C2 | -9.00 | 119.70 | 125.10 |
| 1 | 1G | 312 | C | C4-C5-C6 | 9.00 | 121.90 | 117.40 |
| 26 | 1H | 51 | G | C5-N7-C8 | 9.00 | 108.80 | 104.30 |
| 26 | 1H | 186 | G | C5-C6-O6 | -9.00 | 123.20 | 128.60 |
| 26 | 1H | 1754 | C | N3-C2-O2 | -9.00 | 115.60 | 121.90 |
| 26 | 14 | 855 | G | C5-C6-N1 | -9.00 | 107.00 | 111.50 |
| 26 | 14 | 1596 | A | C5-C6-N6 | 9.00 | 130.90 | 123.70 |
| 23 | 2K | 7 | G | N1-C6-O6 | 9.00 | 125.30 | 119.90 |
| 26 | 1H | 127 | A | C5-N7-C8 | -9.00 | 99.40 | 103.90 |
| 26 | 1H | 837 | C | C5-C6-N1 | 9.00 | 125.50 | 121.00 |
| 26 | 1H | 845 | G | N1-C6-O6 | 9.00 | 125.30 | 119.90 |
| 26 | 1H | 1648 | C | N1-C2-O2 | -9.00 | 113.50 | 118.90 |
| 26 | 1H | 2246 | G | C5-N7-C8 | 9.00 | 108.80 | 104.30 |
| 26 | 1H | 2485 | G | O5'-P-OP2 | -9.00 | 97.60 | 105.70 |
| 26 | 14 | 2219 | G | N9-C4-C5 | -9.00 | 101.80 | 105.40 |
| 26 | 14 | 2333 | A | C8-N9-C4 | 9.00 | 109.40 | 105.80 |
| 1 | 1G | 1527 | C | C2-N3-C4 | -8.99 | 115.40 | 119.90 |
| 26 | 14 | 812 | C | O5'-P-OP1 | -8.99 | 97.60 | 105.70 |
| 26 | 14 | 2067 | G | N3-C4-C5 | -8.99 | 124.10 | 128.60 |
| 26 | 1H | 378 | C | C2-N3-C4 | -8.99 | 115.40 | 119.90 |
| 26 | 1H | 932 | G | O5'-P-OP2 | -8.99 | 97.61 | 105.70 |
| 26 | 1H | 1630(A) | C | O5'-P-OP1 | -8.99 | 97.61 | 105.70 |
| 26 | 1H | 2291 | U | C6-N1-C2 | -8.99 | 115.61 | 121.00 |
| 26 | 1H | 2737 | G | C5-C6-O6 | -8.99 | 123.20 | 128.60 |
| 26 | 1H | 526 | A | N1-C6-N6 | -8.99 | 113.21 | 118.60 |
| 26 | 1H | 541 | C | C6-N1-C2 | -8.99 | 116.70 | 120.30 |
| 26 | 1H | 1436 | G | C5-C6-N1 | 8.99 | 116.00 | 111.50 |
| 26 | 1H | 2228 | G | C2-N3-C4 | -8.99 | 107.41 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2261 | C | OP1-P-O3' | -8.99 | 85.42 | 105.20 |
| 26 | 14 | 403 | U | C5-C6-N1 | -8.99 | 118.20 | 122.70 |
| 26 | 14 | 1568 | G | N3-C2-N2 | -8.99 | 113.61 | 119.90 |
| 26 | 1H | 681 | G | C8-N9-C4 | 8.99 | 109.99 | 106.40 |
| 26 | 1H | 903 | C | N3-C4-C5 | 8.99 | 125.50 | 121.90 |
| 26 | 1H | 1546 | C | C6-N1-C2 | -8.99 | 116.70 | 120.30 |
| 26 | 1H | 1617 | C | O5'-P-OP2 | 8.99 | 121.48 | 110.70 |
| 26 | 1H | 2036 | C | C6-N1-C2 | -8.99 | 116.70 | 120.30 |
| 1 | 13 | 1098 | C | C6-N1-C2 | -8.98 | 116.71 | 120.30 |
| 26 | 1H | 787 | U | O5'-P-OP2 | -8.98 | 97.61 | 105.70 |
| 26 | 1H | 648 | G | C4-C5-N7 | -8.98 | 107.21 | 110.80 |
| 26 | 1H | 950 | G | C5-N7-C8 | 8.98 | 108.79 | 104.30 |
| 26 | 1H | 2450 | A | N1-C2-N3 | 8.98 | 133.79 | 129.30 |
| 27 | 1J | 89 | G | C5-C6-O6 | -8.98 | 123.21 | 128.60 |
| 26 | 1H | 600 | G | C5-C6-O6 | -8.98 | 123.21 | 128.60 |
| 26 | 1H | 2592 | G | C2-N3-C4 | -8.98 | 107.41 | 111.90 |
| 1 | 1G | 41 | G | C8-N9-C4 | 8.98 | 109.99 | 106.40 |
| 26 | 1H | 928 | G | N9-C4-C5 | -8.98 | 101.81 | 105.40 |
| 26 | 1H | 2012 | G | C6-N1-C2 | -8.98 | 119.71 | 125.10 |
| 26 | 1H | 2271 | G | N1-C6-O6 | 8.98 | 125.29 | 119.90 |
| 26 | 14 | 2240 | C | O5'-P-OP1 | 8.98 | 121.47 | 110.70 |
| 26 | 14 | 2829 | C | N1-C2-N3 | -8.98 | 112.91 | 119.20 |
| 26 | 1H | 778 | G | C5-C6-N1 | -8.98 | 107.01 | 111.50 |
| 26 | 1H | 1767 | C | N3-C4-C5 | 8.98 | 125.49 | 121.90 |
| 26 | 14 | 2829 | C | C2-N1-C1' | -8.97 | 108.93 | 118.80 |
| 26 | 1H | 231 | C | N3-C4-C5 | -8.97 | 118.31 | 121.90 |
| 26 | 1H | 422 | A | N1-C2-N3 | 8.97 | 133.79 | 129.30 |
| 26 | 1H | 2024 | G | N3-C2-N2 | -8.97 | 113.62 | 119.90 |
| 26 | 14 | 1595 | G | N1-C6-O6 | 8.97 | 125.28 | 119.90 |
| 26 | 14 | 1949 | G | C4-C5-N7 | -8.97 | 107.21 | 110.80 |
| 26 | 1H | 1198 | U | C5-C6-N1 | -8.97 | 118.21 | 122.70 |
| 1 | 13 | 553 | A | N1-C6-N6 | -8.97 | 113.22 | 118.60 |
| 26 | 1H | 845 | G | C2-N3-C4 | -8.97 | 107.42 | 111.90 |
| 26 | 1H | 1309 | G | N3-C2-N2 | -8.97 | 113.62 | 119.90 |
| 1 | 1G | 1313 | U | C6-N1-C2 | -8.97 | 115.62 | 121.00 |
| 23 | 2K | 27 | G | N3-C2-N2 | -8.97 | 113.62 | 119.90 |
| 26 | 1H | 1402 | C | N3-C4-N4 | 8.97 | 124.28 | 118.00 |
| 26 | 1H | 1616 | A | O4'-C1'-N9 | 8.97 | 115.37 | 108.20 |
| 26 | 1H | 1617 | C | N1-C2-N3 | 8.97 | 125.48 | 119.20 |
| 1 | 1G | 910 | C | N1-C2-O2 | 8.97 | 124.28 | 118.90 |
| 27 | 1J | 81 | G | C2-N3-C4 | -8.97 | 107.42 | 111.90 |
| 26 | 14 | 1800 | C | N1-C2-O2 | -8.97 | 113.52 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1851 | U | C6-N1-C2 | -8.97 | 115.62 | 121.00 |
| 26 | 14 | 1999 | C | C2-N3-C4 | -8.97 | 115.42 | 119.90 |
| 26 | 14 | 2526 | G | N3-C4-C5 | 8.97 | 133.08 | 128.60 |
| 23 | 2K | 77 | A | C2-N3-C4 | 8.97 | 115.08 | 110.60 |
| 26 | 1H | 864 | G | N1-C2-N3 | -8.97 | 118.52 | 123.90 |
| 26 | 14 | 2612 | C | C6-N1-C2 | 8.97 | 123.89 | 120.30 |
| 1 | 13 | 698 | G | C5-N7-C8 | -8.96 | 99.82 | 104.30 |
| 1 | 13 | 1433 | A | C4-C5-N7 | -8.96 | 106.22 | 110.70 |
| 1 | 1G | 915 | A | C6-N1-C2 | -8.96 | 113.22 | 118.60 |
| 26 | 14 | 1950 | G | C8-N9-C4 | -8.96 | 102.81 | 106.40 |
| 26 | 1H | 599 | G | C8-N9-C4 | 8.96 | 109.98 | 106.40 |
| 1 | 1G | 1091 | U | C5-C6-N1 | 8.96 | 127.18 | 122.70 |
| 27 | 1J | 70 | C | C5-C6-N1 | 8.96 | 125.48 | 121.00 |
| 26 | 1H | 536 | A | N9-C4-C5 | 8.96 | 109.38 | 105.80 |
| 26 | 1H | 673 | C | N1-C2-O2 | -8.96 | 113.52 | 118.90 |
| 26 | 1H | 1782 | C | OP1-P-OP2 | 8.96 | 133.04 | 119.60 |
| 26 | 1H | 2015 | A | O5'-P-OP2 | 8.96 | 121.45 | 110.70 |
| 26 | 14 | 1187 | G | N3-C4-N9 | -8.96 | 120.62 | 126.00 |
| 26 | 14 | 1225 | C | O5'-P-OP1 | -8.96 | 97.64 | 105.70 |
| 1 | 13 | 748 | C | C5-C6-N1 | 8.96 | 125.48 | 121.00 |
| 1 | 13 | 803 | G | C5-C6-N1 | -8.96 | 107.02 | 111.50 |
| 1 | 13 | 1299 | A | C8-N9-C4 | -8.96 | 102.22 | 105.80 |
| 26 | 1H | 400 | G | N1-C6-O6 | 8.96 | 125.28 | 119.90 |
| 26 | 1H | 1193 | G | N7-C8-N9 | -8.96 | 108.62 | 113.10 |
| 26 | 1H | 1340 | U | N3-C2-O2 | 8.96 | 128.47 | 122.20 |
| 26 | 1H | 1280 | G | O5'-P-OP2 | 8.96 | 121.45 | 110.70 |
| 26 | 1H | 2502 | G | C8-N9-C4 | -8.96 | 102.82 | 106.40 |
| 1 | 1G | 972 | C | C6-N1-C2 | -8.96 | 116.72 | 120.30 |
| 1 | 13 | 521 | G | N7-C8-N9 | -8.96 | 108.62 | 113.10 |
| 26 | 14 | 1592 | C | C6-N1-C2 | -8.96 | 116.72 | 120.30 |
| 1 | 13 | 1069 | C | C5-C6-N1 | 8.95 | 125.48 | 121.00 |
| 26 | 1H | 710 | G | OP1-P-OP2 | -8.96 | 106.17 | 119.60 |
| 26 | 14 | 270(Z) | U | N3-C2-O2 | -8.95 | 115.93 | 122.20 |
| 1 | 13 | 953 | G | C8-N9-C4 | -8.95 | 102.82 | 106.40 |
| 1 | 13 | 1299 | A | C5-N7-C8 | -8.95 | 99.42 | 103.90 |
| 25 | 4K | 18 | G | N9-C4-C5 | 8.95 | 108.98 | 105.40 |
| 26 | 1H | 136 | G | N3-C2-N2 | -8.95 | 113.63 | 119.90 |
| 26 | 1H | 2377 | A | C4-C5-N7 | 8.95 | 115.18 | 110.70 |
| 26 | 1H | 2419 | U | C4-C5-C6 | 8.95 | 125.07 | 119.70 |
| 26 | 1H | 780 | G | C2-N3-C4 | -8.95 | 107.42 | 111.90 |
| 26 | 1H | 2252 | G | C5-C6-O6 | 8.95 | 133.97 | 128.60 |
| 1 | 1G | 30 | U | N3-C2-O2 | -8.95 | 115.93 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1432 | C | N3-C2-O2 | 8.95 | 128.17 | 121.90 |
| 26 | 1H | 1128 | A | O5'-P-OP2 | -8.95 | 97.65 | 105.70 |
| 26 | 14 | 2443 | C | C4-C5-C6 | 8.95 | 121.88 | 117.40 |
| 26 | 1H | 1839 | G | N1-C2-N2 | -8.95 | 108.15 | 116.20 |
| 26 | 14 | 2033 | A | C5-C6-N1 | 8.95 | 122.17 | 117.70 |
| 26 | 14 | 2607 | G | O5'-P-OP1 | 8.95 | 121.44 | 110.70 |
| 26 | 14 | 2611 | U | C5-C6-N1 | 8.95 | 127.17 | 122.70 |
| 24 | 3K | 76 | A | C5-C6-N6 | -8.95 | 116.54 | 123.70 |
| 26 | 1H | 2635 | C | N3-C2-O2 | 8.95 | 128.16 | 121.90 |
| 1 | 1G | 689 | C | O5'-P-OP1 | -8.95 | 97.65 | 105.70 |
| 26 | 14 | 1397 | U | N3-C4-O4 | -8.95 | 113.14 | 119.40 |
| 26 | 14 | 2014 | A | N7-C8-N9 | -8.95 | 109.33 | 113.80 |
| 26 | 14 | 2293 | C | N1-C2-O2 | 8.95 | 124.27 | 118.90 |
| 1 | 1G | 886 | G | C8-N9-C4 | 8.94 | 109.98 | 106.40 |
| 26 | 14 | 406 | G | N1-C6-O6 | 8.95 | 125.27 | 119.90 |
| 1 | 13 | 713 | G | N1-C6-O6 | -8.94 | 114.53 | 119.90 |
| 1 | 13 | 1403 | C | N1-C2-O2 | -8.94 | 113.53 | 118.90 |
| 1 | 13 | 1202 | G | C5-C6-N1 | -8.94 | 107.03 | 111.50 |
| 26 | 1H | 80 | G | O5'-P-OP1 | -8.94 | 97.65 | 105.70 |
| 26 | 1H | 502 | A | N1-C2-N3 | 8.94 | 133.77 | 129.30 |
| 26 | 14 | 2489 | G | N1-C6-O6 | 8.94 | 125.27 | 119.90 |
| 26 | 1H | 196 | A | C2-N3-C4 | -8.94 | 106.13 | 110.60 |
| 26 | 1H | 618 | G | N7-C8-N9 | -8.94 | 108.63 | 113.10 |
| 1 | 1G | 413 | G | N7-C8-N9 | -8.94 | 108.63 | 113.10 |
| 26 | 14 | 2237 | G | OP1-P-OP2 | 8.94 | 133.01 | 119.60 |
| 23 | 2K | 6 | G | C2-N3-C4 | -8.94 | 107.43 | 111.90 |
| 26 | 1H | 1681 | G | C4-C5-N7 | 8.94 | 114.38 | 110.80 |
| 26 | 1H | 2299 | G | C6-C5-N7 | -8.94 | 125.04 | 130.40 |
| 1 | 1G | 562 | C | N3-C4-C5 | 8.94 | 125.47 | 121.90 |
| 26 | 14 | 843 | G | N9-C4-C5 | -8.94 | 101.83 | 105.40 |
| 26 | 14 | 2448 | A | N1-C2-N3 | 8.94 | 133.77 | 129.30 |
| 26 | 14 | 2252 | G | O5'-P-OP2 | -8.94 | 97.66 | 105.70 |
| 26 | 1H | 807 | U | C2-N3-C4 | -8.93 | 121.64 | 127.00 |
| 1 | 1G | 1502 | A | C6-C5-N7 | -8.93 | 126.05 | 132.30 |
| 26 | 14 | 32 | C | C6-N1-C2 | 8.93 | 123.87 | 120.30 |
| 26 | 14 | 1691 | C | N3-C4-C5 | -8.93 | 118.33 | 121.90 |
| 26 | 14 | 1558 | A | N3-C4-C5 | 8.93 | 133.05 | 126.80 |
| 26 | 14 | 2324 | C | C5-C6-N1 | -8.93 | 116.53 | 121.00 |
| 26 | 14 | 2346 | A | N1-C6-N6 | 8.93 | 123.96 | 118.60 |
| 23 | 2K | 11 | A | O5'-P-OP2 | -8.93 | 97.66 | 105.70 |
| 26 | 1H | 2314 | C | N3-C2-O2 | -8.93 | 115.65 | 121.90 |
| 26 | 1H | 2593 | U | C5-C4-O4 | 8.93 | 131.26 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 80 | G | N1-C2-N3 | 8.93 | 129.26 | 123.90 |
| 26 | 14 | 1733 | G | C5-C6-N1 | -8.93 | 107.03 | 111.50 |
| 1 | 1G | 180 | U | C5-C6-N1 | 8.93 | 127.16 | 122.70 |
| 26 | 14 | 530 | G | N1-C2-N2 | -8.93 | 108.16 | 116.20 |
| 26 | 14 | 2503 | A | O5'-P-OP1 | 8.93 | 121.42 | 110.70 |
| 26 | 1H | 1106 | G | C8-N9-C4 | -8.93 | 102.83 | 106.40 |
| 26 | 14 | 2249 | U | N3-C4-O4 | 8.93 | 125.65 | 119.40 |
| 26 | 14 | 2417 | C | O5'-P-OP2 | -8.93 | 97.67 | 105.70 |
| 26 | 1H | 1627 | G | N7-C8-N9 | -8.93 | 108.64 | 113.10 |
| 13 | 4A | 95 | GLY | N-CA-C | 8.93 | 135.41 | 113.10 |
| 26 | 14 | 762 | U | C5-C6-N1 | 8.93 | 127.16 | 122.70 |
| 26 | 14 | 1914 | C | C5-C6-N1 | 8.93 | 125.46 | 121.00 |
| 26 | 14 | 2267 | A | OP1-P-OP2 | 8.93 | 132.99 | 119.60 |
| 1 | 13 | 667 | G | N9-C4-C5 | 8.92 | 108.97 | 105.40 |
| 26 | 14 | 2084 | C | C6-N1-C2 | 8.92 | 123.87 | 120.30 |
| 26 | 1H | 971 | C | N1-C2-N3 | 8.92 | 125.44 | 119.20 |
| 1 | 1G | 331 | G | C6-C5-N7 | -8.92 | 125.05 | 130.40 |
| 26 | 14 | 675 | A | C4-C5-C6 | -8.92 | 112.54 | 117.00 |
| 26 | 1H | 2689 | U | C6-N1-C1' | 8.92 | 133.69 | 121.20 |
| 26 | 14 | 74 | A | N3-C4-N9 | -8.92 | 120.27 | 127.40 |
| 26 | 14 | 330 | A | C5-N7-C8 | -8.92 | 99.44 | 103.90 |
| 26 | 14 | 468 | G | OP1-P-OP2 | -8.92 | 106.22 | 119.60 |
| 26 | 14 | 1685 | C | N3-C4-C5 | 8.92 | 125.47 | 121.90 |
| 26 | 1H | 2379 | G | OP1-P-OP2 | 8.92 | 132.98 | 119.60 |
| 1 | 13 | 47 | C | N1-C2-N3 | 8.92 | 125.44 | 119.20 |
| 26 | 1H | 28 | A | N9-C4-C5 | -8.92 | 102.23 | 105.80 |
| 26 | 1H | 1764 | G | N1-C2-N3 | 8.92 | 129.25 | 123.90 |
| 1 | 1G | 413 | G | C4-C5-N7 | -8.92 | 107.23 | 110.80 |
| 1 | 1G | 889 | A | O5'-P-OP1 | -8.92 | 97.67 | 105.70 |
| 1 | 1G | 1139 | G | N3-C4-C5 | 8.92 | 133.06 | 128.60 |
| 26 | 14 | 140 | A | N9-C4-C5 | -8.92 | 102.23 | 105.80 |
| 26 | 14 | 613 | U | O5'-P-OP1 | 8.92 | 121.40 | 110.70 |
| 26 | 14 | 769 | G | C5-C6-O6 | 8.92 | 133.95 | 128.60 |
| 26 | 14 | 1525 | G | C6-N1-C2 | -8.92 | 119.75 | 125.10 |
| 26 | 14 | 1899 | G | N1-C2-N3 | 8.92 | 129.25 | 123.90 |
| 26 | 14 | 1949 | G | C4-C5-C6 | 8.92 | 124.15 | 118.80 |
| 1 | 13 | 1468 | A | N1-C6-N6 | 8.91 | 123.95 | 118.60 |
| 26 | 1H | 116 | C | C4-C5-C6 | 8.91 | 121.86 | 117.40 |
| 1 | 13 | 1517 | G | C5-C6-N1 | 8.91 | 115.96 | 111.50 |
| 26 | 1H | 815 | C | N1-C2-O2 | -8.91 | 113.55 | 118.90 |
| 26 | 1H | 1215 | G | N1-C6-O6 | 8.91 | 125.25 | 119.90 |
| 26 | 1H | 1396 | U | N3-C4-O4 | -8.91 | 113.16 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2026 | C | O5'-P-OP2 | -8.91 | 97.68 | 105.70 |
| 26 | 1H | 1369 | G | C4-C5-N7 | -8.91 | 107.23 | 110.80 |
| 26 | 1H | 1758 | G | OP1-P-OP2 | -8.91 | 106.23 | 119.60 |
| 26 | 1H | 2779 | U | C5-C4-O4 | 8.91 | 131.25 | 125.90 |
| 26 | 14 | 2390 | U | C6-N1-C2 | -8.91 | 115.65 | 121.00 |
| 1 | 13 | 863 | U | N1-C2-O2 | -8.91 | 116.56 | 122.80 |
| 1 | 13 | 881 | G | C8-N9-C4 | 8.91 | 109.96 | 106.40 |
| 1 | 1G | 1502 | A | N7-C8-N9 | 8.91 | 118.26 | 113.80 |
| 1 | 13 | 1323 | G | N1-C6-O6 | 8.91 | 125.25 | 119.90 |
| 26 | 1H | 1798 | U | C2-N3-C4 | -8.91 | 121.65 | 127.00 |
| 26 | 1H | 2239 | G | N9-C4-C5 | -8.91 | 101.84 | 105.40 |
| 26 | 14 | 1308 | A | C5-C6-N6 | 8.91 | 130.83 | 123.70 |
| 26 | 14 | 2037 | G | N1-C6-O6 | -8.91 | 114.55 | 119.90 |
| 26 | 14 | 2607 | G | C5-C6-O6 | 8.91 | 133.94 | 128.60 |
| 26 | 14 | 35 | G | C5-C6-O6 | 8.91 | 133.94 | 128.60 |
| 26 | 14 | 472 | A | C5-C6-N1 | -8.91 | 113.25 | 117.70 |
| 26 | 14 | 685 | A | N7-C8-N9 | 8.91 | 118.25 | 113.80 |
| 26 | 14 | 1482 | U | C5-C4-O4 | 8.91 | 131.25 | 125.90 |
| 1 | 13 | 961 | U | C5-C4-O4 | 8.90 | 131.24 | 125.90 |
| 1 | 13 | 1455 | G | N1-C6-O6 | 8.90 | 125.24 | 119.90 |
| 26 | 14 | 528 | A | N3-C4-C5 | 8.90 | 133.03 | 126.80 |
| 26 | 1H | 2501 | C | C5-C6-N1 | -8.90 | 116.55 | 121.00 |
| 26 | 14 | 784 | A | C2-N3-C4 | -8.90 | 106.15 | 110.60 |
| 26 | 14 | 1412 | A | N1-C2-N3 | -8.90 | 124.85 | 129.30 |
| 26 | 14 | 1411 | C | O5'-P-OP2 | -8.90 | 97.69 | 105.70 |
| 26 | 14 | 2304 | G | N7-C8-N9 | 8.90 | 117.55 | 113.10 |
| 26 | 1H | 2500 | U | C2-N3-C4 | -8.90 | 121.66 | 127.00 |
| 1 | 1G | 853 | G | C8-N9-C4 | -8.90 | 102.84 | 106.40 |
| 1 | 13 | 523 | A | C8-N9-C4 | 8.90 | 109.36 | 105.80 |
| 26 | 1H | 144 | C | N3-C4-N4 | -8.90 | 111.77 | 118.00 |
| 26 | 1H | 867 | C | C6-N1-C2 | 8.90 | 123.86 | 120.30 |
| 26 | 1H | 2006 | C | C4-C5-C6 | -8.90 | 112.95 | 117.40 |
| 26 | 1H | 2595 | G | C4-C5-N7 | 8.90 | 114.36 | 110.80 |
| 1 | 1G | 52 | G | O5'-P-OP2 | -8.90 | 97.69 | 105.70 |
| 26 | 14 | 1734 | C | C6-N1-C2 | -8.90 | 116.74 | 120.30 |
| 46 | G8 | 84 | ARG | NE-CZ-NH1 | 8.89 | 124.75 | 120.30 |
| 26 | 1H | 265 | A | C5-N7-C8 | -8.89 | 99.45 | 103.90 |
| 26 | 1H | 298 | G | N1-C6-O6 | 8.89 | 125.24 | 119.90 |
| 26 | 1H | 1442 | G | N1-C6-O6 | 8.89 | 125.24 | 119.90 |
| 26 | 14 | 115 | C | C2-N3-C4 | -8.89 | 115.45 | 119.90 |
| 26 | 14 | 452 | G | N7-C8-N9 | 8.89 | 117.55 | 113.10 |
| 26 | 14 | 458 | G | O4'-C1'-N9 | 8.89 | 115.32 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1583 | A | N1-C2-N3 | -8.89 | 124.85 | 129.30 |
| 26 | 14 | 1777 | U | N3-C4-O4 | 8.89 | 125.63 | 119.40 |
| 23 | 2K | 14 | A | C2-N3-C4 | -8.89 | 106.16 | 110.60 |
| 26 | 1H | 853 | G | O5'-P-OP1 | 8.89 | 121.37 | 110.70 |
| 26 | 1H | 947 | G | N3-C2-N2 | -8.89 | 113.68 | 119.90 |
| 26 | 1H | 1702 | G | N3-C4-C5 | 8.89 | 133.04 | 128.60 |
| 26 | 1H | 2083 | G | C2-N3-C4 | -8.89 | 107.45 | 111.90 |
| 26 | 14 | 527 | C | O5'-P-OP1 | -8.89 | 97.70 | 105.70 |
| 26 | 14 | 1480 | G | C2-N3-C4 | -8.89 | 107.45 | 111.90 |
| 26 | 14 | 1999 | C | N3-C4-C5 | 8.89 | 125.46 | 121.90 |
| 26 | 14 | 2364 | C | C6-N1-C2 | 8.89 | 123.86 | 120.30 |
| 26 | 1H | 1888 | G | N3-C4-C5 | -8.89 | 124.16 | 128.60 |
| 1 | 13 | 533 | A | C5-N7-C8 | -8.89 | 99.46 | 103.90 |
| 26 | 1H | 474 | G | N7-C8-N9 | 8.89 | 117.54 | 113.10 |
| 26 | 1H | 640 | C | C4-C5-C6 | 8.89 | 121.84 | 117.40 |
| 26 | 1H | 2280 | G | OP1-P-OP2 | -8.89 | 106.27 | 119.60 |
| 26 | 1H | 2581 | G | N1-C2-N2 | -8.89 | 108.20 | 116.20 |
| 26 | 14 | 1382 | G | C5-C6-O6 | -8.89 | 123.27 | 128.60 |
| 26 | 14 | 1899 | G | C5-C6-O6 | 8.89 | 133.93 | 128.60 |
| 26 | 14 | 979 | G | C5-C6-N1 | -8.89 | 107.06 | 111.50 |
| 26 | 1H | 1417 | C | N1-C2-O2 | -8.89 | 113.57 | 118.90 |
| 26 | 1H | 2827 | C | N3-C2-O2 | 8.89 | 128.12 | 121.90 |
| 26 | 14 | 1770 | G | O5'-P-OP2 | 8.89 | 121.36 | 110.70 |
| 1 | 13 | 1486 | G | C2-N3-C4 | -8.88 | 107.46 | 111.90 |
| 26 | 1H | 130 | C | C5-C4-N4 | -8.88 | 113.98 | 120.20 |
| 27 | 16 | 42 | C | N3-C2-O2 | 8.88 | 128.12 | 121.90 |
| 1 | 13 | 623 | C | N3-C4-N4 | 8.88 | 124.22 | 118.00 |
| 1 | 1G | 507 | C | O5'-P-OP1 | -8.88 | 97.71 | 105.70 |
| 26 | 1H | 2336 | A | C5-N7-C8 | 8.88 | 108.34 | 103.90 |
| 26 | 14 | 2279 | G | C5-C6-O6 | 8.88 | 133.93 | 128.60 |
| 26 | 1H | 839 | U | N3-C4-C5 | -8.88 | 109.27 | 114.60 |
| 26 | 1H | 922 | U | N3-C4-O4 | 8.88 | 125.61 | 119.40 |
| 26 | 1H | 1272 | A | N1-C6-N6 | -8.88 | 113.27 | 118.60 |
| 26 | 1H | 2321 | G | O5'-P-OP1 | 8.88 | 121.35 | 110.70 |
| 1 | 13 | 824 | C | C5-C6-N1 | 8.87 | 125.44 | 121.00 |
| 26 | 1H | 141(A) | C | OP1-P-O3' | -8.87 | 85.68 | 105.20 |
| 26 | 1H | 995 | C | C5-C4-N4 | 8.87 | 126.41 | 120.20 |
| 26 | 1H | 988 | A | N1-C6-N6 | 8.87 | 123.92 | 118.60 |
| 26 | 1H | 1032 | A | C8-N9-C4 | 8.87 | 109.35 | 105.80 |
| 26 | 1H | 1369 | G | C5-C6-N1 | -8.87 | 107.06 | 111.50 |
| 26 | 1H | 1948 | G | N3-C2-N2 | 8.87 | 126.11 | 119.90 |
| 26 | 1H | 1229(A) | G | C2-N3-C4 | -8.87 | 107.47 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1489 | U | N3-C4-O4 | -8.87 | 113.19 | 119.40 |
| 26 | 14 | 571 | A | N7-C8-N9 | 8.87 | 118.23 | 113.80 |
| 26 | 14 | 1754 | C | O5'-P-OP2 | -8.87 | 97.72 | 105.70 |
| 26 | 1H | 1762 | A | C8-N9-C4 | 8.87 | 109.35 | 105.80 |
| 26 | 1H | 1781 | C | C4-C5-C6 | -8.87 | 112.97 | 117.40 |
| 26 | 14 | 606 | U | N1-C2-N3 | 8.87 | 120.22 | 114.90 |
| 26 | 14 | 768 | G | N1-C2-N3 | 8.87 | 129.22 | 123.90 |
| 26 | 14 | 1339 | G | C2-N3-C4 | -8.87 | 107.47 | 111.90 |
| 26 | 14 | 2277 | G | C8-N9-C4 | 8.87 | 109.95 | 106.40 |
| 1 | 13 | 364 | A | N1-C2-N3 | 8.87 | 133.73 | 129.30 |
| 26 | 1H | 845 | G | C6-C5-N7 | -8.87 | 125.08 | 130.40 |
| 26 | 1H | 1028 | A | C8-N9-C4 | 8.86 | 109.35 | 105.80 |
| 26 | 1H | 1361 | G | C8-N9-C4 | 8.87 | 109.95 | 106.40 |
| 26 | 1H | 2643 | G | C8-N9-C4 | 8.87 | 109.95 | 106.40 |
| 26 | 14 | 777 | A | C5-C6-N6 | -8.87 | 116.61 | 123.70 |
| 26 | 14 | 863 | A | N3-C4-C5 | -8.87 | 120.59 | 126.80 |
| 26 | 14 | 1915 | U | N3-C2-O2 | -8.86 | 116.00 | 122.20 |
| 1 | 13 | 1340 | A | N1-C6-N6 | 8.86 | 123.92 | 118.60 |
| 26 | 1H | 710 | G | C4-C5-C6 | 8.86 | 124.12 | 118.80 |
| 26 | 1H | 710 | G | C5-C6-O6 | -8.86 | 123.28 | 128.60 |
| 26 | 1H | 2280 | G | C4-C5-C6 | 8.86 | 124.12 | 118.80 |
| 26 | 1H | 1413 | G | O5'-P-OP2 | 8.86 | 121.33 | 110.70 |
| 23 | 2K | 16 | C | N3-C2-O2 | -8.86 | 115.70 | 121.90 |
| 26 | 1H | 300 | A | C8-N9-C4 | -8.86 | 102.26 | 105.80 |
| 26 | 1H | 808 | G | O5'-P-OP1 | -8.86 | 97.73 | 105.70 |
| 26 | 1H | 2299 | G | C4-C5-N7 | 8.86 | 114.34 | 110.80 |
| 26 | 14 | 563 | G | N7-C8-N9 | 8.86 | 117.53 | 113.10 |
| 26 | 14 | 1961 | C | O5'-P-OP2 | -8.86 | 97.73 | 105.70 |
| 26 | 1H | 425 | G | C6-N1-C2 | -8.86 | 119.79 | 125.10 |
| 26 | 1H | 451 | C | N3-C2-O2 | 8.86 | 128.10 | 121.90 |
| 26 | 1H | 823 | G | N3-C2-N2 | -8.86 | 113.70 | 119.90 |
| 26 | 14 | 568 | U | C5-C6-N1 | -8.86 | 118.27 | 122.70 |
| 26 | 14 | 2273 | A | N1-C6-N6 | -8.86 | 113.29 | 118.60 |
| 26 | 14 | 2345 | G | C6-N1-C2 | -8.86 | 119.79 | 125.10 |
| 26 | 14 | 2561 | A | O5'-P-OP2 | -8.86 | 97.73 | 105.70 |
| 1 | 13 | 1495 | U | N1-C2-O2 | 8.85 | 129.00 | 122.80 |
| 26 | 1H | 225 | A | C5-C6-N1 | -8.85 | 113.27 | 117.70 |
| 26 | 1H | 273(A) | G | N1-C6-O6 | 8.85 | 125.21 | 119.90 |
| 26 | 1H | 1255 | U | N1-C2-O2 | -8.85 | 116.60 | 122.80 |
| 26 | 1H | 2066 | C | N1-C2-O2 | 8.85 | 124.21 | 118.90 |
| 26 | 14 | 1266 | G | N7-C8-N9 | -8.85 | 108.67 | 113.10 |
| 26 | 14 | 2443 | C | O5'-P-OP1 | -8.85 | 97.73 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 956 | G | C5-C6-O6 | 8.85 | 133.91 | 128.60 |
| 26 | 14 | 1331 | A | O5'-P-OP1 | -8.85 | 97.73 | 105.70 |
| 26 | 14 | 1465 | G | N1-C6-O6 | 8.85 | 125.21 | 119.90 |
| 26 | 14 | 1496 | A | C8-N9-C4 | -8.85 | 102.26 | 105.80 |
| 26 | 14 | 1784 | A | C6-N1-C2 | -8.85 | 113.29 | 118.60 |
| 26 | 14 | 2544 | G | N1-C6-O6 | 8.85 | 125.21 | 119.90 |
| 27 | 1J | 7 | G | C8-N9-C4 | 8.85 | 109.94 | 106.40 |
| 1 | 13 | 601 | C | C6-N1-C2 | -8.85 | 116.76 | 120.30 |
| 1 | 13 | 801 | U | N3-C2-O2 | -8.85 | 116.00 | 122.20 |
| 26 | 1H | 301 | G | O5'-P-OP1 | -8.85 | 97.74 | 105.70 |
| 1 | 1G | 503 | C | N3-C4-N4 | 8.85 | 124.19 | 118.00 |
| 26 | 14 | 791 | C | N3-C2-O2 | 8.85 | 128.09 | 121.90 |
| 1 | 1G | 570 | G | C8-N9-C4 | -8.85 | 102.86 | 106.40 |
| 26 | 14 | 2708 | G | C8-N9-C4 | 8.85 | 109.94 | 106.40 |
| 26 | 1H | 611 | C | C6-N1-C2 | 8.85 | 123.84 | 120.30 |
| 26 | 1H | 1854 | A | N7-C8-N9 | -8.85 | 109.38 | 113.80 |
| 26 | 1H | 2040 | C | N3-C4-C5 | 8.85 | 125.44 | 121.90 |
| 26 | 14 | 843 | G | N3-C4-C5 | 8.85 | 133.02 | 128.60 |
| 26 | 14 | 947 | G | C4-C5-N7 | -8.85 | 107.26 | 110.80 |
| 26 | 14 | 1311 | G | C4-C5-N7 | -8.85 | 107.26 | 110.80 |
| 26 | 14 | 1382 | G | C2-N3-C4 | -8.85 | 107.48 | 111.90 |
| 26 | 14 | 1410 | G | N1-C6-O6 | -8.85 | 114.59 | 119.90 |
| 26 | 14 | 2845 | G | O5'-P-OP2 | -8.85 | 97.74 | 105.70 |
| 26 | 1H | 2391 | G | O5'-P-OP1 | -8.85 | 97.74 | 105.70 |
| 26 | 1H | 1443 | G | N3-C4-N9 | -8.84 | 120.69 | 126.00 |
| 26 | 1H | 1798 | U | C5-C4-O4 | -8.84 | 120.59 | 125.90 |
| 26 | 1H | 2278 | A | N1-C6-N6 | 8.84 | 123.91 | 118.60 |
| 26 | 14 | 1402 | C | C6-N1-C2 | -8.84 | 116.76 | 120.30 |
| 26 | 14 | 2227 | A | C2-N3-C4 | -8.84 | 106.18 | 110.60 |
| 26 | 14 | 2609 | U | C5-C4-O4 | -8.84 | 120.59 | 125.90 |
| 1 | 13 | 755 | G | C5-N7-C8 | 8.84 | 108.72 | 104.30 |
| 26 | 1H | 710 | G | C4-C5-N7 | 8.84 | 114.34 | 110.80 |
| 26 | 14 | 343 | C | C6-N1-C2 | 8.84 | 123.84 | 120.30 |
| 26 | 14 | 867 | C | O5'-P-OP1 | -8.84 | 97.74 | 105.70 |
| 26 | 1H | 264 | C | C4-C5-C6 | -8.84 | 112.98 | 117.40 |
| 26 | 1H | 465 | G | C6-N1-C2 | 8.84 | 130.40 | 125.10 |
| 26 | 1H | 948 | G | N3-C2-N2 | -8.84 | 113.71 | 119.90 |
| 26 | 1H | 1554 | A | O5'-P-OP2 | -8.84 | 97.75 | 105.70 |
| 26 | 14 | 46 | C | N3-C4-C5 | 8.84 | 125.44 | 121.90 |
| 26 | 14 | 1220 | A | N1-C6-N6 | -8.84 | 113.30 | 118.60 |
| 26 | 1H | 1404 | C | OP1-P-OP2 | 8.84 | 132.86 | 119.60 |
| 26 | 1H | 1787 | A | O4'-C1'-N9 | -8.84 | 101.13 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 1 | 1G | 660 | G | C8-N9-C4 | 8.84 | 109.94 | 106.40 |
| 1 | 13 | 322 | C | C6-N1-C2 | -8.84 | 116.77 | 120.30 |
| 23 | 2K | 43 | G | N1-C2-N2 | -8.84 | 108.25 | 116.20 |
| 26 | 1H | 225 | A | N9-C4-C5 | -8.84 | 102.27 | 105.80 |
| 26 | 14 | 492 | A | C5-C6-N6 | -8.84 | 116.63 | 123.70 |
| 26 | 14 | 1968 | G | C8-N9-C4 | -8.84 | 102.86 | 106.40 |
| 26 | 1H | 459 | U | O5'-P-OP2 | -8.84 | 97.75 | 105.70 |
| 26 | 1H | 2333 | A | C2-N3-C4 | 8.84 | 115.02 | 110.60 |
| 26 | 1H | 2389 | G | C5-C6-O6 | 8.84 | 133.90 | 128.60 |
| 26 | 14 | 1316 | U | N3-C2-O2 | -8.84 | 116.01 | 122.20 |
| 26 | 1H | 2710 | C | N3-C4-C5 | 8.84 | 125.43 | 121.90 |
| 26 | 14 | 828 | U | N3-C4-O4 | -8.84 | 113.22 | 119.40 |
| 26 | 14 | 2058 | A | C6-N1-C2 | -8.84 | 113.30 | 118.60 |
| 27 | 1J | 75 | G | N9-C4-C5 | -8.84 | 101.87 | 105.40 |
| 1 | 13 | 1533 | C | N1-C2-O2 | 8.83 | 124.20 | 118.90 |
| 26 | 1H | 142 | G | C2-N3-C4 | -8.83 | 107.48 | 111.90 |
| 26 | 1H | 1230 | C | N3-C4-C5 | 8.83 | 125.43 | 121.90 |
| 26 | 1H | 2278 | A | C5-C6-N6 | -8.83 | 116.63 | 123.70 |
| 26 | 14 | 630 | G | C8-N9-C4 | 8.83 | 109.93 | 106.40 |
| 23 | 2K | 7 | G | C4-C5-N7 | 8.83 | 114.33 | 110.80 |
| 26 | 1H | 952 | G | N3-C4-N9 | 8.83 | 131.30 | 126.00 |
| 26 | 1H | 2640 | G | O5'-P-OP2 | -8.83 | 97.75 | 105.70 |
| 26 | 14 | 1142(A) | A | C2-N3-C4 | -8.83 | 106.19 | 110.60 |
| 26 | 14 | 2294 | C | OP1-P-OP2 | -8.83 | 106.36 | 119.60 |
| 1 | 13 | 664 | G | C8-N9-C4 | 8.83 | 109.93 | 106.40 |
| 1 | 1G | 1119 | C | C6-N1-C2 | -8.83 | 116.77 | 120.30 |
| 26 | 14 | 298 | G | C5-C6-O6 | -8.83 | 123.30 | 128.60 |
| 26 | 14 | 2318 | G | N1-C6-O6 | 8.83 | 125.19 | 119.90 |
| 1 | 13 | 966 | G | N9-C4-C5 | -8.82 | 101.87 | 105.40 |
| 26 | 1H | 244 | A | C5-N7-C8 | -8.82 | 99.49 | 103.90 |
| 26 | 1H | 2278 | A | N1-C2-N3 | 8.82 | 133.71 | 129.30 |
| 26 | 14 | 125 | G | C5-C6-O6 | -8.82 | 123.31 | 128.60 |
| 26 | 14 | 1640 | C | N1-C2-O2 | 8.82 | 124.19 | 118.90 |
| 26 | 1H | 471 | A | N9-C4-C5 | -8.82 | 102.27 | 105.80 |
| 1 | 13 | 660 | G | O5'-P-OP2 | 8.82 | 121.29 | 110.70 |
| 26 | 1H | 835 | A | O5'-P-OP1 | 8.82 | 121.28 | 110.70 |
| 26 | 1H | 1992 | G | C2-N3-C4 | 8.82 | 116.31 | 111.90 |
| 26 | 1H | 1338 | G | N1-C2-N3 | -8.82 | 118.61 | 123.90 |
| 26 | 1H | 1346 | G | N7-C8-N9 | -8.82 | 108.69 | 113.10 |
| 26 | 1H | 1846 | G | N3-C2-N2 | -8.82 | 113.73 | 119.90 |
| 27 | 1J | 103 | U | O5'-P-OP2 | -8.82 | 97.76 | 105.70 |
| 23 | 2K | 5 | G | C8-N9-C4 | 8.82 | 109.93 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 686 | G | OP1-P-OP2 | 8.82 | 132.83 | 119.60 |
| 1 | 13 | 892 | A | C4-C5-C6 | 8.82 | 121.41 | 117.00 |
| 26 | 1H | 1704 | G | O5'-P-OP2 | -8.82 | 97.77 | 105.70 |
| 26 | 14 | 918 | A | N7-C8-N9 | 8.82 | 118.21 | 113.80 |
| 26 | 14 | 1861 | G | N1-C6-O6 | 8.82 | 125.19 | 119.90 |
| 26 | 1H | 1918 | A | C4-C5-C6 | -8.81 | 112.59 | 117.00 |
| 26 | 14 | 1268 | A | C8-N9-C4 | 8.81 | 109.33 | 105.80 |
| 26 | 14 | 1294 | U | C5-C6-N1 | -8.81 | 118.29 | 122.70 |
| 1 | 1G | 109 | A | C5-C6-N1 | 8.81 | 122.11 | 117.70 |
| 1 | 1G | 1350 | A | C8-N9-C4 | -8.81 | 102.28 | 105.80 |
| 26 | 1H | 1156 | A | C5-N7-C8 | -8.81 | 99.49 | 103.90 |
| 26 | 1H | 2376 | A | N7-C8-N9 | -8.81 | 109.39 | 113.80 |
| 1 | 13 | 789 | U | N3-C4-C5 | -8.81 | 109.31 | 114.60 |
| 26 | 1H | 2695 | C | N1-C2-O2 | -8.81 | 113.61 | 118.90 |
| 26 | 14 | 974(A) | C | N3-C2-O2 | -8.81 | 115.73 | 121.90 |
| 26 | 14 | 2244 | U | C5-C6-N1 | -8.81 | 118.29 | 122.70 |
| 26 | 14 | 1352 | U | O5'-P-OP2 | -8.81 | 97.77 | 105.70 |
| 26 | 14 | 2256 | G | N1-C2-N2 | -8.81 | 108.27 | 116.20 |
| 26 | 1H | 580 | C | C4-C5-C6 | 8.81 | 121.80 | 117.40 |
| 26 | 1H | 759 | G | N9-C4-C5 | 8.81 | 108.92 | 105.40 |
| 26 | 1H | 802 | A | C5-N7-C8 | -8.81 | 99.50 | 103.90 |
| 26 | 1H | 1672 | C | N1-C2-O2 | -8.81 | 113.62 | 118.90 |
| 26 | 1H | 2377 | A | N1-C6-N6 | 8.81 | 123.89 | 118.60 |
| 26 | 1H | 2381 | C | N1-C2-O2 | -8.81 | 113.62 | 118.90 |
| 26 | 14 | 1575 | C | N1-C2-O2 | 8.81 | 124.19 | 118.90 |
| 26 | 14 | 2500 | U | O5'-P-OP2 | -8.81 | 97.77 | 105.70 |
| 1 | 13 | 816 | A | N9-C4-C5 | 8.81 | 109.32 | 105.80 |
| 1 | 13 | 965 | A | C4-C5-C6 | 8.81 | 121.40 | 117.00 |
| 26 | 1H | 456 | C | N3-C4-N4 | 8.81 | 124.16 | 118.00 |
| 1 | 13 | 502 | G | N1-C6-O6 | 8.80 | 125.18 | 119.90 |
| 26 | 1H | 556 | G | C5-C6-O6 | 8.80 | 133.88 | 128.60 |
| 26 | 1H | 786 | C | C5-C6-N1 | -8.81 | 116.60 | 121.00 |
| 26 | 1H | 1203 | G | C5-C6-O6 | 8.80 | 133.88 | 128.60 |
| 26 | 14 | 1120 | G | C8-N9-C4 | 8.81 | 109.92 | 106.40 |
| 26 | 1H | 327 | G | N3-C2-N2 | -8.80 | 113.74 | 119.90 |
| 26 | 1H | 858 | U | C6-N1-C2 | 8.80 | 126.28 | 121.00 |
| 26 | 1H | 1474 | C | N1-C2-O2 | 8.80 | 124.18 | 118.90 |
| 26 | 14 | 1276 | A | N7-C8-N9 | 8.81 | 118.20 | 113.80 |
| 26 | 14 | 2008 | C | N1-C2-O2 | -8.80 | 113.62 | 118.90 |
| 1 | 1G | 884 | U | C6-N1-C2 | -8.80 | 115.72 | 121.00 |
| 26 | 14 | 529 | A | C2-N3-C4 | -8.80 | 106.20 | 110.60 |
| 26 | 14 | 564 | C | N3-C4-N4 | 8.80 | 124.16 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 608 | A | N1-C2-N3 | 8.80 | 133.70 | 129.30 |
| 26 | 14 | 2848 | G | N1-C2-N3 | 8.80 | 129.18 | 123.90 |
| 54 | L5 | 21 | ARG | NE-CZ-NH2 | -8.80 | 115.90 | 120.30 |
| 1 | 13 | 1085 | U | O5'-P-OP1 | -8.80 | 97.78 | 105.70 |
| 26 | 1H | 528 | A | O4'-C1'-N9 | -8.80 | 101.16 | 108.20 |
| 26 | 1H | 577 | G | OP1-P-OP2 | -8.80 | 106.40 | 119.60 |
| 26 | 1H | 34 | C | N1-C2-O2 | 8.80 | 124.18 | 118.90 |
| 26 | 1H | 2285 | C | N3-C4-C5 | 8.80 | 125.42 | 121.90 |
| 27 | 1J | 113 | C | N1-C2-O2 | 8.80 | 124.18 | 118.90 |
| 1 | 13 | 1432 | G | N1-C6-O6 | 8.80 | 125.18 | 119.90 |
| 1 | 13 | 769 | G | N1-C6-O6 | -8.80 | 114.62 | 119.90 |
| 26 | 1H | 2869 | G | N7-C8-N9 | 8.80 | 117.50 | 113.10 |
| 26 | 1H | 1817 | G | C5-N7-C8 | 8.80 | 108.70 | 104.30 |
| 26 | 14 | 1449(A) | G | N1-C6-O6 | 8.79 | 125.18 | 119.90 |
| 26 | 14 | 2457 | U | N3-C4-O4 | -8.79 | 113.25 | 119.40 |
| 1 | 13 | 738 | C | N3-C4-C5 | -8.79 | 118.38 | 121.90 |
| 26 | 14 | 1821 | A | C5-C6-N6 | -8.79 | 116.67 | 123.70 |
| 26 | 14 | 2454 | G | N9-C4-C5 | -8.79 | 101.88 | 105.40 |
| 26 | 1H | 96 | G | N1-C6-O6 | 8.79 | 125.17 | 119.90 |
| 26 | 1H | 2030 | A | N7-C8-N9 | -8.79 | 109.40 | 113.80 |
| 1 | 13 | 260 | G | C5-C6-O6 | 8.79 | 133.87 | 128.60 |
| 1 | 13 | 1416 | G | C5-C6-O6 | 8.79 | 133.87 | 128.60 |
| 26 | 1H | 530 | G | C5-C6-O6 | 8.79 | 133.87 | 128.60 |
| 26 | 1H | 2817 | G | C8-N9-C4 | -8.79 | 102.89 | 106.40 |
| 26 | 1H | 1951 | U | C5-C4-O4 | 8.79 | 131.17 | 125.90 |
| 26 | 1H | 1518 | C | C6-N1-C2 | -8.78 | 116.79 | 120.30 |
| 26 | 1H | 2498 | C | C6-N1-C2 | -8.79 | 116.79 | 120.30 |
| 26 | 1H | 2701 | C | N3-C4-C5 | 8.78 | 125.41 | 121.90 |
| 1 | 1G | 120 | A | N1-C6-N6 | 8.79 | 123.87 | 118.60 |
| 26 | 14 | 127 | A | C5-C6-N6 | -8.79 | 116.67 | 123.70 |
| 26 | 1H | 2597 | G | O4'-C1'-N9 | -8.78 | 101.17 | 108.20 |
| 26 | 14 | 146 | G | C8-N9-C4 | 8.78 | 109.91 | 106.40 |
| 26 | 1H | 131 | G | C5-N7-C8 | -8.78 | 99.91 | 104.30 |
| 26 | 1H | 225 | A | N1-C6-N6 | 8.78 | 123.87 | 118.60 |
| 26 | 1H | 1315 | C | N3-C2-O2 | -8.78 | 115.75 | 121.90 |
| 1 | 1G | 390 | C | C2-N3-C4 | -8.78 | 115.51 | 119.90 |
| 26 | 14 | 1669 | A | C6-N1-C2 | -8.78 | 113.33 | 118.60 |
| 1 | 13 | 1202 | G | N3-C4-C5 | 8.78 | 132.99 | 128.60 |
| 26 | 1H | 1821 | A | C2-N3-C4 | -8.78 | 106.21 | 110.60 |
| 26 | 14 | 1950 | G | C8-N9-C1' | -8.78 | 115.59 | 127.00 |
| 26 | 14 | 2383 | G | O5'-P-OP2 | -8.78 | 97.80 | 105.70 |
| 26 | 14 | 2610 | C | N1-C2-N3 | -8.78 | 113.06 | 119.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 543 | C | C4-C5-C6 | 8.78 | 121.79 | 117.40 |
| 26 | 1H | 299 | A | N7-C8-N9 | 8.78 | 118.19 | 113.80 |
| 26 | 1H | 821 | A | OP1-P-OP2 | 8.78 | 132.76 | 119.60 |
| 26 | 1H | 1626 | G | N1-C6-O6 | 8.78 | 125.17 | 119.90 |
| 26 | 1H | 1662 | C | C2-N3-C4 | -8.78 | 115.51 | 119.90 |
| 49 | J8 | 41 | ARG | NE-CZ-NH1 | 8.78 | 124.69 | 120.30 |
| 1 | 1G | 138 | G | N1-C6-O6 | 8.78 | 125.17 | 119.90 |
| 1 | 13 | 363 | A | C8-N9-C4 | 8.77 | 109.31 | 105.80 |
| 26 | 1H | 1300 | U | N1-C2-O2 | -8.77 | 116.66 | 122.80 |
| 26 | 1H | 2606 | C | C4-C5-C6 | 8.77 | 121.79 | 117.40 |
| 27 | 16 | 99 | A | OP1-P-OP2 | 8.77 | 132.76 | 119.60 |
| 26 | 14 | 669 | G | N3-C2-N2 | -8.77 | 113.76 | 119.90 |
| 26 | 1H | 2306 | C | C6-N1-C2 | 8.77 | 123.81 | 120.30 |
| 26 | 1H | 2675 | A | O5'-P-OP1 | 8.77 | 121.22 | 110.70 |
| 26 | 14 | 1692 | U | C6-N1-C2 | 8.77 | 126.26 | 121.00 |
| 1 | 13 | 1081 | G | N1-C6-O6 | -8.77 | 114.64 | 119.90 |
| 26 | 1H | 556 | G | N1-C6-O6 | -8.77 | 114.64 | 119.90 |
| 26 | 1H | 1500 | G | C4-C5-N7 | 8.77 | 114.31 | 110.80 |
| 1 | 1G | 1467 | G | O5'-P-OP2 | -8.77 | 97.81 | 105.70 |
| 26 | 14 | 738 | G | C8-N9-C4 | -8.77 | 102.89 | 106.40 |
| 26 | 14 | 1396 | U | N1-C2-O2 | 8.77 | 128.94 | 122.80 |
| 26 | 14 | 2291 | U | C5-C4-O4 | 8.77 | 131.16 | 125.90 |
| 26 | 14 | 2613 | U | O5'-P-OP2 | -8.77 | 97.81 | 105.70 |
| 26 | 1H | 1938 | A | O5'-P-OP1 | -8.77 | 97.81 | 105.70 |
| 1 | 13 | 726 | C | C6-N1-C2 | -8.77 | 116.79 | 120.30 |
| 26 | 14 | 1640 | C | N3-C4-C5 | -8.77 | 118.39 | 121.90 |
| 26 | 1H | 810 | U | C2-N3-C4 | -8.76 | 121.74 | 127.00 |
| 26 | 1H | 906 | G | C5-C6-O6 | -8.76 | 123.34 | 128.60 |
| 26 | 1H | 1803 | A | C4-C5-C6 | -8.76 | 112.62 | 117.00 |
| 26 | 14 | 944 | G | N3-C2-N2 | -8.76 | 113.77 | 119.90 |
| 26 | 14 | 1293 | C | N1-C2-O2 | 8.76 | 124.16 | 118.90 |
| 26 | 14 | 2294 | C | C6-N1-C2 | -8.76 | 116.80 | 120.30 |
| 1 | 13 | 529 | G | C4-C5-N7 | 8.76 | 114.30 | 110.80 |
| 1 | 13 | 651 | C | C6-N1-C2 | -8.76 | 116.80 | 120.30 |
| 26 | 14 | 1786 | A | N3-C4-N9 | -8.76 | 120.39 | 127.40 |
| 26 | 14 | 2263 | C | N1-C2-O2 | 8.76 | 124.16 | 118.90 |
| 26 | 1H | 828 | U | N3-C2-O2 | -8.76 | 116.07 | 122.20 |
| 26 | 1H | 952 | G | N1-C2-N3 | -8.76 | 118.65 | 123.90 |
| 1 | 1G | 304 | U | N1-C2-N3 | 8.76 | 120.15 | 114.90 |
| 1 | 13 | 1192 | C | N1-C2-O2 | 8.75 | 124.15 | 118.90 |
| 26 | 1H | 960 | A | N1-C6-N6 | -8.75 | 113.35 | 118.60 |
| 26 | 1H | 738 | G | N9-C4-C5 | -8.75 | 101.90 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 1H | 930 | U | C5-C6-N1 | -8.75 | 118.32 | 122.70 |
| 26 | 14 | 2017 | U | C5-C4-O4 | -8.75 | 120.65 | 125.90 |
| 22 | 1K | 76 | A | O4'-C1'-N9 | 8.75 | 115.20 | 108.20 |
| 26 | 1H | 2278 | A | C6-N1-C2 | -8.75 | 113.35 | 118.60 |
| 26 | 1H | 705 | A | C5-C6-N6 | -8.75 | 116.70 | 123.70 |
| 26 | 1H | 2392 | A | N1-C6-N6 | 8.75 | 123.85 | 118.60 |
| 26 | 1H | 2838 | G | O5'-P-OP1 | -8.75 | 97.83 | 105.70 |
| 1 | 1G | 666 | G | C6-C5-N7 | -8.75 | 125.15 | 130.40 |
| 1 | 13 | 1506 | U | N3-C4-O4 | 8.75 | 125.52 | 119.40 |
| 26 | 14 | 252 | G | C2-N3-C4 | 8.75 | 116.27 | 111.90 |
| 26 | 14 | 428 | A | N1-C6-N6 | -8.75 | 113.35 | 118.60 |
| 23 | 2K | 57 | C | C6-N1-C2 | 8.75 | 123.80 | 120.30 |
| 26 | 1H | 407 | G | N1-C6-O6 | -8.75 | 114.65 | 119.90 |
| 1 | 13 | 768 | A | C4-C5-N7 | -8.74 | 106.33 | 110.70 |
| 26 | 1H | 2031 | A | C5-C6-N6 | -8.74 | 116.70 | 123.70 |
| 26 | 14 | 211 | A | C4-C5-N7 | 8.74 | 115.07 | 110.70 |
| 26 | 1H | 241 | A | O5'-P-OP2 | -8.74 | 97.83 | 105.70 |
| 26 | 1H | 810 | U | N3-C4-C5 | 8.74 | 119.85 | 114.60 |
| 26 | 14 | 2622 | C | C2-N3-C4 | -8.74 | 115.53 | 119.90 |
| 26 | 1H | 1160 | G | N7-C8-N9 | 8.74 | 117.47 | 113.10 |
| 26 | 1H | 1186 | G | C2-N3-C4 | 8.74 | 116.27 | 111.90 |
| 1 | 1G | 1344 | C | C6-N1-C2 | -8.74 | 116.80 | 120.30 |
| 26 | 14 | 1142(A) | A | N1-C2-N3 | 8.74 | 133.67 | 129.30 |
| 26 | 1H | 271(B) | G | N1-C6-O6 | -8.74 | 114.66 | 119.90 |
| 26 | 1H | 977 | G | N9-C4-C5 | 8.74 | 108.90 | 105.40 |
| 26 | 1H | 1978 | A | N9-C4-C5 | 8.74 | 109.30 | 105.80 |
| 26 | 14 | 1899 | G | N3-C2-N2 | 8.74 | 126.02 | 119.90 |
| 26 | 14 | 2357 | U | O5'-P-OP2 | -8.74 | 97.83 | 105.70 |
| 26 | 14 | 2637 | U | N3-C4-O4 | 8.74 | 125.52 | 119.40 |
| 26 | 1H | 2593 | U | N1-C2-N3 | 8.74 | 120.14 | 114.90 |
| 26 | 14 | 219 | G | C4-C5-N7 | -8.74 | 107.31 | 110.80 |
| 26 | 14 | 1601 | G | N1-C6-O6 | -8.74 | 114.66 | 119.90 |
| 1 | 13 | 761 | G | N1-C2-N2 | -8.74 | 108.34 | 116.20 |
| 26 | 1H | 1618 | A | C5-C6-N6 | -8.74 | 116.71 | 123.70 |
| 26 | 1H | 2358 | G | N9-C4-C5 | 8.74 | 108.89 | 105.40 |
| 1 | 1G | 117 | G | C2-N3-C4 | -8.74 | 107.53 | 111.90 |
| 26 | 14 | 1221 | C | C5-C6-N1 | -8.74 | 116.63 | 121.00 |
| 26 | 1H | 913 | U | OP1-P-OP2 | 8.73 | 132.70 | 119.60 |
| 1 | 1G | 1380 | U | C6-N1-C2 | 8.73 | 126.24 | 121.00 |
| 26 | 1H | 2025 | C | N3-C4-N4 | 8.73 | 124.11 | 118.00 |
| 1 | 1G | 1077 | G | C8-N9-C4 | 8.73 | 109.89 | 106.40 |
| 26 | 14 | 1528 | A | C5-N7-C8 | -8.73 | 99.53 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1578 | U | C5-C4-O4 | 8.73 | 131.14 | 125.90 |
| 26 | 14 | 2444 | G | C6-N1-C2 | -8.73 | 119.86 | 125.10 |
| 1 | 13 | 1111 | A | N1-C6-N6 | -8.73 | 113.36 | 118.60 |
| 26 | 1H | 1520 | U | C5-C4-O4 | 8.73 | 131.14 | 125.90 |
| 26 | 14 | 1656 | C | OP2-P-O3' | 8.73 | 124.41 | 105.20 |
| 27 | 1J | 114 | G | C5-N7-C8 | 8.73 | 108.67 | 104.30 |
| 1 | 13 | 19 | C | C6-N1-C2 | -8.73 | 116.81 | 120.30 |
| 26 | 1H | 446 | G | C4-C5-N7 | 8.73 | 114.29 | 110.80 |
| 1 | 1G | 831 | U | C5-C6-N1 | 8.73 | 127.06 | 122.70 |
| 57 | 3L | 76 | A | N1-C6-N6 | 8.73 | 123.84 | 118.60 |
| 26 | 1H | 197 | A | C4-C5-C6 | 8.73 | 121.36 | 117.00 |
| 26 | 14 | 1842 | G | O5'-P-OP2 | -8.73 | 97.85 | 105.70 |
| 1 | 13 | 1260 | C | C6-N1-C2 | -8.72 | 116.81 | 120.30 |
| 26 | 1H | 338 | G | OP1-P-OP2 | 8.72 | 132.69 | 119.60 |
| 26 | 14 | 2004 | G | N3-C2-N2 | -8.72 | 113.79 | 119.90 |
| 26 | 1H | 2015 | A | O5'-P-OP1 | -8.72 | 97.85 | 105.70 |
| 26 | 1H | 2607 | G | N1-C6-O6 | 8.72 | 125.14 | 119.90 |
| 26 | 14 | 678 | C | N1-C2-O2 | -8.72 | 113.67 | 118.90 |
| 26 | 14 | 1405 | U | N3-C2-O2 | -8.72 | 116.09 | 122.20 |
| 1 | 13 | 1128 | C | N3-C2-O2 | -8.72 | 115.79 | 121.90 |
| 22 | 1K | 40 | C | N1-C2-O2 | 8.72 | 124.13 | 118.90 |
| 22 | 1K | 76 | A | N1-C6-N6 | 8.72 | 123.83 | 118.60 |
| 26 | 1H | 2583 | G | N3-C2-N2 | 8.72 | 126.00 | 119.90 |
| 1 | 1G | 946 | A | O5'-P-OP1 | -8.72 | 97.85 | 105.70 |
| 26 | 14 | 180 | G | C8-N9-C4 | 8.72 | 109.89 | 106.40 |
| 26 | 14 | 731 | C | N3-C2-O2 | 8.72 | 128.00 | 121.90 |
| 1 | 13 | 1203 | C | O5'-P-OP2 | -8.72 | 97.85 | 105.70 |
| 26 | 14 | 246 | C | N1-C2-O2 | -8.72 | 113.67 | 118.90 |
| 26 | 1H | 137(A) | G | N9-C4-C5 | 8.72 | 108.89 | 105.40 |
| 26 | 1H | 690 | G | C2-N3-C4 | -8.72 | 107.54 | 111.90 |
| 26 | 1H | 1625 | C | C6-N1-C2 | 8.72 | 123.79 | 120.30 |
| 26 | 1H | 2837 | G | N7-C8-N9 | 8.72 | 117.46 | 113.10 |
| 26 | 1H | 1670 | C | C5-C6-N1 | -8.71 | 116.64 | 121.00 |
| 1 | 1G | 597 | G | C8-N9-C4 | 8.71 | 109.89 | 106.40 |
| 26 | 14 | 699 | A | C6-N1-C2 | -8.71 | 113.37 | 118.60 |
| 1 | 13 | 394 | G | C2-N3-C4 | -8.71 | 107.54 | 111.90 |
| 1 | 13 | 954 | G | N3-C2-N2 | -8.71 | 113.80 | 119.90 |
| 26 | 1H | 1373 | A | C8-N9-C4 | 8.71 | 109.28 | 105.80 |
| 26 | 1H | 2701 | C | C5-C6-N1 | -8.71 | 116.64 | 121.00 |
| 26 | 14 | 782 | A | O5'-P-OP1 | -8.71 | 97.86 | 105.70 |
| 26 | 14 | 1951 | U | N3-C4-C5 | -8.71 | 109.37 | 114.60 |
| 26 | 14 | 1308 | A | C4-C5-N7 | -8.71 | 106.34 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1367 | A | N1-C6-N6 | 8.71 | 123.83 | 118.60 |
| 1 | 13 | 571 | U | N3-C4-O4 | 8.71 | 125.50 | 119.40 |
| 26 | 1H | 462 | C | O5'-P-OP2 | -8.71 | 97.86 | 105.70 |
| 26 | 1H | 679 | C | C5-C6-N1 | -8.71 | 116.65 | 121.00 |
| 26 | 1H | 2387 | U | N1-C2-N3 | 8.71 | 120.12 | 114.90 |
| 23 | 2L | 27 | G | C8-N9-C4 | 8.71 | 109.88 | 106.40 |
| 26 | 14 | 2776 | A | C8-N9-C4 | -8.71 | 102.32 | 105.80 |
| 1 | 13 | 1455 | G | C2-N3-C4 | -8.71 | 107.55 | 111.90 |
| 26 | 1H | 328 | U | OP1-P-OP2 | 8.71 | 132.66 | 119.60 |
| 26 | 1H | 2416 | C | OP2-P-O3' | 8.70 | 124.35 | 105.20 |
| 1 | 13 | 172 | A | N7-C8-N9 | 8.70 | 118.15 | 113.80 |
| 26 | 1H | 217 | G | N9-C4-C5 | 8.70 | 108.88 | 105.40 |
| 26 | 1H | 2428 | G | N9-C4-C5 | 8.70 | 108.88 | 105.40 |
| 26 | 14 | 2374 | C | C2-N3-C4 | -8.70 | 115.55 | 119.90 |
| 26 | 14 | 2434 | A | N9-C4-C5 | 8.70 | 109.28 | 105.80 |
| 26 | 14 | 2609 | U | O5'-P-OP2 | -8.70 | 97.87 | 105.70 |
| 26 | 1H | 2667 | C | N1-C2-O2 | -8.70 | 113.68 | 118.90 |
| 26 | 14 | 1907 | G | C8-N9-C4 | 8.70 | 109.88 | 106.40 |
| 26 | 1H | 1125 | G | C4-C5-N7 | -8.70 | 107.32 | 110.80 |
| 1 | 13 | 63 | C | C6-N1-C2 | -8.70 | 116.82 | 120.30 |
| 1 | 13 | 1239 | A | C8-N9-C4 | 8.70 | 109.28 | 105.80 |
| 26 | 14 | 1914 | C | C2-N1-C1' | 8.70 | 128.37 | 118.80 |
| 26 | 1H | 198 | C | C2-N3-C4 | -8.70 | 115.55 | 119.90 |
| 26 | 1H | 702 | G | C2-N3-C4 | -8.70 | 107.55 | 111.90 |
| 26 | 1H | 1332 | G | N3-C4-C5 | 8.70 | 132.95 | 128.60 |
| 27 | 16 | 6 | C | N3-C4-C5 | 8.70 | 125.38 | 121.90 |
| 50 | K8 | 59 | ARG | NE-CZ-NH2 | 8.70 | 124.65 | 120.30 |
| 1 | 1G | 294 | U | O5'-P-OP1 | -8.70 | 97.87 | 105.70 |
| 26 | 14 | 1999 | C | C5-C6-N1 | -8.70 | 116.65 | 121.00 |
| 26 | 14 | 2272 | U | O5'-P-OP2 | -8.70 | 97.87 | 105.70 |
| 26 | 1H | 1513 | C | N3-C4-N4 | 8.70 | 124.09 | 118.00 |
| 26 | 1H | 1638 | C | OP1-P-OP2 | 8.70 | 132.65 | 119.60 |
| 26 | 1H | 2269 | A | C2-N3-C4 | -8.70 | 106.25 | 110.60 |
| 1 | 1G | 909 | A | N9-C4-C5 | -8.70 | 102.32 | 105.80 |
| 26 | 14 | 1783 | A | C8-N9-C4 | -8.70 | 102.32 | 105.80 |
| 26 | 14 | 2443 | C | C6-N1-C2 | -8.70 | 116.82 | 120.30 |
| 26 | 14 | 2377 | A | C5-C6-N1 | -8.69 | 113.35 | 117.70 |
| 1 | 13 | 513 | C | C5-C4-N4 | -8.69 | 114.11 | 120.20 |
| 26 | 1H | 513 | A | N9-C4-C5 | 8.69 | 109.28 | 105.80 |
| 26 | 1H | 1790 | C | C2-N3-C4 | -8.69 | 115.55 | 119.90 |
| 23 | 2L | 12 | G | C8-N9-C4 | -8.69 | 102.92 | 106.40 |
| 1 | 1G | 1397 | C | C6-N1-C2 | -8.69 | 116.82 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 194 | G | N1-C6-O6 | 8.69 | 125.11 | 119.90 |
| 26 | 14 | 1607 | C | C6-N1-C1' | -8.69 | 110.37 | 120.80 |
| 1 | 13 | 690 | G | O4'-C1'-N9 | 8.69 | 115.15 | 108.20 |
| 26 | 1H | 193 | U | N1-C2-N3 | 8.69 | 120.11 | 114.90 |
| 26 | 1H | 1157 | G | C2-N3-C4 | -8.69 | 107.56 | 111.90 |
| 26 | 1H | 1197 | G | N7-C8-N9 | -8.69 | 108.75 | 113.10 |
| 26 | 1H | 2641 | G | N3-C2-N2 | 8.69 | 125.98 | 119.90 |
| 26 | 14 | 523 | C | C6-N1-C2 | -8.69 | 116.82 | 120.30 |
| 26 | 14 | 1597 | A | C8-N9-C4 | 8.69 | 109.28 | 105.80 |
| 26 | 14 | 1627 | G | C6-N1-C2 | 8.69 | 130.31 | 125.10 |
| 1 | 13 | 377 | G | C5-N7-C8 | 8.69 | 108.64 | 104.30 |
| 26 | 1H | 2476 | A | N9-C4-C5 | 8.69 | 109.28 | 105.80 |
| 26 | 14 | 53 | A | N1-C6-N6 | -8.69 | 113.39 | 118.60 |
| 26 | 14 | 83 | G | C5-C6-N1 | -8.69 | 107.16 | 111.50 |
| 26 | 14 | 592 | G | C5-C6-O6 | -8.69 | 123.39 | 128.60 |
| 26 | 14 | 1926 | U | N1-C2-N3 | 8.69 | 120.11 | 114.90 |
| 26 | 14 | 2079 | U | N3-C4-O4 | 8.69 | 125.48 | 119.40 |
| 26 | 1H | 1305 | C | N3-C2-O2 | -8.68 | 115.82 | 121.90 |
| 26 | 1H | 1658 | C | C5-C4-N4 | -8.68 | 114.12 | 120.20 |
| 26 | 1H | 2427 | C | N1-C2-N3 | 8.68 | 125.28 | 119.20 |
| 26 | 14 | 699 | A | C4-C5-N7 | -8.68 | 106.36 | 110.70 |
| 26 | 14 | 1772 | G | C6-C5-N7 | -8.68 | 125.19 | 130.40 |
| 26 | 14 | 2068 | U | C6-N1-C2 | 8.68 | 126.21 | 121.00 |
| 26 | 14 | 2279 | G | N3-C2-N2 | 8.68 | 125.98 | 119.90 |
| 1 | 13 | 401 | C | C5-C6-N1 | -8.68 | 116.66 | 121.00 |
| 1 | 13 | 811 | C | C6-N1-C2 | 8.68 | 123.77 | 120.30 |
| 1 | 13 | 894 | G | OP2-P-O3' | 8.68 | 124.29 | 105.20 |
| 26 | 1H | 69 | C | N1-C2-O2 | 8.68 | 124.11 | 118.90 |
| 26 | 14 | 1790 | C | N3-C2-O2 | 8.68 | 127.98 | 121.90 |
| 27 | 1J | 74 | U | C5-C6-N1 | -8.68 | 118.36 | 122.70 |
| 26 | 1H | 856 | C | N1-C2-O2 | -8.68 | 113.69 | 118.90 |
| 26 | 1H | 1299 | G | N7-C8-N9 | 8.68 | 117.44 | 113.10 |
| 1 | 1G | 413 | G | C8-N9-C4 | 8.68 | 109.87 | 106.40 |
| 1 | 13 | 758 | G | N3-C2-N2 | -8.68 | 113.83 | 119.90 |
| 26 | 1H | 1232 | G | N1-C6-O6 | 8.68 | 125.11 | 119.90 |
| 27 | 16 | 98 | G | C4-C5-N7 | 8.68 | 114.27 | 110.80 |
| 26 | 14 | 2873 | A | C4-C5-C6 | 8.68 | 121.34 | 117.00 |
| 26 | 1H | 1951 | U | C2-N3-C4 | 8.68 | 132.21 | 127.00 |
| 26 | 14 | 140 | A | C5-C6-N1 | -8.68 | 113.36 | 117.70 |
| 26 | 14 | 271(A) | C | C6-N1-C2 | -8.68 | 116.83 | 120.30 |
| 27 | 1J | 109 | G | N7-C8-N9 | 8.68 | 117.44 | 113.10 |
| 26 | 14 | 2512 | C | C5-C6-N1 | -8.67 | 116.66 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 987 | G | N9-C4-C5 | 8.67 | 108.87 | 105.40 |
| 26 | 1H | 1641 | A | O5'-P-OP2 | 8.67 | 121.11 | 110.70 |
| 26 | 1H | 2260 | C | OP2-P-O3' | 8.67 | 124.28 | 105.20 |
| 1 | 13 | 963 | G | C8-N9-C1' | -8.67 | 115.73 | 127.00 |
| 26 | 1H | 193 | U | C5-C6-N1 | -8.67 | 118.36 | 122.70 |
| 26 | 14 | 694 | U | C5-C4-O4 | 8.67 | 131.10 | 125.90 |
| 26 | 1H | 2544 | G | N1-C2-N3 | 8.67 | 129.10 | 123.90 |
| 1 | 1G | 1507 | A | N1-C2-N3 | 8.67 | 133.63 | 129.30 |
| 26 | 14 | 486 | C | N1-C2-O2 | -8.67 | 113.70 | 118.90 |
| 26 | 14 | 2607 | G | C4-C5-C6 | 8.67 | 124.00 | 118.80 |
| 26 | 14 | 264 | C | N3-C4-N4 | 8.67 | 124.07 | 118.00 |
| 1 | 13 | 833 | U | N3-C4-O4 | -8.67 | 113.33 | 119.40 |
| 26 | 14 | 2249 | U | O5'-P-OP1 | -8.67 | 97.90 | 105.70 |
| 26 | 1H | 471 | A | O5'-P-OP2 | 8.66 | 121.10 | 110.70 |
| 26 | 1H | 773 | U | N1-C2-N3 | 8.66 | 120.10 | 114.90 |
| 26 | 1H | 1248 | G | C5-C6-N1 | -8.66 | 107.17 | 111.50 |
| 26 | 14 | 1704 | G | C5-C6-N1 | -8.66 | 107.17 | 111.50 |
| 26 | 14 | 1763 | G | N3-C4-C5 | 8.66 | 132.93 | 128.60 |
| 26 | 14 | 1790 | C | C6-N1-C2 | 8.66 | 123.77 | 120.30 |
| 1 | 13 | 982 | U | C5-C4-O4 | -8.66 | 120.70 | 125.90 |
| 1 | 13 | 1488 | G | C5-C6-N1 | 8.66 | 115.83 | 111.50 |
| 26 | 1H | 1342 | A | C5-N7-C8 | -8.66 | 99.57 | 103.90 |
| 26 | 1H | 2078 | C | N3-C2-O2 | -8.66 | 115.84 | 121.90 |
| 26 | 1H | 2435 | A | C5-C6-N1 | -8.66 | 113.37 | 117.70 |
| 26 | 1H | 1191 | G | OP1-P-OP2 | 8.66 | 132.59 | 119.60 |
| 26 | 1H | 1227 | A | C8-N9-C4 | 8.66 | 109.26 | 105.80 |
| 26 | 1H | 1311 | G | C6-C5-N7 | -8.66 | 125.20 | 130.40 |
| 1 | 1G | 45 | U | C5-C6-N1 | -8.66 | 118.37 | 122.70 |
| 26 | 14 | 1462 | C | C6-N1-C2 | -8.66 | 116.84 | 120.30 |
| 26 | 14 | 560 | C | N3-C4-C5 | 8.66 | 125.36 | 121.90 |
| 26 | 14 | 915 | C | C2-N3-C4 | 8.66 | 124.23 | 119.90 |
| 26 | 14 | 1755 | A | N1-C6-N6 | -8.66 | 113.41 | 118.60 |
| 1 | 13 | 576 | G | C5-C6-N1 | -8.66 | 107.17 | 111.50 |
| 26 | 1H | 304 | G | C5-C6-N1 | -8.66 | 107.17 | 111.50 |
| 26 | 1H | 2256 | G | N3-C2-N2 | 8.66 | 125.96 | 119.90 |
| 23 | 2L | 3 | C | C6-N1-C2 | 8.66 | 123.76 | 120.30 |
| 26 | 14 | 68 | G | C5-C6-N1 | -8.66 | 107.17 | 111.50 |
| 26 | 14 | 203 | C | C2-N1-C1' | -8.66 | 109.28 | 118.80 |
| 26 | 14 | 795 | C | N3-C2-O2 | -8.66 | 115.84 | 121.90 |
| 26 | 14 | 737 | C | C4-C5-C6 | 8.66 | 121.73 | 117.40 |
| 26 | 14 | 2445 | G | C4-C5-N7 | -8.66 | 107.34 | 110.80 |
| 1 | 13 | 778 | G | N1-C6-O6 | 8.65 | 125.09 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1494 | G | C2-N3-C4 | 8.65 | 116.23 | 111.90 |
| 26 | 1H | 1352 | U | N1-C2-O2 | -8.65 | 116.74 | 122.80 |
| 26 | 1H | 750 | A | N9-C4-C5 | -8.65 | 102.34 | 105.80 |
| 26 | 1H | 1586 | A | C6-C5-N7 | -8.65 | 126.24 | 132.30 |
| 26 | 1H | 2645 | G | N9-C4-C5 | -8.65 | 101.94 | 105.40 |
| 1 | 1G | 158 | G | N1-C6-O6 | 8.65 | 125.09 | 119.90 |
| 26 | 14 | 2854 | G | N9-C4-C5 | 8.65 | 108.86 | 105.40 |
| 26 | 1H | 860 | U | C2-N1-C1' | 8.65 | 128.08 | 117.70 |
| 1 | 13 | 785 | G | C2-N3-C4 | -8.65 | 107.58 | 111.90 |
| 26 | 1H | 144 | C | N3-C4-C5 | 8.65 | 125.36 | 121.90 |
| 26 | 1H | 269 | U | C5-C4-O4 | -8.65 | 120.71 | 125.90 |
| 26 | 1H | 1128 | A | C5-C6-N1 | 8.65 | 122.03 | 117.70 |
| 26 | 1H | 2557 | G | C2-N3-C4 | 8.65 | 116.23 | 111.90 |
| 26 | 14 | 1253 | A | N1-C2-N3 | -8.65 | 124.97 | 129.30 |
| 26 | 14 | 1836 | C | OP1-P-O3' | 8.65 | 124.23 | 105.20 |
| 26 | 14 | 2217 | G | C6-C5-N7 | -8.65 | 125.21 | 130.40 |
| 26 | 14 | 2572 | A | O5'-P-OP1 | -8.65 | 97.91 | 105.70 |
| 26 | 1H | 615 | G | C2-N3-C4 | 8.65 | 116.22 | 111.90 |
| 26 | 1H | 2253 | G | C5-N7-C8 | -8.65 | 99.97 | 104.30 |
| 1 | 13 | 108 | G | C4-C5-N7 | 8.65 | 114.26 | 110.80 |
| 1 | 13 | 1057 | G | N1-C2-N2 | -8.65 | 108.42 | 116.20 |
| 26 | 1H | 51 | G | OP2-P-O3' | 8.65 | 124.22 | 105.20 |
| 26 | 1H | 684 | G | OP1-P-O3' | -8.65 | 86.17 | 105.20 |
| 26 | 1H | 1923 | U | N1-C2-O2 | -8.65 | 116.75 | 122.80 |
| 26 | 14 | 2617 | C | O5'-P-OP2 | -8.65 | 97.92 | 105.70 |
| 26 | 1H | 1726 | G | C8-N9-C4 | 8.65 | 109.86 | 106.40 |
| 26 | 1H | 2881 | C | O5'-P-OP1 | -8.65 | 97.92 | 105.70 |
| 1 | 13 | 956 | U | C5-C4-O4 | 8.64 | 131.09 | 125.90 |
| 26 | 1H | 408 | G | C8-N9-C4 | 8.64 | 109.86 | 106.40 |
| 26 | 1H | 586 | A | N1-C2-N3 | -8.64 | 124.98 | 129.30 |
| 1 | 1G | 887 | G | C5-C6-O6 | -8.64 | 123.41 | 128.60 |
| 27 | 1J | 14 | U | OP1-P-OP2 | 8.64 | 132.57 | 119.60 |
| 26 | 1H | 337 | C | O5'-P-OP1 | -8.64 | 97.92 | 105.70 |
| 26 | 1H | 576 | U | C2-N3-C4 | -8.64 | 121.81 | 127.00 |
| 26 | 1H | 1627 | G | O5'-P-OP2 | -8.64 | 97.92 | 105.70 |
| 26 | 14 | 729 | G | N1-C6-O6 | 8.64 | 125.08 | 119.90 |
| 26 | 14 | 922 | U | C5-C6-N1 | 8.64 | 127.02 | 122.70 |
| 26 | 14 | 1001 | A | C5-C6-N6 | 8.64 | 130.61 | 123.70 |
| 1 | 1G | 244 | U | N1-C2-N3 | -8.64 | 109.72 | 114.90 |
| 26 | 14 | 1616 | A | N3-C4-C5 | 8.64 | 132.85 | 126.80 |
| 1 | 13 | 50 | A | C8-N9-C4 | -8.64 | 102.34 | 105.80 |
| 1 | 13 | 889 | A | C2-N3-C4 | -8.64 | 106.28 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 13 | 970 | C | N1-C2-O2 | 8.64 | 124.08 | 118.90 |
| 1 | 13 | 1518 | A | C5-N7-C8 | 8.64 | 108.22 | 103.90 |
| 26 | 1H | 775 | G | C6-C5-N7 | -8.64 | 125.22 | 130.40 |
| 26 | 14 | 465 | G | O5'-P-OP1 | -8.64 | 97.93 | 105.70 |
| 26 | 14 | 2315 | G | N1-C6-O6 | -8.64 | 114.72 | 119.90 |
| 26 | 1H | 391 | G | C5-C6-N1 | -8.64 | 107.18 | 111.50 |
| 26 | 14 | 270(Y) | G | C4-C5-N7 | -8.64 | 107.34 | 110.80 |
| 26 | 14 | 311 | A | N1-C6-N6 | 8.64 | 123.78 | 118.60 |
| 26 | 1H | 748 | G | C5-C6-O6 | -8.63 | 123.42 | 128.60 |
| 26 | 1H | 1834 | U | C6-N1-C2 | -8.63 | 115.82 | 121.00 |
| 26 | 14 | 2329 | G | N3-C2-N2 | 8.63 | 125.94 | 119.90 |
| 26 | 14 | 2561 | A | OP1-P-OP2 | 8.63 | 132.55 | 119.60 |
| 1 | 13 | 937 | A | OP1-P-OP2 | -8.63 | 106.65 | 119.60 |
| 26 | 1H | 1247 | A | N1-C2-N3 | 8.63 | 133.62 | 129.30 |
| 26 | 1H | 924 | C | C6-N1-C2 | 8.63 | 123.75 | 120.30 |
| 26 | 1H | 1895 | C | N1-C2-O2 | -8.63 | 113.72 | 118.90 |
| 1 | 1G | 890 | G | C5-C6-O6 | 8.63 | 133.78 | 128.60 |
| 26 | 14 | 2304 | G | N3-C4-C5 | -8.63 | 124.28 | 128.60 |
| 26 | 14 | 2339 | G | C5-C6-O6 | 8.63 | 133.78 | 128.60 |
| 1 | 13 | 7 | G | O5'-P-OP2 | -8.63 | 97.94 | 105.70 |
| 26 | 1H | 826 | U | OP1-P-O3' | -8.63 | 86.22 | 105.20 |
| 26 | 1H | 902 | C | C6-N1-C2 | 8.63 | 123.75 | 120.30 |
| 26 | 1H | 2001 | A | N9-C4-C5 | 8.63 | 109.25 | 105.80 |
| 26 | 1H | 2586 | C | C4-C5-C6 | -8.63 | 113.09 | 117.40 |
| 26 | 1H | 2837 | G | C8-N9-C4 | -8.63 | 102.95 | 106.40 |
| 26 | 14 | 584 | C | C6-N1-C2 | 8.63 | 123.75 | 120.30 |
| 26 | 14 | 675 | A | N1-C6-N6 | 8.63 | 123.78 | 118.60 |
| 27 | 1J | 63 | G | C8-N9-C4 | 8.63 | 109.85 | 106.40 |
| 26 | 14 | 1307 | A | C2-N3-C4 | -8.63 | 106.29 | 110.60 |
| 26 | 14 | 1754 | C | N1-C2-O2 | 8.63 | 124.08 | 118.90 |
| 26 | 14 | 2051 | A | N1-C2-N3 | 8.63 | 133.61 | 129.30 |
| 1 | 13 | 1054 | C | N1-C2-O2 | 8.62 | 124.08 | 118.90 |
| 26 | 1H | 1528 | A | O5'-P-OP1 | -8.62 | 97.94 | 105.70 |
| 26 | 1H | 1942 | C | C2-N3-C4 | 8.63 | 124.21 | 119.90 |
| 26 | 1H | 2270 | G | N1-C2-N3 | 8.63 | 129.08 | 123.90 |
| 26 | 1H | 2427 | C | O5'-P-OP1 | -8.63 | 97.94 | 105.70 |
| 26 | 1H | 2678 | C | N1-C2-O2 | -8.63 | 113.72 | 118.90 |
| 26 | 1H | 2575 | C | C5-C6-N1 | -8.62 | 116.69 | 121.00 |
| 26 | 14 | 1300 | U | C4-C5-C6 | 8.62 | 124.87 | 119.70 |
| 27 | 1J | 101 | A | C8-N9-C4 | 8.62 | 109.25 | 105.80 |
| 1 | 13 | 1209 | C | C5-C4-N4 | -8.62 | 114.16 | 120.20 |
| 26 | 1H | 1198 | U | C5-C4-O4 | -8.62 | 120.73 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1675 | C | N3-C4-C5 | -8.62 | 118.45 | 121.90 |
| 1 | 1G | 1517 | G | O5'-P-OP2 | -8.62 | 97.94 | 105.70 |
| 26 | 1H | 1366 | A | C2-N3-C4 | -8.62 | 106.29 | 110.60 |
| 26 | 1H | 2520 | C | O5'-P-OP1 | 8.62 | 121.05 | 110.70 |
| 26 | 1H | 2552 | U | C2-N3-C4 | -8.62 | 121.83 | 127.00 |
| 1 | 13 | 1242 | C | C6-N1-C2 | 8.62 | 123.75 | 120.30 |
| 26 | 1H | 1633 | G | N3-C4-C5 | -8.62 | 124.29 | 128.60 |
| 26 | 1H | 2828 | C | C6-N1-C2 | 8.62 | 123.75 | 120.30 |
| 26 | 1H | 799 | G | C8-N9-C4 | 8.62 | 109.85 | 106.40 |
| 1 | 1G | 632 | A | C8-N9-C4 | 8.62 | 109.25 | 105.80 |
| 26 | 14 | 1307 | A | N1-C2-N3 | 8.62 | 133.61 | 129.30 |
| 26 | 14 | 2740 | A | O5'-P-OP2 | -8.62 | 97.94 | 105.70 |
| 26 | 14 | 2827 | C | O5'-P-OP2 | -8.62 | 97.94 | 105.70 |
| 1 | 13 | 894 | G | C2-N3-C4 | -8.62 | 107.59 | 111.90 |
| 26 | 1H | 146 | G | N3-C4-C5 | 8.62 | 132.91 | 128.60 |
| 26 | 1H | 2242 | G | N7-C8-N9 | -8.62 | 108.79 | 113.10 |
| 26 | 1H | 2525 | G | C2-N3-C4 | -8.62 | 107.59 | 111.90 |
| 1 | 13 | 481 | G | C6-C5-N7 | -8.61 | 125.23 | 130.40 |
| 1 | 13 | 919 | A | N1-C6-N6 | -8.61 | 113.43 | 118.60 |
| 26 | 1H | 205 | G | N3-C4-N9 | 8.61 | 131.17 | 126.00 |
| 26 | 1H | 133 | C | N3-C4-C5 | 8.61 | 125.34 | 121.90 |
| 26 | 1H | 263 | C | O5'-P-OP1 | 8.61 | 121.03 | 110.70 |
| 26 | 1H | 837 | C | C4-C5-C6 | -8.61 | 113.09 | 117.40 |
| 26 | 1H | 1895 | C | N3-C4-N4 | 8.61 | 124.03 | 118.00 |
| 25 | 4K | 9 | G | N3-C4-C5 | -8.61 | 124.30 | 128.60 |
| 26 | 1H | 1397 | U | N3-C4-O4 | 8.61 | 125.43 | 119.40 |
| 26 | 14 | 1964 | G | N3-C2-N2 | 8.61 | 125.93 | 119.90 |
| 26 | 14 | 2729 | G | C5-C6-O6 | -8.61 | 123.44 | 128.60 |
| 27 | 1J | 88 | C | C6-N1-C2 | -8.61 | 116.86 | 120.30 |
| 1 | 1G | 183 | G | N1-C6-O6 | 8.61 | 125.06 | 119.90 |
| 26 | 14 | 130 | C | C5-C4-N4 | -8.61 | 114.17 | 120.20 |
| 26 | 1H | 186 | G | N9-C4-C5 | -8.61 | 101.96 | 105.40 |
| 26 | 14 | 1696 | G | N1-C6-O6 | -8.61 | 114.74 | 119.90 |
| 26 | 14 | 2241 | A | OP1-P-OP2 | -8.61 | 106.69 | 119.60 |
| 25 | 4K | 18 | G | N1-C6-O6 | -8.60 | 114.74 | 119.90 |
| 26 | 1H | 1381 | G | OP2-P-O3' | 8.60 | 124.13 | 105.20 |
| 26 | 1H | 2542 | A | C8-N9-C4 | 8.60 | 109.24 | 105.80 |
| 26 | 14 | 2283 | C | N3-C4-N4 | 8.60 | 124.02 | 118.00 |
| 1 | 13 | 523 | A | O5'-P-OP2 | 8.60 | 121.02 | 110.70 |
| 26 | 1H | 1187 | G | C8-N9-C4 | 8.60 | 109.84 | 106.40 |
| 26 | 1H | 1967 | C | O5'-P-OP2 | -8.60 | 97.96 | 105.70 |
| 26 | 1H | 2550 | G | C8-N9-C4 | -8.60 | 102.96 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 745 | G | N9-C4-C5 | -8.60 | 101.96 | 105.40 |
| 1 | 13 | 956 | U | N1-C2-N3 | 8.60 | 120.06 | 114.90 |
| 26 | 1H | 800 | A | N1-C2-N3 | 8.60 | 133.60 | 129.30 |
| 26 | 1H | 1881 | C | N1-C2-O2 | -8.60 | 113.74 | 118.90 |
| 26 | 1H | 2845 | G | C4-C5-C6 | 8.60 | 123.96 | 118.80 |
| 27 | 16 | 114 | G | N3-C4-C5 | 8.60 | 132.90 | 128.60 |
| 26 | 1H | 379 | G | C6-N1-C2 | -8.60 | 119.94 | 125.10 |
| 26 | 1H | 2004 | G | C8-N9-C4 | -8.60 | 102.96 | 106.40 |
| 1 | 1G | 106 | C | N1-C2-O2 | -8.60 | 113.74 | 118.90 |
| 26 | 14 | 1482 | U | N3-C4-C5 | -8.60 | 109.44 | 114.60 |
| 1 | 13 | 419 | C | O5'-P-OP1 | -8.59 | 97.97 | 105.70 |
| 1 | 13 | 1305 | G | C2-N3-C4 | -8.59 | 107.60 | 111.90 |
| 1 | 13 | 1385 | G | N1-C6-O6 | 8.59 | 125.06 | 119.90 |
| 26 | 1H | 710 | G | C2-N3-C4 | -8.59 | 107.60 | 111.90 |
| 26 | 14 | 2363 | C | N3-C2-O2 | 8.59 | 127.92 | 121.90 |
| 26 | 1H | 831 | G | C2-N3-C4 | -8.59 | 107.60 | 111.90 |
| 26 | 1H | 2254 | C | O5'-P-OP2 | 8.59 | 121.01 | 110.70 |
| 26 | 14 | 609 | A | N1-C2-N3 | -8.59 | 125.00 | 129.30 |
| 26 | 1H | 301 | G | OP1-P-OP2 | 8.59 | 132.49 | 119.60 |
| 26 | 14 | 819 | A | C2-N3-C4 | 8.59 | 114.89 | 110.60 |
| 26 | 1H | 1157 | G | C4-C5-C6 | 8.59 | 123.95 | 118.80 |
| 1 | 1G | 925 | G | C8-N9-C4 | 8.59 | 109.83 | 106.40 |
| 26 | 14 | 2707 | G | O5'-P-OP2 | -8.59 | 97.97 | 105.70 |
| 26 | 14 | 2876 | G | C8-N9-C4 | 8.59 | 109.83 | 106.40 |
| 1 | 13 | 112 | G | C8-N9-C4 | -8.59 | 102.97 | 106.40 |
| 1 | 13 | 235 | C | C6-N1-C2 | 8.59 | 123.73 | 120.30 |
| 26 | 1H | 1052 | C | N3-C4-C5 | -8.59 | 118.47 | 121.90 |
| 26 | 14 | 802 | A | C5-C6-N6 | 8.59 | 130.57 | 123.70 |
| 26 | 1H | 1827 | C | N1-C2-O2 | 8.58 | 124.05 | 118.90 |
| 26 | 1H | 928 | G | C2-N3-C4 | -8.58 | 107.61 | 111.90 |
| 26 | 1H | 952 | G | N3-C2-N2 | 8.58 | 125.91 | 119.90 |
| 26 | 1H | 1017 | G | C2-N3-C4 | 8.58 | 116.19 | 111.90 |
| 26 | 1H | 1294 | U | O5'-P-OP1 | -8.58 | 97.98 | 105.70 |
| 1 | 1G | 376 | G | C5-C6-N1 | -8.58 | 107.21 | 111.50 |
| 26 | 14 | 298 | G | N7-C8-N9 | 8.58 | 117.39 | 113.10 |
| 26 | 14 | 921 | G | N9-C4-C5 | 8.58 | 108.83 | 105.40 |
| 25 | 4K | 13 | A | O4'-C1'-N9 | 8.58 | 115.06 | 108.20 |
| 26 | 1H | 2004 | G | N7-C8-N9 | 8.58 | 117.39 | 113.10 |
| 26 | 1H | 1766 | U | N3-C2-O2 | 8.58 | 128.21 | 122.20 |
| 1 | 13 | 439 | A | N1-C2-N3 | 8.58 | 133.59 | 129.30 |
| 26 | 1H | 694 | U | O5'-P-OP2 | -8.58 | 97.98 | 105.70 |
| 26 | 1H | 1203 | G | C2-N3-C4 | 8.58 | 116.19 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2644 | G | C5-C6-N1 | -8.58 | 107.21 | 111.50 |
| 26 | 1H | 2540 | C | C6-N1-C2 | 8.58 | 123.73 | 120.30 |
| 1 | 1G | 278 | G | N1-C6-O6 | 8.58 | 125.05 | 119.90 |
| 1 | 1G | 815 | A | C8-N9-C4 | 8.58 | 109.23 | 105.80 |
| 1 | 1G | 1502 | A | C4-C5-N7 | 8.58 | 114.99 | 110.70 |
| 26 | 14 | 1399 | C | C5-C6-N1 | 8.58 | 125.29 | 121.00 |
| 26 | 1H | 123 | G | C5-C6-O6 | -8.57 | 123.45 | 128.60 |
| 26 | 1H | 920 | G | N1-C2-N2 | -8.57 | 108.48 | 116.20 |
| 26 | 1H | 678 | C | C5-C6-N1 | -8.57 | 116.71 | 121.00 |
| 26 | 1H | 739 | G | C5-N7-C8 | 8.57 | 108.59 | 104.30 |
| 26 | 1H | 2872 | G | O5'-P-OP2 | -8.57 | 97.98 | 105.70 |
| 26 | 14 | 1348 | G | N1-C6-O6 | 8.57 | 125.04 | 119.90 |
| 27 | 1J | 88 | C | C2-N1-C1' | 8.57 | 128.23 | 118.80 |
| 26 | 1H | 893 | C | C6-N1-C2 | -8.57 | 116.87 | 120.30 |
| 26 | 1H | 1241 | A | N7-C8-N9 | 8.57 | 118.09 | 113.80 |
| 26 | 1H | 1520 | U | O5'-P-OP2 | -8.57 | 97.98 | 105.70 |
| 1 | 13 | 1433 | A | C5-C6-N6 | 8.57 | 130.56 | 123.70 |
| 26 | 1H | 2494 | G | N9-C4-C5 | 8.57 | 108.83 | 105.40 |
| 26 | 14 | 140 | A | C5-C6-N6 | -8.57 | 116.84 | 123.70 |
| 26 | 14 | 2033 | A | C4-C5-C6 | -8.57 | 112.72 | 117.00 |
| 26 | 1H | 1513 | C | C5-C6-N1 | 8.57 | 125.28 | 121.00 |
| 26 | 14 | 1908 | C | C6-N1-C2 | -8.57 | 116.87 | 120.30 |
| 26 | 1H | 1610 | A | C5-C6-N6 | -8.57 | 116.85 | 123.70 |
| 26 | 1H | 1955 | U | C4-C5-C6 | 8.57 | 124.84 | 119.70 |
| 26 | 1H | 2299 | G | N7-C8-N9 | 8.57 | 117.38 | 113.10 |
| 26 | 1H | 788 | A | C8-N9-C4 | 8.56 | 109.23 | 105.80 |
| 1 | 13 | 1533 | C | C6-N1-C2 | -8.56 | 116.88 | 120.30 |
| 26 | 1H | 1705 | G | C2-N3-C4 | -8.56 | 107.62 | 111.90 |
| 26 | 1H | 628 | G | C6-C5-N7 | 8.56 | 135.54 | 130.40 |
| 26 | 1H | 409 | C | N1-C2-N3 | -8.56 | 113.21 | 119.20 |
| 26 | 1H | 411 | G | N1-C6-O6 | -8.56 | 114.76 | 119.90 |
| 26 | 1H | 584 | C | N1-C2-O2 | -8.56 | 113.76 | 118.90 |
| 26 | 1H | 774 | A | C6-C5-N7 | -8.56 | 126.31 | 132.30 |
| 26 | 14 | 219 | G | N3-C2-N2 | -8.56 | 113.91 | 119.90 |
| 26 | 14 | 256 | A | C2-N3-C4 | -8.56 | 106.32 | 110.60 |
| 26 | 14 | 1142(A) | A | N9-C4-C5 | 8.56 | 109.22 | 105.80 |
| 26 | 14 | 1629 | U | C6-N1-C2 | -8.56 | 115.86 | 121.00 |
| 1 | 13 | 397 | A | N1-C2-N3 | 8.56 | 133.58 | 129.30 |
| 26 | 1H | 250 | G | C5-C6-N1 | -8.56 | 107.22 | 111.50 |
| 26 | 1H | 1573 | G | OP1-P-O3' | -8.56 | 86.37 | 105.20 |
| 26 | 1H | 2055 | C | N3-C4-C5 | -8.56 | 118.48 | 121.90 |
| 26 | 1H | 2242 | G | C8-N9-C4 | 8.56 | 109.82 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 1H | 2826 | A | C6-N1-C2 | -8.56 | 113.46 | 118.60 |
| 1 | 1G | 690 | G | N7-C8-N9 | 8.56 | 117.38 | 113.10 |
| 26 | 14 | 921 | G | C5-N7-C8 | -8.56 | 100.02 | 104.30 |
| 26 | 14 | 1138 | G | C5-N7-C8 | -8.56 | 100.02 | 104.30 |
| 26 | 14 | 2022 | U | O5'-P-OP2 | -8.56 | 98.00 | 105.70 |
| 1 | 13 | 1519 | A | C4-C5-N7 | -8.55 | 106.42 | 110.70 |
| 26 | 1H | 41 | C | O5'-P-OP2 | -8.55 | 98.00 | 105.70 |
| 26 | 1H | 412 | A | N1-C6-N6 | -8.56 | 113.47 | 118.60 |
| 26 | 14 | 2841 | C | C6-N1-C2 | 8.56 | 123.72 | 120.30 |
| 1 | 13 | 859 | A | O5'-P-OP1 | -8.55 | 98.00 | 105.70 |
| 26 | 1H | 536 | A | O5'-P-OP2 | -8.55 | 98.00 | 105.70 |
| 26 | 1H | 652 | C | N3-C4-N4 | 8.55 | 123.99 | 118.00 |
| 26 | 1H | 2472 | G | N1-C6-O6 | 8.55 | 125.03 | 119.90 |
| 26 | 1H | 2594 | C | O5'-P-OP2 | -8.55 | 98.00 | 105.70 |
| 1 | 1G | 1528 | U | C6-N1-C2 | 8.55 | 126.13 | 121.00 |
| 1 | 13 | 260 | G | N1-C2-N3 | 8.55 | 129.03 | 123.90 |
| 1 | 13 | 405 | U | C6-N1-C2 | -8.55 | 115.87 | 121.00 |
| 1 | 13 | 570 | G | C8-N9-C4 | -8.55 | 102.98 | 106.40 |
| 1 | 13 | 692 | U | C4-C5-C6 | 8.55 | 124.83 | 119.70 |
| 1 | 13 | 1299 | A | N7-C8-N9 | 8.55 | 118.08 | 113.80 |
| 26 | 1H | 1142(A) | A | N3-C4-C5 | 8.55 | 132.79 | 126.80 |
| 26 | 1H | 1313 | U | O5'-P-OP2 | 8.55 | 120.96 | 110.70 |
| 26 | 14 | 1569 | A | O4'-C1'-N9 | 8.55 | 115.04 | 108.20 |
| 26 | 14 | 2584 | U | OP1-P-OP2 | -8.55 | 106.78 | 119.60 |
| 26 | 1H | 1366 | A | C6-N1-C2 | -8.55 | 113.47 | 118.60 |
| 26 | 1H | 2333 | A | C5-N7-C8 | 8.55 | 108.17 | 103.90 |
| 26 | 14 | 1026 | U | C5-C6-N1 | 8.55 | 126.97 | 122.70 |
| 26 | 1H | 2538 | C | C6-N1-C2 | 8.55 | 123.72 | 120.30 |
| 26 | 1H | 2712 | U | N1-C2-N3 | 8.55 | 120.03 | 114.90 |
| 26 | 14 | 306 | U | C5-C4-O4 | 8.55 | 131.03 | 125.90 |
| 26 | 14 | 1339 | G | O5'-P-OP2 | 8.55 | 120.96 | 110.70 |
| 1 | 13 | 263 | A | O5'-P-OP2 | 8.55 | 120.95 | 110.70 |
| 1 | 13 | 286 | G | O5'-P-OP2 | 8.55 | 120.96 | 110.70 |
| 23 | 2K | 31 | G | C5-C6-N1 | -8.54 | 107.23 | 111.50 |
| 26 | 1H | 1251 | C | OP1-P-OP2 | 8.54 | 132.42 | 119.60 |
| 26 | 1H | 1733 | G | C8-N9-C4 | 8.55 | 109.82 | 106.40 |
| 26 | 14 | 1658 | C | C6-N1-C2 | -8.55 | 116.88 | 120.30 |
| 26 | 14 | 2076 | U | OP1-P-OP2 | 8.54 | 132.42 | 119.60 |
| 26 | 1H | 2412 | A | N1-C2-N3 | 8.54 | 133.57 | 129.30 |
| 26 | 14 | 2590 | A | C8-N9-C4 | 8.54 | 109.22 | 105.80 |
| 1 | 13 | 386 | C | C6-N1-C2 | 8.54 | 123.72 | 120.30 |
| 1 | 13 | 575 | G | C5-C6-O6 | 8.54 | 133.72 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 1H | 57 | C | N3-C4-N4 | -8.54 | 112.02 | 118.00 |
| 26 | 1H | 1397 | U | C4-C5-C6 | 8.54 | 124.83 | 119.70 |
| 26 | 14 | 1600 | C | C6-N1-C2 | 8.54 | 123.72 | 120.30 |
| 26 | 1H | 310 | A | C5-C6-N6 | -8.54 | 116.87 | 123.70 |
| 26 | 1H | 389 | G | N3-C4-N9 | 8.54 | 131.12 | 126.00 |
| 26 | 1H | 638 | G | C6-C5-N7 | -8.54 | 125.28 | 130.40 |
| 26 | 1H | 1415 | U | C5-C4-O4 | 8.54 | 131.02 | 125.90 |
| 26 | 14 | 774 | A | C6-N1-C2 | 8.54 | 123.72 | 118.60 |
| 26 | 14 | 958 | U | O5'-P-OP2 | 8.54 | 120.94 | 110.70 |
| 26 | 14 | 2029 | G | N1-C6-O6 | -8.54 | 114.78 | 119.90 |
| 26 | 14 | 2315 | G | C2-N3-C4 | 8.54 | 116.17 | 111.90 |
| 26 | 1H | 55 | G | C5-C6-N1 | 8.54 | 115.77 | 111.50 |
| 26 | 1H | 811 | U | C4-C5-C6 | 8.54 | 124.82 | 119.70 |
| 26 | 1H | 827 | U | O5'-P-OP1 | 8.54 | 120.94 | 110.70 |
| 26 | 1H | 1142(A) | A | N1-C6-N6 | 8.54 | 123.72 | 118.60 |
| 26 | 1H | 2236 | C | N3-C4-C5 | -8.54 | 118.49 | 121.90 |
| 26 | 1H | 2611 | U | N1-C2-O2 | 8.53 | 128.77 | 122.80 |
| 26 | 14 | 1849 | G | N3-C2-N2 | -8.53 | 113.93 | 119.90 |
| 1 | 13 | 801 | U | N3-C4-O4 | -8.53 | 113.43 | 119.40 |
| 26 | 1H | 820 | A | N1-C6-N6 | -8.53 | 113.48 | 118.60 |
| 26 | 1H | 845 | G | N9-C4-C5 | -8.53 | 101.99 | 105.40 |
| 26 | 1H | 1660 | C | C2-N3-C4 | -8.53 | 115.63 | 119.90 |
| 26 | 1H | 1777 | U | C4-C5-C6 | 8.53 | 124.82 | 119.70 |
| 26 | 1H | 2236 | C | N1-C2-O2 | -8.53 | 113.78 | 118.90 |
| 26 | 1H | 2442 | C | N1-C2-O2 | -8.53 | 113.78 | 118.90 |
| 26 | 1H | 537 | C | O5'-P-OP2 | -8.53 | 98.02 | 105.70 |
| 26 | 1H | 700 | G | N7-C8-N9 | 8.53 | 117.36 | 113.10 |
| 26 | 1H | 2869 | G | N9-C4-C5 | 8.53 | 108.81 | 105.40 |
| 26 | 1H | 704 | G | C6-C5-N7 | -8.53 | 125.28 | 130.40 |
| 26 | 1H | 2507 | C | C2-N3-C4 | 8.53 | 124.17 | 119.90 |
| 1 | 13 | 542 | G | C4-C5-N7 | 8.53 | 114.21 | 110.80 |
| 26 | 1H | 642 | G | N3-C4-N9 | -8.53 | 120.89 | 126.00 |
| 26 | 1H | 717 | G | C8-N9-C4 | -8.53 | 102.99 | 106.40 |
| 26 | 14 | 676 | A | C6-N1-C2 | 8.53 | 123.72 | 118.60 |
| 26 | 1H | 1675 | C | C6-N1-C2 | -8.52 | 116.89 | 120.30 |
| 26 | 1H | 2397 | G | N3-C2-N2 | -8.52 | 113.93 | 119.90 |
| 26 | 14 | 2628 | C | N3-C4-C5 | 8.52 | 125.31 | 121.90 |
| 26 | 1H | 227 | A | N1-C2-N3 | 8.52 | 133.56 | 129.30 |
| 26 | 1H | 263 | C | C5-C6-N1 | -8.52 | 116.74 | 121.00 |
| 26 | 14 | 1476 | C | N3-C2-O2 | 8.52 | 127.86 | 121.90 |
| 26 | 14 | 523 | C | C5-C6-N1 | 8.52 | 125.26 | 121.00 |
| 26 | 14 | 1592 | C | C2-N3-C4 | 8.52 | 124.16 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 2368 | C | O5'-P-OP1 | -8.52 | 98.03 | 105.70 |
| 1 | 13 | 251 | G | N1-C6-O6 | 8.52 | 125.01 | 119.90 |
| 1 | 13 | 811 | C | C2-N3-C4 | -8.52 | 115.64 | 119.90 |
| 26 | 1H | 776 | G | OP1-P-OP2 | 8.52 | 132.38 | 119.60 |
| 26 | 1H | 945 | A | N9-C1'-C2' | 8.52 | 125.07 | 114.00 |
| 26 | 1H | 1904 | G | N7-C8-N9 | -8.52 | 108.84 | 113.10 |
| 26 | 14 | 672 | C | C6-N1-C2 | -8.52 | 116.89 | 120.30 |
| 26 | 1H | 926 | A | N7-C8-N9 | 8.52 | 118.06 | 113.80 |
| 26 | 1H | 1398 | C | C6-N1-C2 | 8.52 | 123.71 | 120.30 |
| 26 | 14 | 1318 | C | OP1-P-OP2 | -8.52 | 106.82 | 119.60 |
| 26 | 1H | 820 | A | C5-C6-N6 | 8.52 | 130.51 | 123.70 |
| 26 | 1H | 988 | A | C6-N1-C2 | -8.52 | 113.49 | 118.60 |
| 26 | 1H | 1625 | C | N1-C2-O2 | 8.52 | 124.01 | 118.90 |
| 29 | 11 | 39 | LYS | C-N-CA | 8.52 | 142.99 | 121.70 |
| 26 | 14 | 1796 | U | O5'-P-OP1 | -8.52 | 98.03 | 105.70 |
| 26 | 1H | 2228 | G | C5-C6-N1 | -8.52 | 107.24 | 111.50 |
| 26 | 14 | 945 | A | C5-C6-N6 | -8.52 | 116.89 | 123.70 |
| 26 | 14 | 1960 | A | N9-C4-C5 | 8.52 | 109.21 | 105.80 |
| 26 | 14 | 2678 | C | C2-N3-C4 | -8.52 | 115.64 | 119.90 |
| 26 | 1H | 125 | G | C5-C6-N1 | 8.51 | 115.76 | 111.50 |
| 1 | 1G | 284 | G | N9-C4-C5 | -8.51 | 102.00 | 105.40 |
| 27 | 1J | 81 | G | N1-C6-O6 | 8.51 | 125.01 | 119.90 |
| 26 | 1H | 1765 | C | N3-C4-N4 | -8.51 | 112.04 | 118.00 |
| 26 | 14 | 2416 | C | C6-N1-C2 | 8.51 | 123.70 | 120.30 |
| 1 | 13 | 769 | G | C5-C6-N1 | 8.51 | 115.75 | 111.50 |
| 26 | 1H | 188 | G | N9-C4-C5 | -8.51 | 102.00 | 105.40 |
| 26 | 1H | 1298 | C | C5-C6-N1 | 8.51 | 125.25 | 121.00 |
| 26 | 1H | 2712 | U | O4'-C1'-N1 | 8.51 | 115.01 | 108.20 |
| 1 | 1G | 1355 | G | N1-C6-O6 | 8.51 | 125.00 | 119.90 |
| 26 | 1H | 995 | C | C2-N3-C4 | 8.51 | 124.15 | 119.90 |
| 26 | 1H | 1291 | C | C5-C4-N4 | 8.51 | 126.15 | 120.20 |
| 26 | 1H | 1336 | A | N1-C6-N6 | -8.51 | 113.50 | 118.60 |
| 26 | 14 | 479 | A | N7-C8-N9 | -8.51 | 109.55 | 113.80 |
| 26 | 14 | 592 | G | N1-C6-O6 | 8.51 | 125.00 | 119.90 |
| 26 | 14 | 2579 | C | C6-N1-C2 | -8.51 | 116.90 | 120.30 |
| 26 | 14 | 2885 | C | N3-C4-C5 | 8.51 | 125.30 | 121.90 |
| 26 | 1H | 1705 | G | OP1-P-OP2 | -8.50 | 106.84 | 119.60 |
| 1 | 13 | 1058 | G | N9-C4-C5 | -8.50 | 102.00 | 105.40 |
| 26 | 1H | 618(A) | C | C5-C4-N4 | -8.50 | 114.25 | 120.20 |
| 26 | 1H | 1815 | A | C8-N9-C4 | 8.50 | 109.20 | 105.80 |
| 26 | 1H | 1869 | G | N1-C6-O6 | 8.50 | 125.00 | 119.90 |
| 26 | 1H | 2539 | C | C5-C6-N1 | -8.50 | 116.75 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 148 | C | C5-C6-N1 | -8.50 | 116.75 | 121.00 |
| 1 | 13 | 522 | C | O5'-P-OP2 | -8.50 | 98.05 | 105.70 |
| 1 | 13 | 1399 | C | O5'-P-OP1 | -8.50 | 98.05 | 105.70 |
| 26 | 1H | 801 | G | C2-N3-C4 | -8.50 | 107.65 | 111.90 |
| 26 | 1H | 2330 | G | N9-C4-C5 | -8.50 | 102.00 | 105.40 |
| 31 | 31 | 74 | ARG | NE-CZ-NH1 | 8.50 | 124.55 | 120.30 |
| 26 | 14 | 702 | G | C2-N3-C4 | -8.50 | 107.65 | 111.90 |
| 26 | 14 | 946 | G | N3-C4-C5 | 8.50 | 132.85 | 128.60 |
| 26 | 1H | 2490 | G | OP1-P-O3' | 8.50 | 123.89 | 105.20 |
| 26 | 1H | 811 | U | C5-C6-N1 | -8.50 | 118.45 | 122.70 |
| 26 | 1H | 1386 | C | C5-C6-N1 | 8.50 | 125.25 | 121.00 |
| 26 | 1H | 2447 | G | N9-C4-C5 | 8.50 | 108.80 | 105.40 |
| 26 | 14 | 2387 | U | C2-N3-C4 | -8.50 | 121.90 | 127.00 |
| 26 | 14 | 840 | C | N1-C2-O2 | -8.50 | 113.80 | 118.90 |
| 26 | 14 | 1670 | C | O5'-P-OP1 | 8.50 | 120.90 | 110.70 |
| 26 | 1H | 674 | G | N9-C4-C5 | -8.49 | 102.00 | 105.40 |
| 26 | 1H | 1323 | U | N3-C4-O4 | 8.49 | 125.35 | 119.40 |
| 1 | 13 | 21 | G | C4-C5-N7 | -8.49 | 107.40 | 110.80 |
| 1 | 13 | 302 | G | O5'-P-OP2 | -8.49 | 98.06 | 105.70 |
| 1 | 13 | 1472 | U | N3-C2-O2 | -8.49 | 116.25 | 122.20 |
| 24 | 3K | 36 | U | C5-C4-O4 | 8.49 | 131.00 | 125.90 |
| 26 | 14 | 2755 | C | C6-N1-C2 | -8.49 | 116.90 | 120.30 |
| 22 | 1K | 42 | A | N9-C4-C5 | -8.49 | 102.40 | 105.80 |
| 23 | 2K | 28 | U | N3-C4-C5 | -8.49 | 109.50 | 114.60 |
| 26 | 1H | 465 | G | O5'-P-OP2 | 8.49 | 120.89 | 110.70 |
| 26 | 1H | 952 | G | N1-C6-O6 | 8.49 | 125.00 | 119.90 |
| 26 | 14 | 2869 | G | N1-C6-O6 | 8.49 | 125.00 | 119.90 |
| 26 | 14 | 16 | G | N1-C2-N2 | 8.49 | 123.84 | 116.20 |
| 26 | 14 | 459 | U | C2-N3-C4 | -8.49 | 121.91 | 127.00 |
| 26 | 14 | 577 | G | OP1-P-OP2 | -8.49 | 106.86 | 119.60 |
| 26 | 1H | 77 | C | C5-C4-N4 | -8.49 | 114.26 | 120.20 |
| 26 | 1H | 186 | G | C4-C5-N7 | 8.49 | 114.19 | 110.80 |
| 26 | 1H | 197 | A | C5-C6-N1 | -8.49 | 113.46 | 117.70 |
| 26 | 1H | 248 | G | N1-C2-N3 | 8.49 | 128.99 | 123.90 |
| 26 | 1H | 1332 | G | N9-C4-C5 | -8.49 | 102.00 | 105.40 |
| 26 | 1H | 2662 | A | C8-N9-C4 | -8.49 | 102.41 | 105.80 |
| 26 | 14 | 1322 | A | OP2-P-O3' | 8.49 | 123.87 | 105.20 |
| 26 | 14 | 1828 | G | N9-C4-C5 | 8.49 | 108.80 | 105.40 |
| 1 | 13 | 522 | C | N3-C2-O2 | 8.48 | 127.84 | 121.90 |
| 26 | 1H | 2503 | A | C6-C5-N7 | -8.48 | 126.36 | 132.30 |
| 26 | 1H | 298 | G | N1-C2-N3 | -8.48 | 118.81 | 123.90 |
| 26 | 14 | 53 | A | N1-C2-N3 | 8.48 | 133.54 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 23 | 2K | 71 | G | C8-N9-C4 | 8.48 | 109.79 | 106.40 |
| 26 | 14 | 2565 | A | O5'-P-OP2 | 8.48 | 120.88 | 110.70 |
| 26 | 1H | 1386 | C | C6-N1-C2 | -8.48 | 116.91 | 120.30 |
| 26 | 1H | 2072 | G | C8-N9-C4 | 8.48 | 109.79 | 106.40 |
| 1 | 1G | 244 | U | C5-C4-O4 | -8.48 | 120.81 | 125.90 |
| 26 | 14 | 1401 | G | C8-N9-C4 | -8.48 | 103.01 | 106.40 |
| 26 | 14 | 1933 | G | N7-C8-N9 | -8.48 | 108.86 | 113.10 |
| 26 | 14 | 2869 | G | N3-C2-N2 | -8.48 | 113.96 | 119.90 |
| 1 | 13 | 237 | C | C5-C4-N4 | 8.48 | 126.13 | 120.20 |
| 26 | 14 | 1284 | A | N1-C6-N6 | 8.48 | 123.69 | 118.60 |
| 26 | 14 | 2787 | C | N3-C4-C5 | -8.48 | 118.51 | 121.90 |
| 1 | 13 | 520 | A | C2-N3-C4 | -8.48 | 106.36 | 110.60 |
| 1 | 13 | 768 | A | C5-N7-C8 | 8.48 | 108.14 | 103.90 |
| 26 | 1H | 1680 | U | N3-C2-O2 | 8.48 | 128.13 | 122.20 |
| 26 | 14 | 305 | U | N3-C4-C5 | -8.48 | 109.51 | 114.60 |
| 26 | 1H | 1547 | C | C5-C4-N4 | 8.48 | 126.13 | 120.20 |
| 26 | 1H | 2092 | U | C6-N1-C2 | -8.48 | 115.92 | 121.00 |
| 26 | 14 | 748 | G | C5-C6-N1 | 8.48 | 115.74 | 111.50 |
| 26 | 14 | 2764 | A | C5-C6-N1 | -8.48 | 113.46 | 117.70 |
| 26 | 14 | 1620 | G | OP1-P-OP2 | -8.48 | 106.89 | 119.60 |
| 26 | 14 | 2253 | G | C2-N3-C4 | -8.48 | 107.66 | 111.90 |
| 26 | 14 | 2518 | A | N9-C4-C5 | -8.48 | 102.41 | 105.80 |
| 26 | 14 | 478 | A | C8-N9-C4 | 8.47 | 109.19 | 105.80 |
| 26 | 1H | 618(A) | C | N3-C4-C5 | 8.47 | 125.29 | 121.90 |
| 26 | 1H | 1833 | U | N1-C2-N3 | 8.47 | 119.98 | 114.90 |
| 26 | 1H | 2000 | G | C6-C5-N7 | -8.47 | 125.31 | 130.40 |
| 26 | 1H | 2250 | G | C4-C5-N7 | -8.47 | 107.41 | 110.80 |
| 26 | 14 | 121 | G | C4-C5-N7 | 8.47 | 114.19 | 110.80 |
| 26 | 14 | 575 | A | O5'-P-OP2 | 8.47 | 120.87 | 110.70 |
| 26 | 1H | 725 | G | N1-C6-O6 | 8.47 | 124.98 | 119.90 |
| 26 | 1H | 990 | A | N7-C8-N9 | 8.47 | 118.04 | 113.80 |
| 26 | 1H | 2276 | G | N3-C2-N2 | -8.47 | 113.97 | 119.90 |
| 1 | 13 | 577 | G | C2-N3-C4 | -8.47 | 107.67 | 111.90 |
| 26 | 1H | 1558 | A | C2-N3-C4 | -8.47 | 106.36 | 110.60 |
| 26 | 1H | 1764 | G | C4-C5-N7 | -8.47 | 107.41 | 110.80 |
| 26 | 1H | 2505 | G | O5'-P-OP1 | 8.47 | 120.86 | 110.70 |
| 26 | 1H | 2552 | U | C5-C4-O4 | -8.47 | 120.82 | 125.90 |
| 26 | 1H | 2644 | G | N3-C4-C5 | 8.47 | 132.84 | 128.60 |
| 57 | 3L | 3 | G | C8-N9-C4 | 8.47 | 109.79 | 106.40 |
| 26 | 14 | 545 | G | N1-C6-O6 | -8.47 | 114.82 | 119.90 |
| 26 | 1H | 288 | C | C6-N1-C2 | -8.47 | 116.91 | 120.30 |
| 26 | 1H | 786 | C | C4-C5-C6 | 8.47 | 121.63 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1979 | C | N1-C2-N3 | 8.47 | 125.13 | 119.20 |
| 26 | 1H | 2009 | G | N7-C8-N9 | -8.47 | 108.87 | 113.10 |
| 26 | 1H | 2496 | C | C2-N3-C4 | -8.47 | 115.67 | 119.90 |
| 26 | 14 | 146 | G | N1-C6-O6 | 8.47 | 124.98 | 119.90 |
| 26 | 14 | 2689 | U | N1-C2-O2 | -8.47 | 116.87 | 122.80 |
| 26 | 1H | 1413 | G | C5-N7-C8 | -8.47 | 100.07 | 104.30 |
| 26 | 1H | 2083 | G | N1-C2-N3 | 8.47 | 128.98 | 123.90 |
| 26 | 1H | 2418 | A | N1-C2-N3 | -8.47 | 125.07 | 129.30 |
| 26 | 14 | 770 | G | N1-C6-O6 | -8.47 | 114.82 | 119.90 |
| 27 | 16 | 43 | C | N1-C2-O2 | 8.47 | 123.98 | 118.90 |
| 26 | 14 | 639 | U | N3-C2-O2 | -8.47 | 116.27 | 122.20 |
| 26 | 14 | 2502 | G | N1-C6-O6 | 8.47 | 124.98 | 119.90 |
| 23 | 2K | 76 | C | C6-N1-C2 | -8.46 | 116.91 | 120.30 |
| 26 | 1H | 2069 | G | N3-C2-N2 | -8.46 | 113.97 | 119.90 |
| 26 | 1H | 2700 | C | C5-C4-N4 | -8.46 | 114.27 | 120.20 |
| 1 | 1G | 529 | G | C4-C5-N7 | 8.47 | 114.19 | 110.80 |
| 26 | 14 | 2001 | A | C5-C6-N6 | -8.47 | 116.93 | 123.70 |
| 1 | 1G | 784 | C | N3-C2-O2 | 8.46 | 127.83 | 121.90 |
| 1 | 13 | 1403 | C | N3-C4-N4 | -8.46 | 112.08 | 118.00 |
| 1 | 13 | 1517 | G | C4-C5-N7 | 8.46 | 114.19 | 110.80 |
| 26 | 1H | 80 | G | C4-C5-N7 | -8.46 | 107.42 | 110.80 |
| 26 | 1H | 305 | U | N3-C4-C5 | -8.46 | 109.52 | 114.60 |
| 26 | 1H | 2281 | C | C6-N1-C1' | -8.46 | 110.65 | 120.80 |
| 26 | 14 | 497 | A | C5-N7-C8 | -8.46 | 99.67 | 103.90 |
| 26 | 1H | 580 | C | N1-C2-N3 | 8.46 | 125.12 | 119.20 |
| 45 | F8 | 3 | THR | C-N-CA | 8.46 | 142.85 | 121.70 |
| 1 | 1G | 1474 | G | C6-C5-N7 | -8.46 | 125.32 | 130.40 |
| 26 | 14 | 1026 | U | N3-C4-C5 | -8.46 | 109.52 | 114.60 |
| 1 | 1G | 366 | C | C5-C6-N1 | -8.46 | 116.77 | 121.00 |
| 26 | 14 | 436 | C | C4-C5-C6 | -8.46 | 113.17 | 117.40 |
| 26 | 14 | 1610 | A | C4-C5-C6 | 8.46 | 121.23 | 117.00 |
| 39 | 55 | 12 | ARG | NE-CZ-NH1 | -8.46 | 116.07 | 120.30 |
| 26 | 14 | 1606 | G | C5-C6-N1 | 8.46 | 115.73 | 111.50 |
| 1 | 13 | 967 | C | N3-C4-C5 | 8.46 | 125.28 | 121.90 |
| 26 | 1H | 1629 | U | OP1-P-OP2 | -8.46 | 106.92 | 119.60 |
| 26 | 1H | 2022 | U | C5-C4-O4 | -8.46 | 120.83 | 125.90 |
| 26 | 1H | 2070 | G | C5-C6-N1 | -8.46 | 107.27 | 111.50 |
| 26 | 14 | 121 | G | C5-N7-C8 | -8.46 | 100.07 | 104.30 |
| 26 | 14 | 2409 | G | C6-C5-N7 | -8.46 | 125.33 | 130.40 |
| 26 | 14 | 2423 | U | C5-C6-N1 | -8.46 | 118.47 | 122.70 |
| 1 | 13 | 586 | C | N1-C2-O2 | -8.46 | 113.83 | 118.90 |
| 23 | 2K | 77 | A | C4-C5-C6 | -8.46 | 112.77 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2407 | G | O5'-P-OP2 | -8.46 | 98.09 | 105.70 |
| 27 | 1J | 29 | A | N1-C6-N6 | 8.46 | 123.67 | 118.60 |
| 26 | 1H | 1278 | A | C4-C5-N7 | -8.45 | 106.47 | 110.70 |
| 27 | 16 | 55 | U | O5'-P-OP1 | -8.45 | 98.09 | 105.70 |
| 1 | 1G | 1504 | G | N1-C6-O6 | -8.45 | 114.83 | 119.90 |
| 26 | 14 | 1856 | G | C5-C6-N1 | -8.46 | 107.27 | 111.50 |
| 26 | 14 | 2880 | C | C6-N1-C2 | -8.45 | 116.92 | 120.30 |
| 26 | 1H | 399 | G | C8-N9-C4 | 8.45 | 109.78 | 106.40 |
| 26 | 1H | 768 | G | C8-N9-C4 | 8.45 | 109.78 | 106.40 |
| 26 | 1H | 2644 | G | C2-N3-C4 | -8.45 | 107.67 | 111.90 |
| 1 | 1G | 495 | A | N1-C6-N6 | -8.45 | 113.53 | 118.60 |
| 1 | 1G | 1473 | A | N1-C6-N6 | 8.45 | 123.67 | 118.60 |
| 27 | 1J | 79 | C | C6-N1-C2 | -8.45 | 116.92 | 120.30 |
| 1 | 13 | 1382 | C | N3-C4-C5 | 8.45 | 125.28 | 121.90 |
| 23 | 2K | 16 | C | N1-C2-O2 | 8.45 | 123.97 | 118.90 |
| 26 | 1H | 68 | G | C5-C6-N1 | -8.45 | 107.28 | 111.50 |
| 26 | 1H | 2023 | G | C8-N9-C4 | -8.45 | 103.02 | 106.40 |
| 26 | 1H | 2266 | A | C6-N1-C2 | -8.45 | 113.53 | 118.60 |
| 26 | 1H | 2518 | A | C8-N9-C4 | -8.45 | 102.42 | 105.80 |
| 26 | 1H | 2606 | C | N1-C2-O2 | -8.45 | 113.83 | 118.90 |
| 26 | 14 | 491 | G | N1-C6-O6 | -8.45 | 114.83 | 119.90 |
| 26 | 14 | 2237 | G | N1-C6-O6 | -8.45 | 114.83 | 119.90 |
| 1 | 13 | 1313 | U | C5-C6-N1 | 8.45 | 126.92 | 122.70 |
| 26 | 1H | 189 | G | C5-N7-C8 | 8.45 | 108.52 | 104.30 |
| 26 | 1H | 691 | C | N3-C4-N4 | 8.45 | 123.91 | 118.00 |
| 26 | 1H | 1381 | G | OP1-P-O3' | -8.45 | 86.62 | 105.20 |
| 1 | 13 | 782 | A | N1-C6-N6 | 8.44 | 123.67 | 118.60 |
| 26 | 1H | 1983 | C | OP1-P-OP2 | 8.45 | 132.27 | 119.60 |
| 1 | 1G | 106 | C | N3-C4-C5 | -8.45 | 118.52 | 121.90 |
| 1 | 1G | 707 | C | O5'-P-OP2 | -8.44 | 98.10 | 105.70 |
| 1 | 1G | 1422 | G | C5-C6-O6 | 8.45 | 133.67 | 128.60 |
| 26 | 14 | 1309 | G | C2-N3-C4 | -8.45 | 107.68 | 111.90 |
| 26 | 14 | 1564 | C | C5-C4-N4 | 8.45 | 126.11 | 120.20 |
| 26 | 14 | 2574 | G | C5-C6-N1 | 8.44 | 115.72 | 111.50 |
| 26 | 14 | 499 | U | C2-N3-C4 | -8.44 | 121.94 | 127.00 |
| 26 | 14 | 783 | A | C6-N1-C2 | 8.44 | 123.67 | 118.60 |
| 26 | 14 | 828 | U | C2-N3-C4 | -8.44 | 121.93 | 127.00 |
| 26 | 14 | 2838 | G | N3-C2-N2 | -8.44 | 113.99 | 119.90 |
| 26 | 1H | 947 | G | C5-C6-N1 | -8.44 | 107.28 | 111.50 |
| 26 | 1H | 1381 | G | O5'-P-OP2 | 8.44 | 120.83 | 110.70 |
| 26 | 1H | 788 | A | C6-N1-C2 | 8.44 | 123.66 | 118.60 |
| 26 | 1H | 1762 | A | N1-C2-N3 | -8.44 | 125.08 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 747 | U | N3-C2-O2 | 8.44 | 128.11 | 122.20 |
| 26 | 14 | 2285 | C | N3-C4-C5 | 8.44 | 125.28 | 121.90 |
| 1 | 13 | 878 | G | N7-C8-N9 | -8.44 | 108.88 | 113.10 |
| 1 | 13 | 959 | A | C8-N9-C4 | 8.44 | 109.17 | 105.80 |
| 26 | 1H | 219 | G | C8-N9-C4 | -8.44 | 103.03 | 106.40 |
| 26 | 1H | 1588 | C | OP1-P-O3' | 8.44 | 123.76 | 105.20 |
| 26 | 1H | 2242 | G | N3-C2-N2 | -8.44 | 114.00 | 119.90 |
| 26 | 1H | 2766 | G | N1-C6-O6 | 8.44 | 124.96 | 119.90 |
| 27 | 16 | 18 | G | N1-C6-O6 | 8.44 | 124.96 | 119.90 |
| 26 | 14 | 1914 | C | C6-N1-C2 | -8.44 | 116.92 | 120.30 |
| 26 | 14 | 1777 | U | N1-C2-N3 | 8.44 | 119.96 | 114.90 |
| 26 | 14 | 2681 | C | C5-C4-N4 | 8.44 | 126.11 | 120.20 |
| 26 | 14 | 2707 | G | C5-C6-O6 | -8.44 | 123.54 | 128.60 |
| 1 | 13 | 802 | A | N1-C6-N6 | 8.43 | 123.66 | 118.60 |
| 1 | 13 | 1422 | G | O5'-P-OP2 | -8.43 | 98.11 | 105.70 |
| 26 | 1H | 1315 | C | C5-C4-N4 | 8.43 | 126.10 | 120.20 |
| 26 | 1H | 2489 | G | N1-C2-N3 | 8.43 | 128.96 | 123.90 |
| 1 | 1G | 337 | C | C6-N1-C2 | -8.43 | 116.93 | 120.30 |
| 26 | 14 | 1367 | A | N7-C8-N9 | 8.43 | 118.02 | 113.80 |
| 26 | 14 | 1399 | C | OP2-P-O3' | 8.43 | 123.76 | 105.20 |
| 26 | 14 | 2429 | G | N3-C2-N2 | -8.43 | 114.00 | 119.90 |
| 1 | 13 | 767 | A | N1-C2-N3 | 8.43 | 133.51 | 129.30 |
| 1 | 13 | 1158 | C | N1-C2-O2 | 8.43 | 123.96 | 118.90 |
| 22 | 1K | 75 | C | N3-C2-O2 | -8.43 | 116.00 | 121.90 |
| 23 | 2K | 6 | G | N7-C8-N9 | -8.43 | 108.88 | 113.10 |
| 26 | 1H | 148 | C | C2-N3-C4 | -8.43 | 115.69 | 119.90 |
| 26 | 1H | 1908 | C | N3-C4-C5 | -8.43 | 118.53 | 121.90 |
| 26 | 14 | 1528 | A | N7-C8-N9 | 8.43 | 118.01 | 113.80 |
| 26 | 14 | 1678 | G | C2-N3-C4 | -8.43 | 107.69 | 111.90 |
| 26 | 1H | 830 | G | N1-C2-N3 | 8.43 | 128.96 | 123.90 |
| 26 | 14 | 1382 | G | N3-C4-C5 | 8.43 | 132.81 | 128.60 |
| 26 | 1H | 684 | G | N3-C4-C5 | -8.43 | 124.39 | 128.60 |
| 26 | 1H | 908 | C | O5'-P-OP2 | -8.43 | 98.12 | 105.70 |
| 26 | 1H | 1125 | G | C5-C6-O6 | 8.43 | 133.66 | 128.60 |
| 26 | 1H | 1391 | U | C2-N1-C1' | 8.43 | 127.81 | 117.70 |
| 26 | 14 | 1906 | G | C8-N9-C4 | -8.43 | 103.03 | 106.40 |
| 1 | 13 | 8 | A | OP1-P-OP2 | -8.42 | 106.97 | 119.60 |
| 26 | 1H | 270(R) | G | C8-N9-C4 | -8.42 | 103.03 | 106.40 |
| 1 | 13 | 878 | G | O5'-P-OP2 | -8.42 | 98.12 | 105.70 |
| 44 | E8 | 99 | ARG | NE-CZ-NH2 | -8.42 | 116.09 | 120.30 |
| 1 | 1G | 1372 | U | C6-N1-C2 | -8.42 | 115.95 | 121.00 |
| 26 | 14 | 1528 | A | C8-N9-C4 | -8.42 | 102.43 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 51 | G | N1-C6-O6 | -8.42 | 114.85 | 119.90 |
| 26 | 1H | 279 | C | C6-N1-C2 | -8.42 | 116.93 | 120.30 |
| 26 | 1H | 943 | U | O5'-P-OP1 | -8.42 | 98.12 | 105.70 |
| 26 | 1H | 1263 | U | N1-C2-O2 | 8.42 | 128.69 | 122.80 |
| 26 | 1H | 1627 | G | C8-N9-C1' | -8.42 | 116.05 | 127.00 |
| 26 | 1H | 1445 | C | O5'-P-OP1 | -8.42 | 98.12 | 105.70 |
| 26 | 1H | 2685 | G | N1-C6-O6 | 8.42 | 124.95 | 119.90 |
| 1 | 1G | 230 | G | N3-C4-C5 | 8.42 | 132.81 | 128.60 |
| 26 | 14 | 192 | C | N3-C4-C5 | 8.42 | 125.27 | 121.90 |
| 26 | 14 | 1583 | A | N9-C4-C5 | -8.42 | 102.43 | 105.80 |
| 26 | 14 | 1692 | U | C5-C4-O4 | 8.42 | 130.95 | 125.90 |
| 26 | 14 | 487 | C | C6-N1-C2 | 8.42 | 123.67 | 120.30 |
| 26 | 14 | 691 | C | N3-C4-N4 | 8.42 | 123.89 | 118.00 |
| 26 | 14 | 1602 | U | O5'-P-OP1 | -8.42 | 98.12 | 105.70 |
| 26 | 1H | 528 | A | O5'-P-OP1 | 8.42 | 120.80 | 110.70 |
| 26 | 1H | 744 | G | C6-N1-C2 | -8.42 | 120.05 | 125.10 |
| 26 | 14 | 2617 | C | N3-C4-C5 | 8.42 | 125.27 | 121.90 |
| 1 | 13 | 740 | U | C5-C6-N1 | -8.41 | 118.49 | 122.70 |
| 1 | 13 | 1487 | G | N3-C2-N2 | -8.41 | 114.01 | 119.90 |
| 26 | 1H | 852 | G | OP2-P-O3' | 8.41 | 123.71 | 105.20 |
| 26 | 1H | 1122 | G | N9-C4-C5 | -8.41 | 102.03 | 105.40 |
| 1 | 13 | 1210 | C | C6-N1-C2 | 8.41 | 123.67 | 120.30 |
| 26 | 1H | 1930 | G | C5-C6-N1 | 8.41 | 115.71 | 111.50 |
| 26 | 14 | 856 | C | C5-C6-N1 | 8.41 | 125.21 | 121.00 |
| 26 | 14 | 1698 | A | N9-C4-C5 | -8.41 | 102.44 | 105.80 |
| 26 | 1H | 645 | C | C6-N1-C2 | -8.41 | 116.94 | 120.30 |
| 26 | 1H | 657 | U | O5'-P-OP2 | -8.41 | 98.13 | 105.70 |
| 26 | 1H | 1022 | G | N9-C4-C5 | 8.41 | 108.76 | 105.40 |
| 26 | 1H | 1034 | G | N1-C6-O6 | 8.41 | 124.94 | 119.90 |
| 26 | 1H | 1147 | C | C5-C6-N1 | -8.41 | 116.80 | 121.00 |
| 26 | 1H | 1429 | G | N1-C2-N2 | -8.41 | 108.63 | 116.20 |
| 26 | 14 | 1965 | C | N1-C2-N3 | -8.41 | 113.31 | 119.20 |
| 26 | 1H | 2263 | C | C2-N3-C4 | 8.41 | 124.10 | 119.90 |
| 1 | 1G | 738 | C | C6-N1-C2 | -8.41 | 116.94 | 120.30 |
| 26 | 14 | 1899 | G | N7-C8-N9 | 8.41 | 117.30 | 113.10 |
| 1 | 13 | 1309 | G | C8-N9-C4 | 8.41 | 109.76 | 106.40 |
| 26 | 1H | 506 | G | C4-C5-N7 | 8.41 | 114.16 | 110.80 |
| 26 | 1H | 2450 | A | C5-C6-N6 | 8.41 | 130.43 | 123.70 |
| 26 | 14 | 667 | U | N3-C4-O4 | 8.41 | 125.28 | 119.40 |
| 26 | 14 | 952 | G | N7-C8-N9 | 8.41 | 117.30 | 113.10 |
| 27 | 1J | 75 | G | N1-C6-O6 | 8.41 | 124.94 | 119.90 |
| 26 | 1H | 1401 | G | C8-N9-C4 | -8.40 | 103.04 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2279 | G | C5-C6-O6 | 8.40 | 133.64 | 128.60 |
| 27 | 16 | 11 | C | N3-C2-O2 | -8.40 | 116.02 | 121.90 |
| 26 | 1H | 576 | U | C5-C4-O4 | -8.40 | 120.86 | 125.90 |
| 26 | 1H | 925 | C | O5'-P-OP2 | -8.40 | 98.14 | 105.70 |
| 26 | 14 | 2720 | U | O5'-P-OP1 | -8.40 | 98.14 | 105.70 |
| 1 | 13 | 5 | U | C5-C6-N1 | 8.40 | 126.90 | 122.70 |
| 1 | 13 | 120 | A | N1-C6-N6 | 8.40 | 123.64 | 118.60 |
| 1 | 13 | 881 | G | O5'-P-OP1 | 8.40 | 120.78 | 110.70 |
| 23 | 2K | 4 | G | OP1-P-OP2 | 8.40 | 132.20 | 119.60 |
| 26 | 1H | 847 | U | OP1-P-OP2 | 8.40 | 132.20 | 119.60 |
| 30 | 21 | 144 | ARG | NE-CZ-NH1 | -8.40 | 116.10 | 120.30 |
| 1 | 1G | 909 | A | N1-C6-N6 | 8.40 | 123.64 | 118.60 |
| 1 | 1G | 1474 | G | C2-N3-C4 | -8.40 | 107.70 | 111.90 |
| 26 | 14 | 656 | G | N1-C6-O6 | 8.40 | 124.94 | 119.90 |
| 26 | 14 | 1407 | C | C5-C4-N4 | -8.40 | 114.32 | 120.20 |
| 1 | 13 | 191 | G | C8-N9-C4 | -8.40 | 103.04 | 106.40 |
| 26 | 1H | 493 | G | N3-C2-N2 | -8.40 | 114.02 | 119.90 |
| 26 | 1H | 1600 | C | OP1-P-O3' | 8.40 | 123.68 | 105.20 |
| 1 | 1G | 1259 | C | C5-C6-N1 | 8.40 | 125.20 | 121.00 |
| 1 | 13 | 578 | C | OP2-P-O3' | 8.40 | 123.67 | 105.20 |
| 26 | 1H | 203 | C | O5'-P-OP1 | -8.40 | 98.14 | 105.70 |
| 26 | 1H | 1123 | C | C5-C6-N1 | -8.40 | 116.80 | 121.00 |
| 26 | 1H | 2577 | A | N9-C4-C5 | 8.40 | 109.16 | 105.80 |
| 26 | 1H | 1783 | A | N1-C2-N3 | 8.40 | 133.50 | 129.30 |
| 26 | 14 | 1858 | G | OP1-P-OP2 | -8.40 | 107.00 | 119.60 |
| 26 | 1H | 2519 | U | N3-C2-O2 | 8.40 | 128.08 | 122.20 |
| 27 | 16 | 100 | G | N3-C4-N9 | 8.40 | 131.04 | 126.00 |
| 26 | 14 | 562 | U | C6-N1-C2 | -8.40 | 115.96 | 121.00 |
| 26 | 14 | 1202 | C | C5-C6-N1 | -8.40 | 116.80 | 121.00 |
| 26 | 14 | 1603 | A | C5-N7-C8 | -8.40 | 99.70 | 103.90 |
| 26 | 14 | 2021 | C | C5-C4-N4 | -8.40 | 114.32 | 120.20 |
| 26 | 1H | 585 | G | N1-C2-N3 | 8.39 | 128.94 | 123.90 |
| 26 | 1H | 1603 | A | N9-C4-C5 | 8.39 | 109.16 | 105.80 |
| 26 | 1H | 1705 | G | C5-C6-N1 | -8.39 | 107.30 | 111.50 |
| 26 | 14 | 1949 | G | C5-C6-N1 | -8.39 | 107.30 | 111.50 |
| 26 | 1H | 2251 | G | OP1-P-O3' | 8.39 | 123.67 | 105.20 |
| 26 | 14 | 2346 | A | C4-C5-C6 | 8.39 | 121.20 | 117.00 |
| 1 | 13 | 1486 | G | N3-C4-N9 | -8.39 | 120.97 | 126.00 |
| 26 | 1H | 236 | C | C5-C6-N1 | -8.39 | 116.80 | 121.00 |
| 26 | 1H | 583 | G | OP1-P-O3' | 8.39 | 123.66 | 105.20 |
| 26 | 1H | 2350 | C | N3-C4-C5 | -8.39 | 118.54 | 121.90 |
| 1 | 13 | 766 | A | C8-N9-C4 | 8.39 | 109.16 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 786 | C | C2-N3-C4 | -8.39 | 115.71 | 119.90 |
| 26 | 14 | 1015 | G | C8-N9-C4 | -8.39 | 103.05 | 106.40 |
| 26 | 14 | 1844 | C | C5-C6-N1 | 8.39 | 125.19 | 121.00 |
| 1 | 13 | 690 | G | C4-N9-C1' | 8.39 | 137.40 | 126.50 |
| 26 | 1H | 1311 | G | N9-C4-C5 | -8.38 | 102.05 | 105.40 |
| 26 | 1H | 1817 | G | C5-C6-N1 | -8.38 | 107.31 | 111.50 |
| 26 | 1H | 2751 | G | C5-N7-C8 | -8.38 | 100.11 | 104.30 |
| 31 | 31 | 44 | ARG | NE-CZ-NH1 | -8.39 | 116.11 | 120.30 |
| 1 | 1G | 352 | C | N1-C2-O2 | 8.38 | 123.93 | 118.90 |
| 57 | 3L | 31 | A | C8-N9-C4 | -8.38 | 102.45 | 105.80 |
| 26 | 14 | 1331 | A | N1-C6-N6 | -8.39 | 113.57 | 118.60 |
| 26 | 1H | 1219 | G | C2-N3-C4 | -8.38 | 107.71 | 111.90 |
| 26 | 1H | 1553 | A | C6-N1-C2 | -8.38 | 113.57 | 118.60 |
| 26 | 1H | 196 | A | O4'-C1'-N9 | 8.38 | 114.90 | 108.20 |
| 26 | 1H | 1600 | C | N1-C2-O2 | 8.38 | 123.93 | 118.90 |
| 26 | 1H | 2358 | G | C6-N1-C2 | -8.38 | 120.07 | 125.10 |
| 26 | 1H | 2456 | C | O5'-P-OP1 | -8.38 | 98.16 | 105.70 |
| 1 | 1G | 915 | A | N9-C4-C5 | 8.38 | 109.15 | 105.80 |
| 27 | 16 | 77 | U | C2-N3-C4 | -8.38 | 121.97 | 127.00 |
| 31 | 31 | 38 | ARG | NE-CZ-NH2 | -8.38 | 116.11 | 120.30 |
| 26 | 14 | 768 | G | C4-C5-C6 | 8.38 | 123.83 | 118.80 |
| 26 | 14 | 960 | A | O5'-P-OP1 | -8.38 | 98.16 | 105.70 |
| 27 | 1J | 30 | C | N3-C4-C5 | -8.38 | 118.55 | 121.90 |
| 1 | 13 | 1385 | G | C4-C5-N7 | 8.38 | 114.15 | 110.80 |
| 1 | 13 | 1481 | U | N3-C4-C5 | -8.38 | 109.57 | 114.60 |
| 23 | 2K | 25 | U | C5-C4-O4 | 8.38 | 130.93 | 125.90 |
| 26 | 1H | 179 | G | C5-C6-O6 | -8.38 | 123.57 | 128.60 |
| 26 | 1H | 1002 | G | C8-N9-C4 | -8.38 | 103.05 | 106.40 |
| 26 | 1H | 1377 | G | N1-C2-N3 | 8.38 | 128.93 | 123.90 |
| 26 | 1H | 2610 | C | O5'-P-OP1 | -8.38 | 98.16 | 105.70 |
| 26 | 1H | 2708 | G | N1-C6-O6 | 8.38 | 124.93 | 119.90 |
| 26 | 14 | 1975 | G | C5-C6-O6 | -8.38 | 123.57 | 128.60 |
| 26 | 14 | 2678 | C | N3-C4-C5 | 8.38 | 125.25 | 121.90 |
| 26 | 14 | 2852 | G | O5'-P-OP2 | -8.38 | 98.16 | 105.70 |
| 1 | 1G | 125 | U | C5-C4-O4 | 8.38 | 130.93 | 125.90 |
| 26 | 14 | 2456 | C | N3-C4-N4 | 8.38 | 123.86 | 118.00 |
| 26 | 14 | 2506 | U | N1-C2-O2 | 8.38 | 128.66 | 122.80 |
| 26 | 14 | 2555 | U | C6-N1-C2 | 8.38 | 126.03 | 121.00 |
| 1 | 13 | 326 | G | C5-N7-C8 | 8.38 | 108.49 | 104.30 |
| 1 | 13 | 697 | U | C5-C6-N1 | -8.38 | 118.51 | 122.70 |
| 26 | 1H | 1930 | G | N1-C6-O6 | -8.38 | 114.87 | 119.90 |
| 26 | 1H | 2373 | G | C2-N3-C4 | -8.38 | 107.71 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 1 | 1G | 505 | G | O5'-P-OP2 | 8.38 | 120.75 | 110.70 |
| 26 | 14 | 974(A) | C | N3-C4-C5 | -8.38 | 118.55 | 121.90 |
| 26 | 14 | 1678 | G | N7-C8-N9 | 8.38 | 117.29 | 113.10 |
| 26 | 14 | 1728 | G | C2-N3-C4 | 8.38 | 116.09 | 111.90 |
| 26 | 1H | 25 | U | C2-N3-C4 | -8.37 | 121.97 | 127.00 |
| 26 | 1H | 1197 | G | OP1-P-OP2 | 8.37 | 132.16 | 119.60 |
| 1 | 1G | 916 | G | C2-N3-C4 | 8.37 | 116.09 | 111.90 |
| 26 | 14 | 400 | G | C2-N3-C4 | -8.38 | 107.71 | 111.90 |
| 26 | 14 | 961 | C | C2-N3-C4 | -8.37 | 115.71 | 119.90 |
| 26 | 14 | 1361 | G | C8-N9-C4 | 8.38 | 109.75 | 106.40 |
| 26 | 14 | 2228 | G | C6-C5-N7 | -8.38 | 125.38 | 130.40 |
| 27 | 1J | 76 | G | O5'-P-OP1 | 8.38 | 120.75 | 110.70 |
| 26 | 1H | 136 | G | N1-C6-O6 | 8.37 | 124.92 | 119.90 |
| 26 | 1H | 1282 | U | OP1-P-OP2 | -8.37 | 107.04 | 119.60 |
| 26 | 1H | 2403 | C | N1-C2-N3 | 8.37 | 125.06 | 119.20 |
| 26 | 1H | 1142(A) | A | N3-C4-N9 | -8.37 | 120.70 | 127.40 |
| 37 | 78 | 33 | ARG | NE-CZ-NH1 | -8.37 | 116.11 | 120.30 |
| 1 | 13 | 1498 | U | P-O3'-C3' | 8.37 | 129.74 | 119.70 |
| 26 | 1H | 1493 | C | N1-C2-O2 | 8.37 | 123.92 | 118.90 |
| 26 | 1H | 2428 | G | C4-C5-N7 | -8.37 | 107.45 | 110.80 |
| 26 | 1H | 2846 | G | C5-C6-N1 | -8.37 | 107.32 | 111.50 |
| 26 | 14 | 197 | A | N1-C2-N3 | 8.37 | 133.48 | 129.30 |
| 26 | 14 | 2735 | G | C2-N3-C4 | -8.37 | 107.72 | 111.90 |
| 26 | 14 | 210 | C | C5-C6-N1 | -8.37 | 116.82 | 121.00 |
| 26 | 14 | 1415 | U | C5-C6-N1 | -8.37 | 118.52 | 122.70 |
| 26 | 14 | 1727 | U | C5-C4-O4 | 8.37 | 130.92 | 125.90 |
| 1 | 13 | 1340 | A | C2-N3-C4 | -8.37 | 106.42 | 110.60 |
| 1 | 13 | 35 | G | C5-C6-N1 | -8.36 | 107.32 | 111.50 |
| 23 | 2K | 11 | A | C5-C6-N1 | 8.37 | 121.88 | 117.70 |
| 26 | 1H | 1438 | U | N3-C4-O4 | 8.37 | 125.26 | 119.40 |
| 26 | 1H | 1884 | A | C5-C6-N1 | -8.36 | 113.52 | 117.70 |
| 26 | 1H | 2705 | A | C8-N9-C4 | 8.36 | 109.15 | 105.80 |
| 26 | 14 | 2679 | A | N7-C8-N9 | -8.37 | 109.62 | 113.80 |
| 1 | 13 | 346 | G | N1-C6-O6 | 8.36 | 124.92 | 119.90 |
| 26 | 1H | 411 | G | C8-N9-C4 | -8.36 | 103.06 | 106.40 |
| 26 | 1H | 1482 | U | N1-C2-N3 | 8.36 | 119.92 | 114.90 |
| 26 | 1H | 2032 | G | N1-C6-O6 | 8.36 | 124.92 | 119.90 |
| 26 | 1H | 2350 | C | C6-N1-C2 | -8.36 | 116.95 | 120.30 |
| 26 | 1H | 2416 | C | N1-C2-O2 | -8.36 | 113.88 | 118.90 |
| 26 | 14 | 2567 | G | C8-N9-C4 | 8.36 | 109.74 | 106.40 |
| 26 | 14 | 2700 | C | C5-C4-N4 | -8.36 | 114.35 | 120.20 |
| 26 | 14 | 2712(A) | A | O5'-P-OP1 | -8.36 | 98.17 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 23 | 2K | 58 | A | N1-C2-N3 | 8.36 | 133.48 | 129.30 |
| 26 | 1H | 1480 | G | N7-C8-N9 | 8.36 | 117.28 | 113.10 |
| 1 | 13 | 377 | G | C4-C5-N7 | -8.36 | 107.46 | 110.80 |
| 27 | 16 | 30 | C | C6-N1-C2 | -8.36 | 116.96 | 120.30 |
| 1 | 1G | 386 | C | C5-C6-N1 | -8.36 | 116.82 | 121.00 |
| 26 | 14 | 2690 | C | C5-C6-N1 | -8.36 | 116.82 | 121.00 |
| 1 | 1G | 580 | U | C5-C4-O4 | 8.36 | 130.91 | 125.90 |
| 1 | 1G | 1224 | G | C8-N9-C4 | -8.36 | 103.06 | 106.40 |
| 1 | 13 | 516 | U | N1-C2-N3 | 8.36 | 119.91 | 114.90 |
| 26 | 1H | 2514 | U | C5-C6-N1 | -8.36 | 118.52 | 122.70 |
| 57 | 3L | 34 | U | C2-N1-C1' | 8.36 | 127.73 | 117.70 |
| 26 | 14 | 1277 | G | O5'-P-OP2 | -8.36 | 98.18 | 105.70 |
| 26 | 14 | 2495 | G | C2-N3-C4 | -8.36 | 107.72 | 111.90 |
| 26 | 1H | 2329 | G | C2-N3-C4 | -8.35 | 107.72 | 111.90 |
| 1 | 1G | 1301 | U | C2-N1-C1' | 8.35 | 127.72 | 117.70 |
| 26 | 14 | 1227 | A | N1-C6-N6 | -8.35 | 113.59 | 118.60 |
| 26 | 14 | 1380 | G | N7-C8-N9 | -8.35 | 108.92 | 113.10 |
| 1 | 13 | 766 | A | C5-N7-C8 | -8.35 | 99.72 | 103.90 |
| 1 | 13 | 771 | G | N3-C4-N9 | -8.35 | 120.99 | 126.00 |
| 26 | 1H | 189 | G | N1-C2-N2 | 8.35 | 123.72 | 116.20 |
| 26 | 1H | 915 | C | N3-C2-O2 | -8.35 | 116.06 | 121.90 |
| 26 | 1H | 990 | A | C5-N7-C8 | -8.35 | 99.72 | 103.90 |
| 26 | 1H | 1546 | C | O5'-P-OP1 | -8.35 | 98.18 | 105.70 |
| 1 | 1G | 576 | G | C5-C6-N1 | -8.35 | 107.32 | 111.50 |
| 26 | 14 | 204 | A | C5-C6-N1 | 8.35 | 121.88 | 117.70 |
| 26 | 14 | 1192 | G | O5'-P-OP2 | -8.35 | 98.18 | 105.70 |
| 26 | 14 | 1475 | G | N7-C8-N9 | 8.35 | 117.28 | 113.10 |
| 1 | 13 | 1190 | G | C5-C6-N1 | -8.35 | 107.33 | 111.50 |
| 26 | 1H | 826 | U | OP2-P-O3' | 8.35 | 123.57 | 105.20 |
| 26 | 1H | 1457 | A | N1-C6-N6 | 8.35 | 123.61 | 118.60 |
| 26 | 1H | 2358 | G | N1-C2-N3 | 8.35 | 128.91 | 123.90 |
| 27 | 16 | 33 | G | C4-C5-N7 | 8.35 | 114.14 | 110.80 |
| 26 | 14 | 741 | G | N1-C2-N2 | 8.35 | 123.72 | 116.20 |
| 26 | 1H | 640 | C | C6-N1-C2 | -8.35 | 116.96 | 120.30 |
| 26 | 1H | 1852 | C | O5'-P-OP2 | -8.35 | 98.19 | 105.70 |
| 26 | 14 | 2443 | C | N3-C4-N4 | 8.35 | 123.84 | 118.00 |
| 1 | 13 | 952 | U | C6-N1-C2 | -8.35 | 115.99 | 121.00 |
| 1 | 13 | 1382 | C | C5-C4-N4 | -8.35 | 114.36 | 120.20 |
| 26 | 1H | 180 | G | OP1-P-OP2 | 8.35 | 132.12 | 119.60 |
| 26 | 1H | 411 | G | N9-C4-C5 | 8.35 | 108.74 | 105.40 |
| 26 | 1H | 558 | G | C2-N3-C4 | -8.35 | 107.73 | 111.90 |
| 26 | 1H | 1546 | C | OP1-P-OP2 | 8.35 | 132.12 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2639 | A | C2-N3-C4 | -8.35 | 106.43 | 110.60 |
| 26 | 14 | 433 | C | N1-C2-O2 | -8.35 | 113.89 | 118.90 |
| 26 | 14 | 1419 | A | C8-N9-C4 | 8.35 | 109.14 | 105.80 |
| 26 | 14 | 2237 | G | O5'-P-OP2 | -8.35 | 98.19 | 105.70 |
| 1 | 13 | 513 | C | C4-C5-C6 | -8.34 | 113.23 | 117.40 |
| 1 | 13 | 570 | G | C5-C6-N1 | -8.34 | 107.33 | 111.50 |
| 1 | 13 | 1392 | G | C2-N3-C4 | -8.34 | 107.73 | 111.90 |
| 26 | 1H | 243 | U | N3-C2-O2 | -8.34 | 116.36 | 122.20 |
| 26 | 14 | 837 | C | O5'-P-OP1 | -8.34 | 98.19 | 105.70 |
| 26 | 1H | 477 | A | N1-C2-N3 | 8.34 | 133.47 | 129.30 |
| 26 | 1H | 762 | U | N3-C4-C5 | 8.34 | 119.61 | 114.60 |
| 1 | 1G | 112 | G | N1-C2-N2 | 8.34 | 123.71 | 116.20 |
| 26 | 1H | 1623 | G | N3-C4-C5 | -8.34 | 124.43 | 128.60 |
| 26 | 14 | 1975 | G | N1-C6-O6 | 8.34 | 124.91 | 119.90 |
| 1 | 13 | 869 | G | C5-C6-O6 | -8.34 | 123.59 | 128.60 |
| 26 | 1H | 805 | G | OP1-P-O3' | 8.34 | 123.55 | 105.20 |
| 26 | 14 | 1956 | U | C2-N3-C4 | -8.34 | 122.00 | 127.00 |
| 1 | 13 | 1199 | U | C5-C4-O4 | 8.34 | 130.90 | 125.90 |
| 26 | 1H | 446 | G | N3-C2-N2 | 8.34 | 125.74 | 119.90 |
| 26 | 1H | 835 | A | C8-N9-C4 | -8.34 | 102.46 | 105.80 |
| 26 | 1H | 2253 | G | O5'-P-OP2 | -8.34 | 98.19 | 105.70 |
| 26 | 1H | 2576 | G | C5-C6-N1 | -8.34 | 107.33 | 111.50 |
| 26 | 14 | 2047 | U | OP1-P-OP2 | -8.34 | 107.09 | 119.60 |
| 26 | 14 | 2264 | C | N3-C4-C5 | -8.34 | 118.56 | 121.90 |
| 26 | 1H | 1310 | G | N3-C2-N2 | -8.34 | 114.06 | 119.90 |
| 23 | 2K | 7 | G | C2-N3-C4 | -8.34 | 107.73 | 111.90 |
| 26 | 1H | 1905 | C | O5'-P-OP1 | 8.34 | 120.70 | 110.70 |
| 26 | 1H | 1284 | A | N7-C8-N9 | 8.34 | 117.97 | 113.80 |
| 26 | 1H | 2053 | G | C8-N9-C4 | -8.34 | 103.06 | 106.40 |
| 26 | 1H | 2685 | G | C4-C5-C6 | 8.34 | 123.80 | 118.80 |
| 26 | 14 | 507 | A | C2-N3-C4 | 8.34 | 114.77 | 110.60 |
| 26 | 14 | 1660 | C | N3-C4-C5 | 8.34 | 125.23 | 121.90 |
| 26 | 14 | 1854 | A | OP1-P-OP2 | 8.34 | 132.10 | 119.60 |
| 26 | 14 | 2062 | A | N3-C4-C5 | 8.34 | 132.63 | 126.80 |
| 26 | 14 | 2306 | C | C5-C6-N1 | 8.34 | 125.17 | 121.00 |
| 26 | 1H | 2365 | G | C8-N9-C4 | 8.33 | 109.73 | 106.40 |
| 26 | 14 | 579 | G | C8-N9-C4 | -8.33 | 103.07 | 106.40 |
| 26 | 1H | 2580 | U | C6-N1-C2 | -8.33 | 116.00 | 121.00 |
| 26 | 14 | 951 | C | C2-N3-C4 | 8.33 | 124.07 | 119.90 |
| 1 | 13 | 577 | G | C6-C5-N7 | -8.33 | 125.40 | 130.40 |
| 23 | 2K | 4 | G | C8-N9-C4 | 8.33 | 109.73 | 106.40 |
| 26 | 1H | 1957 | C | N3-C4-N4 | -8.33 | 112.17 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1798 | U | O5'-P-OP2 | -8.33 | 98.20 | 105.70 |
| 26 | 1H | 974(A) | C | C4-C5-C6 | 8.33 | 121.56 | 117.40 |
| 26 | 1H | 1835 | G | N3-C2-N2 | 8.33 | 125.73 | 119.90 |
| 26 | 14 | 966 | G | C8-N9-C4 | 8.33 | 109.73 | 106.40 |
| 27 | 16 | 98 | G | C6-C5-N7 | -8.33 | 125.40 | 130.40 |
| 27 | 1J | 46 | A | C8-N9-C4 | 8.33 | 109.13 | 105.80 |
| 1 | 13 | 427 | U | C6-N1-C2 | -8.33 | 116.00 | 121.00 |
| 26 | 1H | 267 | C | C6-N1-C2 | 8.33 | 123.63 | 120.30 |
| 1 | 13 | 1492 | A | OP1-P-OP2 | -8.33 | 107.11 | 119.60 |
| 26 | 1H | 1125 | G | N1-C2-N3 | 8.33 | 128.90 | 123.90 |
| 26 | 1H | 1372 | U | C4-C5-C6 | 8.33 | 124.70 | 119.70 |
| 26 | 1H | 1547 | C | N3-C4-N4 | -8.33 | 112.17 | 118.00 |
| 27 | 16 | 78 | A | N9-C4-C5 | 8.33 | 109.13 | 105.80 |
| 1 | 1G | 1469 | G | C4-C5-C6 | 8.33 | 123.80 | 118.80 |
| 26 | 14 | 508 | G | O5'-P-OP1 | -8.33 | 98.20 | 105.70 |
| 1 | 13 | 1442 | G | N3-C4-N9 | -8.32 | 121.01 | 126.00 |
| 27 | 1J | 47 | C | OP1-P-O3' | 8.32 | 123.52 | 105.20 |
| 1 | 13 | 1497 | G | C4-C5-N7 | -8.32 | 107.47 | 110.80 |
| 26 | 1H | 1551 | C | N3-C4-C5 | -8.32 | 118.57 | 121.90 |
| 26 | 1H | 1596 | A | C5-C6-N1 | 8.32 | 121.86 | 117.70 |
| 26 | 1H | 2469 | A | C2-N3-C4 | -8.32 | 106.44 | 110.60 |
| 27 | 16 | 78 | A | N1-C2-N3 | 8.32 | 133.46 | 129.30 |
| 26 | 14 | 1956 | U | C5-C4-O4 | -8.32 | 120.91 | 125.90 |
| 1 | 13 | 1407 | C | N3-C4-N4 | -8.32 | 112.17 | 118.00 |
| 1 | 13 | 1430 | C | C5-C6-N1 | -8.32 | 116.84 | 121.00 |
| 26 | 1H | 71 | A | C4-C5-C6 | 8.32 | 121.16 | 117.00 |
| 26 | 1H | 652 | C | C5-C6-N1 | 8.32 | 125.16 | 121.00 |
| 26 | 14 | 932 | G | N1-C6-O6 | -8.32 | 114.91 | 119.90 |
| 26 | 1H | 760 | G | N1-C6-O6 | 8.32 | 124.89 | 119.90 |
| 26 | 1H | 1427 | A | C4-C5-C6 | 8.32 | 121.16 | 117.00 |
| 27 | 16 | 105 | G | C6-C5-N7 | -8.32 | 125.41 | 130.40 |
| 26 | 1H | 1782 | C | C5-C4-N4 | -8.32 | 114.38 | 120.20 |
| 26 | 14 | 1264 | G | C4-C5-N7 | -8.32 | 107.47 | 110.80 |
| 1 | 13 | 690 | G | C8-N9-C1' | -8.32 | 116.19 | 127.00 |
| 1 | 13 | 1273 | G | N7-C8-N9 | -8.32 | 108.94 | 113.10 |
| 26 | 14 | 972 | G | C4-C5-N7 | -8.32 | 107.47 | 110.80 |
| 26 | 1H | 436 | C | N1-C2-O2 | 8.32 | 123.89 | 118.90 |
| 26 | 1H | 1328 | G | C6-N1-C2 | -8.32 | 120.11 | 125.10 |
| 26 | 1H | 2826 | A | N1-C2-N3 | 8.32 | 133.46 | 129.30 |
| 26 | 1H | 2840 | C | N3-C2-O2 | -8.32 | 116.08 | 121.90 |
| 1 | 1G | 898 | G | C2-N3-C4 | -8.32 | 107.74 | 111.90 |
| 26 | 14 | 632 | A | O5'-P-OP2 | 8.32 | 120.68 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2565 | A | C8-N9-C4 | 8.32 | 109.13 | 105.80 |
| 1 | 13 | 332 | G | OP1-P-OP2 | 8.31 | 132.07 | 119.60 |
| 26 | 1H | 115 | C | N3-C4-C5 | 8.31 | 125.23 | 121.90 |
| 26 | 1H | 988 | A | C8-N9-C4 | -8.31 | 102.47 | 105.80 |
| 26 | 14 | 767 | U | C5-C4-O4 | 8.31 | 130.89 | 125.90 |
| 26 | 14 | 2510 | C | C6-N1-C2 | 8.31 | 123.63 | 120.30 |
| 26 | 14 | 2455 | G | OP2-P-O3' | 8.31 | 123.49 | 105.20 |
| 26 | 1H | 242 | G | C8-N9-C4 | 8.31 | 109.72 | 106.40 |
| 26 | 1H | 664 | C | N3-C4-C5 | 8.31 | 125.22 | 121.90 |
| 26 | 14 | 252 | G | N9-C4-C5 | 8.31 | 108.72 | 105.40 |
| 26 | 14 | 1594 | G | N7-C8-N9 | 8.31 | 117.25 | 113.10 |
| 26 | 1H | 99 | U | N3-C2-O2 | -8.31 | 116.39 | 122.20 |
| 26 | 1H | 664 | C | C2-N3-C4 | -8.31 | 115.75 | 119.90 |
| 26 | 1H | 2634 | G | O5'-P-OP2 | -8.31 | 98.22 | 105.70 |
| 26 | 1H | 2766 | G | C4-C5-N7 | 8.31 | 114.12 | 110.80 |
| 26 | 14 | 708 | C | N1-C2-O2 | 8.31 | 123.88 | 118.90 |
| 26 | 1H | 415 | A | C6-N1-C2 | -8.31 | 113.62 | 118.60 |
| 26 | 1H | 958 | U | O4'-C1'-N1 | 8.31 | 114.84 | 108.20 |
| 1 | 1G | 505 | G | OP1-P-OP2 | -8.31 | 107.14 | 119.60 |
| 26 | 14 | 1391 | U | O5'-P-OP2 | 8.31 | 120.67 | 110.70 |
| 26 | 1H | 211 | A | C6-C5-N7 | -8.30 | 126.49 | 132.30 |
| 26 | 1H | 488 | G | C5-C6-N1 | -8.30 | 107.35 | 111.50 |
| 26 | 1H | 869 | G | C5-C6-O6 | 8.30 | 133.58 | 128.60 |
| 26 | 1H | 2007 | C | C4-C5-C6 | 8.30 | 121.55 | 117.40 |
| 26 | 1H | 2250 | G | N3-C4-N9 | -8.30 | 121.02 | 126.00 |
| 1 | 13 | 863 | U | N1-C2-N3 | 8.30 | 119.88 | 114.90 |
| 27 | 16 | 21 | G | N1-C2-N2 | 8.30 | 123.67 | 116.20 |
| 1 | 1G | 108 | G | N1-C2-N3 | -8.30 | 118.92 | 123.90 |
| 1 | 1G | 903 | G | C2-N3-C4 | -8.30 | 107.75 | 111.90 |
| 1 | 13 | 464 | G | N1-C6-O6 | 8.30 | 124.88 | 119.90 |
| 26 | 1H | 2824 | C | N3-C4-C5 | 8.30 | 125.22 | 121.90 |
| 26 | 14 | 572 | A | C2-N3-C4 | 8.30 | 114.75 | 110.60 |
| 26 | 14 | 1828 | G | N3-C4-C5 | -8.30 | 124.45 | 128.60 |
| 26 | 14 | 827 | U | C5-C4-O4 | -8.30 | 120.92 | 125.90 |
| 26 | 14 | 1430 | C | O5'-P-OP1 | -8.30 | 98.23 | 105.70 |
| 1 | 13 | 1500 | A | C6-N1-C2 | -8.30 | 113.62 | 118.60 |
| 22 | 1K | 25 | C | N1-C2-O2 | 8.30 | 123.88 | 118.90 |
| 22 | 1K | 35 | U | N1-C2-O2 | 8.30 | 128.61 | 122.80 |
| 26 | 1H | 52 | A | N1-C2-N3 | -8.29 | 125.15 | 129.30 |
| 26 | 1H | 964 | C | O5'-P-OP1 | -8.29 | 98.24 | 105.70 |
| 26 | 1H | 986 | C | C6-N1-C2 | -8.29 | 116.98 | 120.30 |
| 26 | 14 | 467 | G | O5'-P-OP2 | -8.29 | 98.24 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 835 | A | C2-N3-C4 | 8.29 | 114.75 | 110.60 |
| 26 | 14 | 2277 | G | N1-C6-O6 | -8.29 | 114.92 | 119.90 |
| 26 | 14 | 2452 | C | C5-C4-N4 | -8.29 | 114.39 | 120.20 |
| 1 | 13 | 1504 | G | O5'-P-OP2 | 8.29 | 120.65 | 110.70 |
| 26 | 14 | 1789 | A | N1-C2-N3 | 8.29 | 133.45 | 129.30 |
| 26 | 14 | 2046 | G | C5-C6-N1 | 8.29 | 115.65 | 111.50 |
| 26 | 1H | 1313 | U | C6-N1-C2 | -8.29 | 116.03 | 121.00 |
| 26 | 1H | 2761 | G | N1-C6-O6 | -8.29 | 114.93 | 119.90 |
| 26 | 14 | 1397 | U | N3-C2-O2 | -8.29 | 116.40 | 122.20 |
| 26 | 14 | 2004 | G | C5-C6-O6 | -8.29 | 123.63 | 128.60 |
| 26 | 1H | 2379 | G | C5-C6-O6 | -8.29 | 123.63 | 128.60 |
| 1 | 1G | 786 | G | C5-C6-N1 | 8.29 | 115.64 | 111.50 |
| 26 | 14 | 1202 | C | C4-C5-C6 | 8.29 | 121.54 | 117.40 |
| 26 | 14 | 1320 | C | N3-C4-C5 | -8.29 | 118.58 | 121.90 |
| 26 | 14 | 2502 | G | C6-N1-C2 | -8.29 | 120.13 | 125.10 |
| 26 | 14 | 2545 | G | N1-C6-O6 | 8.29 | 124.87 | 119.90 |
| 26 | 1H | 845 | G | N3-C4-C5 | 8.29 | 132.74 | 128.60 |
| 26 | 1H | 858 | U | N3-C4-C5 | 8.29 | 119.57 | 114.60 |
| 1 | 1G | 46 | G | C2-N3-C4 | -8.29 | 107.76 | 111.90 |
| 26 | 14 | 736 | C | N1-C2-O2 | -8.29 | 113.93 | 118.90 |
| 26 | 14 | 2437 | U | OP1-P-OP2 | 8.29 | 132.03 | 119.60 |
| 1 | 13 | 231 | G | N3-C2-N2 | -8.28 | 114.10 | 119.90 |
| 26 | 1H | 928 | G | C5-C6-O6 | -8.28 | 123.63 | 128.60 |
| 26 | 1H | 1022 | G | O5'-P-OP2 | -8.28 | 98.24 | 105.70 |
| 26 | 1H | 1318 | C | N3-C4-N4 | 8.29 | 123.80 | 118.00 |
| 26 | 1H | 1993 | U | C5-C6-N1 | -8.29 | 118.56 | 122.70 |
| 26 | 1H | 2360 | A | C6-C5-N7 | -8.28 | 126.50 | 132.30 |
| 1 | 1G | 1473 | A | O5'-P-OP2 | -8.28 | 98.24 | 105.70 |
| 26 | 1H | 871 | U | N3-C2-O2 | 8.28 | 128.00 | 122.20 |
| 26 | 1H | 308 | G | N3-C2-N2 | 8.28 | 125.70 | 119.90 |
| 26 | 1H | 1364 | G | O4'-C1'-N9 | 8.28 | 114.83 | 108.20 |
| 26 | 1H | 1557 | C | O5'-P-OP2 | -8.28 | 98.25 | 105.70 |
| 29 | 11 | 242 | ARG | NE-CZ-NH1 | -8.28 | 116.16 | 120.30 |
| 1 | 1G | 602 | A | C5-N7-C8 | -8.28 | 99.76 | 103.90 |
| 26 | 14 | 428 | A | C2-N3-C4 | 8.28 | 114.74 | 110.60 |
| 26 | 14 | 1142(A) | A | C8-N9-C4 | -8.28 | 102.49 | 105.80 |
| 26 | 14 | 1411 | C | O5'-P-OP1 | 8.28 | 120.64 | 110.70 |
| 26 | 14 | 1597 | A | N7-C8-N9 | -8.28 | 109.66 | 113.80 |
| 26 | 1H | 841 | A | N1-C6-N6 | 8.28 | 123.57 | 118.60 |
| 26 | 1H | 1899 | G | C8-N9-C1' | 8.28 | 137.76 | 127.00 |
| 26 | 14 | 1677 | A | OP2-P-O3' | 8.28 | 123.42 | 105.20 |
| 26 | 1H | 2476 | A | C2-N3-C4 | 8.28 | 114.74 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 330 | C | N1-C2-O2 | 8.28 | 123.87 | 118.90 |
| 26 | 1H | 632 | A | O5'-P-OP2 | 8.28 | 120.63 | 110.70 |
| 26 | 1H | 941 | A | OP2-P-O3' | 8.28 | 123.41 | 105.20 |
| 26 | 1H | 2712 | U | C2-N3-C4 | -8.28 | 122.03 | 127.00 |
| 26 | 14 | 125 | G | C8-N9-C4 | 8.28 | 109.71 | 106.40 |
| 26 | 14 | 1237 | A | C8-N9-C4 | -8.28 | 102.49 | 105.80 |
| 26 | 1H | 2580 | U | C5-C6-N1 | 8.28 | 126.84 | 122.70 |
| 26 | 14 | 970 | C | N3-C2-O2 | 8.28 | 127.69 | 121.90 |
| 26 | 14 | 2506 | U | C2-N1-C1' | 8.28 | 127.63 | 117.70 |
| 26 | 14 | 1205 | U | N1-C2-N3 | 8.28 | 119.86 | 114.90 |
| 26 | 14 | 1986 | A | N1-C2-N3 | 8.28 | 133.44 | 129.30 |
| 26 | 14 | 2239 | G | C8-N9-C4 | 8.28 | 109.71 | 106.40 |
| 26 | 14 | 2598 | A | OP2-P-O3' | 8.28 | 123.40 | 105.20 |
| 1 | 13 | 1058 | G | C8-N9-C4 | 8.27 | 109.71 | 106.40 |
| 26 | 1H | 508 | G | N1-C2-N3 | -8.27 | 118.94 | 123.90 |
| 26 | 1H | 622 | G | N1-C6-O6 | -8.27 | 114.94 | 119.90 |
| 26 | 1H | 1189 | A | C6-N1-C2 | -8.27 | 113.64 | 118.60 |
| 26 | 1H | 1631 | A | O5'-P-OP2 | -8.27 | 98.25 | 105.70 |
| 26 | 1H | 1984 | G | N7-C8-N9 | -8.27 | 108.96 | 113.10 |
| 1 | 1G | 875 | C | N3-C2-O2 | -8.27 | 116.11 | 121.90 |
| 26 | 14 | 1598 | C | N3-C4-C5 | 8.27 | 125.21 | 121.90 |
| 26 | 1H | 2002 | G | C8-N9-C4 | -8.27 | 103.09 | 106.40 |
| 26 | 14 | 1967 | C | OP1-P-OP2 | 8.27 | 132.01 | 119.60 |
| 27 | 1J | 6 | C | C6-N1-C2 | 8.27 | 123.61 | 120.30 |
| 1 | 13 | 27 | G | O5'-P-OP2 | 8.27 | 120.62 | 110.70 |
| 1 | 13 | 130 | A | C5-C6-N6 | -8.27 | 117.08 | 123.70 |
| 1 | 13 | 1516 | G | N3-C2-N2 | 8.27 | 125.69 | 119.90 |
| 26 | 1H | 121 | G | C5-C6-N1 | 8.27 | 115.63 | 111.50 |
| 26 | 1H | 505 | A | C5-C6-N1 | 8.27 | 121.83 | 117.70 |
| 26 | 1H | 693 | C | N1-C2-N3 | 8.27 | 124.99 | 119.20 |
| 26 | 1H | 2083 | G | N1-C6-O6 | 8.27 | 124.86 | 119.90 |
| 26 | 1H | 2594 | C | C6-N1-C2 | -8.27 | 116.99 | 120.30 |
| 26 | 1H | 2704 | C | C6-N1-C2 | 8.27 | 123.61 | 120.30 |
| 26 | 1H | 2763 | G | N1-C2-N2 | -8.27 | 108.76 | 116.20 |
| 26 | 14 | 2239 | G | N3-C2-N2 | 8.27 | 125.69 | 119.90 |
| 1 | 13 | 6 | G | C2-N3-C4 | 8.27 | 116.03 | 111.90 |
| 26 | 1H | 2044 | C | N3-C4-N4 | 8.27 | 123.78 | 118.00 |
| 35 | 58 | 76 | SER | C-N-CA | -8.27 | 104.94 | 122.30 |
| 26 | 14 | 784 | A | OP1-P-O3' | 8.27 | 123.39 | 105.20 |
| 26 | 14 | 909 | A | C6-N1-C2 | -8.27 | 113.64 | 118.60 |
| 26 | 14 | 1136 | G | C8-N9-C4 | 8.27 | 109.71 | 106.40 |
| 26 | 14 | 1643 | G | OP2-P-O3' | 8.27 | 123.38 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2262 | U | OP1-P-OP2 | -8.27 | 107.20 | 119.60 |
| 1 | 1G | 1490 | C | N3-C2-O2 | -8.26 | 116.11 | 121.90 |
| 26 | 1H | 1803 | A | C4-C5-N7 | 8.26 | 114.83 | 110.70 |
| 26 | 1H | 201 | C | C5-C6-N1 | -8.26 | 116.87 | 121.00 |
| 26 | 1H | 1142 | U | O5'-P-OP1 | 8.26 | 120.61 | 110.70 |
| 26 | 1H | 1840 | G | C5-C6-N1 | -8.26 | 107.37 | 111.50 |
| 26 | 1H | 1950 | G | N1-C2-N3 | -8.26 | 118.94 | 123.90 |
| 26 | 1H | 2404 | C | C6-N1-C2 | 8.26 | 123.60 | 120.30 |
| 1 | 1G | 808 | C | C5-C4-N4 | 8.26 | 125.98 | 120.20 |
| 26 | 14 | 226 | G | C2-N3-C4 | -8.26 | 107.77 | 111.90 |
| 26 | 14 | 690 | G | C8-N9-C4 | 8.26 | 109.70 | 106.40 |
| 26 | 14 | 226 | G | C6-C5-N7 | -8.26 | 125.44 | 130.40 |
| 26 | 14 | 1827 | C | C5-C6-N1 | -8.26 | 116.87 | 121.00 |
| 26 | 1H | 771 | G | C8-N9-C4 | 8.26 | 109.70 | 106.40 |
| 26 | 1H | 1193 | G | N3-C2-N2 | -8.26 | 114.12 | 119.90 |
| 26 | 1H | 1377 | G | C8-N9-C1' | -8.26 | 116.27 | 127.00 |
| 26 | 14 | 2070 | G | OP2-P-O3' | 8.26 | 123.37 | 105.20 |
| 26 | 1H | 310 | A | C5-C6-N1 | 8.26 | 121.83 | 117.70 |
| 26 | 1H | 704 | G | C5-C6-N1 | -8.26 | 107.37 | 111.50 |
| 26 | 14 | 1924 | C | N1-C2-O2 | -8.26 | 113.95 | 118.90 |
| 1 | 13 | 1273 | G | O5'-P-OP2 | -8.25 | 98.27 | 105.70 |
| 26 | 14 | 773 | U | C6-N1-C2 | -8.25 | 116.05 | 121.00 |
| 26 | 14 | 2615 | U | N3-C4-C5 | 8.25 | 119.55 | 114.60 |
| 26 | 14 | 1951 | U | OP1-P-OP2 | -8.25 | 107.22 | 119.60 |
| 1 | 13 | 120 | A | O5'-P-OP1 | -8.25 | 98.27 | 105.70 |
| 26 | 1H | 271(B) | G | C5-C6-N1 | 8.25 | 115.63 | 111.50 |
| 26 | 1H | 832 | G | O5'-P-OP1 | 8.25 | 120.60 | 110.70 |
| 26 | 1H | 941 | A | O5'-P-OP2 | -8.25 | 98.27 | 105.70 |
| 26 | 1H | 2647 | U | C5-C6-N1 | -8.25 | 118.58 | 122.70 |
| 26 | 14 | 223 | A | N7-C8-N9 | 8.25 | 117.92 | 113.80 |
| 26 | 14 | 1427 | A | N1-C6-N6 | -8.25 | 113.65 | 118.60 |
| 26 | 14 | 2628 | C | N3-C2-O2 | -8.25 | 116.12 | 121.90 |
| 27 | 1J | 96 | G | N1-C6-O6 | 8.25 | 124.85 | 119.90 |
| 1 | 13 | 37 | U | C5-C6-N1 | 8.25 | 126.82 | 122.70 |
| 1 | 13 | 1203 | C | C5-C6-N1 | 8.25 | 125.12 | 121.00 |
| 26 | 1H | 1394 | U | O5'-P-OP2 | 8.25 | 120.60 | 110.70 |
| 26 | 1H | 604 | G | O5'-P-OP1 | -8.25 | 98.28 | 105.70 |
| 26 | 1H | 2020 | A | C2-N3-C4 | -8.25 | 106.48 | 110.60 |
| 1 | 1G | 620 | C | N1-C2-O2 | 8.25 | 123.85 | 118.90 |
| 1 | 1G | 630 | G | N3-C4-C5 | -8.25 | 124.48 | 128.60 |
| 26 | 14 | 141 | A | OP2-P-O3' | 8.25 | 123.34 | 105.20 |
| 1 | 13 | 1361 | G | C2-N3-C4 | 8.24 | 116.02 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2572 | A | C8-N9-C4 | 8.24 | 109.10 | 105.80 |
| 1 | 1G | 906 | G | N1-C6-O6 | 8.24 | 124.85 | 119.90 |
| 26 | 14 | 821 | A | OP1-P-OP2 | 8.24 | 131.97 | 119.60 |
| 26 | 14 | 1564 | C | N3-C4-N4 | -8.24 | 112.23 | 118.00 |
| 26 | 1H | 110 | G | N7-C8-N9 | -8.24 | 108.98 | 113.10 |
| 26 | 1H | 425 | G | N3-C2-N2 | -8.24 | 114.13 | 119.90 |
| 26 | 1H | 1569 | A | OP1-P-OP2 | 8.24 | 131.96 | 119.60 |
| 26 | 1H | 1771 | C | N3-C4-C5 | -8.24 | 118.60 | 121.90 |
| 26 | 1H | 2429 | G | OP2-P-O3' | 8.24 | 123.33 | 105.20 |
| 26 | 14 | 470 | A | O5'-P-OP1 | -8.24 | 98.28 | 105.70 |
| 1 | 13 | 972 | C | N3-C2-O2 | -8.24 | 116.13 | 121.90 |
| 26 | 1H | 772 | C | C5-C4-N4 | -8.24 | 114.43 | 120.20 |
| 26 | 14 | 149 | A | C4-C5-C6 | 8.24 | 121.12 | 117.00 |
| 26 | 14 | 414 | C | N3-C4-N4 | -8.24 | 112.23 | 118.00 |
| 26 | 1H | 1829 | A | C5-N7-C8 | 8.24 | 108.02 | 103.90 |
| 26 | 1H | 2083 | G | C4-C5-C6 | 8.24 | 123.74 | 118.80 |
| 26 | 1H | 821 | A | C5-C6-N6 | 8.24 | 130.29 | 123.70 |
| 26 | 1H | 1576 | U | C6-N1-C2 | -8.24 | 116.06 | 121.00 |
| 26 | 14 | 1427 | A | C5-C6-N6 | 8.24 | 130.29 | 123.70 |
| 1 | 13 | 680 | C | N1-C2-O2 | 8.23 | 123.84 | 118.90 |
| 26 | 1H | 1771 | C | C4-C5-C6 | 8.23 | 121.52 | 117.40 |
| 1 | 13 | 1392 | G | N1-C2-N3 | 8.23 | 128.84 | 123.90 |
| 26 | 1H | 124 | G | N3-C4-C5 | 8.23 | 132.72 | 128.60 |
| 26 | 1H | 347 | A | N3-C4-C5 | 8.23 | 132.56 | 126.80 |
| 26 | 1H | 474 | G | C6-N1-C2 | -8.23 | 120.16 | 125.10 |
| 26 | 1H | 860 | U | C6-N1-C1' | -8.23 | 109.67 | 121.20 |
| 26 | 1H | 2735 | G | N1-C6-O6 | -8.23 | 114.96 | 119.90 |
| 27 | 16 | 47 | C | N3-C2-O2 | 8.23 | 127.67 | 121.90 |
| 26 | 1H | 2537 | U | N1-C2-N3 | 8.23 | 119.84 | 114.90 |
| 26 | 1H | 2666 | C | O5'-P-OP1 | -8.23 | 98.29 | 105.70 |
| 26 | 1H | 2708 | G | N7-C8-N9 | -8.23 | 108.98 | 113.10 |
| 26 | 14 | 979 | G | C6-N1-C2 | 8.23 | 130.04 | 125.10 |
| 26 | 14 | 2628 | C | N1-C2-O2 | 8.23 | 123.84 | 118.90 |
| 26 | 14 | 2381 | C | C2-N1-C1' | -8.23 | 109.74 | 118.80 |
| 26 | 1H | 305 | U | N1-C2-N3 | 8.23 | 119.84 | 114.90 |
| 26 | 1H | 1403 | C | C6-N1-C2 | -8.23 | 117.01 | 120.30 |
| 26 | 1H | 782 | A | N1-C2-N3 | 8.23 | 133.41 | 129.30 |
| 26 | 1H | 906 | G | C8-N9-C4 | -8.23 | 103.11 | 106.40 |
| 26 | 1H | 968 | G | O5'-P-OP2 | -8.23 | 98.29 | 105.70 |
| 26 | 1H | 989 | G | C6-C5-N7 | -8.23 | 125.46 | 130.40 |
| 26 | 1H | 1254 | A | C4-C5-N7 | 8.23 | 114.81 | 110.70 |
| 26 | 1H | 2384 | G | N1-C2-N3 | -8.23 | 118.96 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 292 | C | C6-N1-C2 | 8.23 | 123.59 | 120.30 |
| 1 | 13 | 1060 | C | C4-C5-C6 | -8.23 | 113.29 | 117.40 |
| 26 | 1H | 79 | G | N3-C2-N2 | -8.23 | 114.14 | 119.90 |
| 26 | 1H | 1142(A) | A | C5-C6-N1 | -8.23 | 113.59 | 117.70 |
| 26 | 1H | 1400 | G | N1-C6-O6 | -8.23 | 114.96 | 119.90 |
| 26 | 1H | 2004 | G | OP1-P-OP2 | 8.23 | 131.94 | 119.60 |
| 26 | 1H | 2045 | C | N3-C4-C5 | 8.23 | 125.19 | 121.90 |
| 26 | 1H | 2270 | G | C8-N9-C4 | 8.23 | 109.69 | 106.40 |
| 26 | 14 | 771 | G | C8-N9-C4 | 8.23 | 109.69 | 106.40 |
| 26 | 14 | 1616 | A | C5-C6-N6 | -8.23 | 117.12 | 123.70 |
| 26 | 1H | 400 | G | N3-C2-N2 | -8.23 | 114.14 | 119.90 |
| 1 | 1G | 121 | C | N1-C2-O2 | 8.23 | 123.84 | 118.90 |
| 26 | 14 | 739 | G | C5-C6-N1 | -8.23 | 107.39 | 111.50 |
| 27 | 1J | 6 | C | C5-C6-N1 | -8.23 | 116.89 | 121.00 |
| 1 | 13 | 1219 | U | N1-C2-N3 | 8.22 | 119.83 | 114.90 |
| 1 | 13 | 18 | C | N1-C2-O2 | 8.22 | 123.83 | 118.90 |
| 1 | 13 | 593 | G | C5-C6-N1 | -8.22 | 107.39 | 111.50 |
| 1 | 13 | 1368 | G | N1-C6-O6 | -8.22 | 114.97 | 119.90 |
| 1 | 13 | 1513 | A | C8-N9-C4 | 8.22 | 109.09 | 105.80 |
| 26 | 1H | 2685 | G | N1-C2-N3 | 8.22 | 128.84 | 123.90 |
| 26 | 14 | 2251 | G | O5'-P-OP1 | -8.22 | 98.30 | 105.70 |
| 23 | 2K | 73 | A | N7-C8-N9 | -8.22 | 109.69 | 113.80 |
| 26 | 1H | 1836 | C | C4-C5-C6 | -8.22 | 113.29 | 117.40 |
| 26 | 1H | 2421 | G | N7-C8-N9 | -8.22 | 108.99 | 113.10 |
| 1 | 1G | 108 | G | C4-C5-N7 | 8.22 | 114.09 | 110.80 |
| 26 | 14 | 2414 | G | C5-C6-O6 | 8.22 | 133.53 | 128.60 |
| 26 | 14 | 2596 | U | O5'-P-OP2 | -8.22 | 98.30 | 105.70 |
| 26 | 14 | 76 | C | C6-N1-C2 | -8.22 | 117.01 | 120.30 |
| 26 | 14 | 268 | C | N3-C2-O2 | 8.22 | 127.66 | 121.90 |
| 26 | 14 | 387 | U | N1-C2-O2 | 8.22 | 128.55 | 122.80 |
| 26 | 14 | 2549 | G | N3-C4-C5 | 8.22 | 132.71 | 128.60 |
| 26 | 14 | 2618 | G | C4-C5-N7 | -8.22 | 107.51 | 110.80 |
| 27 | 1J | 81 | G | N9-C4-C5 | -8.22 | 102.11 | 105.40 |
| 29 | 19 | 44 | ASN | C-N-CA | 8.22 | 142.25 | 121.70 |
| 1 | 13 | 644 | G | N9-C4-C5 | -8.22 | 102.11 | 105.40 |
| 26 | 1H | 131 | G | C8-N9-C4 | -8.22 | 103.11 | 106.40 |
| 26 | 1H | 248 | G | N3-C2-N2 | -8.22 | 114.15 | 119.90 |
| 26 | 1H | 578 | A | O5'-P-OP2 | -8.22 | 98.30 | 105.70 |
| 26 | 1H | 764 | A | O5'-P-OP2 | -8.22 | 98.30 | 105.70 |
| 26 | 1H | 1228 | G | C2-N3-C4 | -8.22 | 107.79 | 111.90 |
| 26 | 1H | 1515 | C | N1-C2-O2 | 8.22 | 123.83 | 118.90 |
| 26 | 1H | 2207 | C | N1-C2-O2 | -8.22 | 113.97 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 1435 | G | C2-N3-C4 | -8.22 | 107.79 | 111.90 |
| 26 | 14 | 178 | G | O5'-P-OP1 | -8.22 | 98.30 | 105.70 |
| 26 | 14 | 214 | G | O5'-P-OP1 | 8.22 | 120.56 | 110.70 |
| 26 | 14 | 1326 | U | C6-N1-C2 | -8.22 | 116.07 | 121.00 |
| 26 | 14 | 2253 | G | C4-C5-N7 | 8.22 | 114.09 | 110.80 |
| 1 | 13 | 27 | G | N1-C6-O6 | -8.21 | 114.97 | 119.90 |
| 25 | 4K | 14 | A | C5-C6-N1 | 8.22 | 121.81 | 117.70 |
| 1 | 1G | 1091 | U | C6-N1-C2 | -8.22 | 116.07 | 121.00 |
| 1 | 13 | 498 | A | C8-N9-C4 | -8.21 | 102.52 | 105.80 |
| 27 | 16 | 7 | G | C4-C5-N7 | 8.21 | 114.09 | 110.80 |
| 26 | 14 | 37 | C | C5-C6-N1 | 8.22 | 125.11 | 121.00 |
| 26 | 14 | 671 | C | N1-C2-N3 | 8.21 | 124.95 | 119.20 |
| 26 | 14 | 1881 | C | N1-C2-O2 | 8.22 | 123.83 | 118.90 |
| 26 | 1H | 1778 | U | C6-N1-C2 | 8.21 | 125.93 | 121.00 |
| 26 | 1H | 2252 | G | OP1-P-OP2 | 8.21 | 131.92 | 119.60 |
| 26 | 1H | 621 | A | N9-C4-C5 | -8.21 | 102.52 | 105.80 |
| 26 | 1H | 1643 | G | C4-C5-N7 | -8.21 | 107.52 | 110.80 |
| 26 | 1H | 1943 | U | O5'-P-OP2 | -8.21 | 98.31 | 105.70 |
| 26 | 1H | 2507 | C | N3-C2-O2 | -8.21 | 116.15 | 121.90 |
| 26 | 1H | 2592 | G | C5-C6-N1 | -8.21 | 107.39 | 111.50 |
| 1 | 1G | 416 | G | C4-C5-C6 | 8.21 | 123.73 | 118.80 |
| 26 | 14 | 1029 | A | O5'-P-OP1 | 8.21 | 120.56 | 110.70 |
| 26 | 14 | 1781 | C | N3-C4-C5 | 8.21 | 125.19 | 121.90 |
| 26 | 14 | 2041 | U | C4-C5-C6 | 8.21 | 124.63 | 119.70 |
| 26 | 1H | 528 | A | C8-N9-C4 | -8.21 | 102.52 | 105.80 |
| 26 | 1H | 2012 | G | C8-N9-C4 | 8.21 | 109.68 | 106.40 |
| 26 | 14 | 311 | A | C5-C6-N1 | -8.21 | 113.60 | 117.70 |
| 26 | 14 | 401 | A | N1-C2-N3 | 8.21 | 133.40 | 129.30 |
| 26 | 1H | 188 | G | C2-N3-C4 | -8.20 | 107.80 | 111.90 |
| 26 | 1H | 783 | A | N9-C1'-C2' | -8.21 | 102.97 | 112.00 |
| 26 | 1H | 2686 | G | OP1-P-OP2 | 8.21 | 131.91 | 119.60 |
| 27 | 16 | 5 | C | C6-N1-C2 | 8.21 | 123.58 | 120.30 |
| 1 | 1G | 935 | A | C8-N9-C4 | 8.21 | 109.08 | 105.80 |
| 26 | 14 | 62 | C | C4-C5-C6 | -8.21 | 113.30 | 117.40 |
| 26 | 14 | 499 | U | C5-C6-N1 | -8.21 | 118.60 | 122.70 |
| 26 | 14 | 2391 | G | N1-C6-O6 | -8.20 | 114.98 | 119.90 |
| 26 | 14 | 2874 | C | O5'-P-OP1 | -8.21 | 98.32 | 105.70 |
| 1 | 13 | 1089 | G | N3-C4-C5 | 8.20 | 132.70 | 128.60 |
| 1 | 1G | 786 | G | C8-N9-C4 | 8.20 | 109.68 | 106.40 |
| 26 | 1H | 1565 | C | C4-C5-C6 | -8.20 | 113.30 | 117.40 |
| 26 | 1H | 2433 | A | O5'-P-OP2 | 8.20 | 120.54 | 110.70 |
| 26 | 1H | 2645 | G | C4-C5-N7 | 8.20 | 114.08 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 231 | G | N3-C2-N2 | -8.20 | 114.16 | 119.90 |
| 1 | 1G | 690 | G | C8-N9-C4 | -8.20 | 103.12 | 106.40 |
| 1 | 13 | 584 | G | C6-N1-C2 | -8.20 | 120.18 | 125.10 |
| 26 | 1H | 1463 | C | C5-C6-N1 | 8.20 | 125.10 | 121.00 |
| 26 | 14 | 737 | C | C2-N3-C4 | -8.20 | 115.80 | 119.90 |
| 26 | 14 | 2324 | C | N1-C2-N3 | -8.20 | 113.46 | 119.20 |
| 26 | 1H | 109 | G | C5-C6-O6 | 8.20 | 133.52 | 128.60 |
| 26 | 1H | 318 | C | N3-C4-N4 | 8.20 | 123.74 | 118.00 |
| 26 | 1H | 609 | A | C4-C5-N7 | 8.20 | 114.80 | 110.70 |
| 26 | 1H | 1655 | A | C5-C6-N6 | -8.20 | 117.14 | 123.70 |
| 26 | 14 | 809 | G | N9-C4-C5 | 8.20 | 108.68 | 105.40 |
| 26 | 14 | 1264 | G | O5'-P-OP1 | -8.20 | 98.32 | 105.70 |
| 1 | 13 | 690 | G | C5-C6-O6 | -8.19 | 123.69 | 128.60 |
| 26 | 1H | 2247 | A | N1-C6-N6 | -8.19 | 113.69 | 118.60 |
| 1 | 1G | 135 | C | N3-C2-O2 | 8.19 | 127.64 | 121.90 |
| 1 | 1G | 1334 | G | O5'-P-OP1 | -8.19 | 98.33 | 105.70 |
| 26 | 14 | 56 | A | C5-C6-N6 | 8.19 | 130.25 | 123.70 |
| 26 | 14 | 211 | A | C6-C5-N7 | -8.19 | 126.57 | 132.30 |
| 26 | 14 | 2434 | A | OP1-P-OP2 | 8.19 | 131.89 | 119.60 |
| 1 | 13 | 792 | A | C6-N1-C2 | -8.19 | 113.69 | 118.60 |
| 26 | 1H | 508 | G | C8-N9-C4 | -8.19 | 103.12 | 106.40 |
| 26 | 1H | 683 | C | C6-N1-C1' | -8.19 | 110.97 | 120.80 |
| 26 | 1H | 2458 | G | N1-C2-N3 | 8.19 | 128.81 | 123.90 |
| 26 | 1H | 2485 | G | N1-C2-N3 | 8.19 | 128.81 | 123.90 |
| 26 | 1H | 2506 | U | OP1-P-OP2 | -8.19 | 107.31 | 119.60 |
| 26 | 14 | 1558 | A | N1-C6-N6 | 8.19 | 123.51 | 118.60 |
| 26 | 14 | 2683 | C | OP1-P-OP2 | 8.19 | 131.88 | 119.60 |
| 26 | 14 | 2470 | G | N7-C8-N9 | 8.19 | 117.19 | 113.10 |
| 26 | 1H | 127 | A | O5'-P-OP2 | -8.19 | 98.33 | 105.70 |
| 26 | 1H | 770 | G | N1-C6-O6 | 8.19 | 124.81 | 119.90 |
| 26 | 1H | 839 | U | C5-C6-N1 | -8.19 | 118.61 | 122.70 |
| 26 | 1H | 1341 | U | O5'-P-OP2 | 8.19 | 120.52 | 110.70 |
| 26 | 1H | 1775 | U | O5'-P-OP2 | -8.19 | 98.33 | 105.70 |
| 26 | 1H | 2318 | G | C5-N7-C8 | -8.19 | 100.21 | 104.30 |
| 26 | 14 | 2433 | A | C5-C6-N1 | -8.19 | 113.61 | 117.70 |
| 26 | 1H | 1936 | A | N1-C6-N6 | 8.18 | 123.51 | 118.60 |
| 26 | 14 | 561 | G | O5'-P-OP1 | -8.18 | 98.33 | 105.70 |
| 26 | 14 | 700 | G | N9-C4-C5 | 8.18 | 108.67 | 105.40 |
| 1 | 13 | 1252 | A | N1-C6-N6 | -8.18 | 113.69 | 118.60 |
| 1 | 13 | 352 | C | N1-C2-N3 | -8.18 | 113.47 | 119.20 |
| 1 | 13 | 548 | G | C5-C6-O6 | -8.18 | 123.69 | 128.60 |
| 1 | 13 | 720 | C | N1-C2-O2 | 8.18 | 123.81 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 27 | 16 | 66 | A | C2-N3-C4 | 8.18 | 114.69 | 110.60 |
| 26 | 14 | 1279 | G | C5-C6-O6 | 8.18 | 133.51 | 128.60 |
| 1 | 13 | 853 | G | C5-C6-N1 | -8.18 | 107.41 | 111.50 |
| 26 | 14 | 1248 | G | O5'-P-OP2 | -8.18 | 98.34 | 105.70 |
| 26 | 14 | 2268 | A | C5-N7-C8 | -8.18 | 99.81 | 103.90 |
| 26 | 1H | 735 | A | C4-C5-C6 | 8.18 | 121.09 | 117.00 |
| 1 | 1G | 274 | A | N7-C8-N9 | -8.18 | 109.71 | 113.80 |
| 26 | 14 | 90 | U | C5-C4-O4 | -8.18 | 120.99 | 125.90 |
| 26 | 14 | 207 | A | O5'-P-OP2 | -8.18 | 98.34 | 105.70 |
| 30 | 29 | 36 | ARG | NE-CZ-NH2 | -8.18 | 116.21 | 120.30 |
| 26 | 1H | 345 | A | C8-N9-C4 | -8.18 | 102.53 | 105.80 |
| 26 | 14 | 1791 | A | OP1-P-OP2 | -8.18 | 107.33 | 119.60 |
| 1 | 13 | 1356 | G | C5-C6-N1 | -8.18 | 107.41 | 111.50 |
| 26 | 1H | 1438 | U | C5-C6-N1 | 8.18 | 126.79 | 122.70 |
| 26 | 1H | 1500 | G | C5-N7-C8 | -8.18 | 100.21 | 104.30 |
| 26 | 1H | 2432 | A | C5-C6-N1 | -8.18 | 113.61 | 117.70 |
| 26 | 1H | 1559 | G | C8-N9-C4 | 8.18 | 109.67 | 106.40 |
| 1 | 1G | 18 | C | C5-C6-N1 | 8.18 | 125.09 | 121.00 |
| 26 | 14 | 16 | G | C4-C5-C6 | 8.18 | 123.70 | 118.80 |
| 26 | 1H | 1223 | C | N1-C2-O2 | -8.17 | 114.00 | 118.90 |
| 26 | 1H | 1918 | A | N1-C2-N3 | -8.17 | 125.21 | 129.30 |
| 26 | 1H | 2421 | G | C8-N9-C4 | 8.17 | 109.67 | 106.40 |
| 26 | 14 | 2062 | A | C6-N1-C2 | 8.17 | 123.50 | 118.60 |
| 26 | 14 | 1143 | A | N1-C6-N6 | -8.17 | 113.70 | 118.60 |
| 26 | 1H | 1264 | G | N3-C4-N9 | -8.17 | 121.10 | 126.00 |
| 26 | 1H | 1359 | A | OP1-P-OP2 | 8.17 | 131.85 | 119.60 |
| 26 | 1H | 1467 | C | OP1-P-OP2 | -8.17 | 107.34 | 119.60 |
| 26 | 1H | 2590 | A | O5'-P-OP1 | 8.17 | 120.50 | 110.70 |
| 26 | 14 | 574 | C | C6-N1-C2 | 8.17 | 123.57 | 120.30 |
| 26 | 14 | 2775 | A | C2-N3-C4 | -8.17 | 106.52 | 110.60 |
| 1 | 13 | 769 | G | C2-N3-C4 | 8.17 | 115.98 | 111.90 |
| 26 | 1H | 768 | G | OP1-P-OP2 | 8.17 | 131.85 | 119.60 |
| 26 | 1H | 1153 | C | C6-N1-C2 | -8.17 | 117.03 | 120.30 |
| 26 | 1H | 1435 | G | C8-N9-C4 | -8.17 | 103.13 | 106.40 |
| 26 | 1H | 2762 | G | N1-C2-N2 | -8.17 | 108.85 | 116.20 |
| 56 | 1L | 37 | A | N1-C2-N3 | -8.17 | 125.22 | 129.30 |
| 26 | 1H | 2520 | C | OP1-P-OP2 | -8.17 | 107.35 | 119.60 |
| 1 | 1G | 6 | G | C5-C6-O6 | -8.17 | 123.70 | 128.60 |
| 26 | 14 | 1614 | A | C6-C5-N7 | -8.17 | 126.58 | 132.30 |
| 26 | 1H | 818 | G | N3-C2-N2 | -8.16 | 114.19 | 119.90 |
| 26 | 1H | 534 | U | N1-C2-O2 | -8.16 | 117.09 | 122.80 |
| 26 | 1H | 998 | C | N3-C2-O2 | -8.16 | 116.19 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2241 | A | C5-C6-N6 | 8.16 | 130.23 | 123.70 |
| 1 | 1G | 102 | G | C8-N9-C4 | -8.16 | 103.14 | 106.40 |
| 26 | 14 | 1359 | A | N7-C8-N9 | -8.16 | 109.72 | 113.80 |
| 26 | 14 | 2403 | C | O5'-P-OP1 | -8.16 | 98.35 | 105.70 |
| 26 | 1H | 144 | C | C2-N3-C4 | -8.16 | 115.82 | 119.90 |
| 26 | 1H | 456 | C | O5'-P-OP2 | -8.16 | 98.36 | 105.70 |
| 26 | 1H | 2418 | A | C8-N9-C4 | -8.16 | 102.54 | 105.80 |
| 26 | 1H | 2822 | G | C6-C5-N7 | -8.16 | 125.50 | 130.40 |
| 26 | 14 | 821 | A | O5'-P-OP1 | -8.16 | 98.36 | 105.70 |
| 26 | 14 | 1683 | C | N1-C2-O2 | -8.16 | 114.00 | 118.90 |
| 26 | 14 | 2391 | G | O5'-P-OP2 | -8.16 | 98.36 | 105.70 |
| 1 | 13 | 507 | C | C6-N1-C2 | -8.16 | 117.04 | 120.30 |
| 1 | 13 | 513 | C | C5-C6-N1 | 8.16 | 125.08 | 121.00 |
| 1 | 13 | 577 | G | N3-C4-C5 | 8.16 | 132.68 | 128.60 |
| 1 | 13 | 1301 | U | C2-N1-C1' | 8.16 | 127.49 | 117.70 |
| 26 | 1H | 920 | G | N3-C2-N2 | 8.16 | 125.61 | 119.90 |
| 27 | 16 | 19 | G | N1-C6-O6 | 8.16 | 124.80 | 119.90 |
| 1 | 1G | 893 | C | O5'-P-OP2 | -8.16 | 98.36 | 105.70 |
| 26 | 14 | 2865 | U | C6-N1-C2 | -8.16 | 116.11 | 121.00 |
| 26 | 1H | 1939 | U | C6-N1-C2 | 8.16 | 125.89 | 121.00 |
| 26 | 1H | 2845 | G | N3-C2-N2 | -8.16 | 114.19 | 119.90 |
| 1 | 13 | 1236 | A | N9-C4-C5 | -8.15 | 102.54 | 105.80 |
| 26 | 1H | 2019 | A | C4-C5-N7 | 8.15 | 114.78 | 110.70 |
| 26 | 1H | 2444 | G | N3-C4-C5 | -8.15 | 124.52 | 128.60 |
| 26 | 1H | 2606 | C | C5-C6-N1 | -8.15 | 116.92 | 121.00 |
| 1 | 13 | 897 | C | C6-N1-C2 | 8.15 | 123.56 | 120.30 |
| 26 | 1H | 1255 | U | N3-C4-O4 | 8.15 | 125.11 | 119.40 |
| 26 | 1H | 1566 | A | O5'-P-OP1 | 8.15 | 120.48 | 110.70 |
| 26 | 1H | 2041 | U | O5'-P-OP1 | -8.15 | 98.36 | 105.70 |
| 26 | 14 | 1614 | A | C5-C6-N1 | -8.15 | 113.62 | 117.70 |
| 1 | 13 | 1379 | G | C8-N9-C4 | 8.15 | 109.66 | 106.40 |
| 26 | 1H | 234 | C | O5'-P-OP2 | -8.15 | 98.36 | 105.70 |
| 26 | 1H | 422 | A | C5-C6-N1 | -8.15 | 113.62 | 117.70 |
| 26 | 1H | 439 | G | C4-C5-C6 | 8.15 | 123.69 | 118.80 |
| 26 | 14 | 694 | U | O5'-P-OP2 | -8.15 | 98.36 | 105.70 |
| 26 | 14 | 834 | C | C5-C6-N1 | -8.15 | 116.92 | 121.00 |
| 26 | 14 | 2632 | A | C8-N9-C4 | 8.15 | 109.06 | 105.80 |
| 26 | 1H | 6 | A | C8-N9-C4 | -8.15 | 102.54 | 105.80 |
| 26 | 1H | 1152 | C | N1-C2-O2 | -8.15 | 114.01 | 118.90 |
| 26 | 1H | 1398 | C | O5'-P-OP2 | 8.15 | 120.48 | 110.70 |
| 26 | 1H | 2042 | A | C2-N3-C4 | -8.15 | 106.53 | 110.60 |
| 26 | 14 | 218 | A | O5'-P-OP2 | -8.15 | 98.37 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 681 | G | C2-N3-C4 | -8.15 | 107.83 | 111.90 |
| 26 | 14 | 189 | G | N9-C4-C5 | -8.15 | 102.14 | 105.40 |
| 26 | 14 | 783 | A | C8-N9-C4 | -8.15 | 102.54 | 105.80 |
| 26 | 14 | 2424 | C | OP1-P-OP2 | 8.15 | 131.82 | 119.60 |
| 1 | 13 | 760 | G | C4-C5-N7 | 8.14 | 114.06 | 110.80 |
| 1 | 13 | 1233 | G | C5-C6-N1 | 8.14 | 115.57 | 111.50 |
| 23 | 2K | 28 | U | N3-C4-O4 | 8.14 | 125.10 | 119.40 |
| 26 | 1H | 711 | G | C8-N9-C4 | -8.14 | 103.14 | 106.40 |
| 26 | 1H | 348 | G | N1-C2-N3 | 8.14 | 128.79 | 123.90 |
| 26 | 1H | 680 | G | C2-N3-C4 | -8.14 | 107.83 | 111.90 |
| 26 | 1H | 2066 | C | N3-C2-O2 | -8.14 | 116.20 | 121.90 |
| 26 | 14 | 81 | G | N1-C6-O6 | 8.14 | 124.79 | 119.90 |
| 26 | 14 | 480 | A | N1-C6-N6 | -8.14 | 113.71 | 118.60 |
| 26 | 14 | 1358 | G | N1-C2-N3 | 8.14 | 128.79 | 123.90 |
| 26 | 14 | 1367 | A | C4-C5-N7 | 8.14 | 114.77 | 110.70 |
| 26 | 14 | 609 | A | C5-C6-N1 | 8.14 | 121.77 | 117.70 |
| 1 | 13 | 884 | U | N1-C2-N3 | -8.14 | 110.02 | 114.90 |
| 1 | 13 | 968 | A | N1-C6-N6 | 8.14 | 123.48 | 118.60 |
| 26 | 1H | 513 | A | N3-C4-C5 | -8.14 | 121.10 | 126.80 |
| 26 | 1H | 1660 | C | C6-N1-C2 | 8.14 | 123.56 | 120.30 |
| 26 | 14 | 101 | G | C2-N3-C4 | 8.14 | 115.97 | 111.90 |
| 26 | 14 | 236 | C | C5-C6-N1 | -8.14 | 116.93 | 121.00 |
| 26 | 14 | 676 | A | C8-N9-C4 | -8.14 | 102.54 | 105.80 |
| 26 | 1H | 16 | G | O5'-P-OP2 | -8.14 | 98.38 | 105.70 |
| 26 | 1H | 627 | A | N7-C8-N9 | -8.14 | 109.73 | 113.80 |
| 27 | 16 | 100 | G | C8-N9-C1' | -8.14 | 116.42 | 127.00 |
| 26 | 14 | 2433 | A | C2-N3-C4 | -8.14 | 106.53 | 110.60 |
| 26 | 14 | 2519 | U | OP1-P-OP2 | 8.14 | 131.81 | 119.60 |
| 26 | 14 | 2713 | A | N7-C8-N9 | 8.14 | 117.87 | 113.80 |
| 27 | 1J | 80 | U | C6-N1-C2 | -8.14 | 116.12 | 121.00 |
| 1 | 13 | 906 | G | N3-C2-N2 | -8.14 | 114.20 | 119.90 |
| 26 | 1H | 971 | C | C4-C5-C6 | 8.14 | 121.47 | 117.40 |
| 1 | 13 | 319 | G | C2-N3-C4 | -8.13 | 107.83 | 111.90 |
| 26 | 1H | 559 | G | C5-C6-N1 | -8.13 | 107.43 | 111.50 |
| 26 | 1H | 996 | A | O5'-P-OP1 | -8.13 | 98.38 | 105.70 |
| 26 | 1H | 1300 | U | C5-C6-N1 | -8.14 | 118.63 | 122.70 |
| 26 | 1H | 1366 | A | N1-C6-N6 | 8.13 | 123.48 | 118.60 |
| 26 | 1H | 2484 | G | N1-C6-O6 | 8.13 | 124.78 | 119.90 |
| 1 | 1G | 312 | C | N3-C4-C5 | -8.14 | 118.65 | 121.90 |
| 26 | 14 | 2267 | A | C5-N7-C8 | 8.14 | 107.97 | 103.90 |
| 1 | 1G | 902 | G | OP1-P-OP2 | -8.13 | 107.40 | 119.60 |
| 26 | 14 | 118 | A | O5'-P-OP1 | -8.13 | 98.38 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1428 | C | C5-C6-N1 | -8.14 | 116.93 | 121.00 |
| 26 | 14 | 2768 | C | N1-C2-O2 | -8.14 | 114.02 | 118.90 |
| 26 | 1H | 453 | C | N1-C2-O2 | -8.13 | 114.02 | 118.90 |
| 26 | 1H | 1202 | C | N3-C4-C5 | -8.13 | 118.65 | 121.90 |
| 26 | 1H | 1781 | C | C2-N3-C4 | 8.13 | 123.97 | 119.90 |
| 26 | 1H | 2275 | C | OP1-P-O3' | 8.13 | 123.09 | 105.20 |
| 27 | 16 | 31 | C | C5-C4-N4 | 8.13 | 125.89 | 120.20 |
| 1 | 1G | 180 | U | C6-N1-C2 | -8.13 | 116.12 | 121.00 |
| 23 | 2L | 13 | C | C6-N1-C2 | -8.13 | 117.05 | 120.30 |
| 26 | 14 | 251 | A | N1-C6-N6 | -8.13 | 113.72 | 118.60 |
| 26 | 14 | 525 | U | C6-N1-C2 | -8.13 | 116.12 | 121.00 |
| 26 | 14 | 2023 | G | C5-N7-C8 | -8.13 | 100.23 | 104.30 |
| 1 | 13 | 1435 | G | N1-C2-N3 | 8.13 | 128.78 | 123.90 |
| 1 | 13 | 1518 | A | O5'-P-OP2 | -8.13 | 98.39 | 105.70 |
| 26 | 1H | 640 | C | N1-C2-N3 | 8.13 | 124.89 | 119.20 |
| 1 | 1G | 1096 | C | N3-C2-O2 | -8.13 | 116.21 | 121.90 |
| 26 | 1H | 371 | A | C8-N9-C4 | -8.13 | 102.55 | 105.80 |
| 26 | 1H | 1222 | C | O5'-P-OP2 | 8.13 | 120.45 | 110.70 |
| 26 | 14 | 775 | G | N1-C2-N2 | -8.13 | 108.88 | 116.20 |
| 26 | 14 | 55 | G | C2-N3-C4 | 8.13 | 115.96 | 111.90 |
| 26 | 14 | 2728 | U | N3-C2-O2 | 8.13 | 127.89 | 122.20 |
| 1 | 13 | 551 | U | C5-C6-N1 | -8.12 | 118.64 | 122.70 |
| 25 | 4K | 14 | A | C2-N3-C4 | 8.13 | 114.66 | 110.60 |
| 26 | 1H | 2496 | C | N3-C4-C5 | 8.13 | 125.15 | 121.90 |
| 26 | 14 | 215 | G | N3-C4-N9 | 8.13 | 130.88 | 126.00 |
| 26 | 1H | 734 | A | C2-N3-C4 | -8.12 | 106.54 | 110.60 |
| 26 | 1H | 1701 | A | C2-N3-C4 | -8.12 | 106.54 | 110.60 |
| 26 | 1H | 2058 | A | N1-C6-N6 | 8.12 | 123.47 | 118.60 |
| 26 | 1H | 2550 | G | C2-N3-C4 | 8.12 | 115.96 | 111.90 |
| 26 | 14 | 388 | G | N3-C2-N2 | -8.12 | 114.21 | 119.90 |
| 26 | 14 | 613 | U | N1-C2-O2 | 8.12 | 128.49 | 122.80 |
| 26 | 14 | 1605 | C | N1-C2-N3 | 8.12 | 124.89 | 119.20 |
| 26 | 1H | 2530 | A | C4-C5-N7 | 8.12 | 114.76 | 110.70 |
| 26 | 14 | 271(A) | C | N3-C4-N4 | 8.12 | 123.69 | 118.00 |
| 26 | 14 | 1311 | G | N7-C8-N9 | -8.12 | 109.04 | 113.10 |
| 1 | 13 | 1515 | C | C6-N1-C2 | 8.12 | 123.55 | 120.30 |
| 26 | 1H | 798 | G | O5'-P-OP2 | 8.12 | 120.44 | 110.70 |
| 1 | 1G | 673 | G | N3-C4-C5 | 8.12 | 132.66 | 128.60 |
| 26 | 14 | 2546 | U | C5-C4-O4 | 8.12 | 130.77 | 125.90 |
| 1 | 13 | 1485 | U | C4-C5-C6 | 8.12 | 124.57 | 119.70 |
| 26 | 1H | 655 | A | C6-C5-N7 | -8.12 | 126.62 | 132.30 |
| 26 | 1H | 1126 | A | N1-C2-N3 | 8.12 | 133.36 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1980 | G | C2-N3-C4 | 8.12 | 115.96 | 111.90 |
| 1 | 1G | 155 | C | N1-C2-O2 | 8.12 | 123.77 | 118.90 |
| 26 | 14 | 327 | G | C2-N3-C4 | -8.12 | 107.84 | 111.90 |
| 26 | 14 | 1239 | G | C5-C6-N1 | -8.12 | 107.44 | 111.50 |
| 26 | 14 | 2009 | G | O5'-P-OP2 | -8.12 | 98.39 | 105.70 |
| 1 | 13 | 792 | A | C5-C6-N6 | -8.12 | 117.21 | 123.70 |
| 26 | 1H | 2458 | G | C6-N1-C2 | -8.12 | 120.23 | 125.10 |
| 1 | 1G | 938 | A | OP1-P-OP2 | -8.12 | 107.42 | 119.60 |
| 26 | 1H | 2586 | C | C6-N1-C2 | 8.12 | 123.55 | 120.30 |
| 26 | 1H | 2693 | A | C5-N7-C8 | 8.11 | 107.96 | 103.90 |
| 26 | 14 | 444 | C | C5-C6-N1 | -8.12 | 116.94 | 121.00 |
| 1 | 13 | 377 | G | O5'-P-OP2 | -8.11 | 98.40 | 105.70 |
| 22 | 1K | 64 | G | C2-N3-C4 | 8.11 | 115.96 | 111.90 |
| 26 | 1H | 196 | A | C4-C5-N7 | 8.11 | 114.76 | 110.70 |
| 26 | 1H | 1278 | A | C5-N7-C8 | 8.11 | 107.96 | 103.90 |
| 26 | 1H | 2291 | U | N1-C2-N3 | 8.11 | 119.77 | 114.90 |
| 26 | 1H | 2377 | A | N3-C4-C5 | 8.11 | 132.48 | 126.80 |
| 26 | 14 | 767 | U | N3-C2-O2 | -8.11 | 116.52 | 122.20 |
| 1 | 1G | 331 | G | C5-C6-N1 | -8.11 | 107.44 | 111.50 |
| 26 | 14 | 2600 | A | C4-C5-N7 | -8.11 | 106.64 | 110.70 |
| 42 | 85 | 28 | ARG | NE-CZ-NH1 | -8.11 | 116.24 | 120.30 |
| 1 | 13 | 880 | C | N1-C2-N3 | -8.11 | 113.52 | 119.20 |
| 26 | 1H | 785 | G | N3-C2-N2 | -8.11 | 114.22 | 119.90 |
| 26 | 1H | 1286 | A | C4-C5-N7 | -8.11 | 106.64 | 110.70 |
| 26 | 1H | 1895 | C | C5-C4-N4 | -8.11 | 114.52 | 120.20 |
| 26 | 1H | 2646 | C | O5'-P-OP1 | 8.11 | 120.43 | 110.70 |
| 26 | 1H | 541 | C | C4-C5-C6 | 8.11 | 121.45 | 117.40 |
| 1 | 13 | 798 | G | N7-C8-N9 | 8.11 | 117.15 | 113.10 |
| 1 | 13 | 966 | G | C2-N3-C4 | 8.11 | 115.95 | 111.90 |
| 26 | 1H | 2069 | G | C5-C6-O6 | -8.11 | 123.74 | 128.60 |
| 1 | 13 | 1401 | G | C2-N3-C4 | -8.11 | 107.85 | 111.90 |
| 26 | 1H | 2023 | G | N9-C4-C5 | 8.11 | 108.64 | 105.40 |
| 26 | 1H | 2464 | C | N3-C4-C5 | 8.11 | 125.14 | 121.90 |
| 1 | 1G | 342 | C | C6-N1-C2 | -8.11 | 117.06 | 120.30 |
| 1 | 1G | 980 | C | N3-C2-O2 | -8.11 | 116.23 | 121.90 |
| 57 | 3L | 76 | A | C6-C5-N7 | -8.11 | 126.63 | 132.30 |
| 1 | 13 | 428 | G | N3-C4-C5 | 8.10 | 132.65 | 128.60 |
| 1 | 13 | 1426 | C | N3-C4-N4 | 8.10 | 123.67 | 118.00 |
| 26 | 14 | 1960 | A | C8-N9-C4 | -8.10 | 102.56 | 105.80 |
| 1 | 13 | 726 | C | N1-C2-O2 | 8.10 | 123.76 | 118.90 |
| 26 | 1H | 939 | G | N1-C2-N3 | 8.10 | 128.76 | 123.90 |
| 26 | 1H | 1634 | A | N1-C2-N3 | 8.10 | 133.35 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2690 | C | C2-N3-C4 | -8.10 | 115.85 | 119.90 |
| 26 | 1H | 976 | C | N3-C4-C5 | -8.10 | 118.66 | 121.90 |
| 26 | 1H | 1428 | C | C4-C5-C6 | 8.10 | 121.45 | 117.40 |
| 26 | 1H | 1559 | G | O5'-P-OP1 | -8.10 | 98.41 | 105.70 |
| 26 | 14 | 2053 | G | C5-N7-C8 | 8.10 | 108.35 | 104.30 |
| 26 | 14 | 2428 | G | C5-C6-O6 | 8.10 | 133.46 | 128.60 |
| 26 | 14 | 2600 | A | OP2-P-O3' | 8.10 | 123.02 | 105.20 |
| 26 | 1H | 1004 | C | C6-N1-C2 | -8.10 | 117.06 | 120.30 |
| 1 | 13 | 391 | G | N1-C6-O6 | -8.10 | 115.04 | 119.90 |
| 26 | 1H | 783 | A | O4'-C1'-N9 | 8.10 | 114.68 | 108.20 |
| 26 | 1H | 923 | C | N3-C2-O2 | -8.10 | 116.23 | 121.90 |
| 26 | 14 | 16 | G | C5-C6-N1 | -8.10 | 107.45 | 111.50 |
| 26 | 1H | 1496 | A | C6-C5-N7 | -8.10 | 126.63 | 132.30 |
| 1 | 1G | 111 | G | C6-N1-C2 | 8.10 | 129.96 | 125.10 |
| 26 | 14 | 545 | G | N3-C4-C5 | -8.10 | 124.55 | 128.60 |
| 26 | 14 | 1934 | C | N1-C2-N3 | -8.10 | 113.53 | 119.20 |
| 26 | 14 | 2683 | C | C6-N1-C2 | -8.10 | 117.06 | 120.30 |
| 1 | 13 | 884 | U | C2-N3-C4 | 8.10 | 131.86 | 127.00 |
| 25 | 4K | 16 | A | N1-C6-N6 | 8.10 | 123.46 | 118.60 |
| 26 | 1H | 938 | G | N1-C6-O6 | -8.10 | 115.04 | 119.90 |
| 26 | 1H | 1200 | C | C5-C6-N1 | -8.10 | 116.95 | 121.00 |
| 26 | 1H | 1415 | U | N3-C4-O4 | -8.10 | 113.73 | 119.40 |
| 26 | 1H | 1992 | G | N3-C4-N9 | 8.10 | 130.86 | 126.00 |
| 26 | 1H | 2651 | C | C2-N3-C4 | -8.10 | 115.85 | 119.90 |
| 1 | 13 | 1523 | G | N7-C8-N9 | -8.09 | 109.05 | 113.10 |
| 26 | 1H | 380 | U | N3-C2-O2 | -8.09 | 116.53 | 122.20 |
| 26 | 1H | 1309 | G | C5-C6-O6 | -8.09 | 123.74 | 128.60 |
| 26 | 1H | 2495 | G | C5-C6-N1 | -8.09 | 107.45 | 111.50 |
| 26 | 1H | 2591 | C | N1-C2-O2 | -8.09 | 114.05 | 118.90 |
| 26 | 1H | 2614 | A | C2-N3-C4 | 8.09 | 114.65 | 110.60 |
| 26 | 1H | 2644 | G | C5-C6-N1 | -8.09 | 107.45 | 111.50 |
| 26 | 14 | 1350 | C | N3-C2-O2 | 8.09 | 127.56 | 121.90 |
| 26 | 14 | 1961 | C | C5-C6-N1 | -8.09 | 116.95 | 121.00 |
| 26 | 14 | 1972 | A | C2-N3-C4 | 8.09 | 114.65 | 110.60 |
| 1 | 13 | 569 | C | O5'-P-OP1 | -8.09 | 98.42 | 105.70 |
| 1 | 13 | 1227 | A | N7-C8-N9 | 8.09 | 117.84 | 113.80 |
| 26 | 1H | 1650 | G | N1-C6-O6 | 8.09 | 124.75 | 119.90 |
| 26 | 1H | 2741 | A | C8-N9-C4 | 8.09 | 109.04 | 105.80 |
| 26 | 14 | 2344 | U | N3-C2-O2 | -8.09 | 116.54 | 122.20 |
| 26 | 14 | 530 | G | C5-N7-C8 | -8.09 | 100.26 | 104.30 |
| 26 | 14 | 788 | A | C5-C6-N6 | -8.09 | 117.23 | 123.70 |
| 26 | 14 | 2550 | G | C5-C6-O6 | -8.09 | 123.75 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 25 | 4K | 16 | A | N7-C8-N9 | -8.09 | 109.76 | 113.80 |
| 26 | 1H | 272 | G | C2-N3-C4 | -8.09 | 107.86 | 111.90 |
| 26 | 1H | 1840 | G | N1-C6-O6 | 8.09 | 124.75 | 119.90 |
| 26 | 1H | 2262 | U | C4-C5-C6 | 8.09 | 124.55 | 119.70 |
| 26 | 14 | 2276 | G | OP1-P-OP2 | -8.09 | 107.47 | 119.60 |
| 26 | 1H | 779 | U | C2-N3-C4 | -8.09 | 122.15 | 127.00 |
| 26 | 1H | 839 | U | C5-C4-O4 | 8.09 | 130.75 | 125.90 |
| 26 | 1H | 1421 | G | N1-C6-O6 | 8.09 | 124.75 | 119.90 |
| 26 | 1H | 1649 | G | C6-C5-N7 | -8.09 | 125.55 | 130.40 |
| 26 | 1H | 2343 | C | C6-N1-C2 | 8.09 | 123.53 | 120.30 |
| 27 | 16 | 53 | A | C5-N7-C8 | -8.09 | 99.86 | 103.90 |
| 26 | 14 | 781 | A | C5-C6-N1 | 8.09 | 121.74 | 117.70 |
| 26 | 14 | 1899 | G | C5-N7-C8 | -8.09 | 100.26 | 104.30 |
| 26 | 14 | 2526 | G | C2-N3-C4 | -8.09 | 107.86 | 111.90 |
| 1 | 13 | 783 | C | N3-C4-C5 | 8.08 | 125.13 | 121.90 |
| 24 | 3K | 2 | G | N1-C6-O6 | 8.08 | 124.75 | 119.90 |
| 26 | 1H | 391 | G | C4-C5-C6 | 8.08 | 123.65 | 118.80 |
| 26 | 1H | 496 | G | C8-N9-C4 | 8.08 | 109.63 | 106.40 |
| 26 | 14 | 1209 | G | O5'-P-OP2 | -8.08 | 98.42 | 105.70 |
| 26 | 1H | 748 | G | C5-C6-N1 | 8.08 | 115.54 | 111.50 |
| 26 | 1H | 2068 | U | N1-C2-O2 | 8.08 | 128.46 | 122.80 |
| 26 | 14 | 56 | A | C2-N3-C4 | -8.08 | 106.56 | 110.60 |
| 26 | 14 | 516 | C | N3-C4-N4 | 8.08 | 123.66 | 118.00 |
| 26 | 14 | 383 | U | O5'-P-OP2 | 8.08 | 120.40 | 110.70 |
| 26 | 14 | 2339 | G | N1-C6-O6 | -8.08 | 115.05 | 119.90 |
| 1 | 13 | 1321 | C | C4-C5-C6 | 8.08 | 121.44 | 117.40 |
| 23 | 2K | 43 | G | C2-N3-C4 | -8.08 | 107.86 | 111.90 |
| 26 | 1H | 478 | A | C5-C6-N1 | 8.08 | 121.74 | 117.70 |
| 26 | 1H | 954 | G | N3-C4-C5 | -8.08 | 124.56 | 128.60 |
| 26 | 1H | 1555 | G | O5'-P-OP1 | -8.08 | 98.43 | 105.70 |
| 26 | 1H | 1696 | G | N1-C2-N3 | 8.08 | 128.75 | 123.90 |
| 26 | 1H | 1633 | G | C4-C5-N7 | -8.08 | 107.57 | 110.80 |
| 26 | 1H | 2604 | U | N1-C2-N3 | 8.08 | 119.75 | 114.90 |
| 26 | 14 | 2331 | G | OP1-P-OP2 | 8.08 | 131.72 | 119.60 |
| 23 | 2K | 2 | G | N9-C4-C5 | -8.08 | 102.17 | 105.40 |
| 26 | 1H | 574 | C | C5-C6-N1 | 8.08 | 125.04 | 121.00 |
| 26 | 1H | 1314 | C | N3-C4-C5 | 8.08 | 125.13 | 121.90 |
| 26 | 1H | 1398 | C | C5-C6-N1 | -8.08 | 116.96 | 121.00 |
| 1 | 1G | 1511 | G | C8-N9-C4 | -8.08 | 103.17 | 106.40 |
| 26 | 14 | 330 | A | N1-C2-N3 | 8.08 | 133.34 | 129.30 |
| 26 | 14 | 428 | A | C6-N1-C2 | -8.08 | 113.75 | 118.60 |
| 26 | 14 | 864 | G | OP1-P-OP2 | -8.08 | 107.49 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 945 | A | C4-C5-N7 | 8.07 | 114.74 | 110.70 |
| 26 | 1H | 1792 | G | O5'-P-OP1 | -8.07 | 98.43 | 105.70 |
| 26 | 1H | 2572 | A | N7-C8-N9 | -8.07 | 109.76 | 113.80 |
| 1 | 1G | 326 | G | C5-C6-O6 | 8.07 | 133.44 | 128.60 |
| 1 | 1G | 328 | C | C5-C4-N4 | 8.07 | 125.85 | 120.20 |
| 1 | 1G | 903 | G | N1-C2-N3 | 8.07 | 128.75 | 123.90 |
| 26 | 14 | 990 | A | O5'-P-OP1 | -8.07 | 98.43 | 105.70 |
| 26 | 14 | 1551 | C | C5-C6-N1 | -8.07 | 116.96 | 121.00 |
| 1 | 13 | 801 | U | C5-C4-O4 | 8.07 | 130.74 | 125.90 |
| 26 | 1H | 308 | G | C5-C6-N1 | 8.07 | 115.54 | 111.50 |
| 26 | 1H | 864 | G | C5-C6-N1 | 8.07 | 115.54 | 111.50 |
| 26 | 1H | 1184 | G | N1-C2-N2 | 8.07 | 123.47 | 116.20 |
| 26 | 1H | 1573 | G | OP2-P-O3' | 8.07 | 122.96 | 105.20 |
| 26 | 1H | 1734 | C | N3-C4-N4 | -8.07 | 112.35 | 118.00 |
| 23 | 2K | 62 | C | N3-C2-O2 | -8.07 | 116.25 | 121.90 |
| 26 | 1H | 2024 | G | N1-C2-N2 | 8.07 | 123.46 | 116.20 |
| 1 | 1G | 60 | A | C8-N9-C4 | 8.07 | 109.03 | 105.80 |
| 26 | 1H | 2645 | G | N3-C2-N2 | 8.07 | 125.55 | 119.90 |
| 1 | 1G | 159 | G | N1-C6-O6 | -8.07 | 115.06 | 119.90 |
| 1 | 1G | 266 | G | O5'-P-OP2 | -8.07 | 98.44 | 105.70 |
| 1 | 1G | 481 | G | N3-C4-C5 | -8.07 | 124.56 | 128.60 |
| 26 | 14 | 667 | U | N1-C2-O2 | -8.07 | 117.15 | 122.80 |
| 26 | 14 | 228 | A | C2-N3-C4 | -8.07 | 106.56 | 110.60 |
| 26 | 1H | 131 | G | C6-C5-N7 | -8.07 | 125.56 | 130.40 |
| 26 | 1H | 257 | A | C8-N9-C4 | -8.07 | 102.57 | 105.80 |
| 26 | 1H | 649 | G | C5-C6-O6 | -8.07 | 123.76 | 128.60 |
| 26 | 1H | 1386 | C | N3-C2-O2 | 8.07 | 127.55 | 121.90 |
| 26 | 1H | 250 | G | N7-C8-N9 | 8.07 | 117.13 | 113.10 |
| 26 | 1H | 1301 | A | OP1-P-OP2 | 8.07 | 131.70 | 119.60 |
| 26 | 1H | 2258 | C | OP1-P-O3' | 8.07 | 122.95 | 105.20 |
| 26 | 1H | 2501 | C | C2-N3-C4 | -8.07 | 115.87 | 119.90 |
| 26 | 14 | 2590 | A | O5'-P-OP2 | 8.07 | 120.38 | 110.70 |
| 26 | 14 | 1251 | C | N1-C2-O2 | -8.07 | 114.06 | 118.90 |
| 26 | 14 | 2489 | G | C4-C5-N7 | 8.07 | 114.03 | 110.80 |
| 26 | 14 | 2697 | G | N7-C8-N9 | -8.07 | 109.07 | 113.10 |
| 26 | 1H | 920 | G | C2-N3-C4 | -8.06 | 107.87 | 111.90 |
| 26 | 1H | 2264 | C | OP1-P-O3' | 8.06 | 122.94 | 105.20 |
| 26 | 14 | 1826 | G | N9-C4-C5 | 8.06 | 108.63 | 105.40 |
| 1 | 13 | 1260 | C | C5-C6-N1 | 8.06 | 125.03 | 121.00 |
| 26 | 1H | 1567 | A | OP1-P-O3' | 8.06 | 122.94 | 105.20 |
| 26 | 14 | 1332 | G | N3-C2-N2 | 8.06 | 125.55 | 119.90 |
| 26 | 14 | 609(A) | G | O5'-P-OP2 | -8.06 | 98.44 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1277 | G | C2-N3-C4 | -8.06 | 107.87 | 111.90 |
| 26 | 14 | 1374 | G | C6-C5-N7 | -8.06 | 125.56 | 130.40 |
| 26 | 14 | 1616 | A | O4'-C1'-N9 | 8.06 | 114.65 | 108.20 |
| 26 | 14 | 2275 | C | P-O3'-C3' | 8.06 | 129.38 | 119.70 |
| 1 | 13 | 1321 | C | C6-N1-C2 | -8.06 | 117.08 | 120.30 |
| 26 | 14 | 1653 | G | N3-C4-N9 | 8.06 | 130.84 | 126.00 |
| 26 | 1H | 218 | A | C5-C6-N1 | -8.06 | 113.67 | 117.70 |
| 26 | 1H | 945 | A | C4-N9-C1' | 8.06 | 140.81 | 126.30 |
| 26 | 1H | 1266 | G | N9-C4-C5 | -8.06 | 102.18 | 105.40 |
| 26 | 1H | 1428 | C | C2-N3-C4 | -8.06 | 115.87 | 119.90 |
| 26 | 1H | 1778 | U | OP2-P-O3' | 8.06 | 122.93 | 105.20 |
| 26 | 1H | 1905 | C | N3-C4-C5 | -8.06 | 118.68 | 121.90 |
| 26 | 1H | 1933 | G | N9-C4-C5 | 8.06 | 108.62 | 105.40 |
| 26 | 1H | 2205 | C | O5'-P-OP2 | -8.06 | 98.45 | 105.70 |
| 1 | 13 | 36 | C | C6-N1-C2 | -8.06 | 117.08 | 120.30 |
| 26 | 1H | 112 | U | N3-C2-O2 | 8.06 | 127.84 | 122.20 |
| 26 | 1H | 240 | G | O5'-P-OP1 | 8.06 | 120.37 | 110.70 |
| 26 | 1H | 1489 | U | N3-C2-O2 | -8.06 | 116.56 | 122.20 |
| 26 | 1H | 2079 | U | N3-C4-O4 | 8.06 | 125.04 | 119.40 |
| 26 | 1H | 2621 | A | OP1-P-OP2 | -8.06 | 107.51 | 119.60 |
| 26 | 14 | 667 | U | OP1-P-OP2 | -8.06 | 107.51 | 119.60 |
| 26 | 14 | 754 | C | C5-C6-N1 | 8.06 | 125.03 | 121.00 |
| 26 | 14 | 784 | A | C5-C6-N6 | 8.06 | 130.15 | 123.70 |
| 26 | 14 | 2002 | G | C4-C5-N7 | 8.06 | 114.02 | 110.80 |
| 26 | 14 | 2547 | U | N1-C2-O2 | -8.06 | 117.16 | 122.80 |
| 26 | 14 | 2585 | U | N1-C2-O2 | 8.06 | 128.44 | 122.80 |
| 1 | 13 | 1253 | G | C8-N9-C4 | 8.06 | 109.62 | 106.40 |
| 26 | 1H | 145 | G | C5-C6-N1 | -8.06 | 107.47 | 111.50 |
| 26 | 1H | 1158 | C | C5-C6-N1 | -8.06 | 116.97 | 121.00 |
| 26 | 1H | 1879 | C | N3-C2-O2 | -8.06 | 116.26 | 121.90 |
| 1 | 1G | 1200 | C | C6-N1-C2 | -8.06 | 117.08 | 120.30 |
| 1 | 13 | 533 | A | N7-C8-N9 | 8.05 | 117.83 | 113.80 |
| 26 | 1H | 574 | C | C5-C4-N4 | 8.05 | 125.84 | 120.20 |
| 26 | 14 | 140 | A | C6-N1-C2 | 8.05 | 123.43 | 118.60 |
| 26 | 1H | 802 | A | C5-C6-N1 | 8.05 | 121.73 | 117.70 |
| 26 | 1H | 1193 | G | O5'-P-OP1 | 8.05 | 120.36 | 110.70 |
| 26 | 1H | 1381 | G | OP1-P-OP2 | -8.05 | 107.52 | 119.60 |
| 26 | 1H | 1971 | A | N7-C8-N9 | -8.05 | 109.77 | 113.80 |
| 26 | 1H | 1620 | G | C5-C6-N1 | -8.05 | 107.47 | 111.50 |
| 26 | 1H | 2510 | C | C5-C4-N4 | 8.05 | 125.84 | 120.20 |
| 26 | 14 | 252 | G | C4-C5-N7 | -8.05 | 107.58 | 110.80 |
| 26 | 14 | 1963 | U | C5-C6-N1 | 8.05 | 126.73 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2444 | G | N3-C2-N2 | -8.05 | 114.26 | 119.90 |
| 26 | 14 | 2500 | U | N3-C4-O4 | -8.05 | 113.76 | 119.40 |
| 26 | 1H | 698 | C | N3-C4-N4 | 8.05 | 123.64 | 118.00 |
| 26 | 1H | 1681 | G | C5-N7-C8 | -8.05 | 100.27 | 104.30 |
| 26 | 1H | 2035 | G | O5'-P-OP2 | -8.05 | 98.45 | 105.70 |
| 26 | 1H | 2226 | C | C5-C6-N1 | -8.05 | 116.97 | 121.00 |
| 26 | 14 | 801 | G | C4-C5-N7 | -8.05 | 107.58 | 110.80 |
| 26 | 14 | 1027 | A | C5-C6-N6 | -8.05 | 117.26 | 123.70 |
| 26 | 1H | 239 | U | C5-C6-N1 | -8.05 | 118.68 | 122.70 |
| 1 | 13 | 60 | A | OP1-P-OP2 | -8.05 | 107.53 | 119.60 |
| 26 | 1H | 465 | G | OP1-P-OP2 | -8.05 | 107.53 | 119.60 |
| 26 | 1H | 975 | G | N1-C2-N2 | 8.05 | 123.44 | 116.20 |
| 26 | 1H | 1342 | A | C2-N3-C4 | -8.05 | 106.58 | 110.60 |
| 26 | 1H | 2469 | A | C5-C6-N6 | -8.05 | 117.26 | 123.70 |
| 1 | 1G | 50 | A | C4-C5-N7 | -8.05 | 106.67 | 110.70 |
| 27 | 16 | 16 | G | C5-N7-C8 | -8.05 | 100.28 | 104.30 |
| 27 | 16 | 76 | G | C4-C5-N7 | -8.05 | 107.58 | 110.80 |
| 26 | 14 | 409 | C | C5-C4-N4 | -8.05 | 114.57 | 120.20 |
| 26 | 14 | 1281 | G | C5-C6-O6 | -8.05 | 123.77 | 128.60 |
| 26 | 14 | 2290 | G | N1-C2-N2 | 8.05 | 123.44 | 116.20 |
| 26 | 14 | 2766 | G | C5-N7-C8 | -8.05 | 100.28 | 104.30 |
| 26 | 1H | 2506 | U | N3-C2-O2 | -8.05 | 116.57 | 122.20 |
| 26 | 14 | 1326 | U | C5-C4-O4 | 8.05 | 130.73 | 125.90 |
| 26 | 14 | 2711 | A | C2-N3-C4 | -8.05 | 106.58 | 110.60 |
| 26 | 1H | 406 | G | N9-C4-C5 | 8.04 | 108.62 | 105.40 |
| 26 | 1H | 662 | G | N3-C4-C5 | -8.04 | 124.58 | 128.60 |
| 26 | 1H | 1120 | G | C5-C6-N1 | -8.04 | 107.48 | 111.50 |
| 26 | 1H | 2510 | C | O5'-P-OP2 | -8.05 | 98.46 | 105.70 |
| 26 | 1H | 1599 | C | N3-C2-O2 | -8.04 | 116.27 | 121.90 |
| 1 | 1G | 27 | G | N3-C2-N2 | -8.04 | 114.27 | 119.90 |
| 27 | 1J | 56 | G | C5-C6-O6 | -8.04 | 123.77 | 128.60 |
| 1 | 13 | 633 | G | C4-C5-N7 | 8.04 | 114.02 | 110.80 |
| 26 | 1H | 2405 | G | OP1-P-OP2 | 8.04 | 131.66 | 119.60 |
| 26 | 14 | 2755 | C | N1-C2-O2 | 8.04 | 123.73 | 118.90 |
| 1 | 13 | 237 | C | N1-C2-N3 | 8.04 | 124.83 | 119.20 |
| 1 | 13 | 1419 | G | C5-C6-N1 | -8.04 | 107.48 | 111.50 |
| 26 | 1H | 961 | C | O4'-C1'-N1 | 8.04 | 114.63 | 108.20 |
| 26 | 1H | 974 | G | OP1-P-OP2 | 8.04 | 131.66 | 119.60 |
| 26 | 1H | 2737 | G | N9-C4-C5 | -8.04 | 102.18 | 105.40 |
| 1 | 1G | 970 | C | N1-C2-O2 | 8.04 | 123.73 | 118.90 |
| 26 | 14 | 1133 | U | C2-N3-C4 | -8.04 | 122.17 | 127.00 |
| 26 | 14 | 1970 | A | O4'-C1'-N9 | -8.04 | 101.77 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 27 | 16 | 101 | A | N7-C8-N9 | -8.04 | 109.78 | 113.80 |
| 26 | 14 | 48 | G | C8-N9-C4 | -8.04 | 103.18 | 106.40 |
| 26 | 14 | 707 | G | N3-C2-N2 | -8.04 | 114.27 | 119.90 |
| 26 | 14 | 1899 | G | C8-N9-C4 | -8.04 | 103.18 | 106.40 |
| 1 | 13 | 300 | A | C5-N7-C8 | -8.04 | 99.88 | 103.90 |
| 1 | 13 | 1434 | A | O5'-P-OP2 | -8.04 | 98.46 | 105.70 |
| 26 | 1H | 119 | A | N1-C6-N6 | -8.04 | 113.78 | 118.60 |
| 26 | 1H | 131 | G | N1-C6-O6 | 8.04 | 124.72 | 119.90 |
| 26 | 1H | 263 | C | OP1-P-OP2 | 8.04 | 131.66 | 119.60 |
| 26 | 1H | 1769 | G | C8-N9-C4 | -8.04 | 103.18 | 106.40 |
| 26 | 1H | 1852 | C | N1-C2-O2 | -8.04 | 114.08 | 118.90 |
| 26 | 1H | 2252 | G | O5'-P-OP1 | -8.04 | 98.46 | 105.70 |
| 26 | 1H | 248 | G | C6-N1-C2 | -8.04 | 120.28 | 125.10 |
| 26 | 1H | 1180 | C | C6-N1-C2 | 8.04 | 123.52 | 120.30 |
| 26 | 1H | 2528 | U | C4-C5-C6 | 8.04 | 124.52 | 119.70 |
| 1 | 1G | 292 | G | OP1-P-OP2 | 8.04 | 131.66 | 119.60 |
| 26 | 14 | 1995 | U | N3-C4-C5 | -8.04 | 109.78 | 114.60 |
| 26 | 14 | 862 | G | C8-N9-C4 | -8.04 | 103.19 | 106.40 |
| 26 | 14 | 1412 | A | C2-N3-C4 | 8.04 | 114.62 | 110.60 |
| 26 | 14 | 2071 | A | C5-C6-N1 | 8.04 | 121.72 | 117.70 |
| 26 | 14 | 1558 | A | N1-C2-N3 | 8.04 | 133.32 | 129.30 |
| 26 | 1H | 505 | A | C4-C5-N7 | 8.04 | 114.72 | 110.70 |
| 26 | 1H | 1445 | C | C6-N1-C2 | -8.04 | 117.09 | 120.30 |
| 26 | 1H | 2878 | U | C6-N1-C2 | -8.04 | 116.18 | 121.00 |
| 1 | 1G | 890 | G | N1-C6-O6 | -8.04 | 115.08 | 119.90 |
| 26 | 1H | 1271 | G | C4-C5-N7 | -8.03 | 107.59 | 110.80 |
| 26 | 14 | 793 | A | N9-C4-C5 | -8.04 | 102.59 | 105.80 |
| 26 | 14 | 1939 | U | N1-C2-O2 | -8.04 | 117.17 | 122.80 |
| 26 | 14 | 2004 | G | N1-C6-O6 | 8.04 | 124.72 | 119.90 |
| 26 | 14 | 2409 | G | C5-C6-O6 | -8.04 | 123.78 | 128.60 |
| 1 | 13 | 320 | C | C6-N1-C2 | 8.03 | 123.51 | 120.30 |
| 1 | 13 | 346 | G | C6-C5-N7 | -8.03 | 125.58 | 130.40 |
| 26 | 1H | 110 | G | OP1-P-OP2 | 8.03 | 131.65 | 119.60 |
| 26 | 1H | 1376 | C | C6-N1-C2 | -8.03 | 117.09 | 120.30 |
| 26 | 1H | 2001 | A | N7-C8-N9 | 8.03 | 117.82 | 113.80 |
| 1 | 1G | 1313 | U | C5-C6-N1 | 8.03 | 126.72 | 122.70 |
| 26 | 14 | 1164 | G | N3-C4-C5 | 8.03 | 132.62 | 128.60 |
| 26 | 14 | 1943 | U | N3-C4-O4 | 8.03 | 125.02 | 119.40 |
| 26 | 14 | 2067 | G | O5'-P-OP2 | 8.03 | 120.34 | 110.70 |
| 26 | 14 | 2829 | C | C4-C5-C6 | -8.03 | 113.38 | 117.40 |
| 27 | 1J | 37 | C | C6-N1-C2 | -8.03 | 117.09 | 120.30 |
| 26 | 1H | 796 | C | C2-N3-C4 | -8.03 | 115.89 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1762 | A | N9-C4-C5 | -8.03 | 102.59 | 105.80 |
| 26 | 14 | 115 | C | N3-C4-C5 | 8.03 | 125.11 | 121.90 |
| 26 | 14 | 399 | G | C8-N9-C4 | 8.03 | 109.61 | 106.40 |
| 26 | 14 | 1602 | U | N1-C2-N3 | 8.03 | 119.72 | 114.90 |
| 26 | 14 | 2265 | U | C6-N1-C2 | -8.03 | 116.18 | 121.00 |
| 26 | 14 | 2346 | A | O5'-P-OP1 | -8.03 | 98.47 | 105.70 |
| 26 | 14 | 2405 | G | C8-N9-C4 | -8.03 | 103.19 | 106.40 |
| 26 | 1H | 838 | C | N1-C2-O2 | -8.03 | 114.08 | 118.90 |
| 26 | 1H | 2281 | C | OP2-P-O3' | 8.03 | 122.86 | 105.20 |
| 26 | 14 | 2413 | G | C5-C6-O6 | -8.03 | 123.78 | 128.60 |
| 1 | 13 | 585 | G | O5'-P-OP2 | -8.03 | 98.48 | 105.70 |
| 1 | 13 | 948 | C | OP1-P-O3' | 8.03 | 122.85 | 105.20 |
| 26 | 14 | 204 | A | N1-C6-N6 | 8.03 | 123.42 | 118.60 |
| 26 | 14 | 573 | G | N3-C4-C5 | -8.03 | 124.59 | 128.60 |
| 26 | 14 | 831 | G | N3-C2-N2 | 8.03 | 125.52 | 119.90 |
| 1 | 13 | 492 | G | C5-C6-N1 | -8.02 | 107.49 | 111.50 |
| 26 | 1H | 2297 | C | O5'-P-OP2 | -8.02 | 98.48 | 105.70 |
| 26 | 1H | 2299 | G | C5-C6-N1 | -8.02 | 107.49 | 111.50 |
| 26 | 1H | 2374 | C | N1-C2-O2 | 8.02 | 123.71 | 118.90 |
| 26 | 14 | 561 | G | N7-C8-N9 | 8.02 | 117.11 | 113.10 |
| 26 | 14 | 2441 | C | O5'-P-OP1 | -8.02 | 98.48 | 105.70 |
| 26 | 1H | 1224 | G | C4-N9-C1' | -8.02 | 116.07 | 126.50 |
| 26 | 1H | 1294 | U | C5-C6-N1 | -8.02 | 118.69 | 122.70 |
| 26 | 1H | 1671 | U | N1-C2-O2 | -8.02 | 117.18 | 122.80 |
| 1 | 1G | 1431 | C | C6-N1-C2 | -8.02 | 117.09 | 120.30 |
| 1 | 1G | 576 | G | C4-C5-C6 | 8.02 | 123.61 | 118.80 |
| 26 | 14 | 124 | G | C4-C5-N7 | -8.02 | 107.59 | 110.80 |
| 26 | 14 | 746 | A | N1-C2-N3 | 8.02 | 133.31 | 129.30 |
| 26 | 14 | 2416 | C | N3-C4-C5 | 8.02 | 125.11 | 121.90 |
| 1 | 13 | 1096 | C | C6-N1-C2 | -8.02 | 117.09 | 120.30 |
| 26 | 1H | 92 | G | N1-C6-O6 | 8.02 | 124.71 | 119.90 |
| 26 | 1H | 966 | G | N1-C2-N2 | -8.02 | 108.98 | 116.20 |
| 26 | 1H | 1683 | C | N3-C2-O2 | -8.02 | 116.29 | 121.90 |
| 26 | 1H | 2572 | A | C2-N3-C4 | -8.02 | 106.59 | 110.60 |
| 26 | 14 | 832 | G | N1-C6-O6 | -8.02 | 115.09 | 119.90 |
| 26 | 14 | 1960 | A | N1-C2-N3 | 8.02 | 133.31 | 129.30 |
| 26 | 14 | 2620 | C | N1-C2-O2 | -8.02 | 114.09 | 118.90 |
| 26 | 1H | 584 | C | N3-C4-N4 | 8.02 | 123.61 | 118.00 |
| 26 | 1H | 637 | A | C5-C6-N1 | -8.02 | 113.69 | 117.70 |
| 26 | 1H | 989 | G | C2-N3-C4 | -8.02 | 107.89 | 111.90 |
| 26 | 1H | 989 | G | N1-C2-N3 | 8.02 | 128.71 | 123.90 |
| 26 | 1H | 1346 | G | C5-N7-C8 | 8.02 | 108.31 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2291 | U | C4-C5-C6 | 8.02 | 124.51 | 119.70 |
| 26 | 14 | 329 | G | OP1-P-OP2 | 8.02 | 131.63 | 119.60 |
| 26 | 1H | 2494 | G | N3-C4-N9 | -8.02 | 121.19 | 126.00 |
| 26 | 1H | 2707 | G | N1-C6-O6 | 8.02 | 124.71 | 119.90 |
| 26 | 14 | 456 | C | C5-C6-N1 | -8.02 | 116.99 | 121.00 |
| 26 | 14 | 1289 | C | N1-C2-O2 | -8.02 | 114.09 | 118.90 |
| 26 | 14 | 2409 | G | N1-C6-O6 | 8.02 | 124.71 | 119.90 |
| 26 | 1H | 115 | C | C5-C6-N1 | -8.01 | 116.99 | 121.00 |
| 26 | 1H | 762 | U | C5-C4-O4 | -8.01 | 121.09 | 125.90 |
| 26 | 1H | 859 | G | C4-N9-C1' | -8.01 | 116.08 | 126.50 |
| 26 | 1H | 1888 | G | C2-N3-C4 | 8.01 | 115.91 | 111.90 |
| 1 | 1G | 925 | G | C5-C6-N1 | -8.01 | 107.49 | 111.50 |
| 26 | 14 | 2439 | A | P-O3'-C3' | 8.01 | 129.32 | 119.70 |
| 26 | 14 | 34 | C | C2-N1-C1' | 8.01 | 127.61 | 118.80 |
| 38 | 45 | 83 | MET | CB-CG-SD | 8.01 | 136.44 | 112.40 |
| 1 | 13 | 889 | A | O5'-P-OP1 | -8.01 | 98.49 | 105.70 |
| 26 | 1H | 754 | C | C2-N3-C4 | -8.01 | 115.89 | 119.90 |
| 1 | 1G | 536 | C | C6-N1-C2 | -8.01 | 117.09 | 120.30 |
| 26 | 14 | 674 | G | O5'-P-OP2 | 8.01 | 120.31 | 110.70 |
| 26 | 14 | 911 | A | N9-C4-C5 | 8.01 | 109.00 | 105.80 |
| 26 | 14 | 2701 | C | N3-C2-O2 | -8.01 | 116.29 | 121.90 |
| 26 | 1H | 835 | A | C5-C6-N1 | 8.01 | 121.70 | 117.70 |
| 26 | 1H | 1646 | C | O5'-P-OP1 | -8.01 | 98.49 | 105.70 |
| 26 | 1H | 2076 | U | C5-C6-N1 | -8.01 | 118.69 | 122.70 |
| 1 | 13 | 698 | G | N7-C8-N9 | 8.01 | 117.10 | 113.10 |
| 26 | 1H | 607 | U | C5-C4-O4 | 8.01 | 130.71 | 125.90 |
| 26 | 1H | 2530 | A | N9-C4-C5 | -8.01 | 102.60 | 105.80 |
| 1 | 13 | 1313 | U | C6-N1-C2 | -8.01 | 116.20 | 121.00 |
| 26 | 1H | 258 | G | N7-C8-N9 | -8.01 | 109.10 | 113.10 |
| 26 | 1H | 508 | G | C2-N3-C4 | 8.01 | 115.90 | 111.90 |
| 26 | 1H | 646 | A | C8-N9-C4 | -8.01 | 102.60 | 105.80 |
| 26 | 1H | 774 | A | C8-N9-C4 | -8.01 | 102.60 | 105.80 |
| 26 | 1H | 2730 | C | O5'-P-OP1 | -8.01 | 98.49 | 105.70 |
| 26 | 14 | 1405 | U | OP1-P-OP2 | 8.01 | 131.61 | 119.60 |
| 26 | 1H | 962 | G | N3-C2-N2 | 8.01 | 125.50 | 119.90 |
| 26 | 1H | 1014 | U | N3-C2-O2 | 8.01 | 127.80 | 122.20 |
| 26 | 1H | 1453 | A | N1-C6-N6 | 8.01 | 123.40 | 118.60 |
| 26 | 1H | 1979 | C | N3-C4-C5 | -8.01 | 118.70 | 121.90 |
| 1 | 1G | 1394 | A | C8-N9-C4 | -8.01 | 102.60 | 105.80 |
| 26 | 14 | 348 | G | N7-C8-N9 | -8.01 | 109.10 | 113.10 |
| 26 | 14 | 1348 | G | N9-C4-C5 | -8.01 | 102.20 | 105.40 |
| 26 | 14 | 2838 | G | N1-C6-O6 | 8.01 | 124.70 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1299 | A | N1-C6-N6 | 8.00 | 123.40 | 118.60 |
| 1 | 13 | 1401 | G | N3-C4-N9 | -8.00 | 121.20 | 126.00 |
| 26 | 1H | 793 | A | N1-C2-N3 | 8.00 | 133.30 | 129.30 |
| 26 | 1H | 919 | G | N3-C4-C5 | -8.00 | 124.60 | 128.60 |
| 27 | 16 | 23 | G | N3-C4-C5 | 8.00 | 132.60 | 128.60 |
| 1 | 1G | 978 | A | C8-N9-C4 | -8.00 | 102.60 | 105.80 |
| 1 | 1G | 1353 | G | N1-C6-O6 | -8.00 | 115.10 | 119.90 |
| 26 | 14 | 1899 | G | C5-C6-N1 | -8.00 | 107.50 | 111.50 |
| 26 | 14 | 1958 | C | N3-C2-O2 | 8.00 | 127.50 | 121.90 |
| 1 | 13 | 185 | A | C8-N9-C4 | -8.00 | 102.60 | 105.80 |
| 1 | 13 | 1183 | A | C8-N9-C4 | 8.00 | 109.00 | 105.80 |
| 26 | 1H | 194 | G | N7-C8-N9 | -8.00 | 109.10 | 113.10 |
| 26 | 1H | 1005 | C | C2-N3-C4 | -8.00 | 115.90 | 119.90 |
| 26 | 1H | 1680 | U | C6-N1-C2 | 8.00 | 125.80 | 121.00 |
| 26 | 14 | 966 | G | N1-C6-O6 | -8.00 | 115.10 | 119.90 |
| 1 | 13 | 1048 | G | N1-C6-O6 | 8.00 | 124.70 | 119.90 |
| 1 | 13 | 1529 | G | N3-C2-N2 | -8.00 | 114.30 | 119.90 |
| 26 | 1H | 303 | U | N3-C2-O2 | -8.00 | 116.60 | 122.20 |
| 26 | 1H | 2491 | U | C6-N1-C2 | 8.00 | 125.80 | 121.00 |
| 1 | 1G | 887 | G | C4-C5-N7 | 8.00 | 114.00 | 110.80 |
| 26 | 14 | 2005 | A | C4-C5-N7 | -8.00 | 106.70 | 110.70 |
| 26 | 14 | 2062 | A | N1-C2-N3 | -8.00 | 125.30 | 129.30 |
| 26 | 1H | 952 | G | C5-N7-C8 | -8.00 | 100.30 | 104.30 |
| 1 | 13 | 810 | C | O5'-P-OP1 | -8.00 | 98.50 | 105.70 |
| 26 | 1H | 839 | U | N1-C2-N3 | 8.00 | 119.70 | 114.90 |
| 26 | 1H | 2318 | G | N7-C8-N9 | 8.00 | 117.10 | 113.10 |
| 1 | 13 | 102 | G | C2-N3-C4 | 7.99 | 115.90 | 111.90 |
| 1 | 13 | 295 | C | O5'-P-OP2 | -7.99 | 98.51 | 105.70 |
| 26 | 1H | 325 | G | C5-C6-O6 | 7.99 | 133.40 | 128.60 |
| 26 | 1H | 1029 | A | N9-C4-C5 | -7.99 | 102.60 | 105.80 |
| 26 | 1H | 1161 | C | N3-C4-N4 | 7.99 | 123.59 | 118.00 |
| 26 | 1H | 1549 | C | O5'-P-OP2 | 7.99 | 120.29 | 110.70 |
| 26 | 1H | 2598 | A | N9-C4-C5 | -7.99 | 102.60 | 105.80 |
| 26 | 14 | 2374 | C | OP1-P-OP2 | 7.99 | 131.59 | 119.60 |
| 26 | 14 | 2490 | G | N1-C2-N3 | -7.99 | 119.10 | 123.90 |
| 1 | 1G | 688 | G | N1-C6-O6 | -7.99 | 115.11 | 119.90 |
| 26 | 1H | 74 | A | C4-C5-C6 | 7.99 | 121.00 | 117.00 |
| 26 | 1H | 2238 | G | OP1-P-OP2 | 7.99 | 131.59 | 119.60 |
| 1 | 1G | 623 | C | C5-C6-N1 | 7.99 | 125.00 | 121.00 |
| 26 | 14 | 530 | G | C5-C6-O6 | -7.99 | 123.81 | 128.60 |
| 26 | 14 | 1450 | C | N3-C4-C5 | -7.99 | 118.70 | 121.90 |
| 26 | 14 | 2338 | G | OP1-P-OP2 | 7.99 | 131.59 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 231 | G | C8-N9-C4 | -7.99 | 103.20 | 106.40 |
| 1 | 13 | 741 | G | C2-N3-C4 | -7.99 | 107.91 | 111.90 |
| 26 | 1H | 214 | G | C8-N9-C4 | -7.99 | 103.20 | 106.40 |
| 26 | 1H | 701 | G | C5-C6-O6 | 7.99 | 133.39 | 128.60 |
| 26 | 1H | 1905 | C | N1-C2-O2 | -7.99 | 114.11 | 118.90 |
| 1 | 1G | 264 | U | C5-C4-O4 | -7.99 | 121.11 | 125.90 |
| 26 | 14 | 1376 | C | C6-N1-C2 | -7.99 | 117.11 | 120.30 |
| 26 | 1H | 1423 | G | N1-C6-O6 | -7.99 | 115.11 | 119.90 |
| 26 | 1H | 2024 | G | C2-N3-C4 | 7.99 | 115.89 | 111.90 |
| 26 | 14 | 2428 | G | C4-C5-N7 | -7.99 | 107.61 | 110.80 |
| 1 | 13 | 633 | G | N1-C6-O6 | 7.99 | 124.69 | 119.90 |
| 23 | 2K | 6 | G | N1-C6-O6 | 7.99 | 124.69 | 119.90 |
| 26 | 1H | 729 | G | N3-C4-N9 | 7.99 | 130.79 | 126.00 |
| 26 | 1H | 753 | C | N1-C2-O2 | 7.99 | 123.69 | 118.90 |
| 26 | 1H | 1231 | G | N3-C2-N2 | -7.99 | 114.31 | 119.90 |
| 26 | 1H | 2033 | A | C6-N1-C2 | -7.99 | 113.81 | 118.60 |
| 1 | 1G | 47 | C | C6-N1-C2 | -7.99 | 117.11 | 120.30 |
| 26 | 14 | 254 | G | OP1-P-OP2 | 7.99 | 131.58 | 119.60 |
| 26 | 14 | 762 | U | C5-C4-O4 | -7.99 | 121.11 | 125.90 |
| 26 | 14 | 830 | G | C5-C6-O6 | -7.99 | 123.81 | 128.60 |
| 26 | 14 | 2074 | U | N1-C2-N3 | 7.99 | 119.69 | 114.90 |
| 26 | 14 | 2597 | G | N3-C2-N2 | 7.99 | 125.49 | 119.90 |
| 1 | 13 | 386 | C | C5-C6-N1 | -7.98 | 117.01 | 121.00 |
| 26 | 14 | 2087 | G | O5'-P-OP2 | -7.98 | 98.51 | 105.70 |
| 1 | 13 | 492 | G | C6-C5-N7 | -7.98 | 125.61 | 130.40 |
| 1 | 13 | 518 | C | N3-C4-N4 | 7.98 | 123.59 | 118.00 |
| 26 | 1H | 20 | C | N1-C2-N3 | 7.98 | 124.79 | 119.20 |
| 26 | 1H | 141 | A | O5'-P-OP2 | -7.98 | 98.52 | 105.70 |
| 26 | 1H | 1666 | G | C5-C6-O6 | 7.98 | 133.39 | 128.60 |
| 25 | 4K | 9 | G | N3-C4-N9 | 7.98 | 130.79 | 126.00 |
| 26 | 1H | 143 | C | OP2-P-O3' | 7.98 | 122.76 | 105.20 |
| 26 | 1H | 226 | G | OP1-P-O3' | 7.98 | 122.76 | 105.20 |
| 26 | 14 | 952 | G | O5'-P-OP2 | 7.98 | 120.28 | 110.70 |
| 26 | 1H | 2296 | U | N1-C2-O2 | -7.98 | 117.22 | 122.80 |
| 26 | 1H | 2672 | G | O5'-P-OP1 | 7.98 | 120.28 | 110.70 |
| 26 | 14 | 380 | U | N1-C2-N3 | 7.98 | 119.69 | 114.90 |
| 1 | 13 | 892 | A | C6-C5-N7 | -7.98 | 126.72 | 132.30 |
| 26 | 1H | 533 | G | N1-C2-N2 | -7.98 | 109.02 | 116.20 |
| 26 | 1H | 1643 | G | C5-C6-O6 | 7.98 | 133.39 | 128.60 |
| 26 | 1H | 1698 | A | C4-C5-C6 | 7.98 | 120.99 | 117.00 |
| 26 | 1H | 109 | G | N1-C6-O6 | -7.98 | 115.11 | 119.90 |
| 26 | 1H | 868 | U | C4-C5-C6 | 7.98 | 124.49 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2626 | C | C6-N1-C2 | 7.98 | 123.49 | 120.30 |
| 26 | 1H | 2312 | U | N3-C4-O4 | 7.97 | 124.98 | 119.40 |
| 1 | 1G | 64 | G | OP1-P-OP2 | -7.97 | 107.64 | 119.60 |
| 26 | 14 | 1239 | G | N3-C2-N2 | -7.97 | 114.32 | 119.90 |
| 1 | 13 | 1512 | U | C5-C4-O4 | 7.97 | 130.68 | 125.90 |
| 26 | 1H | 2623 | G | C8-N9-C4 | -7.97 | 103.21 | 106.40 |
| 26 | 14 | 252 | G | C5-C6-O6 | 7.97 | 133.38 | 128.60 |
| 26 | 14 | 1634 | A | N1-C6-N6 | -7.97 | 113.82 | 118.60 |
| 26 | 14 | 1661 | G | N9-C4-C5 | -7.97 | 102.21 | 105.40 |
| 26 | 14 | 2276 | G | C5-C6-N1 | -7.97 | 107.51 | 111.50 |
| 26 | 14 | 2835 | A | C5-C6-N1 | 7.97 | 121.69 | 117.70 |
| 1 | 13 | 577 | G | C5-C6-N1 | -7.97 | 107.51 | 111.50 |
| 26 | 1H | 741 | G | C5-C6-O6 | -7.97 | 123.82 | 128.60 |
| 26 | 1H | 1602 | U | C5-C6-N1 | -7.97 | 118.72 | 122.70 |
| 26 | 1H | 1625 | C | C5-C6-N1 | -7.97 | 117.01 | 121.00 |
| 26 | 14 | 1343 | G | N1-C6-O6 | 7.97 | 124.68 | 119.90 |
| 26 | 14 | 1525 | G | O5'-P-OP1 | -7.97 | 98.53 | 105.70 |
| 1 | 13 | 738 | C | C5-C6-N1 | 7.97 | 124.98 | 121.00 |
| 23 | 2K | 41 | C | N1-C2-O2 | 7.97 | 123.68 | 118.90 |
| 27 | 16 | 96 | G | N1-C2-N3 | -7.97 | 119.12 | 123.90 |
| 26 | 14 | 469 | G | C2-N3-C4 | 7.97 | 115.88 | 111.90 |
| 26 | 14 | 702 | G | C5-C6-N1 | -7.97 | 107.52 | 111.50 |
| 1 | 13 | 398 | C | N3-C2-O2 | -7.97 | 116.32 | 121.90 |
| 26 | 1H | 130 | C | N3-C4-C5 | 7.97 | 125.09 | 121.90 |
| 26 | 14 | 376 | C | N3-C4-C5 | -7.97 | 118.71 | 121.90 |
| 26 | 14 | 424 | G | OP1-P-OP2 | -7.97 | 107.65 | 119.60 |
| 26 | 14 | 805 | G | N3-C4-N9 | 7.97 | 130.78 | 126.00 |
| 26 | 14 | 2418 | A | O5'-P-OP1 | 7.97 | 120.26 | 110.70 |
| 26 | 1H | 205 | G | N7-C8-N9 | -7.97 | 109.12 | 113.10 |
| 26 | 1H | 2556 | C | O5'-P-OP1 | 7.97 | 120.26 | 110.70 |
| 1 | 1G | 882 | C | O5'-P-OP1 | -7.97 | 98.53 | 105.70 |
| 26 | 14 | 776 | G | O4'-C1'-N9 | -7.97 | 101.83 | 108.20 |
| 26 | 14 | 1554 | A | C5-N7-C8 | -7.97 | 99.92 | 103.90 |
| 26 | 14 | 1918 | A | OP1-P-OP2 | -7.97 | 107.65 | 119.60 |
| 26 | 1H | 1282 | U | C5-C4-O4 | -7.96 | 121.12 | 125.90 |
| 26 | 1H | 639 | U | O5'-P-OP2 | -7.96 | 98.53 | 105.70 |
| 26 | 1H | 1031 | G | N1-C2-N2 | -7.96 | 109.03 | 116.20 |
| 26 | 1H | 1516 | U | N1-C2-O2 | 7.96 | 128.37 | 122.80 |
| 26 | 1H | 2605 | U | C5-C4-O4 | 7.96 | 130.68 | 125.90 |
| 26 | 14 | 1349 | A | C5-N7-C8 | -7.96 | 99.92 | 103.90 |
| 26 | 14 | 2277 | G | C5-C6-O6 | 7.96 | 133.38 | 128.60 |
| 26 | 14 | 2878 | U | N3-C4-C5 | -7.96 | 109.82 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 23 | 2K | 28 | U | N3-C2-O2 | 7.96 | 127.77 | 122.20 |
| 26 | 1H | 1156 | A | N7-C8-N9 | 7.96 | 117.78 | 113.80 |
| 26 | 14 | 2045 | C | C2-N3-C4 | -7.96 | 115.92 | 119.90 |
| 1 | 13 | 1504 | G | N1-C2-N3 | 7.96 | 128.68 | 123.90 |
| 26 | 1H | 410 | G | O5'-P-OP2 | 7.96 | 120.25 | 110.70 |
| 26 | 1H | 1815 | A | N1-C2-N3 | 7.96 | 133.28 | 129.30 |
| 1 | 1G | 306 | G | N3-C4-N9 | -7.96 | 121.22 | 126.00 |
| 26 | 14 | 669 | G | C8-N9-C4 | -7.96 | 103.22 | 106.40 |
| 26 | 1H | 655 | A | C5-C6-N1 | -7.96 | 113.72 | 117.70 |
| 26 | 1H | 1373 | A | C5-C6-N1 | 7.96 | 121.68 | 117.70 |
| 26 | 1H | 2603 | G | O5'-P-OP2 | 7.96 | 120.25 | 110.70 |
| 1 | 1G | 53 | A | C5-N7-C8 | -7.96 | 99.92 | 103.90 |
| 26 | 14 | 2392 | A | O5'-P-OP2 | 7.96 | 120.25 | 110.70 |
| 26 | 1H | 539 | G | O5'-P-OP1 | -7.96 | 98.54 | 105.70 |
| 26 | 1H | 1435 | G | N1-C6-O6 | -7.96 | 115.13 | 119.90 |
| 27 | 16 | 16 | G | C4-C5-N7 | 7.96 | 113.98 | 110.80 |
| 26 | 1H | 625 | G | N3-C4-N9 | 7.95 | 130.77 | 126.00 |
| 26 | 1H | 638 | G | N1-C6-O6 | 7.95 | 124.67 | 119.90 |
| 26 | 1H | 656 | G | N3-C4-C5 | -7.95 | 124.62 | 128.60 |
| 26 | 1H | 662 | G | N1-C2-N2 | -7.95 | 109.04 | 116.20 |
| 27 | 16 | 58 | A | C8-N9-C4 | -7.95 | 102.62 | 105.80 |
| 26 | 14 | 458 | G | C4-C5-N7 | 7.95 | 113.98 | 110.80 |
| 26 | 14 | 621 | A | N3-C4-C5 | 7.95 | 132.37 | 126.80 |
| 26 | 1H | 239 | U | C6-N1-C2 | 7.95 | 125.77 | 121.00 |
| 26 | 1H | 1295 | C | C5-C4-N4 | 7.95 | 125.77 | 120.20 |
| 26 | 14 | 1817 | G | C4-C5-N7 | -7.95 | 107.62 | 110.80 |
| 26 | 1H | 609 | A | C6-C5-N7 | -7.95 | 126.73 | 132.30 |
| 26 | 1H | 821 | A | C4-C5-C6 | 7.95 | 120.97 | 117.00 |
| 26 | 1H | 2557 | G | C4-C5-C6 | -7.95 | 114.03 | 118.80 |
| 1 | 1G | 281 | G | OP1-P-OP2 | -7.95 | 107.67 | 119.60 |
| 26 | 14 | 59 | U | C5-C4-O4 | 7.95 | 130.67 | 125.90 |
| 1 | 13 | 47 | C | C2-N3-C4 | -7.95 | 115.92 | 119.90 |
| 1 | 13 | 581 | G | N3-C2-N2 | 7.95 | 125.46 | 119.90 |
| 26 | 1H | 491 | G | C2-N3-C4 | -7.95 | 107.93 | 111.90 |
| 26 | 1H | 1911 | U | C6-N1-C2 | -7.95 | 116.23 | 121.00 |
| 26 | 1H | 2262 | U | N1-C2-N3 | 7.95 | 119.67 | 114.90 |
| 27 | 16 | 50 | G | C8-N9-C4 | -7.95 | 103.22 | 106.40 |
| 26 | 14 | 187 | G | N9-C4-C5 | -7.95 | 102.22 | 105.40 |
| 1 | 13 | 362 | G | N3-C4-N9 | -7.95 | 121.23 | 126.00 |
| 26 | 1H | 298 | G | N3-C4-C5 | 7.95 | 132.57 | 128.60 |
| 26 | 1H | 347 | A | C6-C5-N7 | -7.95 | 126.74 | 132.30 |
| 26 | 1H | 670 | A | C5-C6-N6 | -7.95 | 117.34 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 33 | 51 | 149 | ARG | NE-CZ-NH2 | -7.95 | 116.33 | 120.30 |
| 26 | 14 | 739 | G | N3-C4-N9 | -7.95 | 121.23 | 126.00 |
| 26 | 14 | 1564 | C | N3-C2-O2 | -7.95 | 116.34 | 121.90 |
| 26 | 14 | 1821 | A | C6-N1-C2 | -7.95 | 113.83 | 118.60 |
| 26 | 14 | 1906 | G | C5-C6-N1 | -7.95 | 107.53 | 111.50 |
| 26 | 14 | 14 | A | C5-N7-C8 | -7.94 | 99.93 | 103.90 |
| 1 | 13 | 1435 | G | C4-C5-N7 | 7.94 | 113.98 | 110.80 |
| 26 | 1H | 250 | G | N3-C4-C5 | 7.94 | 132.57 | 128.60 |
| 26 | 1H | 649 | G | O5'-P-OP2 | -7.94 | 98.55 | 105.70 |
| 26 | 1H | 843 | G | O5'-P-OP2 | 7.94 | 120.23 | 110.70 |
| 26 | 1H | 1143 | A | O5'-P-OP2 | -7.94 | 98.55 | 105.70 |
| 26 | 1H | 1266 | G | N3-C4-N9 | 7.94 | 130.77 | 126.00 |
| 26 | 1H | 2339 | G | C8-N9-C4 | 7.94 | 109.58 | 106.40 |
| 26 | 1H | 788 | A | OP1-P-O3' | -7.94 | 87.73 | 105.20 |
| 26 | 1H | 2618 | G | N3-C4-C5 | -7.94 | 124.63 | 128.60 |
| 26 | 1H | 2620 | C | C5-C4-N4 | -7.94 | 114.64 | 120.20 |
| 1 | 1G | 733 | A | N9-C4-C5 | -7.94 | 102.62 | 105.80 |
| 26 | 14 | 385 | C | OP1-P-OP2 | 7.94 | 131.51 | 119.60 |
| 26 | 14 | 476 | G | OP1-P-OP2 | 7.94 | 131.51 | 119.60 |
| 26 | 14 | 2281 | C | N3-C4-N4 | 7.94 | 123.56 | 118.00 |
| 1 | 13 | 1333 | A | C5-C6-N1 | 7.94 | 121.67 | 117.70 |
| 26 | 1H | 474 | G | C5-N7-C8 | -7.94 | 100.33 | 104.30 |
| 26 | 14 | 1598 | C | N1-C2-O2 | 7.94 | 123.66 | 118.90 |
| 26 | 14 | 2432 | A | N1-C2-N3 | -7.94 | 125.33 | 129.30 |
| 1 | 13 | 1360 | A | C5-C6-N1 | 7.94 | 121.67 | 117.70 |
| 26 | 1H | 270(O) | U | C2-N1-C1' | 7.94 | 127.22 | 117.70 |
| 26 | 1H | 920 | G | N9-C4-C5 | -7.94 | 102.22 | 105.40 |
| 26 | 1H | 1987 | G | OP1-P-O3' | 7.94 | 122.66 | 105.20 |
| 26 | 1H | 2254 | C | N1-C2-O2 | -7.94 | 114.14 | 118.90 |
| 26 | 1H | 2294 | C | N1-C2-O2 | 7.94 | 123.66 | 118.90 |
| 26 | 1H | 1314 | C | N3-C4-N4 | -7.94 | 112.44 | 118.00 |
| 1 | 13 | 904 | C | C5-C6-N1 | -7.93 | 117.03 | 121.00 |
| 26 | 1H | 828 | U | C5-C6-N1 | -7.93 | 118.73 | 122.70 |
| 26 | 1H | 1620 | G | C2-N3-C4 | -7.93 | 107.93 | 111.90 |
| 26 | 1H | 2766 | G | N7-C8-N9 | 7.93 | 117.07 | 113.10 |
| 26 | 14 | 270(T) | G | N1-C6-O6 | 7.93 | 124.66 | 119.90 |
| 26 | 14 | 807 | U | C5-C6-N1 | -7.93 | 118.73 | 122.70 |
| 26 | 14 | 1016 | G | N1-C6-O6 | 7.93 | 124.66 | 119.90 |
| 26 | 14 | 1840 | G | C5-C6-O6 | -7.93 | 123.84 | 128.60 |
| 26 | 14 | 2217 | G | C4-C5-C6 | 7.93 | 123.56 | 118.80 |
| 1 | 13 | 819 | A | N1-C6-N6 | -7.93 | 113.84 | 118.60 |
| 26 | 1H | 2345 | G | OP1-P-O3' | 7.93 | 122.65 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2377 | A | C5-N7-C8 | -7.93 | 99.93 | 103.90 |
| 26 | 1H | 2412 | A | C5-C6-N1 | 7.93 | 121.67 | 117.70 |
| 26 | 1H | 2559 | C | N3-C2-O2 | -7.93 | 116.35 | 121.90 |
| 26 | 1H | 2751 | G | C4-C5-N7 | 7.93 | 113.97 | 110.80 |
| 1 | 1G | 239 | U | C6-N1-C2 | -7.93 | 116.24 | 121.00 |
| 26 | 14 | 84 | A | N7-C8-N9 | -7.93 | 109.83 | 113.80 |
| 26 | 14 | 1296 | G | O5'-P-OP2 | -7.93 | 98.56 | 105.70 |
| 26 | 14 | 2087 | G | C8-N9-C4 | 7.93 | 109.57 | 106.40 |
| 26 | 14 | 2333 | A | C4-C5-N7 | -7.93 | 106.73 | 110.70 |
| 26 | 14 | 2081 | C | O5'-P-OP2 | -7.93 | 98.56 | 105.70 |
| 26 | 1H | 1001 | A | N1-C6-N6 | -7.93 | 113.84 | 118.60 |
| 26 | 1H | 1760 | A | N7-C8-N9 | 7.93 | 117.77 | 113.80 |
| 27 | 16 | 111 | U | C4-C5-C6 | 7.93 | 124.46 | 119.70 |
| 26 | 14 | 465 | G | C8-N9-C4 | -7.93 | 103.23 | 106.40 |
| 26 | 14 | 489 | G | C4-C5-N7 | 7.93 | 113.97 | 110.80 |
| 26 | 14 | 1968 | G | C5-N7-C8 | -7.93 | 100.33 | 104.30 |
| 26 | 1H | 300 | A | O5'-P-OP2 | -7.93 | 98.56 | 105.70 |
| 1 | 1G | 230 | G | N3-C4-N9 | -7.93 | 121.24 | 126.00 |
| 1 | 13 | 67 | C | C6-N1-C2 | -7.93 | 117.13 | 120.30 |
| 24 | 3K | 44 | U | N3-C2-O2 | -7.93 | 116.65 | 122.20 |
| 26 | 1H | 1400 | G | C5-C6-O6 | 7.93 | 133.35 | 128.60 |
| 26 | 1H | 1524 | G | O5'-P-OP1 | -7.93 | 98.57 | 105.70 |
| 27 | 16 | 16 | G | C5-C6-O6 | -7.93 | 123.84 | 128.60 |
| 1 | 1G | 1438 | G | C8-N9-C4 | 7.93 | 109.57 | 106.40 |
| 26 | 14 | 28 | A | C5-N7-C8 | -7.93 | 99.94 | 103.90 |
| 26 | 14 | 2197 | U | O5'-P-OP1 | -7.93 | 98.57 | 105.70 |
| 1 | 13 | 1386 | G | N3-C4-C5 | 7.92 | 132.56 | 128.60 |
| 26 | 1H | 2417 | C | C5-C4-N4 | 7.92 | 125.75 | 120.20 |
| 26 | 1H | 397 | G | N1-C6-O6 | 7.92 | 124.65 | 119.90 |
| 26 | 1H | 1639 | U | C5-C6-N1 | -7.92 | 118.74 | 122.70 |
| 26 | 14 | 178 | G | C5-N7-C8 | -7.92 | 100.34 | 104.30 |
| 26 | 1H | 772 | C | C4-C5-C6 | 7.92 | 121.36 | 117.40 |
| 26 | 1H | 814 | C | N3-C4-C5 | 7.92 | 125.07 | 121.90 |
| 26 | 1H | 1728 | G | C5-C6-O6 | -7.92 | 123.85 | 128.60 |
| 26 | 14 | 242 | G | C8-N9-C4 | 7.92 | 109.57 | 106.40 |
| 26 | 14 | 1765 | C | O5'-P-OP2 | -7.92 | 98.57 | 105.70 |
| 26 | 14 | 1772 | G | OP1-P-OP2 | 7.92 | 131.48 | 119.60 |
| 27 | 1J | 90 | C | N3-C4-C5 | 7.92 | 125.07 | 121.90 |
| 26 | 1H | 1697 | G | N1-C2-N2 | -7.92 | 109.07 | 116.20 |
| 26 | 14 | 228 | A | C5-C6-N1 | -7.92 | 113.74 | 117.70 |
| 1 | 13 | 1520 | G | N9-C4-C5 | -7.92 | 102.23 | 105.40 |
| 26 | 1H | 706 | A | N1-C6-N6 | 7.92 | 123.35 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 1128 | A | C6-C5-N7 | -7.92 | 126.76 | 132.30 |
| 26 | 1H | 1231 | G | N1-C6-O6 | 7.92 | 124.65 | 119.90 |
| 26 | 1H | 1907 | G | N3-C2-N2 | -7.92 | 114.36 | 119.90 |
| 26 | 1H | 2389 | G | N1-C6-O6 | -7.92 | 115.15 | 119.90 |
| 26 | 1H | 2715 | C | N1-C2-O2 | 7.92 | 123.65 | 118.90 |
| 26 | 1H | 2738 | A | C4-C5-C6 | -7.92 | 113.04 | 117.00 |
| 26 | 14 | 953 | A | O5'-P-OP2 | 7.92 | 120.20 | 110.70 |
| 26 | 14 | 1496 | A | C5-C6-N6 | -7.92 | 117.36 | 123.70 |
| 26 | 14 | 2762 | G | C6-C5-N7 | -7.92 | 125.65 | 130.40 |
| 26 | 1H | 780 | G | C6-C5-N7 | -7.92 | 125.65 | 130.40 |
| 26 | 1H | 2237 | G | N1-C2-N2 | -7.92 | 109.07 | 116.20 |
| 26 | 14 | 2386 | C | N1-C2-O2 | -7.92 | 114.15 | 118.90 |
| 26 | 1H | 566 | U | OP1-P-O3' | 7.92 | 122.61 | 105.20 |
| 26 | 1H | 869 | G | N1-C2-N2 | -7.92 | 109.08 | 116.20 |
| 26 | 1H | 1219 | G | N1-C2-N3 | 7.92 | 128.65 | 123.90 |
| 26 | 14 | 675 | A | C5-C6-N6 | -7.92 | 117.37 | 123.70 |
| 26 | 14 | 775 | G | N3-C4-C5 | -7.92 | 124.64 | 128.60 |
| 26 | 1H | 1214 | A | C8-N9-C4 | 7.91 | 108.97 | 105.80 |
| 26 | 1H | 1286 | A | C5-N7-C8 | 7.91 | 107.86 | 103.90 |
| 26 | 1H | 1336 | A | C5-C6-N1 | 7.91 | 121.66 | 117.70 |
| 26 | 1H | 1977 | A | O5'-P-OP2 | -7.91 | 98.58 | 105.70 |
| 26 | 14 | 138 | G | O4'-C1'-N9 | 7.91 | 114.53 | 108.20 |
| 26 | 14 | 1995 | U | C4-C5-C6 | 7.91 | 124.45 | 119.70 |
| 26 | 1H | 1592 | C | C6-N1-C2 | 7.91 | 123.47 | 120.30 |
| 26 | 14 | 1900 | A | C6-N1-C2 | -7.91 | 113.85 | 118.60 |
| 26 | 14 | 1903 | G | C8-N9-C4 | 7.91 | 109.56 | 106.40 |
| 27 | 1J | 9 | G | OP1-P-OP2 | -7.91 | 107.73 | 119.60 |
| 1 | 13 | 50 | A | N9-C4-C5 | 7.91 | 108.97 | 105.80 |
| 1 | 13 | 557 | G | N3-C2-N2 | 7.91 | 125.44 | 119.90 |
| 26 | 1H | 962 | G | N3-C4-N9 | 7.91 | 130.75 | 126.00 |
| 26 | 14 | 947 | G | N3-C4-N9 | -7.91 | 121.25 | 126.00 |
| 26 | 1H | 270(Q) | C | C6-N1-C2 | -7.91 | 117.14 | 120.30 |
| 26 | 1H | 465 | G | N1-C2-N3 | -7.91 | 119.16 | 123.90 |
| 26 | 1H | 707 | G | O5'-P-OP1 | 7.91 | 120.19 | 110.70 |
| 26 | 1H | 800 | A | O5'-P-OP2 | 7.91 | 120.19 | 110.70 |
| 27 | 16 | 106 | G | N9-C4-C5 | -7.91 | 102.24 | 105.40 |
| 26 | 14 | 691 | C | N3-C4-C5 | -7.91 | 118.74 | 121.90 |
| 26 | 14 | 1193 | G | C8-N9-C4 | 7.91 | 109.56 | 106.40 |
| 26 | 14 | 2270 | G | N7-C8-N9 | 7.91 | 117.06 | 113.10 |
| 26 | 1H | 1855 | G | C5-C6-N1 | 7.91 | 115.45 | 111.50 |
| 1 | 1G | 47 | C | N3-C2-O2 | -7.91 | 116.36 | 121.90 |
| 1 | 1G | 1270 | C | C5-C6-N1 | 7.91 | 124.95 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 722 | A | C5-C6-N1 | -7.91 | 113.75 | 117.70 |
| 26 | 1H | 960 | A | O5'-P-OP1 | -7.91 | 98.58 | 105.70 |
| 26 | 1H | 1191 | G | C4-C5-N7 | -7.91 | 107.64 | 110.80 |
| 26 | 1H | 2060 | A | P-O3'-C3' | 7.91 | 129.19 | 119.70 |
| 26 | 1H | 2445 | G | N9-C4-C5 | 7.91 | 108.56 | 105.40 |
| 26 | 1H | 2675 | A | C8-N9-C4 | -7.91 | 102.64 | 105.80 |
| 26 | 14 | 863 | A | N7-C8-N9 | 7.91 | 117.75 | 113.80 |
| 1 | 13 | 673 | G | C8-N9-C4 | -7.90 | 103.24 | 106.40 |
| 1 | 1G | 924 | C | C4-C5-C6 | 7.90 | 121.35 | 117.40 |
| 26 | 1H | 68 | G | N1-C6-O6 | 7.90 | 124.64 | 119.90 |
| 26 | 1H | 531 | C | C5-C4-N4 | -7.90 | 114.67 | 120.20 |
| 26 | 1H | 613 | U | C2-N3-C4 | -7.90 | 122.26 | 127.00 |
| 26 | 1H | 784 | A | N1-C6-N6 | -7.90 | 113.86 | 118.60 |
| 26 | 1H | 1705 | G | N1-C2-N3 | 7.90 | 128.64 | 123.90 |
| 26 | 1H | 1844 | C | C5-C6-N1 | -7.90 | 117.05 | 121.00 |
| 26 | 14 | 1311 | G | N1-C6-O6 | -7.90 | 115.16 | 119.90 |
| 26 | 14 | 1500 | G | N1-C6-O6 | 7.90 | 124.64 | 119.90 |
| 1 | 1G | 1527 | C | C4-C5-C6 | 7.90 | 121.35 | 117.40 |
| 26 | 14 | 373 | U | C6-N1-C2 | 7.90 | 125.74 | 121.00 |
| 26 | 14 | 2625 | G | C5-C6-O6 | -7.90 | 123.86 | 128.60 |
| 26 | 1H | 782 | A | C4-C5-N7 | -7.90 | 106.75 | 110.70 |
| 27 | 16 | 115 | G | C5-C6-O6 | -7.90 | 123.86 | 128.60 |
| 1 | 1G | 800 | G | C4-C5-C6 | 7.90 | 123.54 | 118.80 |
| 26 | 14 | 252 | G | N3-C4-C5 | -7.90 | 124.65 | 128.60 |
| 26 | 14 | 2901 | C | C6-N1-C2 | -7.90 | 117.14 | 120.30 |
| 26 | 1H | 942 | G | N7-C8-N9 | 7.90 | 117.05 | 113.10 |
| 26 | 14 | 2576 | G | C5-C6-N1 | 7.90 | 115.45 | 111.50 |
| 26 | 1H | 661 | C | C2-N3-C4 | -7.89 | 115.95 | 119.90 |
| 26 | 1H | 750 | A | C8-N9-C4 | 7.89 | 108.96 | 105.80 |
| 26 | 1H | 961 | C | OP1-P-OP2 | 7.89 | 131.44 | 119.60 |
| 26 | 1H | 1546 | C | C5-C6-N1 | 7.89 | 124.95 | 121.00 |
| 26 | 14 | 1334 | G | C8-N9-C4 | -7.89 | 103.24 | 106.40 |
| 26 | 14 | 2593 | U | OP1-P-OP2 | -7.89 | 107.76 | 119.60 |
| 1 | 13 | 766 | A | N3-C4-C5 | 7.89 | 132.32 | 126.80 |
| 26 | 1H | 917 | A | C4-C5-N7 | 7.89 | 114.65 | 110.70 |
| 26 | 14 | 1835 | G | N7-C8-N9 | -7.89 | 109.15 | 113.10 |
| 1 | 13 | 1375 | A | N1-C6-N6 | -7.89 | 113.86 | 118.60 |
| 24 | 3K | 2 | G | N9-C4-C5 | -7.89 | 102.24 | 105.40 |
| 26 | 1H | 1348 | G | N1-C6-O6 | 7.89 | 124.64 | 119.90 |
| 26 | 1H | 1426 | G | C6-C5-N7 | -7.89 | 125.67 | 130.40 |
| 27 | 16 | 9 | G | O5'-P-OP2 | -7.89 | 98.60 | 105.70 |
| 26 | 1H | 2435 | A | O5'-P-OP1 | -7.89 | 98.60 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2627 | G | N3-C2-N2 | 7.89 | 125.42 | 119.90 |
| 1 | 1G | 6 | G | N1-C6-O6 | 7.89 | 124.63 | 119.90 |
| 26 | 14 | 210 | C | C4-C5-C6 | 7.89 | 121.34 | 117.40 |
| 26 | 14 | 1336 | A | C6-N1-C2 | -7.89 | 113.87 | 118.60 |
| 26 | 14 | 1427 | A | N1-C2-N3 | 7.89 | 133.25 | 129.30 |
| 26 | 14 | 2072 | G | N9-C4-C5 | -7.89 | 102.24 | 105.40 |
| 26 | 1H | 634 | C | O5'-P-OP2 | -7.89 | 98.60 | 105.70 |
| 26 | 14 | 2370 | G | C8-N9-C4 | 7.89 | 109.56 | 106.40 |
| 1 | 13 | 966 | G | N1-C2-N3 | -7.89 | 119.17 | 123.90 |
| 1 | 13 | 994 | A | C8-N9-C4 | -7.89 | 102.64 | 105.80 |
| 26 | 1H | 697 | C | C5-C4-N4 | -7.89 | 114.68 | 120.20 |
| 1 | 1G | 860 | A | C8-N9-C4 | -7.89 | 102.64 | 105.80 |
| 26 | 14 | 2050 | C | O5'-P-OP2 | -7.89 | 98.60 | 105.70 |
| 26 | 14 | 2199 | A | O5'-P-OP1 | -7.89 | 98.60 | 105.70 |
| 26 | 1H | 221 | A | C6-N1-C2 | -7.88 | 113.87 | 118.60 |
| 26 | 1H | 717 | G | C6-C5-N7 | -7.88 | 125.67 | 130.40 |
| 26 | 1H | 939 | G | C2-N3-C4 | -7.88 | 107.96 | 111.90 |
| 1 | 1G | 392 | G | O5'-P-OP1 | 7.88 | 120.16 | 110.70 |
| 1 | 1G | 905 | U | C4-C5-C6 | 7.88 | 124.43 | 119.70 |
| 23 | 2L | 71 | G | N3-C4-C5 | 7.88 | 132.54 | 128.60 |
| 57 | 3L | 61 | C | C5-C6-N1 | 7.88 | 124.94 | 121.00 |
| 26 | 14 | 2021 | C | C5-C6-N1 | 7.88 | 124.94 | 121.00 |
| 26 | 14 | 779 | U | C5-C4-O4 | -7.88 | 121.17 | 125.90 |
| 26 | 1H | 1321 | A | C2-N3-C4 | -7.88 | 106.66 | 110.60 |
| 26 | 14 | 674 | G | C8-N9-C4 | 7.88 | 109.55 | 106.40 |
| 26 | 14 | 1936 | A | O5'-P-OP2 | 7.88 | 120.16 | 110.70 |
| 1 | 13 | 1500 | A | N1-C6-N6 | -7.88 | 113.87 | 118.60 |
| 26 | 14 | 74 | A | N1-C2-N3 | 7.88 | 133.24 | 129.30 |
| 26 | 14 | 2083 | G | OP1-P-OP2 | -7.88 | 107.78 | 119.60 |
| 1 | 13 | 36 | C | N1-C2-O2 | -7.88 | 114.17 | 118.90 |
| 1 | 13 | 776 | G | C5-C6-O6 | -7.88 | 123.87 | 128.60 |
| 26 | 1H | 610 | C | C5-C6-N1 | -7.88 | 117.06 | 121.00 |
| 26 | 1H | 1003 | G | C4-C5-N7 | -7.88 | 107.65 | 110.80 |
| 1 | 1G | 886 | G | O5'-P-OP2 | -7.88 | 98.61 | 105.70 |
| 26 | 14 | 1851 | U | O5'-P-OP1 | -7.88 | 98.61 | 105.70 |
| 26 | 14 | 2642 | G | O5'-P-OP2 | -7.88 | 98.61 | 105.70 |
| 1 | 13 | 915 | A | C5-C6-N6 | 7.88 | 130.00 | 123.70 |
| 26 | 1H | 1296 | G | O5'-P-OP2 | -7.88 | 98.61 | 105.70 |
| 26 | 1H | 2779 | U | C4-C5-C6 | 7.88 | 124.43 | 119.70 |
| 26 | 1H | 2611 | U | N3-C2-O2 | -7.88 | 116.69 | 122.20 |
| 26 | 14 | 790 | C | N3-C2-O2 | -7.88 | 116.39 | 121.90 |
| 26 | 14 | 2580 | U | C4-C5-C6 | 7.88 | 124.42 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 785 | G | C6-N1-C2 | -7.87 | 120.38 | 125.10 |
| 26 | 1H | 1602 | U | N1-C2-O2 | -7.87 | 117.29 | 122.80 |
| 26 | 1H | 2363 | C | C6-N1-C2 | 7.87 | 123.45 | 120.30 |
| 26 | 14 | 704 | G | C5-N7-C8 | -7.87 | 100.36 | 104.30 |
| 1 | 13 | 974 | A | N3-C4-C5 | 7.87 | 132.31 | 126.80 |
| 1 | 13 | 1487 | G | N1-C2-N3 | 7.87 | 128.62 | 123.90 |
| 26 | 1H | 64 | A | N7-C8-N9 | -7.87 | 109.86 | 113.80 |
| 26 | 1H | 468 | G | C5-C6-N1 | -7.87 | 107.56 | 111.50 |
| 26 | 1H | 851 | U | C5-C6-N1 | -7.87 | 118.76 | 122.70 |
| 1 | 1G | 276 | G | C8-N9-C4 | 7.87 | 109.55 | 106.40 |
| 1 | 1G | 711 | G | C2-N3-C4 | -7.87 | 107.96 | 111.90 |
| 26 | 14 | 204 | A | C5-N7-C8 | -7.87 | 99.96 | 103.90 |
| 26 | 14 | 2217 | G | C5-C6-O6 | -7.87 | 123.88 | 128.60 |
| 1 | 13 | 757 | U | O5'-P-OP2 | -7.87 | 98.62 | 105.70 |
| 26 | 1H | 1959 | G | C6-C5-N7 | 7.87 | 135.12 | 130.40 |
| 26 | 14 | 191 | A | N9-C4-C5 | -7.87 | 102.65 | 105.80 |
| 26 | 1H | 25 | U | C5-C4-O4 | -7.87 | 121.18 | 125.90 |
| 26 | 1H | 1332 | G | N1-C2-N3 | 7.87 | 128.62 | 123.90 |
| 26 | 1H | 1674 | G | C5-C6-O6 | -7.87 | 123.88 | 128.60 |
| 26 | 14 | 184 | C | N1-C2-O2 | -7.87 | 114.18 | 118.90 |
| 26 | 1H | 619 | G | C8-N9-C4 | 7.87 | 109.55 | 106.40 |
| 26 | 1H | 2340 | G | N3-C4-C5 | 7.87 | 132.53 | 128.60 |
| 1 | 1G | 800 | G | C8-N9-C4 | -7.87 | 103.25 | 106.40 |
| 1 | 1G | 1280 | A | C8-N9-C4 | 7.87 | 108.95 | 105.80 |
| 1 | 13 | 436 | C | C5-C6-N1 | 7.87 | 124.93 | 121.00 |
| 26 | 1H | 1777 | U | N3-C4-C5 | -7.87 | 109.88 | 114.60 |
| 26 | 1H | 1826 | G | C8-N9-C4 | 7.87 | 109.55 | 106.40 |
| 26 | 14 | 234 | C | N3-C4-C5 | 7.87 | 125.05 | 121.90 |
| 26 | 14 | 2025 | C | O5'-P-OP1 | -7.87 | 98.62 | 105.70 |
| 26 | 1H | 1210 | A | C5-C6-N1 | -7.86 | 113.77 | 117.70 |
| 26 | 1H | 1843 | C | C2-N3-C4 | -7.86 | 115.97 | 119.90 |
| 26 | 1H | 2627 | G | C2-N3-C4 | -7.86 | 107.97 | 111.90 |
| 1 | 1G | 1499 | A | C8-N9-C4 | 7.86 | 108.95 | 105.80 |
| 26 | 14 | 1911 | U | C5-C6-N1 | 7.86 | 126.63 | 122.70 |
| 26 | 14 | 2422 | A | N7-C8-N9 | 7.86 | 117.73 | 113.80 |
| 27 | 1J | 94 | C | C5-C6-N1 | 7.86 | 124.93 | 121.00 |
| 26 | 1H | 760 | G | C4-C5-C6 | 7.86 | 123.52 | 118.80 |
| 26 | 1H | 1669 | A | C4-C5-N7 | 7.86 | 114.63 | 110.70 |
| 26 | 14 | 150 | C | C2-N3-C4 | -7.86 | 115.97 | 119.90 |
| 26 | 14 | 1195 | G | C5-C6-O6 | 7.86 | 133.32 | 128.60 |
| 26 | 1H | 1234 | U | C5-C6-N1 | -7.86 | 118.77 | 122.70 |
| 26 | 1H | 1633 | G | C8-N9-C4 | -7.86 | 103.26 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 29 | 11 | 30 | GLU | N-CA-C | -7.86 | 89.78 | 111.00 |
| 1 | 1G | 237 | C | N3-C4-N4 | -7.86 | 112.50 | 118.00 |
| 26 | 14 | 21 | A | N1-C2-N3 | 7.86 | 133.23 | 129.30 |
| 26 | 14 | 736 | C | O5'-P-OP2 | 7.86 | 120.13 | 110.70 |
| 26 | 14 | 747 | U | N3-C4-C5 | 7.86 | 119.32 | 114.60 |
| 26 | 14 | 1429 | G | N7-C8-N9 | 7.86 | 117.03 | 113.10 |
| 26 | 14 | 2625 | G | N3-C2-N2 | -7.86 | 114.40 | 119.90 |
| 26 | 1H | 186 | G | C8-N9-C4 | 7.86 | 109.54 | 106.40 |
| 26 | 14 | 694 | U | N1-C2-O2 | 7.86 | 128.30 | 122.80 |
| 26 | 14 | 773 | U | C4-C5-C6 | 7.86 | 124.42 | 119.70 |
| 1 | 13 | 53 | A | N1-C6-N6 | 7.86 | 123.31 | 118.60 |
| 1 | 13 | 1226 | C | C4-C5-C6 | 7.86 | 121.33 | 117.40 |
| 26 | 1H | 963 | U | C5-C4-O4 | -7.86 | 121.19 | 125.90 |
| 26 | 1H | 1373 | A | N7-C8-N9 | -7.86 | 109.87 | 113.80 |
| 26 | 1H | 1596 | A | C6-N1-C2 | -7.86 | 113.89 | 118.60 |
| 26 | 14 | 862 | G | C5-C6-O6 | 7.86 | 133.31 | 128.60 |
| 1 | 13 | 573 | A | C8-N9-C4 | -7.86 | 102.66 | 105.80 |
| 26 | 1H | 630 | G | N3-C2-N2 | -7.86 | 114.40 | 119.90 |
| 26 | 14 | 489 | G | C5-N7-C8 | -7.86 | 100.37 | 104.30 |
| 26 | 14 | 1558 | A | N3-C4-N9 | -7.86 | 121.12 | 127.40 |
| 26 | 1H | 856 | C | O5'-P-OP1 | -7.85 | 98.63 | 105.70 |
| 26 | 14 | 494 | G | C6-C5-N7 | -7.85 | 125.69 | 130.40 |
| 26 | 14 | 993 | G | OP1-P-OP2 | -7.85 | 107.82 | 119.60 |
| 26 | 1H | 264 | C | C5-C6-N1 | 7.85 | 124.93 | 121.00 |
| 26 | 1H | 1400 | G | N9-C4-C5 | 7.85 | 108.54 | 105.40 |
| 26 | 1H | 2586 | C | C5-C4-N4 | -7.85 | 114.70 | 120.20 |
| 31 | 31 | 74 | ARG | NE-CZ-NH2 | -7.85 | 116.37 | 120.30 |
| 1 | 1G | 331 | G | C4-C5-C6 | 7.85 | 123.51 | 118.80 |
| 1 | 1G | 817 | C | C6-N1-C2 | 7.85 | 123.44 | 120.30 |
| 26 | 14 | 1338 | G | N9-C4-C5 | -7.85 | 102.26 | 105.40 |
| 26 | 14 | 2235 | G | C6-N1-C2 | -7.85 | 120.39 | 125.10 |
| 26 | 14 | 2279 | G | N1-C6-O6 | -7.85 | 115.19 | 119.90 |
| 23 | 2K | 35 | C | O5'-P-OP1 | 7.85 | 120.12 | 110.70 |
| 26 | 14 | 572 | A | N1-C6-N6 | 7.85 | 123.31 | 118.60 |
| 1 | 13 | 31 | G | C8-N9-C4 | -7.85 | 103.26 | 106.40 |
| 26 | 1H | 179 | G | C2-N3-C4 | -7.85 | 107.98 | 111.90 |
| 26 | 1H | 774 | A | N1-C2-N3 | 7.85 | 133.22 | 129.30 |
| 26 | 14 | 137(A) | G | N3-C2-N2 | -7.85 | 114.41 | 119.90 |
| 26 | 14 | 2358 | G | C5-C6-O6 | 7.85 | 133.31 | 128.60 |
| 26 | 1H | 1978 | A | C8-N9-C4 | -7.85 | 102.66 | 105.80 |
| 1 | 1G | 304 | U | C6-N1-C2 | -7.85 | 116.29 | 121.00 |
| 1 | 1G | 392 | G | C5-C6-N1 | -7.85 | 107.58 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 814 | A | C5-N7-C8 | 7.85 | 107.82 | 103.90 |
| 26 | 14 | 494 | G | C2-N3-C4 | -7.85 | 107.98 | 111.90 |
| 26 | 14 | 663 | G | C5-C6-N1 | -7.85 | 107.58 | 111.50 |
| 26 | 14 | 840 | C | N3-C2-O2 | 7.85 | 127.39 | 121.90 |
| 26 | 14 | 1024 | G | C5-C6-N1 | -7.85 | 107.58 | 111.50 |
| 26 | 14 | 1281 | G | N7-C8-N9 | 7.85 | 117.02 | 113.10 |
| 1 | 1G | 30 | U | N1-C2-N3 | 7.85 | 119.61 | 114.90 |
| 26 | 14 | 2848 | G | C5-C6-O6 | 7.85 | 133.31 | 128.60 |
| 26 | 1H | 591 | C | C4-C5-C6 | 7.84 | 121.32 | 117.40 |
| 26 | 1H | 2330 | G | C5-N7-C8 | -7.84 | 100.38 | 104.30 |
| 1 | 1G | 306 | G | N3-C4-C5 | 7.84 | 132.52 | 128.60 |
| 26 | 14 | 528 | A | N3-C4-N9 | -7.84 | 121.12 | 127.40 |
| 1 | 13 | 687 | A | P-O3'-C3' | 7.84 | 129.11 | 119.70 |
| 23 | 2K | 40 | C | C5-C6-N1 | 7.84 | 124.92 | 121.00 |
| 26 | 1H | 125 | G | N3-C2-N2 | 7.84 | 125.39 | 119.90 |
| 26 | 1H | 1656 | C | C5-C6-N1 | 7.84 | 124.92 | 121.00 |
| 26 | 1H | 1768 | U | OP2-P-O3' | 7.84 | 122.45 | 105.20 |
| 26 | 14 | 684 | G | OP1-P-OP2 | 7.84 | 131.37 | 119.60 |
| 1 | 13 | 1435 | G | N1-C2-N2 | -7.84 | 109.14 | 116.20 |
| 26 | 1H | 1125 | G | N7-C8-N9 | -7.84 | 109.18 | 113.10 |
| 26 | 1H | 2089 | U | C5-C6-N1 | -7.84 | 118.78 | 122.70 |
| 26 | 14 | 690 | G | N1-C2-N3 | 7.84 | 128.60 | 123.90 |
| 26 | 14 | 1320 | C | N3-C4-N4 | 7.84 | 123.49 | 118.00 |
| 26 | 1H | 758 | C | C5-C4-N4 | 7.84 | 125.69 | 120.20 |
| 26 | 1H | 2469 | A | N7-C8-N9 | 7.84 | 117.72 | 113.80 |
| 1 | 1G | 46 | G | C5-C6-O6 | -7.84 | 123.90 | 128.60 |
| 1 | 1G | 1464 | G | N1-C6-O6 | 7.84 | 124.60 | 119.90 |
| 26 | 14 | 806 | C | C6-N1-C2 | 7.84 | 123.44 | 120.30 |
| 26 | 14 | 1330 | C | C5-C4-N4 | -7.84 | 114.71 | 120.20 |
| 26 | 1H | 1344 | G | C8-N9-C4 | -7.84 | 103.27 | 106.40 |
| 26 | 1H | 2264 | C | C2-N3-C4 | 7.84 | 123.82 | 119.90 |
| 26 | 1H | 2415 | G | N1-C6-O6 | 7.84 | 124.60 | 119.90 |
| 26 | 1H | 2777 | G | C8-N9-C4 | -7.84 | 103.27 | 106.40 |
| 1 | 1G | 231 | G | N1-C2-N3 | 7.84 | 128.60 | 123.90 |
| 1 | 1G | 326 | G | C4-C5-C6 | 7.84 | 123.50 | 118.80 |
| 26 | 14 | 71 | A | O5'-P-OP2 | 7.84 | 120.10 | 110.70 |
| 26 | 14 | 526 | A | C8-N9-C4 | -7.84 | 102.67 | 105.80 |
| 26 | 14 | 537 | C | C6-N1-C2 | -7.84 | 117.17 | 120.30 |
| 1 | 13 | 532 | A | N1-C6-N6 | 7.83 | 123.30 | 118.60 |
| 26 | 1H | 1487 | G | OP1-P-OP2 | -7.83 | 107.85 | 119.60 |
| 26 | 1H | 2689 | U | OP1-P-O3' | 7.83 | 122.44 | 105.20 |
| 26 | 14 | 1592 | C | C5-C6-N1 | 7.83 | 124.92 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 23 | 2K | 13 | C | OP1-P-OP2 | -7.83 | 107.85 | 119.60 |
| 26 | 1H | 432 | A | C5-N7-C8 | -7.83 | 99.98 | 103.90 |
| 26 | 1H | 1325 | G | C6-C5-N7 | -7.83 | 125.70 | 130.40 |
| 26 | 14 | 464 | U | N1-C2-O2 | -7.83 | 117.32 | 122.80 |
| 26 | 14 | 1777 | U | C5-C4-O4 | -7.83 | 121.20 | 125.90 |
| 26 | 14 | 1992 | G | P-O3'-C3' | 7.83 | 129.10 | 119.70 |
| 26 | 14 | 2610 | C | OP1-P-OP2 | -7.83 | 107.85 | 119.60 |
| 26 | 14 | 2845 | G | OP1-P-OP2 | 7.83 | 131.35 | 119.60 |
| 26 | 1H | 762 | U | N1-C2-N3 | -7.83 | 110.20 | 114.90 |
| 26 | 1H | 868 | U | N3-C2-O2 | -7.83 | 116.72 | 122.20 |
| 26 | 1H | 1001 | A | C8-N9-C4 | -7.83 | 102.67 | 105.80 |
| 26 | 1H | 1517 | G | C2-N3-C4 | -7.83 | 107.98 | 111.90 |
| 26 | 1H | 1996 | C | C6-N1-C2 | 7.83 | 123.43 | 120.30 |
| 1 | 1G | 730 | G | N9-C4-C5 | 7.83 | 108.53 | 105.40 |
| 26 | 14 | 805 | G | N3-C2-N2 | 7.83 | 125.38 | 119.90 |
| 26 | 14 | 1202 | C | C2-N3-C4 | -7.83 | 115.98 | 119.90 |
| 26 | 14 | 1589 | C | O5'-P-OP2 | 7.83 | 120.10 | 110.70 |
| 1 | 13 | 1455 | G | C5-C6-N1 | -7.83 | 107.58 | 111.50 |
| 26 | 14 | 1603 | A | C6-C5-N7 | -7.83 | 126.82 | 132.30 |
| 1 | 13 | 27 | G | O5'-P-OP1 | -7.83 | 98.65 | 105.70 |
| 1 | 13 | 532 | A | C4-C5-N7 | 7.83 | 114.61 | 110.70 |
| 1 | 13 | 570 | G | C5-C6-O6 | -7.83 | 123.90 | 128.60 |
| 1 | 13 | 941 | G | C2-N3-C4 | 7.83 | 115.81 | 111.90 |
| 23 | 2K | 24 | C | N3-C4-C5 | 7.83 | 125.03 | 121.90 |
| 26 | 1H | 104 | U | N3-C2-O2 | 7.83 | 127.68 | 122.20 |
| 26 | 1H | 1251 | C | O5'-P-OP1 | -7.83 | 98.65 | 105.70 |
| 26 | 1H | 1320 | C | C5-C6-N1 | -7.83 | 117.09 | 121.00 |
| 27 | 16 | 54 | G | N3-C2-N2 | -7.83 | 114.42 | 119.90 |
| 26 | 14 | 201 | C | C2-N3-C4 | -7.83 | 115.99 | 119.90 |
| 26 | 14 | 534 | U | N1-C2-O2 | -7.83 | 117.32 | 122.80 |
| 27 | 1J | 61 | G | O5'-P-OP1 | -7.83 | 98.66 | 105.70 |
| 26 | 14 | 457 | A | C5-C6-N6 | 7.83 | 129.96 | 123.70 |
| 26 | 14 | 1310 | G | N1-C6-O6 | 7.83 | 124.60 | 119.90 |
| 26 | 14 | 1890 | A | C8-N9-C4 | 7.83 | 108.93 | 105.80 |
| 26 | 1H | 1328 | G | C5-C6-N1 | 7.83 | 115.41 | 111.50 |
| 26 | 1H | 2767 | C | OP1-P-OP2 | 7.83 | 131.34 | 119.60 |
| 37 | 78 | 42 | SER | C-N-CA | -7.83 | 105.86 | 122.30 |
| 1 | 1G | 1422 | G | O5'-P-OP2 | -7.83 | 98.66 | 105.70 |
| 26 | 14 | 391 | G | N7-C8-N9 | 7.83 | 117.01 | 113.10 |
| 26 | 14 | 1210 | A | N7-C8-N9 | 7.83 | 117.71 | 113.80 |
| 26 | 14 | 1399 | C | C4-C5-C6 | -7.83 | 113.49 | 117.40 |
| 26 | 1H | 919 | G | OP1-P-OP2 | 7.82 | 131.33 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 16 | G | N9-C4-C5 | 7.82 | 108.53 | 105.40 |
| 26 | 14 | 568 | U | C4-C5-C6 | 7.82 | 124.39 | 119.70 |
| 26 | 14 | 1311 | G | N1-C2-N3 | 7.82 | 128.59 | 123.90 |
| 26 | 14 | 2061 | G | N1-C6-O6 | -7.82 | 115.21 | 119.90 |
| 26 | 1H | 2445 | G | O5'-P-OP2 | -7.82 | 98.66 | 105.70 |
| 26 | 14 | 1142 | U | C2-N1-C1' | 7.82 | 127.09 | 117.70 |
| 1 | 13 | 730 | G | C5-N7-C8 | 7.82 | 108.21 | 104.30 |
| 26 | 1H | 6 | A | N7-C8-N9 | 7.82 | 117.71 | 113.80 |
| 26 | 1H | 2707 | G | N9-C4-C5 | -7.82 | 102.27 | 105.40 |
| 26 | 14 | 380 | U | OP1-P-OP2 | 7.82 | 131.33 | 119.60 |
| 26 | 14 | 979 | G | C5-C6-O6 | 7.82 | 133.29 | 128.60 |
| 26 | 14 | 2246 | G | N3-C2-N2 | -7.82 | 114.42 | 119.90 |
| 26 | 14 | 2571 | C | N1-C2-O2 | -7.82 | 114.21 | 118.90 |
| 26 | 14 | 2755 | C | C5-C6-N1 | 7.82 | 124.91 | 121.00 |
| 26 | 1H | 81 | G | O5'-P-OP2 | -7.82 | 98.66 | 105.70 |
| 26 | 1H | 1767 | C | C4-C5-C6 | 7.82 | 121.31 | 117.40 |
| 1 | 1G | 232 | G | N1-C2-N3 | 7.82 | 128.59 | 123.90 |
| 26 | 14 | 2065 | C | N3-C2-O2 | -7.82 | 116.43 | 121.90 |
| 1 | 1G | 239 | U | C5-C6-N1 | 7.82 | 126.61 | 122.70 |
| 26 | 14 | 432 | A | N1-C6-N6 | 7.82 | 123.29 | 118.60 |
| 26 | 14 | 1308 | A | C6-N1-C2 | -7.82 | 113.91 | 118.60 |
| 26 | 14 | 1811 | G | C5-C6-O6 | -7.82 | 123.91 | 128.60 |
| 26 | 14 | 1901 | A | OP1-P-OP2 | 7.82 | 131.33 | 119.60 |
| 1 | 13 | 417 | C | N3-C4-N4 | -7.82 | 112.53 | 118.00 |
| 1 | 13 | 741 | G | C8-N9-C4 | 7.82 | 109.53 | 106.40 |
| 26 | 14 | 2612 | C | N1-C2-N3 | -7.82 | 113.73 | 119.20 |
| 26 | 14 | 1393 | A | N1-C6-N6 | -7.81 | 113.91 | 118.60 |
| 26 | 14 | 1617 | C | C2-N3-C4 | -7.81 | 115.99 | 119.90 |
| 26 | 14 | 2276 | G | N3-C2-N2 | -7.81 | 114.43 | 119.90 |
| 1 | 13 | 1359 | C | O5'-P-OP1 | -7.81 | 98.67 | 105.70 |
| 26 | 1H | 210 | C | C5-C6-N1 | -7.81 | 117.09 | 121.00 |
| 26 | 1H | 2599 | G | N1-C2-N3 | 7.81 | 128.59 | 123.90 |
| 1 | 1G | 390 | C | C6-N1-C2 | 7.81 | 123.42 | 120.30 |
| 26 | 14 | 15 | G | C2-N3-C4 | -7.81 | 107.99 | 111.90 |
| 26 | 14 | 246 | C | N3-C2-O2 | 7.81 | 127.37 | 121.90 |
| 26 | 14 | 563 | G | C8-N9-C4 | -7.81 | 103.28 | 106.40 |
| 26 | 14 | 1645 | G | C5-C6-O6 | 7.81 | 133.29 | 128.60 |
| 26 | 14 | 1893 | C | N1-C2-O2 | -7.81 | 114.21 | 118.90 |
| 26 | 14 | 2556 | C | C5-C4-N4 | -7.81 | 114.73 | 120.20 |
| 26 | 1H | 1436 | G | OP1-P-O3' | 7.81 | 122.38 | 105.20 |
| 26 | 1H | 2067 | G | N3-C4-C5 | -7.81 | 124.69 | 128.60 |
| 23 | 2L | 37 | U | O5'-P-OP1 | -7.81 | 98.67 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1671 | U | C6-N1-C2 | 7.81 | 125.69 | 121.00 |
| 26 | 14 | 1960 | A | C5-C6-N6 | 7.81 | 129.95 | 123.70 |
| 1 | 13 | 356 | A | N1-C6-N6 | -7.81 | 113.92 | 118.60 |
| 1 | 13 | 555 | C | N3-C2-O2 | -7.81 | 116.43 | 121.90 |
| 1 | 13 | 644 | G | O5'-P-OP2 | -7.81 | 98.67 | 105.70 |
| 1 | 13 | 966 | G | C5-C6-N1 | 7.81 | 115.41 | 111.50 |
| 25 | 4K | 18 | G | C8-N9-C4 | -7.81 | 103.28 | 106.40 |
| 26 | 1H | 244 | A | C4-C5-N7 | 7.81 | 114.61 | 110.70 |
| 26 | 1H | 509 | C | N3-C2-O2 | -7.81 | 116.43 | 121.90 |
| 26 | 1H | 1109 | C | C2-N1-C1' | 7.81 | 127.39 | 118.80 |
| 26 | 1H | 1779 | U | N3-C4-O4 | 7.81 | 124.87 | 119.40 |
| 1 | 1G | 323 | U | N3-C2-O2 | 7.81 | 127.67 | 122.20 |
| 1 | 1G | 556 | C | N3-C2-O2 | 7.81 | 127.37 | 121.90 |
| 1 | 1G | 923 | A | C2-N3-C4 | -7.81 | 106.69 | 110.60 |
| 26 | 14 | 191 | A | C4-C5-N7 | 7.81 | 114.60 | 110.70 |
| 26 | 14 | 2314 | C | N3-C2-O2 | -7.81 | 116.43 | 121.90 |
| 1 | 13 | 561 | U | N3-C4-O4 | 7.81 | 124.86 | 119.40 |
| 1 | 13 | 1072 | G | C5-C6-O6 | 7.81 | 133.28 | 128.60 |
| 26 | 1H | 745 | G | C2-N3-C4 | -7.81 | 108.00 | 111.90 |
| 26 | 1H | 2002 | G | OP2-P-O3' | 7.81 | 122.38 | 105.20 |
| 26 | 1H | 2051 | A | N1-C2-N3 | 7.81 | 133.20 | 129.30 |
| 26 | 1H | 2642 | G | N3-C2-N2 | 7.81 | 125.36 | 119.90 |
| 27 | 16 | 14 | U | OP1-P-OP2 | 7.81 | 131.31 | 119.60 |
| 1 | 1G | 1071 | C | C6-N1-C2 | -7.81 | 117.18 | 120.30 |
| 26 | 14 | 584 | C | N3-C4-N4 | 7.81 | 123.47 | 118.00 |
| 26 | 14 | 1433 | U | N3-C2-O2 | 7.81 | 127.67 | 122.20 |
| 26 | 14 | 2316 | C | O5'-P-OP1 | -7.81 | 98.67 | 105.70 |
| 26 | 14 | 2882 | A | N7-C8-N9 | -7.81 | 109.90 | 113.80 |
| 26 | 14 | 681 | G | C8-N9-C4 | 7.81 | 109.52 | 106.40 |
| 1 | 13 | 1195 | C | C5-C6-N1 | 7.80 | 124.90 | 121.00 |
| 1 | 13 | 1237 | C | C6-N1-C2 | -7.80 | 117.18 | 120.30 |
| 26 | 1H | 128 | C | C5-C4-N4 | -7.80 | 114.74 | 120.20 |
| 26 | 1H | 423 | A | N7-C8-N9 | -7.80 | 109.90 | 113.80 |
| 26 | 1H | 1139 | G | N7-C8-N9 | -7.80 | 109.20 | 113.10 |
| 26 | 1H | 2845 | G | N9-C4-C5 | 7.80 | 108.52 | 105.40 |
| 26 | 14 | 819 | A | C4-C5-N7 | -7.80 | 106.80 | 110.70 |
| 26 | 14 | 1844 | C | OP1-P-OP2 | -7.80 | 107.89 | 119.60 |
| 26 | 14 | 2429 | G | C5-C6-O6 | -7.80 | 123.92 | 128.60 |
| 26 | 1H | 463 | G | C8-N9-C4 | 7.80 | 109.52 | 106.40 |
| 26 | 1H | 2502 | G | N1-C2-N3 | 7.80 | 128.58 | 123.90 |
| 26 | 14 | 2466 | C | OP2-P-O3' | 7.80 | 122.37 | 105.20 |
| 1 | 13 | 1239 | A | C5-C6-N1 | -7.80 | 113.80 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2061 | G | N1-C6-O6 | -7.80 | 115.22 | 119.90 |
| 26 | 14 | 217 | G | O5'-P-OP1 | -7.80 | 98.68 | 105.70 |
| 26 | 14 | 2033 | A | C2-N3-C4 | 7.80 | 114.50 | 110.60 |
| 26 | 1H | 205 | G | C5-C6-O6 | -7.80 | 123.92 | 128.60 |
| 26 | 1H | 1298 | C | C6-N1-C2 | -7.80 | 117.18 | 120.30 |
| 1 | 1G | 28 | G | C8-N9-C4 | -7.80 | 103.28 | 106.40 |
| 26 | 1H | 2534 | A | N1-C6-N6 | 7.80 | 123.28 | 118.60 |
| 1 | 13 | 952 | U | C5-C4-O4 | 7.80 | 130.58 | 125.90 |
| 1 | 13 | 1097 | C | N3-C2-O2 | -7.80 | 116.44 | 121.90 |
| 26 | 1H | 1271 | G | C8-N9-C1' | -7.80 | 116.86 | 127.00 |
| 26 | 14 | 1780 | A | C6-N1-C2 | -7.80 | 113.92 | 118.60 |
| 26 | 14 | 1793 | C | C6-N1-C2 | -7.80 | 117.18 | 120.30 |
| 26 | 1H | 1974 | C | N1-C2-O2 | 7.79 | 123.58 | 118.90 |
| 26 | 1H | 2456 | C | C4-C5-C6 | 7.79 | 121.30 | 117.40 |
| 1 | 13 | 692 | U | N1-C2-N3 | 7.79 | 119.58 | 114.90 |
| 26 | 1H | 856 | C | N3-C2-O2 | 7.79 | 127.36 | 121.90 |
| 26 | 1H | 2256 | G | C5-C6-O6 | 7.79 | 133.28 | 128.60 |
| 1 | 1G | 894 | G | C5-C6-N1 | -7.79 | 107.60 | 111.50 |
| 26 | 14 | 1294 | U | C5-C4-O4 | -7.79 | 121.22 | 125.90 |
| 27 | 1J | 29 | A | C5-N7-C8 | -7.79 | 100.00 | 103.90 |
| 26 | 1H | 25 | U | C5-C6-N1 | -7.79 | 118.80 | 122.70 |
| 26 | 1H | 28 | A | C4-C5-N7 | 7.79 | 114.59 | 110.70 |
| 26 | 1H | 576 | U | N3-C4-C5 | 7.79 | 119.28 | 114.60 |
| 26 | 1H | 740 | U | C5-C6-N1 | -7.79 | 118.80 | 122.70 |
| 26 | 1H | 1438 | U | C6-N1-C2 | -7.79 | 116.33 | 121.00 |
| 26 | 1H | 1766 | U | N1-C2-O2 | -7.79 | 117.34 | 122.80 |
| 26 | 1H | 2218 | G | C5-C6-O6 | -7.79 | 123.92 | 128.60 |
| 26 | 1H | 2224 | G | N3-C2-N2 | -7.79 | 114.45 | 119.90 |
| 26 | 1H | 2623 | G | N3-C4-C5 | -7.79 | 124.70 | 128.60 |
| 1 | 13 | 811 | C | N3-C4-N4 | -7.79 | 112.55 | 118.00 |
| 26 | 1H | 142 | G | C4-N9-C1' | -7.79 | 116.37 | 126.50 |
| 26 | 1H | 2701 | C | N3-C4-N4 | -7.79 | 112.55 | 118.00 |
| 1 | 13 | 1224 | G | O5'-P-OP1 | 7.79 | 120.05 | 110.70 |
| 1 | 13 | 1356 | G | N7-C8-N9 | 7.79 | 117.00 | 113.10 |
| 26 | 1H | 702 | G | C5-C6-N1 | -7.79 | 107.61 | 111.50 |
| 26 | 1H | 1685 | C | C2-N3-C4 | -7.79 | 116.01 | 119.90 |
| 1 | 1G | 584 | G | N3-C4-C5 | 7.79 | 132.50 | 128.60 |
| 26 | 14 | 690 | G | C5-C6-N1 | -7.79 | 107.61 | 111.50 |
| 26 | 14 | 2243 | U | O5'-P-OP1 | -7.79 | 98.69 | 105.70 |
| 26 | 14 | 2595 | G | N9-C4-C5 | -7.79 | 102.28 | 105.40 |
| 26 | 1H | 470 | A | C4-C5-N7 | 7.79 | 114.59 | 110.70 |
| 26 | 1H | 415 | A | O5'-P-OP2 | -7.79 | 98.69 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1929 | G | C8-N9-C4 | 7.79 | 109.51 | 106.40 |
| 26 | 1H | 2295 | C | N3-C2-O2 | -7.79 | 116.45 | 121.90 |
| 27 | 16 | 96 | G | C2-N3-C4 | 7.79 | 115.79 | 111.90 |
| 26 | 14 | 25 | U | N3-C4-O4 | 7.79 | 124.85 | 119.40 |
| 26 | 14 | 121 | G | C6-N1-C2 | -7.79 | 120.43 | 125.10 |
| 26 | 14 | 332 | A | O5'-P-OP2 | -7.79 | 98.69 | 105.70 |
| 26 | 14 | 1808 | U | C5-C4-O4 | -7.79 | 121.23 | 125.90 |
| 26 | 14 | 2421 | G | N1-C6-O6 | -7.79 | 115.23 | 119.90 |
| 26 | 14 | 2446 | G | N1-C6-O6 | -7.79 | 115.23 | 119.90 |
| 26 | 1H | 136 | G | N1-C2-N2 | 7.78 | 123.20 | 116.20 |
| 26 | 1H | 138 | G | N3-C2-N2 | 7.78 | 125.35 | 119.90 |
| 26 | 1H | 1686 | C | C5-C6-N1 | -7.78 | 117.11 | 121.00 |
| 26 | 14 | 197 | A | C4-C5-N7 | 7.78 | 114.59 | 110.70 |
| 26 | 14 | 679 | C | C2-N3-C4 | -7.78 | 116.01 | 119.90 |
| 26 | 14 | 1284 | A | N9-C4-C5 | -7.78 | 102.69 | 105.80 |
| 26 | 14 | 1702 | G | C2-N3-C4 | -7.78 | 108.01 | 111.90 |
| 26 | 14 | 1817 | G | C6-N1-C2 | 7.78 | 129.77 | 125.10 |
| 26 | 14 | 2862 | G | C5-C6-O6 | -7.78 | 123.93 | 128.60 |
| 1 | 13 | 232 | G | C5-C6-N1 | -7.78 | 107.61 | 111.50 |
| 1 | 13 | 477 | G | N3-C4-C5 | 7.78 | 132.49 | 128.60 |
| 26 | 14 | 974 | G | C5-C6-N1 | 7.78 | 115.39 | 111.50 |
| 26 | 1H | 990 | A | C6-N1-C2 | 7.78 | 123.27 | 118.60 |
| 26 | 1H | 1125 | G | C5-N7-C8 | 7.78 | 108.19 | 104.30 |
| 26 | 1H | 1329 | U | N3-C4-C5 | -7.78 | 109.93 | 114.60 |
| 1 | 1G | 977 | A | C2-N3-C4 | 7.78 | 114.49 | 110.60 |
| 1 | 1G | 1502 | A | C2-N3-C4 | -7.78 | 106.71 | 110.60 |
| 26 | 14 | 707 | G | N1-C6-O6 | 7.78 | 124.57 | 119.90 |
| 26 | 1H | 946 | G | OP1-P-OP2 | -7.78 | 107.93 | 119.60 |
| 26 | 1H | 2729 | G | N1-C2-N3 | 7.78 | 128.57 | 123.90 |
| 26 | 1H | 436 | C | C2-N3-C4 | 7.78 | 123.79 | 119.90 |
| 26 | 1H | 567 | A | C8-N9-C4 | -7.78 | 102.69 | 105.80 |
| 26 | 1H | 866 | A | C8-N9-C4 | 7.78 | 108.91 | 105.80 |
| 26 | 1H | 1284 | A | OP1-P-OP2 | 7.78 | 131.27 | 119.60 |
| 26 | 1H | 1451 | C | C6-N1-C2 | 7.78 | 123.41 | 120.30 |
| 26 | 1H | 1768 | U | N1-C2-N3 | -7.78 | 110.23 | 114.90 |
| 26 | 1H | 2082 | A | N1-C2-N3 | 7.78 | 133.19 | 129.30 |
| 26 | 1H | 2490 | G | N9-C4-C5 | 7.78 | 108.51 | 105.40 |
| 26 | 14 | 301 | G | OP1-P-OP2 | 7.78 | 131.27 | 119.60 |
| 26 | 14 | 1957 | C | N3-C2-O2 | 7.78 | 127.34 | 121.90 |
| 26 | 14 | 2248 | C | N3-C4-C5 | -7.78 | 118.79 | 121.90 |
| 1 | 13 | 492 | G | N3-C2-N2 | -7.78 | 114.46 | 119.90 |
| 1 | 13 | 1388 | C | N3-C2-O2 | 7.78 | 127.34 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2351 | G | N3-C2-N2 | 7.78 | 125.34 | 119.90 |
| 26 | 14 | 215 | G | N9-C4-C5 | -7.78 | 102.29 | 105.40 |
| 26 | 14 | 250 | G | O5'-P-OP1 | -7.78 | 98.70 | 105.70 |
| 26 | 14 | 774 | A | C6-C5-N7 | -7.78 | 126.86 | 132.30 |
| 26 | 14 | 1655 | A | C5-N7-C8 | 7.78 | 107.79 | 103.90 |
| 26 | 14 | 2432 | A | C4-C5-N7 | 7.78 | 114.59 | 110.70 |
| 27 | 1J | 47 | C | C6-N1-C2 | 7.78 | 123.41 | 120.30 |
| 1 | 13 | 1430 | C | C4-C5-C6 | 7.77 | 121.29 | 117.40 |
| 26 | 1H | 629 | G | N7-C8-N9 | -7.77 | 109.21 | 113.10 |
| 26 | 1H | 632 | A | N7-C8-N9 | 7.77 | 117.69 | 113.80 |
| 1 | 1G | 678 | U | C5-C6-N1 | -7.77 | 118.81 | 122.70 |
| 26 | 1H | 833 | U | N1-C2-O2 | -7.77 | 117.36 | 122.80 |
| 26 | 1H | 842 | G | C5-N7-C8 | -7.77 | 100.41 | 104.30 |
| 26 | 1H | 860 | U | C4-C5-C6 | 7.77 | 124.36 | 119.70 |
| 26 | 1H | 910 | A | N1-C6-N6 | 7.77 | 123.26 | 118.60 |
| 26 | 1H | 1191 | G | C5-N7-C8 | 7.77 | 108.19 | 104.30 |
| 26 | 1H | 2219 | G | N1-C6-O6 | 7.77 | 124.56 | 119.90 |
| 26 | 1H | 2550 | G | C5-N7-C8 | -7.77 | 100.41 | 104.30 |
| 26 | 1H | 2660 | A | OP1-P-OP2 | -7.77 | 107.94 | 119.60 |
| 26 | 1H | 2889 | C | N1-C2-O2 | -7.77 | 114.24 | 118.90 |
| 26 | 1H | 347 | A | C6-N1-C2 | 7.77 | 123.26 | 118.60 |
| 26 | 1H | 704 | G | N9-C4-C5 | 7.77 | 108.51 | 105.40 |
| 26 | 1H | 1397 | U | N3-C4-C5 | -7.77 | 109.94 | 114.60 |
| 26 | 1H | 1477 | A | OP2-P-O3' | 7.77 | 122.30 | 105.20 |
| 26 | 1H | 1999 | C | C5-C6-N1 | -7.77 | 117.11 | 121.00 |
| 26 | 14 | 1687 | G | N3-C4-C5 | 7.77 | 132.49 | 128.60 |
| 26 | 14 | 2570 | G | C6-C5-N7 | -7.77 | 125.74 | 130.40 |
| 1 | 13 | 9 | G | C4-C5-N7 | 7.77 | 113.91 | 110.80 |
| 1 | 13 | 908 | A | N9-C4-C5 | 7.77 | 108.91 | 105.80 |
| 1 | 13 | 1269 | A | C5-C6-N1 | 7.77 | 121.58 | 117.70 |
| 26 | 1H | 705 | A | C4-C5-N7 | 7.77 | 114.58 | 110.70 |
| 26 | 1H | 727 | A | O5'-P-OP1 | -7.77 | 98.71 | 105.70 |
| 26 | 1H | 1381 | G | N3-C4-N9 | -7.77 | 121.34 | 126.00 |
| 26 | 1H | 1553 | A | N3-C4-C5 | -7.77 | 121.36 | 126.80 |
| 26 | 14 | 381 | G | OP1-P-OP2 | 7.77 | 131.25 | 119.60 |
| 26 | 14 | 951 | C | OP1-P-O3' | 7.77 | 122.29 | 105.20 |
| 26 | 1H | 1352 | U | N3-C2-O2 | 7.77 | 127.64 | 122.20 |
| 26 | 1H | 1823 | G | N7-C8-N9 | 7.77 | 116.98 | 113.10 |
| 26 | 1H | 1967 | C | N3-C2-O2 | -7.77 | 116.46 | 121.90 |
| 22 | 1K | 76 | A | C4-C5-N7 | 7.77 | 114.58 | 110.70 |
| 26 | 1H | 944 | G | OP1-P-OP2 | 7.77 | 131.25 | 119.60 |
| 26 | 1H | 2271 | G | N3-C4-C5 | -7.77 | 124.72 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 1276 | A | C8-N9-C4 | -7.77 | 102.69 | 105.80 |
| 26 | 14 | 2676 | C | N3-C4-C5 | 7.77 | 125.01 | 121.90 |
| 26 | 14 | 2685 | G | C8-N9-C4 | 7.77 | 109.51 | 106.40 |
| 1 | 13 | 878 | G | N3-C2-N2 | 7.76 | 125.33 | 119.90 |
| 1 | 13 | 1351 | U | N1-C2-O2 | -7.76 | 117.36 | 122.80 |
| 26 | 1H | 325 | G | N1-C6-O6 | -7.76 | 115.24 | 119.90 |
| 26 | 1H | 535 | C | C2-N1-C1' | -7.76 | 110.26 | 118.80 |
| 26 | 1H | 576 | U | N1-C2-O2 | -7.76 | 117.37 | 122.80 |
| 26 | 1H | 706 | A | OP1-P-OP2 | -7.76 | 107.95 | 119.60 |
| 26 | 1H | 1247 | A | N1-C6-N6 | 7.76 | 123.26 | 118.60 |
| 26 | 1H | 2545 | G | N1-C6-O6 | -7.76 | 115.24 | 119.90 |
| 26 | 1H | 2561 | A | N3-C4-N9 | -7.76 | 121.19 | 127.40 |
| 27 | 16 | 90 | C | C6-N1-C2 | -7.76 | 117.19 | 120.30 |
| 26 | 14 | 1369 | G | C5-N7-C8 | 7.76 | 108.18 | 104.30 |
| 26 | 14 | 1449(A) | G | O5'-P-OP2 | -7.76 | 98.71 | 105.70 |
| 26 | 14 | 1776 | G | N1-C2-N3 | 7.76 | 128.56 | 123.90 |
| 26 | 14 | 1950 | G | O4'-C1'-N9 | 7.76 | 114.41 | 108.20 |
| 1 | 13 | 417 | C | N1-C2-O2 | 7.76 | 123.56 | 118.90 |
| 26 | 1H | 127 | A | OP1-P-OP2 | 7.76 | 131.24 | 119.60 |
| 1 | 1G | 18 | C | N3-C4-N4 | 7.76 | 123.43 | 118.00 |
| 26 | 14 | 2365 | G | N3-C2-N2 | 7.76 | 125.33 | 119.90 |
| 1 | 13 | 338 | A | N1-C6-N6 | 7.76 | 123.26 | 118.60 |
| 26 | 1H | 1429 | G | N3-C2-N2 | 7.76 | 125.33 | 119.90 |
| 26 | 1H | 2026 | C | C5-C6-N1 | -7.76 | 117.12 | 121.00 |
| 26 | 1H | 80 | G | N1-C6-O6 | -7.76 | 115.25 | 119.90 |
| 26 | 1H | 402 | A | N1-C2-N3 | 7.76 | 133.18 | 129.30 |
| 26 | 1H | 1346 | G | C5-C6-O6 | 7.76 | 133.25 | 128.60 |
| 26 | 1H | 1455 | G | O5'-P-OP2 | -7.76 | 98.72 | 105.70 |
| 26 | 1H | 2530 | A | N1-C6-N6 | 7.76 | 123.25 | 118.60 |
| 26 | 14 | 1701 | A | C5-C6-N1 | 7.76 | 121.58 | 117.70 |
| 1 | 13 | 762 | C | N3-C4-C5 | 7.76 | 125.00 | 121.90 |
| 26 | 1H | 2820 | A | O5'-P-OP2 | -7.76 | 98.72 | 105.70 |
| 27 | 16 | 102 | G | N7-C8-N9 | -7.76 | 109.22 | 113.10 |
| 1 | 1G | 535 | A | N1-C6-N6 | -7.76 | 113.95 | 118.60 |
| 1 | 1G | 1408 | A | N9-C4-C5 | 7.76 | 108.90 | 105.80 |
| 26 | 14 | 559 | G | C8-N9-C4 | 7.76 | 109.50 | 106.40 |
| 26 | 14 | 1813 | G | C4-C5-N7 | -7.76 | 107.70 | 110.80 |
| 26 | 14 | 2438 | U | C5-C6-N1 | -7.76 | 118.82 | 122.70 |
| 1 | 13 | 966 | G | N3-C4-N9 | 7.75 | 130.65 | 126.00 |
| 27 | 16 | 48 | A | C5-C6-N1 | 7.75 | 121.58 | 117.70 |
| 26 | 14 | 1827 | C | N1-C2-O2 | 7.75 | 123.55 | 118.90 |
| 26 | 1H | 288 | C | N3-C4-N4 | 7.75 | 123.43 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1436 | G | C2-N3-C4 | 7.75 | 115.78 | 111.90 |
| 26 | 1H | 1922 | G | N7-C8-N9 | -7.75 | 109.22 | 113.10 |
| 26 | 1H | 2312 | U | N1-C2-O2 | -7.75 | 117.37 | 122.80 |
| 1 | 1G | 53 | A | C4-C5-N7 | 7.75 | 114.58 | 110.70 |
| 26 | 14 | 25 | U | N3-C2-O2 | 7.75 | 127.63 | 122.20 |
| 26 | 14 | 578 | A | OP2-P-O3' | 7.75 | 122.26 | 105.20 |
| 26 | 14 | 785 | G | N9-C4-C5 | 7.75 | 108.50 | 105.40 |
| 26 | 14 | 1292 | U | O5'-P-OP2 | -7.75 | 98.72 | 105.70 |
| 26 | 14 | 1695 | G | C4-C5-C6 | 7.75 | 123.45 | 118.80 |
| 1 | 13 | 628 | G | C5-C6-N1 | -7.75 | 107.62 | 111.50 |
| 26 | 1H | 910 | A | C5-C6-N1 | -7.75 | 113.82 | 117.70 |
| 26 | 1H | 931 | G | N3-C4-N9 | 7.75 | 130.65 | 126.00 |
| 26 | 1H | 2573 | C | C2-N3-C4 | -7.75 | 116.03 | 119.90 |
| 1 | 1G | 911 | U | C5-C4-O4 | 7.75 | 130.55 | 125.90 |
| 26 | 14 | 1136 | G | N9-C4-C5 | -7.75 | 102.30 | 105.40 |
| 26 | 14 | 2489 | G | C5-C6-O6 | -7.75 | 123.95 | 128.60 |
| 26 | 1H | 250 | G | C5-N7-C8 | -7.75 | 100.42 | 104.30 |
| 26 | 1H | 524 | U | C5-C6-N1 | -7.75 | 118.83 | 122.70 |
| 26 | 1H | 2277 | G | N1-C6-O6 | -7.75 | 115.25 | 119.90 |
| 1 | 1G | 352 | C | N3-C2-O2 | -7.75 | 116.47 | 121.90 |
| 26 | 14 | 666 | G | N7-C8-N9 | -7.75 | 109.22 | 113.10 |
| 1 | 13 | 1290 | G | C8-N9-C4 | -7.75 | 103.30 | 106.40 |
| 26 | 1H | 2071 | A | N1-C6-N6 | 7.75 | 123.25 | 118.60 |
| 26 | 1H | 2272 | U | C6-N1-C2 | 7.75 | 125.65 | 121.00 |
| 26 | 1H | 2325 | G | O5'-P-OP1 | -7.75 | 98.73 | 105.70 |
| 26 | 14 | 481 | G | O5'-P-OP2 | -7.75 | 98.73 | 105.70 |
| 26 | 14 | 1619 | G | C6-N1-C2 | -7.75 | 120.45 | 125.10 |
| 26 | 14 | 1762 | A | C4-C5-N7 | 7.75 | 114.58 | 110.70 |
| 26 | 14 | 1986 | A | C4-C5-C6 | 7.75 | 120.87 | 117.00 |
| 26 | 14 | 2603 | G | N3-C2-N2 | 7.75 | 125.32 | 119.90 |
| 44 | A5 | 77 | ASP | CB-CG-OD1 | 7.75 | 125.27 | 118.30 |
| 26 | 1H | 399 | G | N7-C8-N9 | -7.75 | 109.23 | 113.10 |
| 26 | 1H | 663 | G | N1-C6-O6 | 7.75 | 124.55 | 119.90 |
| 26 | 1H | 1463 | C | N1-C2-O2 | -7.75 | 114.25 | 118.90 |
| 26 | 1H | 1637 | A | C2-N3-C4 | 7.75 | 114.47 | 110.60 |
| 26 | 1H | 2089 | U | N1-C2-O2 | -7.75 | 117.38 | 122.80 |
| 26 | 14 | 2777 | G | C5-C6-N1 | -7.75 | 107.63 | 111.50 |
| 1 | 13 | 1533 | C | N3-C2-O2 | -7.74 | 116.48 | 121.90 |
| 26 | 1H | 1625 | C | N3-C4-N4 | -7.74 | 112.58 | 118.00 |
| 26 | 1H | 2538 | C | O5'-P-OP2 | -7.74 | 98.73 | 105.70 |
| 26 | 14 | 405 | U | N1-C2-O2 | 7.74 | 128.22 | 122.80 |
| 26 | 14 | 821 | A | N1-C2-N3 | 7.74 | 133.17 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1187 | G | N3-C2-N2 | -7.74 | 114.48 | 119.90 |
| 1 | 13 | 1524 | C | C2-N3-C4 | -7.74 | 116.03 | 119.90 |
| 26 | 1H | 431 | U | N3-C4-O4 | 7.74 | 124.82 | 119.40 |
| 26 | 1H | 2643 | G | C5-C6-O6 | -7.74 | 123.95 | 128.60 |
| 26 | 1H | 2747 | G | C4-C5-N7 | 7.74 | 113.90 | 110.80 |
| 27 | 16 | 60 | C | N1-C2-O2 | 7.74 | 123.55 | 118.90 |
| 26 | 14 | 435 | C | OP1-P-OP2 | 7.74 | 131.21 | 119.60 |
| 26 | 14 | 2387 | U | O5'-P-OP2 | -7.74 | 98.73 | 105.70 |
| 1 | 13 | 21 | G | C5-C6-N1 | -7.74 | 107.63 | 111.50 |
| 1 | 13 | 227 | G | N3-C4-C5 | 7.74 | 132.47 | 128.60 |
| 26 | 1H | 328 | U | N1-C2-O2 | -7.74 | 117.38 | 122.80 |
| 26 | 1H | 1182 | A | N1-C6-N6 | 7.74 | 123.24 | 118.60 |
| 26 | 1H | 2495 | G | C2-N3-C4 | -7.74 | 108.03 | 111.90 |
| 27 | 16 | 109 | G | O5'-P-OP1 | -7.74 | 98.73 | 105.70 |
| 1 | 1G | 913 | A | C6-N1-C2 | -7.74 | 113.96 | 118.60 |
| 26 | 14 | 2067 | G | C4-C5-C6 | 7.74 | 123.44 | 118.80 |
| 26 | 14 | 2226 | C | N1-C2-O2 | 7.74 | 123.55 | 118.90 |
| 26 | 14 | 2459 | A | O5'-P-OP2 | -7.74 | 98.73 | 105.70 |
| 26 | 1H | 335 | C | N3-C4-C5 | -7.74 | 118.81 | 121.90 |
| 1 | 1G | 858 | G | C5-N7-C8 | -7.74 | 100.43 | 104.30 |
| 26 | 14 | 340 | A | N1-C6-N6 | -7.74 | 113.96 | 118.60 |
| 26 | 1H | 1449(A) | G | C4-C5-N7 | -7.74 | 107.70 | 110.80 |
| 26 | 1H | 1861 | G | C4-C5-N7 | -7.74 | 107.70 | 110.80 |
| 1 | 1G | 1507 | A | C6-N1-C2 | -7.74 | 113.96 | 118.60 |
| 26 | 1H | 273(A) | G | C2-N3-C4 | -7.74 | 108.03 | 111.90 |
| 26 | 1H | 379 | G | N3-C4-C5 | -7.74 | 124.73 | 128.60 |
| 26 | 1H | 501 | A | O5'-P-OP2 | -7.74 | 98.74 | 105.70 |
| 26 | 1H | 772 | C | N3-C4-C5 | -7.74 | 118.81 | 121.90 |
| 26 | 1H | 2611 | U | C5-C4-O4 | 7.74 | 130.54 | 125.90 |
| 26 | 1H | 2699 | C | C2-N3-C4 | -7.74 | 116.03 | 119.90 |
| 25 | 4L | 14 | A | C5-C6-N1 | 7.74 | 121.57 | 117.70 |
| 26 | 14 | 1145 | C | C6-N1-C2 | -7.74 | 117.21 | 120.30 |
| 26 | 14 | 1305 | C | C2-N3-C4 | -7.74 | 116.03 | 119.90 |
| 26 | 14 | 2324 | C | N3-C4-C5 | 7.74 | 125.00 | 121.90 |
| 26 | 1H | 1787 | A | C2-N3-C4 | -7.73 | 106.73 | 110.60 |
| 26 | 14 | 1554 | A | O5'-P-OP2 | -7.73 | 98.74 | 105.70 |
| 26 | 14 | 2371 | G | C8-N9-C4 | 7.73 | 109.49 | 106.40 |
| 1 | 13 | 547 | A | C5-C6-N1 | 7.73 | 121.57 | 117.70 |
| 26 | 1H | 1352 | U | N3-C4-C5 | 7.73 | 119.24 | 114.60 |
| 26 | 1H | 1378 | A | C8-N9-C4 | 7.73 | 108.89 | 105.80 |
| 26 | 1H | 2373 | G | C6-C5-N7 | -7.73 | 125.76 | 130.40 |
| 1 | 1G | 760 | G | O5'-P-OP2 | -7.73 | 98.74 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 486 | C | N3-C4-N4 | 7.73 | 123.41 | 118.00 |
| 26 | 14 | 2739 | U | OP1-P-OP2 | 7.73 | 131.20 | 119.60 |
| 26 | 1H | 102 | G | OP1-P-O3' | 7.73 | 122.21 | 105.20 |
| 26 | 1H | 2409 | G | C6-C5-N7 | -7.73 | 125.76 | 130.40 |
| 57 | 3L | 2 | G | N3-C4-C5 | 7.73 | 132.47 | 128.60 |
| 26 | 14 | 208 | C | OP1-P-OP2 | 7.73 | 131.20 | 119.60 |
| 26 | 14 | 251 | A | N9-C4-C5 | 7.73 | 108.89 | 105.80 |
| 26 | 14 | 564 | C | N1-C2-O2 | -7.73 | 114.26 | 118.90 |
| 26 | 14 | 699 | A | N7-C8-N9 | -7.73 | 109.94 | 113.80 |
| 26 | 14 | 1980 | G | C5-C6-N1 | 7.73 | 115.37 | 111.50 |
| 26 | 1H | 54 | G | N7-C8-N9 | 7.73 | 116.96 | 113.10 |
| 26 | 1H | 250 | G | C4-C5-N7 | 7.73 | 113.89 | 110.80 |
| 26 | 1H | 146 | G | N9-C4-C5 | -7.73 | 102.31 | 105.40 |
| 26 | 14 | 759 | G | N1-C2-N2 | 7.73 | 123.15 | 116.20 |
| 26 | 14 | 1252 | G | C5-C6-N1 | 7.73 | 115.36 | 111.50 |
| 26 | 1H | 805 | G | C2-N3-C4 | -7.73 | 108.04 | 111.90 |
| 26 | 1H | 1618 | A | C6-C5-N7 | -7.73 | 126.89 | 132.30 |
| 26 | 1H | 1885 | A | C8-N9-C4 | 7.73 | 108.89 | 105.80 |
| 26 | 1H | 2408 | U | C5-C6-N1 | -7.73 | 118.84 | 122.70 |
| 26 | 14 | 1357 | U | O5'-P-OP1 | -7.73 | 98.75 | 105.70 |
| 26 | 1H | 258 | G | C5-C6-N1 | 7.72 | 115.36 | 111.50 |
| 26 | 1H | 752 | A | N1-C2-N3 | 7.72 | 133.16 | 129.30 |
| 26 | 1H | 2339 | G | C5-C6-O6 | 7.72 | 133.23 | 128.60 |
| 26 | 1H | 2345 | G | C2-N3-C4 | -7.72 | 108.04 | 111.90 |
| 26 | 14 | 1229(A) | G | N1-C2-N3 | 7.72 | 128.53 | 123.90 |
| 26 | 14 | 1517 | G | C8-N9-C4 | -7.72 | 103.31 | 106.40 |
| 26 | 14 | 1689 | A | C2-N3-C4 | -7.72 | 106.74 | 110.60 |
| 1 | 13 | 305 | G | O4'-C1'-N9 | -7.72 | 102.02 | 108.20 |
| 26 | 1H | 188 | G | C8-N9-C4 | 7.72 | 109.49 | 106.40 |
| 26 | 1H | 406 | G | C5-C6-O6 | 7.72 | 133.23 | 128.60 |
| 26 | 1H | 2266 | A | OP1-P-OP2 | -7.72 | 108.02 | 119.60 |
| 26 | 1H | 2625 | G | C8-N9-C4 | 7.72 | 109.49 | 106.40 |
| 1 | 1G | 809 | G | C4-C5-N7 | 7.72 | 113.89 | 110.80 |
| 1 | 13 | 925 | G | C4-C5-C6 | 7.72 | 123.43 | 118.80 |
| 26 | 1H | 658 | C | C5-C6-N1 | -7.72 | 117.14 | 121.00 |
| 23 | 2K | 7 | G | C5-N7-C8 | -7.72 | 100.44 | 104.30 |
| 26 | 1H | 659 | C | C2-N3-C4 | -7.72 | 116.04 | 119.90 |
| 26 | 14 | 1633 | G | O5'-P-OP1 | -7.72 | 98.75 | 105.70 |
| 26 | 14 | 2376 | A | C8-N9-C4 | 7.72 | 108.89 | 105.80 |
| 1 | 1G | 969 | A | O5'-P-OP2 | -7.72 | 98.75 | 105.70 |
| 26 | 14 | 2208 | U | C6-N1-C2 | 7.72 | 125.63 | 121.00 |
| 26 | 1H | 1496 | A | N1-C2-N3 | -7.72 | 125.44 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1636 | C | N1-C2-O2 | -7.72 | 114.27 | 118.90 |
| 26 | 1H | 1667 | G | O5'-P-OP1 | -7.72 | 98.76 | 105.70 |
| 26 | 1H | 2597 | G | N1-C6-O6 | 7.72 | 124.53 | 119.90 |
| 26 | 14 | 426 | C | N3-C2-O2 | -7.72 | 116.50 | 121.90 |
| 26 | 14 | 562 | U | C5-C6-N1 | -7.72 | 118.84 | 122.70 |
| 26 | 14 | 1597 | A | O5'-P-OP2 | -7.72 | 98.76 | 105.70 |
| 26 | 14 | 2452 | C | N3-C2-O2 | 7.72 | 127.30 | 121.90 |
| 26 | 14 | 2457 | U | OP1-P-O3' | -7.72 | 88.22 | 105.20 |
| 26 | 1H | 574 | C | N3-C4-C5 | -7.71 | 118.81 | 121.90 |
| 26 | 1H | 1609 | A | C8-N9-C4 | 7.71 | 108.89 | 105.80 |
| 26 | 1H | 2484 | G | N9-C4-C5 | -7.71 | 102.31 | 105.40 |
| 27 | 16 | 14 | U | C5-C6-N1 | -7.71 | 118.84 | 122.70 |
| 26 | 14 | 388 | G | O5'-P-OP2 | -7.71 | 98.76 | 105.70 |
| 26 | 14 | 600 | G | C6-C5-N7 | -7.71 | 125.77 | 130.40 |
| 26 | 14 | 732 | C | N1-C2-O2 | -7.71 | 114.27 | 118.90 |
| 26 | 14 | 785 | G | N1-C6-O6 | -7.71 | 115.27 | 119.90 |
| 26 | 14 | 1252 | G | N7-C8-N9 | -7.71 | 109.24 | 113.10 |
| 26 | 14 | 1309 | G | O5'-P-OP2 | -7.71 | 98.76 | 105.70 |
| 26 | 1H | 2466 | C | C6-N1-C2 | 7.71 | 123.39 | 120.30 |
| 1 | 1G | 1449 | C | C2-N1-C1' | 7.71 | 127.28 | 118.80 |
| 1 | 13 | 481 | G | C2-N3-C4 | -7.71 | 108.05 | 111.90 |
| 1 | 13 | 503 | C | N3-C4-N4 | 7.71 | 123.40 | 118.00 |
| 1 | 13 | 517 | G | O5'-P-OP2 | -7.71 | 98.76 | 105.70 |
| 26 | 1H | 996 | A | N1-C2-N3 | 7.71 | 133.16 | 129.30 |
| 26 | 1H | 2023 | G | N1-C2-N3 | 7.71 | 128.53 | 123.90 |
| 1 | 13 | 690 | G | O5'-P-OP1 | -7.71 | 98.76 | 105.70 |
| 26 | 1H | 26 | G | C5-C6-N1 | -7.71 | 107.64 | 111.50 |
| 26 | 1H | 1337 | G | C8-N9-C4 | -7.71 | 103.32 | 106.40 |
| 26 | 1H | 1373 | A | N1-C6-N6 | -7.71 | 113.97 | 118.60 |
| 26 | 1H | 2844 | G | C8-N9-C4 | -7.71 | 103.32 | 106.40 |
| 27 | 16 | 77 | U | N3-C4-C5 | 7.71 | 119.23 | 114.60 |
| 26 | 14 | 1342 | A | O4'-C1'-N9 | 7.71 | 114.37 | 108.20 |
| 26 | 14 | 1629 | U | N3-C4-O4 | 7.71 | 124.80 | 119.40 |
| 1 | 13 | 521 | G | N9-C4-C5 | -7.71 | 102.32 | 105.40 |
| 26 | 1H | 1252 | G | O4'-C1'-N9 | -7.71 | 102.03 | 108.20 |
| 26 | 14 | 373 | U | N1-C2-N3 | -7.71 | 110.28 | 114.90 |
| 26 | 14 | 1929 | G | OP1-P-OP2 | 7.71 | 131.16 | 119.60 |
| 1 | 13 | 294 | U | OP2-P-O3' | 7.71 | 122.15 | 105.20 |
| 26 | 1H | 1670 | C | N3-C4-N4 | 7.71 | 123.39 | 118.00 |
| 26 | 1H | 2234 | G | C2-N3-C4 | -7.71 | 108.05 | 111.90 |
| 26 | 1H | 36 | G | C4-C5-N7 | -7.70 | 107.72 | 110.80 |
| 26 | 1H | 1823 | G | C6-C5-N7 | -7.70 | 125.78 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2242 | G | C5-C6-O6 | -7.70 | 123.98 | 128.60 |
| 26 | 1H | 2416 | C | O5'-P-OP2 | -7.70 | 98.77 | 105.70 |
| 26 | 14 | 1431 | U | N3-C4-C5 | 7.70 | 119.22 | 114.60 |
| 26 | 14 | 2244 | U | C6-N1-C1' | 7.70 | 131.99 | 121.20 |
| 26 | 1H | 2057 | A | O5'-P-OP2 | -7.70 | 98.77 | 105.70 |
| 26 | 14 | 1446 | C | N3-C2-O2 | -7.70 | 116.51 | 121.90 |
| 1 | 13 | 869 | G | C6-C5-N7 | -7.70 | 125.78 | 130.40 |
| 1 | 13 | 892 | A | C5-C6-N1 | -7.70 | 113.85 | 117.70 |
| 26 | 1H | 137(A) | G | N3-C2-N2 | -7.70 | 114.51 | 119.90 |
| 26 | 1H | 975 | G | N3-C2-N2 | -7.70 | 114.51 | 119.90 |
| 26 | 14 | 1338 | G | OP1-P-OP2 | -7.70 | 108.05 | 119.60 |
| 26 | 14 | 1612 | C | N3-C4-N4 | 7.70 | 123.39 | 118.00 |
| 26 | 14 | 1784 | A | N1-C2-N3 | 7.70 | 133.15 | 129.30 |
| 26 | 14 | 2336 | A | N1-C6-N6 | -7.70 | 113.98 | 118.60 |
| 26 | 14 | 2392 | A | C6-N1-C2 | 7.70 | 123.22 | 118.60 |
| 1 | 13 | 362 | G | C5-N7-C8 | -7.70 | 100.45 | 104.30 |
| 26 | 1H | 767 | U | OP1-P-OP2 | 7.70 | 131.15 | 119.60 |
| 26 | 1H | 768 | G | O5'-P-OP2 | -7.70 | 98.77 | 105.70 |
| 26 | 1H | 1394 | U | C2-N3-C4 | 7.70 | 131.62 | 127.00 |
| 26 | 1H | 1681 | G | N1-C2-N3 | -7.70 | 119.28 | 123.90 |
| 26 | 1H | 1708 | C | C6-N1-C2 | 7.70 | 123.38 | 120.30 |
| 26 | 1H | 2297 | C | N3-C4-C5 | -7.70 | 118.82 | 121.90 |
| 26 | 1H | 2879 | C | OP1-P-OP2 | -7.70 | 108.05 | 119.60 |
| 26 | 1H | 835 | A | N1-C6-N6 | -7.70 | 113.98 | 118.60 |
| 26 | 1H | 1678 | G | N1-C2-N3 | 7.70 | 128.52 | 123.90 |
| 1 | 1G | 24 | U | O5'-P-OP1 | -7.70 | 98.77 | 105.70 |
| 26 | 14 | 488 | G | C8-N9-C4 | 7.70 | 109.48 | 106.40 |
| 26 | 14 | 2006 | C | C5-C4-N4 | -7.70 | 114.81 | 120.20 |
| 26 | 14 | 2718 | G | N3-C2-N2 | -7.70 | 114.51 | 119.90 |
| 1 | 13 | 863 | U | C4-C5-C6 | 7.70 | 124.32 | 119.70 |
| 26 | 1H | 140 | A | OP2-P-O3' | 7.70 | 122.13 | 105.20 |
| 26 | 1H | 840 | C | C6-N1-C2 | 7.70 | 123.38 | 120.30 |
| 26 | 1H | 1162 | G | C5-N7-C8 | -7.70 | 100.45 | 104.30 |
| 26 | 1H | 2819 | G | N7-C8-N9 | -7.70 | 109.25 | 113.10 |
| 26 | 14 | 213 | A | N3-C4-C5 | 7.70 | 132.19 | 126.80 |
| 26 | 14 | 630 | G | O5'-P-OP2 | -7.70 | 98.77 | 105.70 |
| 26 | 14 | 1836 | C | O5'-P-OP2 | -7.70 | 98.77 | 105.70 |
| 27 | 1J | 8 | U | O5'-P-OP2 | -7.70 | 98.78 | 105.70 |
| 27 | 1J | 48 | A | O5'-P-OP2 | 7.70 | 119.93 | 110.70 |
| 26 | 1H | 500 | G | N9-C4-C5 | 7.69 | 108.48 | 105.40 |
| 26 | 1H | 820 | A | C2-N3-C4 | -7.69 | 106.75 | 110.60 |
| 26 | 1H | 1734 | C | C5-C6-N1 | -7.69 | 117.15 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 304 | U | C4-C5-C6 | 7.69 | 124.32 | 119.70 |
| 27 | 1J | 39 | A | C8-N9-C4 | -7.69 | 102.72 | 105.80 |
| 26 | 1H | 32 | C | O5'-P-OP2 | -7.69 | 98.78 | 105.70 |
| 26 | 1H | 211 | A | OP1-P-O3' | -7.69 | 88.28 | 105.20 |
| 26 | 1H | 216 | A | N1-C2-N3 | 7.69 | 133.15 | 129.30 |
| 26 | 1H | 427 | U | C6-N1-C2 | -7.69 | 116.39 | 121.00 |
| 26 | 1H | 428 | A | OP1-P-O3' | 7.69 | 122.12 | 105.20 |
| 26 | 1H | 581 | C | C5-C4-N4 | 7.69 | 125.58 | 120.20 |
| 26 | 1H | 2083 | G | C8-N9-C4 | -7.69 | 103.32 | 106.40 |
| 27 | 16 | 7 | G | N1-C2-N2 | -7.69 | 109.28 | 116.20 |
| 26 | 14 | 440 | G | O5'-P-OP1 | -7.69 | 98.78 | 105.70 |
| 26 | 14 | 1210 | A | N1-C6-N6 | 7.69 | 123.22 | 118.60 |
| 26 | 14 | 1583 | A | C5-C6-N6 | -7.69 | 117.55 | 123.70 |
| 26 | 14 | 2423 | U | C2-N3-C4 | -7.69 | 122.39 | 127.00 |
| 40 | 65 | 110 | LEU | CB-CG-CD2 | 7.69 | 124.08 | 111.00 |
| 1 | 13 | 1402 | C | C5-C4-N4 | 7.69 | 125.58 | 120.20 |
| 26 | 1H | 130 | C | C6-N1-C2 | 7.69 | 123.38 | 120.30 |
| 26 | 14 | 122 | G | N7-C8-N9 | -7.69 | 109.25 | 113.10 |
| 26 | 14 | 447 | A | N1-C6-N6 | -7.69 | 113.99 | 118.60 |
| 26 | 14 | 758 | C | OP1-P-O3' | 7.69 | 122.12 | 105.20 |
| 26 | 14 | 1970 | A | N1-C6-N6 | 7.69 | 123.22 | 118.60 |
| 26 | 14 | 2447 | G | C5-C6-O6 | -7.69 | 123.99 | 128.60 |
| 1 | 13 | 843 | U | C2-N1-C1' | 7.69 | 126.93 | 117.70 |
| 26 | 1H | 1827 | C | N3-C2-O2 | -7.69 | 116.52 | 121.90 |
| 26 | 14 | 182 | A | OP2-P-O3' | 7.69 | 122.12 | 105.20 |
| 26 | 1H | 110 | G | N9-C4-C5 | -7.69 | 102.33 | 105.40 |
| 26 | 1H | 2083 | G | C6-C5-N7 | -7.69 | 125.79 | 130.40 |
| 23 | 2L | 77 | A | C8-N9-C4 | 7.69 | 108.88 | 105.80 |
| 26 | 14 | 1344 | G | N1-C6-O6 | 7.69 | 124.51 | 119.90 |
| 26 | 14 | 1805 | U | OP2-P-O3' | 7.69 | 122.11 | 105.20 |
| 26 | 14 | 2287 | A | N3-C4-N9 | -7.69 | 121.25 | 127.40 |
| 26 | 1H | 1693 | U | N1-C2-O2 | 7.68 | 128.18 | 122.80 |
| 26 | 1H | 2740 | A | N1-C6-N6 | 7.68 | 123.21 | 118.60 |
| 36 | 68 | 106 | LEU | CB-CG-CD2 | -7.68 | 97.94 | 111.00 |
| 26 | 14 | 915 | C | N1-C2-O2 | 7.68 | 123.51 | 118.90 |
| 26 | 14 | 2313 | C | C5-C6-N1 | 7.68 | 124.84 | 121.00 |
| 1 | 13 | 1427 | U | OP2-P-O3' | 7.68 | 122.10 | 105.20 |
| 26 | 1H | 195 | A | N9-C4-C5 | -7.68 | 102.73 | 105.80 |
| 26 | 1H | 1363 | C | C5-C4-N4 | 7.68 | 125.58 | 120.20 |
| 26 | 14 | 1024 | G | N1-C6-O6 | 7.68 | 124.51 | 119.90 |
| 26 | 1H | 202 | U | C5-C4-O4 | -7.68 | 121.29 | 125.90 |
| 26 | 1H | 1380 | G | OP1-P-OP2 | 7.68 | 131.12 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1571 | A | N7-C8-N9 | -7.68 | 109.96 | 113.80 |
| 26 | 14 | 2639 | A | C8-N9-C4 | 7.68 | 108.87 | 105.80 |
| 1 | 13 | 1276 | G | C8-N9-C4 | -7.68 | 103.33 | 106.40 |
| 26 | 1H | 217 | G | O5'-P-OP1 | -7.68 | 98.79 | 105.70 |
| 26 | 1H | 478 | A | N3-C4-C5 | -7.68 | 121.42 | 126.80 |
| 1 | 1G | 191(F) | U | C6-N1-C2 | -7.68 | 116.39 | 121.00 |
| 26 | 14 | 1769 | G | N3-C4-N9 | 7.68 | 130.61 | 126.00 |
| 27 | 1J | 18 | G | C5-C6-N1 | -7.68 | 107.66 | 111.50 |
| 26 | 1H | 318 | C | OP1-P-O3' | 7.68 | 122.09 | 105.20 |
| 26 | 1H | 2449 | U | N1-C2-O2 | -7.68 | 117.43 | 122.80 |
| 26 | 14 | 834 | C | O5'-P-OP2 | -7.68 | 98.79 | 105.70 |
| 1 | 13 | 442 | C | C5-C6-N1 | 7.68 | 124.84 | 121.00 |
| 1 | 1G | 250 | A | N1-C6-N6 | 7.68 | 123.21 | 118.60 |
| 26 | 14 | 218 | A | OP1-P-OP2 | 7.68 | 131.12 | 119.60 |
| 26 | 14 | 479 | A | C8-N9-C4 | 7.68 | 108.87 | 105.80 |
| 26 | 14 | 1216 | G | C4-C5-C6 | 7.68 | 123.41 | 118.80 |
| 26 | 14 | 2685 | G | N3-C4-C5 | 7.68 | 132.44 | 128.60 |
| 1 | 13 | 305 | G | C5-N7-C8 | 7.67 | 108.14 | 104.30 |
| 1 | 13 | 674 | G | O5'-P-OP1 | -7.67 | 98.79 | 105.70 |
| 26 | 1H | 532 | A | OP1-P-OP2 | 7.67 | 131.11 | 119.60 |
| 26 | 1H | 684 | G | C5-C6-N1 | 7.67 | 115.34 | 111.50 |
| 23 | 2K | 38 | A | C2-N3-C4 | -7.67 | 106.76 | 110.60 |
| 26 | 14 | 430 | G | O5'-P-OP1 | -7.67 | 98.79 | 105.70 |
| 26 | 14 | 594 | U | OP2-P-O3' | 7.67 | 122.08 | 105.20 |
| 1 | 13 | 666 | G | C4-C5-N7 | 7.67 | 113.87 | 110.80 |
| 1 | 13 | 678 | U | N3-C2-O2 | 7.67 | 127.57 | 122.20 |
| 26 | 1H | 1043 | C | C6-N1-C2 | -7.67 | 117.23 | 120.30 |
| 26 | 14 | 1463 | C | OP1-P-OP2 | 7.67 | 131.11 | 119.60 |
| 1 | 13 | 1279 | A | C2-N3-C4 | -7.67 | 106.77 | 110.60 |
| 26 | 1H | 107 | C | N3-C2-O2 | 7.67 | 127.27 | 121.90 |
| 26 | 1H | 1274 | A | C6-C5-N7 | -7.67 | 126.93 | 132.30 |
| 1 | 1G | 244 | U | C6-N1-C2 | 7.67 | 125.60 | 121.00 |
| 26 | 14 | 1568 | G | C5-C6-O6 | -7.67 | 124.00 | 128.60 |
| 1 | 13 | 542 | G | C5-C6-O6 | -7.67 | 124.00 | 128.60 |
| 26 | 1H | 1344 | G | C5-N7-C8 | -7.67 | 100.47 | 104.30 |
| 26 | 1H | 1356 | G | C5-C6-O6 | -7.67 | 124.00 | 128.60 |
| 26 | 1H | 2251 | G | C5-N7-C8 | 7.67 | 108.13 | 104.30 |
| 26 | 14 | 2443 | C | N3-C4-C5 | -7.67 | 118.83 | 121.90 |
| 26 | 14 | 2612 | C | C4-C5-C6 | -7.67 | 113.57 | 117.40 |
| 1 | 13 | 777 | A | C8-N9-C4 | -7.67 | 102.73 | 105.80 |
| 26 | 1H | 271 | G | O5'-P-OP1 | -7.67 | 98.80 | 105.70 |
| 26 | 1H | 453 | C | N3-C2-O2 | 7.67 | 127.27 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1926 | U | N3-C2-O2 | -7.67 | 116.83 | 122.20 |
| 26 | 1H | 2224 | G | C5-N7-C8 | -7.67 | 100.47 | 104.30 |
| 26 | 14 | 149 | A | OP1-P-OP2 | -7.67 | 108.10 | 119.60 |
| 26 | 14 | 2039 | C | N1-C2-O2 | 7.67 | 123.50 | 118.90 |
| 26 | 1H | 13 | A | N1-C6-N6 | 7.67 | 123.20 | 118.60 |
| 26 | 1H | 87 | C | C6-N1-C2 | -7.66 | 117.23 | 120.30 |
| 26 | 1H | 197 | A | OP2-P-O3' | 7.66 | 122.06 | 105.20 |
| 26 | 1H | 1929 | G | C5-C6-O6 | 7.66 | 133.20 | 128.60 |
| 26 | 1H | 1969 | A | N1-C6-N6 | -7.66 | 114.00 | 118.60 |
| 26 | 14 | 843 | G | C8-N9-C4 | 7.66 | 109.47 | 106.40 |
| 26 | 14 | 919 | G | N3-C4-C5 | -7.66 | 124.77 | 128.60 |
| 26 | 14 | 1282 | U | C5-C6-N1 | -7.66 | 118.87 | 122.70 |
| 26 | 14 | 1759 | A | OP1-P-OP2 | 7.66 | 131.09 | 119.60 |
| 26 | 14 | 2416 | C | O5'-P-OP2 | -7.66 | 98.80 | 105.70 |
| 1 | 13 | 554 | C | C5-C6-N1 | 7.66 | 124.83 | 121.00 |
| 23 | 2K | 12 | G | C5-C6-N1 | 7.66 | 115.33 | 111.50 |
| 23 | 2K | 45 | A | N1-C6-N6 | 7.66 | 123.20 | 118.60 |
| 26 | 1H | 2197 | U | C6-N1-C2 | -7.66 | 116.40 | 121.00 |
| 1 | 1G | 521 | G | C8-N9-C4 | 7.66 | 109.47 | 106.40 |
| 1 | 13 | 973 | G | C8-N9-C4 | -7.66 | 103.34 | 106.40 |
| 1 | 13 | 1471 | G | N1-C2-N2 | 7.66 | 123.09 | 116.20 |
| 22 | 1K | 42 | A | N1-C6-N6 | 7.66 | 123.20 | 118.60 |
| 26 | 1H | 506 | G | N3-C4-C5 | 7.66 | 132.43 | 128.60 |
| 26 | 1H | 799 | G | C6-N1-C2 | -7.66 | 120.50 | 125.10 |
| 26 | 1H | 1891 | G | N1-C6-O6 | 7.66 | 124.50 | 119.90 |
| 1 | 1G | 360 | A | N9-C4-C5 | -7.66 | 102.74 | 105.80 |
| 26 | 14 | 1646 | C | O5'-P-OP2 | 7.66 | 119.89 | 110.70 |
| 1 | 13 | 359 | U | C5-C6-N1 | -7.66 | 118.87 | 122.70 |
| 1 | 13 | 426 | G | C5-C6-O6 | 7.66 | 133.19 | 128.60 |
| 1 | 13 | 623 | C | O5'-P-OP1 | 7.66 | 119.89 | 110.70 |
| 26 | 1H | 224 | G | O5'-P-OP2 | -7.66 | 98.81 | 105.70 |
| 26 | 1H | 2484 | G | C5-C6-N1 | -7.66 | 107.67 | 111.50 |
| 26 | 14 | 2680 | C | N3-C4-C5 | 7.66 | 124.96 | 121.90 |
| 26 | 1H | 2581 | G | C6-C5-N7 | -7.66 | 125.81 | 130.40 |
| 26 | 14 | 447 | A | N9-C4-C5 | 7.66 | 108.86 | 105.80 |
| 26 | 14 | 1348 | G | C4-C5-N7 | 7.66 | 113.86 | 110.80 |
| 26 | 1H | 332 | A | N1-C6-N6 | -7.66 | 114.01 | 118.60 |
| 26 | 1H | 529 | A | N1-C6-N6 | 7.66 | 123.19 | 118.60 |
| 26 | 1H | 1957 | C | C5-C6-N1 | -7.66 | 117.17 | 121.00 |
| 26 | 14 | 2255 | G | C4-C5-N7 | -7.66 | 107.74 | 110.80 |
| 26 | 1H | 1449 | A | O5'-P-OP2 | -7.65 | 98.81 | 105.70 |
| 26 | 14 | 2673 | G | C2-N3-C4 | -7.65 | 108.07 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 973 | G | C4-C5-C6 | 7.65 | 123.39 | 118.80 |
| 26 | 1H | 589 | C | N3-C2-O2 | -7.65 | 116.54 | 121.90 |
| 26 | 1H | 738 | G | C2-N3-C4 | -7.65 | 108.07 | 111.90 |
| 26 | 1H | 1226 | G | C5-C6-O6 | 7.65 | 133.19 | 128.60 |
| 26 | 14 | 937 | U | N1-C2-O2 | -7.65 | 117.44 | 122.80 |
| 1 | 13 | 500 | G | O5'-P-OP2 | -7.65 | 98.81 | 105.70 |
| 1 | 13 | 798 | G | C5-C6-O6 | 7.65 | 133.19 | 128.60 |
| 23 | 2K | 27 | G | N1-C6-O6 | 7.65 | 124.49 | 119.90 |
| 26 | 1H | 265 | A | C8-N9-C4 | -7.65 | 102.74 | 105.80 |
| 26 | 1H | 795 | C | OP1-P-OP2 | 7.65 | 131.08 | 119.60 |
| 26 | 1H | 2055 | C | C4-C5-C6 | 7.65 | 121.23 | 117.40 |
| 26 | 1H | 2055 | C | C5-C4-N4 | 7.65 | 125.56 | 120.20 |
| 36 | 68 | 112 | MET | CB-CG-SD | 7.65 | 135.35 | 112.40 |
| 1 | 1G | 6 | G | N3-C2-N2 | -7.65 | 114.55 | 119.90 |
| 26 | 14 | 947 | G | N9-C4-C5 | 7.65 | 108.46 | 105.40 |
| 26 | 14 | 2042 | A | O5'-P-OP2 | -7.65 | 98.81 | 105.70 |
| 26 | 14 | 2525 | G | C8-N9-C4 | 7.65 | 109.46 | 106.40 |
| 26 | 14 | 2870 | C | N1-C2-N3 | 7.65 | 124.56 | 119.20 |
| 26 | 14 | 484 | C | OP1-P-OP2 | -7.65 | 108.13 | 119.60 |
| 26 | 14 | 1952 | A | N1-C2-N3 | 7.65 | 133.12 | 129.30 |
| 1 | 13 | 251 | G | C4-C5-N7 | 7.65 | 113.86 | 110.80 |
| 26 | 1H | 718 | A | N1-C6-N6 | 7.65 | 123.19 | 118.60 |
| 26 | 1H | 845 | G | N3-C2-N2 | 7.65 | 125.25 | 119.90 |
| 1 | 1G | 400 | C | C5-C6-N1 | -7.65 | 117.18 | 121.00 |
| 1 | 1G | 619 | U | N3-C4-O4 | -7.65 | 114.05 | 119.40 |
| 26 | 14 | 527 | C | N3-C2-O2 | -7.65 | 116.55 | 121.90 |
| 26 | 14 | 1827 | C | N3-C4-C5 | 7.65 | 124.96 | 121.90 |
| 26 | 14 | 1842 | G | C4-C5-N7 | -7.65 | 107.74 | 110.80 |
| 26 | 14 | 2292 | C | C5-C6-N1 | -7.65 | 117.18 | 121.00 |
| 26 | 1H | 917 | A | N9-C4-C5 | -7.65 | 102.74 | 105.80 |
| 26 | 1H | 1329 | U | C5-C4-O4 | 7.65 | 130.49 | 125.90 |
| 26 | 1H | 1598 | C | N1-C2-O2 | 7.65 | 123.49 | 118.90 |
| 26 | 14 | 2056 | G | C6-C5-N7 | -7.65 | 125.81 | 130.40 |
| 26 | 1H | 775 | G | C4-C5-C6 | 7.64 | 123.39 | 118.80 |
| 26 | 1H | 1695 | G | O5'-P-OP1 | -7.64 | 98.82 | 105.70 |
| 26 | 1H | 1816 | G | C2-N3-C4 | 7.64 | 115.72 | 111.90 |
| 26 | 14 | 267 | C | N3-C2-O2 | -7.64 | 116.55 | 121.90 |
| 26 | 14 | 400 | G | N7-C8-N9 | 7.64 | 116.92 | 113.10 |
| 26 | 14 | 2344 | U | C5-C4-O4 | 7.64 | 130.49 | 125.90 |
| 1 | 13 | 305 | G | C4-C5-N7 | -7.64 | 107.74 | 110.80 |
| 1 | 13 | 817 | C | C5-C6-N1 | -7.64 | 117.18 | 121.00 |
| 1 | 13 | 856 | C | C6-N1-C2 | -7.64 | 117.24 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1246 | A | OP1-P-OP2 | 7.64 | 131.06 | 119.60 |
| 26 | 1H | 2240 | C | N3-C4-N4 | 7.64 | 123.35 | 118.00 |
| 26 | 1H | 2366 | A | N9-C4-C5 | 7.64 | 108.86 | 105.80 |
| 26 | 1H | 2406 | U | O4'-C1'-N1 | -7.64 | 102.09 | 108.20 |
| 26 | 1H | 2550 | G | N7-C8-N9 | 7.64 | 116.92 | 113.10 |
| 26 | 14 | 252 | G | C6-C5-N7 | 7.64 | 134.99 | 130.40 |
| 26 | 14 | 630 | G | N7-C8-N9 | -7.64 | 109.28 | 113.10 |
| 26 | 14 | 1341 | U | O5'-P-OP1 | -7.64 | 98.82 | 105.70 |
| 26 | 14 | 2428 | G | N9-C4-C5 | 7.64 | 108.46 | 105.40 |
| 26 | 14 | 2479 | G | C8-N9-C4 | -7.64 | 103.34 | 106.40 |
| 26 | 14 | 2506 | U | N3-C2-O2 | -7.64 | 116.85 | 122.20 |
| 41 | 75 | 93 | ARG | NE-CZ-NH1 | 7.64 | 124.12 | 120.30 |
| 26 | 1H | 1370 | C | O5'-P-OP2 | 7.64 | 119.87 | 110.70 |
| 26 | 1H | 1626 | G | N7-C8-N9 | 7.64 | 116.92 | 113.10 |
| 26 | 14 | 2278 | A | O5'-P-OP1 | 7.64 | 119.87 | 110.70 |
| 1 | 13 | 732 | C | N3-C2-O2 | -7.64 | 116.55 | 121.90 |
| 1 | 13 | 873 | A | N9-C4-C5 | 7.64 | 108.86 | 105.80 |
| 26 | 1H | 182 | A | N1-C6-N6 | 7.64 | 123.18 | 118.60 |
| 26 | 1H | 1197 | G | C6-C5-N7 | 7.64 | 134.98 | 130.40 |
| 26 | 1H | 1342 | A | C4-C5-N7 | 7.64 | 114.52 | 110.70 |
| 26 | 14 | 1896 | G | N1-C6-O6 | -7.64 | 115.32 | 119.90 |
| 26 | 1H | 1291 | C | N1-C2-O2 | 7.64 | 123.48 | 118.90 |
| 26 | 14 | 51 | G | N7-C8-N9 | -7.64 | 109.28 | 113.10 |
| 26 | 14 | 189 | G | C5-C6-O6 | -7.64 | 124.02 | 128.60 |
| 26 | 14 | 541 | C | C6-N1-C2 | -7.64 | 117.25 | 120.30 |
| 26 | 1H | 27 | G | N1-C2-N2 | -7.64 | 109.33 | 116.20 |
| 26 | 1H | 481 | G | OP2-P-O3' | 7.64 | 122.00 | 105.20 |
| 26 | 1H | 503 | A | N7-C8-N9 | -7.64 | 109.98 | 113.80 |
| 26 | 1H | 729 | G | N3-C4-C5 | -7.64 | 124.78 | 128.60 |
| 26 | 1H | 1871 | A | C8-N9-C4 | 7.64 | 108.86 | 105.80 |
| 1 | 13 | 1202 | G | C5-C6-O6 | 7.63 | 133.18 | 128.60 |
| 26 | 1H | 647 | G | C2-N3-C4 | 7.63 | 115.72 | 111.90 |
| 26 | 1H | 1298 | C | O5'-P-OP2 | 7.63 | 119.86 | 110.70 |
| 26 | 1H | 1968 | G | N3-C4-N9 | 7.63 | 130.58 | 126.00 |
| 26 | 1H | 2310 | A | C5-C6-N6 | -7.63 | 117.59 | 123.70 |
| 26 | 1H | 2679 | A | N1-C6-N6 | 7.63 | 123.18 | 118.60 |
| 26 | 14 | 6 | A | N1-C6-N6 | -7.63 | 114.02 | 118.60 |
| 26 | 14 | 768 | G | C8-N9-C4 | -7.63 | 103.35 | 106.40 |
| 26 | 14 | 789 | A | O5'-P-OP1 | -7.63 | 98.83 | 105.70 |
| 26 | 14 | 801 | G | O5'-P-OP2 | -7.63 | 98.83 | 105.70 |
| 26 | 14 | 1987 | G | N1-C6-O6 | 7.63 | 124.48 | 119.90 |
| 26 | 14 | 2192 | G | N1-C6-O6 | 7.63 | 124.48 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2764 | A | C5-N7-C8 | 7.63 | 107.72 | 103.90 |
| 26 | 1H | 747 | U | OP1-P-OP2 | 7.63 | 131.05 | 119.60 |
| 26 | 1H | 2042 | A | C5-C6-N1 | -7.63 | 113.88 | 117.70 |
| 26 | 1H | 2409 | G | N1-C6-O6 | 7.63 | 124.48 | 119.90 |
| 26 | 1H | 2728 | U | N1-C2-O2 | 7.63 | 128.14 | 122.80 |
| 26 | 1H | 2740 | A | OP1-P-OP2 | 7.63 | 131.05 | 119.60 |
| 26 | 14 | 248 | G | C5-C6-N1 | 7.63 | 115.32 | 111.50 |
| 26 | 14 | 819 | A | N3-C4-C5 | -7.63 | 121.46 | 126.80 |
| 26 | 1H | 796 | C | O5'-P-OP2 | -7.63 | 98.83 | 105.70 |
| 26 | 1H | 2283 | C | C6-N1-C2 | -7.63 | 117.25 | 120.30 |
| 26 | 1H | 2711 | A | C8-N9-C4 | 7.63 | 108.85 | 105.80 |
| 26 | 14 | 388 | G | N3-C4-C5 | 7.63 | 132.41 | 128.60 |
| 26 | 14 | 663 | G | N3-C2-N2 | -7.63 | 114.56 | 119.90 |
| 26 | 14 | 1653 | G | C6-N1-C2 | -7.63 | 120.52 | 125.10 |
| 1 | 13 | 362 | G | C2-N3-C4 | -7.63 | 108.09 | 111.90 |
| 1 | 13 | 739 | C | N3-C2-O2 | 7.63 | 127.24 | 121.90 |
| 1 | 13 | 798 | G | C8-N9-C4 | -7.63 | 103.35 | 106.40 |
| 1 | 13 | 827 | U | N1-C2-O2 | 7.63 | 128.14 | 122.80 |
| 26 | 1H | 247 | G | N3-C4-C5 | 7.63 | 132.41 | 128.60 |
| 26 | 1H | 1247 | A | C2-N3-C4 | -7.63 | 106.79 | 110.60 |
| 27 | 16 | 110 | G | C8-N9-C4 | -7.63 | 103.35 | 106.40 |
| 26 | 14 | 1762 | A | C5-N7-C8 | -7.63 | 100.09 | 103.90 |
| 26 | 14 | 1807 | G | N1-C2-N3 | -7.63 | 119.32 | 123.90 |
| 26 | 14 | 2578 | G | C5-C6-O6 | -7.63 | 124.02 | 128.60 |
| 1 | 13 | 1511 | G | C2-N3-C4 | -7.63 | 108.09 | 111.90 |
| 26 | 1H | 1285 | G | C5-C6-O6 | -7.63 | 124.02 | 128.60 |
| 27 | 16 | 13 | A | N1-C6-N6 | -7.63 | 114.02 | 118.60 |
| 1 | 1G | 317 | G | O5'-P-OP1 | -7.63 | 98.83 | 105.70 |
| 26 | 14 | 205 | G | N1-C2-N2 | -7.63 | 109.34 | 116.20 |
| 26 | 14 | 443 | A | C8-N9-C4 | -7.63 | 102.75 | 105.80 |
| 1 | 13 | 299 | G | C5-C6-N1 | -7.62 | 107.69 | 111.50 |
| 1 | 13 | 568 | G | O5'-P-OP1 | -7.62 | 98.84 | 105.70 |
| 26 | 1H | 325 | G | C4-C5-N7 | -7.62 | 107.75 | 110.80 |
| 26 | 1H | 524 | U | N1-C2-N3 | 7.62 | 119.47 | 114.90 |
| 26 | 1H | 563 | G | N3-C2-N2 | -7.62 | 114.56 | 119.90 |
| 26 | 14 | 819 | A | N9-C4-C5 | 7.62 | 108.85 | 105.80 |
| 26 | 1H | 237 | C | C5-C6-N1 | -7.62 | 117.19 | 121.00 |
| 26 | 1H | 733 | G | O5'-P-OP2 | -7.62 | 98.84 | 105.70 |
| 26 | 1H | 1595 | G | N3-C2-N2 | -7.62 | 114.56 | 119.90 |
| 26 | 1H | 1958 | C | OP1-P-O3' | 7.62 | 121.97 | 105.20 |
| 26 | 1H | 2331 | G | C5-N7-C8 | -7.62 | 100.49 | 104.30 |
| 26 | 1H | 2557 | G | OP2-P-O3' | 7.62 | 121.97 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1264 | G | C5-C6-O6 | 7.62 | 133.17 | 128.60 |
| 26 | 14 | 2401 | U | C5-C4-O4 | -7.62 | 121.33 | 125.90 |
| 1 | 13 | 139 | G | C8-N9-C4 | -7.62 | 103.35 | 106.40 |
| 1 | 13 | 798 | G | C2-N3-C4 | -7.62 | 108.09 | 111.90 |
| 26 | 1H | 201 | C | C2-N3-C4 | -7.62 | 116.09 | 119.90 |
| 1 | 1G | 132 | C | C6-N1-C2 | -7.62 | 117.25 | 120.30 |
| 26 | 14 | 308 | G | N3-C2-N2 | -7.62 | 114.56 | 119.90 |
| 26 | 14 | 1216 | G | C5-C6-N1 | -7.62 | 107.69 | 111.50 |
| 26 | 14 | 1322 | A | C8-N9-C4 | 7.62 | 108.85 | 105.80 |
| 26 | 14 | 1602 | U | C5-C4-O4 | 7.62 | 130.47 | 125.90 |
| 26 | 1H | 196 | A | C5-N7-C8 | -7.62 | 100.09 | 103.90 |
| 26 | 1H | 307 | G | OP1-P-O3' | 7.62 | 121.96 | 105.20 |
| 26 | 1H | 1229 | G | N7-C8-N9 | -7.62 | 109.29 | 113.10 |
| 27 | 16 | 9 | G | O5'-P-OP1 | 7.62 | 119.84 | 110.70 |
| 1 | 13 | 1277 | C | C6-N1-C2 | -7.62 | 117.25 | 120.30 |
| 26 | 1H | 36 | G | N1-C6-O6 | -7.62 | 115.33 | 119.90 |
| 26 | 1H | 957 | A | C8-N9-C4 | -7.62 | 102.75 | 105.80 |
| 26 | 1H | 2224 | G | N1-C6-O6 | 7.62 | 124.47 | 119.90 |
| 1 | 1G | 688 | G | C5-C6-O6 | 7.62 | 133.17 | 128.60 |
| 26 | 14 | 1277 | G | N3-C4-C5 | 7.62 | 132.41 | 128.60 |
| 26 | 14 | 2219 | G | C2-N3-C4 | -7.62 | 108.09 | 111.90 |
| 26 | 1H | 931 | G | C6-N1-C2 | -7.62 | 120.53 | 125.10 |
| 26 | 1H | 2574 | G | N1-C6-O6 | -7.62 | 115.33 | 119.90 |
| 27 | 16 | 111 | U | N1-C2-N3 | 7.62 | 119.47 | 114.90 |
| 1 | 1G | 630 | G | C2-N3-C4 | 7.62 | 115.71 | 111.90 |
| 1 | 1G | 826 | C | N1-C2-O2 | 7.62 | 123.47 | 118.90 |
| 26 | 14 | 210 | C | O5'-P-OP1 | 7.62 | 119.84 | 110.70 |
| 26 | 14 | 1839 | G | N9-C4-C5 | -7.62 | 102.35 | 105.40 |
| 1 | 13 | 1371 | G | O5'-P-OP2 | 7.62 | 119.84 | 110.70 |
| 1 | 13 | 1481 | U | C4-C5-C6 | 7.62 | 124.27 | 119.70 |
| 26 | 1H | 75 | G | OP1-P-OP2 | 7.62 | 131.02 | 119.60 |
| 26 | 14 | 2315 | G | N3-C2-N2 | 7.62 | 125.23 | 119.90 |
| 1 | 13 | 439 | A | C2-N3-C4 | -7.61 | 106.79 | 110.60 |
| 1 | 13 | 1432 | G | OP1-P-OP2 | 7.61 | 131.02 | 119.60 |
| 26 | 1H | 618(A) | C | C4-C5-C6 | -7.61 | 113.59 | 117.40 |
| 26 | 1H | 797 | C | N3-C2-O2 | -7.61 | 116.57 | 121.90 |
| 26 | 1H | 1825 | A | C5-N7-C8 | 7.61 | 107.71 | 103.90 |
| 26 | 1H | 2129 | C | C6-N1-C2 | -7.61 | 117.25 | 120.30 |
| 26 | 1H | 2251 | G | N9-C4-C5 | 7.61 | 108.45 | 105.40 |
| 26 | 14 | 384 | U | O5'-P-OP1 | -7.61 | 98.85 | 105.70 |
| 26 | 14 | 471 | A | C8-N9-C4 | 7.61 | 108.85 | 105.80 |
| 26 | 14 | 2280 | G | N1-C6-O6 | 7.61 | 124.47 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 871 | U | N3-C2-O2 | -7.61 | 116.87 | 122.20 |
| 26 | 1H | 2401 | U | O5'-P-OP1 | -7.61 | 98.85 | 105.70 |
| 26 | 1H | 2689 | U | N1-C2-N3 | 7.61 | 119.47 | 114.90 |
| 26 | 14 | 458 | G | OP1-P-OP2 | 7.61 | 131.02 | 119.60 |
| 26 | 14 | 1355 | G | N3-C4-C5 | -7.61 | 124.79 | 128.60 |
| 1 | 13 | 1344 | C | O5'-P-OP2 | -7.61 | 98.85 | 105.70 |
| 26 | 1H | 628 | G | N7-C8-N9 | -7.61 | 109.29 | 113.10 |
| 26 | 1H | 1480 | G | C8-N9-C4 | -7.61 | 103.36 | 106.40 |
| 26 | 1H | 1927 | A | C8-N9-C4 | -7.61 | 102.76 | 105.80 |
| 26 | 1H | 2000 | G | N9-C4-C5 | -7.61 | 102.36 | 105.40 |
| 26 | 1H | 2319 | G | N3-C2-N2 | 7.61 | 125.23 | 119.90 |
| 26 | 1H | 2497 | A | N1-C2-N3 | 7.61 | 133.10 | 129.30 |
| 26 | 14 | 329 | G | C6-N1-C2 | -7.61 | 120.53 | 125.10 |
| 26 | 14 | 659 | C | C2-N3-C4 | -7.61 | 116.09 | 119.90 |
| 26 | 14 | 2373 | G | N3-C2-N2 | -7.61 | 114.57 | 119.90 |
| 26 | 14 | 2542 | A | C5-N7-C8 | 7.61 | 107.70 | 103.90 |
| 26 | 1H | 85 | G | N1-C6-O6 | 7.61 | 124.47 | 119.90 |
| 26 | 14 | 2312 | U | O5'-P-OP1 | -7.61 | 98.85 | 105.70 |
| 1 | 13 | 318 | G | O5'-P-OP2 | -7.61 | 98.85 | 105.70 |
| 26 | 1H | 756 | C | N3-C2-O2 | 7.61 | 127.22 | 121.90 |
| 26 | 1H | 1933 | G | N3-C2-N2 | -7.61 | 114.57 | 119.90 |
| 26 | 1H | 2218 | G | N3-C2-N2 | -7.61 | 114.57 | 119.90 |
| 26 | 1H | 2467 | C | O5'-P-OP1 | 7.61 | 119.83 | 110.70 |
| 26 | 14 | 2070 | G | O5'-P-OP2 | -7.61 | 98.85 | 105.70 |
| 26 | 14 | 2549 | G | C5-C6-O6 | 7.61 | 133.16 | 128.60 |
| 26 | 1H | 275 | G | C8-N9-C4 | 7.61 | 109.44 | 106.40 |
| 26 | 1H | 780 | G | C4-C5-C6 | 7.61 | 123.36 | 118.80 |
| 26 | 1H | 1443 | G | C8-N9-C4 | -7.61 | 103.36 | 106.40 |
| 26 | 1H | 1939 | U | C2-N1-C1' | -7.61 | 108.57 | 117.70 |
| 26 | 1H | 1971 | A | OP1-P-O3' | 7.61 | 121.93 | 105.20 |
| 26 | 1H | 2089 | U | C2-N3-C4 | -7.61 | 122.44 | 127.00 |
| 26 | 14 | 1310 | G | N3-C2-N2 | -7.61 | 114.58 | 119.90 |
| 26 | 14 | 1313 | U | C2-N1-C1' | 7.61 | 126.83 | 117.70 |
| 23 | 2K | 32 | G | O5'-P-OP2 | 7.60 | 119.83 | 110.70 |
| 26 | 1H | 551 | G | N3-C4-C5 | 7.60 | 132.40 | 128.60 |
| 1 | 1G | 617 | G | N1-C6-O6 | 7.60 | 124.46 | 119.90 |
| 26 | 1H | 237 | C | N3-C2-O2 | 7.60 | 127.22 | 121.90 |
| 26 | 1H | 771 | G | O5'-P-OP1 | -7.60 | 98.86 | 105.70 |
| 26 | 1H | 843 | G | N3-C2-N2 | -7.60 | 114.58 | 119.90 |
| 26 | 1H | 1571 | A | O5'-P-OP1 | 7.60 | 119.82 | 110.70 |
| 26 | 1H | 1792 | G | O5'-P-OP2 | 7.60 | 119.82 | 110.70 |
| 26 | 1H | 2628 | C | N3-C4-C5 | 7.60 | 124.94 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2443 | C | N1-C2-O2 | -7.60 | 114.34 | 118.90 |
| 1 | 13 | 250 | A | O5'-P-OP2 | 7.60 | 119.82 | 110.70 |
| 26 | 14 | 2712 | U | N1-C2-N3 | 7.60 | 119.46 | 114.90 |
| 1 | 13 | 294 | U | N1-C2-N3 | 7.60 | 119.46 | 114.90 |
| 1 | 13 | 918 | A | N1-C6-N6 | 7.60 | 123.16 | 118.60 |
| 1 | 13 | 921 | U | O5'-P-OP2 | -7.60 | 98.86 | 105.70 |
| 26 | 1H | 1426 | G | N1-C6-O6 | 7.60 | 124.46 | 119.90 |
| 26 | 1H | 2430 | A | N1-C2-N3 | 7.60 | 133.10 | 129.30 |
| 26 | 14 | 270(Q) | C | N3-C4-C5 | -7.60 | 118.86 | 121.90 |
| 26 | 14 | 312 | G | C4-C5-N7 | 7.60 | 113.84 | 110.80 |
| 26 | 14 | 830 | G | N1-C6-O6 | 7.60 | 124.46 | 119.90 |
| 26 | 14 | 1433 | U | N1-C2-O2 | -7.60 | 117.48 | 122.80 |
| 26 | 14 | 2032 | G | C5-N7-C8 | -7.60 | 100.50 | 104.30 |
| 26 | 14 | 2411 | A | O5'-P-OP1 | -7.60 | 98.86 | 105.70 |
| 1 | 13 | 1201 | A | N1-C6-N6 | 7.60 | 123.16 | 118.60 |
| 26 | 1H | 176 | G | N1-C6-O6 | 7.60 | 124.46 | 119.90 |
| 26 | 1H | 622 | G | N3-C4-C5 | -7.60 | 124.80 | 128.60 |
| 26 | 1H | 1466 | G | N3-C2-N2 | -7.60 | 114.58 | 119.90 |
| 26 | 14 | 123 | G | N1-C2-N3 | 7.60 | 128.46 | 123.90 |
| 26 | 14 | 809 | G | C5-C6-O6 | 7.60 | 133.16 | 128.60 |
| 26 | 14 | 2084 | C | N3-C2-O2 | 7.60 | 127.22 | 121.90 |
| 26 | 14 | 2430 | A | N3-C4-N9 | -7.60 | 121.32 | 127.40 |
| 26 | 14 | 2552 | U | N3-C4-C5 | 7.60 | 119.16 | 114.60 |
| 1 | 13 | 574 | A | N9-C4-C5 | -7.59 | 102.76 | 105.80 |
| 26 | 1H | 735 | A | C6-C5-N7 | -7.59 | 126.98 | 132.30 |
| 26 | 1H | 2762 | G | N1-C2-N3 | 7.59 | 128.46 | 123.90 |
| 26 | 1H | 2772 | C | OP2-P-O3' | 7.59 | 121.91 | 105.20 |
| 26 | 14 | 458 | G | N7-C8-N9 | 7.59 | 116.90 | 113.10 |
| 26 | 14 | 1671 | U | N1-C2-N3 | -7.59 | 110.34 | 114.90 |
| 26 | 14 | 2067 | G | N1-C2-N3 | 7.59 | 128.46 | 123.90 |
| 27 | 1J | 29 | A | C4-C5-N7 | 7.59 | 114.50 | 110.70 |
| 26 | 1H | 2724 | C | N3-C4-C5 | -7.59 | 118.86 | 121.90 |
| 26 | 14 | 2005 | A | C5-N7-C8 | 7.59 | 107.70 | 103.90 |
| 26 | 14 | 2447 | G | OP1-P-OP2 | -7.59 | 108.21 | 119.60 |
| 27 | 1J | 102 | G | C6-C5-N7 | 7.59 | 134.96 | 130.40 |
| 1 | 13 | 867 | G | N3-C4-C5 | -7.59 | 124.80 | 128.60 |
| 1 | 13 | 925 | G | C5-C6-N1 | -7.59 | 107.70 | 111.50 |
| 26 | 1H | 30 | G | N1-C2-N2 | -7.59 | 109.37 | 116.20 |
| 26 | 1H | 214 | G | N7-C8-N9 | 7.59 | 116.90 | 113.10 |
| 26 | 1H | 1122 | G | C8-N9-C4 | 7.59 | 109.44 | 106.40 |
| 26 | 1H | 1408 | C | C2-N3-C4 | -7.59 | 116.10 | 119.90 |
| 26 | 1H | 1594 | G | OP1-P-O3' | 7.59 | 121.90 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1612 | C | N3-C4-C5 | -7.59 | 118.86 | 121.90 |
| 26 | 1H | 1620 | G | N1-C6-O6 | 7.59 | 124.45 | 119.90 |
| 26 | 1H | 1624 | G | N1-C6-O6 | -7.59 | 115.34 | 119.90 |
| 1 | 1G | 970 | C | C4-C5-C6 | -7.59 | 113.60 | 117.40 |
| 1 | 1G | 1223 | C | C5-C6-N1 | 7.59 | 124.80 | 121.00 |
| 26 | 14 | 2876 | G | N9-C4-C5 | -7.59 | 102.36 | 105.40 |
| 26 | 1H | 2415 | G | C6-C5-N7 | -7.59 | 125.85 | 130.40 |
| 1 | 1G | 809 | G | N9-C4-C5 | -7.59 | 102.36 | 105.40 |
| 26 | 1H | 1751 | C | C6-N1-C2 | 7.59 | 123.33 | 120.30 |
| 26 | 1H | 2463 | C | N3-C4-C5 | 7.59 | 124.94 | 121.90 |
| 26 | 14 | 2724 | C | O5'-P-OP2 | -7.59 | 98.87 | 105.70 |
| 1 | 13 | 1386 | G | N1-C2-N2 | 7.59 | 123.03 | 116.20 |
| 1 | 13 | 1484 | C | C6-N1-C2 | -7.59 | 117.27 | 120.30 |
| 26 | 1H | 467 | G | C2-N3-C4 | 7.59 | 115.69 | 111.90 |
| 26 | 1H | 753 | C | N3-C2-O2 | -7.59 | 116.59 | 121.90 |
| 26 | 1H | 1368 | G | OP1-P-OP2 | 7.59 | 130.98 | 119.60 |
| 26 | 1H | 2773 | C | C6-N1-C2 | 7.59 | 123.33 | 120.30 |
| 1 | 1G | 249 | U | C6-N1-C2 | 7.59 | 125.55 | 121.00 |
| 1 | 1G | 1205 | U | C6-N1-C2 | -7.59 | 116.45 | 121.00 |
| 1 | 1G | 1527 | C | N1-C2-N3 | 7.59 | 124.51 | 119.20 |
| 26 | 14 | 422 | A | C5-C6-N1 | -7.59 | 113.91 | 117.70 |
| 26 | 14 | 440 | G | N1-C6-O6 | 7.59 | 124.45 | 119.90 |
| 26 | 14 | 641 | C | O5'-P-OP2 | 7.59 | 119.80 | 110.70 |
| 26 | 14 | 2278 | A | C8-N9-C4 | -7.59 | 102.77 | 105.80 |
| 26 | 14 | 2416 | C | C2-N3-C4 | -7.59 | 116.11 | 119.90 |
| 26 | 14 | 2486 | G | N1-C6-O6 | 7.59 | 124.45 | 119.90 |
| 27 | 1J | 89 | G | O5'-P-OP1 | -7.59 | 98.87 | 105.70 |
| 26 | 1H | 179 | G | N3-C2-N2 | -7.58 | 114.59 | 119.90 |
| 26 | 1H | 190 | A | N9-C4-C5 | -7.58 | 102.77 | 105.80 |
| 26 | 1H | 700 | G | N9-C4-C5 | 7.58 | 108.43 | 105.40 |
| 26 | 1H | 1681 | G | C4-C5-C6 | -7.58 | 114.25 | 118.80 |
| 26 | 1H | 2751 | G | N7-C8-N9 | 7.58 | 116.89 | 113.10 |
| 26 | 14 | 1620 | G | O5'-P-OP2 | 7.58 | 119.80 | 110.70 |
| 1 | 1G | 266 | G | O4'-C1'-N9 | -7.58 | 102.13 | 108.20 |
| 26 | 14 | 512 | G | C2-N3-C4 | -7.58 | 108.11 | 111.90 |
| 26 | 14 | 2885 | C | C5-C4-N4 | -7.58 | 114.89 | 120.20 |
| 1 | 13 | 552 | U | O5'-P-OP1 | 7.58 | 119.80 | 110.70 |
| 1 | 13 | 656 | C | C6-N1-C2 | -7.58 | 117.27 | 120.30 |
| 26 | 1H | 411 | G | N1-C2-N3 | 7.58 | 128.45 | 123.90 |
| 26 | 1H | 696 | G | OP1-P-OP2 | -7.58 | 108.23 | 119.60 |
| 26 | 1H | 859 | G | C8-N9-C4 | 7.58 | 109.43 | 106.40 |
| 26 | 1H | 1287 | A | O5'-P-OP1 | 7.58 | 119.80 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1345 | C | N1-C2-N3 | -7.58 | 113.89 | 119.20 |
| 26 | 14 | 596 | G | C8-N9-C4 | -7.58 | 103.37 | 106.40 |
| 26 | 14 | 1322 | A | C5-C6-N1 | 7.58 | 121.49 | 117.70 |
| 26 | 1H | 2462 | U | O5'-P-OP2 | -7.58 | 98.88 | 105.70 |
| 26 | 14 | 1984 | G | C2-N3-C4 | -7.58 | 108.11 | 111.90 |
| 1 | 13 | 1437 | C | C6-N1-C2 | 7.58 | 123.33 | 120.30 |
| 26 | 1H | 389 | G | C4-C5-N7 | 7.58 | 113.83 | 110.80 |
| 26 | 1H | 982 | C | C6-N1-C2 | -7.58 | 117.27 | 120.30 |
| 26 | 1H | 1548 | C | N3-C2-O2 | -7.58 | 116.59 | 121.90 |
| 26 | 1H | 1978 | A | C5-C6-N6 | 7.58 | 129.76 | 123.70 |
| 1 | 1G | 1529 | G | N3-C4-C5 | -7.58 | 124.81 | 128.60 |
| 26 | 14 | 1383 | C | N3-C4-N4 | 7.58 | 123.31 | 118.00 |
| 26 | 14 | 1968 | G | N7-C8-N9 | 7.58 | 116.89 | 113.10 |
| 27 | 1J | 18 | G | N3-C4-N9 | -7.58 | 121.45 | 126.00 |
| 26 | 14 | 481 | G | C4-C5-N7 | -7.58 | 107.77 | 110.80 |
| 26 | 14 | 834 | C | C4-C5-C6 | 7.58 | 121.19 | 117.40 |
| 26 | 14 | 2638 | G | C5-C6-O6 | 7.58 | 133.15 | 128.60 |
| 26 | 1H | 411 | G | C5-C6-O6 | 7.58 | 133.15 | 128.60 |
| 26 | 1H | 625 | G | C5-C6-O6 | -7.58 | 124.06 | 128.60 |
| 26 | 1H | 1630 | G | O5'-P-OP1 | -7.58 | 98.88 | 105.70 |
| 26 | 1H | 2002 | G | N9-C4-C5 | 7.58 | 108.43 | 105.40 |
| 1 | 1G | 529 | G | N1-C6-O6 | 7.58 | 124.44 | 119.90 |
| 1 | 13 | 483 | C | C6-N1-C2 | 7.57 | 123.33 | 120.30 |
| 1 | 13 | 1386 | G | C5-C6-N1 | -7.57 | 107.71 | 111.50 |
| 26 | 1H | 381 | G | C6-N1-C2 | -7.57 | 120.56 | 125.10 |
| 26 | 14 | 527 | C | C5-C4-N4 | -7.57 | 114.90 | 120.20 |
| 26 | 1H | 146 | G | C5-N7-C8 | -7.57 | 100.51 | 104.30 |
| 26 | 1H | 418 | G | C8-N9-C4 | 7.57 | 109.43 | 106.40 |
| 26 | 14 | 64 | A | N1-C6-N6 | 7.57 | 123.14 | 118.60 |
| 26 | 14 | 736 | C | C5-C4-N4 | -7.57 | 114.90 | 120.20 |
| 26 | 14 | 1283 | G | N3-C4-C5 | -7.57 | 124.81 | 128.60 |
| 23 | 2K | 13 | C | O5'-P-OP2 | 7.57 | 119.78 | 110.70 |
| 26 | 1H | 585 | G | C2-N3-C4 | -7.57 | 108.11 | 111.90 |
| 26 | 1H | 1030 | G | O5'-P-OP1 | 7.57 | 119.78 | 110.70 |
| 26 | 1H | 1331 | A | C2-N3-C4 | -7.57 | 106.81 | 110.60 |
| 26 | 1H | 2366 | A | C8-N9-C4 | -7.57 | 102.77 | 105.80 |
| 1 | 1G | 416 | G | C6-C5-N7 | -7.57 | 125.86 | 130.40 |
| 26 | 14 | 843 | G | C4-C5-N7 | 7.57 | 113.83 | 110.80 |
| 26 | 14 | 921 | G | OP1-P-OP2 | -7.57 | 108.24 | 119.60 |
| 26 | 14 | 2607 | G | C5-N7-C8 | 7.57 | 108.08 | 104.30 |
| 26 | 14 | 2029 | G | C5-C6-O6 | 7.57 | 133.14 | 128.60 |
| 26 | 1H | 533 | G | C8-N9-C4 | 7.57 | 109.43 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 372 | G | C5-N7-C8 | -7.57 | 100.52 | 104.30 |
| 26 | 14 | 460 | A | C5-C6-N6 | -7.57 | 117.64 | 123.70 |
| 26 | 14 | 910 | A | OP1-P-O3' | -7.57 | 88.55 | 105.20 |
| 26 | 14 | 1326 | U | N3-C4-C5 | -7.57 | 110.06 | 114.60 |
| 26 | 14 | 1391 | U | O5'-P-OP1 | -7.57 | 98.89 | 105.70 |
| 26 | 14 | 1933 | G | C5-C6-O6 | 7.57 | 133.14 | 128.60 |
| 26 | 14 | 1950 | G | N1-C6-O6 | -7.57 | 115.36 | 119.90 |
| 26 | 14 | 2429 | G | OP2-P-O3' | 7.57 | 121.85 | 105.20 |
| 27 | 1J | 16 | G | N7-C8-N9 | 7.57 | 116.88 | 113.10 |
| 26 | 1H | 799 | G | N7-C8-N9 | -7.57 | 109.32 | 113.10 |
| 26 | 1H | 2453 | A | C5-N7-C8 | -7.57 | 100.12 | 103.90 |
| 1 | 1G | 450 | G | C8-N9-C4 | 7.57 | 109.43 | 106.40 |
| 1 | 1G | 537 | G | C5-C6-O6 | -7.57 | 124.06 | 128.60 |
| 1 | 1G | 789 | U | C4-C5-C6 | 7.57 | 124.24 | 119.70 |
| 26 | 14 | 776 | G | C5-C6-O6 | 7.57 | 133.14 | 128.60 |
| 26 | 1H | 1263 | U | OP1-P-OP2 | 7.56 | 130.95 | 119.60 |
| 1 | 1G | 573 | A | C5-N7-C8 | 7.56 | 107.68 | 103.90 |
| 26 | 14 | 439 | G | C6-C5-N7 | -7.56 | 125.86 | 130.40 |
| 26 | 14 | 1998 | G | N1-C2-N3 | 7.56 | 128.44 | 123.90 |
| 26 | 1H | 466 | A | OP2-P-O3' | 7.56 | 121.84 | 105.20 |
| 26 | 1H | 659 | C | O5'-P-OP1 | 7.56 | 119.78 | 110.70 |
| 26 | 1H | 1346 | G | C8-N9-C4 | 7.56 | 109.42 | 106.40 |
| 26 | 1H | 1972 | A | OP1-P-OP2 | -7.56 | 108.25 | 119.60 |
| 26 | 14 | 2723 | C | N3-C4-N4 | -7.56 | 112.71 | 118.00 |
| 1 | 13 | 863 | U | N3-C4-C5 | -7.56 | 110.06 | 114.60 |
| 26 | 1H | 1823 | G | N3-C2-N2 | -7.56 | 114.61 | 119.90 |
| 1 | 13 | 731 | G | C2-N3-C4 | 7.56 | 115.68 | 111.90 |
| 26 | 1H | 1313 | U | N1-C2-N3 | 7.56 | 119.44 | 114.90 |
| 26 | 1H | 1553 | A | N9-C4-C5 | 7.56 | 108.82 | 105.80 |
| 26 | 1H | 1996 | C | O5'-P-OP1 | -7.56 | 98.90 | 105.70 |
| 26 | 1H | 2251 | G | N1-C6-O6 | -7.56 | 115.36 | 119.90 |
| 26 | 14 | 205 | G | N7-C8-N9 | -7.56 | 109.32 | 113.10 |
| 26 | 14 | 1230 | C | C6-N1-C2 | 7.56 | 123.32 | 120.30 |
| 26 | 14 | 1831 | G | N3-C4-N9 | 7.56 | 130.54 | 126.00 |
| 26 | 14 | 2325 | G | C5-C6-N1 | -7.56 | 107.72 | 111.50 |
| 1 | 13 | 1237 | C | N3-C4-C5 | -7.56 | 118.88 | 121.90 |
| 1 | 13 | 1521 | G | N1-C2-N3 | 7.56 | 128.43 | 123.90 |
| 26 | 1H | 298 | G | C5-N7-C8 | -7.56 | 100.52 | 104.30 |
| 26 | 1H | 805 | G | N3-C2-N2 | 7.56 | 125.19 | 119.90 |
| 26 | 1H | 1545(A) | A | O5'-P-OP2 | 7.56 | 119.77 | 110.70 |
| 26 | 1H | 2669 | G | C8-N9-C4 | 7.56 | 109.42 | 106.40 |
| 1 | 1G | 322 | C | N3-C2-O2 | 7.56 | 127.19 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 266 | G | N1-C6-O6 | 7.56 | 124.43 | 119.90 |
| 26 | 14 | 567 | A | N9-C4-C5 | -7.56 | 102.78 | 105.80 |
| 26 | 14 | 935 | C | C5-C6-N1 | -7.56 | 117.22 | 121.00 |
| 26 | 14 | 1945 | G | N1-C2-N2 | -7.56 | 109.40 | 116.20 |
| 26 | 1H | 773 | U | C2-N3-C4 | -7.55 | 122.47 | 127.00 |
| 26 | 1H | 950 | G | C2-N3-C4 | 7.55 | 115.68 | 111.90 |
| 26 | 1H | 1431 | U | C5-C6-N1 | 7.55 | 126.48 | 122.70 |
| 26 | 1H | 2441 | C | C5-C4-N4 | 7.55 | 125.49 | 120.20 |
| 26 | 1H | 2654 | A | O5'-P-OP1 | -7.55 | 98.90 | 105.70 |
| 1 | 1G | 452 | A | N7-C8-N9 | -7.55 | 110.02 | 113.80 |
| 26 | 14 | 666 | G | N3-C4-C5 | 7.55 | 132.38 | 128.60 |
| 26 | 14 | 704 | G | C4-C5-N7 | 7.55 | 113.82 | 110.80 |
| 1 | 1G | 1402 | C | C2-N3-C4 | -7.55 | 116.12 | 119.90 |
| 26 | 14 | 1976 | U | O5'-P-OP1 | -7.55 | 98.90 | 105.70 |
| 1 | 13 | 108 | G | N9-C4-C5 | -7.55 | 102.38 | 105.40 |
| 1 | 13 | 953 | G | C5-C6-O6 | 7.55 | 133.13 | 128.60 |
| 26 | 1H | 635 | C | N3-C2-O2 | -7.55 | 116.61 | 121.90 |
| 26 | 1H | 755 | C | C6-N1-C2 | -7.55 | 117.28 | 120.30 |
| 26 | 1H | 995 | C | N3-C4-N4 | -7.55 | 112.71 | 118.00 |
| 26 | 1H | 1157 | G | N1-C2-N2 | -7.55 | 109.40 | 116.20 |
| 26 | 1H | 1602 | U | N3-C4-O4 | 7.55 | 124.69 | 119.40 |
| 26 | 1H | 1891 | G | N3-C2-N2 | -7.55 | 114.61 | 119.90 |
| 26 | 1H | 2333 | A | N3-C4-C5 | -7.55 | 121.51 | 126.80 |
| 26 | 1H | 2665 | A | N9-C4-C5 | -7.55 | 102.78 | 105.80 |
| 1 | 1G | 32 | A | C8-N9-C4 | -7.55 | 102.78 | 105.80 |
| 1 | 1G | 359 | U | O5'-P-OP2 | -7.55 | 98.90 | 105.70 |
| 1 | 1G | 1449 | C | C6-N1-C1' | -7.55 | 111.74 | 120.80 |
| 26 | 14 | 729 | G | N3-C2-N2 | -7.55 | 114.61 | 119.90 |
| 26 | 14 | 922 | U | C6-N1-C2 | -7.55 | 116.47 | 121.00 |
| 1 | 13 | 1476 | G | C5-C6-O6 | 7.55 | 133.13 | 128.60 |
| 26 | 1H | 988 | A | O5'-P-OP1 | -7.55 | 98.91 | 105.70 |
| 26 | 1H | 1422 | G | C5-N7-C8 | -7.55 | 100.53 | 104.30 |
| 26 | 14 | 621 | A | C6-N1-C2 | 7.55 | 123.13 | 118.60 |
| 26 | 14 | 771 | G | N7-C8-N9 | -7.55 | 109.33 | 113.10 |
| 26 | 14 | 1219 | G | C8-N9-C4 | 7.55 | 109.42 | 106.40 |
| 1 | 13 | 241 | C | N1-C2-O2 | -7.55 | 114.37 | 118.90 |
| 26 | 1H | 462 | C | OP1-P-OP2 | 7.55 | 130.92 | 119.60 |
| 26 | 1H | 2603 | G | C4-C5-N7 | 7.55 | 113.82 | 110.80 |
| 1 | 1G | 1416 | G | O5'-P-OP2 | -7.55 | 98.91 | 105.70 |
| 26 | 14 | 1312 | U | O5'-P-OP2 | 7.55 | 119.76 | 110.70 |
| 26 | 14 | 2390 | U | C5-C6-N1 | 7.55 | 126.47 | 122.70 |
| 26 | 1H | 1435 | G | C6-N1-C2 | -7.55 | 120.57 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1840 | G | C6-C5-N7 | -7.55 | 125.87 | 130.40 |
| 26 | 1H | 1993 | U | N1-C2-N3 | 7.55 | 119.43 | 114.90 |
| 26 | 1H | 2281 | C | C4-C5-C6 | 7.55 | 121.17 | 117.40 |
| 26 | 1H | 2360 | A | C5-N7-C8 | -7.55 | 100.13 | 103.90 |
| 26 | 14 | 388 | G | N1-C2-N2 | 7.55 | 122.99 | 116.20 |
| 26 | 14 | 1964 | G | N1-C2-N2 | -7.55 | 109.41 | 116.20 |
| 26 | 14 | 2679 | A | C5-C6-N1 | 7.55 | 121.47 | 117.70 |
| 26 | 14 | 1474 | C | C5-C6-N1 | 7.54 | 124.77 | 121.00 |
| 1 | 13 | 1089 | G | C2-N3-C4 | -7.54 | 108.13 | 111.90 |
| 26 | 1H | 1312 | U | O5'-P-OP2 | 7.54 | 119.75 | 110.70 |
| 26 | 1H | 2380 | C | N1-C2-O2 | -7.54 | 114.37 | 118.90 |
| 26 | 1H | 2686 | G | C8-N9-C4 | -7.54 | 103.38 | 106.40 |
| 26 | 14 | 35 | G | N3-C4-N9 | -7.54 | 121.47 | 126.00 |
| 26 | 14 | 128 | C | C5-C4-N4 | -7.54 | 114.92 | 120.20 |
| 26 | 14 | 468 | G | N1-C2-N3 | 7.54 | 128.43 | 123.90 |
| 26 | 14 | 707 | G | C2-N3-C4 | -7.54 | 108.13 | 111.90 |
| 26 | 14 | 1307 | A | OP1-P-OP2 | 7.54 | 130.92 | 119.60 |
| 26 | 14 | 1494 | A | C8-N9-C4 | -7.54 | 102.78 | 105.80 |
| 26 | 1H | 914 | C | C2-N1-C1' | -7.54 | 110.50 | 118.80 |
| 26 | 1H | 1607 | C | O5'-P-OP2 | -7.54 | 98.91 | 105.70 |
| 1 | 1G | 386 | C | C6-N1-C2 | 7.54 | 123.32 | 120.30 |
| 1 | 13 | 186 | C | C5-C6-N1 | 7.54 | 124.77 | 121.00 |
| 26 | 1H | 432 | A | C5-C6-N1 | 7.54 | 121.47 | 117.70 |
| 26 | 1H | 2692 | C | O4'-C1'-N1 | 7.54 | 114.23 | 108.20 |
| 1 | 13 | 579 | G | N1-C6-O6 | 7.54 | 124.42 | 119.90 |
| 26 | 1H | 265 | A | O4'-C1'-N9 | 7.54 | 114.23 | 108.20 |
| 26 | 1H | 290 | G | N3-C2-N2 | 7.54 | 125.18 | 119.90 |
| 26 | 1H | 968 | G | N1-C2-N2 | -7.54 | 109.42 | 116.20 |
| 26 | 1H | 1654 | A | O5'-P-OP1 | -7.54 | 98.92 | 105.70 |
| 26 | 1H | 1980 | G | N3-C2-N2 | -7.54 | 114.62 | 119.90 |
| 26 | 14 | 1515 | C | O5'-P-OP1 | -7.54 | 98.92 | 105.70 |
| 1 | 13 | 977 | A | C2-N3-C4 | 7.54 | 114.37 | 110.60 |
| 26 | 1H | 381 | G | N1-C2-N3 | 7.54 | 128.42 | 123.90 |
| 26 | 1H | 704 | G | N3-C4-N9 | -7.54 | 121.48 | 126.00 |
| 26 | 1H | 840 | C | N1-C2-O2 | -7.54 | 114.38 | 118.90 |
| 26 | 1H | 1768 | U | C5-C6-N1 | 7.54 | 126.47 | 122.70 |
| 26 | 1H | 1984 | G | C2-N3-C4 | -7.54 | 108.13 | 111.90 |
| 26 | 1H | 2318 | G | N3-C2-N2 | 7.54 | 125.18 | 119.90 |
| 26 | 1H | 2487 | G | N3-C2-N2 | -7.54 | 114.62 | 119.90 |
| 1 | 1G | 810 | C | C2-N3-C4 | -7.54 | 116.13 | 119.90 |
| 26 | 14 | 2268 | A | C6-C5-N7 | -7.54 | 127.02 | 132.30 |
| 23 | 2K | 6 | G | N3-C4-C5 | 7.54 | 132.37 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1006 | C | N3-C2-O2 | 7.54 | 127.17 | 121.90 |
| 26 | 1H | 1769 | G | C4-C5-C6 | 7.54 | 123.32 | 118.80 |
| 26 | 1H | 1981 | A | C5-N7-C8 | -7.54 | 100.13 | 103.90 |
| 26 | 1H | 2623 | G | N1-C6-O6 | -7.54 | 115.38 | 119.90 |
| 26 | 14 | 835 | A | O5'-P-OP1 | 7.54 | 119.74 | 110.70 |
| 26 | 1H | 36 | G | N9-C4-C5 | 7.53 | 108.41 | 105.40 |
| 26 | 1H | 190 | A | C4-C5-N7 | 7.53 | 114.47 | 110.70 |
| 26 | 1H | 214 | G | C6-C5-N7 | -7.53 | 125.88 | 130.40 |
| 26 | 1H | 318 | C | C5-C6-N1 | 7.53 | 124.77 | 121.00 |
| 26 | 1H | 992 | C | OP1-P-O3' | 7.53 | 121.77 | 105.20 |
| 26 | 1H | 2012 | G | N3-C4-N9 | 7.53 | 130.52 | 126.00 |
| 26 | 1H | 2219 | G | C5-N7-C8 | -7.53 | 100.53 | 104.30 |
| 26 | 1H | 2465 | C | C5-C6-N1 | -7.53 | 117.23 | 121.00 |
| 26 | 14 | 688 | U | O5'-P-OP2 | -7.53 | 98.92 | 105.70 |
| 26 | 14 | 804 | A | C5-N7-C8 | 7.53 | 107.67 | 103.90 |
| 26 | 14 | 862 | G | N9-C4-C5 | 7.53 | 108.41 | 105.40 |
| 26 | 14 | 1423 | G | C2-N3-C4 | -7.53 | 108.13 | 111.90 |
| 26 | 14 | 2602 | A | C5-C6-N6 | 7.53 | 129.73 | 123.70 |
| 26 | 14 | 586 | A | N1-C2-N3 | -7.53 | 125.53 | 129.30 |
| 1 | 13 | 12 | U | O5'-P-OP1 | -7.53 | 98.92 | 105.70 |
| 26 | 1H | 228 | A | N7-C8-N9 | 7.53 | 117.56 | 113.80 |
| 26 | 1H | 344 | G | C5-C6-N1 | 7.53 | 115.27 | 111.50 |
| 26 | 1H | 1321 | A | O5'-P-OP1 | -7.53 | 98.92 | 105.70 |
| 26 | 1H | 2249 | U | C6-N1-C2 | -7.53 | 116.48 | 121.00 |
| 26 | 14 | 113 | G | C8-N9-C4 | 7.53 | 109.41 | 106.40 |
| 26 | 14 | 301 | G | O5'-P-OP1 | -7.53 | 98.92 | 105.70 |
| 26 | 14 | 189 | G | C4-C5-N7 | 7.53 | 113.81 | 110.80 |
| 26 | 1H | 491 | G | C8-N9-C4 | 7.53 | 109.41 | 106.40 |
| 26 | 1H | 762 | U | N1-C2-O2 | 7.53 | 128.07 | 122.80 |
| 26 | 1H | 807 | U | N3-C4-C5 | 7.53 | 119.12 | 114.60 |
| 26 | 1H | 1990 | C | C4-C5-C6 | 7.53 | 121.16 | 117.40 |
| 1 | 1G | 1342 | C | C5-C6-N1 | 7.53 | 124.76 | 121.00 |
| 1 | 13 | 1424 | C | N3-C4-C5 | 7.53 | 124.91 | 121.90 |
| 1 | 13 | 1472 | U | C5-C4-O4 | 7.53 | 130.41 | 125.90 |
| 26 | 1H | 425 | G | N7-C8-N9 | -7.53 | 109.34 | 113.10 |
| 26 | 1H | 1224 | G | N1-C6-O6 | -7.53 | 115.39 | 119.90 |
| 26 | 1H | 1734 | C | C6-N1-C2 | 7.53 | 123.31 | 120.30 |
| 26 | 1H | 1807 | G | N9-C4-C5 | -7.53 | 102.39 | 105.40 |
| 26 | 1H | 2034 | U | N1-C2-N3 | 7.53 | 119.42 | 114.90 |
| 26 | 1H | 2267 | A | N1-C2-N3 | 7.53 | 133.06 | 129.30 |
| 1 | 1G | 266 | G | P-O3'-C3' | 7.53 | 128.73 | 119.70 |
| 26 | 14 | 143 | C | C6-N1-C2 | -7.53 | 117.29 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2040 | C | C6-N1-C2 | 7.53 | 123.31 | 120.30 |
| 26 | 14 | 2588 | G | N1-C6-O6 | -7.53 | 115.39 | 119.90 |
| 26 | 14 | 1049 | C | C2-N1-C1' | 7.52 | 127.08 | 118.80 |
| 26 | 14 | 2553 | G | C8-N9-C4 | 7.52 | 109.41 | 106.40 |
| 1 | 13 | 24 | U | C5-C6-N1 | 7.52 | 126.46 | 122.70 |
| 26 | 1H | 120 | U | N3-C4-O4 | -7.52 | 114.14 | 119.40 |
| 26 | 1H | 581 | C | C6-N1-C1' | 7.52 | 129.83 | 120.80 |
| 26 | 1H | 745 | G | N1-C2-N3 | 7.52 | 128.41 | 123.90 |
| 26 | 1H | 827 | U | C5-C4-O4 | -7.52 | 121.39 | 125.90 |
| 26 | 1H | 1391 | U | O5'-P-OP1 | -7.52 | 98.93 | 105.70 |
| 26 | 1H | 1685 | C | N3-C4-C5 | 7.52 | 124.91 | 121.90 |
| 26 | 1H | 2332 | U | N1-C2-N3 | -7.52 | 110.39 | 114.90 |
| 26 | 1H | 2365 | G | C5-C6-N1 | 7.52 | 115.26 | 111.50 |
| 26 | 14 | 754 | C | C6-N1-C2 | -7.52 | 117.29 | 120.30 |
| 26 | 14 | 2403 | C | C6-N1-C2 | -7.52 | 117.29 | 120.30 |
| 26 | 14 | 2495 | G | N3-C4-N9 | -7.52 | 121.49 | 126.00 |
| 1 | 13 | 789 | U | N3-C2-O2 | -7.52 | 116.94 | 122.20 |
| 1 | 1G | 43 | C | O5'-P-OP1 | -7.52 | 98.93 | 105.70 |
| 26 | 14 | 1812 | A | OP1-P-OP2 | 7.52 | 130.88 | 119.60 |
| 23 | 2K | 68 | C | N1-C2-O2 | 7.52 | 123.41 | 118.90 |
| 26 | 1H | 727 | A | C2-N3-C4 | -7.52 | 106.84 | 110.60 |
| 26 | 1H | 922 | U | N1-C2-N3 | 7.52 | 119.41 | 114.90 |
| 1 | 1G | 362 | G | N3-C4-N9 | -7.52 | 121.49 | 126.00 |
| 26 | 14 | 676 | A | OP1-P-OP2 | 7.52 | 130.88 | 119.60 |
| 26 | 14 | 1216 | G | N1-C6-O6 | 7.52 | 124.41 | 119.90 |
| 26 | 14 | 1933 | G | C6-N1-C2 | 7.52 | 129.61 | 125.10 |
| 26 | 14 | 1989 | G | N1-C2-N3 | 7.52 | 128.41 | 123.90 |
| 26 | 1H | 298 | G | C4-C5-N7 | 7.52 | 113.81 | 110.80 |
| 26 | 1H | 716 | A | C8-N9-C4 | -7.52 | 102.79 | 105.80 |
| 26 | 1H | 1959 | G | C5-C6-O6 | 7.52 | 133.11 | 128.60 |
| 26 | 1H | 2008 | C | N3-C2-O2 | -7.52 | 116.64 | 121.90 |
| 57 | 3L | 44 | U | C6-N1-C2 | -7.52 | 116.49 | 121.00 |
| 26 | 14 | 529 | A | N1-C2-N3 | 7.52 | 133.06 | 129.30 |
| 26 | 14 | 1605 | C | OP1-P-OP2 | 7.52 | 130.88 | 119.60 |
| 26 | 14 | 2083 | G | O5'-P-OP1 | 7.52 | 119.72 | 110.70 |
| 26 | 14 | 2287 | A | N1-C2-N3 | 7.52 | 133.06 | 129.30 |
| 26 | 14 | 2330 | G | N1-C2-N2 | -7.52 | 109.44 | 116.20 |
| 1 | 13 | 111 | G | C8-N9-C4 | 7.52 | 109.41 | 106.40 |
| 1 | 13 | 1144 | G | N3-C4-N9 | -7.52 | 121.49 | 126.00 |
| 26 | 1H | 2053 | G | N3-C4-C5 | -7.52 | 124.84 | 128.60 |
| 26 | 14 | 860 | U | OP1-P-OP2 | -7.52 | 108.33 | 119.60 |
| 1 | 13 | 497 | U | N3-C4-O4 | 7.51 | 124.66 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 271(B) | G | C2-N3-C4 | 7.51 | 115.66 | 111.90 |
| 26 | 1H | 809 | G | C4-C5-N7 | 7.51 | 113.81 | 110.80 |
| 26 | 1H | 1316 | U | C6-N1-C2 | -7.51 | 116.49 | 121.00 |
| 26 | 1H | 1317 | A | C2-N3-C4 | 7.51 | 114.36 | 110.60 |
| 27 | 16 | 65 | C | O5'-P-OP2 | 7.51 | 119.72 | 110.70 |
| 26 | 14 | 966 | G | N3-C2-N2 | 7.51 | 125.16 | 119.90 |
| 26 | 14 | 1359 | A | C4-C5-C6 | -7.51 | 113.24 | 117.00 |
| 1 | 13 | 548 | G | C5-C6-N1 | 7.51 | 115.26 | 111.50 |
| 26 | 1H | 621 | A | O5'-P-OP1 | -7.51 | 98.94 | 105.70 |
| 26 | 1H | 2498 | C | C5-C6-N1 | 7.51 | 124.76 | 121.00 |
| 26 | 14 | 1405 | U | O5'-P-OP2 | -7.51 | 98.94 | 105.70 |
| 26 | 14 | 2313 | C | N1-C2-O2 | 7.51 | 123.41 | 118.90 |
| 1 | 13 | 1433 | A | C4-C5-C6 | 7.51 | 120.76 | 117.00 |
| 26 | 1H | 1445 | C | O5'-P-OP2 | 7.51 | 119.71 | 110.70 |
| 26 | 1H | 1611 | C | C6-N1-C2 | 7.51 | 123.30 | 120.30 |
| 26 | 14 | 699 | A | C5-C6-N1 | 7.51 | 121.46 | 117.70 |
| 26 | 14 | 2028 | U | N3-C4-C5 | -7.51 | 110.09 | 114.60 |
| 23 | 2K | 66 | C | N3-C4-N4 | -7.51 | 112.74 | 118.00 |
| 26 | 1H | 470 | A | C6-N1-C2 | -7.51 | 114.09 | 118.60 |
| 26 | 1H | 791 | C | C6-N1-C2 | 7.51 | 123.30 | 120.30 |
| 26 | 1H | 1613 | G | N1-C2-N2 | -7.51 | 109.44 | 116.20 |
| 26 | 1H | 1997 | G | C2-N3-C4 | -7.51 | 108.14 | 111.90 |
| 26 | 14 | 603 | A | C2-N3-C4 | -7.51 | 106.84 | 110.60 |
| 26 | 14 | 1201 | C | O5'-P-OP2 | -7.51 | 98.94 | 105.70 |
| 26 | 14 | 1399 | C | C5-C4-N4 | -7.51 | 114.94 | 120.20 |
| 26 | 14 | 2865 | U | C5-C6-N1 | 7.51 | 126.45 | 122.70 |
| 1 | 13 | 869 | G | C8-N9-C4 | -7.51 | 103.40 | 106.40 |
| 26 | 1H | 686 | G | O5'-P-OP2 | -7.51 | 98.94 | 105.70 |
| 26 | 1H | 2035 | G | N3-C2-N2 | -7.51 | 114.64 | 119.90 |
| 1 | 1G | 323 | U | N3-C4-O4 | 7.51 | 124.66 | 119.40 |
| 26 | 14 | 184 | C | C2-N3-C4 | -7.51 | 116.15 | 119.90 |
| 26 | 14 | 1891 | G | N1-C2-N3 | 7.51 | 128.41 | 123.90 |
| 26 | 14 | 2779 | U | N1-C2-O2 | 7.51 | 128.06 | 122.80 |
| 1 | 13 | 690 | G | N9-C4-C5 | -7.51 | 102.40 | 105.40 |
| 1 | 13 | 1126 | U | N1-C2-O2 | 7.51 | 128.05 | 122.80 |
| 26 | 1H | 326 | G | N7-C8-N9 | 7.51 | 116.85 | 113.10 |
| 26 | 1H | 449 | A | OP1-P-O3' | 7.51 | 121.71 | 105.20 |
| 26 | 1H | 1975 | G | C6-C5-N7 | -7.51 | 125.90 | 130.40 |
| 27 | 16 | 63 | G | O5'-P-OP2 | -7.51 | 98.94 | 105.70 |
| 26 | 14 | 492 | A | C5-C6-N1 | 7.51 | 121.45 | 117.70 |
| 26 | 14 | 2500 | U | C5-C4-O4 | 7.51 | 130.40 | 125.90 |
| 26 | 14 | 666 | G | N1-C2-N2 | -7.50 | 109.45 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2268 | A | N1-C6-N6 | 7.50 | 123.10 | 118.60 |
| 1 | 13 | 631 | G | N1-C6-O6 | 7.50 | 124.40 | 119.90 |
| 26 | 1H | 786 | C | N1-C2-O2 | 7.50 | 123.40 | 118.90 |
| 26 | 1H | 810 | U | C5-C4-O4 | -7.50 | 121.40 | 125.90 |
| 26 | 1H | 987 | G | N7-C8-N9 | 7.50 | 116.85 | 113.10 |
| 26 | 1H | 1128 | A | C4-C5-N7 | 7.50 | 114.45 | 110.70 |
| 26 | 1H | 1789 | A | N9-C4-C5 | 7.50 | 108.80 | 105.80 |
| 26 | 1H | 1843 | C | C4-C5-C6 | 7.50 | 121.15 | 117.40 |
| 26 | 1H | 1904 | G | N1-C6-O6 | -7.50 | 115.40 | 119.90 |
| 26 | 14 | 2238 | G | OP1-P-OP2 | 7.50 | 130.86 | 119.60 |
| 26 | 14 | 2295 | C | N3-C2-O2 | 7.50 | 127.15 | 121.90 |
| 1 | 13 | 1374 | A | N1-C6-N6 | 7.50 | 123.10 | 118.60 |
| 26 | 1H | 210 | C | C2-N3-C4 | -7.50 | 116.15 | 119.90 |
| 26 | 1H | 426 | C | C6-N1-C2 | 7.50 | 123.30 | 120.30 |
| 26 | 1H | 1427 | A | C5-C6-N6 | 7.50 | 129.70 | 123.70 |
| 26 | 1H | 1787 | A | C5-C6-N6 | 7.50 | 129.70 | 123.70 |
| 26 | 14 | 23 | G | N9-C4-C5 | -7.50 | 102.40 | 105.40 |
| 26 | 14 | 691 | C | C5-C6-N1 | -7.50 | 117.25 | 121.00 |
| 26 | 14 | 1968 | G | C5-C6-O6 | -7.50 | 124.10 | 128.60 |
| 26 | 14 | 2491 | U | N1-C2-O2 | -7.50 | 117.55 | 122.80 |
| 26 | 14 | 2587 | A | OP2-P-O3' | 7.50 | 121.70 | 105.20 |
| 1 | 13 | 881 | G | N7-C8-N9 | -7.50 | 109.35 | 113.10 |
| 1 | 13 | 1156 | G | C5-C6-N1 | -7.50 | 107.75 | 111.50 |
| 26 | 14 | 1296 | G | N1-C6-O6 | 7.50 | 124.40 | 119.90 |
| 1 | 13 | 1299 | A | C6-C5-N7 | -7.50 | 127.05 | 132.30 |
| 1 | 13 | 1499 | A | N1-C2-N3 | 7.50 | 133.05 | 129.30 |
| 24 | 3K | 65 | C | C5-C6-N1 | 7.50 | 124.75 | 121.00 |
| 26 | 1H | 228 | A | C8-N9-C4 | -7.50 | 102.80 | 105.80 |
| 26 | 1H | 1027 | A | C2-N3-C4 | -7.50 | 106.85 | 110.60 |
| 26 | 1H | 1839 | G | C2-N3-C4 | -7.50 | 108.15 | 111.90 |
| 26 | 14 | 153 | C | N1-C2-O2 | 7.50 | 123.40 | 118.90 |
| 26 | 14 | 255 | A | C5-C6-N1 | 7.50 | 121.45 | 117.70 |
| 26 | 14 | 754 | C | N3-C4-C5 | -7.50 | 118.90 | 121.90 |
| 26 | 14 | 2022 | U | C6-N1-C2 | 7.50 | 125.50 | 121.00 |
| 26 | 14 | 2253 | G | C5-C6-O6 | -7.50 | 124.10 | 128.60 |
| 1 | 13 | 824 | C | C6-N1-C2 | -7.50 | 117.30 | 120.30 |
| 26 | 1H | 2763 | G | C6-C5-N7 | -7.50 | 125.90 | 130.40 |
| 26 | 1H | 2782 | G | N1-C6-O6 | 7.50 | 124.40 | 119.90 |
| 26 | 14 | 510 | C | N1-C2-O2 | 7.50 | 123.40 | 118.90 |
| 26 | 14 | 700 | G | C8-N9-C4 | -7.50 | 103.40 | 106.40 |
| 26 | 1H | 70 | G | OP1-P-OP2 | -7.50 | 108.36 | 119.60 |
| 26 | 14 | 1155 | A | N9-C4-C5 | 7.50 | 108.80 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 13 | 275 | G | OP2-P-O3' | 7.49 | 121.69 | 105.20 |
| 1 | 13 | 1106 | G | C8-N9-C4 | -7.49 | 103.40 | 106.40 |
| 1 | 13 | 1518 | A | C2-N3-C4 | -7.49 | 106.85 | 110.60 |
| 26 | 1H | 193 | U | C4-C5-C6 | 7.49 | 124.20 | 119.70 |
| 26 | 1H | 470 | A | C5-C6-N1 | 7.49 | 121.45 | 117.70 |
| 26 | 1H | 2026 | C | C6-N1-C2 | 7.49 | 123.30 | 120.30 |
| 26 | 14 | 93 | C | C6-N1-C2 | -7.49 | 117.30 | 120.30 |
| 26 | 14 | 915 | C | N3-C2-O2 | -7.49 | 116.65 | 121.90 |
| 26 | 1H | 2037 | G | O5'-P-OP1 | 7.49 | 119.69 | 110.70 |
| 26 | 14 | 483 | A | N1-C2-N3 | 7.49 | 133.05 | 129.30 |
| 26 | 14 | 765 | G | N9-C4-C5 | 7.49 | 108.40 | 105.40 |
| 26 | 1H | 658 | C | O5'-P-OP1 | 7.49 | 119.69 | 110.70 |
| 26 | 1H | 1249 | U | N3-C2-O2 | 7.49 | 127.44 | 122.20 |
| 26 | 1H | 1368 | G | O5'-P-OP1 | -7.49 | 98.96 | 105.70 |
| 26 | 1H | 1970 | A | C2-N3-C4 | 7.49 | 114.34 | 110.60 |
| 1 | 1G | 46 | G | N3-C4-C5 | 7.49 | 132.34 | 128.60 |
| 26 | 14 | 827 | U | N3-C4-O4 | 7.49 | 124.64 | 119.40 |
| 26 | 14 | 1235 | G | C8-N9-C4 | -7.49 | 103.40 | 106.40 |
| 26 | 14 | 1926 | U | O5'-P-OP2 | -7.49 | 98.96 | 105.70 |
| 1 | 13 | 435 | C | OP1-P-OP2 | -7.49 | 108.37 | 119.60 |
| 1 | 13 | 874 | G | C2-N3-C4 | 7.49 | 115.64 | 111.90 |
| 26 | 1H | 924 | C | C5-C6-N1 | -7.49 | 117.26 | 121.00 |
| 26 | 1H | 1215 | G | N3-C4-C5 | -7.49 | 124.86 | 128.60 |
| 26 | 1H | 1697 | G | N3-C2-N2 | 7.49 | 125.14 | 119.90 |
| 1 | 1G | 53 | A | N1-C6-N6 | 7.49 | 123.09 | 118.60 |
| 26 | 14 | 1263 | U | C6-N1-C2 | -7.49 | 116.51 | 121.00 |
| 26 | 14 | 2827 | C | N3-C2-O2 | 7.49 | 127.14 | 121.90 |
| 1 | 13 | 609 | A | N1-C2-N3 | 7.49 | 133.04 | 129.30 |
| 1 | 13 | 796 | C | N1-C2-O2 | -7.49 | 114.41 | 118.90 |
| 26 | 1H | 1287 | A | N7-C8-N9 | 7.49 | 117.54 | 113.80 |
| 26 | 1H | 1988 | C | O5'-P-OP2 | 7.49 | 119.68 | 110.70 |
| 26 | 14 | 654(V) | A | N1-C6-N6 | -7.49 | 114.11 | 118.60 |
| 26 | 14 | 707 | G | N1-C2-N3 | 7.49 | 128.39 | 123.90 |
| 26 | 14 | 747 | U | OP1-P-OP2 | 7.49 | 130.83 | 119.60 |
| 26 | 14 | 2770 | G | N1-C6-O6 | 7.49 | 124.39 | 119.90 |
| 26 | 1H | 194 | G | N9-C4-C5 | -7.49 | 102.41 | 105.40 |
| 26 | 1H | 771 | G | N3-C4-C5 | 7.49 | 132.34 | 128.60 |
| 26 | 1H | 1854 | A | C5-N7-C8 | 7.49 | 107.64 | 103.90 |
| 26 | 1H | 2635 | C | N1-C2-O2 | -7.49 | 114.41 | 118.90 |
| 1 | 1G | 121 | C | N3-C4-N4 | 7.49 | 123.24 | 118.00 |
| 26 | 14 | 585 | G | N7-C8-N9 | 7.49 | 116.84 | 113.10 |
| 26 | 14 | 2426 | A | C6-C5-N7 | -7.49 | 127.06 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2578 | G | N7-C8-N9 | -7.49 | 109.36 | 113.10 |
| 26 | 1H | 211 | A | C8-N9-C4 | 7.48 | 108.79 | 105.80 |
| 26 | 1H | 844 | C | C2-N3-C4 | -7.48 | 116.16 | 119.90 |
| 26 | 1H | 2509 | G | C8-N9-C4 | 7.48 | 109.39 | 106.40 |
| 26 | 1H | 675 | A | OP1-P-OP2 | 7.48 | 130.82 | 119.60 |
| 26 | 14 | 81 | G | C5-C6-N1 | -7.48 | 107.76 | 111.50 |
| 26 | 14 | 921 | G | N3-C4-N9 | -7.48 | 121.51 | 126.00 |
| 26 | 14 | 1904 | G | N1-C6-O6 | -7.48 | 115.41 | 119.90 |
| 26 | 14 | 2258 | C | C6-N1-C2 | 7.48 | 123.29 | 120.30 |
| 26 | 14 | 2358 | G | C6-C5-N7 | 7.48 | 134.89 | 130.40 |
| 26 | 14 | 2502 | G | C6-C5-N7 | -7.48 | 125.91 | 130.40 |
| 26 | 14 | 2522 | U | OP1-P-OP2 | 7.48 | 130.82 | 119.60 |
| 1 | 13 | 338 | A | C5-N7-C8 | -7.48 | 100.16 | 103.90 |
| 26 | 1H | 970 | C | N1-C2-O2 | -7.48 | 114.41 | 118.90 |
| 26 | 1H | 1139 | G | C8-N9-C4 | 7.48 | 109.39 | 106.40 |
| 26 | 1H | 2272 | U | N3-C2-O2 | 7.48 | 127.44 | 122.20 |
| 27 | 16 | 53 | A | N7-C8-N9 | 7.48 | 117.54 | 113.80 |
| 26 | 14 | 465 | G | C2-N3-C4 | -7.48 | 108.16 | 111.90 |
| 26 | 14 | 2034 | U | N3-C2-O2 | -7.48 | 116.96 | 122.20 |
| 26 | 14 | 2244 | U | N3-C2-O2 | 7.48 | 127.44 | 122.20 |
| 26 | 1H | 1593 | G | OP1-P-O3' | 7.48 | 121.65 | 105.20 |
| 1 | 1G | 778 | G | C4-C5-C6 | 7.48 | 123.29 | 118.80 |
| 26 | 14 | 71 | A | C5-C6-N1 | -7.48 | 113.96 | 117.70 |
| 26 | 14 | 1001 | A | C4-C5-N7 | -7.48 | 106.96 | 110.70 |
| 26 | 1H | 749 | C | N3-C4-C5 | -7.48 | 118.91 | 121.90 |
| 26 | 1H | 1022 | G | C4-C5-N7 | -7.48 | 107.81 | 110.80 |
| 26 | 1H | 2346 | A | N9-C4-C5 | 7.48 | 108.79 | 105.80 |
| 26 | 1H | 2790 | A | C8-N9-C4 | -7.48 | 102.81 | 105.80 |
| 26 | 14 | 934 | G | OP1-P-OP2 | 7.48 | 130.81 | 119.60 |
| 26 | 14 | 1800 | C | O5'-P-OP2 | -7.48 | 98.97 | 105.70 |
| 26 | 14 | 1977 | A | N3-C4-N9 | -7.48 | 121.42 | 127.40 |
| 1 | 13 | 1200 | C | N3-C4-N4 | 7.48 | 123.23 | 118.00 |
| 26 | 1H | 1643 | G | OP1-P-OP2 | 7.48 | 130.81 | 119.60 |
| 26 | 1H | 1757 | U | N3-C4-O4 | -7.48 | 114.17 | 119.40 |
| 26 | 14 | 506 | G | O5'-P-OP1 | -7.48 | 98.97 | 105.70 |
| 26 | 1H | 1681 | G | N3-C4-C5 | 7.47 | 132.34 | 128.60 |
| 26 | 1H | 2723 | C | C5-C6-N1 | -7.47 | 117.26 | 121.00 |
| 1 | 1G | 400 | C | C6-N1-C2 | 7.47 | 123.29 | 120.30 |
| 26 | 14 | 14 | A | C8-N9-C4 | -7.47 | 102.81 | 105.80 |
| 26 | 14 | 330 | A | N3-C4-C5 | 7.47 | 132.03 | 126.80 |
| 26 | 14 | 723 | G | C5-C6-N1 | -7.47 | 107.76 | 111.50 |
| 26 | 14 | 1630(A) | C | N3-C4-N4 | 7.47 | 123.23 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1831 | G | C4-N9-C1' | 7.47 | 136.22 | 126.50 |
| 26 | 14 | 2334 | G | O5'-P-OP2 | 7.47 | 119.67 | 110.70 |
| 1 | 13 | 372 | C | O5'-P-OP2 | 7.47 | 119.67 | 110.70 |
| 26 | 1H | 723 | G | C5-C6-O6 | 7.47 | 133.08 | 128.60 |
| 26 | 1H | 1153 | C | N3-C4-C5 | -7.47 | 118.91 | 121.90 |
| 26 | 1H | 2459 | A | N1-C6-N6 | -7.47 | 114.12 | 118.60 |
| 1 | 1G | 1230 | C | C4-C5-C6 | -7.47 | 113.66 | 117.40 |
| 26 | 14 | 1930 | G | OP1-P-OP2 | 7.47 | 130.81 | 119.60 |
| 26 | 1H | 37 | C | C6-N1-C2 | -7.47 | 117.31 | 120.30 |
| 26 | 1H | 197 | A | C6-C5-N7 | -7.47 | 127.07 | 132.30 |
| 26 | 1H | 2726 | U | C5-C6-N1 | -7.47 | 118.96 | 122.70 |
| 26 | 14 | 1834 | U | C5-C4-O4 | -7.47 | 121.42 | 125.90 |
| 26 | 1H | 246 | C | C2-N3-C4 | -7.47 | 116.17 | 119.90 |
| 26 | 1H | 738 | G | N3-C2-N2 | 7.47 | 125.13 | 119.90 |
| 26 | 1H | 845 | G | P-O3'-C3' | 7.47 | 128.66 | 119.70 |
| 26 | 1H | 1634 | A | O5'-P-OP2 | -7.47 | 98.98 | 105.70 |
| 26 | 1H | 2295 | C | O5'-P-OP2 | 7.47 | 119.66 | 110.70 |
| 26 | 1H | 2313 | C | N3-C4-C5 | -7.47 | 118.91 | 121.90 |
| 39 | 55 | 90 | ARG | NE-CZ-NH2 | -7.47 | 116.56 | 120.30 |
| 26 | 1H | 1310 | G | N1-C2-N2 | 7.47 | 122.92 | 116.20 |
| 1 | 1G | 917 | G | N9-C4-C5 | -7.47 | 102.41 | 105.40 |
| 26 | 14 | 1567 | A | C2-N3-C4 | -7.47 | 106.87 | 110.60 |
| 25 | 4K | 21 | A | N1-C2-N3 | 7.47 | 133.03 | 129.30 |
| 26 | 1H | 964 | C | O5'-P-OP2 | 7.47 | 119.66 | 110.70 |
| 26 | 1H | 974 | G | O5'-P-OP1 | 7.47 | 119.66 | 110.70 |
| 26 | 1H | 1761 | C | C5-C4-N4 | -7.47 | 114.97 | 120.20 |
| 26 | 1H | 2071 | A | C6-C5-N7 | -7.47 | 127.07 | 132.30 |
| 26 | 14 | 551 | G | N1-C6-O6 | 7.47 | 124.38 | 119.90 |
| 26 | 14 | 790 | C | N1-C2-O2 | 7.47 | 123.38 | 118.90 |
| 26 | 14 | 949 | C | C6-N1-C2 | 7.47 | 123.29 | 120.30 |
| 26 | 1H | 1296 | G | C5-C6-O6 | 7.46 | 133.08 | 128.60 |
| 26 | 1H | 2465 | C | C2-N3-C4 | -7.46 | 116.17 | 119.90 |
| 26 | 1H | 2513 | G | O5'-P-OP2 | -7.46 | 98.98 | 105.70 |
| 1 | 1G | 1235 | U | C6-N1-C2 | -7.46 | 116.52 | 121.00 |
| 26 | 14 | 780 | G | C5-C6-N1 | -7.46 | 107.77 | 111.50 |
| 26 | 14 | 1653 | G | N7-C8-N9 | -7.46 | 109.37 | 113.10 |
| 1 | 13 | 954 | G | C5-C6-O6 | -7.46 | 124.12 | 128.60 |
| 26 | 14 | 808 | G | N1-C2-N3 | 7.46 | 128.38 | 123.90 |
| 26 | 14 | 2449 | U | N3-C4-O4 | 7.46 | 124.62 | 119.40 |
| 26 | 1H | 775 | G | C5-C6-N1 | -7.46 | 107.77 | 111.50 |
| 1 | 1G | 1468 | A | C5-C6-N1 | 7.46 | 121.43 | 117.70 |
| 26 | 14 | 796 | C | C2-N3-C4 | -7.46 | 116.17 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1299 | G | N3-C2-N2 | 7.46 | 125.12 | 119.90 |
| 26 | 14 | 2314 | C | N1-C2-O2 | 7.46 | 123.38 | 118.90 |
| 1 | 13 | 401 | C | C2-N3-C4 | -7.46 | 116.17 | 119.90 |
| 1 | 13 | 1158 | C | N3-C2-O2 | -7.46 | 116.68 | 121.90 |
| 26 | 1H | 574 | C | C2-N3-C4 | 7.46 | 123.63 | 119.90 |
| 26 | 1H | 1274 | A | C5-N7-C8 | -7.46 | 100.17 | 103.90 |
| 26 | 1H | 1355 | G | OP1-P-OP2 | -7.46 | 108.41 | 119.60 |
| 26 | 1H | 1369 | G | O5'-P-OP1 | -7.46 | 98.99 | 105.70 |
| 26 | 1H | 1436 | G | N1-C6-O6 | -7.46 | 115.42 | 119.90 |
| 26 | 1H | 1836 | C | N3-C4-C5 | 7.46 | 124.88 | 121.90 |
| 26 | 1H | 1934 | C | C5-C6-N1 | -7.46 | 117.27 | 121.00 |
| 26 | 1H | 2049 | G | O5'-P-OP1 | -7.46 | 98.99 | 105.70 |
| 1 | 1G | 576 | G | C4-N9-C1' | 7.46 | 136.20 | 126.50 |
| 26 | 14 | 1968 | G | N1-C2-N2 | 7.46 | 122.91 | 116.20 |
| 26 | 1H | 180 | G | N1-C2-N3 | 7.46 | 128.37 | 123.90 |
| 26 | 1H | 599 | G | C4-C5-N7 | -7.46 | 107.82 | 110.80 |
| 26 | 1H | 2626 | C | N1-C2-O2 | 7.46 | 123.37 | 118.90 |
| 27 | 16 | 42 | C | C4-C5-C6 | 7.46 | 121.13 | 117.40 |
| 25 | 4L | 12 | A | C5-N7-C8 | -7.46 | 100.17 | 103.90 |
| 26 | 14 | 911 | A | C4-C5-C6 | 7.46 | 120.73 | 117.00 |
| 26 | 14 | 2486 | G | C5-C6-O6 | -7.46 | 124.13 | 128.60 |
| 26 | 1H | 762 | U | C6-N1-C2 | 7.46 | 125.47 | 121.00 |
| 1 | 1G | 1479 | C | N1-C2-O2 | 7.46 | 123.37 | 118.90 |
| 26 | 14 | 2048 | G | N7-C8-N9 | 7.46 | 116.83 | 113.10 |
| 1 | 13 | 1236 | A | C6-N1-C2 | 7.45 | 123.07 | 118.60 |
| 26 | 1H | 258 | G | N1-C2-N2 | -7.45 | 109.49 | 116.20 |
| 26 | 1H | 1528 | A | O4'-C1'-N9 | 7.45 | 114.16 | 108.20 |
| 26 | 1H | 2546 | U | N1-C2-O2 | -7.45 | 117.58 | 122.80 |
| 27 | 16 | 37 | C | C6-N1-C2 | 7.45 | 123.28 | 120.30 |
| 26 | 14 | 1198 | U | N3-C2-O2 | -7.45 | 116.98 | 122.20 |
| 26 | 14 | 2617 | C | OP1-P-OP2 | 7.45 | 130.78 | 119.60 |
| 1 | 1G | 284 | G | C5-C6-O6 | -7.45 | 124.13 | 128.60 |
| 1 | 1G | 353 | A | C4-C5-N7 | 7.45 | 114.43 | 110.70 |
| 26 | 14 | 2062 | A | C4-C5-N7 | 7.45 | 114.43 | 110.70 |
| 26 | 1H | 638 | G | C4-C5-C6 | 7.45 | 123.27 | 118.80 |
| 27 | 16 | 14 | U | O5'-P-OP2 | -7.45 | 98.99 | 105.70 |
| 1 | 1G | 667 | G | C5-C6-O6 | -7.45 | 124.13 | 128.60 |
| 26 | 14 | 213 | A | C4-C5-C6 | -7.45 | 113.27 | 117.00 |
| 26 | 14 | 2392 | A | N3-C4-N9 | -7.45 | 121.44 | 127.40 |
| 26 | 14 | 2557 | G | OP1-P-OP2 | -7.45 | 108.42 | 119.60 |
| 26 | 1H | 232 | G | N3-C4-N9 | 7.45 | 130.47 | 126.00 |
| 26 | 1H | 1125 | G | N1-C6-O6 | -7.45 | 115.43 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1151 | G | N3-C4-C5 | 7.45 | 132.32 | 128.60 |
| 26 | 1H | 1698 | A | O5'-P-OP2 | -7.45 | 99.00 | 105.70 |
| 26 | 1H | 1778 | U | N3-C4-O4 | -7.45 | 114.19 | 119.40 |
| 23 | 2L | 58 | A | OP1-P-OP2 | -7.45 | 108.43 | 119.60 |
| 26 | 14 | 1604 | C | N1-C2-O2 | -7.45 | 114.43 | 118.90 |
| 26 | 14 | 2035 | G | N7-C8-N9 | -7.45 | 109.38 | 113.10 |
| 26 | 14 | 2356 | C | OP2-P-O3' | 7.45 | 121.59 | 105.20 |
| 26 | 1H | 793 | A | C4-C5-C6 | 7.45 | 120.72 | 117.00 |
| 26 | 1H | 1298 | C | C2-N3-C4 | 7.45 | 123.62 | 119.90 |
| 26 | 1H | 2258 | C | C6-N1-C2 | -7.45 | 117.32 | 120.30 |
| 25 | 4L | 12 | A | C4-C5-N7 | 7.45 | 114.42 | 110.70 |
| 26 | 14 | 1643 | G | OP1-P-O3' | -7.45 | 88.82 | 105.20 |
| 1 | 13 | 623 | C | C2-N3-C4 | 7.45 | 123.62 | 119.90 |
| 1 | 13 | 1515 | C | N1-C2-O2 | 7.45 | 123.37 | 118.90 |
| 26 | 1H | 2030 | A | N9-C4-C5 | -7.45 | 102.82 | 105.80 |
| 26 | 14 | 747 | U | C4-C5-C6 | -7.45 | 115.23 | 119.70 |
| 26 | 14 | 2502 | G | N1-C2-N3 | 7.45 | 128.37 | 123.90 |
| 26 | 1H | 695 | G | O5'-P-OP2 | -7.44 | 99.00 | 105.70 |
| 26 | 14 | 521 | G | N1-C6-O6 | 7.44 | 124.37 | 119.90 |
| 26 | 14 | 524 | U | N1-C2-N3 | 7.44 | 119.37 | 114.90 |
| 26 | 14 | 2865 | U | N3-C4-C5 | -7.44 | 110.13 | 114.60 |
| 1 | 13 | 912 | C | C5-C6-N1 | -7.44 | 117.28 | 121.00 |
| 1 | 13 | 1202 | G | C6-N1-C2 | 7.44 | 129.56 | 125.10 |
| 26 | 1H | 1323 | U | N3-C4-C5 | -7.44 | 110.14 | 114.60 |
| 26 | 1H | 1383 | C | N3-C2-O2 | -7.44 | 116.69 | 121.90 |
| 26 | 1H | 1454 | U | O5'-P-OP2 | -7.44 | 99.00 | 105.70 |
| 26 | 14 | 352 | G | C5-C6-N1 | -7.44 | 107.78 | 111.50 |
| 26 | 14 | 603 | A | C5-C6-N1 | -7.44 | 113.98 | 117.70 |
| 26 | 14 | 1939 | U | C4-C5-C6 | 7.44 | 124.17 | 119.70 |
| 26 | 14 | 2216 | G | N3-C4-C5 | 7.44 | 132.32 | 128.60 |
| 26 | 14 | 2477 | C | N3-C2-O2 | -7.44 | 116.69 | 121.90 |
| 1 | 13 | 1417 | G | N1-C2-N2 | 7.44 | 122.90 | 116.20 |
| 26 | 1H | 79 | G | C8-N9-C4 | -7.44 | 103.42 | 106.40 |
| 26 | 1H | 2433 | A | OP2-P-O3' | 7.44 | 121.57 | 105.20 |
| 26 | 14 | 198 | C | OP2-P-O3' | 7.44 | 121.57 | 105.20 |
| 26 | 14 | 1130 | U | C4-C5-C6 | 7.44 | 124.17 | 119.70 |
| 26 | 14 | 1317 | A | OP1-P-O3' | 7.44 | 121.57 | 105.20 |
| 26 | 1H | 1247 | A | C8-N9-C4 | 7.44 | 108.78 | 105.80 |
| 26 | 1H | 1918 | A | N1-C6-N6 | -7.44 | 114.14 | 118.60 |
| 26 | 1H | 2627 | G | N9-C4-C5 | -7.44 | 102.42 | 105.40 |
| 26 | 1H | 2751 | G | C6-C5-N7 | -7.44 | 125.94 | 130.40 |
| 1 | 1G | 96 | G | C5-C6-N1 | -7.44 | 107.78 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 934 | C | N3-C4-C5 | -7.44 | 118.92 | 121.90 |
| 26 | 1H | 113 | G | C5-C6-O6 | -7.44 | 124.14 | 128.60 |
| 26 | 1H | 464 | U | N1-C2-N3 | 7.44 | 119.36 | 114.90 |
| 26 | 1H | 1797 | C | C5-C4-N4 | -7.44 | 114.99 | 120.20 |
| 26 | 1H | 2226 | C | C6-N1-C2 | 7.44 | 123.28 | 120.30 |
| 26 | 14 | 124 | G | C5-C6-N1 | -7.44 | 107.78 | 111.50 |
| 26 | 14 | 2711 | A | C5-C6-N1 | -7.44 | 113.98 | 117.70 |
| 1 | 13 | 974 | A | N9-C4-C5 | -7.43 | 102.83 | 105.80 |
| 26 | 1H | 2016 | U | N3-C4-C5 | 7.43 | 119.06 | 114.60 |
| 26 | 1H | 2713 | A | C8-N9-C4 | -7.43 | 102.83 | 105.80 |
| 1 | 1G | 1372 | U | C5-C6-N1 | 7.43 | 126.42 | 122.70 |
| 26 | 14 | 405 | U | C2-N1-C1' | 7.43 | 126.62 | 117.70 |
| 26 | 14 | 2459 | A | C2-N3-C4 | 7.43 | 114.32 | 110.60 |
| 26 | 1H | 2017 | U | N1-C2-N3 | 7.43 | 119.36 | 114.90 |
| 26 | 1H | 2403 | C | N1-C2-O2 | -7.43 | 114.44 | 118.90 |
| 26 | 1H | 2585 | U | N3-C4-C5 | 7.43 | 119.06 | 114.60 |
| 26 | 14 | 1313 | U | N1-C2-O2 | -7.43 | 117.60 | 122.80 |
| 26 | 14 | 1423 | G | C5-C6-N1 | -7.43 | 107.78 | 111.50 |
| 27 | 1J | 6 | C | C4-C5-C6 | 7.43 | 121.12 | 117.40 |
| 26 | 1H | 990 | A | C5-C6-N6 | 7.43 | 129.64 | 123.70 |
| 26 | 1H | 2270 | G | N1-C2-N2 | -7.43 | 109.51 | 116.20 |
| 1 | 13 | 731 | G | N1-C2-N2 | 7.43 | 122.89 | 116.20 |
| 26 | 1H | 1263 | U | N3-C4-C5 | 7.43 | 119.06 | 114.60 |
| 26 | 1H | 1323 | U | N1-C2-O2 | -7.43 | 117.60 | 122.80 |
| 1 | 1G | 495 | A | N7-C8-N9 | -7.43 | 110.08 | 113.80 |
| 1 | 1G | 809 | G | C8-N9-C4 | 7.43 | 109.37 | 106.40 |
| 1 | 1G | 1523 | G | O5'-P-OP2 | -7.43 | 99.01 | 105.70 |
| 26 | 14 | 1311 | G | C8-N9-C4 | 7.43 | 109.37 | 106.40 |
| 26 | 14 | 1834 | U | C5-C6-N1 | 7.43 | 126.42 | 122.70 |
| 26 | 14 | 2271 | G | C6-N1-C2 | -7.43 | 120.64 | 125.10 |
| 26 | 1H | 619 | G | N3-C4-C5 | 7.43 | 132.31 | 128.60 |
| 30 | 21 | 54 | GLN | C-N-CA | 7.43 | 140.27 | 121.70 |
| 1 | 1G | 334 | C | OP1-P-OP2 | -7.43 | 108.46 | 119.60 |
| 26 | 14 | 804 | A | OP1-P-OP2 | -7.43 | 108.46 | 119.60 |
| 26 | 1H | 398 | G | C2-N3-C4 | -7.43 | 108.19 | 111.90 |
| 26 | 1H | 425 | G | N1-C2-N2 | 7.43 | 122.88 | 116.20 |
| 26 | 1H | 464 | U | N3-C2-O2 | -7.43 | 117.00 | 122.20 |
| 26 | 1H | 1253 | A | C5-C6-N6 | -7.43 | 117.76 | 123.70 |
| 1 | 1G | 522 | C | C5-C6-N1 | -7.43 | 117.29 | 121.00 |
| 26 | 14 | 104 | U | O5'-P-OP1 | 7.43 | 119.61 | 110.70 |
| 26 | 14 | 1461 | G | C5-C6-N1 | -7.43 | 107.79 | 111.50 |
| 26 | 14 | 1906 | G | C2-N3-C4 | -7.43 | 108.19 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2441 | C | N1-C2-O2 | 7.43 | 123.36 | 118.90 |
| 26 | 14 | 2590 | A | O5'-P-OP1 | -7.43 | 99.02 | 105.70 |
| 26 | 14 | 2688 | U | N1-C2-N3 | 7.43 | 119.36 | 114.90 |
| 26 | 1H | 302 | C | O5'-P-OP2 | -7.42 | 99.02 | 105.70 |
| 26 | 1H | 610 | C | N3-C4-N4 | -7.42 | 112.80 | 118.00 |
| 26 | 1H | 958 | U | C6-N1-C2 | -7.42 | 116.55 | 121.00 |
| 26 | 1H | 1626 | G | C5-C6-O6 | -7.42 | 124.15 | 128.60 |
| 26 | 1H | 1649 | G | C4-C5-C6 | 7.42 | 123.25 | 118.80 |
| 26 | 1H | 2396 | G | C6-C5-N7 | 7.42 | 134.85 | 130.40 |
| 26 | 14 | 450 | G | C5-C6-N1 | -7.42 | 107.79 | 111.50 |
| 26 | 14 | 564 | C | N3-C2-O2 | 7.42 | 127.10 | 121.90 |
| 26 | 14 | 1342 | A | C5-C6-N1 | -7.42 | 113.99 | 117.70 |
| 1 | 13 | 534 | U | C5-C4-O4 | 7.42 | 130.35 | 125.90 |
| 1 | 13 | 690 | G | C5-N7-C8 | -7.42 | 100.59 | 104.30 |
| 26 | 1H | 1264 | G | N1-C6-O6 | -7.42 | 115.45 | 119.90 |
| 1 | 13 | 500 | G | C8-N9-C4 | 7.42 | 109.37 | 106.40 |
| 26 | 1H | 407 | G | C8-N9-C4 | -7.42 | 103.43 | 106.40 |
| 26 | 1H | 1222 | C | C5-C4-N4 | -7.42 | 115.01 | 120.20 |
| 26 | 1H | 1486 | A | N7-C8-N9 | 7.42 | 117.51 | 113.80 |
| 26 | 1H | 1605 | C | C5-C6-N1 | -7.42 | 117.29 | 121.00 |
| 26 | 1H | 1655 | A | C6-N1-C2 | -7.42 | 114.15 | 118.60 |
| 26 | 1H | 1683 | C | N3-C4-C5 | 7.42 | 124.87 | 121.90 |
| 26 | 1H | 2499 | C | N1-C2-N3 | 7.42 | 124.39 | 119.20 |
| 1 | 1G | 1301 | U | N1-C2-O2 | 7.42 | 128.00 | 122.80 |
| 26 | 14 | 123 | G | OP1-P-OP2 | 7.42 | 130.73 | 119.60 |
| 26 | 14 | 452 | G | O5'-P-OP1 | -7.42 | 99.02 | 105.70 |
| 26 | 14 | 1407 | C | C6-N1-C2 | -7.42 | 117.33 | 120.30 |
| 26 | 14 | 2589 | A | OP1-P-OP2 | -7.42 | 108.47 | 119.60 |
| 1 | 13 | 1415 | G | N1-C6-O6 | 7.42 | 124.35 | 119.90 |
| 26 | 1H | 2712(A) | A | O5'-P-OP2 | -7.42 | 99.02 | 105.70 |
| 26 | 1H | 2875 | C | N3-C4-N4 | -7.42 | 112.81 | 118.00 |
| 1 | 1G | 110 | C | N3-C4-C5 | 7.42 | 124.87 | 121.90 |
| 26 | 14 | 330 | A | C6-C5-N7 | -7.42 | 127.11 | 132.30 |
| 26 | 1H | 690 | G | N1-C2-N3 | 7.42 | 128.35 | 123.90 |
| 26 | 1H | 1392 | A | C6-N1-C2 | -7.42 | 114.15 | 118.60 |
| 26 | 1H | 2379 | G | N3-C2-N2 | 7.42 | 125.09 | 119.90 |
| 26 | 14 | 391 | G | C5-N7-C8 | -7.42 | 100.59 | 104.30 |
| 26 | 14 | 593 | G | N3-C4-N9 | -7.42 | 121.55 | 126.00 |
| 26 | 14 | 679 | C | N3-C4-N4 | 7.42 | 123.19 | 118.00 |
| 26 | 14 | 1293 | C | C5-C4-N4 | -7.42 | 115.01 | 120.20 |
| 26 | 14 | 1357 | U | N3-C4-C5 | -7.42 | 110.15 | 114.60 |
| 26 | 14 | 2591 | C | O5'-P-OP2 | -7.42 | 99.02 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2770 | G | C4-C5-N7 | 7.42 | 113.77 | 110.80 |
| 26 | 1H | 250 | G | N1-C6-O6 | 7.42 | 124.35 | 119.90 |
| 26 | 1H | 1696 | G | N1-C2-N2 | -7.42 | 109.53 | 116.20 |
| 26 | 1H | 2063 | C | C2-N1-C1' | -7.42 | 110.64 | 118.80 |
| 26 | 1H | 2230 | G | C5-N7-C8 | -7.42 | 100.59 | 104.30 |
| 26 | 14 | 1675 | C | N3-C4-C5 | -7.42 | 118.93 | 121.90 |
| 26 | 14 | 2057 | A | OP1-P-OP2 | 7.42 | 130.72 | 119.60 |
| 26 | 1H | 862 | G | C5-N7-C8 | 7.42 | 108.01 | 104.30 |
| 26 | 1H | 1313 | U | C5-C4-O4 | -7.42 | 121.45 | 125.90 |
| 26 | 1H | 1761 | C | O5'-P-OP1 | 7.42 | 119.60 | 110.70 |
| 26 | 1H | 2433 | A | N9-C4-C5 | -7.42 | 102.83 | 105.80 |
| 26 | 14 | 1555 | G | C4-C5-N7 | -7.42 | 107.83 | 110.80 |
| 26 | 14 | 1607 | C | N3-C4-C5 | 7.42 | 124.87 | 121.90 |
| 1 | 13 | 826 | C | C5-C6-N1 | 7.41 | 124.71 | 121.00 |
| 1 | 13 | 1097 | C | N1-C2-O2 | 7.41 | 123.35 | 118.90 |
| 26 | 1H | 1337 | G | C5-C6-O6 | 7.41 | 133.05 | 128.60 |
| 26 | 1H | 2828 | C | N3-C4-C5 | 7.41 | 124.87 | 121.90 |
| 27 | 16 | 16 | G | N9-C4-C5 | -7.41 | 102.43 | 105.40 |
| 26 | 14 | 1688 | U | C4-C5-C6 | 7.41 | 124.15 | 119.70 |
| 1 | 13 | 644 | G | O5'-P-OP1 | 7.41 | 119.59 | 110.70 |
| 26 | 1H | 196 | A | N9-C4-C5 | -7.41 | 102.83 | 105.80 |
| 26 | 14 | 57 | C | OP2-P-O3' | 7.41 | 121.51 | 105.20 |
| 26 | 1H | 536 | A | O5'-P-OP1 | 7.41 | 119.59 | 110.70 |
| 26 | 1H | 2766 | G | C5-N7-C8 | -7.41 | 100.59 | 104.30 |
| 27 | 16 | 70 | C | C6-N1-C2 | -7.41 | 117.34 | 120.30 |
| 26 | 14 | 586 | A | C4-C5-C6 | -7.41 | 113.30 | 117.00 |
| 26 | 14 | 2271 | G | N1-C2-N3 | 7.41 | 128.35 | 123.90 |
| 26 | 14 | 2289 | G | N1-C2-N2 | 7.41 | 122.87 | 116.20 |
| 26 | 1H | 136 | G | C5-C6-N1 | -7.41 | 107.80 | 111.50 |
| 1 | 1G | 117 | G | C5-C6-O6 | -7.41 | 124.16 | 128.60 |
| 1 | 1G | 780 | A | C5-N7-C8 | -7.41 | 100.20 | 103.90 |
| 25 | 4L | 18 | G | OP1-P-OP2 | -7.41 | 108.49 | 119.60 |
| 26 | 14 | 1301 | A | OP1-P-OP2 | 7.41 | 130.71 | 119.60 |
| 26 | 14 | 2515 | C | O5'-P-OP1 | 7.41 | 119.59 | 110.70 |
| 1 | 1G | 122 | G | N1-C6-O6 | 7.41 | 124.34 | 119.90 |
| 1 | 1G | 901 | A | C5-C6-N6 | 7.41 | 129.63 | 123.70 |
| 1 | 1G | 913 | A | C5-C6-N1 | 7.41 | 121.40 | 117.70 |
| 26 | 14 | 1762 | A | C2-N3-C4 | -7.41 | 106.90 | 110.60 |
| 1 | 13 | 1052 | U | N3-C2-O2 | -7.41 | 117.02 | 122.20 |
| 26 | 1H | 778 | G | C2-N3-C4 | -7.41 | 108.20 | 111.90 |
| 26 | 1H | 1454 | U | C4-C5-C6 | 7.41 | 124.14 | 119.70 |
| 26 | 1H | 1559 | G | C5-C6-N1 | -7.41 | 107.80 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1579 | A | N1-C6-N6 | 7.41 | 123.04 | 118.60 |
| 26 | 1H | 1585 | C | N3-C4-C5 | -7.41 | 118.94 | 121.90 |
| 27 | 16 | 115 | G | N3-C2-N2 | 7.41 | 125.08 | 119.90 |
| 26 | 14 | 934 | G | C4-C5-N7 | -7.41 | 107.84 | 110.80 |
| 26 | 1H | 2645 | G | N1-C2-N2 | -7.40 | 109.54 | 116.20 |
| 26 | 1H | 44 | A | N7-C8-N9 | 7.40 | 117.50 | 113.80 |
| 26 | 1H | 185 | U | C4-C5-C6 | 7.40 | 124.14 | 119.70 |
| 26 | 1H | 750 | A | C4-C5-N7 | 7.40 | 114.40 | 110.70 |
| 26 | 1H | 2581 | G | N1-C2-N3 | 7.40 | 128.34 | 123.90 |
| 26 | 14 | 1410 | G | N3-C2-N2 | 7.40 | 125.08 | 119.90 |
| 27 | 1J | 113 | C | N3-C4-C5 | 7.40 | 124.86 | 121.90 |
| 26 | 1H | 1782 | C | N3-C4-N4 | 7.40 | 123.18 | 118.00 |
| 26 | 1H | 2390 | U | N1-C2-O2 | -7.40 | 117.62 | 122.80 |
| 26 | 14 | 566 | U | N3-C4-C5 | 7.40 | 119.04 | 114.60 |
| 26 | 14 | 1613 | G | C5-C6-O6 | 7.40 | 133.04 | 128.60 |
| 1 | 13 | 572 | A | N1-C6-N6 | -7.40 | 114.16 | 118.60 |
| 23 | 2K | 17 | C | OP1-P-OP2 | 7.40 | 130.70 | 119.60 |
| 26 | 1H | 193 | U | C2-N3-C4 | -7.40 | 122.56 | 127.00 |
| 26 | 14 | 510 | C | C6-N1-C2 | -7.40 | 117.34 | 120.30 |
| 26 | 14 | 1692 | U | C2-N3-C4 | -7.40 | 122.56 | 127.00 |
| 26 | 14 | 1632 | A | N1-C6-N6 | -7.40 | 114.16 | 118.60 |
| 1 | 13 | 120 | A | C5-C6-N6 | -7.40 | 117.78 | 123.70 |
| 26 | 1H | 1128 | A | N7-C8-N9 | 7.40 | 117.50 | 113.80 |
| 26 | 1H | 2217 | G | C8-N9-C4 | -7.40 | 103.44 | 106.40 |
| 26 | 1H | 2459 | A | C5-C6-N6 | 7.40 | 129.62 | 123.70 |
| 26 | 1H | 2867 | G | O4'-C1'-N9 | 7.40 | 114.12 | 108.20 |
| 26 | 14 | 31 | C | N1-C2-O2 | -7.40 | 114.46 | 118.90 |
| 26 | 14 | 1316 | U | N1-C2-O2 | 7.40 | 127.98 | 122.80 |
| 23 | 2K | 41 | C | C6-N1-C2 | 7.39 | 123.26 | 120.30 |
| 26 | 1H | 211 | A | N9-C4-C5 | -7.39 | 102.84 | 105.80 |
| 26 | 1H | 406 | G | N3-C4-N9 | -7.39 | 121.56 | 126.00 |
| 26 | 1H | 630 | G | C2-N3-C4 | -7.39 | 108.20 | 111.90 |
| 26 | 1H | 1834 | U | N1-C2-N3 | 7.39 | 119.34 | 114.90 |
| 26 | 1H | 2740 | A | O5'-P-OP2 | -7.39 | 99.05 | 105.70 |
| 26 | 14 | 1543 | A | C5-C6-N6 | 7.39 | 129.62 | 123.70 |
| 26 | 14 | 2783 | G | O5'-P-OP2 | -7.39 | 99.05 | 105.70 |
| 26 | 1H | 17 | G | OP1-P-O3' | 7.39 | 121.46 | 105.20 |
| 26 | 1H | 380 | U | O5'-P-OP2 | -7.39 | 99.05 | 105.70 |
| 26 | 1H | 989 | G | C5-C6-N1 | -7.39 | 107.80 | 111.50 |
| 26 | 1H | 1636 | C | C6-N1-C2 | -7.39 | 117.34 | 120.30 |
| 1 | 1G | 336 | C | C4-C5-C6 | -7.39 | 113.70 | 117.40 |
| 26 | 14 | 2021 | C | N1-C2-O2 | 7.39 | 123.34 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2466 | C | O5'-P-OP1 | 7.39 | 119.57 | 110.70 |
| 26 | 14 | 1304 | C | N3-C4-N4 | -7.39 | 112.83 | 118.00 |
| 26 | 14 | 1820 | U | C2-N3-C4 | -7.39 | 122.57 | 127.00 |
| 26 | 14 | 2255 | G | C5-N7-C8 | 7.39 | 108.00 | 104.30 |
| 26 | 14 | 2819 | G | N7-C8-N9 | -7.39 | 109.41 | 113.10 |
| 1 | 13 | 359 | U | C5-C4-O4 | 7.39 | 130.33 | 125.90 |
| 26 | 1H | 270(R) | G | N1-C6-O6 | 7.39 | 124.33 | 119.90 |
| 26 | 1H | 974(A) | C | C6-N1-C2 | -7.39 | 117.34 | 120.30 |
| 26 | 1H | 1757 | U | C2-N1-C1' | -7.39 | 108.83 | 117.70 |
| 26 | 14 | 967 | C | O5'-P-OP2 | -7.39 | 99.05 | 105.70 |
| 26 | 14 | 1298 | C | OP1-P-OP2 | -7.39 | 108.52 | 119.60 |
| 26 | 14 | 1807 | G | C5-C6-O6 | -7.39 | 124.17 | 128.60 |
| 26 | 14 | 2236 | C | C2-N3-C4 | -7.39 | 116.20 | 119.90 |
| 26 | 14 | 2445 | G | C5-C6-O6 | 7.39 | 133.03 | 128.60 |
| 23 | 2K | 68 | C | N3-C2-O2 | -7.39 | 116.73 | 121.90 |
| 26 | 1H | 222 | A | P-O3'-C3' | 7.39 | 128.57 | 119.70 |
| 26 | 1H | 650 | C | N1-C2-O2 | -7.39 | 114.47 | 118.90 |
| 26 | 1H | 1810 | A | C6-N1-C2 | -7.39 | 114.17 | 118.60 |
| 26 | 1H | 2578 | G | N1-C6-O6 | -7.39 | 115.47 | 119.90 |
| 26 | 14 | 1828 | G | N1-C6-O6 | -7.39 | 115.47 | 119.90 |
| 1 | 13 | 199 | G | C8-N9-C4 | 7.39 | 109.35 | 106.40 |
| 1 | 13 | 331 | G | N3-C2-N2 | -7.39 | 114.73 | 119.90 |
| 1 | 13 | 1465 | C | N1-C2-O2 | -7.39 | 114.47 | 118.90 |
| 26 | 1H | 1190 | G | O5'-P-OP2 | 7.39 | 119.56 | 110.70 |
| 26 | 1H | 1378 | A | C5-C6-N1 | -7.39 | 114.01 | 117.70 |
| 26 | 1H | 1577 | C | N3-C4-C5 | -7.39 | 118.94 | 121.90 |
| 27 | 16 | 105 | G | N1-C6-O6 | 7.39 | 124.33 | 119.90 |
| 26 | 14 | 32 | C | OP1-P-OP2 | 7.39 | 130.68 | 119.60 |
| 26 | 14 | 1363 | C | N1-C2-O2 | -7.39 | 114.47 | 118.90 |
| 26 | 14 | 1772 | G | C4-C5-N7 | 7.39 | 113.75 | 110.80 |
| 1 | 13 | 428 | G | C8-N9-C4 | 7.38 | 109.35 | 106.40 |
| 1 | 13 | 775 | G | N3-C2-N2 | -7.38 | 114.73 | 119.90 |
| 1 | 13 | 1192 | C | C2-N3-C4 | 7.38 | 123.59 | 119.90 |
| 26 | 1H | 776 | G | C4-C5-N7 | -7.38 | 107.85 | 110.80 |
| 26 | 1H | 1037 | G | N1-C6-O6 | 7.38 | 124.33 | 119.90 |
| 26 | 1H | 1122 | G | C4-C5-N7 | 7.38 | 113.75 | 110.80 |
| 26 | 1H | 1123 | C | C6-N1-C2 | 7.38 | 123.25 | 120.30 |
| 26 | 1H | 2298 | A | N7-C8-N9 | -7.38 | 110.11 | 113.80 |
| 26 | 1H | 2607 | G | N1-C2-N3 | 7.38 | 128.33 | 123.90 |
| 26 | 14 | 2396 | G | N1-C6-O6 | 7.38 | 124.33 | 119.90 |
| 1 | 13 | 623 | C | C2-N1-C1' | 7.38 | 126.92 | 118.80 |
| 1 | 13 | 1483 | A | C5-C6-N1 | 7.38 | 121.39 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 1H | 606 | U | OP1-P-OP2 | 7.38 | 130.67 | 119.60 |
| 26 | 1H | 1388 | G | O5'-P-OP1 | -7.38 | 99.06 | 105.70 |
| 23 | 2L | 44 | A | C5-C6-N1 | 7.38 | 121.39 | 117.70 |
| 26 | 14 | 17 | G | C6-C5-N7 | -7.38 | 125.97 | 130.40 |
| 26 | 14 | 2457 | U | C5-C4-O4 | 7.38 | 130.33 | 125.90 |
| 26 | 1H | 1391 | U | N1-C2-N3 | 7.38 | 119.33 | 114.90 |
| 26 | 1H | 2702 | U | OP1-P-OP2 | 7.38 | 130.67 | 119.60 |
| 26 | 14 | 870 | A | C5-C6-N1 | 7.38 | 121.39 | 117.70 |
| 26 | 14 | 1328 | G | C6-C5-N7 | -7.38 | 125.97 | 130.40 |
| 26 | 14 | 2198 | A | O4'-C1'-N9 | 7.38 | 114.10 | 108.20 |
| 1 | 13 | 296 | U | O5'-P-OP2 | -7.38 | 99.06 | 105.70 |
| 1 | 13 | 785 | G | N3-C4-N9 | -7.38 | 121.57 | 126.00 |
| 26 | 1H | 655 | A | C2-N3-C4 | -7.38 | 106.91 | 110.60 |
| 26 | 1H | 2726 | U | N3-C4-O4 | -7.38 | 114.23 | 119.40 |
| 1 | 1G | 36 | C | C6-N1-C2 | -7.38 | 117.35 | 120.30 |
| 1 | 1G | 105 | G | N3-C4-N9 | 7.38 | 130.43 | 126.00 |
| 26 | 14 | 193 | U | C6-N1-C2 | 7.38 | 125.43 | 121.00 |
| 26 | 14 | 695 | G | N1-C6-O6 | 7.38 | 124.33 | 119.90 |
| 26 | 14 | 1562 | A | N9-C4-C5 | -7.38 | 102.85 | 105.80 |
| 26 | 14 | 2691 | C | C6-N1-C2 | -7.38 | 117.35 | 120.30 |
| 1 | 13 | 6 | G | OP2-P-O3' | 7.38 | 121.43 | 105.20 |
| 1 | 13 | 1362 | C | N1-C2-O2 | 7.38 | 123.33 | 118.90 |
| 1 | 13 | 1433 | A | N9-C4-C5 | 7.38 | 108.75 | 105.80 |
| 26 | 1H | 151 | C | N3-C4-C5 | 7.38 | 124.85 | 121.90 |
| 26 | 1H | 619 | G | N7-C8-N9 | -7.38 | 109.41 | 113.10 |
| 26 | 1H | 1974 | C | C4-C5-C6 | -7.38 | 113.71 | 117.40 |
| 26 | 1H | 1988 | C | C5-C4-N4 | 7.38 | 125.36 | 120.20 |
| 26 | 1H | 2484 | G | C8-N9-C1' | -7.38 | 117.41 | 127.00 |
| 1 | 1G | 762 | C | C6-N1-C2 | 7.38 | 123.25 | 120.30 |
| 1 | 1G | 1280 | A | N7-C8-N9 | -7.38 | 110.11 | 113.80 |
| 26 | 14 | 575 | A | C5-C6-N1 | 7.38 | 121.39 | 117.70 |
| 26 | 14 | 2700 | C | N3-C4-N4 | 7.38 | 123.16 | 118.00 |
| 26 | 1H | 802 | A | N1-C6-N6 | -7.38 | 114.17 | 118.60 |
| 26 | 1H | 1630(A) | C | C4-C5-C6 | 7.38 | 121.09 | 117.40 |
| 26 | 14 | 1883 | G | C8-N9-C4 | 7.38 | 109.35 | 106.40 |
| 26 | 14 | 2594 | C | C6-N1-C2 | 7.38 | 123.25 | 120.30 |
| 1 | 13 | 287 | U | N1-C2-N3 | 7.37 | 119.32 | 114.90 |
| 23 | 2K | 45 | A | C5-C6-N6 | -7.37 | 117.80 | 123.70 |
| 26 | 1H | 837 | C | N3-C4-C5 | 7.37 | 124.85 | 121.90 |
| 26 | 1H | 2827 | C | C5-C4-N4 | -7.37 | 115.04 | 120.20 |
| 27 | 16 | 41 | U | C5-C6-N1 | -7.37 | 119.01 | 122.70 |
| 1 | 1G | 1080 | A | N1-C6-N6 | -7.37 | 114.18 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 14 | 22 | C | C2-N3-C4 | -7.37 | 116.21 | 119.90 |
| 26 | 14 | 690 | G | C4-C5-N7 | -7.37 | 107.85 | 110.80 |
| 26 | 14 | 1380 | G | C5-C6-O6 | -7.37 | 124.18 | 128.60 |
| 23 | 2K | 15 | G | C5-C6-O6 | 7.37 | 133.02 | 128.60 |
| 26 | 1H | 600 | G | N7-C8-N9 | -7.37 | 109.42 | 113.10 |
| 26 | 1H | 804 | A | N1-C2-N3 | 7.37 | 132.99 | 129.30 |
| 26 | 1H | 1109 | C | N1-C2-O2 | 7.37 | 123.32 | 118.90 |
| 26 | 1H | 1137 | G | OP1-P-O3' | 7.37 | 121.42 | 105.20 |
| 49 | J8 | 40 | ARG | NE-CZ-NH2 | -7.37 | 116.61 | 120.30 |
| 1 | 1G | 495 | A | C6-C5-N7 | 7.37 | 137.46 | 132.30 |
| 26 | 14 | 762 | U | C4-C5-C6 | -7.37 | 115.28 | 119.70 |
| 26 | 14 | 1607 | C | C2-N1-C1' | 7.37 | 126.91 | 118.80 |
| 27 | 16 | 27 | C | N3-C4-C5 | -7.37 | 118.95 | 121.90 |
| 26 | 14 | 185 | U | C5-C6-N1 | -7.37 | 119.02 | 122.70 |
| 26 | 14 | 194 | G | C5-N7-C8 | 7.37 | 107.98 | 104.30 |
| 26 | 14 | 2422 | A | C5-N7-C8 | -7.37 | 100.22 | 103.90 |
| 1 | 13 | 730 | G | N3-C2-N2 | -7.37 | 114.74 | 119.90 |
| 23 | 2K | 77 | A | N9-C4-C5 | -7.37 | 102.85 | 105.80 |
| 27 | 16 | 7 | G | N3-C2-N2 | 7.37 | 125.06 | 119.90 |
| 26 | 14 | 929 | G | N3-C2-N2 | -7.37 | 114.74 | 119.90 |
| 26 | 14 | 1568 | G | N3-C4-C5 | 7.37 | 132.28 | 128.60 |
| 26 | 14 | 2017 | U | C2-N3-C4 | -7.37 | 122.58 | 127.00 |
| 26 | 14 | 2329 | G | C6-N1-C2 | -7.37 | 120.68 | 125.10 |
| 26 | 14 | 2853 | C | C6-N1-C2 | -7.37 | 117.35 | 120.30 |
| 1 | 1G | 922 | G | C4-C5-N7 | -7.37 | 107.85 | 110.80 |
| 26 | 14 | 765 | G | N3-C4-C5 | -7.37 | 124.92 | 128.60 |
| 26 | 14 | 1201 | C | OP1-P-OP2 | 7.37 | 130.65 | 119.60 |
| 1 | 13 | 290 | C | OP1-P-OP2 | 7.37 | 130.65 | 119.60 |
| 23 | 2K | 62 | C | N1-C2-O2 | 7.37 | 123.32 | 118.90 |
| 26 | 1H | 1142(A) | A | N7-C8-N9 | 7.37 | 117.48 | 113.80 |
| 56 | 1L | 74 | C | N1-C2-O2 | 7.37 | 123.32 | 118.90 |
| 26 | 14 | 2443 | C | N1-C2-N3 | 7.37 | 124.36 | 119.20 |
| 26 | 1H | 1758 | G | N3-C2-N2 | -7.36 | 114.75 | 119.90 |
| 26 | 1H | 2079 | U | N1-C2-O2 | -7.36 | 117.64 | 122.80 |
| 26 | 1H | 2777 | G | O5'-P-OP1 | -7.36 | 99.07 | 105.70 |
| 1 | 1G | 26 | A | N1-C6-N6 | -7.36 | 114.18 | 118.60 |
| 1 | 1G | 901 | A | C2-N3-C4 | -7.36 | 106.92 | 110.60 |
| 1 | 1G | 1467 | G | C8-N9-C4 | -7.36 | 103.45 | 106.40 |
| 26 | 14 | 768 | G | N1-C2-N2 | -7.36 | 109.57 | 116.20 |
| 27 | 1J | 16 | G | C5-N7-C8 | -7.36 | 100.62 | 104.30 |
| 26 | 14 | 376 | C | C6-N1-C2 | -7.36 | 117.36 | 120.30 |
| 1 | 13 | 1408 | A | C2-N3-C4 | -7.36 | 106.92 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1631 | A | N1-C6-N6 | 7.36 | 123.02 | 118.60 |
| 26 | 14 | 320 | A | N1-C2-N3 | 7.36 | 132.98 | 129.30 |
| 26 | 14 | 372 | G | C5-C6-O6 | -7.36 | 124.18 | 128.60 |
| 26 | 14 | 2385 | C | OP1-P-OP2 | 7.36 | 130.64 | 119.60 |
| 26 | 1H | 513 | A | C5-C6-N1 | 7.36 | 121.38 | 117.70 |
| 26 | 1H | 1927 | A | N1-C6-N6 | -7.36 | 114.19 | 118.60 |
| 26 | 14 | 802 | A | C5-C6-N1 | -7.36 | 114.02 | 117.70 |
| 26 | 14 | 1244 | G | C4-C5-N7 | 7.36 | 113.74 | 110.80 |
| 26 | 14 | 1299 | G | O5'-P-OP2 | 7.36 | 119.53 | 110.70 |
| 1 | 13 | 789 | U | O5'-P-OP2 | -7.36 | 99.08 | 105.70 |
| 26 | 1H | 251 | A | N1-C6-N6 | -7.36 | 114.19 | 118.60 |
| 26 | 1H | 318 | C | C6-N1-C2 | -7.36 | 117.36 | 120.30 |
| 26 | 1H | 1494 | A | N1-C2-N3 | 7.36 | 132.98 | 129.30 |
| 26 | 1H | 1665 | A | C5-C6-N6 | -7.36 | 117.81 | 123.70 |
| 26 | 1H | 2259 | G | N1-C6-O6 | 7.36 | 124.31 | 119.90 |
| 26 | 14 | 219 | G | N9-C4-C5 | 7.36 | 108.34 | 105.40 |
| 26 | 14 | 1302 | A | O5'-P-OP1 | -7.36 | 99.08 | 105.70 |
| 26 | 14 | 1312 | U | N1-C2-O2 | -7.36 | 117.65 | 122.80 |
| 26 | 14 | 1653 | G | C5-C6-N1 | 7.36 | 115.18 | 111.50 |
| 1 | 13 | 305 | G | N7-C8-N9 | -7.36 | 109.42 | 113.10 |
| 26 | 1H | 218 | A | N1-C2-N3 | 7.36 | 132.98 | 129.30 |
| 26 | 1H | 328 | U | O5'-P-OP1 | -7.36 | 99.08 | 105.70 |
| 26 | 1H | 650 | C | N3-C4-C5 | -7.36 | 118.96 | 121.90 |
| 26 | 1H | 814 | C | N1-C2-O2 | -7.36 | 114.49 | 118.90 |
| 26 | 1H | 1315 | C | N3-C4-N4 | -7.36 | 112.85 | 118.00 |
| 26 | 1H | 1338 | G | OP1-P-OP2 | -7.36 | 108.57 | 119.60 |
| 26 | 1H | 1640 | C | C2-N1-C1' | -7.36 | 110.71 | 118.80 |
| 27 | 16 | 14 | U | C5-C4-O4 | 7.36 | 130.31 | 125.90 |
| 1 | 1G | 105 | G | N3-C4-C5 | -7.36 | 124.92 | 128.60 |
| 26 | 14 | 150 | C | N1-C2-N3 | 7.36 | 124.35 | 119.20 |
| 26 | 14 | 503 | A | N1-C2-N3 | 7.36 | 132.98 | 129.30 |
| 26 | 14 | 2251 | G | N1-C2-N3 | 7.36 | 128.31 | 123.90 |
| 26 | 1H | 589 | C | OP1-P-OP2 | 7.35 | 130.63 | 119.60 |
| 26 | 1H | 1914 | C | N3-C2-O2 | -7.35 | 116.75 | 121.90 |
| 26 | 1H | 2085 | C | OP1-P-OP2 | 7.35 | 130.63 | 119.60 |
| 52 | M8 | 39 | CYS | N-CA-C | -7.35 | 91.14 | 111.00 |
| 26 | 14 | 1378 | A | C6-C5-N7 | 7.35 | 137.45 | 132.30 |
| 26 | 14 | 1525 | G | OP1-P-OP2 | 7.35 | 130.63 | 119.60 |
| 26 | 14 | 2337 | G | C5-N7-C8 | -7.35 | 100.62 | 104.30 |
| 1 | 13 | 852 | G | C8-N9-C4 | 7.35 | 109.34 | 106.40 |
| 1 | 13 | 894 | G | N7-C8-N9 | -7.35 | 109.42 | 113.10 |
| 26 | 1H | 618(A) | C | C6-N1-C2 | 7.35 | 123.24 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 798 | G | C2-N3-C4 | -7.35 | 108.22 | 111.90 |
| 26 | 1H | 1401 | G | C2-N3-C4 | 7.35 | 115.58 | 111.90 |
| 26 | 1H | 1577 | C | C6-N1-C2 | -7.35 | 117.36 | 120.30 |
| 27 | 16 | 25 | A | N1-C6-N6 | 7.35 | 123.01 | 118.60 |
| 27 | 16 | 67 | G | C5-C6-O6 | -7.35 | 124.19 | 128.60 |
| 1 | 1G | 40 | C | C5-C6-N1 | -7.35 | 117.32 | 121.00 |
| 26 | 14 | 843 | G | C5-C6-N1 | -7.35 | 107.82 | 111.50 |
| 26 | 14 | 1790 | C | N3-C4-N4 | 7.35 | 123.15 | 118.00 |
| 26 | 1H | 1492 | G | N1-C6-O6 | 7.35 | 124.31 | 119.90 |
| 26 | 1H | 2246 | G | N3-C4-N9 | 7.35 | 130.41 | 126.00 |
| 26 | 14 | 2363 | C | C2-N1-C1' | -7.35 | 110.71 | 118.80 |
| 1 | 13 | 518 | C | C6-N1-C2 | 7.35 | 123.24 | 120.30 |
| 1 | 13 | 915 | A | N1-C6-N6 | -7.35 | 114.19 | 118.60 |
| 26 | 1H | 98 | G | C6-C5-N7 | -7.35 | 125.99 | 130.40 |
| 26 | 1H | 432 | A | C4-C5-N7 | 7.35 | 114.38 | 110.70 |
| 26 | 1H | 628 | G | C5-C6-O6 | 7.35 | 133.01 | 128.60 |
| 26 | 1H | 1398 | C | O5'-P-OP1 | -7.35 | 99.09 | 105.70 |
| 26 | 1H | 1726 | G | N3-C4-C5 | 7.35 | 132.28 | 128.60 |
| 27 | 16 | 60 | C | C6-N1-C2 | -7.35 | 117.36 | 120.30 |
| 27 | 16 | 93 | C | C6-N1-C2 | -7.35 | 117.36 | 120.30 |
| 27 | 16 | 114 | G | N7-C8-N9 | -7.35 | 109.43 | 113.10 |
| 26 | 14 | 561 | G | N9-C4-C5 | 7.35 | 108.34 | 105.40 |
| 26 | 14 | 1565 | C | C2-N3-C4 | -7.35 | 116.23 | 119.90 |
| 26 | 14 | 2045 | C | C4-C5-C6 | 7.35 | 121.08 | 117.40 |
| 27 | 1J | 101 | A | OP1-P-OP2 | 7.35 | 130.62 | 119.60 |
| 26 | 1H | 1259 | G | C2-N3-C4 | -7.35 | 108.23 | 111.90 |
| 26 | 1H | 1680 | U | N1-C2-N3 | -7.35 | 110.49 | 114.90 |
| 26 | 14 | 71 | A | N3-C4-C5 | 7.35 | 131.94 | 126.80 |
| 26 | 14 | 819 | A | C5-N7-C8 | 7.35 | 107.57 | 103.90 |
| 26 | 14 | 2593 | U | C6-N1-C2 | -7.35 | 116.59 | 121.00 |
| 1 | 13 | 135 | C | C6-N1-C2 | -7.35 | 117.36 | 120.30 |
| 26 | 1H | 207 | A | C8-N9-C4 | 7.35 | 108.74 | 105.80 |
| 26 | 1H | 1676 | A | OP1-P-OP2 | -7.35 | 108.58 | 119.60 |
| 26 | 1H | 2264 | C | N3-C4-N4 | 7.35 | 123.14 | 118.00 |
| 26 | 1H | 2603 | G | C6-C5-N7 | -7.35 | 125.99 | 130.40 |
| 26 | 14 | 306 | U | N3-C2-O2 | -7.35 | 117.06 | 122.20 |
| 26 | 14 | 1601 | G | OP1-P-OP2 | -7.35 | 108.58 | 119.60 |
| 1 | 13 | 900 | A | C5-C6-N6 | -7.34 | 117.83 | 123.70 |
| 26 | 1H | 125 | G | N1-C2-N2 | -7.34 | 109.59 | 116.20 |
| 26 | 1H | 371 | A | N7-C8-N9 | 7.34 | 117.47 | 113.80 |
| 26 | 1H | 1448 | G | O5'-P-OP1 | -7.34 | 99.09 | 105.70 |
| 26 | 1H | 2008 | C | O5'-P-OP1 | 7.34 | 119.51 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 959 | A | N1-C2-N3 | -7.34 | 125.63 | 129.30 |
| 26 | 14 | 2063 | C | OP2-P-O3' | 7.34 | 121.36 | 105.20 |
| 26 | 14 | 2600 | A | C5-C6-N6 | 7.34 | 129.58 | 123.70 |
| 26 | 14 | 829 | A | O5'-P-OP2 | -7.34 | 99.09 | 105.70 |
| 26 | 14 | 929 | G | C8-N9-C4 | -7.34 | 103.46 | 106.40 |
| 26 | 14 | 2678 | C | O5'-P-OP2 | -7.34 | 99.09 | 105.70 |
| 26 | 14 | 2740 | A | N7-C8-N9 | -7.34 | 110.13 | 113.80 |
| 26 | 1H | 290 | G | C6-C5-N7 | -7.34 | 126.00 | 130.40 |
| 26 | 1H | 1768 | U | C2-N1-C1' | -7.34 | 108.89 | 117.70 |
| 26 | 1H | 1803 | A | N1-C6-N6 | 7.34 | 123.00 | 118.60 |
| 26 | 1H | 2333 | A | OP1-P-O3' | 7.34 | 121.35 | 105.20 |
| 26 | 1H | 2453 | A | N7-C8-N9 | 7.34 | 117.47 | 113.80 |
| 1 | 1G | 679 | C | C6-N1-C2 | -7.34 | 117.36 | 120.30 |
| 1 | 1G | 884 | U | N3-C2-O2 | -7.34 | 117.06 | 122.20 |
| 26 | 14 | 1631 | A | N1-C6-N6 | 7.34 | 123.00 | 118.60 |
| 26 | 14 | 2251 | G | C2-N3-C4 | -7.34 | 108.23 | 111.90 |
| 26 | 1H | 259 | G | C2-N3-C4 | -7.34 | 108.23 | 111.90 |
| 26 | 1H | 486 | C | O5'-P-OP1 | -7.34 | 99.09 | 105.70 |
| 26 | 1H | 1614 | A | N7-C8-N9 | 7.34 | 117.47 | 113.80 |
| 26 | 1H | 2692 | C | OP2-P-O3' | 7.34 | 121.35 | 105.20 |
| 26 | 14 | 1641 | A | C2-N3-C4 | 7.34 | 114.27 | 110.60 |
| 26 | 14 | 1657 | C | C2-N3-C4 | -7.34 | 116.23 | 119.90 |
| 1 | 13 | 656 | C | C5-C6-N1 | 7.34 | 124.67 | 121.00 |
| 26 | 1H | 1186 | G | C4-C5-N7 | -7.34 | 107.86 | 110.80 |
| 26 | 1H | 1427 | A | C4-C5-N7 | -7.34 | 107.03 | 110.70 |
| 26 | 1H | 2526 | G | O5'-P-OP2 | -7.34 | 99.10 | 105.70 |
| 26 | 14 | 270(D) | C | O5'-P-OP2 | -7.34 | 99.09 | 105.70 |
| 1 | 13 | 1471 | G | N3-C2-N2 | -7.34 | 114.76 | 119.90 |
| 26 | 1H | 318 | C | N3-C4-C5 | -7.34 | 118.97 | 121.90 |
| 26 | 1H | 1008 | C | C6-N1-C2 | 7.34 | 123.23 | 120.30 |
| 26 | 1H | 1891 | G | C5-C6-N1 | -7.34 | 107.83 | 111.50 |
| 26 | 14 | 1008 | C | C6-N1-C2 | -7.34 | 117.36 | 120.30 |
| 26 | 14 | 2622 | C | C6-N1-C2 | 7.34 | 123.23 | 120.30 |
| 26 | 1H | 794 | G | N7-C8-N9 | -7.33 | 109.43 | 113.10 |
| 26 | 1H | 858 | U | C5-C4-O4 | 7.33 | 130.30 | 125.90 |
| 26 | 1H | 1128 | A | C5-N7-C8 | -7.33 | 100.23 | 103.90 |
| 23 | 2K | 43 | G | C5-C6-O6 | 7.33 | 133.00 | 128.60 |
| 26 | 1H | 728 | G | N1-C6-O6 | 7.33 | 124.30 | 119.90 |
| 26 | 1H | 1789 | A | C6-N1-C2 | -7.33 | 114.20 | 118.60 |
| 1 | 1G | 948 | C | O5'-P-OP2 | -7.33 | 99.10 | 105.70 |
| 1 | 1G | 1057 | G | N3-C4-C5 | 7.33 | 132.27 | 128.60 |
| 26 | 14 | 2283 | C | C5-C4-N4 | -7.33 | 115.07 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 49 | U | P-O3'-C3' | 7.33 | 128.50 | 119.70 |
| 26 | 1H | 771 | G | C5-C6-O6 | -7.33 | 124.20 | 128.60 |
| 26 | 1H | 1627 | G | C5-N7-C8 | 7.33 | 107.97 | 104.30 |
| 1 | 1G | 573 | A | C5-C6-N6 | 7.33 | 129.56 | 123.70 |
| 23 | 2L | 38 | A | C8-N9-C4 | 7.33 | 108.73 | 105.80 |
| 26 | 14 | 1781 | C | C6-N1-C2 | 7.33 | 123.23 | 120.30 |
| 26 | 14 | 2280 | G | C6-C5-N7 | -7.33 | 126.00 | 130.40 |
| 26 | 14 | 2286 | A | C4-C5-N7 | 7.33 | 114.37 | 110.70 |
| 1 | 13 | 353 | A | OP2-P-O3' | 7.33 | 121.33 | 105.20 |
| 1 | 13 | 1237 | C | N3-C4-N4 | 7.33 | 123.13 | 118.00 |
| 26 | 1H | 1352 | U | C2-N3-C4 | -7.33 | 122.60 | 127.00 |
| 1 | 1G | 890 | G | O4'-C1'-N9 | 7.33 | 114.06 | 108.20 |
| 26 | 14 | 2080 | G | N9-C4-C5 | 7.33 | 108.33 | 105.40 |
| 1 | 13 | 664 | G | C5-C6-O6 | 7.33 | 133.00 | 128.60 |
| 26 | 1H | 385 | C | OP1-P-OP2 | 7.33 | 130.59 | 119.60 |
| 26 | 1H | 513 | A | C2-N3-C4 | 7.33 | 114.27 | 110.60 |
| 26 | 1H | 1241 | A | N3-C4-C5 | 7.33 | 131.93 | 126.80 |
| 26 | 1H | 1955 | U | N1-C2-O2 | -7.33 | 117.67 | 122.80 |
| 26 | 1H | 2330 | G | N1-C2-N3 | 7.33 | 128.30 | 123.90 |
| 26 | 14 | 808 | G | C5-N7-C8 | 7.33 | 107.96 | 104.30 |
| 26 | 14 | 862 | G | C4-C5-N7 | -7.33 | 107.87 | 110.80 |
| 26 | 14 | 871 | U | N1-C2-O2 | -7.33 | 117.67 | 122.80 |
| 26 | 1H | 2228 | G | C8-N9-C4 | 7.33 | 109.33 | 106.40 |
| 26 | 1H | 2592 | G | OP1-P-OP2 | 7.33 | 130.59 | 119.60 |
| 1 | 1G | 790 | A | C2-N3-C4 | 7.33 | 114.26 | 110.60 |
| 26 | 14 | 1450 | C | O5'-P-OP2 | -7.33 | 99.11 | 105.70 |
| 26 | 14 | 2067 | G | C8-N9-C4 | -7.33 | 103.47 | 106.40 |
| 26 | 1H | 425 | G | C5-C6-O6 | -7.33 | 124.20 | 128.60 |
| 26 | 1H | 774 | A | C4-C5-N7 | 7.33 | 114.36 | 110.70 |
| 26 | 1H | 1434 | A | C2-N3-C4 | -7.33 | 106.94 | 110.60 |
| 26 | 1H | 1642 | G | N1-C6-O6 | -7.33 | 115.50 | 119.90 |
| 26 | 1H | 1925 | C | N1-C2-O2 | -7.33 | 114.50 | 118.90 |
| 26 | 1H | 1955 | U | P-O3'-C3' | 7.33 | 128.49 | 119.70 |
| 26 | 1H | 2714 | G | OP2-P-O3' | 7.33 | 121.32 | 105.20 |
| 26 | 14 | 107 | C | O5'-P-OP1 | 7.33 | 119.49 | 110.70 |
| 26 | 14 | 569 | U | C5-C6-N1 | -7.33 | 119.04 | 122.70 |
| 26 | 14 | 626 | U | C6-N1-C2 | 7.33 | 125.39 | 121.00 |
| 26 | 14 | 687 | C | N3-C4-N4 | -7.33 | 112.87 | 118.00 |
| 26 | 14 | 2599 | G | N1-C6-O6 | -7.33 | 115.50 | 119.90 |
| 1 | 13 | 1516 | G | OP1-P-O3' | -7.32 | 89.09 | 105.20 |
| 26 | 1H | 25 | U | N1-C2-O2 | -7.32 | 117.67 | 122.80 |
| 26 | 1H | 232 | G | N9-C4-C5 | -7.32 | 102.47 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1121 | C | N1-C2-N3 | 7.32 | 124.33 | 119.20 |
| 26 | 14 | 1482 | U | C4-C5-C6 | 7.32 | 124.09 | 119.70 |
| 1 | 13 | 752 | G | OP1-P-OP2 | 7.32 | 130.58 | 119.60 |
| 1 | 13 | 1279 | A | C5-C6-N1 | -7.32 | 114.04 | 117.70 |
| 1 | 13 | 1497 | G | O5'-P-OP2 | -7.32 | 99.11 | 105.70 |
| 1 | 1G | 598 | U | N3-C2-O2 | 7.32 | 127.33 | 122.20 |
| 1 | 13 | 129 | U | C5-C4-O4 | 7.32 | 130.29 | 125.90 |
| 1 | 13 | 138 | G | N1-C6-O6 | 7.32 | 124.29 | 119.90 |
| 1 | 13 | 1476 | G | C8-N9-C4 | 7.32 | 109.33 | 106.40 |
| 26 | 1H | 835 | A | N1-C2-N3 | 7.32 | 132.96 | 129.30 |
| 26 | 1H | 2565 | A | C8-N9-C4 | 7.32 | 108.73 | 105.80 |
| 1 | 1G | 733 | A | C8-N9-C4 | 7.32 | 108.73 | 105.80 |
| 26 | 14 | 125 | G | N1-C2-N3 | -7.32 | 119.51 | 123.90 |
| 26 | 14 | 1881 | C | N3-C2-O2 | -7.32 | 116.78 | 121.90 |
| 26 | 14 | 1903 | G | OP1-P-OP2 | 7.32 | 130.58 | 119.60 |
| 26 | 1H | 754 | C | N3-C2-O2 | -7.32 | 116.78 | 121.90 |
| 26 | 14 | 221 | A | C8-N9-C4 | -7.32 | 102.87 | 105.80 |
| 26 | 14 | 1007 | C | N3-C4-C5 | 7.32 | 124.83 | 121.90 |
| 26 | 14 | 1644 | C | N1-C2-O2 | 7.32 | 123.29 | 118.90 |
| 26 | 14 | 1844 | C | C4-C5-C6 | -7.32 | 113.74 | 117.40 |
| 26 | 14 | 2741 | A | C5-C6-N6 | -7.32 | 117.84 | 123.70 |
| 1 | 13 | 625 | G | N7-C8-N9 | 7.32 | 116.76 | 113.10 |
| 1 | 13 | 1057 | G | N3-C2-N2 | 7.32 | 125.02 | 119.90 |
| 26 | 1H | 540 | G | C8-N9-C4 | -7.32 | 103.47 | 106.40 |
| 26 | 1H | 760 | G | C5-C6-N1 | -7.32 | 107.84 | 111.50 |
| 26 | 1H | 1825 | A | C4-C5-N7 | -7.32 | 107.04 | 110.70 |
| 48 | I8 | 77 | ARG | NE-CZ-NH1 | -7.32 | 116.64 | 120.30 |
| 1 | 1G | 360 | A | N1-C6-N6 | 7.32 | 122.99 | 118.60 |
| 26 | 14 | 35 | G | N7-C8-N9 | 7.32 | 116.76 | 113.10 |
| 26 | 14 | 834 | C | C2-N3-C4 | -7.32 | 116.24 | 119.90 |
| 1 | 13 | 1335 | C | C5-C6-N1 | -7.32 | 117.34 | 121.00 |
| 1 | 13 | 1513 | A | N7-C8-N9 | -7.32 | 110.14 | 113.80 |
| 26 | 1H | 1594 | G | O5'-P-OP1 | -7.32 | 99.12 | 105.70 |
| 26 | 1H | 1835 | G | N1-C2-N3 | -7.32 | 119.51 | 123.90 |
| 26 | 1H | 1913 | A | N1-C6-N6 | -7.32 | 114.21 | 118.60 |
| 26 | 1H | 2610 | C | C5-C6-N1 | -7.32 | 117.34 | 121.00 |
| 1 | 1G | 286 | G | N1-C6-O6 | -7.32 | 115.51 | 119.90 |
| 1 | 1G | 413 | G | C5-N7-C8 | 7.32 | 107.96 | 104.30 |
| 26 | 14 | 2454 | G | N3-C2-N2 | 7.32 | 125.02 | 119.90 |
| 26 | 1H | 2570 | G | C5-C6-N1 | -7.31 | 107.84 | 111.50 |
| 26 | 14 | 2239 | G | N1-C2-N2 | -7.31 | 109.62 | 116.20 |
| 26 | 1H | 1413 | G | N9-C4-C5 | 7.31 | 108.33 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2072 | G | N7-C8-N9 | -7.31 | 109.44 | 113.10 |
| 26 | 14 | 1940 | U | C4-C5-C6 | 7.31 | 124.09 | 119.70 |
| 26 | 14 | 2101 | G | C5-C6-N1 | -7.31 | 107.84 | 111.50 |
| 26 | 14 | 2600 | A | C5-N7-C8 | 7.31 | 107.56 | 103.90 |
| 23 | 2K | 18 | C | C5-C6-N1 | 7.31 | 124.65 | 121.00 |
| 26 | 1H | 1414 | G | C8-N9-C4 | -7.31 | 103.48 | 106.40 |
| 26 | 1H | 1977 | A | N1-C6-N6 | -7.31 | 114.22 | 118.60 |
| 26 | 1H | 2259 | G | C6-N1-C2 | -7.31 | 120.71 | 125.10 |
| 1 | 1G | 1416 | G | N3-C4-N9 | -7.31 | 121.61 | 126.00 |
| 23 | 2L | 40 | C | C5-C6-N1 | 7.31 | 124.66 | 121.00 |
| 26 | 14 | 620 | G | OP1-P-OP2 | 7.31 | 130.56 | 119.60 |
| 26 | 14 | 2505 | G | C6-N1-C2 | 7.31 | 129.49 | 125.10 |
| 1 | 13 | 1510 | U | N3-C2-O2 | 7.31 | 127.32 | 122.20 |
| 26 | 1H | 296 | C | C4-C5-C6 | 7.31 | 121.05 | 117.40 |
| 26 | 1H | 704 | G | N3-C2-N2 | -7.31 | 114.78 | 119.90 |
| 26 | 1H | 785 | G | N1-C2-N3 | 7.31 | 128.28 | 123.90 |
| 26 | 1H | 1554 | A | C6-N1-C2 | -7.31 | 114.22 | 118.60 |
| 26 | 1H | 1563 | G | N9-C4-C5 | 7.31 | 108.32 | 105.40 |
| 26 | 1H | 2585 | U | OP1-P-OP2 | -7.31 | 108.64 | 119.60 |
| 1 | 1G | 1338 | G | C4-C5-N7 | -7.31 | 107.88 | 110.80 |
| 57 | 3L | 72 | C | C6-N1-C2 | -7.31 | 117.38 | 120.30 |
| 26 | 14 | 643 | A | O5'-P-OP2 | -7.31 | 99.12 | 105.70 |
| 26 | 14 | 2427 | C | O5'-P-OP2 | 7.31 | 119.47 | 110.70 |
| 26 | 1H | 641 | C | O5'-P-OP1 | -7.31 | 99.12 | 105.70 |
| 26 | 14 | 74 | A | C4-C5-C6 | 7.31 | 120.65 | 117.00 |
| 26 | 14 | 2461 | C | C5-C6-N1 | -7.31 | 117.35 | 121.00 |
| 1 | 13 | 715 | A | N1-C2-N3 | 7.30 | 132.95 | 129.30 |
| 1 | 13 | 1388 | C | N1-C2-O2 | -7.30 | 114.52 | 118.90 |
| 26 | 1H | 1989 | G | C6-C5-N7 | -7.30 | 126.02 | 130.40 |
| 26 | 1H | 2635 | C | C6-N1-C2 | 7.30 | 123.22 | 120.30 |
| 1 | 1G | 315 | A | C8-N9-C4 | -7.30 | 102.88 | 105.80 |
| 26 | 14 | 197 | A | C5-N7-C8 | -7.30 | 100.25 | 103.90 |
| 26 | 14 | 2239 | G | N1-C6-O6 | -7.30 | 115.52 | 119.90 |
| 1 | 13 | 728 | A | N7-C8-N9 | 7.30 | 117.45 | 113.80 |
| 1 | 13 | 777 | A | O5'-P-OP2 | -7.30 | 99.13 | 105.70 |
| 26 | 1H | 862 | G | N3-C4-C5 | -7.30 | 124.95 | 128.60 |
| 26 | 1H | 2757 | A | C8-N9-C4 | -7.30 | 102.88 | 105.80 |
| 1 | 1G | 393 | A | C8-N9-C4 | -7.30 | 102.88 | 105.80 |
| 23 | 2L | 40 | C | O5'-P-OP1 | -7.30 | 99.13 | 105.70 |
| 26 | 14 | 986 | C | C6-N1-C2 | -7.30 | 117.38 | 120.30 |
| 1 | 13 | 506 | G | O5'-P-OP1 | -7.30 | 99.13 | 105.70 |
| 26 | 1H | 40 | C | C2-N3-C4 | -7.30 | 116.25 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 591 | C | C5-C6-N1 | -7.30 | 117.35 | 121.00 |
| 26 | 1H | 1338 | G | C8-N9-C4 | 7.30 | 109.32 | 106.40 |
| 26 | 1H | 2417 | C | N3-C4-N4 | -7.30 | 112.89 | 118.00 |
| 27 | 16 | 109 | G | N7-C8-N9 | 7.30 | 116.75 | 113.10 |
| 1 | 1G | 386 | C | C2-N3-C4 | -7.30 | 116.25 | 119.90 |
| 23 | 2L | 77 | A | C5-N7-C8 | -7.30 | 100.25 | 103.90 |
| 26 | 14 | 647 | G | OP1-P-OP2 | -7.30 | 108.65 | 119.60 |
| 26 | 14 | 2598 | A | C5-N7-C8 | -7.30 | 100.25 | 103.90 |
| 1 | 13 | 919 | A | C2-N3-C4 | 7.30 | 114.25 | 110.60 |
| 26 | 1H | 248 | G | OP2-P-O3' | -7.30 | 89.14 | 105.20 |
| 26 | 1H | 776 | G | N3-C4-N9 | -7.30 | 121.62 | 126.00 |
| 26 | 1H | 960 | A | N1-C2-N3 | -7.30 | 125.65 | 129.30 |
| 26 | 1H | 1406 | U | N3-C4-C5 | -7.30 | 110.22 | 114.60 |
| 26 | 1H | 1980 | G | C5-C6-N1 | 7.30 | 115.15 | 111.50 |
| 26 | 1H | 2267 | A | OP1-P-OP2 | 7.30 | 130.55 | 119.60 |
| 26 | 14 | 450 | G | N1-C2-N3 | 7.30 | 128.28 | 123.90 |
| 26 | 14 | 500 | G | C2-N3-C4 | -7.30 | 108.25 | 111.90 |
| 26 | 14 | 624 | C | N1-C2-O2 | -7.30 | 114.52 | 118.90 |
| 26 | 14 | 1477 | A | N1-C6-N6 | -7.30 | 114.22 | 118.60 |
| 26 | 14 | 1972 | A | OP2-P-O3' | 7.30 | 121.26 | 105.20 |
| 1 | 13 | 821 | G | C5-C6-O6 | -7.30 | 124.22 | 128.60 |
| 26 | 1H | 909 | A | N7-C8-N9 | -7.30 | 110.15 | 113.80 |
| 26 | 1H | 1931 | U | N3-C4-O4 | -7.30 | 114.29 | 119.40 |
| 26 | 1H | 2009 | G | O5'-P-OP2 | -7.30 | 99.13 | 105.70 |
| 1 | 1G | 392 | G | N3-C2-N2 | -7.30 | 114.79 | 119.90 |
| 26 | 14 | 915 | C | C5-C6-N1 | 7.30 | 124.65 | 121.00 |
| 26 | 14 | 2731 | G | C4-C5-C6 | 7.30 | 123.18 | 118.80 |
| 26 | 1H | 1021 | A | N3-C4-N9 | -7.30 | 121.56 | 127.40 |
| 26 | 1H | 1768 | U | C5-C4-O4 | 7.30 | 130.28 | 125.90 |
| 26 | 1H | 2709 | G | C5-C6-O6 | 7.30 | 132.98 | 128.60 |
| 27 | 16 | 36 | C | OP2-P-O3' | 7.30 | 121.25 | 105.20 |
| 1 | 1G | 308 | C | O5'-P-OP1 | 7.30 | 119.46 | 110.70 |
| 26 | 14 | 200 | U | OP1-P-OP2 | 7.30 | 130.54 | 119.60 |
| 26 | 14 | 751 | A | N1-C2-N3 | 7.30 | 132.95 | 129.30 |
| 26 | 14 | 2606 | C | OP2-P-O3' | 7.30 | 121.25 | 105.20 |
| 26 | 14 | 2850 | A | O4'-C1'-N9 | -7.30 | 102.36 | 108.20 |
| 26 | 1H | 1159 | U | O5'-P-OP1 | 7.29 | 119.45 | 110.70 |
| 26 | 14 | 750 | A | C5-N7-C8 | -7.29 | 100.25 | 103.90 |
| 26 | 14 | 2388 | A | C5-C6-N6 | 7.29 | 129.54 | 123.70 |
| 1 | 13 | 731 | G | N7-C8-N9 | 7.29 | 116.75 | 113.10 |
| 1 | 13 | 1528 | U | C6-N1-C2 | 7.29 | 125.38 | 121.00 |
| 26 | 1H | 677 | A | N1-C6-N6 | -7.29 | 114.22 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1558 | A | O5'-P-OP2 | 7.29 | 119.45 | 110.70 |
| 26 | 1H | 1863 | G | OP1-P-OP2 | 7.29 | 130.54 | 119.60 |
| 1 | 1G | 543 | C | N1-C2-O2 | -7.29 | 114.52 | 118.90 |
| 26 | 14 | 534 | U | O5'-P-OP2 | -7.29 | 99.14 | 105.70 |
| 26 | 14 | 685 | A | OP1-P-OP2 | 7.29 | 130.54 | 119.60 |
| 26 | 14 | 741 | G | C8-N9-C4 | -7.29 | 103.48 | 106.40 |
| 26 | 14 | 2243 | U | C4-C5-C6 | 7.29 | 124.08 | 119.70 |
| 26 | 14 | 2256 | G | O5'-P-OP2 | -7.29 | 99.14 | 105.70 |
| 1 | 13 | 1305 | G | N7-C8-N9 | 7.29 | 116.75 | 113.10 |
| 23 | 2K | 74 | A | OP2-P-O3' | 7.29 | 121.24 | 105.20 |
| 26 | 1H | 981 | A | N1-C2-N3 | -7.29 | 125.65 | 129.30 |
| 26 | 1H | 1803 | A | C5-C6-N6 | -7.29 | 117.87 | 123.70 |
| 26 | 1H | 1971 | A | N1-C2-N3 | -7.29 | 125.65 | 129.30 |
| 27 | 16 | 14 | U | O5'-P-OP1 | -7.29 | 99.14 | 105.70 |
| 1 | 13 | 435 | C | O5'-P-OP1 | 7.29 | 119.45 | 110.70 |
| 26 | 1H | 692 | C | C5-C4-N4 | -7.29 | 115.10 | 120.20 |
| 26 | 1H | 1967 | C | OP1-P-OP2 | 7.29 | 130.54 | 119.60 |
| 1 | 13 | 335 | C | C5-C4-N4 | 7.29 | 125.30 | 120.20 |
| 1 | 13 | 618 | C | C6-N1-C2 | -7.29 | 117.38 | 120.30 |
| 1 | 13 | 1517 | G | O5'-P-OP1 | 7.29 | 119.45 | 110.70 |
| 26 | 1H | 1981 | A | C4-C5-N7 | 7.29 | 114.34 | 110.70 |
| 26 | 1H | 2274 | A | C2-N3-C4 | -7.29 | 106.96 | 110.60 |
| 26 | 1H | 2318 | G | C4-C5-N7 | 7.29 | 113.72 | 110.80 |
| 26 | 1H | 2404 | C | O5'-P-OP1 | -7.29 | 99.14 | 105.70 |
| 1 | 1G | 537 | G | N1-C6-O6 | 7.29 | 124.27 | 119.90 |
| 26 | 14 | 525 | U | N3-C4-C5 | -7.29 | 110.23 | 114.60 |
| 26 | 14 | 737 | C | N3-C4-N4 | 7.29 | 123.10 | 118.00 |
| 26 | 14 | 864 | G | N7-C8-N9 | 7.29 | 116.74 | 113.10 |
| 26 | 14 | 1021 | A | C5-N7-C8 | -7.29 | 100.26 | 103.90 |
| 26 | 1H | 95 | G | N1-C2-N3 | 7.29 | 128.27 | 123.90 |
| 27 | 16 | 29 | A | C4-C5-N7 | 7.29 | 114.34 | 110.70 |
| 23 | 2L | 32 | G | C8-N9-C4 | -7.29 | 103.48 | 106.40 |
| 26 | 14 | 268 | C | N1-C2-O2 | -7.29 | 114.53 | 118.90 |
| 26 | 14 | 755 | C | C2-N3-C4 | 7.29 | 123.54 | 119.90 |
| 1 | 13 | 778 | G | C2-N3-C4 | -7.29 | 108.26 | 111.90 |
| 26 | 1H | 2422 | A | C8-N9-C4 | -7.29 | 102.89 | 105.80 |
| 27 | 16 | 105 | G | C4-C5-N7 | 7.29 | 113.71 | 110.80 |
| 1 | 1G | 360 | A | C5-C6-N6 | -7.29 | 117.87 | 123.70 |
| 1 | 1G | 1473 | A | C2-N3-C4 | -7.29 | 106.96 | 110.60 |
| 26 | 14 | 1952 | A | C2-N3-C4 | -7.29 | 106.96 | 110.60 |
| 26 | 14 | 2434 | A | C4-C5-N7 | -7.29 | 107.06 | 110.70 |
| 26 | 14 | 2550 | G | N1-C6-O6 | 7.29 | 124.27 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2731 | G | N1-C2-N3 | 7.29 | 128.27 | 123.90 |
| 26 | 1H | 257 | A | OP2-P-O3' | 7.28 | 121.22 | 105.20 |
| 26 | 1H | 1202 | C | N3-C2-O2 | 7.28 | 127.00 | 121.90 |
| 26 | 14 | 31 | C | C6-N1-C2 | -7.28 | 117.39 | 120.30 |
| 26 | 1H | 270(K) | C | N1-C2-O2 | 7.28 | 123.27 | 118.90 |
| 26 | 1H | 1005 | C | C4-C5-C6 | 7.28 | 121.04 | 117.40 |
| 26 | 1H | 2329 | G | N3-C4-C5 | 7.28 | 132.24 | 128.60 |
| 27 | 16 | 45 | A | C5-N7-C8 | -7.28 | 100.26 | 103.90 |
| 26 | 14 | 1528 | A | C4-C5-N7 | 7.28 | 114.34 | 110.70 |
| 26 | 14 | 1603 | A | N1-C6-N6 | 7.28 | 122.97 | 118.60 |
| 26 | 1H | 1400 | G | C4-C5-N7 | -7.28 | 107.89 | 110.80 |
| 26 | 1H | 1825 | A | C6-N1-C2 | -7.28 | 114.23 | 118.60 |
| 26 | 1H | 2086 | U | OP2-P-O3' | 7.28 | 121.22 | 105.20 |
| 26 | 1H | 2655 | G | N1-C6-O6 | -7.28 | 115.53 | 119.90 |
| 26 | 1H | 2672 | G | N1-C2-N3 | 7.28 | 128.27 | 123.90 |
| 1 | 1G | 578 | C | N3-C4-N4 | -7.28 | 112.90 | 118.00 |
| 26 | 14 | 34 | C | N1-C2-O2 | 7.28 | 123.27 | 118.90 |
| 26 | 14 | 414 | C | C5-C6-N1 | -7.28 | 117.36 | 121.00 |
| 26 | 14 | 1261 | C | N1-C2-O2 | -7.28 | 114.53 | 118.90 |
| 26 | 14 | 1311 | G | C5-N7-C8 | 7.28 | 107.94 | 104.30 |
| 26 | 14 | 2420 | C | O5'-P-OP2 | 7.28 | 119.44 | 110.70 |
| 1 | 13 | 122 | G | C4-C5-C6 | 7.28 | 123.17 | 118.80 |
| 26 | 1H | 300 | A | N1-C6-N6 | 7.28 | 122.97 | 118.60 |
| 26 | 1H | 1311 | G | C5-C6-O6 | -7.28 | 124.23 | 128.60 |
| 26 | 1H | 1486 | A | C8-N9-C4 | -7.28 | 102.89 | 105.80 |
| 26 | 1H | 1499 | C | O5'-P-OP1 | -7.28 | 99.15 | 105.70 |
| 1 | 1G | 995 | C | C6-N1-C2 | -7.28 | 117.39 | 120.30 |
| 26 | 14 | 1244 | G | N1-C6-O6 | 7.28 | 124.27 | 119.90 |
| 1 | 13 | 783 | C | N3-C4-N4 | -7.28 | 112.91 | 118.00 |
| 26 | 1H | 68 | G | C2-N3-C4 | -7.28 | 108.26 | 111.90 |
| 26 | 1H | 1235 | G | C5-C6-N1 | -7.28 | 107.86 | 111.50 |
| 1 | 1G | 894 | G | N3-C4-N9 | -7.28 | 121.63 | 126.00 |
| 1 | 1G | 1356 | G | C8-N9-C4 | -7.28 | 103.49 | 106.40 |
| 26 | 14 | 855 | G | N7-C8-N9 | 7.28 | 116.74 | 113.10 |
| 26 | 14 | 1849 | G | C8-N9-C4 | -7.28 | 103.49 | 106.40 |
| 26 | 1H | 270(R) | G | C2-N3-C4 | -7.28 | 108.26 | 111.90 |
| 26 | 1H | 1443 | G | N7-C8-N9 | 7.28 | 116.74 | 113.10 |
| 26 | 1H | 1930 | G | C6-C5-N7 | 7.28 | 134.77 | 130.40 |
| 26 | 1H | 2040 | C | N3-C2-O2 | 7.28 | 126.99 | 121.90 |
| 26 | 1H | 2242 | G | C6-N1-C2 | -7.28 | 120.73 | 125.10 |
| 26 | 1H | 2617 | C | N1-C2-O2 | -7.28 | 114.53 | 118.90 |
| 27 | 16 | 5 | C | N3-C4-C5 | 7.28 | 124.81 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 390 | C | N3-C4-N4 | -7.28 | 112.91 | 118.00 |
| 25 | 4L | 14 | A | N1-C6-N6 | -7.28 | 114.23 | 118.60 |
| 1 | 13 | 38 | G | OP1-P-OP2 | -7.27 | 108.69 | 119.60 |
| 26 | 1H | 472 | A | C8-N9-C4 | 7.27 | 108.71 | 105.80 |
| 26 | 1H | 1243 | G | C5-N7-C8 | -7.27 | 100.66 | 104.30 |
| 26 | 1H | 1459 | G | N7-C8-N9 | -7.27 | 109.46 | 113.10 |
| 26 | 1H | 1730 | U | C5-C6-N1 | -7.27 | 119.06 | 122.70 |
| 26 | 1H | 2277 | G | C4-C5-N7 | -7.27 | 107.89 | 110.80 |
| 23 | 2K | 5 | G | N1-C6-O6 | -7.27 | 115.54 | 119.90 |
| 26 | 1H | 224 | G | O5'-P-OP1 | 7.27 | 119.43 | 110.70 |
| 26 | 1H | 954 | G | C4-C5-N7 | -7.27 | 107.89 | 110.80 |
| 26 | 1H | 1206 | G | O5'-P-OP2 | -7.27 | 99.16 | 105.70 |
| 26 | 1H | 1361 | G | N7-C8-N9 | -7.27 | 109.46 | 113.10 |
| 26 | 1H | 2372 | G | C4-C5-N7 | -7.27 | 107.89 | 110.80 |
| 27 | 16 | 7 | G | C2-N3-C4 | -7.27 | 108.26 | 111.90 |
| 1 | 1G | 106 | C | C4-C5-C6 | 7.27 | 121.04 | 117.40 |
| 1 | 1G | 776 | G | C2-N3-C4 | -7.27 | 108.26 | 111.90 |
| 1 | 13 | 611 | A | N9-C4-C5 | -7.27 | 102.89 | 105.80 |
| 1 | 13 | 1499 | A | C2-N3-C4 | -7.27 | 106.96 | 110.60 |
| 26 | 1H | 1451 | C | C5-C6-N1 | -7.27 | 117.36 | 121.00 |
| 26 | 1H | 2087 | G | N9-C4-C5 | -7.27 | 102.49 | 105.40 |
| 1 | 1G | 667 | G | N1-C6-O6 | 7.27 | 124.26 | 119.90 |
| 26 | 14 | 829 | A | N1-C6-N6 | 7.27 | 122.96 | 118.60 |
| 26 | 14 | 2764 | A | C4-C5-N7 | -7.27 | 107.06 | 110.70 |
| 1 | 13 | 907 | A | C5-C6-N6 | -7.27 | 117.88 | 123.70 |
| 22 | 1K | 36 | U | N3-C4-O4 | -7.27 | 114.31 | 119.40 |
| 26 | 1H | 922 | U | N1-C2-O2 | -7.27 | 117.71 | 122.80 |
| 26 | 1H | 1406 | U | OP1-P-O3' | 7.27 | 121.19 | 105.20 |
| 27 | 16 | 9 | G | C4-C5-N7 | 7.27 | 113.71 | 110.80 |
| 26 | 14 | 914 | C | O5'-P-OP2 | -7.27 | 99.16 | 105.70 |
| 26 | 14 | 1229 | G | C8-N9-C4 | -7.27 | 103.49 | 106.40 |
| 26 | 14 | 1342 | A | N1-C2-N3 | 7.27 | 132.94 | 129.30 |
| 26 | 14 | 1788 | C | N3-C4-N4 | -7.27 | 112.91 | 118.00 |
| 26 | 14 | 2419 | U | N3-C4-C5 | -7.27 | 110.24 | 114.60 |
| 1 | 13 | 617 | G | C5-C6-N1 | -7.27 | 107.87 | 111.50 |
| 26 | 1H | 1764 | G | N1-C6-O6 | -7.27 | 115.54 | 119.90 |
| 26 | 1H | 2054 | A | C5-N7-C8 | -7.27 | 100.27 | 103.90 |
| 26 | 14 | 1639 | U | O5'-P-OP1 | 7.27 | 119.42 | 110.70 |
| 26 | 14 | 2034 | U | C5-C4-O4 | 7.27 | 130.26 | 125.90 |
| 26 | 14 | 2071 | A | C2-N3-C4 | 7.27 | 114.23 | 110.60 |
| 26 | 14 | 2392 | A | O5'-P-OP1 | -7.27 | 99.16 | 105.70 |
| 26 | 1H | 1157 | G | N7-C8-N9 | 7.27 | 116.73 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1776 | G | O5'-P-OP1 | 7.27 | 119.42 | 110.70 |
| 1 | 1G | 1480 | G | C5-C6-O6 | -7.27 | 124.24 | 128.60 |
| 26 | 14 | 2087 | G | N3-C2-N2 | 7.27 | 124.99 | 119.90 |
| 26 | 14 | 2779 | U | O4'-C1'-N1 | 7.27 | 114.01 | 108.20 |
| 26 | 1H | 1643 | G | OP2-P-O3' | 7.26 | 121.18 | 105.20 |
| 26 | 1H | 1671 | U | N3-C4-O4 | 7.26 | 124.48 | 119.40 |
| 26 | 1H | 1794 | U | C6-N1-C2 | -7.26 | 116.64 | 121.00 |
| 1 | 1G | 320 | C | C2-N1-C1' | -7.26 | 110.81 | 118.80 |
| 26 | 14 | 921 | G | N3-C2-N2 | -7.26 | 114.81 | 119.90 |
| 26 | 14 | 2306 | C | C2-N3-C4 | 7.26 | 123.53 | 119.90 |
| 26 | 1H | 38 | A | C5-C6-N1 | 7.26 | 121.33 | 117.70 |
| 26 | 1H | 2372 | G | N3-C2-N2 | -7.26 | 114.82 | 119.90 |
| 26 | 1H | 2818 | G | N3-C2-N2 | -7.26 | 114.82 | 119.90 |
| 27 | 16 | 108 | C | N1-C2-O2 | 7.26 | 123.26 | 118.90 |
| 1 | 1G | 776 | G | N3-C4-C5 | 7.26 | 132.23 | 128.60 |
| 22 | 1K | 5 | C | C6-N1-C2 | -7.26 | 117.40 | 120.30 |
| 26 | 1H | 923 | C | N3-C4-C5 | -7.26 | 119.00 | 121.90 |
| 26 | 1H | 1355 | G | O5'-P-OP1 | 7.26 | 119.42 | 110.70 |
| 26 | 1H | 1434 | A | N7-C8-N9 | -7.26 | 110.17 | 113.80 |
| 26 | 1H | 1579 | A | C8-N9-C4 | -7.26 | 102.89 | 105.80 |
| 26 | 1H | 2883 | A | C8-N9-C4 | -7.26 | 102.89 | 105.80 |
| 26 | 14 | 773 | U | C5-C4-O4 | 7.26 | 130.26 | 125.90 |
| 26 | 14 | 2275 | C | C6-N1-C2 | -7.26 | 117.39 | 120.30 |
| 26 | 1H | 283 | A | C5-N7-C8 | 7.26 | 107.53 | 103.90 |
| 26 | 1H | 1431 | U | O5'-P-OP2 | -7.26 | 99.17 | 105.70 |
| 26 | 1H | 2167 | U | C6-N1-C2 | -7.26 | 116.64 | 121.00 |
| 26 | 1H | 2873 | A | OP1-P-OP2 | 7.26 | 130.49 | 119.60 |
| 27 | 16 | 29 | A | C5-N7-C8 | -7.26 | 100.27 | 103.90 |
| 26 | 14 | 1617 | C | N1-C2-N3 | 7.26 | 124.28 | 119.20 |
| 27 | 1J | 79 | C | OP1-P-OP2 | -7.26 | 108.71 | 119.60 |
| 1 | 13 | 507 | C | N3-C2-O2 | -7.26 | 116.82 | 121.90 |
| 26 | 1H | 27 | G | N1-C2-N3 | 7.26 | 128.25 | 123.90 |
| 26 | 14 | 454 | A | N1-C6-N6 | -7.26 | 114.25 | 118.60 |
| 26 | 14 | 2688 | U | C5-C6-N1 | -7.26 | 119.07 | 122.70 |
| 1 | 13 | 523 | A | C2-N3-C4 | -7.26 | 106.97 | 110.60 |
| 26 | 1H | 124 | G | C5-C6-N1 | 7.26 | 115.13 | 111.50 |
| 26 | 1H | 308 | G | N1-C6-O6 | -7.26 | 115.55 | 119.90 |
| 26 | 1H | 1400 | G | N3-C4-C5 | -7.26 | 124.97 | 128.60 |
| 26 | 1H | 1668 | A | C8-N9-C4 | 7.26 | 108.70 | 105.80 |
| 26 | 1H | 2830 | G | C4-C5-N7 | 7.26 | 113.70 | 110.80 |
| 1 | 1G | 970 | C | C5-C6-N1 | 7.26 | 124.63 | 121.00 |
| 26 | 14 | 127 | A | C8-N9-C4 | 7.26 | 108.70 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 704 | G | C6-C5-N7 | -7.26 | 126.05 | 130.40 |
| 26 | 14 | 2092 | U | C6-N1-C2 | -7.26 | 116.65 | 121.00 |
| 26 | 14 | 2253 | G | C6-C5-N7 | -7.26 | 126.05 | 130.40 |
| 1 | 13 | 912 | C | C4-C5-C6 | 7.25 | 121.03 | 117.40 |
| 1 | 13 | 1528 | U | C5-C6-N1 | -7.25 | 119.07 | 122.70 |
| 26 | 1H | 2847 | U | N1-C2-O2 | -7.25 | 117.72 | 122.80 |
| 27 | 16 | 41 | U | C5-C4-O4 | 7.25 | 130.25 | 125.90 |
| 26 | 14 | 1331 | A | C5-C6-N1 | 7.25 | 121.33 | 117.70 |
| 26 | 14 | 1547 | C | N1-C2-O2 | 7.25 | 123.25 | 118.90 |
| 26 | 1H | 626 | U | C4-C5-C6 | 7.25 | 124.05 | 119.70 |
| 26 | 1H | 1201 | C | N3-C2-O2 | 7.25 | 126.98 | 121.90 |
| 37 | 78 | 65 | ARG | NE-CZ-NH2 | -7.25 | 116.67 | 120.30 |
| 26 | 14 | 483 | A | C6-N1-C2 | -7.25 | 114.25 | 118.60 |
| 26 | 14 | 679 | C | N3-C2-O2 | 7.25 | 126.98 | 121.90 |
| 26 | 14 | 1376 | C | C4-C5-C6 | 7.25 | 121.03 | 117.40 |
| 26 | 14 | 2340 | G | N7-C8-N9 | -7.25 | 109.47 | 113.10 |
| 1 | 13 | 436 | C | N1-C2-O2 | -7.25 | 114.55 | 118.90 |
| 1 | 13 | 532 | A | C8-N9-C4 | -7.25 | 102.90 | 105.80 |
| 26 | 1H | 347 | A | C4-C5-N7 | 7.25 | 114.33 | 110.70 |
| 26 | 1H | 830 | G | C4-C5-C6 | 7.25 | 123.15 | 118.80 |
| 26 | 1H | 1332 | G | C4-C5-C6 | 7.25 | 123.15 | 118.80 |
| 26 | 1H | 1553 | A | C2-N3-C4 | 7.25 | 114.23 | 110.60 |
| 26 | 1H | 1639 | U | C2-N3-C4 | -7.25 | 122.65 | 127.00 |
| 1 | 1G | 1197 | G | O5'-P-OP2 | -7.25 | 99.17 | 105.70 |
| 26 | 14 | 1154 | G | C8-N9-C4 | -7.25 | 103.50 | 106.40 |
| 26 | 14 | 1501 | C | C6-N1-C2 | -7.25 | 117.40 | 120.30 |
| 26 | 14 | 2710 | C | OP2-P-O3' | 7.25 | 121.15 | 105.20 |
| 1 | 13 | 1422 | G | C8-N9-C4 | 7.25 | 109.30 | 106.40 |
| 26 | 1H | 629 | G | C2-N3-C4 | -7.25 | 108.28 | 111.90 |
| 1 | 1G | 547 | A | C8-N9-C4 | 7.25 | 108.70 | 105.80 |
| 26 | 14 | 486 | C | C6-N1-C2 | -7.25 | 117.40 | 120.30 |
| 26 | 14 | 826 | U | N3-C4-C5 | -7.25 | 110.25 | 114.60 |
| 26 | 14 | 1338 | G | C4-C5-N7 | 7.25 | 113.70 | 110.80 |
| 1 | 13 | 135 | C | N1-C2-N3 | 7.25 | 124.27 | 119.20 |
| 1 | 13 | 1065 | U | P-O3'-C3' | 7.25 | 128.40 | 119.70 |
| 26 | 1H | 220 | G | N3-C2-N2 | -7.25 | 114.83 | 119.90 |
| 26 | 1H | 452 | G | C5-C6-O6 | 7.25 | 132.95 | 128.60 |
| 26 | 1H | 2427 | C | C2-N3-C4 | -7.25 | 116.28 | 119.90 |
| 26 | 1H | 2450 | A | N9-C4-C5 | 7.25 | 108.70 | 105.80 |
| 26 | 14 | 40 | C | C6-N1-C2 | -7.25 | 117.40 | 120.30 |
| 26 | 14 | 775 | G | N1-C2-N3 | 7.25 | 128.25 | 123.90 |
| 26 | 14 | 800 | A | C5-C6-N1 | 7.25 | 121.33 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1431 | U | C5-C4-O4 | -7.25 | 121.55 | 125.90 |
| 26 | 14 | 2729 | G | C4-C5-N7 | 7.25 | 113.70 | 110.80 |
| 26 | 1H | 1555 | G | C5-C6-O6 | -7.25 | 124.25 | 128.60 |
| 26 | 1H | 1889 | A | C5-N7-C8 | -7.25 | 100.28 | 103.90 |
| 27 | 16 | 28 | C | C6-N1-C2 | -7.25 | 117.40 | 120.30 |
| 1 | 1G | 46 | G | C8-N9-C4 | 7.25 | 109.30 | 106.40 |
| 1 | 1G | 284 | G | C4-C5-N7 | 7.25 | 113.70 | 110.80 |
| 57 | 3L | 71 | C | O4'-C1'-N1 | 7.25 | 114.00 | 108.20 |
| 26 | 14 | 29 | U | OP1-P-OP2 | -7.25 | 108.73 | 119.60 |
| 26 | 14 | 449 | A | C5-N7-C8 | -7.25 | 100.28 | 103.90 |
| 26 | 14 | 582 | G | N1-C6-O6 | 7.25 | 124.25 | 119.90 |
| 26 | 14 | 860 | U | O5'-P-OP1 | 7.25 | 119.40 | 110.70 |
| 26 | 14 | 1425 | G | C8-N9-C4 | 7.25 | 109.30 | 106.40 |
| 26 | 14 | 2053 | G | N7-C8-N9 | -7.25 | 109.48 | 113.10 |
| 1 | 13 | 1252 | A | C5-C6-N6 | 7.25 | 129.50 | 123.70 |
| 1 | 13 | 1333 | A | N9-C4-C5 | 7.25 | 108.70 | 105.80 |
| 26 | 1H | 921 | G | N7-C8-N9 | 7.25 | 116.72 | 113.10 |
| 26 | 1H | 1005 | C | C5-C6-N1 | -7.25 | 117.38 | 121.00 |
| 26 | 1H | 1814 | G | N9-C4-C5 | 7.25 | 108.30 | 105.40 |
| 26 | 1H | 2523 | G | C6-N1-C2 | -7.25 | 120.75 | 125.10 |
| 26 | 14 | 36 | G | O5'-P-OP2 | -7.25 | 99.18 | 105.70 |
| 26 | 14 | 265 | A | C8-N9-C4 | -7.25 | 102.90 | 105.80 |
| 1 | 13 | 284 | G | N1-C6-O6 | -7.24 | 115.55 | 119.90 |
| 1 | 13 | 667 | G | O5'-P-OP2 | -7.24 | 99.18 | 105.70 |
| 1 | 13 | 1208 | C | C5-C6-N1 | -7.24 | 117.38 | 121.00 |
| 26 | 1H | 439 | G | C6-C5-N7 | -7.24 | 126.05 | 130.40 |
| 26 | 1H | 1257 | C | N1-C2-N3 | 7.24 | 124.27 | 119.20 |
| 26 | 1H | 1352 | U | O5'-P-OP2 | -7.24 | 99.18 | 105.70 |
| 26 | 1H | 1811 | G | OP1-P-O3' | -7.24 | 89.26 | 105.20 |
| 26 | 14 | 1359 | A | N9-C4-C5 | -7.24 | 102.90 | 105.80 |
| 26 | 14 | 1461 | G | N1-C6-O6 | 7.24 | 124.25 | 119.90 |
| 1 | 13 | 988 | G | N1-C6-O6 | -7.24 | 115.56 | 119.90 |
| 1 | 13 | 1482 | G | C5-N7-C8 | -7.24 | 100.68 | 104.30 |
| 26 | 1H | 968 | G | N9-C4-C5 | 7.24 | 108.30 | 105.40 |
| 26 | 1H | 1311 | G | C4-C5-N7 | 7.24 | 113.70 | 110.80 |
| 26 | 1H | 1997 | G | N9-C4-C5 | 7.24 | 108.30 | 105.40 |
| 26 | 1H | 2032 | G | N3-C4-C5 | 7.24 | 132.22 | 128.60 |
| 26 | 14 | 2089 | U | N3-C4-C5 | -7.24 | 110.25 | 114.60 |
| 26 | 14 | 2199 | A | C5-N7-C8 | -7.24 | 100.28 | 103.90 |
| 26 | 1H | 594 | U | O5'-P-OP2 | -7.24 | 99.18 | 105.70 |
| 26 | 1H | 1266 | G | C8-N9-C4 | 7.24 | 109.30 | 106.40 |
| 26 | 1H | 2750 | A | OP1-P-OP2 | -7.24 | 108.74 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 27 | 16 | 81 | G | C5-C6-O6 | -7.24 | 124.26 | 128.60 |
| 26 | 14 | 685 | A | C5-N7-C8 | -7.24 | 100.28 | 103.90 |
| 26 | 14 | 1706 | U | N3-C4-C5 | -7.24 | 110.26 | 114.60 |
| 26 | 14 | 1779 | U | O5'-P-OP2 | -7.24 | 99.18 | 105.70 |
| 26 | 1H | 657 | U | OP2-P-O3' | 7.24 | 121.12 | 105.20 |
| 26 | 1H | 1379 | A | C4-C5-N7 | 7.24 | 114.32 | 110.70 |
| 26 | 1H | 1609 | A | C5-C6-N6 | 7.24 | 129.49 | 123.70 |
| 26 | 1H | 1971 | A | C5-C6-N6 | -7.24 | 117.91 | 123.70 |
| 26 | 1H | 2647 | U | N3-C2-O2 | -7.24 | 117.13 | 122.20 |
| 26 | 14 | 1349 | A | C4-C5-N7 | 7.24 | 114.32 | 110.70 |
| 26 | 14 | 1656 | C | C6-N1-C2 | -7.24 | 117.41 | 120.30 |
| 26 | 14 | 2030 | A | N1-C6-N6 | -7.24 | 114.26 | 118.60 |
| 26 | 1H | 125 | G | C6-N1-C2 | -7.24 | 120.76 | 125.10 |
| 26 | 1H | 647 | G | N3-C4-C5 | -7.24 | 124.98 | 128.60 |
| 1 | 13 | 133 | U | OP1-P-OP2 | 7.24 | 130.45 | 119.60 |
| 1 | 13 | 1069 | C | C2-N3-C4 | 7.24 | 123.52 | 119.90 |
| 26 | 1H | 315 | G | C4-C5-N7 | 7.24 | 113.69 | 110.80 |
| 26 | 1H | 620 | G | OP1-P-OP2 | 7.24 | 130.46 | 119.60 |
| 26 | 1H | 755 | C | N3-C4-C5 | -7.24 | 119.01 | 121.90 |
| 26 | 1H | 1993 | U | C2-N3-C4 | -7.24 | 122.66 | 127.00 |
| 1 | 1G | 249 | U | C5-C6-N1 | -7.24 | 119.08 | 122.70 |
| 1 | 1G | 666 | G | C4-C5-C6 | 7.24 | 123.14 | 118.80 |
| 26 | 14 | 121 | G | N1-C2-N3 | 7.24 | 128.24 | 123.90 |
| 26 | 14 | 760 | G | C8-N9-C4 | -7.24 | 103.51 | 106.40 |
| 26 | 14 | 2011 | U | N1-C2-O2 | -7.24 | 117.73 | 122.80 |
| 26 | 14 | 2323 | G | N7-C8-N9 | -7.24 | 109.48 | 113.10 |
| 26 | 14 | 2609 | U | C5-C6-N1 | -7.24 | 119.08 | 122.70 |
| 26 | 1H | 1653 | G | N1-C2-N2 | -7.23 | 109.69 | 116.20 |
| 1 | 1G | 354 | G | C6-C5-N7 | -7.23 | 126.06 | 130.40 |
| 26 | 14 | 734 | A | OP1-P-OP2 | 7.23 | 130.45 | 119.60 |
| 26 | 14 | 2506 | U | O5'-P-OP1 | 7.23 | 119.38 | 110.70 |
| 1 | 13 | 6 | G | C5-C6-N1 | 7.23 | 115.12 | 111.50 |
| 1 | 13 | 244 | U | C2-N3-C4 | 7.23 | 131.34 | 127.00 |
| 26 | 1H | 1294 | U | C2-N3-C4 | -7.23 | 122.66 | 127.00 |
| 26 | 1H | 2233 | U | C6-N1-C2 | 7.23 | 125.34 | 121.00 |
| 26 | 1H | 793 | A | C6-C5-N7 | -7.23 | 127.24 | 132.30 |
| 1 | 1G | 1511 | G | N9-C4-C5 | 7.23 | 108.29 | 105.40 |
| 26 | 1H | 2420 | C | O5'-P-OP1 | -7.23 | 99.19 | 105.70 |
| 26 | 1H | 2645 | G | N1-C6-O6 | 7.23 | 124.24 | 119.90 |
| 26 | 14 | 1374 | G | N3-C4-N9 | 7.23 | 130.34 | 126.00 |
| 1 | 13 | 557 | G | N1-C2-N2 | -7.23 | 109.70 | 116.20 |
| 1 | 13 | 1236 | A | C2-N3-C4 | -7.23 | 106.99 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 66 | C | C5-C6-N1 | 7.23 | 124.61 | 121.00 |
| 26 | 1H | 2259 | G | C5-C6-O6 | -7.23 | 124.26 | 128.60 |
| 1 | 1G | 851 | G | N1-C6-O6 | 7.23 | 124.24 | 119.90 |
| 1 | 1G | 1314 | C | N3-C4-C5 | -7.23 | 119.01 | 121.90 |
| 26 | 14 | 122 | G | OP1-P-O3' | -7.23 | 89.30 | 105.20 |
| 26 | 1H | 220 | G | O5'-P-OP2 | 7.23 | 119.37 | 110.70 |
| 26 | 1H | 258 | G | O5'-P-OP2 | -7.23 | 99.20 | 105.70 |
| 26 | 1H | 1555 | G | O5'-P-OP2 | 7.23 | 119.37 | 110.70 |
| 26 | 1H | 2739 | U | C2-N3-C4 | -7.23 | 122.66 | 127.00 |
| 1 | 1G | 1534 | A | C2-N3-C4 | 7.23 | 114.21 | 110.60 |
| 26 | 14 | 1673 | U | C2-N1-C1' | -7.23 | 109.03 | 117.70 |
| 26 | 14 | 2477 | C | C2-N1-C1' | 7.23 | 126.75 | 118.80 |
| 26 | 1H | 198 | C | C5-C4-N4 | -7.22 | 115.14 | 120.20 |
| 26 | 1H | 2052 | G | C6-N1-C2 | -7.22 | 120.77 | 125.10 |
| 26 | 1H | 2644 | G | N3-C2-N2 | -7.22 | 114.84 | 119.90 |
| 26 | 1H | 2770 | G | O5'-P-OP2 | -7.22 | 99.20 | 105.70 |
| 1 | 1G | 171 | A | C5-C6-N6 | 7.22 | 129.48 | 123.70 |
| 26 | 14 | 824 | A | C5-N7-C8 | 7.22 | 107.51 | 103.90 |
| 26 | 14 | 1367 | A | C8-N9-C4 | -7.22 | 102.91 | 105.80 |
| 26 | 14 | 2442 | C | OP1-P-OP2 | -7.22 | 108.76 | 119.60 |
| 1 | 13 | 876 | G | N1-C6-O6 | -7.22 | 115.57 | 119.90 |
| 1 | 13 | 988 | G | C8-N9-C4 | -7.22 | 103.51 | 106.40 |
| 26 | 1H | 225 | A | N3-C4-C5 | 7.22 | 131.85 | 126.80 |
| 26 | 1H | 645 | C | N3-C4-C5 | -7.22 | 119.01 | 121.90 |
| 26 | 1H | 794 | G | O5'-P-OP2 | 7.22 | 119.37 | 110.70 |
| 26 | 1H | 1438 | U | N3-C4-C5 | -7.22 | 110.27 | 114.60 |
| 26 | 1H | 1606 | G | N9-C4-C5 | -7.22 | 102.51 | 105.40 |
| 26 | 1H | 1928 | A | N1-C6-N6 | -7.22 | 114.27 | 118.60 |
| 1 | 1G | 359 | U | C5-C4-O4 | 7.22 | 130.23 | 125.90 |
| 1 | 1G | 1079 | G | C5-C6-N1 | -7.22 | 107.89 | 111.50 |
| 26 | 14 | 937 | U | C5-C4-O4 | -7.22 | 121.57 | 125.90 |
| 26 | 14 | 1598 | C | C6-N1-C2 | 7.22 | 123.19 | 120.30 |
| 26 | 14 | 2437 | U | N3-C2-O2 | -7.22 | 117.14 | 122.20 |
| 26 | 14 | 2812 | G | C2-N3-C4 | -7.22 | 108.29 | 111.90 |
| 26 | 1H | 2874 | C | C6-N1-C2 | 7.22 | 123.19 | 120.30 |
| 26 | 14 | 197 | A | OP2-P-O3' | 7.22 | 121.09 | 105.20 |
| 26 | 14 | 523 | C | N1-C2-O2 | -7.22 | 114.57 | 118.90 |
| 1 | 13 | 53 | A | C5-C6-N6 | -7.22 | 117.92 | 123.70 |
| 1 | 13 | 973 | G | N9-C4-C5 | 7.22 | 108.29 | 105.40 |
| 1 | 13 | 1340 | A | C5-C6-N1 | -7.22 | 114.09 | 117.70 |
| 23 | 2K | 62 | C | C2-N3-C4 | 7.22 | 123.51 | 119.90 |
| 26 | 1H | 221 | A | C5-N7-C8 | 7.22 | 107.51 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 471 | A | C6-N1-C2 | 7.22 | 122.93 | 118.60 |
| 26 | 1H | 2587 | A | C6-N1-C2 | -7.22 | 114.27 | 118.60 |
| 26 | 1H | 2677 | G | N3-C2-N2 | -7.22 | 114.85 | 119.90 |
| 26 | 14 | 235 | U | C6-N1-C2 | 7.22 | 125.33 | 121.00 |
| 26 | 14 | 672 | C | N1-C2-N3 | 7.22 | 124.25 | 119.20 |
| 26 | 14 | 1305 | C | N3-C4-C5 | 7.22 | 124.79 | 121.90 |
| 26 | 14 | 1368 | G | N1-C6-O6 | -7.22 | 115.57 | 119.90 |
| 26 | 14 | 1562 | A | N1-C6-N6 | 7.22 | 122.93 | 118.60 |
| 26 | 14 | 1758 | G | N9-C4-C5 | 7.22 | 108.29 | 105.40 |
| 26 | 14 | 1824 | G | N1-C2-N2 | 7.22 | 122.70 | 116.20 |
| 26 | 14 | 1989 | G | N9-C4-C5 | 7.22 | 108.29 | 105.40 |
| 26 | 14 | 2071 | A | C8-N9-C4 | -7.22 | 102.91 | 105.80 |
| 1 | 13 | 904 | C | N1-C2-O2 | 7.22 | 123.23 | 118.90 |
| 26 | 1H | 1192 | G | O5'-P-OP2 | -7.22 | 99.20 | 105.70 |
| 1 | 1G | 1409 | C | O5'-P-OP2 | -7.22 | 99.20 | 105.70 |
| 26 | 14 | 760 | G | N1-C6-O6 | 7.22 | 124.23 | 119.90 |
| 1 | 13 | 1433 | A | N1-C6-N6 | -7.22 | 114.27 | 118.60 |
| 26 | 1H | 111 | A | C5-C6-N1 | 7.22 | 121.31 | 117.70 |
| 1 | 1G | 778 | G | C4-N9-C1' | 7.22 | 135.88 | 126.50 |
| 57 | 3L | 61 | C | C6-N1-C2 | -7.22 | 117.41 | 120.30 |
| 26 | 14 | 1966 | A | C4-C5-C6 | 7.22 | 120.61 | 117.00 |
| 1 | 13 | 786 | G | C8-N9-C4 | 7.21 | 109.29 | 106.40 |
| 1 | 13 | 1329 | A | C4-C5-N7 | 7.21 | 114.31 | 110.70 |
| 26 | 1H | 332 | A | N3-C4-N9 | -7.21 | 121.63 | 127.40 |
| 26 | 1H | 497 | A | N1-C6-N6 | -7.21 | 114.27 | 118.60 |
| 26 | 1H | 2575 | C | N3-C4-C5 | -7.21 | 119.01 | 121.90 |
| 26 | 1H | 2697 | G | N1-C2-N3 | 7.21 | 128.23 | 123.90 |
| 26 | 1H | 2845 | G | C2-N3-C4 | -7.21 | 108.29 | 111.90 |
| 26 | 14 | 655 | A | C5-C6-N1 | -7.21 | 114.09 | 117.70 |
| 26 | 14 | 739 | G | N3-C4-C5 | 7.21 | 132.21 | 128.60 |
| 26 | 14 | 952 | G | C6-C5-N7 | -7.21 | 126.07 | 130.40 |
| 1 | 13 | 611 | A | C4-C5-N7 | 7.21 | 114.31 | 110.70 |
| 26 | 1H | 648 | G | N9-C4-C5 | 7.21 | 108.28 | 105.40 |
| 26 | 1H | 1520 | U | N3-C4-C5 | -7.21 | 110.27 | 114.60 |
| 26 | 1H | 2325 | G | C8-N9-C4 | -7.21 | 103.52 | 106.40 |
| 26 | 1H | 2339 | G | N1-C2-N2 | -7.21 | 109.71 | 116.20 |
| 26 | 14 | 2369 | A | N1-C6-N6 | -7.21 | 114.27 | 118.60 |
| 26 | 14 | 2561 | A | C5-C6-N1 | 7.21 | 121.31 | 117.70 |
| 1 | 13 | 1208 | C | N1-C2-O2 | -7.21 | 114.57 | 118.90 |
| 26 | 1H | 1027 | A | O5'-P-OP2 | 7.21 | 119.36 | 110.70 |
| 26 | 1H | 1626 | G | N1-C2-N3 | 7.21 | 128.23 | 123.90 |
| 26 | 1H | 1829 | A | N7-C8-N9 | -7.21 | 110.19 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2430 | A | C6-C5-N7 | -7.21 | 127.25 | 132.30 |
| 26 | 14 | 1623 | G | N3-C2-N2 | -7.21 | 114.85 | 119.90 |
| 26 | 14 | 1812 | A | C4-C5-N7 | -7.21 | 107.09 | 110.70 |
| 26 | 1H | 37 | C | O5'-P-OP2 | -7.21 | 99.21 | 105.70 |
| 26 | 1H | 1308 | A | C4-C5-N7 | -7.21 | 107.09 | 110.70 |
| 26 | 1H | 1318 | C | N3-C4-C5 | -7.21 | 119.02 | 121.90 |
| 26 | 1H | 1517 | G | N3-C4-C5 | 7.21 | 132.21 | 128.60 |
| 26 | 14 | 1021 | A | N3-C4-C5 | 7.21 | 131.85 | 126.80 |
| 26 | 14 | 1624 | G | C4-C5-N7 | 7.21 | 113.68 | 110.80 |
| 26 | 1H | 2383 | G | N1-C2-N2 | -7.21 | 109.71 | 116.20 |
| 26 | 1H | 2390 | U | OP1-P-O3' | 7.21 | 121.06 | 105.20 |
| 26 | 1H | 2552 | U | C5-C6-N1 | -7.21 | 119.09 | 122.70 |
| 1 | 1G | 510 | A | N1-C2-N3 | -7.21 | 125.70 | 129.30 |
| 26 | 14 | 464 | U | C5-C4-O4 | -7.21 | 121.58 | 125.90 |
| 1 | 13 | 352 | C | C4-C5-C6 | -7.21 | 113.80 | 117.40 |
| 1 | 13 | 788 | U | N3-C4-O4 | 7.21 | 124.44 | 119.40 |
| 1 | 13 | 1113 | C | N3-C2-O2 | -7.21 | 116.86 | 121.90 |
| 1 | 13 | 1172 | C | C6-N1-C2 | -7.21 | 117.42 | 120.30 |
| 1 | 13 | 1196 | U | N3-C2-O2 | -7.21 | 117.16 | 122.20 |
| 26 | 1H | 738 | G | C4-C5-N7 | 7.21 | 113.68 | 110.80 |
| 26 | 1H | 1218 | C | C6-N1-C2 | -7.21 | 117.42 | 120.30 |
| 26 | 1H | 2714 | G | C5-C6-O6 | -7.21 | 124.28 | 128.60 |
| 26 | 1H | 2750 | A | O5'-P-OP2 | 7.21 | 119.35 | 110.70 |
| 1 | 1G | 690 | G | C2-N3-C4 | -7.21 | 108.30 | 111.90 |
| 26 | 14 | 460 | A | C6-C5-N7 | -7.21 | 127.25 | 132.30 |
| 26 | 14 | 1304 | C | C4-C5-C6 | -7.21 | 113.80 | 117.40 |
| 26 | 14 | 1669 | A | C5-C6-N1 | 7.21 | 121.30 | 117.70 |
| 26 | 14 | 1898 | U | C5-C4-O4 | 7.21 | 130.22 | 125.90 |
| 26 | 14 | 1914 | C | N1-C2-O2 | 7.21 | 123.22 | 118.90 |
| 26 | 14 | 2061 | G | OP1-P-O3' | 7.21 | 121.06 | 105.20 |
| 26 | 1H | 141 | A | C6-C5-N7 | -7.21 | 127.26 | 132.30 |
| 26 | 1H | 540 | G | N9-C4-C5 | 7.21 | 108.28 | 105.40 |
| 26 | 1H | 2385 | C | O5'-P-OP2 | 7.21 | 119.35 | 110.70 |
| 26 | 14 | 449 | A | C4-C5-N7 | 7.21 | 114.30 | 110.70 |
| 26 | 14 | 759 | G | N1-C6-O6 | 7.21 | 124.22 | 119.90 |
| 1 | 13 | 148 | G | C8-N9-C4 | -7.20 | 103.52 | 106.40 |
| 1 | 13 | 1208 | C | C2-N3-C4 | -7.20 | 116.30 | 119.90 |
| 26 | 1H | 526 | A | N9-C4-C5 | 7.20 | 108.68 | 105.80 |
| 26 | 14 | 468 | G | C2-N3-C4 | -7.20 | 108.30 | 111.90 |
| 1 | 13 | 782 | A | OP2-P-O3' | 7.20 | 121.05 | 105.20 |
| 1 | 13 | 1284 | C | C6-N1-C2 | 7.20 | 123.18 | 120.30 |
| 26 | 1H | 1243 | G | C2-N3-C4 | -7.20 | 108.30 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 1H | 1786 | A | N9-C1'-C2' | 7.20 | 123.36 | 114.00 |
| 26 | 14 | 110 | G | N9-C4-C5 | -7.20 | 102.52 | 105.40 |
| 1 | 13 | 1306 | A | N1-C6-N6 | 7.20 | 122.92 | 118.60 |
| 26 | 1H | 528 | A | O5'-P-OP2 | -7.20 | 99.22 | 105.70 |
| 26 | 1H | 717 | G | C5-C6-O6 | -7.20 | 124.28 | 128.60 |
| 26 | 1H | 739 | G | C2-N3-C4 | -7.20 | 108.30 | 111.90 |
| 26 | 1H | 2101 | G | C2-N3-C4 | -7.20 | 108.30 | 111.90 |
| 26 | 1H | 2256 | G | C4-C5-N7 | 7.20 | 113.68 | 110.80 |
| 26 | 1H | 2457 | U | N1-C2-O2 | -7.20 | 117.76 | 122.80 |
| 27 | 16 | 45 | A | C6-C5-N7 | -7.20 | 127.26 | 132.30 |
| 1 | 1G | 1431 | C | N3-C4-N4 | 7.20 | 123.04 | 118.00 |
| 26 | 14 | 259 | G | N3-C4-C5 | 7.20 | 132.20 | 128.60 |
| 26 | 14 | 1142(A) | A | N7-C8-N9 | 7.20 | 117.40 | 113.80 |
| 27 | 1J | 96 | G | N3-C2-N2 | -7.20 | 114.86 | 119.90 |
| 1 | 13 | 117 | G | C4-C5-N7 | 7.20 | 113.68 | 110.80 |
| 25 | 4K | 16 | A | C5-C6-N6 | -7.20 | 117.94 | 123.70 |
| 26 | 1H | 304 | G | N3-C4-N9 | -7.20 | 121.68 | 126.00 |
| 26 | 1H | 688 | U | OP1-P-OP2 | 7.20 | 130.40 | 119.60 |
| 26 | 1H | 1335 | U | N1-C2-O2 | 7.20 | 127.84 | 122.80 |
| 26 | 1H | 1414 | G | N1-C2-N3 | 7.20 | 128.22 | 123.90 |
| 1 | 1G | 73 | G | C5-C6-N1 | -7.20 | 107.90 | 111.50 |
| 1 | 1G | 545 | C | O5'-P-OP2 | -7.20 | 99.22 | 105.70 |
| 1 | 1G | 581 | G | O5'-P-OP2 | -7.20 | 99.22 | 105.70 |
| 26 | 14 | 215 | G | C5-C6-O6 | -7.20 | 124.28 | 128.60 |
| 26 | 1H | 37 | C | C5-C4-N4 | 7.20 | 125.24 | 120.20 |
| 26 | 1H | 144 | C | O5'-P-OP2 | -7.20 | 99.22 | 105.70 |
| 26 | 1H | 869 | G | N1-C2-N3 | 7.20 | 128.22 | 123.90 |
| 26 | 1H | 2449 | U | C2-N1-C1' | 7.20 | 126.34 | 117.70 |
| 26 | 14 | 2362 | G | N7-C8-N9 | -7.20 | 109.50 | 113.10 |
| 1 | 13 | 1227 | A | C5-C6-N1 | -7.20 | 114.10 | 117.70 |
| 1 | 13 | 1259 | C | N1-C2-O2 | 7.20 | 123.22 | 118.90 |
| 1 | 13 | 1525 | G | OP2-P-O3' | 7.20 | 121.03 | 105.20 |
| 23 | 2K | 25 | U | O5'-P-OP2 | -7.20 | 99.22 | 105.70 |
| 26 | 1H | 197 | A | OP1-P-OP2 | -7.20 | 108.81 | 119.60 |
| 26 | 1H | 270(R) | G | N3-C2-N2 | -7.20 | 114.86 | 119.90 |
| 26 | 1H | 2532 | G | C6-C5-N7 | -7.20 | 126.08 | 130.40 |
| 1 | 1G | 905 | U | C5-C4-O4 | 7.20 | 130.22 | 125.90 |
| 26 | 14 | 999 | U | N3-C2-O2 | -7.20 | 117.16 | 122.20 |
| 26 | 14 | 1049 | C | C6-N1-C1' | -7.20 | 112.17 | 120.80 |
| 26 | 14 | 1514 | U | N3-C4-C5 | -7.20 | 110.28 | 114.60 |
| 26 | 14 | 2315 | G | N3-C4-C5 | -7.20 | 125.00 | 128.60 |
| 26 | 14 | 2886 | G | OP1-P-O3' | 7.20 | 121.03 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2507 | C | C5-C4-N4 | 7.19 | 125.24 | 120.20 |
| 26 | 14 | 411 | G | OP1-P-OP2 | 7.19 | 130.39 | 119.60 |
| 26 | 14 | 1328 | G | C8-N9-C4 | 7.19 | 109.28 | 106.40 |
| 26 | 1H | 2243 | U | C4-C5-C6 | 7.19 | 124.02 | 119.70 |
| 26 | 1H | 2276 | G | N3-C4-C5 | -7.19 | 125.00 | 128.60 |
| 26 | 1H | 2428 | G | C5-C6-N1 | -7.19 | 107.90 | 111.50 |
| 26 | 1H | 2768 | C | C5-C6-N1 | -7.19 | 117.40 | 121.00 |
| 1 | 1G | 180 | U | N3-C4-O4 | 7.19 | 124.43 | 119.40 |
| 1 | 1G | 331 | G | C5-C6-O6 | -7.19 | 124.28 | 128.60 |
| 1 | 1G | 1223 | C | OP1-P-OP2 | -7.19 | 108.81 | 119.60 |
| 26 | 14 | 308 | G | C5-C6-O6 | -7.19 | 124.28 | 128.60 |
| 26 | 14 | 1287 | A | N1-C6-N6 | -7.19 | 114.28 | 118.60 |
| 26 | 14 | 1443 | G | C8-N9-C4 | -7.19 | 103.52 | 106.40 |
| 26 | 14 | 1774 | C | C5-C4-N4 | -7.19 | 115.17 | 120.20 |
| 26 | 14 | 2163 | C | N3-C2-O2 | -7.19 | 116.86 | 121.90 |
| 26 | 1H | 741 | G | C5-C6-N1 | 7.19 | 115.09 | 111.50 |
| 26 | 14 | 1249 | U | OP1-P-OP2 | 7.19 | 130.38 | 119.60 |
| 26 | 14 | 2367 | G | O5'-P-OP1 | 7.19 | 119.33 | 110.70 |
| 26 | 1H | 1004 | C | C2-N3-C4 | 7.19 | 123.49 | 119.90 |
| 26 | 14 | 786 | C | N3-C2-O2 | -7.19 | 116.87 | 121.90 |
| 26 | 14 | 2019 | A | C2-N3-C4 | -7.19 | 107.01 | 110.60 |
| 26 | 14 | 2522 | U | C5-C4-O4 | 7.19 | 130.21 | 125.90 |
| 1 | 13 | 822 | C | O5'-P-OP1 | 7.19 | 119.33 | 110.70 |
| 1 | 13 | 1301 | U | N3-C4-O4 | 7.19 | 124.43 | 119.40 |
| 1 | 13 | 1481 | U | N1-C2-N3 | 7.19 | 119.21 | 114.90 |
| 26 | 1H | 589 | C | O5'-P-OP2 | -7.19 | 99.23 | 105.70 |
| 26 | 1H | 1000 | A | C5-C6-N1 | 7.19 | 121.29 | 117.70 |
| 26 | 1H | 1442 | G | N3-C2-N2 | -7.19 | 114.87 | 119.90 |
| 26 | 1H | 1568 | G | N1-C2-N3 | -7.19 | 119.59 | 123.90 |
| 26 | 1H | 1807 | G | C8-N9-C4 | 7.19 | 109.28 | 106.40 |
| 26 | 1H | 2225 | A | C4-C5-C6 | -7.19 | 113.41 | 117.00 |
| 26 | 14 | 2774 | C | C6-N1-C2 | 7.19 | 123.17 | 120.30 |
| 27 | 1J | 116 | G | N1-C6-O6 | 7.19 | 124.21 | 119.90 |
| 1 | 13 | 538 | G | OP1-P-OP2 | 7.19 | 130.38 | 119.60 |
| 26 | 1H | 461 | C | OP1-P-OP2 | 7.19 | 130.38 | 119.60 |
| 26 | 1H | 1193 | G | C4-C5-N7 | -7.19 | 107.92 | 110.80 |
| 26 | 1H | 2436 | G | N1-C2-N3 | 7.19 | 128.21 | 123.90 |
| 1 | 1G | 320 | C | C6-N1-C2 | 7.19 | 123.17 | 120.30 |
| 1 | 1G | 353 | A | C5-N7-C8 | -7.19 | 100.31 | 103.90 |
| 26 | 14 | 912 | C | N3-C4-C5 | -7.19 | 119.03 | 121.90 |
| 1 | 13 | 872 | A | N1-C2-N3 | -7.18 | 125.71 | 129.30 |
| 26 | 1H | 463 | G | C2-N3-C4 | -7.18 | 108.31 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2346 | A | C4-N9-C1' | 7.18 | 139.23 | 126.30 |
| 26 | 1H | 2499 | C | C5-C6-N1 | -7.18 | 117.41 | 121.00 |
| 37 | 78 | 23 | PRO | C-N-CA | -7.18 | 107.21 | 122.30 |
| 26 | 14 | 516 | C | C5-C4-N4 | -7.18 | 115.17 | 120.20 |
| 1 | 13 | 576 | G | N1-C6-O6 | 7.18 | 124.21 | 119.90 |
| 1 | 13 | 663 | A | C2-N3-C4 | -7.18 | 107.01 | 110.60 |
| 26 | 1H | 270(R) | G | N7-C8-N9 | 7.18 | 116.69 | 113.10 |
| 26 | 1H | 721 | C | N1-C2-O2 | -7.18 | 114.59 | 118.90 |
| 26 | 1H | 736 | C | N3-C4-C5 | 7.18 | 124.77 | 121.90 |
| 26 | 1H | 1130 | U | N3-C2-O2 | -7.18 | 117.17 | 122.20 |
| 26 | 1H | 1147 | C | C4-C5-C6 | 7.18 | 120.99 | 117.40 |
| 26 | 1H | 1268 | A | C8-N9-C4 | 7.18 | 108.67 | 105.80 |
| 26 | 1H | 1912 | A | C2-N3-C4 | 7.18 | 114.19 | 110.60 |
| 26 | 14 | 71 | A | N1-C6-N6 | 7.18 | 122.91 | 118.60 |
| 26 | 14 | 731 | C | C6-N1-C2 | 7.18 | 123.17 | 120.30 |
| 26 | 14 | 1642 | G | C5-C6-O6 | -7.18 | 124.29 | 128.60 |
| 26 | 14 | 2286 | A | C5-C6-N6 | -7.18 | 117.95 | 123.70 |
| 26 | 14 | 2400 | G | C5-C6-N1 | 7.18 | 115.09 | 111.50 |
| 1 | 13 | 1192 | C | C5-C6-N1 | 7.18 | 124.59 | 121.00 |
| 26 | 1H | 723 | G | C4-C5-N7 | -7.18 | 107.93 | 110.80 |
| 26 | 1H | 2267 | A | O5'-P-OP1 | -7.18 | 99.24 | 105.70 |
| 26 | 1H | 2845 | G | C5-C6-O6 | 7.18 | 132.91 | 128.60 |
| 26 | 14 | 1043 | C | C6-N1-C2 | -7.18 | 117.43 | 120.30 |
| 26 | 14 | 1285 | G | N7-C8-N9 | -7.18 | 109.51 | 113.10 |
| 26 | 1H | 2328 | A | C8-N9-C4 | 7.18 | 108.67 | 105.80 |
| 1 | 1G | 886 | G | C2-N3-C4 | -7.18 | 108.31 | 111.90 |
| 1 | 1G | 938 | A | C8-N9-C4 | -7.18 | 102.93 | 105.80 |
| 26 | 14 | 579 | G | N1-C6-O6 | 7.18 | 124.21 | 119.90 |
| 26 | 14 | 2209 | C | C6-N1-C2 | -7.18 | 117.43 | 120.30 |
| 26 | 14 | 2591 | C | C4-C5-C6 | 7.18 | 120.99 | 117.40 |
| 1 | 13 | 941 | G | C5-C6-N1 | 7.18 | 115.09 | 111.50 |
| 26 | 1H | 671 | C | N3-C4-C5 | 7.18 | 124.77 | 121.90 |
| 26 | 1H | 2178 | C | C6-N1-C2 | -7.18 | 117.43 | 120.30 |
| 1 | 1G | 857 | C | C6-N1-C2 | 7.18 | 123.17 | 120.30 |
| 26 | 14 | 1519 | G | C5-C6-N1 | -7.18 | 107.91 | 111.50 |
| 26 | 14 | 1930 | G | C2-N3-C4 | 7.18 | 115.49 | 111.90 |
| 26 | 14 | 2022 | U | C5-C4-O4 | -7.18 | 121.59 | 125.90 |
| 1 | 13 | 492 | G | C5-N7-C8 | -7.18 | 100.71 | 104.30 |
| 1 | 13 | 1357 | A | C5-C6-N1 | -7.18 | 114.11 | 117.70 |
| 23 | 2K | 39 | A | O5'-P-OP1 | 7.18 | 119.31 | 110.70 |
| 1 | 1G | 240 | C | N3-C4-C5 | 7.18 | 124.77 | 121.90 |
| 26 | 14 | 434 | U | C6-N1-C2 | -7.18 | 116.69 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 1034 | G | O5'-P-OP2 | -7.18 | 99.24 | 105.70 |
| 26 | 14 | 1547 | C | N3-C4-C5 | -7.18 | 119.03 | 121.90 |
| 26 | 14 | 2248 | C | C5-C4-N4 | 7.18 | 125.22 | 120.20 |
| 26 | 14 | 2494 | G | OP2-P-O3' | 7.18 | 120.99 | 105.20 |
| 26 | 14 | 2711 | A | O5'-P-OP1 | 7.18 | 119.31 | 110.70 |
| 1 | 13 | 1091 | U | C6-N1-C2 | -7.17 | 116.69 | 121.00 |
| 26 | 1H | 482 | A | N7-C8-N9 | 7.17 | 117.39 | 113.80 |
| 26 | 1H | 556 | G | O5'-P-OP1 | -7.17 | 99.24 | 105.70 |
| 26 | 1H | 777 | A | C6-N1-C2 | -7.17 | 114.30 | 118.60 |
| 26 | 1H | 794 | G | N1-C2-N2 | -7.17 | 109.74 | 116.20 |
| 26 | 1H | 842 | G | C4-N9-C1' | -7.17 | 117.17 | 126.50 |
| 26 | 1H | 2244 | U | N3-C4-C5 | 7.17 | 118.90 | 114.60 |
| 26 | 14 | 1138 | G | C6-C5-N7 | -7.17 | 126.09 | 130.40 |
| 1 | 13 | 890 | G | O4'-C1'-N9 | 7.17 | 113.94 | 108.20 |
| 26 | 1H | 801 | G | N1-C6-O6 | -7.17 | 115.60 | 119.90 |
| 26 | 1H | 1370 | C | C2-N3-C4 | -7.17 | 116.31 | 119.90 |
| 26 | 1H | 1428 | C | OP1-P-OP2 | 7.17 | 130.36 | 119.60 |
| 26 | 1H | 1623 | G | C6-C5-N7 | 7.17 | 134.70 | 130.40 |
| 26 | 14 | 1899 | G | N3-C4-C5 | 7.17 | 132.19 | 128.60 |
| 1 | 13 | 1527 | C | N1-C2-N3 | 7.17 | 124.22 | 119.20 |
| 26 | 1H | 294 | A | O5'-P-OP2 | -7.17 | 99.25 | 105.70 |
| 26 | 1H | 763 | G | N1-C2-N3 | 7.17 | 128.20 | 123.90 |
| 26 | 1H | 1244 | G | N3-C4-C5 | 7.17 | 132.19 | 128.60 |
| 26 | 1H | 1378 | A | N3-C4-C5 | 7.17 | 131.82 | 126.80 |
| 26 | 1H | 1952 | A | N1-C2-N3 | 7.17 | 132.89 | 129.30 |
| 26 | 1H | 2819 | G | C8-N9-C4 | 7.17 | 109.27 | 106.40 |
| 27 | 16 | 111 | U | N3-C4-O4 | -7.17 | 114.38 | 119.40 |
| 26 | 14 | 141(A) | C | N3-C4-C5 | -7.17 | 119.03 | 121.90 |
| 26 | 14 | 559 | G | N7-C8-N9 | -7.17 | 109.51 | 113.10 |
| 26 | 14 | 2037 | G | C5-N7-C8 | 7.17 | 107.89 | 104.30 |
| 26 | 14 | 2554 | U | C5-C6-N1 | 7.17 | 126.29 | 122.70 |
| 1 | 13 | 872 | A | O5'-P-OP1 | -7.17 | 99.25 | 105.70 |
| 1 | 13 | 900 | A | OP1-P-OP2 | -7.17 | 108.85 | 119.60 |
| 1 | 13 | 960 | U | N3-C4-C5 | -7.17 | 110.30 | 114.60 |
| 26 | 1H | 23 | G | C2-N3-C4 | -7.17 | 108.31 | 111.90 |
| 26 | 14 | 1388 | G | N1-C6-O6 | 7.17 | 124.20 | 119.90 |
| 26 | 14 | 1450 | C | N1-C2-O2 | -7.17 | 114.60 | 118.90 |
| 26 | 1H | 308 | G | N1-C2-N2 | -7.17 | 109.75 | 116.20 |
| 26 | 1H | 688 | U | C4-C5-C6 | 7.17 | 124.00 | 119.70 |
| 26 | 1H | 845 | G | OP1-P-O3' | 7.17 | 120.97 | 105.20 |
| 26 | 1H | 1975 | G | N3-C4-N9 | 7.17 | 130.30 | 126.00 |
| 26 | 1H | 2252 | G | N3-C4-C5 | 7.17 | 132.18 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 1H | 2461 | C | O5'-P-OP2 | -7.17 | 99.25 | 105.70 |
| 1 | 1G | 663 | A | N1-C6-N6 | 7.17 | 122.90 | 118.60 |
| 26 | 14 | 502 | A | C8-N9-C4 | 7.17 | 108.67 | 105.80 |
| 26 | 14 | 774 | A | N9-C4-C5 | -7.17 | 102.93 | 105.80 |
| 26 | 14 | 1319 | G | C5-C6-N1 | -7.17 | 107.92 | 111.50 |
| 26 | 14 | 1365 | A | C5-N7-C8 | -7.17 | 100.32 | 103.90 |
| 26 | 14 | 1450 | C | C4-C5-C6 | 7.17 | 120.98 | 117.40 |
| 26 | 14 | 1807 | G | N1-C6-O6 | 7.17 | 124.20 | 119.90 |
| 26 | 14 | 2084 | C | C4-C5-C6 | 7.17 | 120.98 | 117.40 |
| 26 | 14 | 2259 | G | C5-C6-O6 | -7.17 | 124.30 | 128.60 |
| 26 | 14 | 2529 | G | C5-C6-N1 | -7.17 | 107.92 | 111.50 |
| 27 | 1J | 98 | G | C2-N3-C4 | -7.17 | 108.31 | 111.90 |
| 1 | 13 | 9 | G | C5-N7-C8 | -7.17 | 100.72 | 104.30 |
| 1 | 13 | 765 | G | N1-C6-O6 | 7.17 | 124.20 | 119.90 |
| 26 | 1H | 613 | U | C5-C6-N1 | -7.17 | 119.12 | 122.70 |
| 26 | 1H | 614 | U | C6-N1-C2 | -7.17 | 116.70 | 121.00 |
| 26 | 1H | 1630(A) | C | N1-C2-N3 | 7.17 | 124.22 | 119.20 |
| 26 | 1H | 1829 | A | C5-C6-N6 | 7.17 | 129.43 | 123.70 |
| 26 | 1H | 2276 | G | N9-C4-C5 | 7.17 | 108.27 | 105.40 |
| 26 | 1H | 2707 | G | N7-C8-N9 | -7.17 | 109.52 | 113.10 |
| 26 | 1H | 2781 | A | C2-N3-C4 | -7.17 | 107.02 | 110.60 |
| 26 | 14 | 70 | G | N1-C2-N2 | -7.17 | 109.75 | 116.20 |
| 26 | 14 | 623 | G | C5-C6-N1 | 7.17 | 115.08 | 111.50 |
| 26 | 14 | 1654 | A | N1-C6-N6 | -7.17 | 114.30 | 118.60 |
| 26 | 1H | 1121 | C | C2-N3-C4 | -7.17 | 116.32 | 119.90 |
| 26 | 1H | 2271 | G | C5-N7-C8 | -7.17 | 100.72 | 104.30 |
| 1 | 1G | 581 | G | C5-C6-O6 | -7.17 | 124.30 | 128.60 |
| 26 | 14 | 2032 | G | N7-C8-N9 | 7.17 | 116.68 | 113.10 |
| 26 | 14 | 2596 | U | C5-C4-O4 | 7.17 | 130.20 | 125.90 |
| 1 | 13 | 124 | G | C5-C6-O6 | 7.16 | 132.90 | 128.60 |
| 1 | 13 | 551 | U | N1-C2-O2 | -7.16 | 117.79 | 122.80 |
| 26 | 1H | 407 | G | N9-C4-C5 | 7.16 | 108.27 | 105.40 |
| 26 | 1H | 545 | G | N1-C6-O6 | 7.16 | 124.20 | 119.90 |
| 26 | 1H | 663 | G | C8-N9-C1' | -7.16 | 117.69 | 127.00 |
| 26 | 1H | 786 | C | N3-C2-O2 | -7.16 | 116.89 | 121.90 |
| 26 | 1H | 1767 | C | N1-C2-N3 | 7.16 | 124.21 | 119.20 |
| 26 | 1H | 1812 | A | N1-C2-N3 | 7.16 | 132.88 | 129.30 |
| 26 | 1H | 2835 | A | C5-N7-C8 | -7.16 | 100.32 | 103.90 |
| 26 | 14 | 512 | G | N3-C4-C5 | 7.16 | 132.18 | 128.60 |
| 26 | 14 | 726 | G | O4'-C1'-N9 | 7.16 | 113.93 | 108.20 |
| 26 | 14 | 1164 | G | C2-N3-C4 | -7.16 | 108.32 | 111.90 |
| 26 | 14 | 2777 | G | N1-C2-N2 | 7.16 | 122.65 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 150 | C | N3-C4-N4 | -7.16 | 112.99 | 118.00 |
| 26 | 1H | 1497 | U | OP1-P-O3' | 7.16 | 120.96 | 105.20 |
| 26 | 1H | 1556 | C | OP1-P-OP2 | 7.16 | 130.34 | 119.60 |
| 26 | 1H | 2365 | G | N9-C4-C5 | -7.16 | 102.53 | 105.40 |
| 26 | 1H | 2706 | G | C5-N7-C8 | -7.16 | 100.72 | 104.30 |
| 26 | 14 | 1166 | C | C6-N1-C2 | -7.16 | 117.44 | 120.30 |
| 26 | 1H | 220 | G | C4-C5-C6 | 7.16 | 123.10 | 118.80 |
| 26 | 1H | 370 | G | C4-C5-C6 | 7.16 | 123.10 | 118.80 |
| 26 | 1H | 651 | G | C2-N3-C4 | 7.16 | 115.48 | 111.90 |
| 26 | 1H | 1192 | G | OP1-P-OP2 | 7.16 | 130.34 | 119.60 |
| 26 | 1H | 2520 | C | N1-C2-O2 | -7.16 | 114.60 | 118.90 |
| 26 | 1H | 2593 | U | C6-N1-C1' | 7.16 | 131.22 | 121.20 |
| 27 | 16 | 89 | G | C4-C5-N7 | 7.16 | 113.66 | 110.80 |
| 1 | 1G | 109 | A | C2-N3-C4 | 7.16 | 114.18 | 110.60 |
| 26 | 14 | 194 | G | O5'-P-OP2 | 7.16 | 119.29 | 110.70 |
| 26 | 14 | 197 | A | C6-C5-N7 | -7.16 | 127.29 | 132.30 |
| 26 | 14 | 440 | G | C5-C6-O6 | -7.16 | 124.30 | 128.60 |
| 26 | 14 | 656 | G | C8-N9-C4 | -7.16 | 103.54 | 106.40 |
| 26 | 14 | 810 | U | OP1-P-O3' | 7.16 | 120.95 | 105.20 |
| 26 | 14 | 1158 | C | N3-C2-O2 | -7.16 | 116.89 | 121.90 |
| 26 | 14 | 1299 | G | C6-N1-C2 | 7.16 | 129.40 | 125.10 |
| 26 | 14 | 2446 | G | N3-C2-N2 | 7.16 | 124.91 | 119.90 |
| 1 | 13 | 803 | G | C2-N3-C4 | -7.16 | 108.32 | 111.90 |
| 1 | 13 | 1435 | G | N3-C4-C5 | 7.16 | 132.18 | 128.60 |
| 26 | 1H | 1271 | G | N9-C4-C5 | -7.16 | 102.54 | 105.40 |
| 26 | 1H | 2477 | C | C6-N1-C2 | -7.16 | 117.44 | 120.30 |
| 1 | 1G | 7 | G | C5-N7-C8 | -7.16 | 100.72 | 104.30 |
| 26 | 14 | 200 | U | N1-C2-N3 | 7.16 | 119.19 | 114.90 |
| 26 | 14 | 471 | A | N3-C4-C5 | 7.16 | 131.81 | 126.80 |
| 26 | 14 | 1289 | C | N3-C4-C5 | -7.16 | 119.04 | 121.90 |
| 26 | 14 | 2765 | A | O5'-P-OP2 | -7.16 | 99.26 | 105.70 |
| 27 | 1J | 86 | G | C8-N9-C4 | 7.16 | 109.26 | 106.40 |
| 26 | 1H | 1162 | G | N1-C6-O6 | -7.16 | 115.61 | 119.90 |
| 26 | 1H | 1296 | G | OP2-P-O3' | 7.16 | 120.95 | 105.20 |
| 26 | 1H | 1406 | U | C6-N1-C2 | -7.16 | 116.71 | 121.00 |
| 26 | 1H | 1680 | U | N3-C4-C5 | 7.16 | 118.89 | 114.60 |
| 26 | 1H | 1790 | C | P-O3'-C3' | 7.16 | 128.29 | 119.70 |
| 26 | 1H | 2448 | A | C6-N1-C2 | -7.16 | 114.31 | 118.60 |
| 1 | 1G | 230 | G | N1-C6-O6 | 7.16 | 124.19 | 119.90 |
| 26 | 14 | 582 | G | N3-C2-N2 | -7.16 | 114.89 | 119.90 |
| 1 | 13 | 325 | A | C4-C5-N7 | 7.16 | 114.28 | 110.70 |
| 1 | 13 | 392 | G | C5-C6-O6 | -7.16 | 124.31 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 183 | C | O5'-P-OP1 | 7.16 | 119.29 | 110.70 |
| 26 | 1H | 1554 | A | C4-C5-N7 | -7.16 | 107.12 | 110.70 |
| 26 | 1H | 2435 | A | N9-C4-C5 | 7.16 | 108.66 | 105.80 |
| 26 | 1H | 2601 | C | N1-C2-O2 | 7.16 | 123.19 | 118.90 |
| 1 | 1G | 895 | G | N1-C6-O6 | 7.16 | 124.19 | 119.90 |
| 1 | 1G | 1391 | U | C5-C6-N1 | -7.16 | 119.12 | 122.70 |
| 1 | 13 | 995 | C | C6-N1-C2 | -7.15 | 117.44 | 120.30 |
| 23 | 2K | 37 | U | N1-C2-N3 | 7.15 | 119.19 | 114.90 |
| 26 | 1H | 1678 | G | C6-C5-N7 | -7.15 | 126.11 | 130.40 |
| 26 | 1H | 2554 | U | N1-C2-O2 | -7.15 | 117.79 | 122.80 |
| 46 | G8 | 81 | LYS | C-N-CA | 7.15 | 152.05 | 122.00 |
| 26 | 14 | 1830 | C | C4-C5-C6 | -7.15 | 113.82 | 117.40 |
| 26 | 14 | 2247 | A | N9-C4-C5 | 7.15 | 108.66 | 105.80 |
| 26 | 1H | 36 | G | O5'-P-OP2 | -7.15 | 99.26 | 105.70 |
| 26 | 1H | 88 | G | O5'-P-OP1 | -7.15 | 99.26 | 105.70 |
| 26 | 1H | 305 | U | C4-C5-C6 | 7.15 | 123.99 | 119.70 |
| 26 | 1H | 1569 | A | N3-C4-C5 | 7.15 | 131.81 | 126.80 |
| 26 | 1H | 1570 | A | C2-N3-C4 | -7.15 | 107.02 | 110.60 |
| 1 | 1G | 41 | G | N1-C6-O6 | 7.15 | 124.19 | 119.90 |
| 1 | 1G | 1468 | A | C6-N1-C2 | -7.15 | 114.31 | 118.60 |
| 26 | 14 | 1205 | U | N3-C2-O2 | -7.15 | 117.19 | 122.20 |
| 26 | 14 | 1469 | A | O5'-P-OP1 | -7.15 | 99.26 | 105.70 |
| 26 | 14 | 1829 | A | C6-N1-C2 | -7.15 | 114.31 | 118.60 |
| 1 | 13 | 383 | A | N1-C6-N6 | -7.15 | 114.31 | 118.60 |
| 1 | 13 | 1385 | G | C5-C6-O6 | -7.15 | 124.31 | 128.60 |
| 1 | 13 | 1518 | A | C4-C5-N7 | -7.15 | 107.12 | 110.70 |
| 26 | 1H | 780 | G | C5-C6-O6 | -7.15 | 124.31 | 128.60 |
| 26 | 1H | 836 | G | N1-C6-O6 | -7.15 | 115.61 | 119.90 |
| 26 | 1H | 1759 | A | OP1-P-OP2 | 7.15 | 130.32 | 119.60 |
| 26 | 1H | 1869 | G | OP1-P-OP2 | 7.15 | 130.32 | 119.60 |
| 26 | 1H | 2458 | G | N1-C2-N2 | 7.15 | 122.64 | 116.20 |
| 27 | 16 | 61 | G | N3-C2-N2 | -7.15 | 114.89 | 119.90 |
| 26 | 14 | 502 | A | C2-N3-C4 | -7.15 | 107.03 | 110.60 |
| 26 | 14 | 775 | G | C6-C5-N7 | -7.15 | 126.11 | 130.40 |
| 26 | 14 | 1763 | G | N7-C8-N9 | -7.15 | 109.53 | 113.10 |
| 26 | 1H | 635 | C | C4-C5-C6 | 7.15 | 120.97 | 117.40 |
| 26 | 1H | 710 | G | O5'-P-OP1 | 7.15 | 119.28 | 110.70 |
| 26 | 1H | 1471 | A | C8-N9-C4 | -7.15 | 102.94 | 105.80 |
| 26 | 14 | 518 | G | N1-C2-N3 | 7.15 | 128.19 | 123.90 |
| 26 | 14 | 754 | C | C2-N3-C4 | 7.15 | 123.47 | 119.90 |
| 26 | 1H | 2252 | G | O5'-P-OP2 | -7.15 | 99.27 | 105.70 |
| 26 | 14 | 89 | G | N7-C8-N9 | -7.15 | 109.53 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 954 | G | N1-C6-O6 | -7.15 | 115.61 | 119.90 |
| 26 | 14 | 2023 | G | N7-C8-N9 | 7.15 | 116.67 | 113.10 |
| 29 | 19 | 91 | ARG | NE-CZ-NH1 | -7.15 | 116.73 | 120.30 |
| 26 | 1H | 88 | G | O5'-P-OP2 | 7.15 | 119.28 | 110.70 |
| 26 | 1H | 372 | G | C5-C6-O6 | 7.15 | 132.89 | 128.60 |
| 26 | 1H | 792 | G | N1-C2-N3 | 7.15 | 128.19 | 123.90 |
| 26 | 14 | 122 | G | N3-C2-N2 | -7.15 | 114.90 | 119.90 |
| 1 | 13 | 876 | G | O5'-P-OP1 | -7.14 | 99.27 | 105.70 |
| 26 | 1H | 474 | G | N1-C2-N2 | 7.14 | 122.63 | 116.20 |
| 26 | 1H | 788 | A | OP2-P-O3' | 7.14 | 120.92 | 105.20 |
| 26 | 1H | 1344 | G | N7-C8-N9 | 7.14 | 116.67 | 113.10 |
| 1 | 1G | 1196 | U | N3-C2-O2 | -7.14 | 117.20 | 122.20 |
| 1 | 1G | 1504 | G | C5-C6-O6 | 7.14 | 132.89 | 128.60 |
| 26 | 14 | 2436 | G | O5'-P-OP1 | -7.14 | 99.27 | 105.70 |
| 1 | 13 | 318 | G | C2-N3-C4 | -7.14 | 108.33 | 111.90 |
| 1 | 13 | 898 | G | O5'-P-OP1 | -7.14 | 99.27 | 105.70 |
| 1 | 13 | 1205 | U | C4-C5-C6 | 7.14 | 123.98 | 119.70 |
| 26 | 1H | 1200 | C | N1-C2-N3 | 7.14 | 124.20 | 119.20 |
| 26 | 1H | 1656 | C | C2-N3-C4 | 7.14 | 123.47 | 119.90 |
| 26 | 1H | 1660 | C | C5-C6-N1 | -7.14 | 117.43 | 121.00 |
| 26 | 1H | 2826 | A | C8-N9-C4 | 7.14 | 108.66 | 105.80 |
| 26 | 14 | 115 | C | N3-C4-N4 | -7.14 | 113.00 | 118.00 |
| 26 | 14 | 917 | A | N1-C2-N3 | -7.14 | 125.73 | 129.30 |
| 26 | 14 | 1273 | U | O5'-P-OP1 | -7.14 | 99.27 | 105.70 |
| 26 | 14 | 1443 | G | C5-C6-N1 | -7.14 | 107.93 | 111.50 |
| 26 | 14 | 2345 | G | C2-N3-C4 | -7.14 | 108.33 | 111.90 |
| 26 | 14 | 1241 | A | C2-N3-C4 | -7.14 | 107.03 | 110.60 |
| 26 | 14 | 1282 | U | N1-C2-O2 | -7.14 | 117.80 | 122.80 |
| 26 | 14 | 1465 | G | C5-C6-N1 | -7.14 | 107.93 | 111.50 |
| 26 | 14 | 2076 | U | N1-C2-O2 | -7.14 | 117.80 | 122.80 |
| 1 | 13 | 232 | G | N1-C6-O6 | 7.14 | 124.18 | 119.90 |
| 1 | 13 | 1153 | C | C6-N1-C2 | 7.14 | 123.16 | 120.30 |
| 26 | 1H | 672 | C | C4-C5-C6 | 7.14 | 120.97 | 117.40 |
| 26 | 1H | 862 | G | C4-C5-N7 | -7.14 | 107.94 | 110.80 |
| 26 | 1H | 902 | C | C5-C6-N1 | -7.14 | 117.43 | 121.00 |
| 26 | 1H | 1768 | U | C4-C5-C6 | -7.14 | 115.42 | 119.70 |
| 25 | 4L | 16 | A | N7-C8-N9 | -7.14 | 110.23 | 113.80 |
| 26 | 14 | 1186 | G | OP2-P-O3' | 7.14 | 120.91 | 105.20 |
| 26 | 14 | 2253 | G | O5'-P-OP1 | 7.14 | 119.27 | 110.70 |
| 27 | 1J | 102 | G | C5-N7-C8 | 7.14 | 107.87 | 104.30 |
| 1 | 13 | 1494 | G | N1-C6-O6 | -7.14 | 115.62 | 119.90 |
| 26 | 14 | 1405 | U | C5-C6-N1 | -7.14 | 119.13 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 790 | A | C6-N1-C2 | -7.14 | 114.32 | 118.60 |
| 1 | 13 | 827 | U | N1-C2-N3 | 7.14 | 119.18 | 114.90 |
| 1 | 13 | 1261 | A | O5'-P-OP2 | 7.14 | 119.26 | 110.70 |
| 1 | 13 | 1382 | C | C4-C5-C6 | -7.14 | 113.83 | 117.40 |
| 26 | 1H | 1624 | G | C5-C6-N1 | 7.14 | 115.07 | 111.50 |
| 26 | 1H | 2394 | C | O5'-P-OP2 | -7.14 | 99.28 | 105.70 |
| 26 | 1H | 2559 | C | N3-C4-C5 | 7.14 | 124.75 | 121.90 |
| 1 | 1G | 537 | G | C4-C5-N7 | 7.14 | 113.66 | 110.80 |
| 26 | 14 | 30 | G | C8-N9-C4 | -7.14 | 103.55 | 106.40 |
| 26 | 14 | 946 | G | O4'-C1'-N9 | -7.14 | 102.49 | 108.20 |
| 26 | 1H | 674 | G | N7-C8-N9 | -7.13 | 109.53 | 113.10 |
| 26 | 1H | 1812 | A | OP1-P-OP2 | 7.13 | 130.30 | 119.60 |
| 26 | 1H | 1939 | U | N3-C2-O2 | 7.13 | 127.19 | 122.20 |
| 26 | 1H | 2421 | G | C6-C5-N7 | 7.13 | 134.68 | 130.40 |
| 25 | 4L | 12 | A | C6-C5-N7 | -7.13 | 127.31 | 132.30 |
| 26 | 14 | 414 | C | C2-N3-C4 | -7.13 | 116.33 | 119.90 |
| 26 | 14 | 2447 | G | C2-N3-C4 | -7.13 | 108.33 | 111.90 |
| 26 | 14 | 2787 | C | C6-N1-C2 | -7.13 | 117.45 | 120.30 |
| 26 | 1H | 71 | A | O4'-C1'-N9 | -7.13 | 102.49 | 108.20 |
| 26 | 1H | 1957 | C | C2-N1-C1' | -7.13 | 110.95 | 118.80 |
| 26 | 14 | 760 | G | C5-C6-N1 | -7.13 | 107.93 | 111.50 |
| 23 | 2K | 13 | C | N3-C4-C5 | -7.13 | 119.05 | 121.90 |
| 26 | 1H | 153 | C | C5-C4-N4 | -7.13 | 115.21 | 120.20 |
| 26 | 1H | 610 | C | C2-N3-C4 | -7.13 | 116.33 | 119.90 |
| 26 | 1H | 746 | A | C8-N9-C4 | -7.13 | 102.95 | 105.80 |
| 26 | 1H | 1707 | G | C4-C5-N7 | 7.13 | 113.65 | 110.80 |
| 26 | 1H | 1891 | G | C8-N9-C4 | -7.13 | 103.55 | 106.40 |
| 26 | 1H | 2298 | A | C6-N1-C2 | -7.13 | 114.32 | 118.60 |
| 33 | 51 | 149 | ARG | NE-CZ-NH1 | 7.13 | 123.87 | 120.30 |
| 1 | 1G | 897 | C | N1-C2-O2 | -7.13 | 114.62 | 118.90 |
| 26 | 14 | 521 | G | OP1-P-OP2 | -7.13 | 108.90 | 119.60 |
| 26 | 14 | 961 | C | N1-C2-O2 | -7.13 | 114.62 | 118.90 |
| 26 | 14 | 1236 | G | C4-C5-C6 | 7.13 | 123.08 | 118.80 |
| 26 | 14 | 2284 | C | C2-N1-C1' | -7.13 | 110.95 | 118.80 |
| 26 | 14 | 2607 | G | C2-N3-C4 | -7.13 | 108.33 | 111.90 |
| 26 | 14 | 2607 | G | N1-C2-N2 | -7.13 | 109.78 | 116.20 |
| 27 | 1J | 97 | G | C6-C5-N7 | -7.13 | 126.12 | 130.40 |
| 26 | 1H | 348 | G | C6-N1-C2 | -7.13 | 120.82 | 125.10 |
| 29 | 11 | 56 | GLY | C-N-CA | -7.13 | 107.33 | 122.30 |
| 26 | 14 | 941 | A | N9-C4-C5 | 7.13 | 108.65 | 105.80 |
| 1 | 13 | 1276 | G | N7-C8-N9 | 7.13 | 116.66 | 113.10 |
| 26 | 1H | 309 | G | N3-C2-N2 | 7.13 | 124.89 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 795 | C | C6-N1-C2 | 7.13 | 123.15 | 120.30 |
| 26 | 1H | 2419 | U | OP1-P-O3' | 7.13 | 120.88 | 105.20 |
| 1 | 1G | 715 | A | C2-N3-C4 | -7.13 | 107.04 | 110.60 |
| 1 | 1G | 947 | G | O5'-P-OP2 | -7.13 | 99.28 | 105.70 |
| 26 | 14 | 463 | G | C2-N3-C4 | -7.13 | 108.34 | 111.90 |
| 26 | 14 | 598 | G | O5'-P-OP2 | -7.13 | 99.28 | 105.70 |
| 26 | 14 | 2441 | C | OP1-P-OP2 | -7.13 | 108.91 | 119.60 |
| 1 | 13 | 352 | C | C5-C6-N1 | 7.13 | 124.56 | 121.00 |
| 26 | 1H | 558 | G | C5-C6-N1 | -7.13 | 107.94 | 111.50 |
| 26 | 1H | 649 | G | C8-N9-C4 | -7.13 | 103.55 | 106.40 |
| 26 | 1H | 1837 | C | C2-N3-C4 | 7.13 | 123.46 | 119.90 |
| 26 | 1H | 1854 | A | C8-N9-C4 | 7.13 | 108.65 | 105.80 |
| 26 | 1H | 2487 | G | N3-C4-C5 | 7.13 | 132.16 | 128.60 |
| 1 | 1G | 1514 | C | C6-N1-C2 | -7.13 | 117.45 | 120.30 |
| 26 | 14 | 1363 | C | O5'-P-OP2 | -7.13 | 99.28 | 105.70 |
| 26 | 14 | 1837 | C | C6-N1-C2 | -7.13 | 117.45 | 120.30 |
| 26 | 14 | 587 | C | C2-N3-C4 | -7.12 | 116.34 | 119.90 |
| 26 | 14 | 1965 | C | C4-C5-C6 | -7.12 | 113.84 | 117.40 |
| 26 | 14 | 1968 | G | C4-C5-N7 | 7.12 | 113.65 | 110.80 |
| 26 | 1H | 92 | G | C5-C6-O6 | -7.12 | 124.33 | 128.60 |
| 26 | 1H | 568 | U | C4-C5-C6 | 7.12 | 123.97 | 119.70 |
| 26 | 1H | 806 | C | N1-C2-N3 | -7.12 | 114.21 | 119.20 |
| 26 | 14 | 173 | G | C4-C5-N7 | 7.12 | 113.65 | 110.80 |
| 26 | 14 | 2278 | A | N1-C2-N3 | 7.12 | 132.86 | 129.30 |
| 26 | 14 | 2441 | C | N1-C2-N3 | 7.12 | 124.19 | 119.20 |
| 26 | 14 | 2453 | A | C5-C6-N1 | 7.12 | 121.26 | 117.70 |
| 27 | 1J | 101 | A | C2-N3-C4 | -7.12 | 107.04 | 110.60 |
| 26 | 1H | 2750 | A | O5'-P-OP1 | -7.12 | 99.29 | 105.70 |
| 1 | 1G | 674 | G | C5-C6-N1 | 7.12 | 115.06 | 111.50 |
| 25 | 4L | 12 | A | C2-N3-C4 | -7.12 | 107.04 | 110.60 |
| 26 | 14 | 1856 | G | C6-C5-N7 | -7.12 | 126.13 | 130.40 |
| 26 | 14 | 2648 | C | C5-C4-N4 | -7.12 | 115.22 | 120.20 |
| 1 | 13 | 484 | G | N1-C6-O6 | 7.12 | 124.17 | 119.90 |
| 1 | 13 | 717 | C | C5-C4-N4 | -7.12 | 115.22 | 120.20 |
| 1 | 13 | 950 | U | N1-C2-N3 | -7.12 | 110.63 | 114.90 |
| 23 | 2K | 38 | A | C6-N1-C2 | -7.12 | 114.33 | 118.60 |
| 26 | 1H | 1193 | G | C6-N1-C2 | -7.12 | 120.83 | 125.10 |
| 26 | 1H | 1766 | U | N3-C4-O4 | 7.12 | 124.38 | 119.40 |
| 26 | 1H | 2231 | C | N3-C4-C5 | -7.12 | 119.05 | 121.90 |
| 26 | 1H | 2853 | C | O5'-P-OP2 | -7.12 | 99.29 | 105.70 |
| 1 | 1G | 895 | G | C5-C6-O6 | -7.12 | 124.33 | 128.60 |
| 26 | 14 | 2423 | U | N3-C4-C5 | 7.12 | 118.87 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 197 | A | N1-C6-N6 | 7.12 | 122.87 | 118.60 |
| 26 | 1H | 972 | G | C5-C6-O6 | 7.12 | 132.87 | 128.60 |
| 26 | 1H | 1755 | A | O5'-P-OP1 | -7.12 | 99.29 | 105.70 |
| 26 | 1H | 2544 | G | C6-C5-N7 | -7.12 | 126.13 | 130.40 |
| 1 | 1G | 312 | C | C6-N1-C2 | -7.12 | 117.45 | 120.30 |
| 26 | 14 | 1815 | A | C5-N7-C8 | -7.12 | 100.34 | 103.90 |
| 26 | 14 | 1278 | A | C5-C6-N1 | 7.12 | 121.26 | 117.70 |
| 26 | 1H | 226 | G | C5-C6-N1 | -7.12 | 107.94 | 111.50 |
| 26 | 1H | 259 | G | N3-C4-C5 | 7.12 | 132.16 | 128.60 |
| 26 | 1H | 265 | A | C6-C5-N7 | -7.12 | 127.32 | 132.30 |
| 26 | 1H | 270(X) | G | N1-C6-O6 | 7.12 | 124.17 | 119.90 |
| 26 | 1H | 499 | U | C6-N1-C2 | -7.12 | 116.73 | 121.00 |
| 1 | 1G | 699 | C | N3-C4-C5 | -7.12 | 119.05 | 121.90 |
| 26 | 14 | 760 | G | N3-C2-N2 | -7.12 | 114.92 | 119.90 |
| 26 | 14 | 2812 | G | N3-C4-N9 | -7.12 | 121.73 | 126.00 |
| 1 | 13 | 245 | C | C2-N3-C4 | -7.11 | 116.34 | 119.90 |
| 26 | 1H | 225 | A | N7-C8-N9 | -7.11 | 110.24 | 113.80 |
| 26 | 1H | 508 | G | N1-C6-O6 | 7.11 | 124.17 | 119.90 |
| 26 | 1H | 835 | A | O5'-P-OP2 | -7.11 | 99.30 | 105.70 |
| 26 | 1H | 1565 | C | N3-C4-C5 | 7.11 | 124.75 | 121.90 |
| 26 | 1H | 1984 | G | N1-C6-O6 | -7.11 | 115.63 | 119.90 |
| 26 | 1H | 2017 | U | C4-C5-C6 | 7.11 | 123.97 | 119.70 |
| 26 | 1H | 2447 | G | O4'-C1'-N9 | 7.11 | 113.89 | 108.20 |
| 26 | 1H | 2651 | C | C4-C5-C6 | 7.11 | 120.96 | 117.40 |
| 1 | 1G | 242 | C | C5-C6-N1 | 7.11 | 124.56 | 121.00 |
| 26 | 14 | 62 | C | O5'-P-OP2 | -7.11 | 99.30 | 105.70 |
| 26 | 14 | 1410 | G | OP2-P-O3' | 7.11 | 120.85 | 105.20 |
| 26 | 14 | 1767 | C | C5-C4-N4 | 7.11 | 125.18 | 120.20 |
| 26 | 14 | 1908 | C | N3-C2-O2 | -7.11 | 116.92 | 121.90 |
| 26 | 1H | 20 | C | N1-C2-O2 | -7.11 | 114.63 | 118.90 |
| 26 | 1H | 306 | U | C5-C6-N1 | -7.11 | 119.14 | 122.70 |
| 26 | 1H | 1618 | A | N7-C8-N9 | 7.11 | 117.36 | 113.80 |
| 26 | 1H | 1757 | U | C5-C6-N1 | -7.11 | 119.14 | 122.70 |
| 26 | 14 | 211 | A | N9-C4-C5 | -7.11 | 102.95 | 105.80 |
| 1 | 13 | 570 | G | N7-C8-N9 | 7.11 | 116.66 | 113.10 |
| 1 | 13 | 770 | C | C5-C6-N1 | -7.11 | 117.44 | 121.00 |
| 1 | 13 | 1300 | G | N3-C4-N9 | -7.11 | 121.73 | 126.00 |
| 26 | 1H | 105 | C | N3-C2-O2 | -7.11 | 116.92 | 121.90 |
| 26 | 1H | 211 | A | N1-C2-N3 | 7.11 | 132.85 | 129.30 |
| 26 | 1H | 919 | G | C6-N1-C2 | -7.11 | 120.83 | 125.10 |
| 26 | 1H | 1520 | U | N1-C2-N3 | 7.11 | 119.17 | 114.90 |
| 26 | 14 | 1350 | C | C5-C4-N4 | -7.11 | 115.22 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2325 | G | N1-C6-O6 | 7.11 | 124.17 | 119.90 |
| 26 | 14 | 2361 | A | N1-C6-N6 | 7.11 | 122.87 | 118.60 |
| 26 | 1H | 515 | A | OP1-P-OP2 | -7.11 | 108.94 | 119.60 |
| 26 | 14 | 2676 | C | C2-N3-C4 | -7.11 | 116.34 | 119.90 |
| 26 | 1H | 296 | C | C2-N3-C4 | -7.11 | 116.35 | 119.90 |
| 26 | 1H | 1316 | U | C5-C4-O4 | 7.11 | 130.16 | 125.90 |
| 26 | 1H | 1799 | G | N3-C2-N2 | 7.11 | 124.88 | 119.90 |
| 26 | 1H | 1973 | G | N3-C2-N2 | 7.11 | 124.88 | 119.90 |
| 26 | 1H | 1987 | G | N3-C2-N2 | -7.11 | 114.92 | 119.90 |
| 13 | 4A | 34 | LEU | CB-CG-CD2 | -7.11 | 98.92 | 111.00 |
| 26 | 14 | 124 | G | C4-C5-C6 | 7.11 | 123.06 | 118.80 |
| 26 | 14 | 673 | C | N3-C2-O2 | -7.11 | 116.92 | 121.90 |
| 26 | 14 | 1161 | C | C6-N1-C2 | -7.11 | 117.46 | 120.30 |
| 26 | 14 | 1446 | C | N1-C2-O2 | 7.11 | 123.17 | 118.90 |
| 26 | 14 | 2080 | G | C2-N3-C4 | 7.11 | 115.45 | 111.90 |
| 26 | 14 | 2568 | C | O5'-P-OP2 | 7.11 | 119.23 | 110.70 |
| 26 | 14 | 2607 | G | C4-C5-N7 | -7.11 | 107.96 | 110.80 |
| 26 | 14 | 2701 | C | N1-C2-O2 | 7.11 | 123.17 | 118.90 |
| 27 | 1J | 116 | G | N3-C4-C5 | 7.11 | 132.15 | 128.60 |
| 1 | 13 | 394 | G | N1-C6-O6 | 7.11 | 124.16 | 119.90 |
| 26 | 1H | 261 | G | OP1-P-OP2 | 7.11 | 130.26 | 119.60 |
| 26 | 1H | 1202 | C | N3-C4-N4 | 7.11 | 122.97 | 118.00 |
| 26 | 1H | 1226 | G | C5-C6-N1 | -7.11 | 107.95 | 111.50 |
| 26 | 1H | 2535 | G | O5'-P-OP2 | -7.11 | 99.30 | 105.70 |
| 26 | 14 | 231 | C | N1-C2-O2 | -7.11 | 114.64 | 118.90 |
| 26 | 14 | 439 | G | N1-C6-O6 | 7.11 | 124.16 | 119.90 |
| 26 | 14 | 465 | G | C6-N1-C2 | 7.11 | 129.36 | 125.10 |
| 26 | 14 | 1271 | G | C5-C6-N1 | -7.11 | 107.95 | 111.50 |
| 26 | 14 | 2830 | G | C2-N3-C4 | -7.11 | 108.35 | 111.90 |
| 26 | 1H | 119 | A | C8-N9-C4 | -7.10 | 102.96 | 105.80 |
| 26 | 1H | 551 | G | O5'-P-OP2 | -7.10 | 99.31 | 105.70 |
| 26 | 1H | 729 | G | C8-N9-C4 | -7.10 | 103.56 | 106.40 |
| 26 | 1H | 2681 | C | N1-C2-O2 | 7.10 | 123.16 | 118.90 |
| 26 | 14 | 804 | A | OP1-P-O3' | 7.10 | 120.83 | 105.20 |
| 26 | 14 | 1193 | G | OP1-P-OP2 | -7.10 | 108.94 | 119.60 |
| 26 | 14 | 2327 | A | N1-C2-N3 | 7.10 | 132.85 | 129.30 |
| 27 | 1J | 29 | A | N7-C8-N9 | 7.10 | 117.35 | 113.80 |
| 1 | 13 | 689 | C | C6-N1-C2 | -7.10 | 117.46 | 120.30 |
| 26 | 1H | 332 | A | C4-C5-C6 | -7.10 | 113.45 | 117.00 |
| 26 | 1H | 500 | G | N3-C4-N9 | -7.10 | 121.74 | 126.00 |
| 26 | 1H | 1108 | U | N1-C2-N3 | -7.10 | 110.64 | 114.90 |
| 26 | 1H | 1219 | G | N1-C2-N2 | -7.10 | 109.81 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 1H | 1349 | A | C5-C6-N1 | -7.10 | 114.15 | 117.70 |
| 1 | 1G | 602 | A | C4-C5-N7 | 7.10 | 114.25 | 110.70 |
| 26 | 14 | 784 | A | P-O3'-C3' | 7.10 | 128.22 | 119.70 |
| 26 | 14 | 1164 | G | C5-C6-N1 | -7.10 | 107.95 | 111.50 |
| 26 | 14 | 1209 | G | OP1-P-OP2 | 7.10 | 130.25 | 119.60 |
| 26 | 14 | 1802 | A | N1-C2-N3 | 7.10 | 132.85 | 129.30 |
| 1 | 13 | 689 | C | N3-C4-C5 | -7.10 | 119.06 | 121.90 |
| 1 | 13 | 950 | U | C6-N1-C2 | 7.10 | 125.26 | 121.00 |
| 26 | 1H | 2869 | G | N3-C2-N2 | -7.10 | 114.93 | 119.90 |
| 26 | 14 | 329 | G | C5-C6-N1 | 7.10 | 115.05 | 111.50 |
| 26 | 14 | 820 | A | N1-C6-N6 | -7.10 | 114.34 | 118.60 |
| 26 | 14 | 2518 | A | C5-C6-N1 | -7.10 | 114.15 | 117.70 |
| 26 | 1H | 702 | G | N1-C2-N3 | 7.10 | 128.16 | 123.90 |
| 26 | 1H | 1027 | A | C8-N9-C4 | 7.10 | 108.64 | 105.80 |
| 26 | 1H | 1028 | A | OP1-P-OP2 | 7.10 | 130.25 | 119.60 |
| 26 | 1H | 1507 | A | C8-N9-C4 | -7.10 | 102.96 | 105.80 |
| 1 | 1G | 299 | G | C4-C5-N7 | -7.10 | 107.96 | 110.80 |
| 26 | 14 | 375 | C | C2-N3-C4 | -7.10 | 116.35 | 119.90 |
| 26 | 14 | 377 | C | N3-C4-N4 | 7.10 | 122.97 | 118.00 |
| 26 | 14 | 849 | A | C5-C6-N1 | 7.10 | 121.25 | 117.70 |
| 26 | 14 | 1806 | C | C4-C5-C6 | 7.10 | 120.95 | 117.40 |
| 26 | 14 | 2596 | U | OP1-P-OP2 | 7.10 | 130.25 | 119.60 |
| 1 | 13 | 338 | A | C4-C5-N7 | 7.10 | 114.25 | 110.70 |
| 1 | 13 | 1222 | G | C5-C6-N1 | -7.10 | 107.95 | 111.50 |
| 4 | 3E | 122 | ARG | CG-CD-NE | 7.10 | 126.71 | 111.80 |
| 26 | 1H | 217 | G | C5-N7-C8 | 7.10 | 107.85 | 104.30 |
| 26 | 1H | 982 | C | C4-C5-C6 | -7.10 | 113.85 | 117.40 |
| 26 | 1H | 2374 | C | N3-C4-N4 | -7.10 | 113.03 | 118.00 |
| 1 | 1G | 1426 | C | O5'-P-OP1 | -7.10 | 99.31 | 105.70 |
| 1 | 1G | 1474 | G | N3-C4-C5 | 7.10 | 132.15 | 128.60 |
| 26 | 14 | 799 | G | N1-C6-O6 | 7.10 | 124.16 | 119.90 |
| 1 | 13 | 976 | G | N3-C2-N2 | -7.10 | 114.93 | 119.90 |
| 26 | 1H | 2519 | U | N1-C2-O2 | -7.10 | 117.83 | 122.80 |
| 26 | 14 | 15 | G | C5-C6-N1 | -7.10 | 107.95 | 111.50 |
| 26 | 14 | 1465 | G | C6-C5-N7 | -7.10 | 126.14 | 130.40 |
| 1 | 13 | 115 | G | N3-C2-N2 | -7.09 | 114.93 | 119.90 |
| 26 | 1H | 51 | G | C5'-C4'-O4' | -7.09 | 100.59 | 109.10 |
| 26 | 1H | 244 | A | N1-C6-N6 | 7.09 | 122.86 | 118.60 |
| 26 | 1H | 342 | G | C5-C6-N1 | 7.09 | 115.05 | 111.50 |
| 26 | 1H | 383 | U | O5'-P-OP1 | -7.09 | 99.31 | 105.70 |
| 26 | 1H | 452 | G | OP1-P-OP2 | 7.09 | 130.24 | 119.60 |
| 26 | 1H | 782 | A | C6-N1-C2 | -7.09 | 114.34 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1606 | G | C5-C6-O6 | -7.09 | 124.34 | 128.60 |
| 1 | 1G | 363 | A | O5'-P-OP2 | -7.09 | 99.31 | 105.70 |
| 26 | 14 | 2440 | C | C5-C4-N4 | 7.09 | 125.17 | 120.20 |
| 26 | 1H | 1006 | C | C6-N1-C2 | 7.09 | 123.14 | 120.30 |
| 1 | 1G | 291 | C | N3-C2-O2 | 7.09 | 126.86 | 121.90 |
| 1 | 1G | 328 | C | C2-N1-C1' | 7.09 | 126.60 | 118.80 |
| 1 | 1G | 1081 | G | C8-N9-C4 | 7.09 | 109.24 | 106.40 |
| 26 | 14 | 2574 | G | C6-N1-C2 | -7.09 | 120.84 | 125.10 |
| 1 | 13 | 330 | C | N1-C2-O2 | 7.09 | 123.16 | 118.90 |
| 26 | 1H | 40 | C | C4-C5-C6 | 7.09 | 120.94 | 117.40 |
| 26 | 1H | 475 | U | C6-N1-C2 | -7.09 | 116.75 | 121.00 |
| 26 | 1H | 509 | C | O5'-P-OP2 | -7.09 | 99.32 | 105.70 |
| 26 | 1H | 930 | U | N3-C2-O2 | -7.09 | 117.24 | 122.20 |
| 26 | 1H | 2019 | A | C2-N3-C4 | -7.09 | 107.05 | 110.60 |
| 1 | 1G | 327 | A | C6-N1-C2 | -7.09 | 114.35 | 118.60 |
| 26 | 14 | 33 | U | N3-C2-O2 | 7.09 | 127.16 | 122.20 |
| 26 | 14 | 460 | A | N9-C4-C5 | -7.09 | 102.96 | 105.80 |
| 26 | 14 | 810 | U | C4-C5-C6 | 7.09 | 123.95 | 119.70 |
| 26 | 14 | 1797 | C | C5-C4-N4 | -7.09 | 115.24 | 120.20 |
| 27 | 1J | 13 | A | C8-N9-C4 | 7.09 | 108.64 | 105.80 |
| 26 | 1H | 32 | C | N3-C4-N4 | -7.09 | 113.04 | 118.00 |
| 26 | 1H | 2374 | C | N3-C2-O2 | -7.09 | 116.94 | 121.90 |
| 1 | 1G | 304 | U | C5-C4-O4 | 7.09 | 130.15 | 125.90 |
| 1 | 1G | 673 | G | N1-C6-O6 | 7.09 | 124.15 | 119.90 |
| 26 | 14 | 954 | G | O5'-P-OP2 | 7.09 | 119.21 | 110.70 |
| 26 | 14 | 1634 | A | C8-N9-C4 | -7.09 | 102.96 | 105.80 |
| 27 | 1J | 78 | A | C4-C5-C6 | 7.09 | 120.55 | 117.00 |
| 34 | 69 | 77 | LEU | CA-CB-CG | 7.09 | 131.61 | 115.30 |
| 1 | 13 | 246 | A | N1-C6-N6 | 7.09 | 122.85 | 118.60 |
| 23 | 2K | 9 | G | C2-N3-C4 | 7.09 | 115.44 | 111.90 |
| 26 | 1H | 359 | A | N1-C6-N6 | -7.09 | 114.35 | 118.60 |
| 26 | 1H | 636 | G | O5'-P-OP2 | 7.09 | 119.20 | 110.70 |
| 1 | 1G | 124 | G | O5'-P-OP1 | 7.09 | 119.21 | 110.70 |
| 26 | 14 | 1412 | A | OP1-P-OP2 | -7.09 | 108.97 | 119.60 |
| 1 | 13 | 1401 | G | N3-C4-C5 | 7.09 | 132.14 | 128.60 |
| 26 | 1H | 1566 | A | C5-N7-C8 | -7.09 | 100.36 | 103.90 |
| 26 | 1H | 1689 | A | N3-C4-N9 | -7.09 | 121.73 | 127.40 |
| 26 | 1H | 2482 | G | N1-C2-N3 | 7.09 | 128.15 | 123.90 |
| 26 | 14 | 58 | G | O5'-P-OP2 | -7.09 | 99.32 | 105.70 |
| 26 | 14 | 1369 | G | C8-N9-C4 | 7.09 | 109.23 | 106.40 |
| 26 | 14 | 1661 | G | N7-C8-N9 | -7.09 | 109.56 | 113.10 |
| 26 | 14 | 2712 | U | N3-C4-O4 | -7.09 | 114.44 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 398 | G | C4-C5-C6 | 7.08 | 123.05 | 118.80 |
| 26 | 14 | 1943 | U | C5-C4-O4 | -7.08 | 121.65 | 125.90 |
| 1 | 13 | 265 | G | O5'-P-OP1 | -7.08 | 99.32 | 105.70 |
| 26 | 1H | 210 | C | C2-N1-C1' | -7.08 | 111.01 | 118.80 |
| 26 | 1H | 631 | A | C5-N7-C8 | 7.08 | 107.44 | 103.90 |
| 26 | 1H | 1348 | G | OP1-P-OP2 | -7.08 | 108.97 | 119.60 |
| 26 | 1H | 1794 | U | N3-C2-O2 | -7.08 | 117.24 | 122.20 |
| 26 | 1H | 2265 | U | N3-C4-C5 | -7.08 | 110.35 | 114.60 |
| 26 | 1H | 2603 | G | C5-N7-C8 | -7.08 | 100.76 | 104.30 |
| 26 | 14 | 1285 | G | C5-N7-C8 | 7.08 | 107.84 | 104.30 |
| 26 | 14 | 1949 | G | OP1-P-OP2 | 7.08 | 130.22 | 119.60 |
| 26 | 1H | 2578 | G | C4-C5-N7 | -7.08 | 107.97 | 110.80 |
| 1 | 1G | 916 | G | N1-C2-N3 | -7.08 | 119.65 | 123.90 |
| 1 | 1G | 1523 | G | N1-C2-N3 | 7.08 | 128.15 | 123.90 |
| 26 | 14 | 2707 | G | N9-C4-C5 | -7.08 | 102.57 | 105.40 |
| 26 | 1H | 1454 | U | N1-C2-N3 | 7.08 | 119.15 | 114.90 |
| 26 | 1H | 1765 | C | N1-C2-O2 | 7.08 | 123.15 | 118.90 |
| 26 | 1H | 2269 | A | C8-N9-C4 | 7.08 | 108.63 | 105.80 |
| 39 | 98 | 18 | LEU | CA-CB-CG | 7.08 | 131.58 | 115.30 |
| 26 | 14 | 1365 | A | C4-C5-N7 | 7.08 | 114.24 | 110.70 |
| 26 | 14 | 1404 | C | N3-C2-O2 | -7.08 | 116.95 | 121.90 |
| 26 | 14 | 1906 | G | N3-C4-N9 | -7.08 | 121.75 | 126.00 |
| 26 | 14 | 2589 | A | N1-C6-N6 | 7.08 | 122.85 | 118.60 |
| 26 | 1H | 180 | G | N9-C4-C5 | -7.08 | 102.57 | 105.40 |
| 26 | 1H | 692 | C | C6-N1-C2 | 7.08 | 123.13 | 120.30 |
| 26 | 1H | 1238 | G | O5'-P-OP1 | -7.08 | 99.33 | 105.70 |
| 26 | 1H | 2234 | G | C8-N9-C4 | 7.08 | 109.23 | 106.40 |
| 1 | 1G | 817 | C | C5-C6-N1 | -7.08 | 117.46 | 121.00 |
| 26 | 14 | 1634 | A | N9-C4-C5 | 7.08 | 108.63 | 105.80 |
| 1 | 13 | 614 | A | O5'-P-OP2 | -7.08 | 99.33 | 105.70 |
| 26 | 1H | 2764 | A | N1-C2-N3 | 7.08 | 132.84 | 129.30 |
| 26 | 14 | 226 | G | C4-C5-C6 | 7.08 | 123.05 | 118.80 |
| 27 | 1J | 46 | A | N7-C8-N9 | -7.08 | 110.26 | 113.80 |
| 1 | 13 | 1089 | G | C5-C6-N1 | -7.07 | 107.96 | 111.50 |
| 1 | 13 | 1413 | A | C8-N9-C4 | -7.07 | 102.97 | 105.80 |
| 26 | 1H | 138 | G | O4'-C1'-N9 | 7.07 | 113.86 | 108.20 |
| 26 | 1H | 2195 | C | N3-C4-C5 | 7.07 | 124.73 | 121.90 |
| 26 | 1H | 2495 | G | C5-C6-O6 | 7.07 | 132.84 | 128.60 |
| 1 | 1G | 36 | C | N3-C2-O2 | -7.07 | 116.95 | 121.90 |
| 1 | 1G | 1416 | G | C5-C6-O6 | 7.07 | 132.84 | 128.60 |
| 26 | 14 | 51 | G | N9-C4-C5 | -7.07 | 102.57 | 105.40 |
| 26 | 14 | 1445 | C | C6-N1-C2 | -7.07 | 117.47 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2253 | G | N1-C6-O6 | 7.07 | 124.14 | 119.90 |
| 1 | 13 | 936 | C | N1-C2-O2 | 7.07 | 123.14 | 118.90 |
| 26 | 1H | 1208 | C | C6-N1-C2 | 7.07 | 123.13 | 120.30 |
| 26 | 1H | 1349 | A | N1-C6-N6 | 7.07 | 122.84 | 118.60 |
| 26 | 1H | 1633 | G | N9-C4-C5 | 7.07 | 108.23 | 105.40 |
| 26 | 14 | 856 | C | C2-N1-C1' | 7.07 | 126.58 | 118.80 |
| 26 | 1H | 713 | G | N1-C6-O6 | 7.07 | 124.14 | 119.90 |
| 26 | 1H | 2450 | A | C4-C5-N7 | -7.07 | 107.17 | 110.70 |
| 26 | 14 | 318 | C | C2-N3-C4 | -7.07 | 116.36 | 119.90 |
| 26 | 14 | 1358 | G | C2-N3-C4 | -7.07 | 108.36 | 111.90 |
| 26 | 14 | 1639 | U | C2-N3-C4 | -7.07 | 122.76 | 127.00 |
| 26 | 14 | 1771 | C | C2-N3-C4 | -7.07 | 116.36 | 119.90 |
| 26 | 14 | 1930 | G | N3-C2-N2 | -7.07 | 114.95 | 119.90 |
| 26 | 1H | 113 | G | OP1-P-O3' | 7.07 | 120.75 | 105.20 |
| 26 | 1H | 1678 | G | C5-C6-O6 | -7.07 | 124.36 | 128.60 |
| 1 | 1G | 508 | C | C5-C4-N4 | -7.07 | 115.25 | 120.20 |
| 1 | 13 | 666 | G | O5'-P-OP1 | -7.07 | 99.34 | 105.70 |
| 26 | 1H | 98 | G | C5-C6-O6 | -7.07 | 124.36 | 128.60 |
| 26 | 1H | 506 | G | C5-N7-C8 | -7.07 | 100.77 | 104.30 |
| 26 | 1H | 825 | C | C5-C6-N1 | -7.07 | 117.47 | 121.00 |
| 26 | 1H | 1751 | C | N1-C2-O2 | -7.07 | 114.66 | 118.90 |
| 26 | 1H | 2599 | G | C5-C6-O6 | 7.07 | 132.84 | 128.60 |
| 1 | 1G | 774 | G | N1-C6-O6 | 7.07 | 124.14 | 119.90 |
| 23 | 2L | 24 | C | N1-C2-O2 | -7.07 | 114.66 | 118.90 |
| 26 | 14 | 988 | A | C5-N7-C8 | -7.07 | 100.37 | 103.90 |
| 26 | 14 | 2640 | G | O5'-P-OP1 | -7.07 | 99.34 | 105.70 |
| 26 | 1H | 809 | G | O5'-P-OP2 | -7.07 | 99.34 | 105.70 |
| 26 | 1H | 963 | U | N3-C4-O4 | 7.07 | 124.35 | 119.40 |
| 26 | 1H | 1394 | U | C6-N1-C2 | -7.07 | 116.76 | 121.00 |
| 26 | 1H | 1684 | C | OP1-P-O3' | 7.07 | 120.74 | 105.20 |
| 26 | 1H | 2259 | G | N3-C2-N2 | -7.07 | 114.95 | 119.90 |
| 26 | 1H | 2543 | G | C6-C5-N7 | 7.07 | 134.64 | 130.40 |
| 27 | 16 | 102 | G | C6-C5-N7 | 7.07 | 134.64 | 130.40 |
| 1 | 1G | 352 | C | C2-N1-C1' | 7.07 | 126.57 | 118.80 |
| 1 | 1G | 359 | U | N3-C4-O4 | -7.07 | 114.45 | 119.40 |
| 1 | 1G | 632 | A | N9-C4-C5 | -7.07 | 102.97 | 105.80 |
| 1 | 1G | 1301 | U | N3-C2-O2 | -7.07 | 117.25 | 122.20 |
| 26 | 14 | 55 | G | C6-C5-N7 | 7.07 | 134.64 | 130.40 |
| 26 | 14 | 783 | A | C4-C5-C6 | 7.07 | 120.53 | 117.00 |
| 26 | 14 | 1442 | G | C8-N9-C4 | 7.07 | 109.23 | 106.40 |
| 26 | 14 | 2332 | U | C5-C4-O4 | 7.07 | 130.14 | 125.90 |
| 26 | 14 | 2885 | C | C4-C5-C6 | -7.07 | 113.87 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 232 | G | C5-C6-O6 | -7.06 | 124.36 | 128.60 |
| 26 | 1H | 974 | G | N3-C2-N2 | -7.06 | 114.95 | 119.90 |
| 26 | 1H | 2324 | C | C5-C6-N1 | -7.06 | 117.47 | 121.00 |
| 1 | 1G | 749 | C | C6-N1-C2 | -7.06 | 117.47 | 120.30 |
| 26 | 14 | 312 | G | C6-C5-N7 | -7.06 | 126.16 | 130.40 |
| 26 | 14 | 2829 | C | O5'-P-OP2 | 7.06 | 119.18 | 110.70 |
| 1 | 13 | 726 | C | C5-C6-N1 | 7.06 | 124.53 | 121.00 |
| 1 | 13 | 984 | C | C6-N1-C2 | 7.06 | 123.12 | 120.30 |
| 26 | 1H | 94 | G | C5-C6-O6 | -7.06 | 124.36 | 128.60 |
| 26 | 1H | 948 | G | O5'-P-OP2 | 7.06 | 119.17 | 110.70 |
| 26 | 1H | 1193 | G | N1-C2-N3 | 7.06 | 128.14 | 123.90 |
| 26 | 1H | 2411 | A | OP1-P-OP2 | 7.06 | 130.19 | 119.60 |
| 31 | 31 | 45 | ARG | NE-CZ-NH1 | 7.06 | 123.83 | 120.30 |
| 1 | 1G | 1057 | G | C8-N9-C4 | 7.06 | 109.22 | 106.40 |
| 26 | 14 | 16 | G | C5-C6-O6 | -7.06 | 124.36 | 128.60 |
| 24 | 3K | 76 | A | N9-C4-C5 | -7.06 | 102.98 | 105.80 |
| 26 | 1H | 557 | U | N3-C2-O2 | -7.06 | 117.26 | 122.20 |
| 26 | 1H | 1331 | A | O5'-P-OP2 | -7.06 | 99.34 | 105.70 |
| 26 | 1H | 2477 | C | C5-C6-N1 | 7.06 | 124.53 | 121.00 |
| 1 | 1G | 1322 | C | N1-C2-O2 | 7.06 | 123.14 | 118.90 |
| 27 | 1J | 82 | G | C2-N3-C4 | -7.06 | 108.37 | 111.90 |
| 1 | 13 | 1359 | C | N3-C2-O2 | 7.06 | 126.84 | 121.90 |
| 26 | 1H | 30 | G | N3-C2-N2 | 7.06 | 124.84 | 119.90 |
| 26 | 1H | 427 | U | C2-N3-C4 | 7.06 | 131.24 | 127.00 |
| 26 | 1H | 1392 | A | C5-C6-N1 | 7.06 | 121.23 | 117.70 |
| 26 | 1H | 1992 | G | P-O3'-C3' | 7.06 | 128.17 | 119.70 |
| 26 | 1H | 2461 | C | N3-C4-N4 | -7.06 | 113.06 | 118.00 |
| 1 | 1G | 396 | G | O5'-P-OP2 | -7.06 | 99.35 | 105.70 |
| 1 | 1G | 584 | G | C5-C6-N1 | -7.06 | 107.97 | 111.50 |
| 1 | 1G | 585 | G | C8-N9-C4 | -7.06 | 103.58 | 106.40 |
| 26 | 14 | 209 | C | OP2-P-O3' | 7.06 | 120.73 | 105.20 |
| 26 | 14 | 349 | G | N1-C6-O6 | 7.06 | 124.14 | 119.90 |
| 27 | 1J | 35 | U | C6-N1-C2 | 7.06 | 125.24 | 121.00 |
| 1 | 13 | 867 | G | C6-C5-N7 | 7.06 | 134.63 | 130.40 |
| 1 | 13 | 974 | A | C6-C5-N7 | -7.06 | 127.36 | 132.30 |
| 1 | 13 | 1368 | G | C5-C6-N1 | 7.06 | 115.03 | 111.50 |
| 1 | 13 | 1504 | G | C2-N3-C4 | -7.06 | 108.37 | 111.90 |
| 26 | 1H | 501 | A | N1-C2-N3 | 7.06 | 132.83 | 129.30 |
| 26 | 1H | 706 | A | N9-C4-C5 | -7.06 | 102.98 | 105.80 |
| 26 | 1H | 814 | C | N3-C2-O2 | 7.06 | 126.84 | 121.90 |
| 26 | 1H | 1838 | C | N3-C4-N4 | 7.06 | 122.94 | 118.00 |
| 26 | 1H | 2344 | U | OP1-P-OP2 | 7.06 | 130.19 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2626 | C | N1-C2-N3 | -7.06 | 114.26 | 119.20 |
| 26 | 14 | 1381 | G | N7-C8-N9 | -7.06 | 109.57 | 113.10 |
| 26 | 14 | 1467 | C | C2-N3-C4 | -7.06 | 116.37 | 119.90 |
| 26 | 14 | 2445 | G | OP2-P-O3' | 7.06 | 120.73 | 105.20 |
| 26 | 1H | 1335 | U | O5'-P-OP2 | -7.06 | 99.35 | 105.70 |
| 26 | 14 | 687 | C | C4-C5-C6 | -7.06 | 113.87 | 117.40 |
| 1 | 13 | 1338 | G | C4-C5-N7 | -7.05 | 107.98 | 110.80 |
| 23 | 2K | 11 | A | C2-N3-C4 | 7.05 | 114.13 | 110.60 |
| 26 | 1H | 669 | G | C4-C5-N7 | 7.05 | 113.62 | 110.80 |
| 26 | 1H | 1017 | G | C8-N9-C4 | -7.05 | 103.58 | 106.40 |
| 26 | 1H | 1128 | A | C6-N1-C2 | -7.05 | 114.37 | 118.60 |
| 26 | 1H | 2491 | U | N3-C4-C5 | 7.05 | 118.83 | 114.60 |
| 26 | 1H | 2614 | A | N1-C2-N3 | -7.05 | 125.77 | 129.30 |
| 27 | 16 | 48 | A | C2-N3-C4 | 7.05 | 114.13 | 110.60 |
| 1 | 1G | 1496 | C | OP1-P-OP2 | 7.05 | 130.18 | 119.60 |
| 26 | 14 | 1653 | G | C4-C5-N7 | -7.05 | 107.98 | 110.80 |
| 26 | 14 | 1915 | U | N1-C2-O2 | 7.05 | 127.74 | 122.80 |
| 22 | 1K | 74 | C | C5-C6-N1 | 7.05 | 124.53 | 121.00 |
| 26 | 14 | 270(Z) | U | N1-C2-O2 | 7.05 | 127.74 | 122.80 |
| 26 | 14 | 2821 | A | C5-C6-N1 | -7.05 | 114.17 | 117.70 |
| 1 | 13 | 249 | U | OP1-P-OP2 | 7.05 | 130.18 | 119.60 |
| 1 | 13 | 757 | U | OP1-P-OP2 | 7.05 | 130.18 | 119.60 |
| 26 | 1H | 339 | U | OP1-P-OP2 | -7.05 | 109.02 | 119.60 |
| 26 | 1H | 567 | A | C5-N7-C8 | -7.05 | 100.37 | 103.90 |
| 26 | 1H | 2271 | G | N9-C4-C5 | -7.05 | 102.58 | 105.40 |
| 26 | 1H | 2499 | C | N1-C2-O2 | -7.05 | 114.67 | 118.90 |
| 26 | 1H | 2732 | G | N9-C4-C5 | 7.05 | 108.22 | 105.40 |
| 26 | 1H | 2871 | C | C6-N1-C2 | -7.05 | 117.48 | 120.30 |
| 1 | 1G | 1414 | U | C5-C4-O4 | 7.05 | 130.13 | 125.90 |
| 1 | 1G | 1490 | C | N1-C2-O2 | 7.05 | 123.13 | 118.90 |
| 26 | 14 | 988 | A | C4-C5-N7 | 7.05 | 114.23 | 110.70 |
| 26 | 14 | 1406 | U | N3-C4-O4 | 7.05 | 124.34 | 119.40 |
| 26 | 14 | 1692 | U | C6-N1-C1' | 7.05 | 131.07 | 121.20 |
| 26 | 14 | 2715 | C | C6-N1-C2 | 7.05 | 123.12 | 120.30 |
| 1 | 13 | 189 | U | C5-C6-N1 | 7.05 | 126.22 | 122.70 |
| 1 | 13 | 788 | U | OP1-P-OP2 | -7.05 | 109.03 | 119.60 |
| 26 | 1H | 1435 | G | N3-C4-C5 | -7.05 | 125.08 | 128.60 |
| 26 | 1H | 2226 | C | C5-C4-N4 | 7.05 | 125.14 | 120.20 |
| 26 | 14 | 85 | G | N9-C4-C5 | -7.05 | 102.58 | 105.40 |
| 26 | 14 | 500 | G | C4-C5-C6 | 7.05 | 123.03 | 118.80 |
| 26 | 14 | 768 | G | C4-C5-N7 | 7.05 | 113.62 | 110.80 |
| 26 | 14 | 909 | A | N1-C6-N6 | -7.05 | 114.37 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1557 | C | N3-C4-N4 | -7.05 | 113.06 | 118.00 |
| 26 | 14 | 1801 | G | N3-C2-N2 | -7.05 | 114.97 | 119.90 |
| 26 | 14 | 2321 | G | N7-C8-N9 | 7.05 | 116.62 | 113.10 |
| 26 | 14 | 2620 | C | C2-N3-C4 | -7.05 | 116.38 | 119.90 |
| 27 | 1J | 72 | G | C8-N9-C4 | 7.05 | 109.22 | 106.40 |
| 26 | 1H | 406 | G | N7-C8-N9 | 7.05 | 116.62 | 113.10 |
| 26 | 1H | 688 | U | N3-C4-O4 | 7.05 | 124.33 | 119.40 |
| 26 | 1H | 754 | C | C5-C6-N1 | -7.05 | 117.48 | 121.00 |
| 26 | 1H | 1557 | C | N3-C4-N4 | -7.05 | 113.07 | 118.00 |
| 27 | 16 | 77 | U | N1-C2-O2 | -7.05 | 117.87 | 122.80 |
| 26 | 14 | 684 | G | C5-N7-C8 | -7.05 | 100.78 | 104.30 |
| 26 | 14 | 1260 | G | C4-C5-N7 | -7.05 | 107.98 | 110.80 |
| 26 | 14 | 2518 | A | N3-C4-N9 | -7.05 | 121.76 | 127.40 |
| 1 | 13 | 501 | C | OP2-P-O3' | 7.05 | 120.70 | 105.20 |
| 1 | 13 | 577 | G | C5-C6-O6 | -7.05 | 124.37 | 128.60 |
| 1 | 13 | 1363 | A | C8-N9-C4 | 7.05 | 108.62 | 105.80 |
| 26 | 1H | 356 | G | C5-C6-N1 | -7.05 | 107.98 | 111.50 |
| 26 | 1H | 748 | G | N3-C2-N2 | -7.05 | 114.97 | 119.90 |
| 26 | 1H | 1579 | A | N7-C8-N9 | 7.05 | 117.32 | 113.80 |
| 1 | 1G | 576 | G | N3-C4-C5 | -7.05 | 125.08 | 128.60 |
| 26 | 14 | 972 | G | N1-C6-O6 | -7.05 | 115.67 | 119.90 |
| 26 | 14 | 2505 | G | C8-N9-C4 | -7.05 | 103.58 | 106.40 |
| 45 | B5 | 73 | ARG | NE-CZ-NH2 | -7.05 | 116.78 | 120.30 |
| 26 | 1H | 2299 | G | N3-C4-C5 | 7.04 | 132.12 | 128.60 |
| 26 | 1H | 2580 | U | N3-C4-C5 | -7.04 | 110.37 | 114.60 |
| 26 | 1H | 2609 | U | C2-N3-C4 | -7.04 | 122.77 | 127.00 |
| 26 | 14 | 447 | A | C8-N9-C4 | -7.04 | 102.98 | 105.80 |
| 26 | 14 | 499 | U | C4-C5-C6 | 7.04 | 123.93 | 119.70 |
| 26 | 14 | 2341 | G | C8-N9-C4 | 7.04 | 109.22 | 106.40 |
| 26 | 14 | 2371 | G | N1-C6-O6 | 7.04 | 124.13 | 119.90 |
| 26 | 14 | 2511 | U | N1-C2-O2 | 7.04 | 127.73 | 122.80 |
| 26 | 1H | 197 | A | OP1-P-O3' | -7.04 | 89.70 | 105.20 |
| 26 | 1H | 207 | A | C6-N1-C2 | -7.04 | 114.37 | 118.60 |
| 26 | 1H | 2069 | G | N1-C6-O6 | 7.04 | 124.13 | 119.90 |
| 26 | 1H | 2769 | C | N3-C4-C5 | 7.04 | 124.72 | 121.90 |
| 38 | 88 | 14 | ARG | NE-CZ-NH2 | -7.04 | 116.78 | 120.30 |
| 26 | 14 | 775 | G | C4-C5-C6 | 7.04 | 123.03 | 118.80 |
| 26 | 14 | 1192 | G | C8-N9-C4 | 7.04 | 109.22 | 106.40 |
| 26 | 14 | 1817 | G | C2-N3-C4 | -7.04 | 108.38 | 111.90 |
| 23 | 2K | 62 | C | C5-C4-N4 | 7.04 | 125.13 | 120.20 |
| 26 | 1H | 1396 | U | C5-C4-O4 | 7.04 | 130.12 | 125.90 |
| 26 | 1H | 1406 | U | C2-N3-C4 | 7.04 | 131.22 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2417 | C | C6-N1-C2 | 7.04 | 123.12 | 120.30 |
| 26 | 1H | 2622 | C | N1-C2-N3 | 7.04 | 124.13 | 119.20 |
| 1 | 1G | 1459 | C | O5'-P-OP1 | 7.04 | 119.15 | 110.70 |
| 26 | 14 | 152 | G | N3-C4-C5 | 7.04 | 132.12 | 128.60 |
| 26 | 14 | 181 | A | OP2-P-O3' | 7.04 | 120.69 | 105.20 |
| 26 | 14 | 727 | A | C6-N1-C2 | -7.04 | 114.38 | 118.60 |
| 1 | 13 | 575 | G | N7-C8-N9 | -7.04 | 109.58 | 113.10 |
| 1 | 13 | 730 | G | C5-C6-N1 | -7.04 | 107.98 | 111.50 |
| 1 | 13 | 1503 | A | N1-C6-N6 | -7.04 | 114.38 | 118.60 |
| 25 | 4K | 22 | A | C2-N3-C4 | -7.04 | 107.08 | 110.60 |
| 26 | 14 | 215 | G | C8-N9-C4 | 7.04 | 109.22 | 106.40 |
| 24 | 3K | 36 | U | N3-C4-O4 | -7.04 | 114.47 | 119.40 |
| 26 | 1H | 960 | A | C5-C6-N6 | 7.04 | 129.33 | 123.70 |
| 26 | 1H | 1120 | G | C5-C6-O6 | -7.04 | 124.38 | 128.60 |
| 26 | 1H | 2686 | G | N3-C4-C5 | -7.04 | 125.08 | 128.60 |
| 27 | 16 | 100 | G | N1-C2-N2 | -7.04 | 109.87 | 116.20 |
| 1 | 1G | 1431 | C | N1-C2-O2 | -7.04 | 114.68 | 118.90 |
| 26 | 14 | 125 | G | C2-N3-C4 | 7.04 | 115.42 | 111.90 |
| 26 | 14 | 676 | A | C6-C5-N7 | -7.04 | 127.37 | 132.30 |
| 26 | 14 | 686 | G | C6-N1-C2 | -7.04 | 120.88 | 125.10 |
| 26 | 14 | 768 | G | N7-C8-N9 | 7.04 | 116.62 | 113.10 |
| 26 | 14 | 1129 | A | OP1-P-OP2 | 7.04 | 130.16 | 119.60 |
| 26 | 14 | 2081 | C | N3-C2-O2 | -7.04 | 116.97 | 121.90 |
| 1 | 13 | 228 | A | C4-C5-C6 | -7.04 | 113.48 | 117.00 |
| 26 | 1H | 919 | G | C5-N7-C8 | 7.04 | 107.82 | 104.30 |
| 26 | 1H | 1596 | A | OP2-P-O3' | 7.04 | 120.68 | 105.20 |
| 26 | 1H | 2712 | U | C5-C6-N1 | -7.04 | 119.18 | 122.70 |
| 26 | 14 | 2491 | U | C6-N1-C2 | 7.04 | 125.22 | 121.00 |
| 1 | 13 | 575 | G | C6-C5-N7 | 7.04 | 134.62 | 130.40 |
| 24 | 3K | 35 | U | C5-C6-N1 | 7.04 | 126.22 | 122.70 |
| 26 | 1H | 2697 | G | N1-C6-O6 | 7.04 | 124.12 | 119.90 |
| 26 | 14 | 558 | G | N3-C4-C5 | 7.04 | 132.12 | 128.60 |
| 26 | 14 | 918 | A | O5'-P-OP2 | 7.04 | 119.14 | 110.70 |
| 27 | 1J | 36 | C | N1-C2-N3 | -7.04 | 114.28 | 119.20 |
| 1 | 13 | 1501 | C | OP2-P-O3' | 7.03 | 120.67 | 105.20 |
| 26 | 1H | 273 | G | N7-C8-N9 | -7.03 | 109.58 | 113.10 |
| 26 | 1H | 1506 | C | C5-C6-N1 | 7.03 | 124.52 | 121.00 |
| 26 | 1H | 2239 | G | N3-C2-N2 | 7.03 | 124.82 | 119.90 |
| 1 | 1G | 1462 | G | C8-N9-C4 | 7.03 | 109.21 | 106.40 |
| 26 | 14 | 677 | A | O5'-P-OP2 | -7.03 | 99.37 | 105.70 |
| 26 | 14 | 1307 | A | O5'-P-OP1 | -7.03 | 99.37 | 105.70 |
| 26 | 14 | 2587 | A | N1-C6-N6 | 7.03 | 122.82 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 836 | G | C8-N9-C4 | -7.03 | 103.59 | 106.40 |
| 26 | 14 | 1600 | C | O5'-P-OP2 | -7.03 | 99.37 | 105.70 |
| 1 | 13 | 101 | A | OP2-P-O3' | 7.03 | 120.67 | 105.20 |
| 26 | 1H | 460 | A | C8-N9-C4 | 7.03 | 108.61 | 105.80 |
| 26 | 1H | 1615 | C | N1-C2-O2 | 7.03 | 123.12 | 118.90 |
| 26 | 14 | 424 | G | N3-C2-N2 | -7.03 | 114.98 | 119.90 |
| 26 | 1H | 142 | G | C8-N9-C1' | 7.03 | 136.14 | 127.00 |
| 26 | 1H | 528 | A | C4-C5-N7 | 7.03 | 114.22 | 110.70 |
| 26 | 1H | 679 | C | C6-N1-C1' | 7.03 | 129.23 | 120.80 |
| 26 | 1H | 1925 | C | N3-C4-C5 | -7.03 | 119.09 | 121.90 |
| 26 | 14 | 140 | A | N3-C4-C5 | 7.03 | 131.72 | 126.80 |
| 26 | 14 | 202 | U | C4-C5-C6 | 7.03 | 123.92 | 119.70 |
| 26 | 14 | 579 | G | C5-C6-N1 | -7.03 | 107.98 | 111.50 |
| 26 | 14 | 1302 | A | C4-C5-N7 | -7.03 | 107.19 | 110.70 |
| 26 | 14 | 1842 | G | C5-N7-C8 | 7.03 | 107.81 | 104.30 |
| 26 | 1H | 581 | C | N1-C2-O2 | -7.03 | 114.68 | 118.90 |
| 26 | 1H | 964 | C | N3-C4-N4 | 7.03 | 122.92 | 118.00 |
| 26 | 1H | 1282 | U | O5'-P-OP2 | 7.03 | 119.13 | 110.70 |
| 26 | 1H | 1651 | G | C2-N3-C4 | -7.03 | 108.39 | 111.90 |
| 26 | 1H | 1891 | G | N7-C8-N9 | 7.03 | 116.61 | 113.10 |
| 26 | 1H | 2724 | C | C4-C5-C6 | 7.03 | 120.91 | 117.40 |
| 1 | 1G | 1305 | G | C8-N9-C4 | 7.03 | 109.21 | 106.40 |
| 26 | 14 | 708 | C | C6-N1-C2 | -7.03 | 117.49 | 120.30 |
| 26 | 14 | 1933 | G | N9-C4-C5 | -7.03 | 102.59 | 105.40 |
| 26 | 14 | 2868 | A | O5'-P-OP1 | -7.03 | 99.38 | 105.70 |
| 24 | 3K | 76 | A | N7-C8-N9 | 7.03 | 117.31 | 113.80 |
| 26 | 1H | 1012 | U | OP1-P-OP2 | -7.03 | 109.06 | 119.60 |
| 26 | 1H | 1286 | A | N9-C4-C5 | 7.03 | 108.61 | 105.80 |
| 26 | 1H | 2651 | C | N1-C2-O2 | -7.03 | 114.69 | 118.90 |
| 26 | 1H | 2761 | G | C4-C5-N7 | -7.03 | 107.99 | 110.80 |
| 26 | 14 | 252 | G | C6-N1-C2 | -7.03 | 120.88 | 125.10 |
| 26 | 14 | 938 | G | O5'-P-OP1 | 7.03 | 119.13 | 110.70 |
| 26 | 14 | 1349 | A | C2-N3-C4 | -7.03 | 107.09 | 110.60 |
| 26 | 14 | 1772 | G | C5-N7-C8 | -7.03 | 100.79 | 104.30 |
| 26 | 14 | 2740 | A | N9-C4-C5 | -7.03 | 102.99 | 105.80 |
| 26 | 1H | 183 | C | C4-C5-C6 | 7.02 | 120.91 | 117.40 |
| 26 | 1H | 796 | C | N3-C4-N4 | -7.02 | 113.08 | 118.00 |
| 26 | 1H | 1024 | G | C5-C6-N1 | -7.02 | 107.99 | 111.50 |
| 26 | 14 | 743 | G | OP1-P-OP2 | 7.02 | 130.14 | 119.60 |
| 26 | 14 | 1703 | G | C2-N3-C4 | -7.02 | 108.39 | 111.90 |
| 26 | 14 | 1816 | G | C4-C5-C6 | -7.02 | 114.59 | 118.80 |
| 26 | 14 | 2028 | U | C6-N1-C2 | -7.02 | 116.78 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2836 | U | C5-C6-N1 | 7.02 | 126.21 | 122.70 |
| 26 | 1H | 655 | A | C5-N7-C8 | -7.02 | 100.39 | 103.90 |
| 26 | 1H | 1129 | A | N1-C2-N3 | 7.02 | 132.81 | 129.30 |
| 26 | 14 | 1319 | G | C6-C5-N7 | -7.02 | 126.19 | 130.40 |
| 25 | 4L | 20 | U | C6-N1-C2 | -7.02 | 116.79 | 121.00 |
| 26 | 1H | 296 | C | N3-C2-O2 | -7.02 | 116.99 | 121.90 |
| 26 | 1H | 502 | A | C4-C5-N7 | -7.02 | 107.19 | 110.70 |
| 26 | 1H | 693 | C | C4-C5-C6 | 7.02 | 120.91 | 117.40 |
| 26 | 1H | 2004 | G | N3-C4-N9 | -7.02 | 121.79 | 126.00 |
| 26 | 1H | 2626 | C | N3-C4-C5 | 7.02 | 124.71 | 121.90 |
| 26 | 14 | 124 | G | O5'-P-OP1 | 7.02 | 119.12 | 110.70 |
| 26 | 14 | 396 | G | N1-C6-O6 | 7.02 | 124.11 | 119.90 |
| 26 | 14 | 1273 | U | C6-N1-C2 | 7.02 | 125.21 | 121.00 |
| 26 | 14 | 1341 | U | OP1-P-O3' | 7.02 | 120.64 | 105.20 |
| 1 | 13 | 557 | G | N3-C4-N9 | 7.02 | 130.21 | 126.00 |
| 1 | 13 | 1416 | G | N1-C6-O6 | -7.02 | 115.69 | 119.90 |
| 26 | 1H | 501 | A | OP1-P-OP2 | 7.02 | 130.13 | 119.60 |
| 26 | 1H | 648 | G | OP1-P-O3' | 7.02 | 120.64 | 105.20 |
| 26 | 1H | 656 | G | C4-C5-N7 | -7.02 | 107.99 | 110.80 |
| 26 | 1H | 968 | G | N3-C2-N2 | 7.02 | 124.81 | 119.90 |
| 26 | 1H | 2314 | C | C6-N1-C2 | -7.02 | 117.49 | 120.30 |
| 26 | 1H | 2361 | A | C4-C5-C6 | 7.02 | 120.51 | 117.00 |
| 26 | 14 | 1145 | C | C5-C6-N1 | 7.02 | 124.51 | 121.00 |
| 26 | 14 | 1959 | G | C5-C6-O6 | 7.02 | 132.81 | 128.60 |
| 26 | 14 | 2436 | G | C5-C6-O6 | -7.02 | 124.39 | 128.60 |
| 26 | 14 | 2526 | G | N3-C4-N9 | -7.02 | 121.79 | 126.00 |
| 26 | 1H | 326 | G | N3-C4-N9 | -7.02 | 121.79 | 126.00 |
| 26 | 1H | 1295 | C | N3-C4-N4 | -7.02 | 113.09 | 118.00 |
| 26 | 1H | 1450 | C | OP1-P-OP2 | 7.02 | 130.12 | 119.60 |
| 27 | 16 | 102 | G | C8-N9-C4 | 7.02 | 109.21 | 106.40 |
| 26 | 14 | 117 | G | OP1-P-O3' | 7.02 | 120.64 | 105.20 |
| 26 | 14 | 148 | C | N3-C4-C5 | 7.02 | 124.71 | 121.90 |
| 26 | 14 | 409 | C | N1-C2-N3 | -7.02 | 114.29 | 119.20 |
| 26 | 1H | 188 | G | C6-C5-N7 | -7.01 | 126.19 | 130.40 |
| 26 | 1H | 1382 | G | C5-C6-O6 | -7.01 | 124.39 | 128.60 |
| 26 | 1H | 1660 | C | N3-C4-N4 | -7.01 | 113.09 | 118.00 |
| 26 | 1H | 2396 | G | N1-C6-O6 | -7.01 | 115.69 | 119.90 |
| 27 | 16 | 33 | G | N3-C2-N2 | 7.01 | 124.81 | 119.90 |
| 1 | 1G | 236 | G | C2-N3-C4 | -7.01 | 108.39 | 111.90 |
| 1 | 1G | 778 | G | C6-C5-N7 | -7.01 | 126.19 | 130.40 |
| 26 | 14 | 1285 | G | C5-C6-O6 | -7.01 | 124.39 | 128.60 |
| 26 | 14 | 1828 | G | C5-C6-O6 | 7.01 | 132.81 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 2270 | G | N3-C4-C5 | -7.01 | 125.09 | 128.60 |
| 26 | 1H | 188 | G | C5-C6-O6 | -7.01 | 124.39 | 128.60 |
| 26 | 1H | 251 | A | N3-C4-C5 | -7.01 | 121.89 | 126.80 |
| 26 | 1H | 1852 | C | OP1-P-OP2 | 7.01 | 130.12 | 119.60 |
| 26 | 14 | 1396 | U | C2-N1-C1' | 7.01 | 126.11 | 117.70 |
| 26 | 14 | 2049 | G | C4-C5-N7 | 7.01 | 113.61 | 110.80 |
| 1 | 13 | 1270 | C | C5-C6-N1 | 7.01 | 124.51 | 121.00 |
| 26 | 1H | 2082 | A | C5-C6-N1 | 7.01 | 121.21 | 117.70 |
| 6 | 52 | 14 | LEU | CB-CG-CD2 | 7.01 | 122.92 | 111.00 |
| 26 | 14 | 1300 | U | N1-C2-N3 | 7.01 | 119.11 | 114.90 |
| 26 | 1H | 473 | G | N1-C2-N3 | 7.01 | 128.11 | 123.90 |
| 26 | 1H | 744 | G | N1-C2-N3 | 7.01 | 128.11 | 123.90 |
| 26 | 1H | 948 | G | C5-C6-N1 | -7.01 | 108.00 | 111.50 |
| 26 | 1H | 1528 | A | C4-C5-N7 | 7.01 | 114.20 | 110.70 |
| 26 | 1H | 2084 | C | C5-C6-N1 | -7.01 | 117.50 | 121.00 |
| 26 | 1H | 2217 | G | N7-C8-N9 | 7.01 | 116.61 | 113.10 |
| 26 | 14 | 1679 | U | O5'-P-OP2 | -7.01 | 99.39 | 105.70 |
| 26 | 1H | 2283 | C | N3-C4-C5 | -7.01 | 119.10 | 121.90 |
| 26 | 14 | 870 | A | O5'-P-OP2 | -7.01 | 99.39 | 105.70 |
| 26 | 14 | 1681 | G | C6-N1-C2 | 7.01 | 129.31 | 125.10 |
| 1 | 13 | 1268 | A | OP1-P-OP2 | 7.01 | 130.11 | 119.60 |
| 1 | 13 | 1390 | U | C5-C4-O4 | 7.01 | 130.10 | 125.90 |
| 26 | 1H | 243 | U | C5-C6-N1 | 7.01 | 126.20 | 122.70 |
| 26 | 1H | 524 | U | C2-N3-C4 | -7.01 | 122.80 | 127.00 |
| 26 | 1H | 826 | U | N3-C4-O4 | 7.01 | 124.30 | 119.40 |
| 26 | 1H | 1833 | U | C4-C5-C6 | 7.01 | 123.90 | 119.70 |
| 26 | 1H | 2301 | C | N1-C2-N3 | 7.01 | 124.11 | 119.20 |
| 26 | 1H | 2764 | A | O4'-C1'-N9 | -7.01 | 102.59 | 108.20 |
| 1 | 1G | 510 | A | C4-C5-C6 | -7.01 | 113.50 | 117.00 |
| 26 | 14 | 77 | C | N3-C4-N4 | -7.01 | 113.10 | 118.00 |
| 26 | 14 | 1142(A) | A | C5-C6-N1 | -7.01 | 114.20 | 117.70 |
| 26 | 14 | 1383 | C | C5-C4-N4 | -7.01 | 115.30 | 120.20 |
| 26 | 14 | 1416 | G | C8-N9-C4 | 7.01 | 109.20 | 106.40 |
| 1 | 13 | 1219 | U | C6-N1-C2 | -7.00 | 116.80 | 121.00 |
| 26 | 1H | 71 | A | OP1-P-OP2 | -7.00 | 109.09 | 119.60 |
| 26 | 1H | 999 | U | N3-C4-C5 | -7.00 | 110.40 | 114.60 |
| 26 | 1H | 1970 | A | N7-C8-N9 | 7.00 | 117.30 | 113.80 |
| 26 | 14 | 243 | U | N3-C2-O2 | -7.00 | 117.30 | 122.20 |
| 26 | 14 | 1390 | U | C5-C6-N1 | 7.00 | 126.20 | 122.70 |
| 26 | 14 | 2842 | G | C4-C5-N7 | 7.00 | 113.60 | 110.80 |
| 22 | 1K | 38 | A | C2-N3-C4 | -7.00 | 107.10 | 110.60 |
| 26 | 1H | 64 | A | C4-C5-N7 | -7.00 | 107.20 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 429 | A | O4'-C1'-N9 | -7.00 | 102.60 | 108.20 |
| 26 | 1H | 1303 | G | C8-N9-C4 | 7.00 | 109.20 | 106.40 |
| 26 | 1H | 1321 | A | C6-N1-C2 | -7.00 | 114.40 | 118.60 |
| 26 | 1H | 1551 | C | C6-N1-C2 | -7.00 | 117.50 | 120.30 |
| 26 | 1H | 2248 | C | N3-C4-C5 | 7.00 | 124.70 | 121.90 |
| 27 | 16 | 36 | C | OP1-P-O3' | -7.00 | 89.79 | 105.20 |
| 1 | 1G | 118 | U | C5-C6-N1 | 7.00 | 126.20 | 122.70 |
| 26 | 14 | 1573 | G | N1-C2-N3 | 7.00 | 128.10 | 123.90 |
| 23 | 2K | 43 | G | N3-C2-N2 | 7.00 | 124.80 | 119.90 |
| 26 | 1H | 1851 | U | N1-C2-O2 | -7.00 | 117.90 | 122.80 |
| 26 | 1H | 2419 | U | OP1-P-OP2 | -7.00 | 109.10 | 119.60 |
| 27 | 16 | 6 | C | C5-C6-N1 | -7.00 | 117.50 | 121.00 |
| 26 | 14 | 188 | G | N1-C2-N2 | -7.00 | 109.90 | 116.20 |
| 26 | 14 | 263 | C | C5-C6-N1 | -7.00 | 117.50 | 121.00 |
| 26 | 14 | 388 | G | N9-C4-C5 | 7.00 | 108.20 | 105.40 |
| 26 | 14 | 698 | C | C4-C5-C6 | 7.00 | 120.90 | 117.40 |
| 26 | 14 | 777 | A | C5-C6-N1 | 7.00 | 121.20 | 117.70 |
| 26 | 14 | 1378 | A | N9-C4-C5 | -7.00 | 103.00 | 105.80 |
| 26 | 14 | 1807 | G | N9-C4-C5 | -7.00 | 102.60 | 105.40 |
| 27 | 1J | 105 | G | OP1-P-OP2 | -7.00 | 109.10 | 119.60 |
| 1 | 13 | 827 | U | C4-C5-C6 | 7.00 | 123.90 | 119.70 |
| 26 | 1H | 931 | G | N3-C4-C5 | -7.00 | 125.10 | 128.60 |
| 26 | 1H | 1658 | C | C4-C5-C6 | 7.00 | 120.90 | 117.40 |
| 26 | 1H | 2034 | U | C6-N1-C2 | -7.00 | 116.80 | 121.00 |
| 1 | 1G | 402 | G | N7-C8-N9 | -7.00 | 109.60 | 113.10 |
| 26 | 14 | 1419 | A | N7-C8-N9 | -7.00 | 110.30 | 113.80 |
| 1 | 13 | 1279 | A | C5-N7-C8 | -7.00 | 100.40 | 103.90 |
| 26 | 1H | 668 | G | C5-N7-C8 | -7.00 | 100.80 | 104.30 |
| 26 | 1H | 1015 | G | O5'-P-OP2 | -7.00 | 99.40 | 105.70 |
| 26 | 1H | 1194 | A | C5-C6-N6 | -7.00 | 118.10 | 123.70 |
| 26 | 1H | 1591 | G | C2-N3-C4 | -7.00 | 108.40 | 111.90 |
| 26 | 1H | 2818 | G | C8-N9-C4 | 7.00 | 109.20 | 106.40 |
| 27 | 16 | 106 | G | O5'-P-OP2 | 7.00 | 119.10 | 110.70 |
| 1 | 1G | 386 | C | N3-C4-N4 | -7.00 | 113.10 | 118.00 |
| 26 | 14 | 59 | U | C5-C6-N1 | -7.00 | 119.20 | 122.70 |
| 26 | 14 | 225 | A | N7-C8-N9 | -7.00 | 110.30 | 113.80 |
| 26 | 14 | 765 | G | C4-C5-C6 | 7.00 | 123.00 | 118.80 |
| 26 | 14 | 2332 | U | C6-N1-C2 | 7.00 | 125.20 | 121.00 |
| 1 | 13 | 477 | G | N3-C4-N9 | -7.00 | 121.80 | 126.00 |
| 1 | 13 | 633 | G | N9-C4-C5 | -7.00 | 102.60 | 105.40 |
| 1 | 13 | 800 | G | N3-C2-N2 | -7.00 | 115.00 | 119.90 |
| 1 | 13 | 1419 | G | N1-C6-O6 | 7.00 | 124.10 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 917 | A | OP1-P-O3' | 7.00 | 120.59 | 105.20 |
| 26 | 1H | 1293 | C | C6-N1-C2 | -7.00 | 117.50 | 120.30 |
| 26 | 1H | 1603 | A | OP1-P-O3' | 7.00 | 120.59 | 105.20 |
| 26 | 1H | 2573 | C | C5-C6-N1 | -7.00 | 117.50 | 121.00 |
| 26 | 1H | 2642 | G | C8-N9-C4 | 7.00 | 109.20 | 106.40 |
| 26 | 14 | 1321 | A | C8-N9-C4 | 7.00 | 108.60 | 105.80 |
| 26 | 14 | 2683 | C | C2-N3-C4 | 7.00 | 123.40 | 119.90 |
| 26 | 1H | 975 | G | O4'-C1'-N9 | -7.00 | 102.60 | 108.20 |
| 26 | 1H | 1299 | G | C8-N9-C4 | -7.00 | 103.60 | 106.40 |
| 26 | 1H | 2268 | A | C8-N9-C4 | 7.00 | 108.60 | 105.80 |
| 26 | 14 | 682 | G | N1-C6-O6 | -7.00 | 115.70 | 119.90 |
| 1 | 13 | 416 | G | N1-C6-O6 | 6.99 | 124.10 | 119.90 |
| 1 | 13 | 611 | A | N1-C6-N6 | 6.99 | 122.80 | 118.60 |
| 26 | 1H | 2020 | A | N1-C2-N3 | 6.99 | 132.80 | 129.30 |
| 26 | 1H | 2381 | C | N3-C2-O2 | 6.99 | 126.80 | 121.90 |
| 26 | 1H | 2689 | U | OP1-P-OP2 | 6.99 | 130.09 | 119.60 |
| 26 | 14 | 1449 | A | C8-N9-C4 | -6.99 | 103.00 | 105.80 |
| 26 | 14 | 2044 | C | O5'-P-OP1 | -6.99 | 99.41 | 105.70 |
| 26 | 14 | 2092 | U | N3-C2-O2 | -6.99 | 117.31 | 122.20 |
| 26 | 1H | 201 | C | O5'-P-OP2 | -6.99 | 99.41 | 105.70 |
| 26 | 1H | 245 | G | C8-N9-C1' | -6.99 | 117.91 | 127.00 |
| 26 | 1H | 1478 | G | C5-C6-O6 | 6.99 | 132.79 | 128.60 |
| 50 | K8 | 67 | LYS | CD-CE-NZ | 6.99 | 127.78 | 111.70 |
| 1 | 1G | 481 | G | OP1-P-OP2 | 6.99 | 130.09 | 119.60 |
| 26 | 14 | 733 | G | O5'-P-OP2 | -6.99 | 99.41 | 105.70 |
| 26 | 14 | 747 | U | C5-C4-O4 | -6.99 | 121.70 | 125.90 |
| 1 | 13 | 1058 | G | N3-C2-N2 | 6.99 | 124.79 | 119.90 |
| 26 | 1H | 181 | A | C5-C6-N6 | 6.99 | 129.29 | 123.70 |
| 1 | 1G | 48 | C | C6-N1-C2 | 6.99 | 123.10 | 120.30 |
| 26 | 14 | 510 | C | N3-C2-O2 | -6.99 | 117.01 | 121.90 |
| 26 | 14 | 1302 | A | N9-C4-C5 | 6.99 | 108.60 | 105.80 |
| 26 | 1H | 290 | G | C4-C5-N7 | 6.99 | 113.59 | 110.80 |
| 26 | 1H | 650 | C | N3-C4-N4 | 6.99 | 122.89 | 118.00 |
| 26 | 1H | 1366 | A | C6-C5-N7 | -6.99 | 127.41 | 132.30 |
| 26 | 1H | 1528 | A | C2-N3-C4 | -6.99 | 107.11 | 110.60 |
| 26 | 1H | 1823 | G | N1-C6-O6 | 6.99 | 124.09 | 119.90 |
| 26 | 1H | 1830 | C | N3-C4-N4 | -6.99 | 113.11 | 118.00 |
| 55 | Q8 | 30 | ARG | CA-CB-CG | 6.99 | 128.77 | 113.40 |
| 26 | 14 | 802 | A | N9-C4-C5 | 6.99 | 108.59 | 105.80 |
| 26 | 14 | 1470 | G | C5-C6-O6 | -6.99 | 124.41 | 128.60 |
| 26 | 14 | 1579 | A | C2-N3-C4 | -6.99 | 107.11 | 110.60 |
| 26 | 14 | 2500 | U | O5'-P-OP1 | 6.99 | 119.09 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 74 | A | N3-C4-N9 | -6.99 | 121.81 | 127.40 |
| 26 | 14 | 270(B) | A | N9-C4-C5 | -6.99 | 103.00 | 105.80 |
| 1 | 13 | 41 | G | C8-N9-C4 | 6.99 | 109.19 | 106.40 |
| 1 | 13 | 765 | G | C5-N7-C8 | -6.99 | 100.81 | 104.30 |
| 26 | 1H | 2394 | C | C2-N3-C4 | -6.99 | 116.41 | 119.90 |
| 26 | 1H | 2444 | G | C8-N9-C4 | -6.99 | 103.61 | 106.40 |
| 26 | 1H | 2772 | C | C5-C6-N1 | -6.99 | 117.51 | 121.00 |
| 27 | 16 | 50 | G | O5'-P-OP1 | 6.99 | 119.08 | 110.70 |
| 1 | 1G | 500 | G | C4-C5-N7 | -6.99 | 108.01 | 110.80 |
| 26 | 14 | 75 | G | C8-N9-C4 | -6.99 | 103.61 | 106.40 |
| 26 | 14 | 2497 | A | C6-N1-C2 | -6.99 | 114.41 | 118.60 |
| 26 | 14 | 2595 | G | C6-C5-N7 | -6.99 | 126.21 | 130.40 |
| 26 | 14 | 2079 | U | C5-C6-N1 | -6.98 | 119.21 | 122.70 |
| 1 | 13 | 1288 | A | O5'-P-OP1 | -6.98 | 99.42 | 105.70 |
| 26 | 1H | 951 | C | OP1-P-OP2 | -6.98 | 109.13 | 119.60 |
| 26 | 1H | 1205 | U | N1-C2-O2 | -6.98 | 117.91 | 122.80 |
| 1 | 1G | 1486 | G | N7-C8-N9 | -6.98 | 109.61 | 113.10 |
| 26 | 14 | 1313 | U | N1-C2-N3 | 6.98 | 119.09 | 114.90 |
| 26 | 14 | 1329 | U | N1-C2-O2 | -6.98 | 117.91 | 122.80 |
| 26 | 14 | 1728 | G | C5-C6-N1 | 6.98 | 114.99 | 111.50 |
| 26 | 14 | 2453 | A | OP1-P-OP2 | 6.98 | 130.07 | 119.60 |
| 1 | 13 | 1504 | G | N1-C6-O6 | 6.98 | 124.09 | 119.90 |
| 26 | 1H | 226 | G | N1-C6-O6 | 6.98 | 124.09 | 119.90 |
| 26 | 1H | 2383 | G | C6-C5-N7 | -6.98 | 126.21 | 130.40 |
| 27 | 16 | 20 | C | N3-C2-O2 | 6.98 | 126.79 | 121.90 |
| 1 | 1G | 898 | G | N9-C4-C5 | -6.98 | 102.61 | 105.40 |
| 26 | 14 | 1006 | C | C6-N1-C2 | -6.98 | 117.51 | 120.30 |
| 26 | 14 | 1610 | A | C6-C5-N7 | -6.98 | 127.41 | 132.30 |
| 26 | 14 | 2731 | G | N3-C4-C5 | -6.98 | 125.11 | 128.60 |
| 26 | 1H | 44 | A | N9-C4-C5 | 6.98 | 108.59 | 105.80 |
| 26 | 1H | 2497 | A | OP1-P-OP2 | -6.98 | 109.13 | 119.60 |
| 27 | 1J | 101 | A | N9-C4-C5 | -6.98 | 103.01 | 105.80 |
| 26 | 1H | 14 | A | C8-N9-C4 | 6.98 | 108.59 | 105.80 |
| 26 | 1H | 513 | A | C6-N1-C2 | -6.98 | 114.41 | 118.60 |
| 26 | 1H | 778 | G | N3-C2-N2 | 6.98 | 124.78 | 119.90 |
| 26 | 1H | 1308 | A | N9-C4-C5 | 6.98 | 108.59 | 105.80 |
| 26 | 1H | 2343 | C | O5'-P-OP2 | 6.98 | 119.07 | 110.70 |
| 26 | 1H | 2461 | C | N3-C4-C5 | 6.98 | 124.69 | 121.90 |
| 1 | 1G | 322 | C | N1-C2-O2 | -6.98 | 114.71 | 118.90 |
| 1 | 1G | 1402 | C | C4-C5-C6 | 6.98 | 120.89 | 117.40 |
| 26 | 14 | 876 | C | N3-C2-O2 | -6.98 | 117.02 | 121.90 |
| 26 | 14 | 1197 | G | C2-N3-C4 | -6.98 | 108.41 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2325 | G | N1-C2-N2 | 6.98 | 122.48 | 116.20 |
| 26 | 1H | 933 | A | O5'-P-OP1 | 6.98 | 119.07 | 110.70 |
| 1 | 1G | 815 | A | N9-C4-C5 | -6.98 | 103.01 | 105.80 |
| 1 | 13 | 729 | A | N1-C6-N6 | -6.97 | 114.42 | 118.60 |
| 1 | 13 | 785 | G | N3-C4-C5 | 6.97 | 132.09 | 128.60 |
| 26 | 1H | 781 | A | N7-C8-N9 | -6.97 | 110.31 | 113.80 |
| 26 | 1H | 1667 | G | C2-N3-C4 | -6.97 | 108.41 | 111.90 |
| 26 | 1H | 1927 | A | N9-C4-C5 | 6.97 | 108.59 | 105.80 |
| 26 | 1H | 2237 | G | O5'-P-OP2 | -6.97 | 99.42 | 105.70 |
| 26 | 1H | 2494 | G | OP2-P-O3' | 6.97 | 120.54 | 105.20 |
| 26 | 1H | 2787 | C | N1-C2-O2 | 6.97 | 123.08 | 118.90 |
| 52 | M8 | 38 | LYS | C-N-CA | 6.97 | 139.14 | 121.70 |
| 1 | 1G | 1415 | G | C8-N9-C4 | 6.97 | 109.19 | 106.40 |
| 26 | 14 | 82 | G | O5'-P-OP2 | 6.97 | 119.07 | 110.70 |
| 26 | 14 | 1120 | G | N7-C8-N9 | -6.97 | 109.61 | 113.10 |
| 26 | 14 | 1639 | U | C4-C5-C6 | 6.97 | 123.89 | 119.70 |
| 26 | 1H | 579 | G | N3-C2-N2 | -6.97 | 115.02 | 119.90 |
| 26 | 1H | 844 | C | N3-C4-N4 | 6.97 | 122.88 | 118.00 |
| 26 | 1H | 1421 | G | OP2-P-O3' | 6.97 | 120.54 | 105.20 |
| 1 | 1G | 171 | A | N1-C6-N6 | -6.97 | 114.42 | 118.60 |
| 26 | 14 | 665 | C | N1-C2-N3 | -6.97 | 114.32 | 119.20 |
| 27 | 1J | 44 | G | C8-N9-C4 | 6.97 | 109.19 | 106.40 |
| 26 | 1H | 1369 | G | OP1-P-OP2 | 6.97 | 130.06 | 119.60 |
| 26 | 1H | 1822 | G | C5-C6-N1 | -6.97 | 108.02 | 111.50 |
| 26 | 1H | 2690 | C | N1-C2-N3 | 6.97 | 124.08 | 119.20 |
| 1 | 1G | 1420 | C | O5'-P-OP2 | 6.97 | 119.06 | 110.70 |
| 27 | 1J | 89 | G | N9-C4-C5 | -6.97 | 102.61 | 105.40 |
| 1 | 13 | 625 | G | N9-C4-C5 | 6.97 | 108.19 | 105.40 |
| 26 | 1H | 330 | A | C6-C5-N7 | -6.97 | 127.42 | 132.30 |
| 26 | 1H | 1647 | G | O4'-C1'-N9 | -6.97 | 102.62 | 108.20 |
| 26 | 1H | 1938 | A | OP1-P-OP2 | 6.97 | 130.05 | 119.60 |
| 26 | 1H | 1967 | C | C2-N3-C4 | -6.97 | 116.42 | 119.90 |
| 26 | 1H | 2308 | G | OP1-P-OP2 | 6.97 | 130.05 | 119.60 |
| 27 | 16 | 81 | G | O4'-C1'-N9 | 6.97 | 113.78 | 108.20 |
| 49 | J8 | 85 | LEU | CA-CB-CG | -6.97 | 99.27 | 115.30 |
| 1 | 1G | 146 | G | N1-C6-O6 | 6.97 | 124.08 | 119.90 |
| 1 | 1G | 584 | G | C5-N7-C8 | -6.97 | 100.81 | 104.30 |
| 26 | 14 | 326 | G | N3-C4-N9 | -6.97 | 121.82 | 126.00 |
| 26 | 14 | 1945 | G | N3-C2-N2 | 6.97 | 124.78 | 119.90 |
| 26 | 14 | 2006 | C | N1-C2-N3 | -6.97 | 114.32 | 119.20 |
| 1 | 13 | 874 | G | O5'-P-OP1 | -6.97 | 99.43 | 105.70 |
| 26 | 1H | 784 | A | O4'-C1'-N9 | 6.97 | 113.77 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1285 | G | C6-C5-N7 | -6.97 | 126.22 | 130.40 |
| 26 | 14 | 938 | G | OP1-P-OP2 | -6.97 | 109.15 | 119.60 |
| 1 | 13 | 1203 | C | N3-C4-C5 | -6.97 | 119.11 | 121.90 |
| 1 | 13 | 1279 | A | C4-C5-C6 | 6.97 | 120.48 | 117.00 |
| 26 | 1H | 1286 | A | C4-C5-C6 | 6.97 | 120.48 | 117.00 |
| 26 | 1H | 2014 | A | C5-C6-N6 | -6.97 | 118.13 | 123.70 |
| 26 | 1H | 2015 | A | C5-N7-C8 | -6.97 | 100.42 | 103.90 |
| 26 | 1H | 2287 | A | C6-C5-N7 | -6.97 | 127.42 | 132.30 |
| 23 | 2L | 37 | U | N3-C2-O2 | -6.97 | 117.32 | 122.20 |
| 26 | 14 | 386 | G | C4-C5-N7 | 6.97 | 113.59 | 110.80 |
| 26 | 14 | 784 | A | C5-C6-N1 | -6.97 | 114.22 | 117.70 |
| 26 | 14 | 790 | C | OP1-P-O3' | 6.97 | 120.53 | 105.20 |
| 1 | 13 | 1470 | G | C2-N3-C4 | -6.96 | 108.42 | 111.90 |
| 26 | 1H | 919 | G | N1-C2-N2 | -6.96 | 109.93 | 116.20 |
| 26 | 1H | 1817 | G | N3-C4-N9 | -6.96 | 121.82 | 126.00 |
| 26 | 1H | 2785 | C | O5'-P-OP1 | -6.96 | 99.43 | 105.70 |
| 26 | 14 | 594 | U | OP1-P-O3' | -6.96 | 89.88 | 105.20 |
| 26 | 14 | 835 | A | OP1-P-OP2 | -6.96 | 109.15 | 119.60 |
| 26 | 14 | 2313 | C | N3-C2-O2 | -6.96 | 117.03 | 121.90 |
| 26 | 14 | 606 | U | C5-C6-N1 | -6.96 | 119.22 | 122.70 |
| 1 | 13 | 1081 | G | OP1-P-O3' | 6.96 | 120.52 | 105.20 |
| 1 | 13 | 1478 | C | N3-C4-N4 | -6.96 | 113.13 | 118.00 |
| 26 | 1H | 83 | G | C8-N9-C4 | 6.96 | 109.18 | 106.40 |
| 26 | 1H | 311 | A | C8-N9-C4 | 6.96 | 108.58 | 105.80 |
| 26 | 1H | 753 | C | C6-N1-C2 | -6.96 | 117.52 | 120.30 |
| 26 | 1H | 1133 | U | N3-C4-O4 | -6.96 | 114.53 | 119.40 |
| 26 | 1H | 1997 | G | C5-C6-O6 | 6.96 | 132.78 | 128.60 |
| 26 | 1H | 2585 | U | C5-C4-O4 | 6.96 | 130.08 | 125.90 |
| 26 | 14 | 400 | G | N3-C4-C5 | 6.96 | 132.08 | 128.60 |
| 26 | 14 | 938 | G | OP2-P-O3' | 6.96 | 120.51 | 105.20 |
| 26 | 14 | 2710 | C | N1-C2-N3 | -6.96 | 114.33 | 119.20 |
| 26 | 1H | 2275 | C | N1-C2-O2 | -6.96 | 114.72 | 118.90 |
| 26 | 14 | 576 | U | OP2-P-O3' | 6.96 | 120.51 | 105.20 |
| 26 | 14 | 2082 | A | C6-N1-C2 | -6.96 | 114.42 | 118.60 |
| 1 | 13 | 517 | G | N3-C4-N9 | 6.96 | 130.18 | 126.00 |
| 1 | 13 | 1190 | G | N3-C4-N9 | -6.96 | 121.83 | 126.00 |
| 1 | 13 | 1426 | C | OP2-P-O3' | 6.96 | 120.51 | 105.20 |
| 1 | 13 | 1431 | C | OP1-P-OP2 | 6.96 | 130.04 | 119.60 |
| 26 | 1H | 609(A) | G | C2-N3-C4 | -6.96 | 108.42 | 111.90 |
| 26 | 1H | 748 | G | OP1-P-O3' | 6.96 | 120.51 | 105.20 |
| 26 | 1H | 2029 | G | C5-N7-C8 | -6.96 | 100.82 | 104.30 |
| 1 | 1G | 585 | G | C5-C6-N1 | 6.96 | 114.98 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 330 | A | N7-C8-N9 | 6.96 | 117.28 | 113.80 |
| 26 | 14 | 453 | C | C6-N1-C2 | 6.96 | 123.08 | 120.30 |
| 26 | 14 | 1479 | G | C8-N9-C4 | -6.96 | 103.62 | 106.40 |
| 26 | 14 | 2020 | A | N9-C4-C5 | 6.96 | 108.58 | 105.80 |
| 27 | 1J | 102 | G | C8-N9-C4 | 6.96 | 109.18 | 106.40 |
| 26 | 1H | 378 | C | C5-C6-N1 | -6.96 | 117.52 | 121.00 |
| 26 | 1H | 835 | A | C2-N3-C4 | 6.96 | 114.08 | 110.60 |
| 26 | 1H | 1706 | U | N3-C4-C5 | -6.96 | 110.43 | 114.60 |
| 26 | 1H | 2469 | A | O4'-C1'-N9 | 6.96 | 113.77 | 108.20 |
| 26 | 14 | 703 | U | C2-N3-C4 | 6.96 | 131.17 | 127.00 |
| 26 | 14 | 1022 | G | N1-C6-O6 | -6.96 | 115.73 | 119.90 |
| 26 | 14 | 1323 | U | OP1-P-OP2 | -6.96 | 109.16 | 119.60 |
| 26 | 14 | 2239 | G | C5-C6-O6 | 6.96 | 132.77 | 128.60 |
| 26 | 14 | 2727 | G | OP1-P-OP2 | 6.96 | 130.03 | 119.60 |
| 26 | 14 | 2848 | G | C4-C5-C6 | 6.96 | 122.97 | 118.80 |
| 26 | 1H | 780 | G | C6-N1-C2 | -6.96 | 120.93 | 125.10 |
| 26 | 1H | 1027 | A | OP1-P-OP2 | -6.96 | 109.17 | 119.60 |
| 26 | 1H | 1264 | G | C2-N3-C4 | -6.96 | 108.42 | 111.90 |
| 26 | 1H | 2837 | G | C5-N7-C8 | -6.96 | 100.82 | 104.30 |
| 26 | 14 | 832 | G | C5-C6-O6 | 6.96 | 132.77 | 128.60 |
| 26 | 14 | 1454 | U | N3-C2-O2 | -6.96 | 117.33 | 122.20 |
| 26 | 14 | 1558 | A | C6-N1-C2 | 6.96 | 122.77 | 118.60 |
| 1 | 13 | 266 | G | C5-N7-C8 | -6.95 | 100.82 | 104.30 |
| 26 | 1H | 1369 | G | C5-C6-O6 | 6.95 | 132.77 | 128.60 |
| 26 | 1H | 2487 | G | N1-C6-O6 | 6.95 | 124.07 | 119.90 |
| 26 | 14 | 785 | G | N3-C4-N9 | -6.95 | 121.83 | 126.00 |
| 26 | 14 | 1004 | C | C6-N1-C2 | -6.95 | 117.52 | 120.30 |
| 26 | 14 | 1595 | G | N3-C2-N2 | -6.95 | 115.03 | 119.90 |
| 26 | 14 | 1658 | C | N1-C2-N3 | 6.95 | 124.07 | 119.20 |
| 26 | 14 | 2459 | A | N1-C2-N3 | -6.95 | 125.82 | 129.30 |
| 26 | 14 | 497 | A | C4-C5-N7 | 6.95 | 114.18 | 110.70 |
| 26 | 14 | 659 | C | C5-C6-N1 | -6.95 | 117.52 | 121.00 |
| 26 | 14 | 2873 | A | O5'-P-OP1 | -6.95 | 99.44 | 105.70 |
| 1 | 13 | 875 | C | C6-N1-C2 | -6.95 | 117.52 | 120.30 |
| 26 | 1H | 478 | A | C4-C5-N7 | -6.95 | 107.22 | 110.70 |
| 26 | 1H | 1017 | G | N9-C4-C5 | 6.95 | 108.18 | 105.40 |
| 26 | 1H | 1977 | A | N1-C2-N3 | 6.95 | 132.78 | 129.30 |
| 26 | 1H | 2514 | U | C4-C5-C6 | 6.95 | 123.87 | 119.70 |
| 26 | 1H | 2711 | A | OP1-P-O3' | 6.95 | 120.49 | 105.20 |
| 55 | Q8 | 4 | MET | CG-SD-CE | -6.95 | 89.08 | 100.20 |
| 1 | 1G | 536 | C | N3-C4-C5 | -6.95 | 119.12 | 121.90 |
| 1 | 1G | 1274 | G | N1-C6-O6 | 6.95 | 124.07 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1483 | A | C5-N7-C8 | -6.95 | 100.42 | 103.90 |
| 26 | 14 | 1773 | A | C6-N1-C2 | -6.95 | 114.43 | 118.60 |
| 26 | 14 | 1982 | C | C6-N1-C2 | -6.95 | 117.52 | 120.30 |
| 1 | 13 | 1329 | A | N1-C6-N6 | 6.95 | 122.77 | 118.60 |
| 26 | 1H | 265 | A | N1-C2-N3 | 6.95 | 132.77 | 129.30 |
| 26 | 1H | 378 | C | C6-N1-C2 | 6.95 | 123.08 | 120.30 |
| 26 | 1H | 940 | G | C6-N1-C2 | -6.95 | 120.93 | 125.10 |
| 26 | 1H | 1513 | C | C5-C4-N4 | -6.95 | 115.34 | 120.20 |
| 26 | 1H | 1608 | A | C2-N3-C4 | -6.95 | 107.13 | 110.60 |
| 26 | 1H | 2039 | C | C6-N1-C2 | -6.95 | 117.52 | 120.30 |
| 26 | 1H | 2078 | C | C5-C6-N1 | -6.95 | 117.53 | 121.00 |
| 26 | 14 | 1546 | C | O5'-P-OP1 | -6.95 | 99.45 | 105.70 |
| 26 | 14 | 2518 | A | C6-C5-N7 | -6.95 | 127.44 | 132.30 |
| 1 | 13 | 807 | A | N1-C6-N6 | -6.95 | 114.43 | 118.60 |
| 26 | 1H | 306 | U | C4-C5-C6 | 6.95 | 123.87 | 119.70 |
| 26 | 1H | 749 | C | C4-C5-C6 | 6.95 | 120.87 | 117.40 |
| 26 | 1H | 996 | A | C2-N3-C4 | -6.95 | 107.13 | 110.60 |
| 26 | 1H | 1203 | G | N3-C4-N9 | 6.95 | 130.17 | 126.00 |
| 37 | 35 | 36 | LYS | CD-CE-NZ | 6.95 | 127.68 | 111.70 |
| 1 | 13 | 540 | G | C4-C5-N7 | -6.95 | 108.02 | 110.80 |
| 1 | 13 | 574 | A | OP2-P-O3' | 6.95 | 120.48 | 105.20 |
| 1 | 13 | 1400 | C | N1-C2-N3 | -6.95 | 114.34 | 119.20 |
| 26 | 1H | 657 | U | OP1-P-OP2 | 6.95 | 130.02 | 119.60 |
| 26 | 1H | 1644 | C | N1-C2-O2 | 6.95 | 123.07 | 118.90 |
| 26 | 14 | 949 | C | C2-N3-C4 | -6.95 | 116.43 | 119.90 |
| 26 | 14 | 1182 | A | N1-C6-N6 | 6.95 | 122.77 | 118.60 |
| 26 | 14 | 1669 | A | O5'-P-OP2 | -6.95 | 99.45 | 105.70 |
| 26 | 14 | 2336 | A | C4-C5-N7 | -6.95 | 107.23 | 110.70 |
| 26 | 14 | 2464 | C | C5-C6-N1 | -6.95 | 117.53 | 121.00 |
| 26 | 14 | 2556 | C | OP2-P-O3' | 6.95 | 120.48 | 105.20 |
| 27 | 1J | 29 | A | C5-C6-N6 | -6.95 | 118.14 | 123.70 |
| 1 | 13 | 874 | G | N3-C4-C5 | -6.94 | 125.13 | 128.60 |
| 26 | 1H | 1436 | G | C8-N9-C4 | -6.94 | 103.62 | 106.40 |
| 26 | 1H | 1607 | C | C5-C4-N4 | -6.94 | 115.34 | 120.20 |
| 26 | 1H | 1688 | U | N1-C2-N3 | 6.94 | 119.07 | 114.90 |
| 1 | 1G | 925 | G | N7-C8-N9 | -6.94 | 109.63 | 113.10 |
| 1 | 13 | 180 | U | N3-C4-C5 | -6.94 | 110.43 | 114.60 |
| 1 | 13 | 903 | G | C5-N7-C8 | 6.94 | 107.77 | 104.30 |
| 1 | 13 | 1527 | C | C2-N3-C4 | -6.94 | 116.43 | 119.90 |
| 26 | 1H | 232 | G | C4-C5-C6 | 6.94 | 122.97 | 118.80 |
| 26 | 1H | 1675 | C | C5-C4-N4 | 6.94 | 125.06 | 120.20 |
| 26 | 1H | 2546 | U | C4-C5-C6 | 6.94 | 123.86 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2594 | C | N3-C4-N4 | 6.94 | 122.86 | 118.00 |
| 1 | 1G | 741 | G | C5-C6-N1 | -6.94 | 108.03 | 111.50 |
| 1 | 1G | 816 | A | N7-C8-N9 | 6.94 | 117.27 | 113.80 |
| 26 | 14 | 796 | C | O5'-P-OP1 | -6.94 | 99.45 | 105.70 |
| 26 | 14 | 1355 | G | C4-C5-C6 | 6.94 | 122.97 | 118.80 |
| 26 | 14 | 1642 | G | C5-N7-C8 | -6.94 | 100.83 | 104.30 |
| 1 | 13 | 644 | G | N7-C8-N9 | -6.94 | 109.63 | 113.10 |
| 26 | 1H | 39 | C | N3-C2-O2 | 6.94 | 126.76 | 121.90 |
| 26 | 1H | 62 | C | N3-C2-O2 | 6.94 | 126.76 | 121.90 |
| 26 | 1H | 220 | G | C6-C5-N7 | -6.94 | 126.24 | 130.40 |
| 26 | 1H | 242 | G | C6-C5-N7 | -6.94 | 126.23 | 130.40 |
| 26 | 1H | 684 | G | C2-N3-C4 | 6.94 | 115.37 | 111.90 |
| 26 | 1H | 955 | C | N1-C2-N3 | 6.94 | 124.06 | 119.20 |
| 26 | 1H | 1551 | C | N3-C2-O2 | -6.94 | 117.04 | 121.90 |
| 26 | 1H | 2437 | U | OP1-P-OP2 | 6.94 | 130.01 | 119.60 |
| 26 | 14 | 769 | G | C6-C5-N7 | 6.94 | 134.56 | 130.40 |
| 26 | 14 | 1344 | G | N3-C2-N2 | -6.94 | 115.04 | 119.90 |
| 26 | 14 | 1558 | A | P-O3'-C3' | 6.94 | 128.03 | 119.70 |
| 1 | 13 | 1279 | A | N7-C8-N9 | 6.94 | 117.27 | 113.80 |
| 26 | 1H | 816 | C | N1-C2-N3 | -6.94 | 114.34 | 119.20 |
| 26 | 1H | 2643 | G | N1-C6-O6 | 6.94 | 124.06 | 119.90 |
| 1 | 1G | 131 | C | N3-C4-C5 | -6.94 | 119.12 | 121.90 |
| 26 | 14 | 1646 | C | C5-C4-N4 | -6.94 | 115.34 | 120.20 |
| 1 | 13 | 1463 | C | C6-N1-C2 | -6.94 | 117.53 | 120.30 |
| 26 | 1H | 37 | C | C5-C6-N1 | 6.94 | 124.47 | 121.00 |
| 26 | 1H | 1228 | G | C4-C5-C6 | 6.94 | 122.96 | 118.80 |
| 26 | 1H | 2219 | G | C4-C5-N7 | 6.94 | 113.58 | 110.80 |
| 50 | K8 | 16 | LEU | CB-CG-CD2 | -6.94 | 99.20 | 111.00 |
| 26 | 14 | 2769 | C | N3-C2-O2 | -6.94 | 117.04 | 121.90 |
| 1 | 13 | 525 | C | C5-C6-N1 | 6.94 | 124.47 | 121.00 |
| 1 | 13 | 1266 | G | N3-C4-C5 | 6.94 | 132.07 | 128.60 |
| 26 | 1H | 636 | G | OP1-P-OP2 | -6.94 | 109.20 | 119.60 |
| 26 | 1H | 1568 | G | C4-C5-C6 | -6.94 | 114.64 | 118.80 |
| 26 | 1H | 2008 | C | OP1-P-O3' | 6.94 | 120.46 | 105.20 |
| 1 | 1G | 558 | G | C5-C6-N1 | -6.94 | 108.03 | 111.50 |
| 26 | 14 | 6 | A | C2-N3-C4 | 6.94 | 114.07 | 110.60 |
| 26 | 14 | 537 | C | N3-C2-O2 | -6.94 | 117.05 | 121.90 |
| 26 | 14 | 788 | A | N3-C4-N9 | 6.94 | 132.95 | 127.40 |
| 26 | 1H | 748 | G | C6-N1-C2 | -6.93 | 120.94 | 125.10 |
| 26 | 1H | 1860 | G | N3-C4-C5 | 6.93 | 132.07 | 128.60 |
| 26 | 1H | 1912 | A | N9-C4-C5 | 6.93 | 108.57 | 105.80 |
| 26 | 1H | 1981 | A | C4-C5-C6 | -6.93 | 113.53 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 2785 | C | C5-C6-N1 | 6.93 | 124.47 | 121.00 |
| 26 | 14 | 388 | G | C8-N9-C4 | -6.93 | 103.63 | 106.40 |
| 26 | 14 | 955 | C | C6-N1-C2 | -6.93 | 117.53 | 120.30 |
| 1 | 13 | 186(A) | C | C6-N1-C2 | -6.93 | 117.53 | 120.30 |
| 26 | 1H | 271(C) | U | O4'-C1'-N1 | 6.93 | 113.75 | 108.20 |
| 26 | 1H | 465 | G | N1-C2-N2 | 6.93 | 122.44 | 116.20 |
| 26 | 1H | 719 | C | C6-N1-C2 | -6.93 | 117.53 | 120.30 |
| 26 | 1H | 2826 | A | N7-C8-N9 | -6.93 | 110.33 | 113.80 |
| 1 | 1G | 592 | G | C5-C6-N1 | -6.93 | 108.03 | 111.50 |
| 26 | 14 | 756 | C | C5-C4-N4 | -6.93 | 115.35 | 120.20 |
| 26 | 14 | 1521 | G | C8-N9-C4 | -6.93 | 103.63 | 106.40 |
| 26 | 14 | 2092 | U | C5-C6-N1 | -6.93 | 119.23 | 122.70 |
| 29 | 19 | 14 | ARG | NE-CZ-NH2 | -6.93 | 116.83 | 120.30 |
| 26 | 14 | 324 | A | N1-C2-N3 | 6.93 | 132.77 | 129.30 |
| 26 | 14 | 679 | C | C6-N1-C2 | 6.93 | 123.07 | 120.30 |
| 26 | 14 | 781 | A | OP1-P-OP2 | 6.93 | 130.00 | 119.60 |
| 26 | 1H | 1343 | G | N3-C4-N9 | 6.93 | 130.16 | 126.00 |
| 26 | 1H | 1548 | C | OP1-P-O3' | 6.93 | 120.44 | 105.20 |
| 26 | 1H | 1678 | G | N7-C8-N9 | 6.93 | 116.56 | 113.10 |
| 26 | 1H | 2594 | C | N3-C4-C5 | -6.93 | 119.13 | 121.90 |
| 1 | 1G | 881 | G | C6-C5-N7 | -6.93 | 126.24 | 130.40 |
| 26 | 14 | 196 | A | O4'-C1'-N9 | 6.93 | 113.74 | 108.20 |
| 26 | 14 | 2445 | G | N9-C4-C5 | 6.93 | 108.17 | 105.40 |
| 26 | 1H | 2260 | C | C2-N3-C4 | -6.93 | 116.44 | 119.90 |
| 26 | 14 | 784 | A | C6-N1-C2 | 6.93 | 122.76 | 118.60 |
| 1 | 13 | 668 | G | C8-N9-C4 | -6.93 | 103.63 | 106.40 |
| 26 | 1H | 289 | A | N1-C6-N6 | 6.93 | 122.76 | 118.60 |
| 26 | 1H | 804 | A | O4'-C1'-N9 | 6.93 | 113.74 | 108.20 |
| 26 | 1H | 1271 | G | C5-C6-N1 | -6.93 | 108.04 | 111.50 |
| 26 | 1H | 1517 | G | C5-C6-N1 | -6.93 | 108.04 | 111.50 |
| 26 | 1H | 1821 | A | C6-N1-C2 | -6.93 | 114.44 | 118.60 |
| 26 | 14 | 242 | G | C5-C6-O6 | -6.93 | 124.44 | 128.60 |
| 26 | 14 | 1216 | G | N3-C2-N2 | -6.93 | 115.05 | 119.90 |
| 26 | 14 | 1647 | G | N9-C4-C5 | 6.93 | 108.17 | 105.40 |
| 26 | 14 | 1899 | G | C4-C5-N7 | 6.93 | 113.57 | 110.80 |
| 26 | 14 | 1968 | G | OP1-P-O3' | 6.93 | 120.44 | 105.20 |
| 1 | 13 | 867 | G | N9-C4-C5 | 6.92 | 108.17 | 105.40 |
| 1 | 13 | 1502 | A | N3-C4-C5 | 6.92 | 131.65 | 126.80 |
| 26 | 1H | 117 | G | N1-C6-O6 | -6.92 | 115.75 | 119.90 |
| 26 | 1H | 298 | G | N1-C2-N2 | 6.92 | 122.43 | 116.20 |
| 26 | 1H | 693 | C | C5-C6-N1 | -6.92 | 117.54 | 121.00 |
| 26 | 1H | 1220 | A | O5'-P-OP1 | -6.92 | 99.47 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2307 | G | N1-C6-O6 | 6.92 | 124.05 | 119.90 |
| 26 | 1H | 2358 | G | O5'-P-OP2 | -6.92 | 99.47 | 105.70 |
| 26 | 1H | 2497 | A | C4-C5-N7 | -6.92 | 107.24 | 110.70 |
| 26 | 14 | 745 | G | N1-C6-O6 | -6.92 | 115.75 | 119.90 |
| 26 | 14 | 1488 | G | N3-C2-N2 | -6.92 | 115.05 | 119.90 |
| 1 | 13 | 1215 | G | C2-N3-C4 | -6.92 | 108.44 | 111.90 |
| 26 | 1H | 1047 | G | N9-C4-C5 | -6.92 | 102.63 | 105.40 |
| 26 | 1H | 2655 | G | C5-C6-O6 | 6.92 | 132.75 | 128.60 |
| 26 | 14 | 1764 | G | C8-N9-C4 | -6.92 | 103.63 | 106.40 |
| 26 | 14 | 2072 | G | N3-C2-N2 | 6.92 | 124.75 | 119.90 |
| 26 | 14 | 2607 | G | O5'-P-OP2 | -6.92 | 99.47 | 105.70 |
| 1 | 13 | 1442 | G | N3-C4-C5 | 6.92 | 132.06 | 128.60 |
| 26 | 1H | 2301 | C | C2-N3-C4 | -6.92 | 116.44 | 119.90 |
| 26 | 1H | 2578 | G | C2-N3-C4 | 6.92 | 115.36 | 111.90 |
| 27 | 1J | 58 | A | N1-C6-N6 | -6.92 | 114.45 | 118.60 |
| 27 | 1J | 89 | G | C5-C6-N1 | 6.92 | 114.96 | 111.50 |
| 26 | 1H | 1263 | U | N3-C4-O4 | -6.92 | 114.56 | 119.40 |
| 26 | 1H | 1636 | C | N3-C4-C5 | -6.92 | 119.13 | 121.90 |
| 1 | 1G | 831 | U | C6-N1-C2 | -6.92 | 116.85 | 121.00 |
| 26 | 14 | 1783 | A | N7-C8-N9 | 6.92 | 117.26 | 113.80 |
| 26 | 1H | 184 | C | O5'-P-OP1 | -6.92 | 99.47 | 105.70 |
| 26 | 14 | 2092 | U | N3-C4-C5 | -6.92 | 110.45 | 114.60 |
| 26 | 14 | 2591 | C | C6-N1-C2 | -6.92 | 117.53 | 120.30 |
| 26 | 1H | 1784 | A | OP1-P-O3' | 6.92 | 120.42 | 105.20 |
| 26 | 1H | 1903 | G | N1-C6-O6 | -6.92 | 115.75 | 119.90 |
| 1 | 1G | 50 | A | N1-C2-N3 | 6.92 | 132.76 | 129.30 |
| 1 | 1G | 395 | C | OP1-P-OP2 | 6.92 | 129.97 | 119.60 |
| 26 | 14 | 520 | G | N3-C2-N2 | -6.92 | 115.06 | 119.90 |
| 26 | 14 | 1342 | A | C4-C5-C6 | 6.92 | 120.46 | 117.00 |
| 26 | 1H | 1431 | U | C6-N1-C2 | -6.92 | 116.85 | 121.00 |
| 26 | 1H | 2427 | C | C4-C5-C6 | 6.92 | 120.86 | 117.40 |
| 26 | 1H | 2875 | C | N1-C2-O2 | 6.92 | 123.05 | 118.90 |
| 36 | 68 | 8 | LEU | CB-CG-CD1 | -6.92 | 99.25 | 111.00 |
| 1 | 1G | 1438 | G | N1-C6-O6 | 6.92 | 124.05 | 119.90 |
| 26 | 14 | 1430 | C | N3-C4-N4 | -6.92 | 113.16 | 118.00 |
| 26 | 14 | 2451 | A | C6-N1-C2 | -6.92 | 114.45 | 118.60 |
| 26 | 14 | 2499 | C | C2-N1-C1' | 6.92 | 126.41 | 118.80 |
| 26 | 1H | 50 | U | OP1-P-OP2 | 6.91 | 129.97 | 119.60 |
| 26 | 1H | 119 | A | C4-C5-N7 | -6.91 | 107.24 | 110.70 |
| 26 | 1H | 663 | G | C4-N9-C1' | 6.91 | 135.49 | 126.50 |
| 26 | 1H | 1852 | C | C6-N1-C2 | 6.91 | 123.06 | 120.30 |
| 26 | 1H | 2735 | G | N9-C4-C5 | 6.91 | 108.17 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 27 | 16 | 19 | G | C5-C6-N1 | -6.91 | 108.04 | 111.50 |
| 25 | 4L | 14 | A | C2-N3-C4 | 6.91 | 114.06 | 110.60 |
| 26 | 14 | 68 | G | C4-C5-C6 | 6.91 | 122.95 | 118.80 |
| 26 | 14 | 1647 | G | N3-C2-N2 | -6.91 | 115.06 | 119.90 |
| 26 | 14 | 1940 | U | N3-C4-C5 | -6.91 | 110.45 | 114.60 |
| 26 | 14 | 2229 | C | N3-C2-O2 | 6.91 | 126.74 | 121.90 |
| 26 | 14 | 2403 | C | N1-C2-O2 | -6.91 | 114.75 | 118.90 |
| 26 | 14 | 2695 | C | C4-C5-C6 | 6.91 | 120.86 | 117.40 |
| 26 | 1H | 946 | G | C8-N9-C4 | 6.91 | 109.17 | 106.40 |
| 26 | 1H | 2553 | G | N1-C6-O6 | -6.91 | 115.75 | 119.90 |
| 26 | 1H | 291 | C | C6-N1-C2 | 6.91 | 123.06 | 120.30 |
| 26 | 1H | 851 | U | N1-C2-O2 | -6.91 | 117.96 | 122.80 |
| 26 | 1H | 1648 | C | C2-N3-C4 | -6.91 | 116.44 | 119.90 |
| 26 | 1H | 2290 | G | N3-C2-N2 | -6.91 | 115.06 | 119.90 |
| 26 | 1H | 2371 | G | N3-C2-N2 | 6.91 | 124.74 | 119.90 |
| 26 | 1H | 2685 | G | C4-C5-N7 | -6.91 | 108.03 | 110.80 |
| 26 | 14 | 1334 | G | C6-C5-N7 | -6.91 | 126.25 | 130.40 |
| 1 | 13 | 244 | U | C5-C4-O4 | -6.91 | 121.75 | 125.90 |
| 1 | 13 | 533 | A | C4-C5-N7 | 6.91 | 114.16 | 110.70 |
| 26 | 1H | 323 | G | O5'-P-OP1 | -6.91 | 99.48 | 105.70 |
| 26 | 1H | 564 | C | C5-C6-N1 | 6.91 | 124.45 | 121.00 |
| 26 | 1H | 2294 | C | OP1-P-OP2 | -6.91 | 109.24 | 119.60 |
| 1 | 1G | 811 | C | N3-C2-O2 | 6.91 | 126.74 | 121.90 |
| 26 | 14 | 2614 | A | C5-C6-N1 | -6.91 | 114.25 | 117.70 |
| 26 | 1H | 2379 | G | N3-C4-N9 | 6.91 | 130.14 | 126.00 |
| 26 | 14 | 1311 | G | C2-N3-C4 | -6.91 | 108.45 | 111.90 |
| 1 | 13 | 1428 | A | N1-C6-N6 | -6.91 | 114.46 | 118.60 |
| 26 | 1H | 777 | A | C4-C5-C6 | 6.91 | 120.45 | 117.00 |
| 26 | 1H | 837 | C | C6-N1-C2 | -6.91 | 117.54 | 120.30 |
| 1 | 1G | 858 | G | C6-C5-N7 | -6.91 | 126.26 | 130.40 |
| 1 | 1G | 1203 | C | C6-N1-C2 | 6.91 | 123.06 | 120.30 |
| 1 | 1G | 1393 | U | C5-C6-N1 | 6.91 | 126.15 | 122.70 |
| 26 | 14 | 146 | G | N9-C4-C5 | -6.91 | 102.64 | 105.40 |
| 26 | 14 | 1378 | A | C6-N1-C2 | 6.91 | 122.74 | 118.60 |
| 26 | 1H | 244 | A | P-O3'-C3' | -6.90 | 111.42 | 119.70 |
| 26 | 1H | 1326 | U | C5-C6-N1 | -6.90 | 119.25 | 122.70 |
| 26 | 14 | 620 | G | N3-C2-N2 | -6.90 | 115.07 | 119.90 |
| 1 | 13 | 1222 | G | N3-C4-N9 | -6.90 | 121.86 | 126.00 |
| 26 | 1H | 179 | G | C8-N9-C4 | 6.90 | 109.16 | 106.40 |
| 26 | 1H | 2010 | G | O5'-P-OP2 | 6.90 | 118.98 | 110.70 |
| 26 | 1H | 2079 | U | C2-N3-C4 | -6.90 | 122.86 | 127.00 |
| 26 | 1H | 2299 | G | OP1-P-OP2 | -6.90 | 109.25 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2618 | G | C8-N9-C4 | -6.90 | 103.64 | 106.40 |
| 1 | 1G | 453 | A | O5'-P-OP1 | -6.90 | 99.49 | 105.70 |
| 26 | 14 | 2021 | C | N3-C2-O2 | -6.90 | 117.07 | 121.90 |
| 26 | 14 | 2609 | U | C2-N3-C4 | -6.90 | 122.86 | 127.00 |
| 1 | 13 | 747 | C | N3-C2-O2 | -6.90 | 117.07 | 121.90 |
| 1 | 13 | 1196 | U | C2-N1-C1' | 6.90 | 125.98 | 117.70 |
| 26 | 1H | 199 | A | C6-C5-N7 | 6.90 | 137.13 | 132.30 |
| 26 | 1H | 629 | G | C5-C6-N1 | 6.90 | 114.95 | 111.50 |
| 26 | 1H | 1024 | G | C8-N9-C4 | 6.90 | 109.16 | 106.40 |
| 26 | 1H | 1566 | A | N3-C4-N9 | -6.90 | 121.88 | 127.40 |
| 26 | 1H | 1814 | G | N3-C2-N2 | -6.90 | 115.07 | 119.90 |
| 26 | 1H | 1989 | G | N1-C2-N3 | 6.90 | 128.04 | 123.90 |
| 26 | 1H | 2387 | U | OP1-P-O3' | -6.90 | 90.02 | 105.20 |
| 26 | 1H | 2407 | G | O5'-P-OP1 | 6.90 | 118.98 | 110.70 |
| 26 | 1H | 2464 | C | O5'-P-OP2 | -6.90 | 99.49 | 105.70 |
| 26 | 1H | 2582 | G | N3-C4-C5 | -6.90 | 125.15 | 128.60 |
| 1 | 1G | 128 | G | C4-C5-N7 | -6.90 | 108.04 | 110.80 |
| 1 | 1G | 722 | A | C5-C6-N1 | -6.90 | 114.25 | 117.70 |
| 23 | 2L | 6 | G | C8-N9-C4 | 6.90 | 109.16 | 106.40 |
| 26 | 14 | 199 | A | C4-C5-C6 | -6.90 | 113.55 | 117.00 |
| 26 | 14 | 681 | G | C6-N1-C2 | -6.90 | 120.96 | 125.10 |
| 1 | 13 | 574 | A | N7-C8-N9 | -6.90 | 110.35 | 113.80 |
| 1 | 13 | 1158 | C | C2-N1-C1' | 6.90 | 126.39 | 118.80 |
| 1 | 13 | 1227 | A | C8-N9-C4 | -6.90 | 103.04 | 105.80 |
| 26 | 1H | 2528 | U | C2-N3-C4 | -6.90 | 122.86 | 127.00 |
| 26 | 14 | 379 | G | N3-C2-N2 | -6.90 | 115.07 | 119.90 |
| 26 | 14 | 845 | G | N3-C4-C5 | 6.90 | 132.05 | 128.60 |
| 1 | 13 | 647 | C | C6-N1-C2 | -6.90 | 117.54 | 120.30 |
| 1 | 13 | 867 | G | C2-N3-C4 | 6.90 | 115.35 | 111.90 |
| 1 | 13 | 1194 | U | N3-C2-O2 | -6.90 | 117.37 | 122.20 |
| 26 | 1H | 676 | A | C4-C5-C6 | -6.90 | 113.55 | 117.00 |
| 26 | 1H | 1694 | C | P-O3'-C3' | 6.90 | 127.98 | 119.70 |
| 26 | 1H | 2238 | G | OP1-P-O3' | 6.90 | 120.38 | 105.20 |
| 26 | 1H | 2362 | G | N9-C4-C5 | -6.90 | 102.64 | 105.40 |
| 26 | 14 | 1833 | U | C5-C4-O4 | 6.90 | 130.04 | 125.90 |
| 26 | 14 | 2574 | G | N3-C4-C5 | -6.90 | 125.15 | 128.60 |
| 26 | 14 | 2862 | G | C6-C5-N7 | -6.90 | 126.26 | 130.40 |
| 27 | 1J | 88 | C | N3-C4-C5 | -6.90 | 119.14 | 121.90 |
| 26 | 1H | 242 | G | C5-C6-O6 | -6.90 | 124.46 | 128.60 |
| 26 | 1H | 371 | A | N1-C2-N3 | 6.90 | 132.75 | 129.30 |
| 26 | 1H | 694 | U | C5-C4-O4 | 6.90 | 130.04 | 125.90 |
| 26 | 1H | 1935 | G | C2-N3-C4 | -6.90 | 108.45 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 1287 | A | C2-N3-C4 | -6.90 | 107.15 | 110.60 |
| 1 | 1G | 1402 | C | N1-C2-N3 | 6.90 | 124.03 | 119.20 |
| 26 | 14 | 1166 | C | N3-C4-C5 | -6.90 | 119.14 | 121.90 |
| 26 | 14 | 1314 | C | OP1-P-OP2 | -6.90 | 109.26 | 119.60 |
| 26 | 1H | 535 | C | N3-C2-O2 | 6.89 | 126.73 | 121.90 |
| 26 | 1H | 974 | G | N1-C2-N2 | 6.89 | 122.41 | 116.20 |
| 26 | 1H | 2339 | G | N1-C6-O6 | -6.89 | 115.76 | 119.90 |
| 26 | 14 | 489 | G | C6-C5-N7 | -6.89 | 126.26 | 130.40 |
| 26 | 14 | 2699 | C | C6-N1-C2 | 6.89 | 123.06 | 120.30 |
| 1 | 13 | 1069 | C | O5'-P-OP1 | -6.89 | 99.50 | 105.70 |
| 22 | 1K | 27 | G | C4-C5-N7 | -6.89 | 108.04 | 110.80 |
| 26 | 1H | 611 | C | C5-C6-N1 | -6.89 | 117.55 | 121.00 |
| 26 | 1H | 1011 | G | OP1-P-OP2 | -6.89 | 109.26 | 119.60 |
| 26 | 1H | 1273 | U | N3-C4-O4 | 6.89 | 124.22 | 119.40 |
| 26 | 1H | 1686 | C | C6-N1-C2 | 6.89 | 123.06 | 120.30 |
| 38 | 88 | 25 | ASP | CB-CG-OD1 | 6.89 | 124.50 | 118.30 |
| 26 | 14 | 782 | A | C6-N1-C2 | -6.89 | 114.47 | 118.60 |
| 26 | 14 | 946 | G | N9-C4-C5 | -6.89 | 102.64 | 105.40 |
| 26 | 14 | 1791 | A | N1-C6-N6 | 6.89 | 122.74 | 118.60 |
| 26 | 14 | 2041 | U | OP1-P-OP2 | 6.89 | 129.94 | 119.60 |
| 27 | 1J | 7 | G | OP2-P-O3' | 6.89 | 120.37 | 105.20 |
| 26 | 1H | 642 | G | O5'-P-OP2 | -6.89 | 99.50 | 105.70 |
| 26 | 1H | 658 | C | OP2-P-O3' | 6.89 | 120.36 | 105.20 |
| 1 | 1G | 416 | G | C2-N3-C4 | -6.89 | 108.45 | 111.90 |
| 26 | 14 | 1195 | G | O5'-P-OP2 | -6.89 | 99.50 | 105.70 |
| 26 | 14 | 1853 | A | OP1-P-OP2 | 6.89 | 129.94 | 119.60 |
| 1 | 13 | 960 | U | C4-C5-C6 | 6.89 | 123.83 | 119.70 |
| 24 | 3K | 45 | G | O4'-C1'-N9 | 6.89 | 113.71 | 108.20 |
| 26 | 1H | 531 | C | N3-C4-N4 | 6.89 | 122.82 | 118.00 |
| 26 | 1H | 916 | G | C6-N1-C2 | 6.89 | 129.23 | 125.10 |
| 26 | 1H | 2412 | A | N1-C6-N6 | -6.89 | 114.47 | 118.60 |
| 26 | 1H | 2489 | G | C4-C5-C6 | 6.89 | 122.93 | 118.80 |
| 26 | 14 | 83 | G | N1-C2-N3 | 6.89 | 128.03 | 123.90 |
| 26 | 14 | 812 | C | C5-C6-N1 | -6.89 | 117.56 | 121.00 |
| 26 | 14 | 1323 | U | N3-C4-O4 | 6.89 | 124.22 | 119.40 |
| 26 | 14 | 2769 | C | N1-C2-N3 | 6.89 | 124.02 | 119.20 |
| 1 | 13 | 1355 | G | C5-N7-C8 | -6.89 | 100.86 | 104.30 |
| 1 | 13 | 1482 | G | N1-C2-N2 | 6.89 | 122.40 | 116.20 |
| 26 | 1H | 1315 | C | N1-C2-O2 | 6.89 | 123.03 | 118.90 |
| 1 | 1G | 105 | G | C4-N9-C1' | 6.89 | 135.45 | 126.50 |
| 1 | 1G | 750 | G | C5-C6-O6 | 6.89 | 132.73 | 128.60 |
| 26 | 14 | 2024 | G | C4-C5-N7 | 6.89 | 113.56 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 2448 | A | C5-C6-N1 | 6.89 | 121.14 | 117.70 |
| 1 | 13 | 725 | G | N9-C4-C5 | -6.89 | 102.65 | 105.40 |
| 1 | 13 | 934 | C | C6-N1-C2 | -6.89 | 117.55 | 120.30 |
| 26 | 1H | 2379 | G | N7-C8-N9 | -6.89 | 109.66 | 113.10 |
| 26 | 1H | 2623 | G | N9-C4-C5 | 6.89 | 108.15 | 105.40 |
| 26 | 1H | 2674 | G | C2-N3-C4 | -6.89 | 108.46 | 111.90 |
| 27 | 16 | 35 | U | C5-C4-O4 | 6.89 | 130.03 | 125.90 |
| 26 | 14 | 55 | G | C4-C5-C6 | -6.89 | 114.67 | 118.80 |
| 26 | 14 | 456 | C | C5-C4-N4 | -6.89 | 115.38 | 120.20 |
| 26 | 14 | 2017 | U | N3-C4-O4 | 6.89 | 124.22 | 119.40 |
| 26 | 14 | 2284 | C | N3-C4-N4 | -6.89 | 113.18 | 118.00 |
| 1 | 13 | 1070 | U | N1-C2-O2 | -6.88 | 117.98 | 122.80 |
| 26 | 1H | 751 | A | C6-N1-C2 | -6.88 | 114.47 | 118.60 |
| 26 | 1H | 803 | U | O5'-P-OP2 | -6.88 | 99.50 | 105.70 |
| 26 | 1H | 2010 | G | OP1-P-OP2 | -6.88 | 109.27 | 119.60 |
| 26 | 1H | 2871 | C | N1-C2-N3 | 6.88 | 124.02 | 119.20 |
| 1 | 1G | 26 | A | C4-C5-N7 | -6.88 | 107.26 | 110.70 |
| 26 | 14 | 203 | C | O5'-P-OP1 | 6.88 | 118.96 | 110.70 |
| 26 | 14 | 215 | G | N1-C6-O6 | 6.88 | 124.03 | 119.90 |
| 1 | 13 | 1385 | G | C5-N7-C8 | -6.88 | 100.86 | 104.30 |
| 1 | 13 | 319 | G | N7-C8-N9 | -6.88 | 109.66 | 113.10 |
| 1 | 13 | 543 | C | C5-C6-N1 | -6.88 | 117.56 | 121.00 |
| 26 | 1H | 1356 | G | N1-C6-O6 | 6.88 | 124.03 | 119.90 |
| 26 | 1H | 2429 | G | O5'-P-OP1 | 6.88 | 118.96 | 110.70 |
| 26 | 1H | 2679 | A | C2-N3-C4 | -6.88 | 107.16 | 110.60 |
| 26 | 1H | 2849 | U | OP1-P-OP2 | -6.88 | 109.28 | 119.60 |
| 26 | 14 | 1525 | G | C5-C6-N1 | 6.88 | 114.94 | 111.50 |
| 26 | 14 | 1645 | G | N3-C4-C5 | -6.88 | 125.16 | 128.60 |
| 26 | 14 | 2289 | G | N1-C2-N3 | -6.88 | 119.77 | 123.90 |
| 26 | 1H | 1561 | G | OP1-P-O3' | 6.88 | 120.34 | 105.20 |
| 26 | 1H | 1854 | A | C4-C5-N7 | -6.88 | 107.26 | 110.70 |
| 26 | 14 | 102 | G | O4'-C1'-N9 | 6.88 | 113.70 | 108.20 |
| 26 | 1H | 271(C) | U | N1-C2-O2 | 6.88 | 127.61 | 122.80 |
| 26 | 1H | 693 | C | N3-C2-O2 | -6.88 | 117.08 | 121.90 |
| 29 | 11 | 48 | ARG | NE-CZ-NH1 | -6.88 | 116.86 | 120.30 |
| 26 | 14 | 871 | U | O5'-P-OP1 | -6.88 | 99.51 | 105.70 |
| 26 | 14 | 2217 | G | C5-C6-N1 | -6.88 | 108.06 | 111.50 |
| 26 | 14 | 2731 | G | C8-N9-C4 | -6.88 | 103.65 | 106.40 |
| 1 | 13 | 760 | G | C5-C6-N1 | -6.88 | 108.06 | 111.50 |
| 1 | 13 | 1412 | C | N3-C4-N4 | -6.88 | 113.19 | 118.00 |
| 1 | 13 | 1493 | A | C5-C6-N1 | -6.88 | 114.26 | 117.70 |
| 26 | 1H | 971 | C | C2-N3-C4 | -6.88 | 116.46 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2281 | C | C2-N1-C1' | 6.88 | 126.36 | 118.80 |
| 26 | 1H | 2346 | A | N9-C1'-C2' | 6.88 | 122.94 | 114.00 |
| 26 | 14 | 2293 | C | N3-C2-O2 | -6.88 | 117.09 | 121.90 |
| 1 | 13 | 1497 | G | C5-N7-C8 | 6.88 | 107.74 | 104.30 |
| 26 | 1H | 849 | A | C6-N1-C2 | -6.88 | 114.47 | 118.60 |
| 26 | 14 | 2391 | G | C6-C5-N7 | 6.88 | 134.53 | 130.40 |
| 1 | 13 | 413 | G | C5-C6-N1 | 6.87 | 114.94 | 111.50 |
| 1 | 13 | 1442 | G | C5-C6-O6 | 6.87 | 132.72 | 128.60 |
| 26 | 1H | 624 | C | N3-C4-N4 | 6.87 | 122.81 | 118.00 |
| 26 | 1H | 1780 | A | O5'-P-OP2 | 6.87 | 118.95 | 110.70 |
| 26 | 1H | 2228 | G | N1-C6-O6 | 6.87 | 124.02 | 119.90 |
| 26 | 1H | 2762 | G | C5-C6-O6 | 6.87 | 132.72 | 128.60 |
| 1 | 1G | 1112 | C | C6-N1-C2 | -6.87 | 117.55 | 120.30 |
| 26 | 14 | 811 | U | C5-C4-O4 | 6.87 | 130.02 | 125.90 |
| 26 | 14 | 1355 | G | C6-C5-N7 | -6.87 | 126.28 | 130.40 |
| 26 | 14 | 1815 | A | N7-C8-N9 | 6.87 | 117.24 | 113.80 |
| 1 | 13 | 522 | C | OP1-P-OP2 | 6.87 | 129.91 | 119.60 |
| 1 | 13 | 525 | C | C5-C4-N4 | -6.87 | 115.39 | 120.20 |
| 1 | 13 | 893 | C | C4-C5-C6 | -6.87 | 113.96 | 117.40 |
| 26 | 1H | 53 | A | O5'-P-OP1 | -6.87 | 99.52 | 105.70 |
| 26 | 1H | 1192 | G | C5-C6-N1 | 6.87 | 114.94 | 111.50 |
| 26 | 1H | 2350 | C | N3-C2-O2 | -6.87 | 117.09 | 121.90 |
| 26 | 1H | 2738 | A | C5-C6-N1 | 6.87 | 121.14 | 117.70 |
| 26 | 14 | 298 | G | C6-C5-N7 | -6.87 | 126.28 | 130.40 |
| 26 | 14 | 1429 | G | N9-C4-C5 | 6.87 | 108.15 | 105.40 |
| 26 | 14 | 2391 | G | C5-C6-N1 | 6.87 | 114.94 | 111.50 |
| 24 | 3K | 2 | G | C4-C5-N7 | 6.87 | 113.55 | 110.80 |
| 26 | 14 | 1929 | G | C5-C6-O6 | 6.87 | 132.72 | 128.60 |
| 1 | 13 | 719 | C | C6-N1-C2 | -6.87 | 117.55 | 120.30 |
| 26 | 1H | 471 | A | N1-C6-N6 | 6.87 | 122.72 | 118.60 |
| 26 | 1H | 1710 | C | C5-C6-N1 | -6.87 | 117.56 | 121.00 |
| 26 | 1H | 2578 | G | O5'-P-OP1 | -6.87 | 99.52 | 105.70 |
| 26 | 1H | 2593 | U | OP2-P-O3' | 6.87 | 120.31 | 105.20 |
| 1 | 1G | 905 | U | N1-C2-N3 | 6.87 | 119.02 | 114.90 |
| 26 | 14 | 326 | G | N3-C4-C5 | 6.87 | 132.03 | 128.60 |
| 26 | 14 | 921 | G | C5-C6-N1 | -6.87 | 108.06 | 111.50 |
| 26 | 14 | 1420 | U | C5-C6-N1 | -6.87 | 119.27 | 122.70 |
| 26 | 14 | 2617 | C | N3-C4-N4 | -6.87 | 113.19 | 118.00 |
| 26 | 14 | 2619 | C | C5-C6-N1 | -6.87 | 117.57 | 121.00 |
| 26 | 14 | 2649 | U | C5-C4-O4 | -6.87 | 121.78 | 125.90 |
| 26 | 1H | 617 | G | N9-C4-C5 | -6.87 | 102.65 | 105.40 |
| 26 | 1H | 859 | G | N3-C2-N2 | -6.87 | 115.09 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1002 | G | N1-C6-O6 | -6.87 | 115.78 | 119.90 |
| 26 | 1H | 2007 | C | N3-C4-C5 | -6.87 | 119.15 | 121.90 |
| 23 | 2L | 53 | G | C8-N9-C4 | -6.87 | 103.65 | 106.40 |
| 26 | 14 | 861 | A | OP1-P-OP2 | -6.87 | 109.30 | 119.60 |
| 26 | 14 | 1676 | A | C8-N9-C4 | 6.87 | 108.55 | 105.80 |
| 26 | 14 | 2030 | A | OP1-P-OP2 | 6.87 | 129.90 | 119.60 |
| 26 | 14 | 2503 | A | N9-C4-C5 | 6.87 | 108.55 | 105.80 |
| 26 | 1H | 248 | G | O5'-P-OP1 | 6.87 | 118.94 | 110.70 |
| 26 | 1H | 658 | C | OP1-P-O3' | -6.87 | 90.10 | 105.20 |
| 26 | 1H | 734 | A | N9-C4-C5 | -6.87 | 103.05 | 105.80 |
| 26 | 1H | 1761 | C | N3-C4-N4 | 6.87 | 122.81 | 118.00 |
| 26 | 1H | 2304 | G | N3-C4-C5 | 6.87 | 132.03 | 128.60 |
| 26 | 14 | 503 | A | N9-C4-C5 | 6.87 | 108.55 | 105.80 |
| 1 | 13 | 780 | A | C2-N3-C4 | -6.86 | 107.17 | 110.60 |
| 26 | 1H | 23 | G | C6-N1-C2 | 6.86 | 129.22 | 125.10 |
| 26 | 1H | 444 | C | N3-C4-C5 | -6.86 | 119.15 | 121.90 |
| 26 | 1H | 797 | C | N1-C2-N3 | 6.86 | 124.00 | 119.20 |
| 26 | 1H | 1558 | A | P-O3'-C3' | 6.86 | 127.94 | 119.70 |
| 26 | 1H | 1623 | G | N1-C2-N3 | 6.86 | 128.02 | 123.90 |
| 26 | 1H | 1695 | G | N3-C4-N9 | 6.86 | 130.12 | 126.00 |
| 26 | 1H | 2198 | A | OP2-P-O3' | 6.86 | 120.30 | 105.20 |
| 26 | 1H | 2485 | G | N9-C4-C5 | -6.86 | 102.66 | 105.40 |
| 27 | 16 | 46 | A | N1-C6-N6 | -6.86 | 114.48 | 118.60 |
| 26 | 14 | 973 | A | N9-C4-C5 | -6.86 | 103.05 | 105.80 |
| 1 | 13 | 467 | G | C5-C6-O6 | -6.86 | 124.48 | 128.60 |
| 26 | 1H | 804 | A | C5-C6-N1 | -6.86 | 114.27 | 117.70 |
| 27 | 16 | 31 | C | N1-C2-O2 | 6.86 | 123.02 | 118.90 |
| 1 | 1G | 1305 | G | N3-C4-C5 | 6.86 | 132.03 | 128.60 |
| 26 | 14 | 585 | G | C4-C5-N7 | 6.86 | 113.55 | 110.80 |
| 26 | 14 | 1516 | U | N3-C2-O2 | -6.86 | 117.40 | 122.20 |
| 26 | 14 | 1706 | U | C5-C4-O4 | 6.86 | 130.02 | 125.90 |
| 27 | 1J | 102 | G | N7-C8-N9 | -6.86 | 109.67 | 113.10 |
| 1 | 13 | 1399 | C | N1-C2-O2 | -6.86 | 114.78 | 118.90 |
| 26 | 1H | 1238 | G | N9-C1'-C2' | -6.86 | 104.45 | 112.00 |
| 26 | 14 | 502 | A | O5'-P-OP1 | -6.86 | 99.53 | 105.70 |
| 26 | 14 | 1282 | U | C2-N3-C4 | -6.86 | 122.88 | 127.00 |
| 26 | 14 | 1334 | G | N7-C8-N9 | 6.86 | 116.53 | 113.10 |
| 26 | 14 | 1662 | C | O5'-P-OP2 | -6.86 | 99.53 | 105.70 |
| 26 | 1H | 1398 | C | OP2-P-O3' | 6.86 | 120.29 | 105.20 |
| 26 | 1H | 1443 | G | N3-C4-C5 | 6.86 | 132.03 | 128.60 |
| 26 | 1H | 2328 | A | N1-C2-N3 | 6.86 | 132.73 | 129.30 |
| 26 | 1H | 2562 | U | C5-C4-O4 | 6.86 | 130.02 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2397 | G | O5'-P-OP2 | 6.86 | 118.93 | 110.70 |
| 26 | 14 | 2820 | A | N1-C6-N6 | 6.86 | 122.72 | 118.60 |
| 1 | 13 | 757 | U | C6-N1-C2 | 6.86 | 125.11 | 121.00 |
| 1 | 13 | 1065 | U | N3-C2-O2 | 6.86 | 127.00 | 122.20 |
| 22 | 1K | 61 | C | C2-N3-C4 | 6.86 | 123.33 | 119.90 |
| 26 | 1H | 43 | G | O5'-P-OP1 | 6.86 | 118.93 | 110.70 |
| 26 | 1H | 649 | G | C6-C5-N7 | -6.86 | 126.28 | 130.40 |
| 26 | 1H | 789 | A | OP1-P-OP2 | 6.86 | 129.88 | 119.60 |
| 26 | 1H | 842 | G | C2-N3-C4 | -6.86 | 108.47 | 111.90 |
| 26 | 1H | 1869 | G | O5'-P-OP2 | -6.86 | 99.53 | 105.70 |
| 26 | 14 | 1163 | G | C8-N9-C4 | 6.86 | 109.14 | 106.40 |
| 26 | 14 | 1786 | A | C6-C5-N7 | -6.86 | 127.50 | 132.30 |
| 26 | 14 | 2489 | G | C6-C5-N7 | -6.86 | 126.29 | 130.40 |
| 26 | 1H | 250 | G | C8-N9-C4 | -6.86 | 103.66 | 106.40 |
| 26 | 1H | 1363 | C | C2-N1-C1' | -6.86 | 111.26 | 118.80 |
| 26 | 1H | 1373 | A | OP1-P-OP2 | -6.86 | 109.32 | 119.60 |
| 26 | 1H | 1435 | G | C5-C6-N1 | 6.86 | 114.93 | 111.50 |
| 26 | 1H | 2373 | G | OP1-P-OP2 | 6.86 | 129.88 | 119.60 |
| 1 | 1G | 1437 | C | C4-C5-C6 | -6.86 | 113.97 | 117.40 |
| 26 | 14 | 246 | C | O5'-P-OP1 | -6.86 | 99.53 | 105.70 |
| 26 | 14 | 255 | A | C4-C5-N7 | 6.86 | 114.13 | 110.70 |
| 26 | 14 | 572 | A | C6-N1-C2 | -6.86 | 114.49 | 118.60 |
| 1 | 13 | 1385 | G | N3-C4-C5 | 6.85 | 132.03 | 128.60 |
| 26 | 1H | 129 | C | C6-N1-C1' | -6.85 | 112.58 | 120.80 |
| 26 | 1H | 1215 | G | N3-C4-N9 | 6.85 | 130.11 | 126.00 |
| 26 | 1H | 956 | G | C4-C5-N7 | -6.85 | 108.06 | 110.80 |
| 26 | 1H | 1665 | A | C5-N7-C8 | -6.85 | 100.47 | 103.90 |
| 26 | 1H | 2779 | U | O5'-P-OP2 | -6.85 | 99.53 | 105.70 |
| 1 | 1G | 324 | G | C5-C6-N1 | -6.85 | 108.07 | 111.50 |
| 1 | 1G | 859 | A | N9-C4-C5 | 6.85 | 108.54 | 105.80 |
| 26 | 14 | 1024 | G | N3-C2-N2 | -6.85 | 115.10 | 119.90 |
| 1 | 13 | 1494 | G | C4-C5-N7 | 6.85 | 113.54 | 110.80 |
| 26 | 1H | 1261 | C | N3-C4-N4 | 6.85 | 122.80 | 118.00 |
| 1 | 13 | 611 | A | C2-N3-C4 | -6.85 | 107.17 | 110.60 |
| 1 | 13 | 727 | G | C5-C6-O6 | 6.85 | 132.71 | 128.60 |
| 26 | 1H | 1647 | G | C6-C5-N7 | 6.85 | 134.51 | 130.40 |
| 26 | 1H | 1803 | A | C6-N1-C2 | 6.85 | 122.71 | 118.60 |
| 26 | 1H | 1897 | G | O5'-P-OP1 | -6.85 | 99.54 | 105.70 |
| 26 | 1H | 1954 | G | OP1-P-OP2 | -6.85 | 109.33 | 119.60 |
| 26 | 1H | 2295 | C | C5-C6-N1 | 6.85 | 124.42 | 121.00 |
| 26 | 1H | 2296 | U | C4-C5-C6 | 6.85 | 123.81 | 119.70 |
| 26 | 1H | 2690 | C | N3-C2-O2 | -6.85 | 117.11 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 227 | G | C8-N9-C4 | 6.85 | 109.14 | 106.40 |
| 26 | 14 | 670 | A | O4'-C1'-N9 | -6.85 | 102.72 | 108.20 |
| 26 | 14 | 768 | G | C5-C6-O6 | -6.85 | 124.49 | 128.60 |
| 27 | 1J | 114 | G | C4-C5-N7 | -6.85 | 108.06 | 110.80 |
| 1 | 13 | 659 | U | C5-C4-O4 | 6.85 | 130.01 | 125.90 |
| 1 | 13 | 1509 | C | O5'-P-OP1 | -6.85 | 99.54 | 105.70 |
| 1 | 13 | 1520 | G | N3-C2-N2 | 6.85 | 124.69 | 119.90 |
| 26 | 1H | 962 | G | N1-C2-N2 | -6.85 | 110.04 | 116.20 |
| 26 | 1H | 1404 | C | N3-C4-C5 | 6.85 | 124.64 | 121.90 |
| 26 | 1H | 1663 | C | O5'-P-OP1 | 6.85 | 118.92 | 110.70 |
| 26 | 1H | 2578 | G | C6-N1-C2 | -6.85 | 120.99 | 125.10 |
| 1 | 1G | 231 | G | N3-C4-N9 | -6.85 | 121.89 | 126.00 |
| 26 | 14 | 333 | G | C4-C5-N7 | 6.85 | 113.54 | 110.80 |
| 26 | 14 | 1812 | A | N9-C4-C5 | 6.85 | 108.54 | 105.80 |
| 27 | 1J | 18 | G | N3-C4-C5 | 6.85 | 132.02 | 128.60 |
| 27 | 1J | 48 | A | O5'-P-OP1 | -6.85 | 99.54 | 105.70 |
| 1 | 13 | 792 | A | C8-N9-C4 | 6.85 | 108.54 | 105.80 |
| 26 | 1H | 471 | A | C5-C6-N1 | -6.85 | 114.28 | 117.70 |
| 26 | 1H | 693 | C | C6-N1-C2 | -6.85 | 117.56 | 120.30 |
| 26 | 1H | 1236 | G | C8-N9-C4 | 6.85 | 109.14 | 106.40 |
| 26 | 1H | 1907 | G | N9-C4-C5 | 6.85 | 108.14 | 105.40 |
| 26 | 1H | 1912 | A | OP2-P-O3' | 6.85 | 120.26 | 105.20 |
| 26 | 1H | 2763 | G | C2-N3-C4 | -6.85 | 108.48 | 111.90 |
| 26 | 14 | 1187 | G | O5'-P-OP1 | 6.85 | 118.92 | 110.70 |
| 1 | 13 | 540 | G | O5'-P-OP1 | 6.84 | 118.91 | 110.70 |
| 26 | 1H | 221 | A | C4-C5-N7 | -6.84 | 107.28 | 110.70 |
| 26 | 1H | 863 | A | C5-N7-C8 | 6.84 | 107.32 | 103.90 |
| 26 | 1H | 1914 | C | N3-C4-C5 | -6.84 | 119.16 | 121.90 |
| 26 | 1H | 2599 | G | C4-C5-N7 | -6.84 | 108.06 | 110.80 |
| 26 | 1H | 2664 | G | C5-C6-N1 | -6.84 | 108.08 | 111.50 |
| 26 | 1H | 2775 | A | C2-N3-C4 | -6.84 | 107.18 | 110.60 |
| 1 | 1G | 913 | A | N3-C4-C5 | -6.84 | 122.01 | 126.80 |
| 26 | 14 | 911 | A | C2-N3-C4 | 6.84 | 114.02 | 110.60 |
| 26 | 14 | 948 | G | N1-C2-N2 | 6.84 | 122.36 | 116.20 |
| 26 | 14 | 2281 | C | O5'-P-OP1 | 6.84 | 118.91 | 110.70 |
| 26 | 14 | 2584 | U | C2-N3-C4 | -6.84 | 122.89 | 127.00 |
| 26 | 14 | 2713 | A | C4-C5-N7 | 6.84 | 114.12 | 110.70 |
| 27 | 1J | 29 | A | C8-N9-C4 | -6.84 | 103.06 | 105.80 |
| 26 | 1H | 1377 | G | C4-N9-C1' | 6.84 | 135.40 | 126.50 |
| 26 | 1H | 2084 | C | OP1-P-OP2 | 6.84 | 129.87 | 119.60 |
| 26 | 14 | 1935 | G | O5'-P-OP2 | -6.84 | 99.54 | 105.70 |
| 1 | 13 | 525 | C | N3-C4-N4 | 6.84 | 122.79 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 357 | A | OP1-P-OP2 | -6.84 | 109.34 | 119.60 |
| 26 | 1H | 2622 | C | C2-N3-C4 | -6.84 | 116.48 | 119.90 |
| 1 | 1G | 398 | C | N3-C4-C5 | 6.84 | 124.64 | 121.90 |
| 26 | 14 | 1543 | A | C4-C5-N7 | -6.84 | 107.28 | 110.70 |
| 26 | 14 | 1564 | C | C5-C6-N1 | -6.84 | 117.58 | 121.00 |
| 26 | 14 | 2043 | C | C5-C4-N4 | -6.84 | 115.41 | 120.20 |
| 26 | 14 | 2318 | G | C6-C5-N7 | -6.84 | 126.30 | 130.40 |
| 26 | 1H | 1024 | G | OP1-P-OP2 | 6.84 | 129.86 | 119.60 |
| 26 | 1H | 1528 | A | C6-C5-N7 | -6.84 | 127.51 | 132.30 |
| 26 | 1H | 1591 | G | OP1-P-O3' | 6.84 | 120.25 | 105.20 |
| 26 | 1H | 1652 | A | N1-C2-N3 | 6.84 | 132.72 | 129.30 |
| 26 | 1H | 2225 | A | C5-C6-N1 | 6.84 | 121.12 | 117.70 |
| 26 | 1H | 2694 | G | N1-C2-N2 | -6.84 | 110.04 | 116.20 |
| 26 | 1H | 2873 | A | O5'-P-OP2 | -6.84 | 99.55 | 105.70 |
| 26 | 14 | 398 | G | C2-N3-C4 | -6.84 | 108.48 | 111.90 |
| 26 | 14 | 1700 | A | O5'-P-OP2 | 6.84 | 118.91 | 110.70 |
| 27 | 1J | 29 | A | C6-C5-N7 | -6.84 | 127.51 | 132.30 |
| 1 | 13 | 221 | C | C5-C6-N1 | 6.84 | 124.42 | 121.00 |
| 1 | 13 | 1495 | U | N3-C2-O2 | -6.84 | 117.41 | 122.20 |
| 27 | 16 | 28 | C | N3-C4-C5 | -6.84 | 119.17 | 121.90 |
| 1 | 1G | 362 | G | N9-C4-C5 | 6.84 | 108.14 | 105.40 |
| 1 | 1G | 796 | C | O5'-P-OP1 | 6.84 | 118.91 | 110.70 |
| 1 | 1G | 1355 | G | C5-C6-O6 | -6.84 | 124.50 | 128.60 |
| 26 | 1H | 241 | A | C8-N9-C4 | 6.84 | 108.53 | 105.80 |
| 26 | 1H | 395 | U | C5-C6-N1 | -6.84 | 119.28 | 122.70 |
| 26 | 1H | 959 | A | O5'-P-OP2 | -6.84 | 99.55 | 105.70 |
| 26 | 1H | 1586 | A | C4-C5-C6 | 6.84 | 120.42 | 117.00 |
| 26 | 1H | 1668 | A | O5'-P-OP1 | 6.84 | 118.90 | 110.70 |
| 26 | 14 | 85 | G | N3-C2-N2 | 6.84 | 124.69 | 119.90 |
| 26 | 14 | 770 | G | C4-C5-C6 | -6.84 | 114.70 | 118.80 |
| 26 | 1H | 735 | A | C5-C6-N6 | -6.83 | 118.23 | 123.70 |
| 26 | 1H | 1965 | C | C6-N1-C2 | 6.83 | 123.03 | 120.30 |
| 26 | 1H | 2296 | U | O5'-P-OP2 | -6.83 | 99.55 | 105.70 |
| 26 | 14 | 698 | C | N3-C4-C5 | -6.83 | 119.17 | 121.90 |
| 26 | 14 | 2210 | G | C4-N9-C1' | 6.83 | 135.38 | 126.50 |
| 55 | M5 | 58 | ILE | CG1-CB-CG2 | -6.83 | 96.36 | 111.40 |
| 1 | 13 | 452 | A | C8-N9-C4 | 6.83 | 108.53 | 105.80 |
| 1 | 13 | 749 | C | N1-C2-O2 | 6.83 | 123.00 | 118.90 |
| 26 | 1H | 705 | A | N9-C4-C5 | -6.83 | 103.07 | 105.80 |
| 26 | 1H | 1151 | G | N1-C2-N2 | 6.83 | 122.35 | 116.20 |
| 26 | 1H | 1256 | G | C4-C5-N7 | -6.83 | 108.07 | 110.80 |
| 26 | 1H | 2238 | G | N1-C6-O6 | -6.83 | 115.80 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 26 | A | N9-C4-C5 | 6.83 | 108.53 | 105.80 |
| 1 | 13 | 376 | G | OP1-P-OP2 | 6.83 | 129.85 | 119.60 |
| 1 | 13 | 387 | U | C5-C6-N1 | -6.83 | 119.28 | 122.70 |
| 1 | 13 | 403 | C | N1-C2-O2 | -6.83 | 114.80 | 118.90 |
| 1 | 13 | 581 | G | N9-C4-C5 | -6.83 | 102.67 | 105.40 |
| 1 | 13 | 1318 | A | C8-N9-C4 | 6.83 | 108.53 | 105.80 |
| 26 | 1H | 251 | A | O5'-P-OP1 | -6.83 | 99.55 | 105.70 |
| 26 | 1H | 1153 | C | N1-C2-N3 | 6.83 | 123.98 | 119.20 |
| 26 | 1H | 1917 | U | C5-C6-N1 | 6.83 | 126.12 | 122.70 |
| 26 | 1H | 2030 | A | O5'-P-OP1 | -6.83 | 99.55 | 105.70 |
| 26 | 1H | 2857 | G | OP1-P-OP2 | 6.83 | 129.85 | 119.60 |
| 1 | 1G | 1516 | G | OP1-P-OP2 | 6.83 | 129.85 | 119.60 |
| 26 | 14 | 119 | A | OP1-P-O3' | 6.83 | 120.23 | 105.20 |
| 26 | 14 | 1451 | C | OP1-P-OP2 | 6.83 | 129.85 | 119.60 |
| 26 | 14 | 2394 | C | N3-C4-N4 | -6.83 | 113.22 | 118.00 |
| 45 | B5 | 73 | ARG | NE-CZ-NH1 | 6.83 | 123.72 | 120.30 |
| 26 | 1H | 990 | A | C5-C6-N1 | -6.83 | 114.28 | 117.70 |
| 26 | 1H | 1400 | G | O5'-P-OP2 | -6.83 | 99.55 | 105.70 |
| 26 | 1H | 1967 | C | N1-C2-N3 | 6.83 | 123.98 | 119.20 |
| 26 | 14 | 377 | C | N1-C2-O2 | -6.83 | 114.80 | 118.90 |
| 26 | 14 | 2503 | A | N1-C6-N6 | -6.83 | 114.50 | 118.60 |
| 1 | 13 | 21 | G | C5-C6-O6 | 6.83 | 132.70 | 128.60 |
| 1 | 13 | 325 | A | C4-C5-C6 | -6.83 | 113.59 | 117.00 |
| 26 | 1H | 209 | C | C6-N1-C2 | 6.83 | 123.03 | 120.30 |
| 26 | 1H | 2285 | C | N1-C2-O2 | 6.83 | 123.00 | 118.90 |
| 1 | 1G | 1507 | A | N1-C6-N6 | -6.83 | 114.50 | 118.60 |
| 26 | 14 | 914 | C | OP1-P-O3' | 6.83 | 120.22 | 105.20 |
| 26 | 14 | 1369 | G | N7-C8-N9 | -6.83 | 109.69 | 113.10 |
| 27 | 1J | 103 | U | C6-N1-C2 | 6.83 | 125.10 | 121.00 |
| 1 | 13 | 1510 | U | O5'-P-OP2 | -6.83 | 99.56 | 105.70 |
| 26 | 1H | 759 | G | N1-C2-N2 | 6.83 | 122.34 | 116.20 |
| 26 | 1H | 874 | G | C8-N9-C4 | 6.83 | 109.13 | 106.40 |
| 26 | 1H | 2282 | G | N3-C2-N2 | -6.83 | 115.12 | 119.90 |
| 26 | 1H | 2346 | A | N3-C4-N9 | -6.83 | 121.94 | 127.40 |
| 1 | 13 | 107 | G | C5-C6-O6 | 6.83 | 132.69 | 128.60 |
| 1 | 13 | 790 | A | N1-C6-N6 | 6.83 | 122.69 | 118.60 |
| 26 | 1H | 493 | G | C4-C5-N7 | -6.83 | 108.07 | 110.80 |
| 26 | 1H | 2379 | G | C4-C5-N7 | 6.83 | 113.53 | 110.80 |
| 1 | 1G | 529 | G | N7-C8-N9 | 6.83 | 116.51 | 113.10 |
| 1 | 1G | 766 | A | C5-C6-N6 | -6.83 | 118.24 | 123.70 |
| 26 | 14 | 127 | A | OP1-P-O3' | 6.83 | 120.21 | 105.20 |
| 26 | 14 | 2057 | A | N9-C4-C5 | -6.83 | 103.07 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 2784 | C | N1-C2-O2 | -6.83 | 114.81 | 118.90 |
| 1 | 13 | 479 | C | O5'-P-OP1 | -6.82 | 99.56 | 105.70 |
| 26 | 1H | 190 | A | C8-N9-C4 | 6.82 | 108.53 | 105.80 |
| 26 | 1H | 432 | A | C5-C6-N6 | -6.82 | 118.24 | 123.70 |
| 26 | 1H | 690 | G | O5'-P-OP1 | 6.82 | 118.89 | 110.70 |
| 26 | 1H | 2398 | U | N3-C4-O4 | -6.82 | 114.62 | 119.40 |
| 1 | 1G | 1430 | C | N3-C4-C5 | 6.82 | 124.63 | 121.90 |
| 26 | 14 | 24 | G | N1-C2-N3 | 6.82 | 127.99 | 123.90 |
| 26 | 14 | 1225 | C | C6-N1-C2 | 6.82 | 123.03 | 120.30 |
| 26 | 14 | 1236 | G | O5'-P-OP2 | 6.82 | 118.89 | 110.70 |
| 26 | 14 | 1816 | G | O5'-P-OP2 | 6.82 | 118.89 | 110.70 |
| 26 | 14 | 1860 | G | C4-C5-N7 | 6.82 | 113.53 | 110.80 |
| 26 | 14 | 2216 | G | N1-C2-N2 | 6.82 | 122.34 | 116.20 |
| 27 | 1J | 96 | G | C5-C6-O6 | -6.82 | 124.51 | 128.60 |
| 1 | 13 | 885 | G | N3-C2-N2 | -6.82 | 115.12 | 119.90 |
| 26 | 14 | 1393 | A | C2-N3-C4 | 6.82 | 114.01 | 110.60 |
| 26 | 14 | 2051 | A | C2-N3-C4 | -6.82 | 107.19 | 110.60 |
| 26 | 1H | 372 | G | N3-C4-N9 | -6.82 | 121.91 | 126.00 |
| 26 | 1H | 701 | G | OP2-P-O3' | 6.82 | 120.20 | 105.20 |
| 26 | 1H | 1142 | U | OP1-P-OP2 | -6.82 | 109.37 | 119.60 |
| 26 | 1H | 1338 | G | N7-C8-N9 | -6.82 | 109.69 | 113.10 |
| 26 | 1H | 1605 | C | N1-C2-N3 | 6.82 | 123.97 | 119.20 |
| 26 | 1H | 2052 | G | C4-C5-C6 | 6.82 | 122.89 | 118.80 |
| 1 | 13 | 1472 | U | N3-C4-O4 | -6.82 | 114.63 | 119.40 |
| 26 | 1H | 2429 | G | N7-C8-N9 | 6.82 | 116.51 | 113.10 |
| 1 | 1G | 768 | A | C2-N3-C4 | -6.82 | 107.19 | 110.60 |
| 26 | 14 | 1758 | G | N3-C4-N9 | -6.82 | 121.91 | 126.00 |
| 26 | 14 | 2270 | G | N1-C6-O6 | -6.82 | 115.81 | 119.90 |
| 1 | 13 | 947 | G | C4-C5-N7 | -6.82 | 108.07 | 110.80 |
| 26 | 1H | 270(Q) | C | C5-C6-N1 | 6.82 | 124.41 | 121.00 |
| 26 | 1H | 626 | U | N3-C4-C5 | -6.82 | 110.51 | 114.60 |
| 26 | 1H | 983 | A | C8-N9-C4 | 6.82 | 108.53 | 105.80 |
| 26 | 1H | 2611 | U | OP2-P-O3' | 6.82 | 120.20 | 105.20 |
| 26 | 1H | 2767 | C | C6-N1-C2 | 6.82 | 123.03 | 120.30 |
| 27 | 16 | 115 | G | N1-C6-O6 | 6.82 | 123.99 | 119.90 |
| 57 | 3L | 37 | A | N1-C6-N6 | 6.82 | 122.69 | 118.60 |
| 26 | 14 | 1395 | A | O4'-C1'-N9 | 6.82 | 113.66 | 108.20 |
| 1 | 13 | 40 | C | C4-C5-C6 | 6.82 | 120.81 | 117.40 |
| 26 | 1H | 692 | C | C4-C5-C6 | 6.82 | 120.81 | 117.40 |
| 26 | 1H | 1151 | G | N3-C4-N9 | -6.82 | 121.91 | 126.00 |
| 26 | 1H | 2023 | G | O5'-P-OP1 | -6.82 | 99.57 | 105.70 |
| 1 | 1G | 950 | U | N3-C2-O2 | -6.82 | 117.43 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1906 | G | N1-C6-O6 | 6.82 | 123.99 | 119.90 |
| 26 | 14 | 2047 | U | O5'-P-OP2 | 6.82 | 118.88 | 110.70 |
| 26 | 14 | 2447 | G | C5-N7-C8 | 6.82 | 107.71 | 104.30 |
| 27 | 1J | 55 | U | C5-C6-N1 | 6.82 | 126.11 | 122.70 |
| 1 | 13 | 115 | G | P-O3'-C3' | 6.81 | 127.88 | 119.70 |
| 1 | 13 | 1431 | C | C6-N1-C2 | 6.81 | 123.03 | 120.30 |
| 22 | 1K | 74 | C | C2-N3-C4 | 6.81 | 123.31 | 119.90 |
| 26 | 1H | 721 | C | C2-N1-C1' | -6.81 | 111.31 | 118.80 |
| 26 | 1H | 2731 | G | N1-C6-O6 | 6.81 | 123.99 | 119.90 |
| 26 | 14 | 2086 | U | C5-C6-N1 | -6.81 | 119.29 | 122.70 |
| 1 | 13 | 712 | A | C5-C6-N1 | 6.81 | 121.11 | 117.70 |
| 25 | 4K | 24 | A | OP1-P-OP2 | -6.81 | 109.38 | 119.60 |
| 26 | 1H | 805 | G | C6-C5-N7 | -6.81 | 126.31 | 130.40 |
| 26 | 14 | 458 | G | C8-N9-C4 | -6.81 | 103.67 | 106.40 |
| 26 | 14 | 2552 | U | C5-C4-O4 | -6.81 | 121.81 | 125.90 |
| 26 | 14 | 2829 | C | N3-C2-O2 | 6.81 | 126.67 | 121.90 |
| 26 | 1H | 608 | A | O5'-P-OP2 | -6.81 | 99.57 | 105.70 |
| 1 | 1G | 358 | U | C5-C6-N1 | -6.81 | 119.29 | 122.70 |
| 26 | 14 | 270(Y) | G | N9-C4-C5 | 6.81 | 108.12 | 105.40 |
| 26 | 14 | 305 | U | N3-C4-O4 | 6.81 | 124.17 | 119.40 |
| 26 | 14 | 632 | A | C5-C6-N6 | -6.81 | 118.25 | 123.70 |
| 26 | 1H | 760 | G | O5'-P-OP2 | 6.81 | 118.87 | 110.70 |
| 26 | 1H | 1003 | G | C8-N9-C4 | 6.81 | 109.12 | 106.40 |
| 26 | 1H | 1933 | G | N1-C2-N3 | 6.81 | 127.99 | 123.90 |
| 26 | 1H | 2241 | A | N1-C2-N3 | 6.81 | 132.71 | 129.30 |
| 26 | 1H | 2358 | G | C6-C5-N7 | 6.81 | 134.49 | 130.40 |
| 26 | 1H | 2819 | G | N1-C2-N2 | 6.81 | 122.33 | 116.20 |
| 27 | 16 | 42 | C | N3-C4-C5 | -6.81 | 119.18 | 121.90 |
| 27 | 16 | 83 | G | C2-N3-C4 | -6.81 | 108.50 | 111.90 |
| 1 | 13 | 582 | U | N3-C4-O4 | -6.81 | 114.64 | 119.40 |
| 23 | 2K | 7 | G | C6-C5-N7 | -6.81 | 126.32 | 130.40 |
| 26 | 1H | 397 | G | C6-C5-N7 | -6.81 | 126.31 | 130.40 |
| 26 | 1H | 648 | G | C5-C6-O6 | 6.81 | 132.69 | 128.60 |
| 26 | 1H | 786 | C | C2-N1-C1' | -6.81 | 111.31 | 118.80 |
| 26 | 1H | 1418 | G | N1-C6-O6 | -6.81 | 115.82 | 119.90 |
| 26 | 1H | 1899 | G | N1-C2-N2 | -6.81 | 110.07 | 116.20 |
| 26 | 1H | 1965 | C | N3-C4-C5 | 6.81 | 124.62 | 121.90 |
| 26 | 1H | 2879 | C | C6-N1-C2 | -6.81 | 117.58 | 120.30 |
| 26 | 14 | 1615 | C | C5-C4-N4 | 6.81 | 124.97 | 120.20 |
| 26 | 14 | 1826 | G | N3-C4-C5 | -6.81 | 125.20 | 128.60 |
| 1 | 13 | 673 | G | OP1-P-O3' | 6.81 | 120.17 | 105.20 |
| 26 | 1H | 71 | A | O5'-P-OP1 | 6.81 | 118.87 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1287 | A | C5-C6-N1 | -6.81 | 114.30 | 117.70 |
| 26 | 14 | 205 | G | N3-C4-N9 | 6.81 | 130.08 | 126.00 |
| 1 | 13 | 952 | U | C4-C5-C6 | 6.80 | 123.78 | 119.70 |
| 26 | 1H | 477 | A | N9-C4-C5 | 6.80 | 108.52 | 105.80 |
| 26 | 1H | 1019 | U | C5-C4-O4 | 6.80 | 129.98 | 125.90 |
| 27 | 16 | 55 | U | N3-C2-O2 | 6.80 | 126.96 | 122.20 |
| 1 | 1G | 1483 | A | N1-C6-N6 | -6.80 | 114.52 | 118.60 |
| 26 | 14 | 173 | G | C5-C6-O6 | -6.80 | 124.52 | 128.60 |
| 26 | 14 | 535 | C | N3-C4-C5 | 6.80 | 124.62 | 121.90 |
| 26 | 14 | 1385 | G | C5-C6-N1 | 6.80 | 114.90 | 111.50 |
| 26 | 14 | 2034 | U | N3-C4-C5 | -6.80 | 110.52 | 114.60 |
| 23 | 2K | 73 | A | O5'-P-OP2 | -6.80 | 99.58 | 105.70 |
| 26 | 1H | 688 | U | N1-C2-O2 | -6.80 | 118.04 | 122.80 |
| 26 | 1H | 2575 | C | C5-C4-N4 | 6.80 | 124.96 | 120.20 |
| 26 | 14 | 400 | G | C5-C6-O6 | -6.80 | 124.52 | 128.60 |
| 26 | 14 | 1272 | A | C8-N9-C4 | 6.80 | 108.52 | 105.80 |
| 1 | 13 | 1107 | C | C6-N1-C2 | -6.80 | 117.58 | 120.30 |
| 1 | 13 | 1311 | G | N7-C8-N9 | -6.80 | 109.70 | 113.10 |
| 24 | 3K | 40 | C | C5-C6-N1 | 6.80 | 124.40 | 121.00 |
| 26 | 1H | 1489 | U | O5'-P-OP1 | -6.80 | 99.58 | 105.70 |
| 26 | 1H | 1494 | A | O5'-P-OP1 | -6.80 | 99.58 | 105.70 |
| 27 | 16 | 24 | G | N3-C4-N9 | 6.80 | 130.08 | 126.00 |
| 1 | 1G | 26 | A | N1-C2-N3 | 6.80 | 132.70 | 129.30 |
| 1 | 1G | 183 | G | C4-C5-N7 | 6.80 | 113.52 | 110.80 |
| 1 | 1G | 909 | A | N7-C8-N9 | -6.80 | 110.40 | 113.80 |
| 1 | 1G | 913 | A | OP2-P-O3' | 6.80 | 120.17 | 105.20 |
| 26 | 14 | 47 | C | C6-N1-C2 | 6.80 | 123.02 | 120.30 |
| 26 | 14 | 1322 | A | O5'-P-OP2 | -6.80 | 99.58 | 105.70 |
| 1 | 13 | 112 | G | N1-C6-O6 | 6.80 | 123.98 | 119.90 |
| 25 | 4K | 21 | A | C2-N3-C4 | -6.80 | 107.20 | 110.60 |
| 26 | 1H | 835 | A | N3-C4-C5 | -6.80 | 122.04 | 126.80 |
| 26 | 1H | 1586 | A | N7-C8-N9 | 6.80 | 117.20 | 113.80 |
| 26 | 1H | 1799 | G | C5-N7-C8 | 6.80 | 107.70 | 104.30 |
| 26 | 1H | 2485 | G | O5'-P-OP1 | 6.80 | 118.86 | 110.70 |
| 26 | 1H | 2761 | G | C2-N3-C4 | -6.80 | 108.50 | 111.90 |
| 26 | 14 | 53 | A | N9-C4-C5 | 6.80 | 108.52 | 105.80 |
| 26 | 14 | 535 | C | C5-C6-N1 | -6.80 | 117.60 | 121.00 |
| 26 | 14 | 1490 | A | C8-N9-C4 | 6.80 | 108.52 | 105.80 |
| 26 | 14 | 2084 | C | N3-C4-N4 | 6.80 | 122.76 | 118.00 |
| 1 | 13 | 237 | C | N1-C2-O2 | -6.80 | 114.82 | 118.90 |
| 1 | 13 | 772 | U | OP2-P-O3' | 6.80 | 120.16 | 105.20 |
| 26 | 1H | 1637 | A | C5-C6-N6 | -6.80 | 118.26 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 2400 | G | C8-N9-C4 | -6.80 | 103.68 | 106.40 |
| 26 | 14 | 208 | C | N1-C2-O2 | -6.80 | 114.82 | 118.90 |
| 1 | 13 | 270 | A | C8-N9-C4 | -6.80 | 103.08 | 105.80 |
| 1 | 13 | 318 | G | C8-N9-C4 | 6.80 | 109.12 | 106.40 |
| 26 | 1H | 618(A) | C | N1-C2-N3 | -6.80 | 114.44 | 119.20 |
| 26 | 1H | 1767 | C | N3-C4-N4 | -6.80 | 113.24 | 118.00 |
| 26 | 1H | 2029 | G | N7-C8-N9 | 6.80 | 116.50 | 113.10 |
| 27 | 16 | 24 | G | N3-C4-C5 | -6.80 | 125.20 | 128.60 |
| 26 | 14 | 1125 | G | OP1-P-OP2 | 6.80 | 129.79 | 119.60 |
| 1 | 13 | 361 | G | N1-C2-N3 | 6.79 | 127.98 | 123.90 |
| 1 | 13 | 570 | G | C4-C5-C6 | 6.79 | 122.88 | 118.80 |
| 26 | 1H | 55 | G | N3-C4-N9 | 6.79 | 130.08 | 126.00 |
| 26 | 1H | 1369 | G | C5-N7-C8 | 6.79 | 107.70 | 104.30 |
| 26 | 1H | 2767 | C | O5'-P-OP1 | -6.79 | 99.58 | 105.70 |
| 26 | 14 | 1784 | A | O4'-C1'-N9 | -6.79 | 102.76 | 108.20 |
| 1 | 13 | 61 | G | C4-C5-N7 | -6.79 | 108.08 | 110.80 |
| 26 | 1H | 11 | G | C8-N9-C4 | 6.79 | 109.12 | 106.40 |
| 26 | 1H | 744 | G | O5'-P-OP2 | -6.79 | 99.59 | 105.70 |
| 26 | 1H | 1292 | U | C6-N1-C2 | 6.79 | 125.08 | 121.00 |
| 26 | 14 | 1341 | U | N1-C2-O2 | -6.79 | 118.05 | 122.80 |
| 26 | 14 | 1440 | G | O5'-P-OP2 | -6.79 | 99.58 | 105.70 |
| 26 | 14 | 1614 | A | C4-C5-C6 | 6.79 | 120.40 | 117.00 |
| 26 | 14 | 1640 | C | N3-C2-O2 | -6.79 | 117.14 | 121.90 |
| 26 | 14 | 2782 | G | N7-C8-N9 | 6.79 | 116.50 | 113.10 |
| 1 | 13 | 1199 | U | N3-C4-C5 | -6.79 | 110.53 | 114.60 |
| 26 | 1H | 49 | A | C5-N7-C8 | 6.79 | 107.30 | 103.90 |
| 26 | 1H | 138 | G | N9-C1'-C2' | 6.79 | 122.83 | 114.00 |
| 26 | 1H | 1603 | A | O5'-P-OP1 | 6.79 | 118.85 | 110.70 |
| 26 | 1H | 2284 | C | N1-C2-O2 | -6.79 | 114.83 | 118.90 |
| 26 | 14 | 2275 | C | N1-C2-O2 | 6.79 | 122.97 | 118.90 |
| 26 | 14 | 2584 | U | C5-C6-N1 | -6.79 | 119.30 | 122.70 |
| 1 | 13 | 438 | G | C5-C6-N1 | -6.79 | 108.11 | 111.50 |
| 26 | 1H | 481 | G | N3-C2-N2 | -6.79 | 115.15 | 119.90 |
| 26 | 1H | 1318 | C | N3-C2-O2 | 6.79 | 126.65 | 121.90 |
| 26 | 1H | 386 | G | N7-C8-N9 | 6.79 | 116.49 | 113.10 |
| 26 | 1H | 922 | U | C6-N1-C2 | -6.79 | 116.93 | 121.00 |
| 26 | 1H | 1049 | C | N1-C2-O2 | 6.79 | 122.97 | 118.90 |
| 26 | 1H | 1569 | A | C6-C5-N7 | -6.79 | 127.55 | 132.30 |
| 1 | 1G | 787 | A | C5-N7-C8 | -6.79 | 100.51 | 103.90 |
| 57 | 3L | 29 | U | N3-C2-O2 | -6.79 | 117.45 | 122.20 |
| 26 | 14 | 24 | G | C5-C6-N1 | -6.79 | 108.11 | 111.50 |
| 26 | 14 | 249 | C | N3-C4-C5 | -6.79 | 119.18 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 459 | U | O5'-P-OP1 | 6.79 | 118.85 | 110.70 |
| 26 | 14 | 2253 | G | N9-C4-C5 | -6.79 | 102.69 | 105.40 |
| 26 | 1H | 330 | A | C8-N9-C4 | -6.79 | 103.08 | 105.80 |
| 26 | 1H | 1651 | G | N3-C4-C5 | 6.79 | 131.99 | 128.60 |
| 23 | 2L | 36 | A | O5'-P-OP1 | -6.79 | 99.59 | 105.70 |
| 26 | 14 | 82 | G | C4-C5-C6 | 6.79 | 122.87 | 118.80 |
| 26 | 14 | 698 | C | C6-N1-C2 | -6.79 | 117.58 | 120.30 |
| 26 | 14 | 2598 | A | N9-C4-C5 | -6.79 | 103.08 | 105.80 |
| 1 | 13 | 227 | G | N9-C4-C5 | -6.79 | 102.69 | 105.40 |
| 1 | 13 | 1065 | U | N1-C2-N3 | -6.79 | 110.83 | 114.90 |
| 26 | 1H | 236 | C | C4-C5-C6 | 6.79 | 120.79 | 117.40 |
| 26 | 1H | 304 | G | C2-N3-C4 | -6.79 | 108.51 | 111.90 |
| 26 | 1H | 948 | G | N1-C2-N2 | 6.79 | 122.31 | 116.20 |
| 26 | 1H | 1405 | U | N1-C2-N3 | 6.79 | 118.97 | 114.90 |
| 26 | 1H | 2029 | G | N3-C4-C5 | 6.79 | 131.99 | 128.60 |
| 1 | 1G | 117 | G | N3-C2-N2 | -6.79 | 115.15 | 119.90 |
| 26 | 14 | 576 | U | C6-N1-C2 | 6.79 | 125.07 | 121.00 |
| 26 | 14 | 1268 | A | C5-C6-N1 | 6.79 | 121.09 | 117.70 |
| 26 | 14 | 1330 | C | C2-N3-C4 | -6.79 | 116.51 | 119.90 |
| 1 | 13 | 110 | C | C5-C6-N1 | -6.78 | 117.61 | 121.00 |
| 26 | 1H | 829 | A | N3-C4-C5 | 6.78 | 131.55 | 126.80 |
| 26 | 1H | 852 | G | OP1-P-O3' | -6.78 | 90.28 | 105.20 |
| 26 | 1H | 1803 | A | C2-N3-C4 | 6.78 | 113.99 | 110.60 |
| 26 | 1H | 2459 | A | C4-C5-N7 | -6.78 | 107.31 | 110.70 |
| 31 | 31 | 45 | ARG | NE-CZ-NH2 | -6.78 | 116.91 | 120.30 |
| 26 | 14 | 46 | C | C6-N1-C2 | 6.78 | 123.01 | 120.30 |
| 26 | 14 | 498 | G | C5-C6-N1 | 6.78 | 114.89 | 111.50 |
| 26 | 14 | 609 | A | C8-N9-C4 | -6.78 | 103.09 | 105.80 |
| 27 | 1J | 113 | C | C5-C6-N1 | -6.78 | 117.61 | 121.00 |
| 1 | 13 | 336 | C | N3-C2-O2 | 6.78 | 126.65 | 121.90 |
| 1 | 13 | 575 | G | O4'-C1'-N9 | -6.78 | 102.77 | 108.20 |
| 1 | 13 | 1209 | C | N1-C2-N3 | -6.78 | 114.45 | 119.20 |
| 26 | 1H | 689 | A | C2-N3-C4 | -6.78 | 107.21 | 110.60 |
| 26 | 1H | 1022 | G | C2-N3-C4 | 6.78 | 115.29 | 111.90 |
| 26 | 1H | 1243 | G | C5-C6-N1 | -6.78 | 108.11 | 111.50 |
| 26 | 1H | 1324 | G | C2-N3-C4 | -6.78 | 108.51 | 111.90 |
| 26 | 1H | 1630(A) | C | C5-C4-N4 | 6.78 | 124.95 | 120.20 |
| 27 | 16 | 98 | G | C8-N9-C1' | -6.78 | 118.18 | 127.00 |
| 26 | 14 | 82 | G | C5-C6-N1 | -6.78 | 108.11 | 111.50 |
| 26 | 14 | 509 | C | N1-C2-N3 | 6.78 | 123.95 | 119.20 |
| 26 | 1H | 531 | C | N3-C2-O2 | 6.78 | 126.65 | 121.90 |
| 26 | 1H | 673 | C | C2-N3-C4 | -6.78 | 116.51 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 2397 | G | N1-C2-N2 | 6.78 | 122.30 | 116.20 |
| 26 | 1H | 2639 | A | N9-C4-C5 | -6.78 | 103.09 | 105.80 |
| 26 | 1H | 2717 | G | C8-N9-C4 | 6.78 | 109.11 | 106.40 |
| 1 | 1G | 761 | G | N1-C6-O6 | 6.78 | 123.97 | 119.90 |
| 1 | 1G | 804 | U | C5-C6-N1 | -6.78 | 119.31 | 122.70 |
| 1 | 1G | 953 | G | N1-C6-O6 | -6.78 | 115.83 | 119.90 |
| 26 | 14 | 237 | C | N3-C4-C5 | 6.78 | 124.61 | 121.90 |
| 26 | 14 | 497 | A | C5-C6-N6 | -6.78 | 118.28 | 123.70 |
| 26 | 14 | 1232 | G | C4-C5-N7 | 6.78 | 113.51 | 110.80 |
| 27 | 1J | 12 | C | N3-C4-N4 | 6.78 | 122.75 | 118.00 |
| 39 | 55 | 28 | LEU | CA-CB-CG | 6.78 | 130.90 | 115.30 |
| 1 | 13 | 1057 | G | O5'-P-OP1 | -6.78 | 99.60 | 105.70 |
| 23 | 2K | 46 | G | O5'-P-OP1 | -6.78 | 99.60 | 105.70 |
| 26 | 1H | 770 | G | C5-C6-N1 | -6.78 | 108.11 | 111.50 |
| 26 | 1H | 1234 | U | C6-N1-C2 | 6.78 | 125.07 | 121.00 |
| 26 | 1H | 2218 | G | O5'-P-OP1 | -6.78 | 99.60 | 105.70 |
| 26 | 1H | 2746 | U | N3-C4-C5 | -6.78 | 110.53 | 114.60 |
| 26 | 14 | 1192 | G | OP1-P-OP2 | 6.78 | 129.77 | 119.60 |
| 1 | 13 | 336 | C | N1-C2-O2 | -6.78 | 114.83 | 118.90 |
| 1 | 13 | 1525 | G | C2-N3-C4 | -6.78 | 108.51 | 111.90 |
| 26 | 1H | 214 | G | C5-C6-O6 | -6.78 | 124.53 | 128.60 |
| 26 | 1H | 698 | C | C5-C4-N4 | -6.78 | 115.46 | 120.20 |
| 26 | 1H | 1839 | G | N1-C2-N3 | 6.78 | 127.97 | 123.90 |
| 26 | 1H | 2021 | C | OP2-P-O3' | 6.78 | 120.11 | 105.20 |
| 26 | 1H | 2501 | C | N3-C4-C5 | 6.78 | 124.61 | 121.90 |
| 26 | 14 | 24 | G | N1-C2-N2 | -6.78 | 110.10 | 116.20 |
| 26 | 14 | 48 | G | N9-C4-C5 | 6.78 | 108.11 | 105.40 |
| 26 | 14 | 752 | A | N7-C8-N9 | 6.78 | 117.19 | 113.80 |
| 26 | 14 | 1973 | G | N1-C2-N3 | 6.78 | 127.97 | 123.90 |
| 27 | 1J | 37 | C | O5'-P-OP1 | 6.78 | 118.83 | 110.70 |
| 1 | 13 | 774 | G | N1-C2-N3 | -6.78 | 119.83 | 123.90 |
| 26 | 1H | 271(C) | U | N3-C2-O2 | -6.78 | 117.46 | 122.20 |
| 26 | 1H | 736 | C | N3-C4-N4 | 6.78 | 122.74 | 118.00 |
| 26 | 1H | 751 | A | C8-N9-C4 | 6.78 | 108.51 | 105.80 |
| 26 | 1H | 800 | A | N9-C4-C5 | 6.78 | 108.51 | 105.80 |
| 26 | 1H | 1773 | A | N1-C6-N6 | 6.78 | 122.67 | 118.60 |
| 1 | 1G | 291 | C | N1-C2-O2 | -6.78 | 114.83 | 118.90 |
| 1 | 1G | 439 | A | O5'-P-OP1 | -6.78 | 99.60 | 105.70 |
| 26 | 14 | 113 | G | N3-C2-N2 | 6.78 | 124.64 | 119.90 |
| 26 | 14 | 120 | U | N3-C2-O2 | -6.78 | 117.46 | 122.20 |
| 26 | 14 | 1126 | A | O4'-C1'-N9 | -6.78 | 102.78 | 108.20 |
| 26 | 14 | 1604 | C | N3-C4-N4 | -6.78 | 113.26 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 27 | 1J | 13 | A | N7-C8-N9 | -6.78 | 110.41 | 113.80 |
| 1 | 13 | 1105 | A | C8-N9-C4 | -6.77 | 103.09 | 105.80 |
| 26 | 1H | 1196 | C | N3-C4-C5 | -6.77 | 119.19 | 121.90 |
| 26 | 14 | 371 | A | C2-N3-C4 | -6.77 | 107.21 | 110.60 |
| 1 | 13 | 192 | U | O5'-P-OP1 | -6.77 | 99.61 | 105.70 |
| 26 | 1H | 255 | A | OP2-P-O3' | 6.77 | 120.10 | 105.20 |
| 26 | 1H | 950 | G | C5-C6-O6 | 6.77 | 132.66 | 128.60 |
| 26 | 1H | 2261 | C | N3-C4-C5 | -6.77 | 119.19 | 121.90 |
| 26 | 14 | 326 | G | C2-N3-C4 | -6.77 | 108.51 | 111.90 |
| 26 | 14 | 809 | G | C4-C5-C6 | 6.77 | 122.86 | 118.80 |
| 26 | 14 | 2285 | C | C2-N3-C4 | -6.77 | 116.51 | 119.90 |
| 1 | 13 | 868 | C | N1-C2-O2 | 6.77 | 122.96 | 118.90 |
| 1 | 13 | 1370 | G | N1-C6-O6 | 6.77 | 123.96 | 119.90 |
| 27 | 16 | 43 | C | C6-N1-C2 | 6.77 | 123.01 | 120.30 |
| 26 | 1H | 642 | G | N9-C4-C5 | 6.77 | 108.11 | 105.40 |
| 26 | 1H | 862 | G | N1-C2-N2 | -6.77 | 110.11 | 116.20 |
| 26 | 1H | 1224 | G | C8-N9-C1' | 6.77 | 135.80 | 127.00 |
| 27 | 16 | 102 | G | C4-C5-N7 | -6.77 | 108.09 | 110.80 |
| 1 | 1G | 1270 | C | C6-N1-C2 | -6.77 | 117.59 | 120.30 |
| 26 | 14 | 678 | C | N3-C2-O2 | 6.77 | 126.64 | 121.90 |
| 1 | 13 | 104 | G | N9-C4-C5 | -6.77 | 102.69 | 105.40 |
| 1 | 13 | 761 | G | N1-C2-N3 | 6.77 | 127.96 | 123.90 |
| 1 | 13 | 1432 | G | N1-C2-N3 | 6.77 | 127.96 | 123.90 |
| 1 | 13 | 1501 | C | O5'-P-OP2 | 6.77 | 118.82 | 110.70 |
| 23 | 2K | 21 | U | C5-C4-O4 | 6.77 | 129.96 | 125.90 |
| 26 | 1H | 717 | G | N3-C4-C5 | -6.77 | 125.22 | 128.60 |
| 26 | 1H | 759 | G | C6-N1-C2 | -6.77 | 121.04 | 125.10 |
| 26 | 1H | 842 | G | C4-C5-N7 | 6.77 | 113.51 | 110.80 |
| 26 | 1H | 2528 | U | N1-C2-N3 | 6.77 | 118.96 | 114.90 |
| 27 | 16 | 75 | G | C5-C6-N1 | -6.77 | 108.12 | 111.50 |
| 1 | 1G | 568 | G | C8-N9-C4 | -6.77 | 103.69 | 106.40 |
| 26 | 14 | 2035 | G | C8-N9-C4 | 6.77 | 109.11 | 106.40 |
| 26 | 1H | 411 | G | C4-C5-N7 | -6.77 | 108.09 | 110.80 |
| 26 | 1H | 655 | A | C4-C5-N7 | 6.77 | 114.08 | 110.70 |
| 26 | 1H | 1238 | G | N9-C4-C5 | 6.77 | 108.11 | 105.40 |
| 26 | 1H | 1240 | U | N1-C2-O2 | -6.77 | 118.06 | 122.80 |
| 1 | 1G | 783 | C | C5-C6-N1 | 6.77 | 124.38 | 121.00 |
| 26 | 14 | 669 | G | C2-N3-C4 | 6.77 | 115.28 | 111.90 |
| 26 | 14 | 1382 | G | C6-C5-N7 | -6.77 | 126.34 | 130.40 |
| 26 | 14 | 2652 | C | N1-C2-O2 | 6.77 | 122.96 | 118.90 |
| 1 | 13 | 532 | A | C6-C5-N7 | -6.76 | 127.56 | 132.30 |
| 26 | 1H | 240 | G | C5-C6-N1 | -6.76 | 108.12 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 246 | C | OP1-P-O3' | 6.76 | 120.08 | 105.20 |
| 26 | 1H | 962 | G | O4'-C1'-N9 | 6.76 | 113.61 | 108.20 |
| 26 | 1H | 1410 | G | C5-C6-N1 | 6.76 | 114.88 | 111.50 |
| 26 | 1H | 1858 | G | C4-C5-N7 | 6.76 | 113.51 | 110.80 |
| 1 | 1G | 326 | G | N1-C2-N2 | -6.76 | 110.11 | 116.20 |
| 26 | 14 | 672 | C | C4-C5-C6 | 6.76 | 120.78 | 117.40 |
| 26 | 14 | 804 | A | N7-C8-N9 | -6.76 | 110.42 | 113.80 |
| 26 | 1H | 844 | C | O5'-P-OP2 | -6.76 | 99.61 | 105.70 |
| 26 | 1H | 1924 | C | N3-C2-O2 | -6.76 | 117.17 | 121.90 |
| 26 | 14 | 2000 | G | N7-C8-N9 | -6.76 | 109.72 | 113.10 |
| 26 | 14 | 2764 | A | O5'-P-OP1 | -6.76 | 99.61 | 105.70 |
| 26 | 14 | 2787 | C | C2-N3-C4 | 6.76 | 123.28 | 119.90 |
| 1 | 13 | 1413 | A | C5-N7-C8 | -6.76 | 100.52 | 103.90 |
| 23 | 2K | 70 | C | C5-C6-N1 | 6.76 | 124.38 | 121.00 |
| 26 | 1H | 250 | G | O5'-P-OP1 | -6.76 | 99.61 | 105.70 |
| 26 | 1H | 262 | A | OP1-P-O3' | -6.76 | 90.32 | 105.20 |
| 26 | 1H | 1271 | G | C4-C5-C6 | 6.76 | 122.86 | 118.80 |
| 26 | 1H | 1710 | C | O5'-P-OP2 | -6.76 | 99.61 | 105.70 |
| 1 | 1G | 562 | C | O5'-P-OP2 | 6.76 | 118.81 | 110.70 |
| 26 | 14 | 233 | A | OP1-P-OP2 | 6.76 | 129.74 | 119.60 |
| 26 | 14 | 1212 | G | N3-C2-N2 | -6.76 | 115.17 | 119.90 |
| 26 | 14 | 1689 | A | C5-N7-C8 | -6.76 | 100.52 | 103.90 |
| 26 | 14 | 2353 | G | C8-N9-C4 | 6.76 | 109.11 | 106.40 |
| 31 | 39 | 110 | LEU | CB-CG-CD2 | -6.76 | 99.50 | 111.00 |
| 1 | 13 | 364 | A | N9-C4-C5 | 6.76 | 108.50 | 105.80 |
| 1 | 13 | 984 | C | OP1-P-O3' | 6.76 | 120.07 | 105.20 |
| 26 | 1H | 701 | G | N7-C8-N9 | 6.76 | 116.48 | 113.10 |
| 26 | 1H | 825 | C | C5-C4-N4 | -6.76 | 115.47 | 120.20 |
| 26 | 1H | 1266 | G | N3-C2-N2 | 6.76 | 124.63 | 119.90 |
| 26 | 1H | 1399 | C | N1-C2-O2 | -6.76 | 114.84 | 118.90 |
| 26 | 1H | 2011 | U | N1-C2-O2 | -6.76 | 118.07 | 122.80 |
| 26 | 1H | 2036 | C | O5'-P-OP1 | 6.76 | 118.81 | 110.70 |
| 1 | 1G | 309 | G | N1-C6-O6 | 6.76 | 123.96 | 119.90 |
| 1 | 1G | 886 | G | N3-C4-C5 | 6.76 | 131.98 | 128.60 |
| 56 | 1L | 32 | C | C6-N1-C2 | -6.76 | 117.60 | 120.30 |
| 26 | 14 | 260 | G | C4-C5-N7 | -6.76 | 108.10 | 110.80 |
| 26 | 14 | 2280 | G | OP1-P-OP2 | -6.76 | 109.46 | 119.60 |
| 26 | 1H | 600 | G | N9-C4-C5 | -6.76 | 102.70 | 105.40 |
| 26 | 1H | 1239 | G | OP2-P-O3' | 6.76 | 120.07 | 105.20 |
| 26 | 1H | 2887 | U | C5-C6-N1 | 6.76 | 126.08 | 122.70 |
| 1 | 1G | 1450 | U | N1-C2-O2 | 6.76 | 127.53 | 122.80 |
| 26 | 14 | 1520 | U | N3-C4-C5 | -6.76 | 110.55 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 2070 | G | N1-C2-N3 | 6.76 | 127.95 | 123.90 |
| 26 | 14 | 2880 | C | O5'-P-OP2 | -6.76 | 99.62 | 105.70 |
| 27 | 1J | 74 | U | N1-C2-N3 | 6.76 | 118.95 | 114.90 |
| 1 | 13 | 692 | U | O5'-P-OP2 | -6.76 | 99.62 | 105.70 |
| 1 | 13 | 1482 | G | C5-C6-O6 | -6.76 | 124.55 | 128.60 |
| 1 | 13 | 1491 | G | C2-N3-C4 | -6.76 | 108.52 | 111.90 |
| 22 | 1K | 27 | G | C2-N3-C4 | 6.76 | 115.28 | 111.90 |
| 26 | 1H | 731 | C | N3-C4-C5 | 6.76 | 124.60 | 121.90 |
| 26 | 1H | 1258 | C | OP2-P-O3' | 6.76 | 120.07 | 105.20 |
| 26 | 1H | 1857 | G | N1-C6-O6 | 6.76 | 123.95 | 119.90 |
| 26 | 1H | 2435 | A | N1-C6-N6 | -6.76 | 114.55 | 118.60 |
| 26 | 14 | 706 | A | N1-C2-N3 | 6.76 | 132.68 | 129.30 |
| 26 | 14 | 805 | G | N3-C4-C5 | -6.76 | 125.22 | 128.60 |
| 26 | 1H | 205 | G | C5-C6-N1 | 6.75 | 114.88 | 111.50 |
| 26 | 1H | 414 | C | C2-N3-C4 | -6.75 | 116.52 | 119.90 |
| 26 | 1H | 1650 | G | C2-N3-C4 | -6.75 | 108.52 | 111.90 |
| 26 | 1H | 1885 | A | N7-C8-N9 | -6.75 | 110.42 | 113.80 |
| 26 | 1H | 2070 | G | O5'-P-OP2 | -6.75 | 99.62 | 105.70 |
| 26 | 1H | 2189 | U | C5-C6-N1 | 6.75 | 126.08 | 122.70 |
| 26 | 1H | 2292 | C | N1-C2-O2 | 6.75 | 122.95 | 118.90 |
| 26 | 14 | 988 | A | C6-C5-N7 | -6.75 | 127.57 | 132.30 |
| 26 | 1H | 608 | A | OP2-P-O3' | 6.75 | 120.06 | 105.20 |
| 26 | 1H | 781 | A | O5'-P-OP1 | -6.75 | 99.62 | 105.70 |
| 26 | 1H | 791 | C | OP2-P-O3' | 6.75 | 120.06 | 105.20 |
| 26 | 1H | 974(A) | C | C5-C4-N4 | 6.75 | 124.93 | 120.20 |
| 26 | 1H | 2266 | A | N1-C2-N3 | 6.75 | 132.68 | 129.30 |
| 26 | 1H | 2573 | C | C6-N1-C1' | -6.75 | 112.69 | 120.80 |
| 1 | 1G | 394 | G | C8-N9-C4 | -6.75 | 103.70 | 106.40 |
| 26 | 14 | 62 | C | C6-N1-C2 | 6.75 | 123.00 | 120.30 |
| 26 | 14 | 178 | G | C6-C5-N7 | -6.75 | 126.35 | 130.40 |
| 26 | 14 | 1949 | G | C5-C6-O6 | 6.75 | 132.65 | 128.60 |
| 26 | 14 | 1985 | G | C2-N3-C4 | -6.75 | 108.52 | 111.90 |
| 23 | 2K | 15 | G | C5-C6-N1 | -6.75 | 108.12 | 111.50 |
| 26 | 1H | 439 | G | N7-C8-N9 | 6.75 | 116.47 | 113.10 |
| 26 | 1H | 1454 | U | O4'-C1'-N1 | 6.75 | 113.60 | 108.20 |
| 26 | 1H | 1594 | G | O5'-P-OP2 | 6.75 | 118.80 | 110.70 |
| 26 | 1H | 1819 | A | C6-N1-C2 | -6.75 | 114.55 | 118.60 |
| 26 | 1H | 2254 | C | N3-C2-O2 | 6.75 | 126.63 | 121.90 |
| 26 | 1H | 2289 | G | N3-C4-C5 | 6.75 | 131.98 | 128.60 |
| 26 | 1H | 2765 | A | OP1-P-OP2 | 6.75 | 129.73 | 119.60 |
| 1 | 1G | 544 | G | N1-C6-O6 | -6.75 | 115.85 | 119.90 |
| 1 | 1G | 1198 | G | O5'-P-OP1 | -6.75 | 99.62 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1287 | A | N1-C2-N3 | 6.75 | 132.68 | 129.30 |
| 26 | 14 | 193 | U | N3-C2-O2 | 6.75 | 126.93 | 122.20 |
| 26 | 14 | 808 | G | O5'-P-OP2 | -6.75 | 99.62 | 105.70 |
| 26 | 14 | 1780 | A | C8-N9-C4 | -6.75 | 103.10 | 105.80 |
| 26 | 14 | 1906 | G | N3-C4-C5 | 6.75 | 131.98 | 128.60 |
| 26 | 14 | 2290 | G | N1-C6-O6 | 6.75 | 123.95 | 119.90 |
| 1 | 13 | 720 | C | C6-N1-C2 | -6.75 | 117.60 | 120.30 |
| 26 | 1H | 704 | G | C2-N3-C4 | -6.75 | 108.53 | 111.90 |
| 26 | 1H | 2022 | U | C2-N3-C4 | -6.75 | 122.95 | 127.00 |
| 26 | 14 | 143 | C | N3-C2-O2 | -6.75 | 117.17 | 121.90 |
| 26 | 14 | 2549 | G | C8-N9-C4 | 6.75 | 109.10 | 106.40 |
| 26 | 14 | 2722 | G | N1-C6-O6 | 6.75 | 123.95 | 119.90 |
| 1 | 13 | 1420 | C | N3-C4-C5 | 6.75 | 124.60 | 121.90 |
| 26 | 1H | 188 | G | C5-C6-N1 | 6.75 | 114.87 | 111.50 |
| 26 | 1H | 1274 | A | N1-C2-N3 | 6.75 | 132.68 | 129.30 |
| 26 | 1H | 1765 | C | OP1-P-OP2 | 6.75 | 129.72 | 119.60 |
| 26 | 14 | 742 | G | O5'-P-OP1 | -6.75 | 99.63 | 105.70 |
| 26 | 14 | 761 | A | C8-N9-C4 | 6.75 | 108.50 | 105.80 |
| 26 | 14 | 945 | A | C6-N1-C2 | 6.75 | 122.65 | 118.60 |
| 26 | 14 | 1825 | A | C8-N9-C4 | -6.75 | 103.10 | 105.80 |
| 1 | 13 | 520 | A | N1-C6-N6 | 6.75 | 122.65 | 118.60 |
| 1 | 13 | 1481 | U | C6-N1-C2 | -6.75 | 116.95 | 121.00 |
| 26 | 1H | 726 | G | O5'-P-OP1 | -6.75 | 99.63 | 105.70 |
| 26 | 1H | 2005 | A | N1-C6-N6 | 6.75 | 122.65 | 118.60 |
| 26 | 1H | 2409 | G | C5-N7-C8 | -6.75 | 100.93 | 104.30 |
| 26 | 1H | 2430 | A | N9-C4-C5 | 6.75 | 108.50 | 105.80 |
| 26 | 1H | 2549 | G | C8-N9-C4 | 6.75 | 109.10 | 106.40 |
| 26 | 14 | 600 | G | C5-N7-C8 | -6.75 | 100.93 | 104.30 |
| 26 | 14 | 654(V) | A | C5-C6-N6 | 6.75 | 129.10 | 123.70 |
| 26 | 14 | 2083 | G | C4-C5-N7 | 6.75 | 113.50 | 110.80 |
| 26 | 14 | 2863 | C | O5'-P-OP1 | -6.75 | 99.63 | 105.70 |
| 26 | 1H | 181 | A | N1-C6-N6 | -6.75 | 114.55 | 118.60 |
| 26 | 1H | 1475 | G | N3-C4-C5 | 6.75 | 131.97 | 128.60 |
| 1 | 1G | 1196 | U | C5-C6-N1 | 6.75 | 126.07 | 122.70 |
| 26 | 14 | 18 | C | OP1-P-OP2 | -6.75 | 109.48 | 119.60 |
| 26 | 14 | 117 | G | C2-N3-C4 | 6.75 | 115.27 | 111.90 |
| 1 | 13 | 325 | A | N9-C4-C5 | -6.74 | 103.10 | 105.80 |
| 1 | 13 | 575 | G | C4-C5-N7 | -6.74 | 108.10 | 110.80 |
| 26 | 1H | 395 | U | N1-C2-O2 | 6.74 | 127.52 | 122.80 |
| 26 | 1H | 792 | G | C8-N9-C4 | -6.74 | 103.70 | 106.40 |
| 26 | 1H | 923 | C | C4-C5-C6 | 6.74 | 120.77 | 117.40 |
| 26 | 1H | 1023 | U | OP2-P-O3' | -6.74 | 90.36 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1646 | C | N1-C2-O2 | -6.74 | 114.85 | 118.90 |
| 26 | 1H | 1790 | C | N3-C4-C5 | 6.74 | 124.60 | 121.90 |
| 27 | 16 | 89 | G | C5-C6-O6 | -6.74 | 124.55 | 128.60 |
| 26 | 14 | 200 | U | N3-C2-O2 | -6.74 | 117.48 | 122.20 |
| 26 | 14 | 333 | G | O5'-P-OP1 | -6.74 | 99.63 | 105.70 |
| 26 | 14 | 701 | G | N1-C2-N3 | 6.74 | 127.95 | 123.90 |
| 26 | 14 | 2227 | A | N1-C2-N3 | 6.74 | 132.67 | 129.30 |
| 26 | 14 | 2492 | U | O5'-P-OP1 | -6.74 | 99.63 | 105.70 |
| 1 | 13 | 1486 | G | C6-C5-N7 | -6.74 | 126.36 | 130.40 |
| 26 | 1H | 1948 | G | N1-C2-N2 | -6.74 | 110.13 | 116.20 |
| 1 | 1G | 306 | G | C6-N1-C2 | 6.74 | 129.15 | 125.10 |
| 26 | 14 | 1253 | A | C5-C6-N1 | 6.74 | 121.07 | 117.70 |
| 26 | 14 | 1681 | G | C6-C5-N7 | -6.74 | 126.36 | 130.40 |
| 1 | 13 | 455 | C | N1-C2-O2 | 6.74 | 122.94 | 118.90 |
| 26 | 1H | 125 | G | C4-C5-N7 | 6.74 | 113.50 | 110.80 |
| 26 | 1H | 134 | C | C5-C6-N1 | -6.74 | 117.63 | 121.00 |
| 26 | 1H | 463 | G | N3-C4-C5 | 6.74 | 131.97 | 128.60 |
| 26 | 1H | 529 | A | C5-C6-N6 | -6.74 | 118.31 | 123.70 |
| 26 | 1H | 1225 | C | N3-C2-O2 | 6.74 | 126.62 | 121.90 |
| 26 | 1H | 1830 | C | OP1-P-OP2 | -6.74 | 109.49 | 119.60 |
| 26 | 1H | 1838 | C | C6-N1-C2 | 6.74 | 123.00 | 120.30 |
| 26 | 1H | 1992 | G | C8-N9-C4 | -6.74 | 103.70 | 106.40 |
| 26 | 1H | 2260 | C | C5-C6-N1 | -6.74 | 117.63 | 121.00 |
| 26 | 1H | 2645 | G | OP2-P-O3' | 6.74 | 120.03 | 105.20 |
| 26 | 14 | 654(V) | A | C4-C5-N7 | -6.74 | 107.33 | 110.70 |
| 26 | 14 | 736 | C | C4-C5-C6 | -6.74 | 114.03 | 117.40 |
| 26 | 14 | 1131 | G | N1-C6-O6 | 6.74 | 123.94 | 119.90 |
| 26 | 14 | 2058 | A | C5-C6-N1 | 6.74 | 121.07 | 117.70 |
| 1 | 13 | 357 | G | O5'-P-OP2 | 6.74 | 118.79 | 110.70 |
| 1 | 13 | 509 | A | C4-C5-N7 | -6.74 | 107.33 | 110.70 |
| 26 | 1H | 756 | C | C6-N1-C2 | -6.74 | 117.61 | 120.30 |
| 26 | 1H | 1232 | G | C2-N3-C4 | -6.74 | 108.53 | 111.90 |
| 26 | 1H | 1656 | C | C6-N1-C2 | -6.74 | 117.61 | 120.30 |
| 26 | 1H | 2239 | G | C6-C5-N7 | -6.74 | 126.36 | 130.40 |
| 26 | 1H | 2382 | G | C5-C6-N1 | -6.74 | 108.13 | 111.50 |
| 27 | 16 | 106 | G | O5'-P-OP1 | -6.74 | 99.64 | 105.70 |
| 1 | 1G | 780 | A | N7-C8-N9 | 6.74 | 117.17 | 113.80 |
| 26 | 14 | 126 | A | OP1-P-OP2 | 6.74 | 129.71 | 119.60 |
| 26 | 14 | 822 | U | N1-C2-O2 | 6.74 | 127.52 | 122.80 |
| 26 | 14 | 1797 | C | C6-N1-C2 | 6.74 | 123.00 | 120.30 |
| 26 | 14 | 1903 | G | C4-C5-N7 | -6.74 | 108.11 | 110.80 |
| 26 | 14 | 2080 | G | N3-C4-C5 | -6.74 | 125.23 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 954 | G | O5'-P-OP1 | -6.74 | 99.64 | 105.70 |
| 1 | 1G | 535 | A | C4-C5-N7 | -6.74 | 107.33 | 110.70 |
| 26 | 14 | 1806 | C | C2-N3-C4 | -6.74 | 116.53 | 119.90 |
| 26 | 14 | 2391 | G | OP1-P-OP2 | 6.74 | 129.71 | 119.60 |
| 1 | 13 | 23 | C | N3-C4-N4 | 6.74 | 122.71 | 118.00 |
| 1 | 13 | 117 | G | C6-C5-N7 | -6.74 | 126.36 | 130.40 |
| 1 | 13 | 426 | G | N1-C6-O6 | -6.74 | 115.86 | 119.90 |
| 1 | 13 | 1390 | U | N3-C4-C5 | -6.74 | 110.56 | 114.60 |
| 1 | 13 | 1502 | A | C5-C6-N1 | -6.74 | 114.33 | 117.70 |
| 26 | 1H | 509 | C | N1-C2-N3 | 6.74 | 123.92 | 119.20 |
| 26 | 1H | 680 | G | N7-C8-N9 | -6.74 | 109.73 | 113.10 |
| 26 | 1H | 774 | A | C6-N1-C2 | 6.74 | 122.64 | 118.60 |
| 27 | 16 | 78 | A | N1-C6-N6 | -6.74 | 114.56 | 118.60 |
| 1 | 1G | 533 | A | C8-N9-C4 | 6.74 | 108.49 | 105.80 |
| 26 | 14 | 141 | A | C2-N3-C4 | -6.74 | 107.23 | 110.60 |
| 26 | 14 | 1451 | C | N1-C2-O2 | -6.74 | 114.86 | 118.90 |
| 26 | 14 | 1831 | G | C8-N9-C1' | -6.74 | 118.24 | 127.00 |
| 26 | 14 | 2219 | G | N7-C8-N9 | -6.74 | 109.73 | 113.10 |
| 26 | 14 | 2283 | C | N1-C2-O2 | -6.74 | 114.86 | 118.90 |
| 26 | 14 | 2303 | G | C8-N9-C4 | -6.74 | 103.70 | 106.40 |
| 26 | 14 | 2698 | U | N1-C2-O2 | -6.74 | 118.09 | 122.80 |
| 1 | 13 | 678 | U | N1-C2-O2 | -6.73 | 118.09 | 122.80 |
| 26 | 1H | 787 | U | C2-N1-C1' | -6.73 | 109.62 | 117.70 |
| 26 | 14 | 1285 | G | OP2-P-O3' | 6.73 | 120.02 | 105.20 |
| 26 | 14 | 1798 | U | C2-N3-C4 | -6.73 | 122.96 | 127.00 |
| 26 | 14 | 2377 | A | C8-N9-C4 | 6.73 | 108.49 | 105.80 |
| 1 | 13 | 1200 | C | C5-C6-N1 | 6.73 | 124.37 | 121.00 |
| 26 | 1H | 13 | A | N9-C4-C5 | -6.73 | 103.11 | 105.80 |
| 26 | 1H | 1402 | C | C2-N3-C4 | 6.73 | 123.27 | 119.90 |
| 26 | 1H | 1706 | U | C6-N1-C2 | -6.73 | 116.96 | 121.00 |
| 26 | 1H | 1778 | U | C5-C6-N1 | -6.73 | 119.33 | 122.70 |
| 26 | 1H | 2468 | G | C4-C5-N7 | 6.73 | 113.49 | 110.80 |
| 26 | 1H | 2517 | C | C2-N3-C4 | -6.73 | 116.53 | 119.90 |
| 23 | 2L | 48 | U | P-O3'-C3' | 6.73 | 127.78 | 119.70 |
| 26 | 14 | 456 | C | N1-C2-O2 | -6.73 | 114.86 | 118.90 |
| 26 | 14 | 695 | G | N9-C4-C5 | -6.73 | 102.71 | 105.40 |
| 1 | 13 | 33 | A | OP1-P-O3' | 6.73 | 120.01 | 105.20 |
| 1 | 13 | 963 | G | C4-N9-C1' | 6.73 | 135.25 | 126.50 |
| 1 | 13 | 1529 | G | N1-C2-N2 | 6.73 | 122.26 | 116.20 |
| 26 | 1H | 2014 | A | N1-C6-N6 | 6.73 | 122.64 | 118.60 |
| 26 | 1H | 2418 | A | N1-C6-N6 | -6.73 | 114.56 | 118.60 |
| 26 | 1H | 2578 | G | C5-N7-C8 | 6.73 | 107.67 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1518 | A | O5'-P-OP1 | -6.73 | 99.64 | 105.70 |
| 26 | 14 | 2778 | A | C5-N7-C8 | 6.73 | 107.27 | 103.90 |
| 1 | 13 | 235 | C | N1-C2-N3 | -6.73 | 114.49 | 119.20 |
| 26 | 1H | 155 | C | N1-C2-O2 | 6.73 | 122.94 | 118.90 |
| 26 | 1H | 1904 | G | OP1-P-OP2 | 6.73 | 129.69 | 119.60 |
| 26 | 1H | 2070 | G | C6-N1-C2 | 6.73 | 129.14 | 125.10 |
| 27 | 16 | 103 | U | C5-C6-N1 | -6.73 | 119.33 | 122.70 |
| 1 | 1G | 858 | G | N7-C8-N9 | 6.73 | 116.46 | 113.10 |
| 26 | 14 | 1984 | G | C8-N9-C4 | 6.73 | 109.09 | 106.40 |
| 26 | 14 | 2278 | A | N9-C4-C5 | 6.73 | 108.49 | 105.80 |
| 23 | 2K | 43 | G | N1-C6-O6 | -6.73 | 115.86 | 119.90 |
| 26 | 1H | 253 | C | O5'-P-OP2 | 6.73 | 118.77 | 110.70 |
| 26 | 1H | 1374 | G | C8-N9-C4 | -6.73 | 103.71 | 106.40 |
| 26 | 1H | 1672 | C | O5'-P-OP1 | -6.73 | 99.64 | 105.70 |
| 26 | 1H | 1800 | C | C2-N3-C4 | 6.73 | 123.26 | 119.90 |
| 26 | 1H | 2050 | C | N1-C2-O2 | -6.73 | 114.86 | 118.90 |
| 26 | 1H | 2440 | C | C5-C4-N4 | 6.73 | 124.91 | 120.20 |
| 26 | 14 | 129 | C | C6-N1-C1' | -6.73 | 112.73 | 120.80 |
| 26 | 14 | 2253 | G | N1-C2-N3 | 6.73 | 127.94 | 123.90 |
| 26 | 14 | 2485 | G | N3-C4-C5 | 6.73 | 131.96 | 128.60 |
| 27 | 1J | 7 | G | N9-C4-C5 | -6.73 | 102.71 | 105.40 |
| 1 | 13 | 1064 | G | C4-C5-N7 | -6.73 | 108.11 | 110.80 |
| 1 | 13 | 1498 | U | N3-C2-O2 | -6.73 | 117.49 | 122.20 |
| 26 | 1H | 521 | G | OP1-P-OP2 | -6.73 | 109.51 | 119.60 |
| 26 | 1H | 1359 | A | O5'-P-OP2 | -6.73 | 99.65 | 105.70 |
| 26 | 1H | 2247 | A | C5-C6-N1 | -6.73 | 114.34 | 117.70 |
| 26 | 1H | 2265 | U | C4-C5-C6 | 6.73 | 123.74 | 119.70 |
| 26 | 14 | 2289 | G | C5-C6-N1 | 6.73 | 114.86 | 111.50 |
| 1 | 13 | 322 | C | C5-C6-N1 | 6.72 | 124.36 | 121.00 |
| 1 | 13 | 818 | G | N1-C2-N2 | -6.72 | 110.15 | 116.20 |
| 26 | 1H | 422 | A | C4-C5-C6 | 6.72 | 120.36 | 117.00 |
| 26 | 1H | 1229(A) | G | C5-C6-N1 | -6.72 | 108.14 | 111.50 |
| 26 | 1H | 1380 | G | O5'-P-OP2 | -6.72 | 99.65 | 105.70 |
| 26 | 14 | 649 | G | C8-N9-C4 | -6.72 | 103.71 | 106.40 |
| 26 | 14 | 1453 | A | N1-C6-N6 | 6.72 | 122.63 | 118.60 |
| 26 | 14 | 1608 | A | O5'-P-OP1 | -6.72 | 99.65 | 105.70 |
| 26 | 14 | 1934 | C | N3-C4-C5 | 6.72 | 124.59 | 121.90 |
| 26 | 14 | 2274 | A | O5'-P-OP2 | -6.72 | 99.65 | 105.70 |
| 26 | 14 | 2293 | C | N3-C4-N4 | -6.72 | 113.29 | 118.00 |
| 1 | 13 | 464 | G | C6-C5-N7 | -6.72 | 126.37 | 130.40 |
| 26 | 1H | 290 | G | N9-C4-C5 | -6.72 | 102.71 | 105.40 |
| 26 | 1H | 2236 | C | O5'-P-OP1 | -6.72 | 99.65 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2546 | U | N1-C2-N3 | 6.72 | 118.93 | 114.90 |
| 44 | E8 | 94 | ASP | CB-CG-OD1 | -6.72 | 112.25 | 118.30 |
| 26 | 14 | 2522 | U | C5-C6-N1 | -6.72 | 119.34 | 122.70 |
| 26 | 14 | 2701 | C | N3-C4-C5 | 6.72 | 124.59 | 121.90 |
| 46 | C5 | 31 | LEU | CA-CB-CG | 6.72 | 130.76 | 115.30 |
| 1 | 13 | 123 | C | OP1-P-OP2 | 6.72 | 129.68 | 119.60 |
| 26 | 1H | 326 | G | N9-C4-C5 | 6.72 | 108.09 | 105.40 |
| 26 | 1H | 1123 | C | N3-C2-O2 | 6.72 | 126.61 | 121.90 |
| 26 | 1H | 1697 | G | N9-C4-C5 | -6.72 | 102.71 | 105.40 |
| 26 | 1H | 2334 | G | C8-N9-C4 | 6.72 | 109.09 | 106.40 |
| 26 | 14 | 428 | A | C4-C5-N7 | -6.72 | 107.34 | 110.70 |
| 1 | 13 | 223 | U | O5'-P-OP2 | -6.72 | 99.65 | 105.70 |
| 26 | 1H | 294 | A | C2-N3-C4 | 6.72 | 113.96 | 110.60 |
| 26 | 1H | 1159 | U | C5-C6-N1 | -6.72 | 119.34 | 122.70 |
| 26 | 1H | 1761 | C | C6-N1-C2 | 6.72 | 122.99 | 120.30 |
| 26 | 1H | 2485 | G | N1-C2-N2 | -6.72 | 110.15 | 116.20 |
| 26 | 1H | 2615 | U | N3-C4-O4 | -6.72 | 114.70 | 119.40 |
| 27 | 16 | 33 | G | C5-C6-O6 | -6.72 | 124.57 | 128.60 |
| 27 | 16 | 47 | C | C2-N1-C1' | -6.72 | 111.41 | 118.80 |
| 1 | 1G | 295 | C | C2-N3-C4 | 6.72 | 123.26 | 119.90 |
| 26 | 14 | 211 | A | C5-N7-C8 | -6.72 | 100.54 | 103.90 |
| 26 | 14 | 396 | G | C5-C6-N1 | -6.72 | 108.14 | 111.50 |
| 26 | 14 | 444 | C | C2-N3-C4 | -6.72 | 116.54 | 119.90 |
| 26 | 14 | 768 | G | C2-N3-C4 | -6.72 | 108.54 | 111.90 |
| 26 | 14 | 930 | U | N3-C2-O2 | -6.72 | 117.50 | 122.20 |
| 26 | 14 | 2846 | G | C8-N9-C4 | -6.72 | 103.71 | 106.40 |
| 26 | 1H | 1277 | G | C8-N9-C4 | 6.72 | 109.09 | 106.40 |
| 26 | 1H | 1883 | G | C8-N9-C4 | 6.72 | 109.09 | 106.40 |
| 1 | 1G | 810 | C | N3-C4-C5 | 6.72 | 124.59 | 121.90 |
| 26 | 14 | 50 | U | N1-C2-N3 | -6.72 | 110.87 | 114.90 |
| 1 | 13 | 110 | C | C6-N1-C2 | 6.72 | 122.99 | 120.30 |
| 1 | 13 | 244 | U | N1-C2-O2 | 6.72 | 127.50 | 122.80 |
| 1 | 13 | 1517 | G | C6-N1-C2 | -6.72 | 121.07 | 125.10 |
| 26 | 1H | 1344 | G | N1-C2-N2 | 6.72 | 122.25 | 116.20 |
| 26 | 1H | 2680 | C | C4-C5-C6 | 6.72 | 120.76 | 117.40 |
| 1 | 1G | 323 | U | N1-C2-O2 | -6.72 | 118.10 | 122.80 |
| 26 | 14 | 117 | G | N3-C4-C5 | -6.72 | 125.24 | 128.60 |
| 26 | 14 | 816 | C | N1-C2-N3 | -6.72 | 114.50 | 119.20 |
| 26 | 14 | 1022 | G | N9-C4-C5 | 6.72 | 108.09 | 105.40 |
| 26 | 14 | 1281 | G | C6-C5-N7 | -6.72 | 126.37 | 130.40 |
| 26 | 14 | 2606 | C | OP1-P-OP2 | 6.72 | 129.68 | 119.60 |
| 26 | 14 | 2465 | C | O5'-P-OP1 | 6.71 | 118.76 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 49 | A | O5'-P-OP2 | -6.71 | 99.66 | 105.70 |
| 26 | 1H | 88 | G | N3-C4-C5 | -6.71 | 125.24 | 128.60 |
| 26 | 1H | 256 | A | C5-C6-N1 | -6.71 | 114.34 | 117.70 |
| 26 | 1H | 569 | U | C6-N1-C2 | 6.71 | 125.03 | 121.00 |
| 1 | 1G | 336 | C | C5-C6-N1 | 6.71 | 124.36 | 121.00 |
| 1 | 1G | 570 | G | N7-C8-N9 | 6.71 | 116.46 | 113.10 |
| 26 | 14 | 1342 | A | C4-C5-N7 | 6.71 | 114.06 | 110.70 |
| 27 | 1J | 16 | G | N1-C6-O6 | 6.71 | 123.93 | 119.90 |
| 1 | 13 | 37 | U | C6-N1-C2 | -6.71 | 116.97 | 121.00 |
| 26 | 1H | 840 | C | C2-N1-C1' | -6.71 | 111.42 | 118.80 |
| 26 | 1H | 2287 | A | C5-N7-C8 | -6.71 | 100.55 | 103.90 |
| 26 | 1H | 2319 | G | OP1-P-OP2 | 6.71 | 129.67 | 119.60 |
| 26 | 1H | 2709 | G | C2-N3-C4 | -6.71 | 108.54 | 111.90 |
| 1 | 1G | 388 | G | C4-C5-N7 | -6.71 | 108.11 | 110.80 |
| 1 | 1G | 811 | C | O5'-P-OP1 | 6.71 | 118.75 | 110.70 |
| 1 | 1G | 912 | C | C5-C6-N1 | -6.71 | 117.64 | 121.00 |
| 26 | 14 | 391 | G | N3-C2-N2 | -6.71 | 115.20 | 119.90 |
| 26 | 14 | 393 | C | C6-N1-C2 | -6.71 | 117.62 | 120.30 |
| 26 | 14 | 1365 | A | C4-C5-C6 | -6.71 | 113.64 | 117.00 |
| 26 | 14 | 1490 | A | N9-C4-C5 | -6.71 | 103.11 | 105.80 |
| 23 | 2K | 37 | U | C4-C5-C6 | 6.71 | 123.73 | 119.70 |
| 26 | 1H | 673 | C | N3-C4-C5 | 6.71 | 124.58 | 121.90 |
| 26 | 1H | 2031 | A | N1-C6-N6 | 6.71 | 122.63 | 118.60 |
| 26 | 1H | 2056 | G | N3-C2-N2 | -6.71 | 115.20 | 119.90 |
| 26 | 14 | 2080 | G | C8-N9-C4 | -6.71 | 103.72 | 106.40 |
| 1 | 13 | 742 | G | N9-C4-C5 | -6.71 | 102.72 | 105.40 |
| 26 | 1H | 96 | G | C6-C5-N7 | -6.71 | 126.38 | 130.40 |
| 26 | 1H | 228 | A | C5-N7-C8 | -6.71 | 100.55 | 103.90 |
| 26 | 1H | 478 | A | C5-N7-C8 | 6.71 | 107.25 | 103.90 |
| 26 | 1H | 781 | A | C8-N9-C4 | 6.71 | 108.48 | 105.80 |
| 26 | 1H | 804 | A | C4-C5-C6 | 6.71 | 120.35 | 117.00 |
| 26 | 1H | 909 | A | C5-N7-C8 | 6.71 | 107.25 | 103.90 |
| 26 | 1H | 1264 | G | O5'-P-OP2 | -6.71 | 99.66 | 105.70 |
| 26 | 1H | 1284 | A | N1-C6-N6 | 6.71 | 122.62 | 118.60 |
| 26 | 1H | 1617 | C | C4-C5-C6 | 6.71 | 120.75 | 117.40 |
| 26 | 1H | 1901 | A | O5'-P-OP2 | -6.71 | 99.66 | 105.70 |
| 26 | 1H | 2763 | G | N1-C2-N3 | 6.71 | 127.93 | 123.90 |
| 1 | 1G | 332 | G | N3-C4-C5 | 6.71 | 131.95 | 128.60 |
| 1 | 1G | 1428 | A | C2-N3-C4 | -6.71 | 107.25 | 110.60 |
| 26 | 14 | 494 | G | O5'-P-OP2 | 6.71 | 118.75 | 110.70 |
| 26 | 14 | 949 | C | C5-C6-N1 | -6.71 | 117.65 | 121.00 |
| 26 | 14 | 1576 | U | N1-C2-N3 | 6.71 | 118.92 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 599 | G | OP1-P-OP2 | 6.71 | 129.66 | 119.60 |
| 1 | 1G | 349 | A | N1-C6-N6 | -6.71 | 114.58 | 118.60 |
| 26 | 14 | 985 | C | OP2-P-O3' | 6.71 | 119.95 | 105.20 |
| 26 | 14 | 2270 | G | N9-C4-C5 | 6.71 | 108.08 | 105.40 |
| 27 | 1J | 83 | G | OP1-P-OP2 | 6.71 | 129.66 | 119.60 |
| 1 | 13 | 867 | G | C5-N7-C8 | 6.71 | 107.65 | 104.30 |
| 26 | 1H | 1283 | G | C8-N9-C1' | -6.71 | 118.28 | 127.00 |
| 1 | 13 | 542 | G | O5'-P-OP2 | 6.70 | 118.75 | 110.70 |
| 1 | 13 | 667 | G | C8-N9-C4 | -6.70 | 103.72 | 106.40 |
| 1 | 13 | 869 | G | N7-C8-N9 | 6.70 | 116.45 | 113.10 |
| 1 | 13 | 913 | A | N1-C6-N6 | -6.70 | 114.58 | 118.60 |
| 1 | 13 | 919 | A | N9-C4-C5 | 6.70 | 108.48 | 105.80 |
| 26 | 1H | 60 | G | C8-N9-C4 | 6.70 | 109.08 | 106.40 |
| 26 | 1H | 491 | G | N1-C6-O6 | 6.70 | 123.92 | 119.90 |
| 26 | 1H | 1123 | C | C2-N3-C4 | -6.70 | 116.55 | 119.90 |
| 26 | 1H | 1341 | U | N3-C4-O4 | 6.70 | 124.09 | 119.40 |
| 26 | 1H | 1446 | C | N3-C4-C5 | -6.70 | 119.22 | 121.90 |
| 26 | 1H | 1675 | C | O5'-P-OP1 | -6.70 | 99.67 | 105.70 |
| 26 | 1H | 2055 | C | O5'-P-OP2 | 6.70 | 118.75 | 110.70 |
| 1 | 1G | 505 | G | C5-C6-N1 | 6.70 | 114.85 | 111.50 |
| 1 | 1G | 841 | U | C5-C6-N1 | 6.70 | 126.05 | 122.70 |
| 1 | 1G | 1426 | C | OP1-P-OP2 | 6.70 | 129.65 | 119.60 |
| 26 | 14 | 37 | C | N3-C4-N4 | 6.70 | 122.69 | 118.00 |
| 26 | 14 | 185 | U | N3-C4-O4 | -6.70 | 114.71 | 119.40 |
| 26 | 14 | 822 | U | C5-C6-N1 | 6.70 | 126.05 | 122.70 |
| 26 | 14 | 1944 | U | C5-C4-O4 | -6.70 | 121.88 | 125.90 |
| 26 | 1H | 263 | C | C6-N1-C2 | 6.70 | 122.98 | 120.30 |
| 26 | 1H | 684 | G | N9-C4-C5 | 6.70 | 108.08 | 105.40 |
| 26 | 1H | 2075 | U | C4-C5-C6 | 6.70 | 123.72 | 119.70 |
| 26 | 1H | 2731 | G | C5-C6-O6 | -6.70 | 124.58 | 128.60 |
| 1 | 1G | 576 | G | C4-C5-N7 | -6.70 | 108.12 | 110.80 |
| 1 | 13 | 260 | G | N7-C8-N9 | -6.70 | 109.75 | 113.10 |
| 1 | 13 | 787 | A | N1-C6-N6 | 6.70 | 122.62 | 118.60 |
| 26 | 1H | 1254 | A | O5'-P-OP1 | -6.70 | 99.67 | 105.70 |
| 26 | 1H | 1274 | A | N1-C6-N6 | 6.70 | 122.62 | 118.60 |
| 26 | 1H | 1735 | C | C6-N1-C2 | 6.70 | 122.98 | 120.30 |
| 26 | 1H | 1984 | G | N9-C4-C5 | -6.70 | 102.72 | 105.40 |
| 26 | 1H | 2000 | G | C4-C5-N7 | 6.70 | 113.48 | 110.80 |
| 26 | 1H | 2068 | U | C5-C4-O4 | 6.70 | 129.92 | 125.90 |
| 1 | 1G | 311 | C | C5-C4-N4 | -6.70 | 115.51 | 120.20 |
| 1 | 1G | 611 | A | N9-C4-C5 | -6.70 | 103.12 | 105.80 |
| 1 | 1G | 1281 | U | C5-C6-N1 | 6.70 | 126.05 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 141 | A | C4-C5-N7 | 6.70 | 114.05 | 110.70 |
| 26 | 14 | 2047 | U | N3-C4-C5 | 6.70 | 118.62 | 114.60 |
| 26 | 1H | 208 | C | C2-N3-C4 | -6.70 | 116.55 | 119.90 |
| 26 | 1H | 830 | G | C2-N3-C4 | -6.70 | 108.55 | 111.90 |
| 26 | 1H | 2880 | C | O5'-P-OP1 | -6.70 | 99.67 | 105.70 |
| 1 | 1G | 19 | C | N3-C2-O2 | -6.70 | 117.21 | 121.90 |
| 19 | AA | 66 | MET | N-CA-C | 6.70 | 129.09 | 111.00 |
| 26 | 14 | 849 | A | C2-N3-C4 | 6.70 | 113.95 | 110.60 |
| 26 | 14 | 1626 | G | C5-C6-O6 | 6.70 | 132.62 | 128.60 |
| 26 | 1H | 491 | G | N9-C4-C5 | -6.70 | 102.72 | 105.40 |
| 26 | 1H | 1408 | C | N3-C4-N4 | 6.70 | 122.69 | 118.00 |
| 26 | 1H | 1632 | A | C5-N7-C8 | -6.70 | 100.55 | 103.90 |
| 26 | 1H | 2319 | G | N1-C2-N2 | -6.70 | 110.17 | 116.20 |
| 1 | 1G | 1523 | G | C4-C5-N7 | -6.70 | 108.12 | 110.80 |
| 26 | 14 | 397 | G | C6-C5-N7 | -6.70 | 126.38 | 130.40 |
| 26 | 14 | 799 | G | N3-C2-N2 | -6.70 | 115.21 | 119.90 |
| 26 | 14 | 1811 | G | OP2-P-O3' | 6.70 | 119.93 | 105.20 |
| 26 | 14 | 2227 | A | C5-C6-N1 | -6.70 | 114.35 | 117.70 |
| 26 | 14 | 2620 | C | O4'-C1'-N1 | -6.70 | 102.84 | 108.20 |
| 1 | 13 | 1055 | A | O5'-P-OP2 | -6.70 | 99.67 | 105.70 |
| 1 | 13 | 1382 | C | N1-C2-N3 | -6.70 | 114.51 | 119.20 |
| 26 | 1H | 347 | A | N7-C8-N9 | 6.70 | 117.15 | 113.80 |
| 26 | 1H | 945 | A | O4'-C1'-N9 | 6.70 | 113.56 | 108.20 |
| 26 | 1H | 1234 | U | N3-C4-O4 | -6.70 | 114.71 | 119.40 |
| 26 | 1H | 1419 | A | O5'-P-OP2 | -6.70 | 99.67 | 105.70 |
| 26 | 1H | 2297 | C | N1-C2-N3 | 6.70 | 123.89 | 119.20 |
| 26 | 1H | 2521 | C | C5-C6-N1 | -6.70 | 117.65 | 121.00 |
| 26 | 1H | 2822 | G | N1-C2-N3 | -6.70 | 119.88 | 123.90 |
| 1 | 1G | 622 | A | N1-C6-N6 | -6.70 | 114.58 | 118.60 |
| 26 | 14 | 326 | G | C6-N1-C2 | 6.70 | 129.12 | 125.10 |
| 26 | 14 | 1604 | C | C2-N1-C1' | -6.70 | 111.43 | 118.80 |
| 26 | 14 | 1796 | U | N3-C2-O2 | 6.70 | 126.89 | 122.20 |
| 1 | 13 | 771 | G | C5-C6-N1 | -6.69 | 108.15 | 111.50 |
| 23 | 2K | 27 | G | C6-N1-C2 | -6.69 | 121.08 | 125.10 |
| 26 | 1H | 2237 | G | C6-N1-C2 | 6.69 | 129.12 | 125.10 |
| 26 | 14 | 564 | C | N3-C4-C5 | -6.69 | 119.22 | 121.90 |
| 26 | 14 | 693 | C | C5-C6-N1 | -6.69 | 117.65 | 121.00 |
| 1 | 13 | 884 | U | OP1-P-OP2 | 6.69 | 129.64 | 119.60 |
| 1 | 13 | 888 | G | C2-N3-C4 | -6.69 | 108.55 | 111.90 |
| 26 | 1H | 29 | U | C5-C4-O4 | -6.69 | 121.88 | 125.90 |
| 26 | 1H | 682 | G | N3-C2-N2 | 6.69 | 124.58 | 119.90 |
| 26 | 1H | 739 | G | N3-C4-C5 | 6.69 | 131.95 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 858 | U | C5-C6-N1 | -6.69 | 119.35 | 122.70 |
| 26 | 1H | 1227 | A | N9-C4-C5 | -6.69 | 103.12 | 105.80 |
| 26 | 1H | 1826 | G | C2-N3-C4 | -6.69 | 108.55 | 111.90 |
| 26 | 1H | 2409 | G | N9-C4-C5 | -6.69 | 102.72 | 105.40 |
| 26 | 1H | 2489 | G | O5'-P-OP1 | -6.69 | 99.68 | 105.70 |
| 26 | 1H | 2861 | G | C8-N9-C4 | -6.69 | 103.72 | 106.40 |
| 1 | 1G | 1126 | U | C6-N1-C2 | 6.69 | 125.02 | 121.00 |
| 26 | 14 | 440 | G | C4-C5-N7 | 6.69 | 113.48 | 110.80 |
| 26 | 14 | 578 | A | N1-C2-N3 | 6.69 | 132.65 | 129.30 |
| 26 | 14 | 776 | G | C8-N9-C1' | -6.69 | 118.30 | 127.00 |
| 26 | 14 | 1858 | G | C5-C6-N1 | -6.69 | 108.15 | 111.50 |
| 26 | 14 | 1982 | C | C2-N1-C1' | 6.69 | 126.16 | 118.80 |
| 1 | 13 | 692 | U | O5'-P-OP1 | 6.69 | 118.73 | 110.70 |
| 1 | 13 | 788 | U | C4-C5-C6 | 6.69 | 123.71 | 119.70 |
| 1 | 13 | 885 | G | N3-C4-N9 | -6.69 | 121.98 | 126.00 |
| 1 | 13 | 953 | G | N9-C4-C5 | 6.69 | 108.08 | 105.40 |
| 26 | 1H | 31 | C | C5-C4-N4 | -6.69 | 115.52 | 120.20 |
| 26 | 1H | 321 | G | C6-C5-N7 | -6.69 | 126.39 | 130.40 |
| 26 | 1H | 2258 | C | C4-C5-C6 | 6.69 | 120.75 | 117.40 |
| 26 | 1H | 2329 | G | N1-C2-N2 | -6.69 | 110.18 | 116.20 |
| 26 | 14 | 430 | G | C8-N9-C4 | 6.69 | 109.08 | 106.40 |
| 26 | 14 | 628 | G | O5'-P-OP2 | -6.69 | 99.68 | 105.70 |
| 26 | 14 | 1682 | G | C2-N3-C4 | -6.69 | 108.56 | 111.90 |
| 26 | 1H | 240 | G | OP1-P-OP2 | -6.69 | 109.57 | 119.60 |
| 26 | 1H | 1779 | U | O5'-P-OP2 | -6.69 | 99.68 | 105.70 |
| 26 | 1H | 2290 | G | C2-N3-C4 | -6.69 | 108.56 | 111.90 |
| 26 | 14 | 716 | A | N1-C6-N6 | 6.69 | 122.61 | 118.60 |
| 26 | 14 | 1489 | U | C6-N1-C2 | -6.69 | 116.99 | 121.00 |
| 26 | 14 | 2623 | G | C5-C6-N1 | 6.69 | 114.84 | 111.50 |
| 1 | 13 | 371 | G | C8-N9-C4 | 6.69 | 109.08 | 106.40 |
| 26 | 1H | 1148 | A | C5-C6-N6 | 6.69 | 129.05 | 123.70 |
| 26 | 14 | 2768 | C | N3-C4-C5 | -6.69 | 119.22 | 121.90 |
| 26 | 14 | 2778 | A | C4-C5-N7 | -6.69 | 107.36 | 110.70 |
| 1 | 13 | 339 | C | C6-N1-C2 | -6.69 | 117.63 | 120.30 |
| 1 | 13 | 509 | A | C5-N7-C8 | 6.69 | 107.24 | 103.90 |
| 26 | 1H | 1825 | A | N9-C4-C5 | 6.69 | 108.47 | 105.80 |
| 1 | 1G | 27 | G | N1-C6-O6 | 6.69 | 123.91 | 119.90 |
| 26 | 14 | 14 | A | N7-C8-N9 | 6.69 | 117.14 | 113.80 |
| 26 | 14 | 352 | G | N1-C6-O6 | 6.69 | 123.91 | 119.90 |
| 26 | 14 | 1927 | A | N1-C6-N6 | 6.69 | 122.61 | 118.60 |
| 26 | 14 | 2495 | G | N1-C2-N2 | 6.69 | 122.22 | 116.20 |
| 1 | 13 | 242 | C | OP1-P-O3' | 6.68 | 119.91 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 13 | 290 | C | O5'-P-OP1 | -6.68 | 99.68 | 105.70 |
| 1 | 13 | 894 | G | N1-C2-N3 | 6.68 | 127.91 | 123.90 |
| 25 | 4K | 9 | G | C4-N9-C1' | 6.68 | 135.19 | 126.50 |
| 26 | 1H | 961 | C | OP1-P-O3' | 6.68 | 119.91 | 105.20 |
| 26 | 1H | 2346 | A | C6-N1-C2 | -6.68 | 114.59 | 118.60 |
| 26 | 14 | 267 | C | N3-C4-N4 | -6.68 | 113.32 | 118.00 |
| 26 | 14 | 452 | G | C5-N7-C8 | -6.68 | 100.96 | 104.30 |
| 26 | 14 | 1316 | U | OP1-P-O3' | 6.68 | 119.90 | 105.20 |
| 26 | 14 | 1682 | G | C4-C5-C6 | 6.68 | 122.81 | 118.80 |
| 26 | 14 | 1786 | A | N9-C1'-C2' | 6.68 | 122.69 | 114.00 |
| 26 | 14 | 2580 | U | N3-C4-C5 | -6.68 | 110.59 | 114.60 |
| 1 | 13 | 1468 | A | C5-C6-N1 | 6.68 | 121.04 | 117.70 |
| 26 | 1H | 294 | A | C5-N7-C8 | 6.68 | 107.24 | 103.90 |
| 26 | 1H | 694 | U | O5'-P-OP1 | 6.68 | 118.72 | 110.70 |
| 26 | 1H | 1368 | G | C8-N9-C1' | -6.68 | 118.31 | 127.00 |
| 26 | 1H | 2542 | A | N7-C8-N9 | -6.68 | 110.46 | 113.80 |
| 26 | 14 | 270(Q) | C | C2-N3-C4 | 6.68 | 123.24 | 119.90 |
| 26 | 14 | 344 | G | O5'-P-OP1 | -6.68 | 99.69 | 105.70 |
| 26 | 14 | 832 | G | C4-C5-N7 | -6.68 | 108.13 | 110.80 |
| 26 | 14 | 998 | C | N3-C4-C5 | 6.68 | 124.57 | 121.90 |
| 26 | 14 | 2726 | U | N1-C2-O2 | 6.68 | 127.48 | 122.80 |
| 26 | 14 | 2773 | C | C6-N1-C2 | 6.68 | 122.97 | 120.30 |
| 1 | 13 | 1356 | G | OP1-P-OP2 | -6.68 | 109.58 | 119.60 |
| 26 | 1H | 949 | C | C5-C4-N4 | 6.68 | 124.88 | 120.20 |
| 26 | 14 | 984 | A | C5-C6-N6 | -6.68 | 118.36 | 123.70 |
| 26 | 1H | 83 | G | P-O3'-C3' | -6.68 | 111.68 | 119.70 |
| 26 | 1H | 304 | G | N3-C4-C5 | 6.68 | 131.94 | 128.60 |
| 26 | 1H | 372 | G | N9-C4-C5 | 6.68 | 108.07 | 105.40 |
| 26 | 1H | 1899 | G | C4-N9-C1' | -6.68 | 117.82 | 126.50 |
| 26 | 1H | 2476 | A | C4-C5-C6 | 6.68 | 120.34 | 117.00 |
| 26 | 1H | 2581 | G | C4-C5-N7 | 6.68 | 113.47 | 110.80 |
| 26 | 1H | 2655 | G | O5'-P-OP1 | 6.68 | 118.72 | 110.70 |
| 26 | 1H | 2706 | G | C4-C5-N7 | 6.68 | 113.47 | 110.80 |
| 26 | 1H | 2865 | U | C6-N1-C2 | -6.68 | 116.99 | 121.00 |
| 26 | 14 | 775 | G | C8-N9-C4 | -6.68 | 103.73 | 106.40 |
| 26 | 14 | 1677 | A | N1-C6-N6 | 6.68 | 122.61 | 118.60 |
| 1 | 13 | 944 | G | N3-C2-N2 | -6.68 | 115.22 | 119.90 |
| 26 | 1H | 794 | G | C2-N3-C4 | -6.68 | 108.56 | 111.90 |
| 26 | 1H | 2022 | U | C4-C5-C6 | -6.68 | 115.69 | 119.70 |
| 26 | 1H | 2609 | U | N1-C2-O2 | -6.68 | 118.12 | 122.80 |
| 26 | 1H | 2609 | U | N3-C4-O4 | 6.68 | 124.08 | 119.40 |
| 1 | 1G | 664 | G | N3-C4-N9 | -6.68 | 121.99 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 1465 | C | N3-C4-N4 | 6.68 | 122.67 | 118.00 |
| 26 | 14 | 1430 | C | N3-C4-C5 | 6.68 | 124.57 | 121.90 |
| 1 | 13 | 893 | C | N1-C2-N3 | -6.68 | 114.53 | 119.20 |
| 4 | 3E | 157 | LEU | CA-CB-CG | 6.68 | 130.65 | 115.30 |
| 26 | 1H | 715 | G | C6-N1-C2 | -6.68 | 121.09 | 125.10 |
| 26 | 1H | 1356 | G | O5'-P-OP2 | 6.68 | 118.71 | 110.70 |
| 26 | 1H | 2489 | G | N3-C2-N2 | -6.68 | 115.23 | 119.90 |
| 26 | 14 | 57 | C | N3-C2-O2 | 6.68 | 126.57 | 121.90 |
| 26 | 14 | 80 | G | N1-C6-O6 | -6.68 | 115.89 | 119.90 |
| 26 | 14 | 1278 | A | C4-C5-C6 | -6.68 | 113.66 | 117.00 |
| 26 | 14 | 1809 | A | C5-N7-C8 | -6.68 | 100.56 | 103.90 |
| 1 | 13 | 736 | C | N1-C2-O2 | 6.67 | 122.90 | 118.90 |
| 1 | 13 | 1077 | G | OP1-P-O3' | 6.67 | 119.89 | 105.20 |
| 23 | 2K | 40 | C | C6-N1-C2 | -6.67 | 117.63 | 120.30 |
| 26 | 1H | 2595 | G | OP1-P-OP2 | 6.67 | 129.61 | 119.60 |
| 27 | 16 | 7 | G | OP1-P-OP2 | 6.67 | 129.61 | 119.60 |
| 1 | 1G | 919 | A | C8-N9-C4 | 6.67 | 108.47 | 105.80 |
| 1 | 13 | 31 | G | C2-N3-C4 | 6.67 | 115.24 | 111.90 |
| 1 | 13 | 1342 | C | C6-N1-C2 | 6.67 | 122.97 | 120.30 |
| 26 | 1H | 950 | G | N9-C4-C5 | 6.67 | 108.07 | 105.40 |
| 26 | 1H | 971 | C | N1-C2-O2 | -6.67 | 114.90 | 118.90 |
| 26 | 1H | 1163 | G | N1-C6-O6 | -6.67 | 115.90 | 119.90 |
| 26 | 1H | 2378 | A | N1-C6-N6 | 6.67 | 122.60 | 118.60 |
| 26 | 1H | 2576 | G | C8-N9-C4 | 6.67 | 109.07 | 106.40 |
| 26 | 14 | 485 | C | C4-C5-C6 | 6.67 | 120.74 | 117.40 |
| 26 | 14 | 2526 | G | C5-C6-N1 | -6.67 | 108.16 | 111.50 |
| 1 | 13 | 739 | C | C5-C6-N1 | 6.67 | 124.34 | 121.00 |
| 1 | 13 | 768 | A | N7-C8-N9 | -6.67 | 110.47 | 113.80 |
| 26 | 1H | 187 | G | C2-N3-C4 | -6.67 | 108.56 | 111.90 |
| 26 | 1H | 212 | G | C5-N7-C8 | 6.67 | 107.64 | 104.30 |
| 26 | 1H | 476 | G | N3-C4-N9 | -6.67 | 122.00 | 126.00 |
| 26 | 1H | 999 | U | N3-C2-O2 | -6.67 | 117.53 | 122.20 |
| 26 | 1H | 1562 | A | C8-N9-C4 | 6.67 | 108.47 | 105.80 |
| 26 | 1H | 2265 | U | N3-C2-O2 | -6.67 | 117.53 | 122.20 |
| 26 | 14 | 524 | U | N3-C4-C5 | -6.67 | 110.60 | 114.60 |
| 26 | 14 | 984 | A | C5-C6-N1 | 6.67 | 121.04 | 117.70 |
| 26 | 14 | 2439 | A | C8-N9-C4 | -6.67 | 103.13 | 105.80 |
| 26 | 14 | 2827 | C | N1-C2-O2 | -6.67 | 114.90 | 118.90 |
| 1 | 13 | 138 | G | C5-C6-N1 | -6.67 | 108.17 | 111.50 |
| 26 | 1H | 2318 | G | O4'-C1'-N9 | 6.67 | 113.54 | 108.20 |
| 27 | 16 | 110 | G | N7-C8-N9 | 6.67 | 116.44 | 113.10 |
| 1 | 1G | 691 | G | C5-C6-O6 | -6.67 | 124.60 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2324 | C | C2-N1-C1' | -6.67 | 111.46 | 118.80 |
| 26 | 14 | 2628 | C | C5-C6-N1 | -6.67 | 117.67 | 121.00 |
| 1 | 13 | 923 | A | C8-N9-C4 | -6.67 | 103.13 | 105.80 |
| 26 | 1H | 256 | A | C2-N3-C4 | -6.67 | 107.27 | 110.60 |
| 26 | 1H | 300 | A | N7-C8-N9 | 6.67 | 117.13 | 113.80 |
| 26 | 1H | 633 | A | N9-C4-C5 | -6.67 | 103.13 | 105.80 |
| 26 | 1H | 706 | A | C4-C5-N7 | 6.67 | 114.03 | 110.70 |
| 26 | 1H | 1512 | G | C4-C5-N7 | -6.67 | 108.13 | 110.80 |
| 26 | 1H | 2499 | C | C4-C5-C6 | 6.67 | 120.73 | 117.40 |
| 1 | 1G | 528 | C | N3-C4-C5 | 6.67 | 124.57 | 121.90 |
| 26 | 14 | 796 | C | C6-N1-C2 | 6.67 | 122.97 | 120.30 |
| 26 | 14 | 1743 | G | C5-C6-N1 | -6.67 | 108.17 | 111.50 |
| 26 | 14 | 1952 | A | O5'-P-OP1 | 6.67 | 118.70 | 110.70 |
| 26 | 14 | 2827 | C | C2-N3-C4 | -6.67 | 116.57 | 119.90 |
| 1 | 13 | 672 | U | N1-C2-O2 | -6.67 | 118.13 | 122.80 |
| 1 | 13 | 824 | C | N3-C4-N4 | 6.67 | 122.67 | 118.00 |
| 1 | 13 | 853 | G | N9-C4-C5 | -6.67 | 102.73 | 105.40 |
| 26 | 1H | 1405 | U | C2-N3-C4 | -6.67 | 123.00 | 127.00 |
| 26 | 1H | 2515 | C | N3-C4-C5 | 6.67 | 124.57 | 121.90 |
| 26 | 1H | 2675 | A | C5-N7-C8 | -6.67 | 100.57 | 103.90 |
| 1 | 1G | 1 | U | C5-C6-N1 | 6.67 | 126.03 | 122.70 |
| 1 | 1G | 603 | U | N3-C4-C5 | -6.67 | 110.60 | 114.60 |
| 26 | 14 | 219 | G | C5-N7-C8 | 6.67 | 107.63 | 104.30 |
| 26 | 14 | 479 | A | C5-N7-C8 | 6.67 | 107.23 | 103.90 |
| 26 | 14 | 631 | A | C2-N3-C4 | -6.67 | 107.27 | 110.60 |
| 26 | 14 | 1245 | G | N1-C6-O6 | 6.67 | 123.90 | 119.90 |
| 26 | 1H | 400 | G | C6-C5-N7 | -6.67 | 126.40 | 130.40 |
| 26 | 1H | 1980 | G | C4-C5-N7 | -6.67 | 108.13 | 110.80 |
| 1 | 1G | 617 | G | N3-C4-C5 | 6.67 | 131.93 | 128.60 |
| 26 | 14 | 809 | G | N1-C2-N3 | 6.67 | 127.90 | 123.90 |
| 26 | 14 | 1763 | G | C5-C6-O6 | 6.67 | 132.60 | 128.60 |
| 1 | 13 | 1253 | G | N9-C4-C5 | -6.66 | 102.73 | 105.40 |
| 22 | 1K | 25 | C | C2-N1-C1' | 6.66 | 126.13 | 118.80 |
| 26 | 1H | 907 | U | OP2-P-O3' | 6.66 | 119.86 | 105.20 |
| 26 | 1H | 1516 | U | N3-C2-O2 | -6.66 | 117.54 | 122.20 |
| 26 | 1H | 1689 | A | C2-N3-C4 | -6.66 | 107.27 | 110.60 |
| 26 | 1H | 2412 | A | N9-C4-C5 | 6.66 | 108.47 | 105.80 |
| 26 | 1H | 2456 | C | O5'-P-OP2 | 6.66 | 118.70 | 110.70 |
| 26 | 1H | 2607 | G | C4-C5-C6 | 6.66 | 122.80 | 118.80 |
| 26 | 14 | 939 | G | C8-N9-C4 | -6.66 | 103.73 | 106.40 |
| 26 | 1H | 141(A) | C | OP1-P-OP2 | 6.66 | 129.59 | 119.60 |
| 26 | 1H | 213 | A | OP1-P-O3' | -6.66 | 90.54 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 925 | C | C6-N1-C2 | 6.66 | 122.97 | 120.30 |
| 26 | 1H | 1869 | G | C5-N7-C8 | -6.66 | 100.97 | 104.30 |
| 26 | 1H | 2613 | U | N1-C2-O2 | -6.66 | 118.14 | 122.80 |
| 37 | 78 | 71 | VAL | CG1-CB-CG2 | -6.66 | 100.24 | 110.90 |
| 26 | 14 | 1027 | A | C6-N1-C2 | -6.66 | 114.60 | 118.60 |
| 26 | 14 | 2706 | G | C8-N9-C4 | 6.66 | 109.06 | 106.40 |
| 23 | 2K | 12 | G | C6-N1-C2 | -6.66 | 121.10 | 125.10 |
| 26 | 1H | 186 | G | O5'-P-OP1 | -6.66 | 99.70 | 105.70 |
| 26 | 1H | 504 | U | C2-N1-C1' | 6.66 | 125.69 | 117.70 |
| 26 | 1H | 847 | U | C5-C6-N1 | -6.66 | 119.37 | 122.70 |
| 26 | 1H | 977 | G | N3-C4-N9 | -6.66 | 122.00 | 126.00 |
| 26 | 1H | 1960 | A | C6-N1-C2 | -6.66 | 114.60 | 118.60 |
| 26 | 1H | 2258 | C | N3-C4-N4 | 6.66 | 122.66 | 118.00 |
| 26 | 1H | 2853 | C | C6-N1-C2 | -6.66 | 117.64 | 120.30 |
| 27 | 16 | 97 | G | C8-N9-C4 | 6.66 | 109.06 | 106.40 |
| 1 | 1G | 1196 | U | C2-N1-C1' | 6.66 | 125.69 | 117.70 |
| 1 | 1G | 1466 | C | OP2-P-O3' | 6.66 | 119.85 | 105.20 |
| 26 | 14 | 400 | G | C5-C6-N1 | -6.66 | 108.17 | 111.50 |
| 26 | 14 | 513 | A | O5'-P-OP2 | -6.66 | 99.71 | 105.70 |
| 26 | 14 | 1849 | G | N1-C2-N3 | 6.66 | 127.90 | 123.90 |
| 1 | 13 | 760 | G | OP1-P-OP2 | 6.66 | 129.59 | 119.60 |
| 1 | 13 | 1191 | A | OP1-P-OP2 | -6.66 | 109.61 | 119.60 |
| 26 | 1H | 258 | G | C6-N1-C2 | -6.66 | 121.11 | 125.10 |
| 26 | 1H | 1598 | C | N3-C2-O2 | -6.66 | 117.24 | 121.90 |
| 26 | 1H | 2361 | A | N1-C2-N3 | 6.66 | 132.63 | 129.30 |
| 26 | 1H | 2648 | C | C6-N1-C2 | 6.66 | 122.96 | 120.30 |
| 27 | 16 | 96 | G | N1-C2-N2 | 6.66 | 122.19 | 116.20 |
| 1 | 1G | 814 | A | C4-C5-C6 | 6.66 | 120.33 | 117.00 |
| 26 | 14 | 488 | G | N1-C2-N3 | -6.66 | 119.91 | 123.90 |
| 26 | 14 | 955 | C | N3-C4-N4 | -6.66 | 113.34 | 118.00 |
| 26 | 14 | 1989 | G | N3-C2-N2 | -6.66 | 115.24 | 119.90 |
| 26 | 14 | 2231 | C | N3-C4-N4 | -6.66 | 113.34 | 118.00 |
| 26 | 14 | 2447 | G | C6-N1-C2 | -6.66 | 121.11 | 125.10 |
| 1 | 13 | 1065 | U | C6-N1-C2 | 6.66 | 124.99 | 121.00 |
| 26 | 1H | 2435 | A | C8-N9-C4 | -6.66 | 103.14 | 105.80 |
| 1 | 1G | 938 | A | N7-C8-N9 | 6.66 | 117.13 | 113.80 |
| 26 | 14 | 2351 | G | OP1-P-OP2 | 6.66 | 129.59 | 119.60 |
| 26 | 14 | 2765 | A | C8-N9-C4 | -6.66 | 103.14 | 105.80 |
| 26 | 14 | 2789 | C | C5-C4-N4 | 6.66 | 124.86 | 120.20 |
| 1 | 13 | 692 | U | C2-N3-C4 | -6.66 | 123.01 | 127.00 |
| 26 | 1H | 249 | C | OP1-P-OP2 | 6.66 | 129.58 | 119.60 |
| 26 | 1H | 408 | G | N9-C4-C5 | -6.66 | 102.74 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 439 | G | OP1-P-O3' | 6.66 | 119.84 | 105.20 |
| 26 | 1H | 533 | G | N1-C2-N3 | 6.66 | 127.89 | 123.90 |
| 26 | 1H | 846 | C | N1-C2-O2 | 6.66 | 122.89 | 118.90 |
| 26 | 14 | 1401 | G | N7-C8-N9 | 6.66 | 116.43 | 113.10 |
| 26 | 14 | 1812 | A | C6-N1-C2 | -6.66 | 114.61 | 118.60 |
| 26 | 14 | 1820 | U | OP1-P-O3' | 6.66 | 119.84 | 105.20 |
| 26 | 14 | 1823 | G | N3-C4-C5 | 6.66 | 131.93 | 128.60 |
| 26 | 14 | 2586 | C | OP1-P-OP2 | -6.66 | 109.62 | 119.60 |
| 1 | 13 | 280 | C | N1-C2-N3 | -6.65 | 114.54 | 119.20 |
| 26 | 1H | 232 | G | C8-N9-C1' | -6.65 | 118.35 | 127.00 |
| 26 | 1H | 504 | U | N3-C2-O2 | -6.65 | 117.54 | 122.20 |
| 26 | 1H | 769 | G | C5-C6-N1 | 6.65 | 114.83 | 111.50 |
| 26 | 1H | 1224 | G | N3-C4-C5 | 6.65 | 131.93 | 128.60 |
| 26 | 1H | 1855 | G | C6-N1-C2 | -6.65 | 121.11 | 125.10 |
| 26 | 1H | 2006 | C | O4'-C1'-N1 | -6.65 | 102.88 | 108.20 |
| 26 | 14 | 488 | G | C4-C5-N7 | 6.65 | 113.46 | 110.80 |
| 26 | 14 | 609 | A | C5-C6-N6 | -6.65 | 118.38 | 123.70 |
| 26 | 14 | 1326 | U | C4-C5-C6 | 6.65 | 123.69 | 119.70 |
| 26 | 1H | 270(X) | G | C5-C6-N1 | -6.65 | 108.17 | 111.50 |
| 26 | 1H | 348 | G | C5-C6-O6 | 6.65 | 132.59 | 128.60 |
| 26 | 1H | 607 | U | N3-C4-O4 | -6.65 | 114.74 | 119.40 |
| 26 | 1H | 1286 | A | OP2-P-O3' | 6.65 | 119.83 | 105.20 |
| 1 | 1G | 27 | G | C8-N9-C4 | -6.65 | 103.74 | 106.40 |
| 1 | 1G | 690 | G | O4'-C1'-N9 | 6.65 | 113.52 | 108.20 |
| 26 | 14 | 336 | C | C5-C6-N1 | -6.65 | 117.67 | 121.00 |
| 26 | 14 | 1196 | C | C6-N1-C2 | 6.65 | 122.96 | 120.30 |
| 26 | 1H | 441 | U | C5-C6-N1 | -6.65 | 119.38 | 122.70 |
| 26 | 1H | 1053 | C | C6-N1-C2 | -6.65 | 117.64 | 120.30 |
| 26 | 1H | 2087 | G | C8-N9-C4 | 6.65 | 109.06 | 106.40 |
| 26 | 14 | 187 | G | N3-C2-N2 | 6.65 | 124.56 | 119.90 |
| 26 | 14 | 332 | A | OP1-P-OP2 | 6.65 | 129.57 | 119.60 |
| 26 | 14 | 642 | G | N1-C2-N3 | 6.65 | 127.89 | 123.90 |
| 26 | 14 | 1025 | G | N1-C6-O6 | 6.65 | 123.89 | 119.90 |
| 26 | 1H | 708 | C | OP1-P-OP2 | 6.65 | 129.57 | 119.60 |
| 27 | 16 | 60 | C | C4-C5-C6 | -6.65 | 114.08 | 117.40 |
| 26 | 14 | 1681 | G | N7-C8-N9 | 6.65 | 116.42 | 113.10 |
| 1 | 13 | 144 | G | C8-N9-C4 | -6.65 | 103.74 | 106.40 |
| 26 | 1H | 211 | A | OP2-P-O3' | 6.65 | 119.82 | 105.20 |
| 26 | 1H | 475 | U | N3-C2-O2 | 6.65 | 126.85 | 122.20 |
| 26 | 1H | 948 | G | N7-C8-N9 | 6.65 | 116.42 | 113.10 |
| 26 | 1H | 2057 | A | OP1-P-OP2 | 6.65 | 129.57 | 119.60 |
| 26 | 1H | 2573 | C | N3-C2-O2 | -6.65 | 117.25 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 376 | C | N1-C2-O2 | -6.65 | 114.91 | 118.90 |
| 26 | 14 | 730 | C | C6-N1-C2 | -6.65 | 117.64 | 120.30 |
| 26 | 1H | 400 | G | C5-C6-O6 | -6.65 | 124.61 | 128.60 |
| 1 | 1G | 1505 | G | OP1-P-OP2 | 6.65 | 129.57 | 119.60 |
| 26 | 14 | 2555 | U | N3-C2-O2 | 6.65 | 126.85 | 122.20 |
| 1 | 13 | 511 | C | C5-C6-N1 | -6.64 | 117.68 | 121.00 |
| 26 | 1H | 222 | A | N9-C4-C5 | -6.64 | 103.14 | 105.80 |
| 26 | 1H | 260 | G | N7-C8-N9 | -6.64 | 109.78 | 113.10 |
| 26 | 1H | 1819 | A | N1-C2-N3 | 6.64 | 132.62 | 129.30 |
| 26 | 1H | 2725 | A | OP1-P-OP2 | -6.64 | 109.63 | 119.60 |
| 1 | 1G | 250 | A | C8-N9-C4 | 6.64 | 108.46 | 105.80 |
| 1 | 1G | 904 | C | N3-C4-C5 | 6.64 | 124.56 | 121.90 |
| 26 | 14 | 432 | A | C4-C5-N7 | 6.64 | 114.02 | 110.70 |
| 26 | 14 | 746 | A | C5-C6-N6 | -6.64 | 118.38 | 123.70 |
| 1 | 13 | 1052 | U | N1-C2-O2 | 6.64 | 127.45 | 122.80 |
| 24 | 3K | 34 | U | N3-C2-O2 | 6.64 | 126.85 | 122.20 |
| 26 | 1H | 1384 | A | C5-C6-N6 | -6.64 | 118.39 | 123.70 |
| 26 | 1H | 2274 | A | OP1-P-OP2 | -6.64 | 109.64 | 119.60 |
| 26 | 1H | 2362 | G | C8-N9-C4 | 6.64 | 109.06 | 106.40 |
| 1 | 1G | 1080 | A | C4-C5-N7 | -6.64 | 107.38 | 110.70 |
| 26 | 14 | 1934 | C | C4-C5-C6 | -6.64 | 114.08 | 117.40 |
| 26 | 14 | 2433 | A | OP1-P-O3' | -6.64 | 90.59 | 105.20 |
| 26 | 14 | 2687 | U | OP1-P-OP2 | -6.64 | 109.64 | 119.60 |
| 26 | 1H | 965 | C | N3-C2-O2 | -6.64 | 117.25 | 121.90 |
| 26 | 1H | 2448 | A | C5-C6-N1 | 6.64 | 121.02 | 117.70 |
| 26 | 14 | 2206 | C | O5'-P-OP2 | -6.64 | 99.72 | 105.70 |
| 26 | 14 | 2570 | G | N3-C4-C5 | 6.64 | 131.92 | 128.60 |
| 26 | 1H | 108 | U | N1-C2-O2 | 6.64 | 127.45 | 122.80 |
| 26 | 1H | 205 | G | N3-C2-N2 | 6.64 | 124.55 | 119.90 |
| 26 | 1H | 988 | A | C6-C5-N7 | -6.64 | 127.65 | 132.30 |
| 26 | 1H | 1152 | C | N3-C2-O2 | 6.64 | 126.55 | 121.90 |
| 26 | 1H | 1614 | A | N1-C2-N3 | 6.64 | 132.62 | 129.30 |
| 26 | 1H | 1763 | G | O5'-P-OP1 | 6.64 | 118.67 | 110.70 |
| 26 | 1H | 2484 | G | N7-C8-N9 | -6.64 | 109.78 | 113.10 |
| 26 | 1H | 2507 | C | C5-C6-N1 | 6.64 | 124.32 | 121.00 |
| 26 | 1H | 2738 | A | C8-N9-C4 | 6.64 | 108.46 | 105.80 |
| 27 | 16 | 82 | G | N1-C2-N3 | 6.64 | 127.88 | 123.90 |
| 45 | F8 | 60 | ARG | NE-CZ-NH1 | -6.64 | 116.98 | 120.30 |
| 26 | 14 | 433 | C | N3-C4-C5 | -6.64 | 119.24 | 121.90 |
| 26 | 14 | 781 | A | O5'-P-OP2 | -6.64 | 99.72 | 105.70 |
| 26 | 14 | 1624 | G | O5'-P-OP2 | -6.64 | 99.72 | 105.70 |
| 26 | 14 | 2471 | C | C6-N1-C2 | -6.64 | 117.64 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2577 | A | C4-C5-C6 | 6.64 | 120.32 | 117.00 |
| 26 | 1H | 220 | G | N1-C2-N3 | 6.64 | 127.88 | 123.90 |
| 26 | 1H | 270(E) | G | C5-C6-N1 | -6.64 | 108.18 | 111.50 |
| 26 | 1H | 606 | U | C5-C4-O4 | 6.64 | 129.88 | 125.90 |
| 26 | 1H | 1430 | C | N3-C2-O2 | -6.64 | 117.25 | 121.90 |
| 26 | 1H | 1805 | U | O5'-P-OP1 | -6.64 | 99.73 | 105.70 |
| 26 | 1H | 1950 | G | O5'-P-OP1 | -6.64 | 99.72 | 105.70 |
| 26 | 1H | 2706 | G | OP1-P-O3' | -6.64 | 90.60 | 105.20 |
| 26 | 14 | 292 | C | N3-C4-C5 | 6.64 | 124.56 | 121.90 |
| 1 | 13 | 122 | G | C6-C5-N7 | -6.64 | 126.42 | 130.40 |
| 1 | 13 | 618 | C | C2-N3-C4 | 6.64 | 123.22 | 119.90 |
| 24 | 3K | 76 | A | C4-C5-C6 | 6.64 | 120.32 | 117.00 |
| 26 | 1H | 1259 | G | N1-C2-N2 | -6.64 | 110.23 | 116.20 |
| 26 | 1H | 1268 | A | N3-C4-C5 | 6.64 | 131.45 | 126.80 |
| 26 | 14 | 584 | C | N1-C2-O2 | -6.64 | 114.92 | 118.90 |
| 26 | 14 | 1197 | G | C6-N1-C2 | 6.64 | 129.08 | 125.10 |
| 26 | 14 | 1260 | G | N9-C4-C5 | 6.64 | 108.05 | 105.40 |
| 26 | 14 | 1973 | G | N9-C4-C5 | 6.64 | 108.05 | 105.40 |
| 26 | 14 | 2264 | C | O5'-P-OP2 | 6.64 | 118.67 | 110.70 |
| 1 | 13 | 736 | C | N3-C4-N4 | -6.63 | 113.36 | 118.00 |
| 23 | 2K | 15 | G | C4-C5-N7 | -6.63 | 108.15 | 110.80 |
| 26 | 1H | 204 | A | C2-N3-C4 | 6.63 | 113.92 | 110.60 |
| 26 | 1H | 452 | G | C4-C5-C6 | -6.63 | 114.82 | 118.80 |
| 26 | 1H | 581 | C | N3-C2-O2 | 6.63 | 126.55 | 121.90 |
| 26 | 1H | 1657 | C | OP1-P-O3' | 6.63 | 119.80 | 105.20 |
| 26 | 1H | 1702 | G | O5'-P-OP1 | -6.63 | 99.73 | 105.70 |
| 26 | 1H | 1783 | A | C8-N9-C4 | -6.63 | 103.15 | 105.80 |
| 26 | 1H | 1825 | A | OP1-P-OP2 | -6.63 | 109.65 | 119.60 |
| 26 | 1H | 2762 | G | N1-C6-O6 | -6.63 | 115.92 | 119.90 |
| 33 | 51 | 7 | LEU | CB-CG-CD1 | 6.63 | 122.28 | 111.00 |
| 26 | 14 | 197 | A | C5-C6-N6 | -6.63 | 118.39 | 123.70 |
| 26 | 14 | 640 | C | C4-C5-C6 | 6.63 | 120.72 | 117.40 |
| 26 | 14 | 1341 | U | O5'-P-OP2 | 6.63 | 118.66 | 110.70 |
| 24 | 3K | 34 | U | C4-C5-C6 | -6.63 | 115.72 | 119.70 |
| 26 | 1H | 997 | G | C5-N7-C8 | 6.63 | 107.62 | 104.30 |
| 26 | 14 | 76 | C | C5-C6-N1 | 6.63 | 124.32 | 121.00 |
| 26 | 14 | 663 | G | O5'-P-OP1 | -6.63 | 99.73 | 105.70 |
| 26 | 14 | 1198 | U | C5-C4-O4 | 6.63 | 129.88 | 125.90 |
| 26 | 14 | 1398 | C | OP2-P-O3' | 6.63 | 119.79 | 105.20 |
| 26 | 14 | 1652 | A | O5'-P-OP1 | -6.63 | 99.73 | 105.70 |
| 26 | 14 | 2337 | G | N3-C4-C5 | -6.63 | 125.28 | 128.60 |
| 26 | 1H | 441 | U | C2-N3-C4 | -6.63 | 123.02 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 558 | G | C5-C6-O6 | 6.63 | 132.58 | 128.60 |
| 26 | 1H | 821 | A | C4-C5-N7 | -6.63 | 107.38 | 110.70 |
| 26 | 1H | 1759 | A | C2-N3-C4 | -6.63 | 107.28 | 110.60 |
| 26 | 1H | 1786 | A | O5'-P-OP2 | -6.63 | 99.73 | 105.70 |
| 26 | 1H | 1980 | G | N1-C2-N2 | 6.63 | 122.17 | 116.20 |
| 26 | 14 | 489 | G | C2-N3-C4 | -6.63 | 108.58 | 111.90 |
| 26 | 14 | 961 | C | OP1-P-OP2 | 6.63 | 129.55 | 119.60 |
| 26 | 14 | 1341 | U | N3-C4-O4 | 6.63 | 124.04 | 119.40 |
| 26 | 1H | 2025 | C | N3-C4-C5 | -6.63 | 119.25 | 121.90 |
| 26 | 1H | 2304 | G | N3-C4-N9 | -6.63 | 122.02 | 126.00 |
| 1 | 1G | 45 | U | C2-N1-C1' | -6.63 | 109.74 | 117.70 |
| 23 | 2L | 5 | G | C8-N9-C4 | 6.63 | 109.05 | 106.40 |
| 26 | 14 | 17 | G | N7-C8-N9 | 6.63 | 116.42 | 113.10 |
| 26 | 14 | 1681 | G | OP2-P-O3' | 6.63 | 119.79 | 105.20 |
| 26 | 14 | 2456 | C | O5'-P-OP2 | -6.63 | 99.73 | 105.70 |
| 26 | 1H | 499 | U | O5'-P-OP1 | -6.63 | 99.73 | 105.70 |
| 26 | 1H | 1343 | G | N3-C4-C5 | -6.63 | 125.29 | 128.60 |
| 26 | 1H | 1499 | C | C4-C5-C6 | 6.63 | 120.71 | 117.40 |
| 26 | 1H | 1512 | G | C5-C6-N1 | -6.63 | 108.19 | 111.50 |
| 26 | 1H | 1884 | A | C2-N3-C4 | -6.63 | 107.29 | 110.60 |
| 26 | 1H | 2593 | U | C2-N3-C4 | 6.63 | 130.98 | 127.00 |
| 26 | 1H | 2595 | G | C5-N7-C8 | -6.63 | 100.99 | 104.30 |
| 1 | 13 | 333 | G | C5-C6-O6 | 6.63 | 132.58 | 128.60 |
| 26 | 1H | 587 | C | C6-N1-C2 | -6.63 | 117.65 | 120.30 |
| 26 | 1H | 1607 | C | OP1-P-OP2 | 6.63 | 129.54 | 119.60 |
| 26 | 1H | 1852 | C | N3-C2-O2 | 6.63 | 126.54 | 121.90 |
| 26 | 1H | 1912 | A | C6-N1-C2 | -6.63 | 114.62 | 118.60 |
| 26 | 1H | 2423 | U | C5-C4-O4 | -6.63 | 121.92 | 125.90 |
| 26 | 1H | 2500 | U | O5'-P-OP2 | -6.63 | 99.73 | 105.70 |
| 1 | 1G | 270 | A | N1-C6-N6 | -6.63 | 114.62 | 118.60 |
| 26 | 14 | 140 | A | C8-N9-C4 | -6.63 | 103.15 | 105.80 |
| 26 | 14 | 801 | G | N9-C4-C5 | 6.63 | 108.05 | 105.40 |
| 26 | 14 | 1608 | A | N7-C8-N9 | -6.63 | 110.49 | 113.80 |
| 27 | 1J | 75 | G | C4-C5-N7 | 6.63 | 113.45 | 110.80 |
| 26 | 1H | 186 | G | N1-C6-O6 | 6.62 | 123.88 | 119.90 |
| 27 | 16 | 103 | U | C2-N3-C4 | -6.62 | 123.03 | 127.00 |
| 1 | 1G | 169 | C | C6-N1-C2 | -6.62 | 117.65 | 120.30 |
| 26 | 14 | 1293 | C | N3-C2-O2 | -6.62 | 117.26 | 121.90 |
| 26 | 14 | 1834 | U | N3-C4-O4 | 6.62 | 124.04 | 119.40 |
| 26 | 14 | 2506 | U | C6-N1-C1' | -6.62 | 111.92 | 121.20 |
| 27 | 1J | 44 | G | N7-C8-N9 | -6.62 | 109.79 | 113.10 |
| 27 | 1J | 82 | G | C8-N9-C4 | 6.62 | 109.05 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 13 | 755 | G | N1-C2-N3 | 6.62 | 127.87 | 123.90 |
| 1 | 13 | 1478 | C | C2-N1-C1' | -6.62 | 111.51 | 118.80 |
| 1 | 13 | 1527 | C | C6-N1-C2 | -6.62 | 117.65 | 120.30 |
| 26 | 1H | 132 | G | N1-C2-N3 | 6.62 | 127.87 | 123.90 |
| 26 | 1H | 192 | C | OP1-P-OP2 | -6.62 | 109.67 | 119.60 |
| 26 | 1H | 383 | U | N3-C4-O4 | -6.62 | 114.76 | 119.40 |
| 26 | 1H | 1029 | A | C4-C5-N7 | 6.62 | 114.01 | 110.70 |
| 26 | 1H | 1211 | U | C5-C4-O4 | -6.62 | 121.92 | 125.90 |
| 26 | 1H | 1826 | G | C4-C5-N7 | -6.62 | 108.15 | 110.80 |
| 26 | 1H | 2335 | A | OP2-P-O3' | 6.62 | 119.77 | 105.20 |
| 26 | 1H | 2502 | G | N7-C8-N9 | 6.62 | 116.41 | 113.10 |
| 1 | 1G | 14 | U | C4-C5-C6 | -6.62 | 115.73 | 119.70 |
| 1 | 1G | 1262 | C | C6-N1-C2 | 6.62 | 122.95 | 120.30 |
| 1 | 1G | 1428 | A | N1-C2-N3 | 6.62 | 132.61 | 129.30 |
| 26 | 14 | 2578 | G | N1-C2-N3 | 6.62 | 127.87 | 123.90 |
| 1 | 13 | 64 | G | C8-N9-C4 | 6.62 | 109.05 | 106.40 |
| 1 | 13 | 806 | C | C4-C5-C6 | -6.62 | 114.09 | 117.40 |
| 1 | 13 | 1406 | U | C5-C6-N1 | -6.62 | 119.39 | 122.70 |
| 26 | 1H | 270(G) | C | C6-N1-C2 | -6.62 | 117.65 | 120.30 |
| 26 | 1H | 646 | A | OP1-P-O3' | 6.62 | 119.77 | 105.20 |
| 26 | 1H | 1602 | U | O5'-P-OP1 | -6.62 | 99.74 | 105.70 |
| 26 | 1H | 2238 | G | C8-N9-C4 | -6.62 | 103.75 | 106.40 |
| 26 | 1H | 2619 | C | C6-N1-C2 | 6.62 | 122.95 | 120.30 |
| 1 | 1G | 1430 | C | N1-C2-O2 | 6.62 | 122.87 | 118.90 |
| 26 | 14 | 126 | A | C4-C5-C6 | 6.62 | 120.31 | 117.00 |
| 26 | 14 | 335 | C | C2-N3-C4 | 6.62 | 123.21 | 119.90 |
| 26 | 1H | 1272 | A | C5-N7-C8 | -6.62 | 100.59 | 103.90 |
| 1 | 1G | 535 | A | C6-N1-C2 | -6.62 | 114.63 | 118.60 |
| 26 | 14 | 80 | G | C6-N1-C2 | -6.62 | 121.13 | 125.10 |
| 26 | 14 | 335 | C | N3-C2-O2 | 6.62 | 126.53 | 121.90 |
| 26 | 14 | 666 | G | O5'-P-OP1 | 6.62 | 118.64 | 110.70 |
| 26 | 14 | 717 | G | C8-N9-C4 | 6.62 | 109.05 | 106.40 |
| 26 | 14 | 2509 | G | OP1-P-OP2 | 6.62 | 129.53 | 119.60 |
| 26 | 14 | 2851 | A | C5-N7-C8 | -6.62 | 100.59 | 103.90 |
| 1 | 13 | 899 | C | O5'-P-OP1 | 6.62 | 118.64 | 110.70 |
| 26 | 1H | 176 | G | C6-C5-N7 | -6.62 | 126.43 | 130.40 |
| 26 | 1H | 275 | G | N7-C8-N9 | -6.62 | 109.79 | 113.10 |
| 26 | 1H | 609 | A | C2-N3-C4 | -6.62 | 107.29 | 110.60 |
| 26 | 1H | 991 | C | OP2-P-O3' | 6.62 | 119.76 | 105.20 |
| 26 | 1H | 1108 | U | P-O3'-C3' | 6.62 | 127.64 | 119.70 |
| 26 | 1H | 1247 | A | N7-C8-N9 | -6.62 | 110.49 | 113.80 |
| 1 | 1G | 414 | A | N1-C6-N6 | 6.62 | 122.57 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1224 | G | OP1-P-OP2 | -6.62 | 109.67 | 119.60 |
| 26 | 14 | 1314 | C | C2-N1-C1' | 6.62 | 126.08 | 118.80 |
| 26 | 14 | 2466 | C | O5'-P-OP2 | -6.62 | 99.74 | 105.70 |
| 27 | 1J | 75 | G | C5-C6-O6 | -6.62 | 124.63 | 128.60 |
| 1 | 13 | 738 | C | O5'-P-OP2 | 6.62 | 118.64 | 110.70 |
| 1 | 13 | 897 | C | N3-C2-O2 | 6.62 | 126.53 | 121.90 |
| 26 | 1H | 1822 | G | N1-C6-O6 | 6.62 | 123.87 | 119.90 |
| 26 | 1H | 2033 | A | C8-N9-C4 | -6.62 | 103.15 | 105.80 |
| 26 | 14 | 127 | A | N1-C6-N6 | 6.62 | 122.57 | 118.60 |
| 34 | 69 | 131 | LYS | C-N-CD | -6.62 | 106.04 | 120.60 |
| 26 | 1H | 1544 | C | N1-C2-O2 | 6.62 | 122.87 | 118.90 |
| 26 | 1H | 2300 | G | C8-N9-C4 | -6.62 | 103.75 | 106.40 |
| 26 | 1H | 2425 | A | OP1-P-OP2 | -6.62 | 109.68 | 119.60 |
| 27 | 16 | 98 | G | C2-N3-C4 | -6.62 | 108.59 | 111.90 |
| 1 | 1G | 231 | G | N9-C4-C5 | 6.62 | 108.05 | 105.40 |
| 1 | 1G | 970 | C | N1-C2-N3 | -6.62 | 114.57 | 119.20 |
| 26 | 14 | 2618 | G | N3-C4-N9 | -6.62 | 122.03 | 126.00 |
| 1 | 13 | 541 | G | C4-C5-N7 | 6.61 | 113.44 | 110.80 |
| 26 | 1H | 699 | A | C5-C6-N6 | -6.61 | 118.41 | 123.70 |
| 26 | 1H | 781 | A | OP1-P-OP2 | 6.61 | 129.52 | 119.60 |
| 26 | 1H | 987 | G | C5-C6-O6 | 6.61 | 132.57 | 128.60 |
| 26 | 1H | 2019 | A | N1-C2-N3 | 6.61 | 132.61 | 129.30 |
| 26 | 1H | 2509 | G | N9-C4-C5 | -6.61 | 102.75 | 105.40 |
| 27 | 16 | 105 | G | C5-C6-O6 | -6.61 | 124.63 | 128.60 |
| 26 | 14 | 79 | G | O5'-P-OP2 | -6.61 | 99.75 | 105.70 |
| 26 | 14 | 1474 | C | C2-N3-C4 | 6.61 | 123.21 | 119.90 |
| 26 | 14 | 1616 | A | C8-N9-C4 | -6.61 | 103.15 | 105.80 |
| 26 | 14 | 2371 | G | N1-C2-N2 | 6.61 | 122.15 | 116.20 |
| 26 | 14 | 2445 | G | C8-N9-C4 | -6.61 | 103.75 | 106.40 |
| 1 | 13 | 548 | G | C8-N9-C4 | -6.61 | 103.75 | 106.40 |
| 26 | 1H | 248 | G | C5-C6-O6 | -6.61 | 124.63 | 128.60 |
| 26 | 14 | 748 | G | C6-N1-C2 | -6.61 | 121.13 | 125.10 |
| 26 | 14 | 1648 | C | C4-C5-C6 | 6.61 | 120.71 | 117.40 |
| 1 | 13 | 575 | G | C8-N9-C4 | 6.61 | 109.04 | 106.40 |
| 1 | 13 | 1240 | U | C4-C5-C6 | -6.61 | 115.73 | 119.70 |
| 26 | 1H | 575 | A | N3-C4-N9 | 6.61 | 132.69 | 127.40 |
| 26 | 1H | 973 | A | N1-C2-N3 | 6.61 | 132.60 | 129.30 |
| 26 | 1H | 1344 | G | C4-C5-N7 | 6.61 | 113.44 | 110.80 |
| 26 | 1H | 1602 | U | O5'-P-OP2 | 6.61 | 118.63 | 110.70 |
| 26 | 1H | 1763 | G | N3-C2-N2 | 6.61 | 124.53 | 119.90 |
| 26 | 1H | 1796 | U | C2-N1-C1' | -6.61 | 109.77 | 117.70 |
| 26 | 1H | 2331 | G | C5-C6-N1 | -6.61 | 108.19 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 2500 | U | C5-C6-N1 | -6.61 | 119.39 | 122.70 |
| 26 | 14 | 1027 | A | N7-C8-N9 | -6.61 | 110.49 | 113.80 |
| 26 | 14 | 1820 | U | C6-N1-C2 | 6.61 | 124.97 | 121.00 |
| 26 | 14 | 2499 | C | C5-C4-N4 | -6.61 | 115.57 | 120.20 |
| 1 | 13 | 1485 | U | N3-C4-C5 | -6.61 | 110.64 | 114.60 |
| 26 | 1H | 333 | G | N3-C4-N9 | 6.61 | 129.97 | 126.00 |
| 26 | 14 | 2061 | G | N7-C8-N9 | -6.61 | 109.80 | 113.10 |
| 1 | 13 | 363 | A | N7-C8-N9 | -6.61 | 110.50 | 113.80 |
| 1 | 13 | 862 | C | O5'-P-OP1 | -6.61 | 99.75 | 105.70 |
| 1 | 13 | 1446 | A | O4'-C1'-N9 | 6.61 | 113.49 | 108.20 |
| 26 | 1H | 59 | U | N1-C2-N3 | 6.61 | 118.86 | 114.90 |
| 26 | 1H | 349 | G | C8-N9-C4 | 6.61 | 109.04 | 106.40 |
| 26 | 1H | 1368 | G | C4-N9-C1' | 6.61 | 135.09 | 126.50 |
| 26 | 1H | 2000 | G | O5'-P-OP1 | 6.61 | 118.63 | 110.70 |
| 26 | 1H | 2073 | C | OP2-P-O3' | 6.61 | 119.74 | 105.20 |
| 26 | 14 | 962 | G | N3-C2-N2 | -6.61 | 115.28 | 119.90 |
| 26 | 14 | 2346 | A | N3-C4-N9 | -6.61 | 122.11 | 127.40 |
| 26 | 14 | 2556 | C | N3-C4-N4 | 6.61 | 122.63 | 118.00 |
| 26 | 14 | 2599 | G | N3-C2-N2 | -6.61 | 115.28 | 119.90 |
| 1 | 13 | 268 | C | OP1-P-OP2 | -6.61 | 109.69 | 119.60 |
| 1 | 13 | 583 | A | O5'-P-OP2 | 6.61 | 118.63 | 110.70 |
| 1 | 13 | 1143 | G | N1-C6-O6 | 6.61 | 123.86 | 119.90 |
| 1 | 13 | 1417 | G | C2-N3-C4 | 6.61 | 115.20 | 111.90 |
| 26 | 1H | 221 | A | C2-N3-C4 | 6.61 | 113.90 | 110.60 |
| 26 | 1H | 467 | G | OP2-P-O3' | 6.61 | 119.73 | 105.20 |
| 26 | 1H | 1145 | C | N3-C4-C5 | -6.61 | 119.26 | 121.90 |
| 26 | 1H | 1186 | G | N1-C2-N2 | 6.61 | 122.14 | 116.20 |
| 26 | 1H | 1685 | C | C5-C6-N1 | -6.61 | 117.70 | 121.00 |
| 26 | 1H | 1918 | A | C6-N1-C2 | 6.61 | 122.56 | 118.60 |
| 26 | 1H | 2567 | G | N1-C6-O6 | 6.61 | 123.86 | 119.90 |
| 26 | 1H | 2767 | C | N3-C4-C5 | 6.61 | 124.54 | 121.90 |
| 1 | 1G | 1183 | A | N9-C4-C5 | -6.61 | 103.16 | 105.80 |
| 26 | 14 | 477 | A | C8-N9-C4 | 6.61 | 108.44 | 105.80 |
| 26 | 14 | 654(V) | A | N1-C2-N3 | 6.61 | 132.60 | 129.30 |
| 26 | 14 | 757 | U | N1-C2-O2 | -6.61 | 118.18 | 122.80 |
| 26 | 14 | 1301 | A | C4-C5-C6 | 6.61 | 120.30 | 117.00 |
| 26 | 14 | 1321 | A | N1-C6-N6 | 6.61 | 122.56 | 118.60 |
| 26 | 14 | 1382 | G | OP2-P-O3' | 6.61 | 119.73 | 105.20 |
| 26 | 14 | 2218 | G | C4-C5-N7 | -6.61 | 108.16 | 110.80 |
| 26 | 14 | 2502 | G | C4-C5-C6 | 6.61 | 122.76 | 118.80 |
| 1 | 13 | 541 | G | C5-N7-C8 | -6.60 | 101.00 | 104.30 |
| 26 | 1H | 315 | G | N1-C6-O6 | 6.60 | 123.86 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 354 | G | N1-C6-O6 | 6.60 | 123.86 | 119.90 |
| 26 | 1H | 2036 | C | C5-C6-N1 | 6.60 | 124.30 | 121.00 |
| 26 | 1H | 2398 | U | O5'-P-OP2 | -6.60 | 99.76 | 105.70 |
| 1 | 1G | 413 | G | N1-C6-O6 | -6.60 | 115.94 | 119.90 |
| 26 | 14 | 417 | C | N3-C4-C5 | -6.60 | 119.26 | 121.90 |
| 26 | 14 | 451 | C | O4'-C1'-N1 | 6.60 | 113.48 | 108.20 |
| 26 | 14 | 760 | G | C4-C5-C6 | 6.60 | 122.76 | 118.80 |
| 26 | 14 | 973 | A | N1-C6-N6 | 6.60 | 122.56 | 118.60 |
| 26 | 14 | 1551 | C | C6-N1-C2 | 6.60 | 122.94 | 120.30 |
| 26 | 14 | 1892 | C | N3-C4-C5 | -6.60 | 119.26 | 121.90 |
| 1 | 13 | 1304 | G | N1-C6-O6 | 6.60 | 123.86 | 119.90 |
| 26 | 1H | 445 | C | C4-C5-C6 | 6.60 | 120.70 | 117.40 |
| 26 | 1H | 814 | C | C2-N3-C4 | -6.60 | 116.60 | 119.90 |
| 26 | 1H | 851 | U | OP2-P-O3' | 6.60 | 119.72 | 105.20 |
| 26 | 1H | 1775 | U | O4'-C1'-N1 | -6.60 | 102.92 | 108.20 |
| 26 | 1H | 2396 | G | O5'-P-OP1 | -6.60 | 99.76 | 105.70 |
| 1 | 1G | 337 | C | C4-C5-C6 | -6.60 | 114.10 | 117.40 |
| 26 | 14 | 124 | G | C5-N7-C8 | 6.60 | 107.60 | 104.30 |
| 26 | 14 | 1224 | G | N9-C4-C5 | 6.60 | 108.04 | 105.40 |
| 26 | 14 | 1375 | C | C4-C5-C6 | -6.60 | 114.10 | 117.40 |
| 26 | 14 | 1758 | G | O5'-P-OP1 | -6.60 | 99.76 | 105.70 |
| 26 | 14 | 1922 | G | N1-C6-O6 | 6.60 | 123.86 | 119.90 |
| 26 | 14 | 2133 | G | O4'-C1'-N9 | 6.60 | 113.48 | 108.20 |
| 26 | 14 | 2707 | G | C2-N3-C4 | -6.60 | 108.60 | 111.90 |
| 1 | 13 | 749 | C | C2-N1-C1' | 6.60 | 126.06 | 118.80 |
| 1 | 13 | 755 | G | C5-C6-N1 | -6.60 | 108.20 | 111.50 |
| 1 | 13 | 1177 | G | N7-C8-N9 | -6.60 | 109.80 | 113.10 |
| 26 | 1H | 416 | C | C6-N1-C2 | 6.60 | 122.94 | 120.30 |
| 26 | 1H | 709 | U | OP2-P-O3' | 6.60 | 119.72 | 105.20 |
| 1 | 1G | 602 | A | N7-C8-N9 | 6.60 | 117.10 | 113.80 |
| 1 | 1G | 830 | G | OP1-P-OP2 | -6.60 | 109.70 | 119.60 |
| 26 | 14 | 1741 | C | O5'-P-OP2 | -6.60 | 99.76 | 105.70 |
| 26 | 14 | 1973 | G | C8-N9-C4 | -6.60 | 103.76 | 106.40 |
| 26 | 14 | 2605 | U | C5-C4-O4 | 6.60 | 129.86 | 125.90 |
| 1 | 13 | 128 | G | N3-C2-N2 | -6.60 | 115.28 | 119.90 |
| 1 | 13 | 138 | G | N3-C4-C5 | 6.60 | 131.90 | 128.60 |
| 1 | 13 | 1300 | G | C6-C5-N7 | 6.60 | 134.36 | 130.40 |
| 26 | 1H | 548 | A | N1-C2-N3 | -6.60 | 126.00 | 129.30 |
| 26 | 1H | 1975 | G | C8-N9-C4 | 6.60 | 109.04 | 106.40 |
| 12 | 3A | 12 | ARG | NE-CZ-NH1 | -6.60 | 117.00 | 120.30 |
| 26 | 14 | 585 | G | O4'-C1'-N9 | -6.60 | 102.92 | 108.20 |
| 26 | 14 | 959 | A | P-O3'-C3' | 6.60 | 127.62 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1796 | U | C4-C5-C6 | -6.60 | 115.74 | 119.70 |
| 26 | 14 | 2216 | G | N1-C6-O6 | 6.60 | 123.86 | 119.90 |
| 26 | 14 | 2383 | G | N1-C2-N2 | -6.60 | 110.26 | 116.20 |
| 26 | 14 | 2703 | C | N1-C2-O2 | 6.60 | 122.86 | 118.90 |
| 1 | 13 | 1061 | G | N3-C2-N2 | -6.60 | 115.28 | 119.90 |
| 1 | 13 | 1357 | A | C2-N3-C4 | -6.60 | 107.30 | 110.60 |
| 26 | 1H | 211 | A | O5'-P-OP1 | 6.60 | 118.62 | 110.70 |
| 26 | 1H | 305 | U | N1-C2-O2 | -6.60 | 118.18 | 122.80 |
| 26 | 1H | 496 | G | C2-N3-C4 | -6.60 | 108.60 | 111.90 |
| 26 | 1H | 1156 | A | C2-N3-C4 | -6.60 | 107.30 | 110.60 |
| 26 | 1H | 1247 | A | C4-C5-C6 | 6.60 | 120.30 | 117.00 |
| 26 | 1H | 2329 | G | O4'-C1'-N9 | -6.60 | 102.92 | 108.20 |
| 26 | 1H | 2439 | A | OP1-P-OP2 | 6.60 | 129.50 | 119.60 |
| 26 | 14 | 503 | A | C5-C6-N6 | 6.60 | 128.98 | 123.70 |
| 26 | 14 | 1237 | A | N1-C6-N6 | -6.60 | 114.64 | 118.60 |
| 26 | 14 | 1343 | G | OP1-P-OP2 | 6.60 | 129.50 | 119.60 |
| 26 | 14 | 1786 | A | N3-C4-C5 | 6.60 | 131.42 | 126.80 |
| 26 | 14 | 2208 | U | C5-C4-O4 | 6.60 | 129.86 | 125.90 |
| 27 | 1J | 79 | C | N3-C4-C5 | -6.60 | 119.26 | 121.90 |
| 26 | 1H | 452 | G | C5-C6-N1 | 6.60 | 114.80 | 111.50 |
| 26 | 1H | 605 | C | C6-N1-C2 | 6.60 | 122.94 | 120.30 |
| 1 | 1G | 1113 | C | C5-C6-N1 | 6.60 | 124.30 | 121.00 |
| 26 | 14 | 2071 | A | C6-N1-C2 | -6.60 | 114.64 | 118.60 |
| 26 | 14 | 2812 | G | C5-C6-N1 | -6.60 | 108.20 | 111.50 |
| 26 | 1H | 579 | G | N1-C2-N2 | 6.59 | 122.14 | 116.20 |
| 26 | 1H | 598 | G | OP1-P-O3' | -6.59 | 90.69 | 105.20 |
| 26 | 1H | 1360 | A | C4-C5-C6 | -6.59 | 113.70 | 117.00 |
| 26 | 1H | 1649 | G | N1-C6-O6 | 6.59 | 123.86 | 119.90 |
| 26 | 1H | 2488 | A | C8-N9-C4 | 6.59 | 108.44 | 105.80 |
| 1 | 1G | 43 | C | O5'-P-OP2 | 6.59 | 118.61 | 110.70 |
| 56 | 1L | 3 | G | P-O3'-C3' | 6.59 | 127.61 | 119.70 |
| 25 | 4L | 10 | G | N9-C4-C5 | -6.59 | 102.76 | 105.40 |
| 26 | 14 | 2361 | A | C2-N3-C4 | -6.59 | 107.30 | 110.60 |
| 26 | 14 | 2559 | C | C6-N1-C2 | -6.59 | 117.66 | 120.30 |
| 26 | 1H | 426 | C | OP1-P-O3' | 6.59 | 119.70 | 105.20 |
| 26 | 1H | 1641 | A | OP1-P-O3' | 6.59 | 119.70 | 105.20 |
| 26 | 1H | 2562 | U | N1-C2-N3 | 6.59 | 118.86 | 114.90 |
| 26 | 14 | 2628 | C | C2-N3-C4 | -6.59 | 116.60 | 119.90 |
| 1 | 13 | 326 | G | N7-C8-N9 | -6.59 | 109.80 | 113.10 |
| 1 | 13 | 939 | G | C4-C5-N7 | -6.59 | 108.16 | 110.80 |
| 26 | 1H | 113 | G | C5-C6-N1 | -6.59 | 108.20 | 111.50 |
| 26 | 1H | 416 | C | C5-C6-N1 | -6.59 | 117.70 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2358 | G | C5-N7-C8 | 6.59 | 107.60 | 104.30 |
| 26 | 1H | 2869 | G | OP2-P-O3' | 6.59 | 119.70 | 105.20 |
| 26 | 14 | 1197 | G | N3-C4-N9 | -6.59 | 122.05 | 126.00 |
| 26 | 14 | 1777 | U | C6-N1-C2 | -6.59 | 117.05 | 121.00 |
| 26 | 14 | 2850 | A | OP1-P-OP2 | -6.59 | 109.71 | 119.60 |
| 26 | 1H | 520 | G | N1-C2-N3 | 6.59 | 127.85 | 123.90 |
| 26 | 1H | 1133 | U | N3-C4-C5 | 6.59 | 118.55 | 114.60 |
| 26 | 1H | 1366 | A | C5-C6-N6 | -6.59 | 118.43 | 123.70 |
| 27 | 16 | 93 | C | N3-C4-C5 | -6.59 | 119.26 | 121.90 |
| 31 | 31 | 77 | ASP | CB-CG-OD1 | -6.59 | 112.37 | 118.30 |
| 26 | 14 | 1224 | G | C8-N9-C4 | -6.59 | 103.76 | 106.40 |
| 26 | 14 | 2022 | U | N1-C2-O2 | 6.59 | 127.41 | 122.80 |
| 1 | 13 | 1290 | G | N7-C8-N9 | 6.59 | 116.39 | 113.10 |
| 26 | 1H | 380 | U | C4-C5-C6 | 6.59 | 123.65 | 119.70 |
| 26 | 1H | 1198 | U | N1-C2-N3 | 6.59 | 118.85 | 114.90 |
| 26 | 1H | 1340 | U | O5'-P-OP1 | -6.59 | 99.77 | 105.70 |
| 26 | 1H | 1501 | C | OP1-P-OP2 | -6.59 | 109.72 | 119.60 |
| 26 | 1H | 2508 | G | O5'-P-OP2 | 6.59 | 118.61 | 110.70 |
| 1 | 1G | 392 | G | C4-C5-N7 | -6.59 | 108.17 | 110.80 |
| 26 | 14 | 198 | C | C4-C5-C6 | 6.59 | 120.69 | 117.40 |
| 26 | 14 | 558 | G | N9-C4-C5 | -6.59 | 102.77 | 105.40 |
| 26 | 14 | 2017 | U | C4-C5-C6 | 6.59 | 123.65 | 119.70 |
| 1 | 13 | 50 | A | N1-C6-N6 | -6.59 | 114.65 | 118.60 |
| 1 | 13 | 130 | A | N9-C4-C5 | -6.59 | 103.17 | 105.80 |
| 26 | 1H | 270(X) | G | N3-C4-C5 | 6.59 | 131.89 | 128.60 |
| 26 | 1H | 491 | G | C5-C6-O6 | -6.59 | 124.65 | 128.60 |
| 1 | 1G | 267 | C | N1-C2-O2 | 6.59 | 122.85 | 118.90 |
| 26 | 14 | 536 | A | C8-N9-C4 | -6.59 | 103.17 | 105.80 |
| 26 | 14 | 1264 | G | C5-C6-N1 | -6.59 | 108.21 | 111.50 |
| 26 | 14 | 2108 | C | C6-N1-C2 | -6.59 | 117.67 | 120.30 |
| 26 | 14 | 2505 | G | C4-C5-N7 | -6.59 | 108.17 | 110.80 |
| 27 | 1J | 102 | G | OP2-P-O3' | 6.59 | 119.69 | 105.20 |
| 1 | 13 | 1210 | C | N3-C2-O2 | 6.58 | 126.51 | 121.90 |
| 1 | 13 | 1482 | G | OP1-P-OP2 | 6.58 | 129.48 | 119.60 |
| 26 | 1H | 829 | A | C5-C6-N1 | -6.58 | 114.41 | 117.70 |
| 26 | 1H | 932 | G | N3-C4-N9 | -6.58 | 122.05 | 126.00 |
| 26 | 1H | 1231 | G | O5'-P-OP2 | 6.58 | 118.60 | 110.70 |
| 26 | 1H | 2365 | G | N3-C4-N9 | 6.58 | 129.95 | 126.00 |
| 26 | 14 | 179 | G | C4-C5-N7 | 6.58 | 113.43 | 110.80 |
| 26 | 14 | 248 | G | N1-C6-O6 | -6.58 | 115.95 | 119.90 |
| 26 | 14 | 2329 | G | N3-C4-N9 | 6.58 | 129.95 | 126.00 |
| 26 | 14 | 2437 | U | C5-C4-O4 | 6.58 | 129.85 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 413 | G | C6-C5-N7 | 6.58 | 134.35 | 130.40 |
| 1 | 13 | 557 | G | N3-C4-C5 | -6.58 | 125.31 | 128.60 |
| 1 | 13 | 1059 | C | C6-N1-C2 | -6.58 | 117.67 | 120.30 |
| 1 | 13 | 1310 | G | N1-C6-O6 | -6.58 | 115.95 | 119.90 |
| 26 | 1H | 576 | U | OP2-P-O3' | 6.58 | 119.68 | 105.20 |
| 26 | 1H | 1401 | G | N1-C2-N3 | -6.58 | 119.95 | 123.90 |
| 26 | 1H | 1931 | U | O5'-P-OP1 | 6.58 | 118.60 | 110.70 |
| 26 | 1H | 2555 | U | N3-C4-C5 | -6.58 | 110.65 | 114.60 |
| 26 | 14 | 212 | G | C6-N1-C2 | -6.58 | 121.15 | 125.10 |
| 26 | 14 | 1283 | G | C4-C5-N7 | -6.58 | 108.17 | 110.80 |
| 26 | 14 | 1334 | G | C5-C6-N1 | -6.58 | 108.21 | 111.50 |
| 26 | 14 | 2073 | C | OP1-P-OP2 | -6.58 | 109.73 | 119.60 |
| 26 | 14 | 2558 | C | C5-C4-N4 | -6.58 | 115.59 | 120.20 |
| 26 | 1H | 145 | G | N1-C6-O6 | 6.58 | 123.85 | 119.90 |
| 26 | 1H | 468 | G | N1-C2-N3 | 6.58 | 127.85 | 123.90 |
| 26 | 1H | 2046 | G | C5-C6-N1 | 6.58 | 114.79 | 111.50 |
| 26 | 14 | 1837 | C | O5'-P-OP1 | -6.58 | 99.78 | 105.70 |
| 26 | 14 | 2545 | G | N3-C2-N2 | -6.58 | 115.29 | 119.90 |
| 26 | 1H | 1473 | G | O5'-P-OP1 | 6.58 | 118.59 | 110.70 |
| 26 | 1H | 2313 | C | O5'-P-OP2 | -6.58 | 99.78 | 105.70 |
| 26 | 1H | 2334 | G | C2-N3-C4 | -6.58 | 108.61 | 111.90 |
| 26 | 1H | 2421 | G | C5-N7-C8 | 6.58 | 107.59 | 104.30 |
| 26 | 1H | 2543 | G | C8-N9-C4 | 6.58 | 109.03 | 106.40 |
| 1 | 1G | 361 | G | O5'-P-OP2 | 6.58 | 118.59 | 110.70 |
| 1 | 1G | 1407 | C | C5-C6-N1 | 6.58 | 124.29 | 121.00 |
| 26 | 14 | 620 | G | C8-N9-C4 | -6.58 | 103.77 | 106.40 |
| 26 | 14 | 801 | G | N1-C6-O6 | -6.58 | 115.95 | 119.90 |
| 26 | 14 | 1333 | C | C5-C6-N1 | 6.58 | 124.29 | 121.00 |
| 26 | 14 | 1517 | G | OP1-P-O3' | 6.58 | 119.67 | 105.20 |
| 26 | 14 | 1595 | G | C5-C6-N1 | -6.58 | 108.21 | 111.50 |
| 26 | 14 | 2037 | G | C4-C5-N7 | -6.58 | 108.17 | 110.80 |
| 26 | 1H | 847 | U | N3-C4-O4 | -6.58 | 114.80 | 119.40 |
| 26 | 1H | 1488 | G | N1-C2-N3 | 6.58 | 127.85 | 123.90 |
| 26 | 1H | 2256 | G | C5-N7-C8 | -6.58 | 101.01 | 104.30 |
| 26 | 14 | 568 | U | N3-C4-C5 | -6.58 | 110.65 | 114.60 |
| 26 | 14 | 1308 | A | C8-N9-C4 | -6.58 | 103.17 | 105.80 |
| 26 | 14 | 1629 | U | C5-C6-N1 | 6.58 | 125.99 | 122.70 |
| 26 | 14 | 2371 | G | N3-C2-N2 | -6.58 | 115.30 | 119.90 |
| 26 | 1H | 567 | A | C5-C6-N6 | -6.58 | 118.44 | 123.70 |
| 26 | 1H | 811 | U | O5'-P-OP1 | -6.58 | 99.78 | 105.70 |
| 1 | 1G | 529 | G | C6-C5-N7 | -6.58 | 126.45 | 130.40 |
| 26 | 14 | 247 | G | N7-C8-N9 | -6.58 | 109.81 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2265 | U | C2-N3-C4 | 6.58 | 130.94 | 127.00 |
| 1 | 13 | 712 | A | C6-C5-N7 | 6.57 | 136.90 | 132.30 |
| 1 | 13 | 1285 | A | C5-C6-N1 | 6.57 | 120.99 | 117.70 |
| 26 | 1H | 626 | U | O5'-P-OP2 | -6.57 | 99.78 | 105.70 |
| 26 | 1H | 681 | G | N7-C8-N9 | -6.57 | 109.81 | 113.10 |
| 26 | 1H | 2288 | A | N9-C4-C5 | -6.57 | 103.17 | 105.80 |
| 26 | 1H | 2834 | G | C5-C6-N1 | -6.57 | 108.21 | 111.50 |
| 26 | 1H | 2844 | G | N7-C8-N9 | 6.57 | 116.39 | 113.10 |
| 55 | Q8 | 50 | LEU | CB-CG-CD2 | 6.57 | 122.18 | 111.00 |
| 1 | 1G | 618 | C | C5-C4-N4 | 6.57 | 124.80 | 120.20 |
| 1 | 1G | 674 | G | C5-C6-O6 | -6.57 | 124.66 | 128.60 |
| 1 | 1G | 1350 | A | N7-C8-N9 | 6.57 | 117.09 | 113.80 |
| 26 | 14 | 601 | C | C4-C5-C6 | 6.57 | 120.69 | 117.40 |
| 26 | 14 | 819 | A | C8-N9-C4 | -6.57 | 103.17 | 105.80 |
| 26 | 14 | 1273 | U | N3-C2-O2 | 6.57 | 126.80 | 122.20 |
| 26 | 14 | 1576 | U | O5'-P-OP2 | -6.57 | 99.78 | 105.70 |
| 26 | 14 | 2427 | C | N3-C2-O2 | 6.57 | 126.50 | 121.90 |
| 1 | 1G | 308 | C | N3-C4-C5 | -6.57 | 119.27 | 121.90 |
| 26 | 14 | 206 | U | N3-C2-O2 | -6.57 | 117.60 | 122.20 |
| 26 | 14 | 766 | C | C2-N3-C4 | -6.57 | 116.61 | 119.90 |
| 26 | 14 | 1953 | A | OP1-P-OP2 | -6.57 | 109.74 | 119.60 |
| 26 | 14 | 2235 | G | N3-C4-C5 | -6.57 | 125.31 | 128.60 |
| 1 | 13 | 562 | C | C6-N1-C2 | -6.57 | 117.67 | 120.30 |
| 26 | 1H | 659 | C | OP2-P-O3' | 6.57 | 119.66 | 105.20 |
| 26 | 1H | 911 | A | O5'-P-OP2 | 6.57 | 118.58 | 110.70 |
| 26 | 1H | 1904 | G | C6-C5-N7 | 6.57 | 134.34 | 130.40 |
| 26 | 1H | 2445 | G | N7-C8-N9 | 6.57 | 116.39 | 113.10 |
| 1 | 1G | 197 | A | P-O3'-C3' | 6.57 | 127.58 | 119.70 |
| 26 | 14 | 1470 | G | N3-C2-N2 | -6.57 | 115.30 | 119.90 |
| 26 | 14 | 1700 | A | N1-C2-N3 | 6.57 | 132.59 | 129.30 |
| 26 | 1H | 693 | C | OP2-P-O3' | 6.57 | 119.65 | 105.20 |
| 26 | 1H | 1960 | A | N1-C2-N3 | 6.57 | 132.59 | 129.30 |
| 26 | 14 | 835 | A | C5-C6-N6 | -6.57 | 118.44 | 123.70 |
| 26 | 14 | 2057 | A | C5-C6-N6 | -6.57 | 118.44 | 123.70 |
| 1 | 13 | 59 | A | C5-C6-N6 | -6.57 | 118.45 | 123.70 |
| 1 | 13 | 1192 | C | C6-N1-C2 | -6.57 | 117.67 | 120.30 |
| 26 | 1H | 1694 | C | N3-C2-O2 | 6.57 | 126.50 | 121.90 |
| 26 | 1H | 2047 | U | C5-C4-O4 | -6.57 | 121.96 | 125.90 |
| 27 | 16 | 67 | G | C4-C5-N7 | 6.57 | 113.43 | 110.80 |
| 1 | 1G | 1275 | A | C8-N9-C4 | -6.57 | 103.17 | 105.80 |
| 1 | 1G | 1399 | C | C2-N3-C4 | 6.57 | 123.18 | 119.90 |
| 26 | 14 | 2053 | G | C6-C5-N7 | 6.57 | 134.34 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2243 | U | N1-C2-O2 | -6.57 | 118.20 | 122.80 |
| 1 | 13 | 968 | A | C8-N9-C4 | 6.57 | 108.43 | 105.80 |
| 26 | 1H | 132 | G | N1-C6-O6 | 6.57 | 123.84 | 119.90 |
| 26 | 1H | 1820 | U | C2-N3-C4 | -6.57 | 123.06 | 127.00 |
| 26 | 1H | 2021 | C | O5'-P-OP1 | -6.57 | 99.79 | 105.70 |
| 26 | 1H | 2681 | C | N1-C2-N3 | 6.57 | 123.80 | 119.20 |
| 1 | 1G | 1024 | G | N3-C4-C5 | -6.57 | 125.32 | 128.60 |
| 26 | 14 | 1643 | G | C5-C6-N1 | 6.57 | 114.78 | 111.50 |
| 26 | 14 | 1896 | G | C2-N3-C4 | 6.57 | 115.18 | 111.90 |
| 26 | 14 | 2375 | G | C2-N3-C4 | 6.57 | 115.18 | 111.90 |
| 26 | 14 | 2832 | U | C6-N1-C2 | 6.57 | 124.94 | 121.00 |
| 26 | 1H | 1795 | C | O5'-P-OP2 | -6.56 | 99.79 | 105.70 |
| 26 | 14 | 569 | U | C2-N3-C4 | -6.56 | 123.06 | 127.00 |
| 26 | 14 | 2292 | C | C2-N3-C4 | -6.56 | 116.62 | 119.90 |
| 26 | 14 | 2610 | C | C5-C4-N4 | -6.56 | 115.61 | 120.20 |
| 1 | 13 | 246 | A | N9-C4-C5 | -6.56 | 103.17 | 105.80 |
| 1 | 13 | 1258 | G | C2-N3-C4 | 6.56 | 115.18 | 111.90 |
| 26 | 1H | 69 | C | C5-C4-N4 | 6.56 | 124.79 | 120.20 |
| 26 | 1H | 178 | G | O5'-P-OP1 | -6.56 | 99.79 | 105.70 |
| 26 | 1H | 465 | G | N1-C6-O6 | 6.56 | 123.84 | 119.90 |
| 26 | 1H | 636 | G | N1-C2-N3 | -6.56 | 119.96 | 123.90 |
| 26 | 1H | 1304 | C | C6-N1-C2 | 6.56 | 122.92 | 120.30 |
| 1 | 1G | 385 | C | C5-C6-N1 | -6.56 | 117.72 | 121.00 |
| 26 | 14 | 1125 | G | N1-C2-N3 | 6.56 | 127.84 | 123.90 |
| 26 | 14 | 2289 | G | C6-C5-N7 | 6.56 | 134.34 | 130.40 |
| 26 | 14 | 2381 | C | C6-N1-C1' | 6.56 | 128.68 | 120.80 |
| 1 | 13 | 335 | C | C6-N1-C2 | -6.56 | 117.67 | 120.30 |
| 1 | 13 | 417 | C | N3-C2-O2 | -6.56 | 117.31 | 121.90 |
| 1 | 13 | 428 | G | N9-C4-C5 | -6.56 | 102.78 | 105.40 |
| 26 | 1H | 271 | G | C5-C6-O6 | -6.56 | 124.66 | 128.60 |
| 26 | 1H | 1966 | A | N1-C6-N6 | -6.56 | 114.66 | 118.60 |
| 1 | 13 | 1408 | A | N1-C2-N3 | 6.56 | 132.58 | 129.30 |
| 26 | 1H | 779 | U | C6-N1-C2 | 6.56 | 124.94 | 121.00 |
| 1 | 1G | 1252 | A | N1-C6-N6 | -6.56 | 114.66 | 118.60 |
| 26 | 14 | 706 | A | C5-C6-N1 | -6.56 | 114.42 | 117.70 |
| 26 | 14 | 1121 | C | O5'-P-OP1 | 6.56 | 118.57 | 110.70 |
| 26 | 14 | 2376 | A | O5'-P-OP2 | 6.56 | 118.57 | 110.70 |
| 1 | 13 | 598 | U | C5-C6-N1 | 6.56 | 125.98 | 122.70 |
| 1 | 13 | 1435 | G | C4-C5-C6 | 6.56 | 122.73 | 118.80 |
| 1 | 13 | 1484 | C | N1-C2-O2 | -6.56 | 114.97 | 118.90 |
| 26 | 1H | 27 | G | C2-N3-C4 | -6.56 | 108.62 | 111.90 |
| 26 | 1H | 342 | G | C2-N3-C4 | 6.56 | 115.18 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 910 | A | C8-N9-C4 | -6.56 | 103.18 | 105.80 |
| 26 | 1H | 988 | A | P-O3'-C3' | 6.56 | 127.57 | 119.70 |
| 26 | 1H | 1009 | A | OP1-P-O3' | 6.56 | 119.62 | 105.20 |
| 26 | 1H | 1705 | G | O5'-P-OP1 | 6.56 | 118.57 | 110.70 |
| 26 | 1H | 2353 | G | O5'-P-OP1 | -6.56 | 99.80 | 105.70 |
| 26 | 1H | 2867 | G | N9-C4-C5 | 6.56 | 108.02 | 105.40 |
| 1 | 1G | 386 | C | OP1-P-OP2 | 6.56 | 129.44 | 119.60 |
| 1 | 1G | 664 | G | N3-C4-C5 | 6.56 | 131.88 | 128.60 |
| 26 | 14 | 1022 | G | C4-C5-N7 | -6.56 | 108.18 | 110.80 |
| 26 | 14 | 1891 | G | C5-C6-N1 | -6.56 | 108.22 | 111.50 |
| 26 | 14 | 1952 | A | C6-N1-C2 | -6.56 | 114.67 | 118.60 |
| 26 | 14 | 2037 | G | C5-C6-O6 | 6.56 | 132.53 | 128.60 |
| 26 | 14 | 2764 | A | N7-C8-N9 | -6.56 | 110.52 | 113.80 |
| 1 | 13 | 1051 | C | N3-C4-N4 | 6.56 | 122.59 | 118.00 |
| 26 | 1H | 823 | G | C6-N1-C2 | -6.56 | 121.17 | 125.10 |
| 26 | 14 | 33 | U | C6-N1-C2 | 6.56 | 124.93 | 121.00 |
| 26 | 14 | 409 | C | N3-C4-C5 | 6.56 | 124.52 | 121.90 |
| 26 | 14 | 1323 | U | OP1-P-O3' | 6.56 | 119.62 | 105.20 |
| 1 | 13 | 533 | A | C8-N9-C4 | -6.55 | 103.18 | 105.80 |
| 25 | 4K | 14 | A | OP1-P-OP2 | 6.55 | 129.43 | 119.60 |
| 26 | 1H | 789 | A | N1-C6-N6 | 6.55 | 122.53 | 118.60 |
| 26 | 1H | 879 | G | C4-C5-N7 | 6.55 | 113.42 | 110.80 |
| 26 | 1H | 1373 | A | C4-C5-C6 | -6.55 | 113.72 | 117.00 |
| 26 | 1H | 1928 | A | C2-N3-C4 | 6.55 | 113.88 | 110.60 |
| 1 | 1G | 300 | A | O5'-P-OP1 | -6.55 | 99.80 | 105.70 |
| 26 | 14 | 141(A) | C | C6-N1-C2 | -6.55 | 117.68 | 120.30 |
| 26 | 14 | 399 | G | N1-C6-O6 | -6.55 | 115.97 | 119.90 |
| 26 | 14 | 1142 | U | C6-N1-C1' | -6.55 | 112.02 | 121.20 |
| 26 | 14 | 1379 | A | OP1-P-O3' | 6.55 | 119.62 | 105.20 |
| 26 | 14 | 1490 | A | N1-C6-N6 | 6.55 | 122.53 | 118.60 |
| 26 | 14 | 2274 | A | O5'-P-OP1 | 6.55 | 118.57 | 110.70 |
| 26 | 14 | 2824 | C | N3-C2-O2 | 6.55 | 126.49 | 121.90 |
| 27 | 1J | 20 | C | C5-C4-N4 | -6.55 | 115.61 | 120.20 |
| 26 | 1H | 1798 | U | C5-C6-N1 | -6.55 | 119.42 | 122.70 |
| 26 | 14 | 598 | G | OP1-P-OP2 | 6.55 | 129.43 | 119.60 |
| 26 | 14 | 2065 | C | O5'-P-OP1 | 6.55 | 118.56 | 110.70 |
| 1 | 13 | 1431 | C | N3-C2-O2 | 6.55 | 126.49 | 121.90 |
| 26 | 1H | 213 | A | N9-C4-C5 | -6.55 | 103.18 | 105.80 |
| 26 | 1H | 778 | G | C6-N1-C2 | 6.55 | 129.03 | 125.10 |
| 26 | 1H | 831 | G | N1-C2-N2 | -6.55 | 110.30 | 116.20 |
| 26 | 1H | 1278 | A | O5'-P-OP2 | -6.55 | 99.80 | 105.70 |
| 26 | 1H | 1694 | C | OP2-P-O3' | 6.55 | 119.61 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2532 | G | C5-C6-O6 | -6.55 | 124.67 | 128.60 |
| 26 | 1H | 2880 | C | OP1-P-OP2 | 6.55 | 129.43 | 119.60 |
| 26 | 14 | 573 | G | C8-N9-C4 | -6.55 | 103.78 | 106.40 |
| 26 | 14 | 2259 | G | N3-C2-N2 | -6.55 | 115.31 | 119.90 |
| 26 | 1H | 126 | A | O5'-P-OP2 | -6.55 | 99.81 | 105.70 |
| 26 | 1H | 649 | G | C5-N7-C8 | -6.55 | 101.03 | 104.30 |
| 26 | 1H | 811 | U | N1-C2-N3 | 6.55 | 118.83 | 114.90 |
| 26 | 1H | 1799 | G | C2-N3-C4 | 6.55 | 115.17 | 111.90 |
| 26 | 1H | 2331 | G | OP2-P-O3' | 6.55 | 119.61 | 105.20 |
| 26 | 14 | 2003 | G | C5-C6-N1 | 6.55 | 114.78 | 111.50 |
| 26 | 14 | 2445 | G | N1-C2-N3 | 6.55 | 127.83 | 123.90 |
| 26 | 14 | 2567 | G | N9-C4-C5 | -6.55 | 102.78 | 105.40 |
| 27 | 1J | 89 | G | N1-C2-N3 | -6.55 | 119.97 | 123.90 |
| 1 | 1G | 631 | G | N3-C4-C5 | 6.55 | 131.87 | 128.60 |
| 26 | 14 | 53 | A | C6-N1-C2 | -6.55 | 114.67 | 118.60 |
| 26 | 14 | 146 | G | C5-C6-O6 | -6.55 | 124.67 | 128.60 |
| 26 | 14 | 1574 | C | OP2-P-O3' | 6.55 | 119.61 | 105.20 |
| 26 | 14 | 1645 | G | C5-C6-N1 | 6.55 | 114.77 | 111.50 |
| 26 | 14 | 2494 | G | OP1-P-OP2 | 6.55 | 129.42 | 119.60 |
| 1 | 13 | 1301 | U | C6-N1-C1' | -6.55 | 112.04 | 121.20 |
| 26 | 1H | 242 | G | C4-C5-C6 | 6.55 | 122.73 | 118.80 |
| 26 | 1H | 651 | G | N9-C4-C5 | 6.55 | 108.02 | 105.40 |
| 26 | 1H | 1224 | G | C6-N1-C2 | 6.55 | 129.03 | 125.10 |
| 26 | 1H | 1348 | G | N9-C1'-C2' | -6.55 | 104.80 | 112.00 |
| 1 | 1G | 1420 | C | C6-N1-C2 | -6.55 | 117.68 | 120.30 |
| 1 | 1G | 1495 | U | C4-C5-C6 | 6.55 | 123.63 | 119.70 |
| 26 | 14 | 95 | G | N1-C6-O6 | 6.55 | 123.83 | 119.90 |
| 26 | 14 | 2003 | G | O5'-P-OP1 | -6.55 | 99.81 | 105.70 |
| 26 | 14 | 2199 | A | C4-C5-N7 | 6.55 | 113.97 | 110.70 |
| 26 | 14 | 2766 | G | N7-C8-N9 | 6.55 | 116.37 | 113.10 |
| 26 | 1H | 1656 | C | N3-C4-C5 | -6.54 | 119.28 | 121.90 |
| 27 | 16 | 48 | A | C4-C5-C6 | -6.54 | 113.73 | 117.00 |
| 1 | 1G | 916 | G | O5'-P-OP1 | -6.54 | 99.81 | 105.70 |
| 26 | 14 | 1480 | G | N3-C2-N2 | -6.54 | 115.32 | 119.90 |
| 26 | 14 | 2411 | A | N7-C8-N9 | 6.54 | 117.07 | 113.80 |
| 26 | 14 | 2520 | C | C5-C6-N1 | -6.54 | 117.73 | 121.00 |
| 1 | 13 | 894 | G | O5'-P-OP2 | -6.54 | 99.81 | 105.70 |
| 1 | 13 | 1486 | G | N3-C2-N2 | -6.54 | 115.32 | 119.90 |
| 26 | 1H | 41 | C | N3-C4-C5 | 6.54 | 124.52 | 121.90 |
| 26 | 1H | 270 | A | N1-C2-N3 | 6.54 | 132.57 | 129.30 |
| 26 | 1H | 1329 | U | C6-N1-C2 | -6.54 | 117.07 | 121.00 |
| 26 | 14 | 113 | G | N9-C4-C5 | -6.54 | 102.78 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 254 | G | C5-C6-O6 | 6.54 | 132.53 | 128.60 |
| 26 | 14 | 578 | A | O5'-P-OP2 | -6.54 | 99.81 | 105.70 |
| 1 | 13 | 916 | G | O5'-P-OP1 | -6.54 | 99.81 | 105.70 |
| 1 | 13 | 1386 | G | N3-C2-N2 | -6.54 | 115.32 | 119.90 |
| 26 | 1H | 1763 | G | N1-C6-O6 | -6.54 | 115.97 | 119.90 |
| 26 | 1H | 1919 | A | O4'-C1'-N9 | -6.54 | 102.97 | 108.20 |
| 26 | 1H | 2062 | A | O5'-P-OP1 | -6.54 | 99.81 | 105.70 |
| 26 | 1H | 2327 | A | C4-C5-C6 | -6.54 | 113.73 | 117.00 |
| 26 | 1H | 2572 | A | N1-C2-N3 | 6.54 | 132.57 | 129.30 |
| 26 | 1H | 2640 | G | C2-N3-C4 | -6.54 | 108.63 | 111.90 |
| 26 | 1H | 2732 | G | C2-N3-C4 | 6.54 | 115.17 | 111.90 |
| 27 | 16 | 19 | G | N3-C4-C5 | 6.54 | 131.87 | 128.60 |
| 26 | 14 | 236 | C | C2-N3-C4 | -6.54 | 116.63 | 119.90 |
| 26 | 14 | 389 | G | N3-C2-N2 | 6.54 | 124.48 | 119.90 |
| 26 | 14 | 521 | G | N9-C4-C5 | -6.54 | 102.78 | 105.40 |
| 26 | 14 | 534 | U | C5-C4-O4 | 6.54 | 129.82 | 125.90 |
| 26 | 14 | 679 | C | C5-C6-N1 | -6.54 | 117.73 | 121.00 |
| 26 | 14 | 932 | G | N9-C4-C5 | 6.54 | 108.02 | 105.40 |
| 26 | 14 | 2561 | A | C6-N1-C2 | -6.54 | 114.68 | 118.60 |
| 26 | 14 | 2792 | G | C8-N9-C4 | -6.54 | 103.78 | 106.40 |
| 27 | 1J | 75 | G | C8-N9-C4 | 6.54 | 109.02 | 106.40 |
| 26 | 1H | 1616 | A | C4-C5-C6 | 6.54 | 120.27 | 117.00 |
| 26 | 1H | 1826 | G | C5-C6-O6 | 6.54 | 132.52 | 128.60 |
| 26 | 1H | 2371 | G | N7-C8-N9 | -6.54 | 109.83 | 113.10 |
| 1 | 1G | 1416 | G | N3-C4-C5 | 6.54 | 131.87 | 128.60 |
| 26 | 14 | 2086 | U | OP2-P-O3' | 6.54 | 119.59 | 105.20 |
| 1 | 13 | 1153 | C | C5-C6-N1 | -6.54 | 117.73 | 121.00 |
| 26 | 1H | 393 | C | N3-C4-C5 | 6.54 | 124.52 | 121.90 |
| 26 | 1H | 540 | G | N3-C4-N9 | -6.54 | 122.08 | 126.00 |
| 26 | 1H | 841 | A | C2-N3-C4 | -6.54 | 107.33 | 110.60 |
| 26 | 1H | 1221 | C | N3-C4-N4 | -6.54 | 113.42 | 118.00 |
| 26 | 1H | 1429 | G | N1-C6-O6 | -6.54 | 115.98 | 119.90 |
| 26 | 1H | 1630 | G | C6-N1-C2 | -6.54 | 121.18 | 125.10 |
| 26 | 1H | 1992 | G | O4'-C1'-N9 | -6.54 | 102.97 | 108.20 |
| 26 | 1H | 2340 | G | C8-N9-C4 | 6.54 | 109.02 | 106.40 |
| 26 | 1H | 2699 | C | C5-C4-N4 | -6.54 | 115.62 | 120.20 |
| 1 | 1G | 241 | C | C2-N3-C4 | -6.54 | 116.63 | 119.90 |
| 1 | 1G | 1322 | C | C2-N1-C1' | 6.54 | 125.99 | 118.80 |
| 26 | 14 | 180 | G | C2-N3-C4 | -6.54 | 108.63 | 111.90 |
| 26 | 14 | 1367 | A | C5-C6-N6 | -6.54 | 118.47 | 123.70 |
| 26 | 14 | 1705 | G | N7-C8-N9 | -6.54 | 109.83 | 113.10 |
| 26 | 14 | 2330 | G | N3-C2-N2 | 6.54 | 124.48 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 399 | G | C8-N9-C4 | 6.54 | 109.02 | 106.40 |
| 26 | 1H | 857 | C | C2-N3-C4 | -6.54 | 116.63 | 119.90 |
| 26 | 14 | 473 | G | C2-N3-C4 | -6.54 | 108.63 | 111.90 |
| 1 | 13 | 23 | C | C5-C4-N4 | -6.54 | 115.62 | 120.20 |
| 22 | 1K | 74 | C | C2-N1-C1' | 6.54 | 125.99 | 118.80 |
| 23 | 2K | 10 | G | C5-C6-O6 | -6.54 | 124.68 | 128.60 |
| 26 | 1H | 414 | C | C5-C6-N1 | -6.54 | 117.73 | 121.00 |
| 26 | 1H | 532 | A | N1-C6-N6 | 6.54 | 122.52 | 118.60 |
| 26 | 1H | 534 | U | C4-C5-C6 | 6.54 | 123.62 | 119.70 |
| 26 | 1H | 695 | G | C5-C6-N1 | -6.54 | 108.23 | 111.50 |
| 26 | 1H | 1510 | A | C2-N3-C4 | 6.54 | 113.87 | 110.60 |
| 26 | 1H | 2355 | C | C2-N1-C1' | 6.54 | 125.99 | 118.80 |
| 26 | 1H | 2409 | G | C5-C6-N1 | 6.54 | 114.77 | 111.50 |
| 26 | 1H | 2451 | A | N1-C2-N3 | 6.54 | 132.57 | 129.30 |
| 26 | 14 | 19 | C | N3-C2-O2 | 6.54 | 126.47 | 121.90 |
| 26 | 14 | 642 | G | C4-C5-N7 | -6.54 | 108.19 | 110.80 |
| 26 | 14 | 752 | A | OP1-P-O3' | 6.54 | 119.58 | 105.20 |
| 26 | 14 | 919 | G | C4-C5-N7 | -6.54 | 108.19 | 110.80 |
| 26 | 14 | 1228 | G | C5-C6-O6 | 6.54 | 132.52 | 128.60 |
| 26 | 14 | 1631 | A | C5-C6-N1 | -6.54 | 114.43 | 117.70 |
| 26 | 14 | 1796 | U | N1-C2-N3 | -6.54 | 110.98 | 114.90 |
| 26 | 14 | 2703 | C | N3-C2-O2 | -6.54 | 117.33 | 121.90 |
| 1 | 13 | 791 | G | C6-N1-C2 | -6.53 | 121.18 | 125.10 |
| 1 | 13 | 1215 | G | N3-C2-N2 | -6.53 | 115.33 | 119.90 |
| 26 | 1H | 798 | G | OP1-P-OP2 | -6.53 | 109.80 | 119.60 |
| 26 | 1H | 801 | G | C4-N9-C1' | -6.53 | 118.01 | 126.50 |
| 26 | 1H | 2240 | C | C5-C4-N4 | -6.53 | 115.63 | 120.20 |
| 26 | 1H | 2447 | G | N1-C2-N2 | 6.53 | 122.08 | 116.20 |
| 1 | 1G | 362 | G | C5-C6-O6 | 6.53 | 132.52 | 128.60 |
| 1 | 1G | 611 | A | N7-C8-N9 | -6.53 | 110.53 | 113.80 |
| 26 | 14 | 1763 | G | OP1-P-OP2 | -6.53 | 109.80 | 119.60 |
| 26 | 14 | 1994 | C | N3-C4-N4 | -6.53 | 113.43 | 118.00 |
| 26 | 14 | 2460 | U | O5'-P-OP1 | -6.53 | 99.82 | 105.70 |
| 1 | 13 | 1299 | A | C4-C5-N7 | 6.53 | 113.97 | 110.70 |
| 23 | 2K | 27 | G | C8-N9-C4 | 6.53 | 109.01 | 106.40 |
| 26 | 1H | 1159 | U | O5'-P-OP2 | -6.53 | 99.82 | 105.70 |
| 26 | 1H | 2647 | U | N1-C2-O2 | 6.53 | 127.37 | 122.80 |
| 26 | 1H | 2877 | G | N3-C4-N9 | -6.53 | 122.08 | 126.00 |
| 26 | 14 | 1888 | G | C2-N3-C4 | 6.53 | 115.17 | 111.90 |
| 1 | 13 | 701 | C | N3-C2-O2 | -6.53 | 117.33 | 121.90 |
| 26 | 1H | 473 | G | C2-N3-C4 | -6.53 | 108.64 | 111.90 |
| 26 | 1H | 522 | G | OP1-P-OP2 | -6.53 | 109.80 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 303 | A | N1-C6-N6 | 6.53 | 122.52 | 118.60 |
| 1 | 1G | 508 | C | N1-C2-O2 | 6.53 | 122.82 | 118.90 |
| 1 | 1G | 1206 | G | C5-C6-N1 | 6.53 | 114.77 | 111.50 |
| 26 | 14 | 1345 | C | N1-C2-O2 | -6.53 | 114.98 | 118.90 |
| 26 | 14 | 2007 | C | C4-C5-C6 | 6.53 | 120.67 | 117.40 |
| 26 | 14 | 2286 | A | C5-N7-C8 | -6.53 | 100.64 | 103.90 |
| 26 | 14 | 2540 | C | C6-N1-C2 | 6.53 | 122.91 | 120.30 |
| 26 | 14 | 2717 | G | N1-C6-O6 | 6.53 | 123.82 | 119.90 |
| 27 | 1J | 115 | G | N3-C4-C5 | 6.53 | 131.87 | 128.60 |
| 26 | 1H | 1650 | G | C5-C6-N1 | -6.53 | 108.24 | 111.50 |
| 26 | 1H | 2350 | C | O4'-C1'-N1 | 6.53 | 113.42 | 108.20 |
| 26 | 14 | 833 | U | N3-C2-O2 | 6.53 | 126.77 | 122.20 |
| 1 | 13 | 146 | G | N1-C6-O6 | 6.53 | 123.82 | 119.90 |
| 1 | 13 | 785 | G | N3-C2-N2 | -6.53 | 115.33 | 119.90 |
| 1 | 13 | 1294 | G | O5'-P-OP1 | -6.53 | 99.83 | 105.70 |
| 1 | 13 | 1304 | G | C4-C5-C6 | 6.53 | 122.72 | 118.80 |
| 26 | 1H | 28 | A | C8-N9-C4 | 6.53 | 108.41 | 105.80 |
| 26 | 1H | 207 | A | N7-C8-N9 | -6.53 | 110.54 | 113.80 |
| 26 | 1H | 770 | G | C4-C5-N7 | 6.53 | 113.41 | 110.80 |
| 26 | 1H | 1546 | C | N3-C4-N4 | 6.53 | 122.57 | 118.00 |
| 26 | 1H | 1571 | A | C6-N1-C2 | -6.53 | 114.68 | 118.60 |
| 26 | 1H | 2430 | A | C8-N9-C1' | 6.53 | 139.45 | 127.70 |
| 26 | 1H | 2550 | G | C5-C6-N1 | 6.53 | 114.76 | 111.50 |
| 26 | 1H | 2691 | C | OP1-P-O3' | -6.53 | 90.84 | 105.20 |
| 27 | 16 | 38 | C | O5'-P-OP2 | -6.53 | 99.83 | 105.70 |
| 27 | 16 | 106 | G | C4-C5-N7 | 6.53 | 113.41 | 110.80 |
| 1 | 1G | 121 | C | N3-C4-C5 | -6.53 | 119.29 | 121.90 |
| 1 | 1G | 222 | U | N3-C2-O2 | -6.53 | 117.63 | 122.20 |
| 1 | 1G | 486 | U | C2-N1-C1' | 6.53 | 125.53 | 117.70 |
| 1 | 1G | 977 | A | N1-C6-N6 | -6.53 | 114.68 | 118.60 |
| 26 | 14 | 71 | A | OP1-P-OP2 | -6.53 | 109.81 | 119.60 |
| 26 | 14 | 1027 | A | N9-C4-C5 | -6.53 | 103.19 | 105.80 |
| 26 | 14 | 2067 | G | OP1-P-O3' | 6.53 | 119.56 | 105.20 |
| 26 | 14 | 2266 | A | C5-C6-N1 | 6.53 | 120.96 | 117.70 |
| 1 | 13 | 190 | G | C5-C6-N1 | 6.53 | 114.76 | 111.50 |
| 1 | 13 | 307 | C | C5-C6-N1 | -6.53 | 117.74 | 121.00 |
| 26 | 1H | 1196 | C | N1-C2-O2 | -6.53 | 114.98 | 118.90 |
| 26 | 1H | 1968 | G | C8-N9-C4 | 6.53 | 109.01 | 106.40 |
| 26 | 14 | 307 | G | C5-C6-O6 | -6.53 | 124.69 | 128.60 |
| 26 | 14 | 1480 | G | N1-C6-O6 | 6.53 | 123.81 | 119.90 |
| 26 | 14 | 1544 | C | O5'-P-OP1 | 6.53 | 118.53 | 110.70 |
| 26 | 14 | 1767 | C | C6-N1-C2 | -6.53 | 117.69 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 13 | 227 | G | N7-C8-N9 | -6.52 | 109.84 | 113.10 |
| 26 | 1H | 1677 | A | C2-N3-C4 | -6.52 | 107.34 | 110.60 |
| 26 | 1H | 1787 | A | N1-C6-N6 | -6.52 | 114.69 | 118.60 |
| 26 | 1H | 1830 | C | OP1-P-O3' | 6.52 | 119.55 | 105.20 |
| 26 | 1H | 2421 | G | C2-N3-C4 | 6.52 | 115.16 | 111.90 |
| 1 | 1G | 1233 | G | O5'-P-OP2 | -6.52 | 99.83 | 105.70 |
| 26 | 14 | 398 | G | N1-C2-N3 | 6.52 | 127.81 | 123.90 |
| 26 | 14 | 1015 | G | N9-C4-C5 | 6.52 | 108.01 | 105.40 |
| 26 | 14 | 1309 | G | N1-C6-O6 | 6.52 | 123.81 | 119.90 |
| 27 | 1J | 100 | G | C4-C5-N7 | -6.52 | 108.19 | 110.80 |
| 1 | 13 | 129(A) | G | C8-N9-C4 | -6.52 | 103.79 | 106.40 |
| 1 | 13 | 191(F) | U | C6-N1-C2 | -6.52 | 117.09 | 121.00 |
| 1 | 13 | 963 | G | C8-N9-C4 | 6.52 | 109.01 | 106.40 |
| 26 | 1H | 308 | G | N3-C4-N9 | 6.52 | 129.91 | 126.00 |
| 26 | 1H | 993 | G | C2-N3-C4 | 6.52 | 115.16 | 111.90 |
| 26 | 1H | 1597 | A | O4'-C1'-N9 | 6.52 | 113.42 | 108.20 |
| 26 | 1H | 1977 | A | C2-N3-C4 | -6.52 | 107.34 | 110.60 |
| 26 | 1H | 2019 | A | C5-N7-C8 | -6.52 | 100.64 | 103.90 |
| 26 | 14 | 987 | G | N1-C6-O6 | -6.52 | 115.99 | 119.90 |
| 26 | 14 | 1298 | C | C6-N1-C2 | -6.52 | 117.69 | 120.30 |
| 26 | 14 | 1601 | G | O5'-P-OP1 | 6.52 | 118.53 | 110.70 |
| 26 | 1H | 2233 | U | C2-N3-C4 | -6.52 | 123.09 | 127.00 |
| 26 | 14 | 180 | G | N1-C6-O6 | 6.52 | 123.81 | 119.90 |
| 26 | 14 | 217 | G | N1-C2-N3 | 6.52 | 127.81 | 123.90 |
| 25 | 4K | 25 | A | C6-N1-C2 | 6.52 | 122.51 | 118.60 |
| 26 | 1H | 444 | C | N3-C2-O2 | -6.52 | 117.34 | 121.90 |
| 26 | 1H | 2044 | C | C5-C4-N4 | -6.52 | 115.64 | 120.20 |
| 26 | 1H | 2195 | C | C4-C5-C6 | -6.52 | 114.14 | 117.40 |
| 26 | 14 | 1187 | G | C5-C6-N1 | -6.52 | 108.24 | 111.50 |
| 26 | 14 | 2250 | G | C6-C5-N7 | 6.52 | 134.31 | 130.40 |
| 1 | 13 | 476 | G | C2-N3-C4 | 6.52 | 115.16 | 111.90 |
| 1 | 13 | 785 | G | C5-C6-N1 | -6.52 | 108.24 | 111.50 |
| 26 | 1H | 1141 | U | OP1-P-OP2 | -6.52 | 109.83 | 119.60 |
| 26 | 1H | 1671 | U | N3-C4-C5 | -6.52 | 110.69 | 114.60 |
| 26 | 1H | 1942 | C | OP2-P-O3' | 6.52 | 119.54 | 105.20 |
| 26 | 1H | 2550 | G | C4-C5-N7 | 6.52 | 113.41 | 110.80 |
| 27 | 16 | 81 | G | N1-C6-O6 | 6.52 | 123.81 | 119.90 |
| 1 | 1G | 326 | G | C8-N9-C1' | -6.52 | 118.53 | 127.00 |
| 1 | 1G | 337 | C | C5-C4-N4 | -6.52 | 115.64 | 120.20 |
| 26 | 14 | 85 | G | N7-C8-N9 | -6.52 | 109.84 | 113.10 |
| 26 | 14 | 808 | G | C2-N3-C4 | -6.52 | 108.64 | 111.90 |
| 26 | 14 | 1489 | U | O4'-C1'-N1 | 6.52 | 113.41 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 1625 | C | O5'-P-OP2 | -6.52 | 99.83 | 105.70 |
| 26 | 14 | 1682 | G | N1-C6-O6 | 6.52 | 123.81 | 119.90 |
| 26 | 14 | 1766 | U | C5-C4-O4 | -6.52 | 121.99 | 125.90 |
| 26 | 14 | 2522 | U | O5'-P-OP2 | -6.52 | 99.83 | 105.70 |
| 26 | 1H | 422 | A | N1-C6-N6 | 6.52 | 122.51 | 118.60 |
| 1 | 1G | 521 | G | N7-C8-N9 | -6.52 | 109.84 | 113.10 |
| 1 | 1G | 770 | C | C5-C6-N1 | -6.52 | 117.74 | 121.00 |
| 26 | 14 | 298 | G | C8-N9-C4 | -6.52 | 103.79 | 106.40 |
| 26 | 14 | 816 | C | O5'-P-OP1 | 6.52 | 118.52 | 110.70 |
| 1 | 13 | 399 | G | N3-C4-C5 | 6.51 | 131.86 | 128.60 |
| 1 | 13 | 958 | A | O5'-P-OP2 | -6.51 | 99.84 | 105.70 |
| 1 | 13 | 1476 | G | N1-C6-O6 | -6.51 | 115.99 | 119.90 |
| 26 | 1H | 215 | G | N9-C4-C5 | -6.51 | 102.79 | 105.40 |
| 26 | 1H | 1281 | G | OP1-P-OP2 | -6.51 | 109.83 | 119.60 |
| 26 | 1H | 1289 | C | O5'-P-OP1 | -6.51 | 99.84 | 105.70 |
| 26 | 1H | 1669 | A | C5-C6-N1 | 6.51 | 120.96 | 117.70 |
| 26 | 1H | 2360 | A | C4-C5-C6 | 6.51 | 120.26 | 117.00 |
| 1 | 1G | 1234 | C | N1-C2-O2 | 6.51 | 122.81 | 118.90 |
| 57 | 3L | 44 | U | N3-C4-O4 | 6.51 | 123.96 | 119.40 |
| 26 | 14 | 270(E) | G | C8-N9-C4 | -6.51 | 103.79 | 106.40 |
| 26 | 14 | 401 | A | N9-C4-C5 | 6.51 | 108.41 | 105.80 |
| 26 | 14 | 765 | G | C4-N9-C1' | 6.51 | 134.97 | 126.50 |
| 26 | 14 | 1422 | G | C5-C6-N1 | -6.51 | 108.24 | 111.50 |
| 26 | 14 | 1619 | G | OP1-P-O3' | 6.51 | 119.53 | 105.20 |
| 26 | 14 | 2318 | G | C4-C5-N7 | 6.51 | 113.41 | 110.80 |
| 26 | 1H | 534 | U | N3-C4-C5 | -6.51 | 110.69 | 114.60 |
| 26 | 1H | 693 | C | OP1-P-OP2 | 6.51 | 129.37 | 119.60 |
| 26 | 1H | 861 | A | N1-C2-N3 | 6.51 | 132.56 | 129.30 |
| 26 | 1H | 1164 | G | C2-N3-C4 | 6.51 | 115.16 | 111.90 |
| 1 | 13 | 1214 | C | N3-C2-O2 | 6.51 | 126.46 | 121.90 |
| 26 | 1H | 284 | U | O5'-P-OP1 | -6.51 | 99.84 | 105.70 |
| 26 | 1H | 2434 | A | C8-N9-C4 | 6.51 | 108.41 | 105.80 |
| 26 | 1H | 2646 | C | C6-N1-C2 | 6.51 | 122.91 | 120.30 |
| 46 | G8 | 85 | VAL | CG1-CB-CG2 | -6.51 | 100.48 | 110.90 |
| 26 | 14 | 603 | A | C5-N7-C8 | -6.51 | 100.64 | 103.90 |
| 26 | 14 | 1313 | U | C6-N1-C2 | -6.51 | 117.09 | 121.00 |
| 26 | 14 | 1534 | G | P-O3'-C3' | 6.51 | 127.52 | 119.70 |
| 26 | 14 | 2546 | U | C2-N3-C4 | 6.51 | 130.91 | 127.00 |
| 26 | 1H | 1022 | G | N1-C6-O6 | -6.51 | 116.00 | 119.90 |
| 26 | 1H | 1259 | G | OP2-P-O3' | 6.51 | 119.52 | 105.20 |
| 26 | 1H | 2693 | A | N7-C8-N9 | -6.51 | 110.55 | 113.80 |
| 26 | 1H | 2712(A) | A | N1-C6-N6 | 6.51 | 122.51 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 44 | E8 | 19 | LEU | CB-CG-CD2 | -6.51 | 99.93 | 111.00 |
| 1 | 1G | 242 | C | C5-C4-N4 | -6.51 | 115.64 | 120.20 |
| 26 | 14 | 328 | U | C4-C5-C6 | 6.51 | 123.61 | 119.70 |
| 26 | 14 | 376 | C | N3-C4-N4 | 6.51 | 122.56 | 118.00 |
| 26 | 14 | 1703 | G | C5-C6-O6 | -6.51 | 124.69 | 128.60 |
| 26 | 14 | 1843 | C | C2-N3-C4 | -6.51 | 116.64 | 119.90 |
| 26 | 1H | 529 | A | C6-C5-N7 | -6.51 | 127.75 | 132.30 |
| 26 | 1H | 701 | G | N1-C6-O6 | -6.51 | 116.00 | 119.90 |
| 26 | 1H | 1861 | G | N3-C2-N2 | -6.51 | 115.34 | 119.90 |
| 27 | 16 | 76 | G | C5-C6-O6 | 6.51 | 132.50 | 128.60 |
| 1 | 1G | 29 | G | C8-N9-C4 | -6.51 | 103.80 | 106.40 |
| 26 | 14 | 2389 | G | N7-C8-N9 | 6.51 | 116.35 | 113.10 |
| 26 | 14 | 2643 | G | C2-N3-C4 | -6.51 | 108.65 | 111.90 |
| 1 | 13 | 325 | A | C5-N7-C8 | -6.51 | 100.65 | 103.90 |
| 1 | 13 | 1357 | A | N7-C8-N9 | 6.51 | 117.05 | 113.80 |
| 1 | 13 | 1467 | G | N3-C2-N2 | -6.51 | 115.34 | 119.90 |
| 26 | 1H | 229 | A | O4'-C1'-N9 | 6.51 | 113.41 | 108.20 |
| 26 | 1H | 632 | A | C6-C5-N7 | -6.51 | 127.75 | 132.30 |
| 26 | 1H | 681 | G | C5-C6-O6 | -6.51 | 124.70 | 128.60 |
| 26 | 1H | 1385 | G | C5-C6-O6 | 6.51 | 132.50 | 128.60 |
| 26 | 1H | 1492 | G | C2-N3-C4 | -6.51 | 108.65 | 111.90 |
| 26 | 1H | 1752 | C | OP1-P-OP2 | 6.51 | 129.36 | 119.60 |
| 26 | 1H | 1886 | C | N3-C2-O2 | 6.51 | 126.45 | 121.90 |
| 26 | 14 | 748 | G | C2-N3-C4 | 6.51 | 115.15 | 111.90 |
| 26 | 14 | 1642 | G | C4-C5-N7 | 6.51 | 113.40 | 110.80 |
| 26 | 14 | 2589 | A | C5-C6-N1 | -6.51 | 114.45 | 117.70 |
| 26 | 14 | 2607 | G | C8-N9-C1' | -6.51 | 118.54 | 127.00 |
| 26 | 14 | 2826 | A | N1-C2-N3 | 6.51 | 132.55 | 129.30 |
| 26 | 1H | 622 | G | C5-C6-O6 | 6.50 | 132.50 | 128.60 |
| 26 | 1H | 1637 | A | C5-C6-N1 | 6.50 | 120.95 | 117.70 |
| 26 | 14 | 2252 | G | C2-N3-C4 | -6.50 | 108.65 | 111.90 |
| 1 | 13 | 398 | C | N3-C4-N4 | -6.50 | 113.45 | 118.00 |
| 1 | 13 | 668 | G | C5-C6-O6 | -6.50 | 124.70 | 128.60 |
| 1 | 13 | 817 | C | C4-C5-C6 | 6.50 | 120.65 | 117.40 |
| 1 | 13 | 1287 | A | C5-C6-N1 | -6.50 | 114.45 | 117.70 |
| 26 | 1H | 70 | G | OP1-P-O3' | 6.50 | 119.51 | 105.20 |
| 26 | 1H | 2431 | U | N3-C4-O4 | 6.50 | 123.95 | 119.40 |
| 1 | 1G | 105 | G | C8-N9-C1' | -6.50 | 118.55 | 127.00 |
| 1 | 1G | 1495 | U | N1-C2-O2 | -6.50 | 118.25 | 122.80 |
| 26 | 14 | 195 | A | C6-C5-N7 | -6.50 | 127.75 | 132.30 |
| 26 | 14 | 202 | U | N3-C4-C5 | -6.50 | 110.70 | 114.60 |
| 26 | 14 | 692 | C | N3-C2-O2 | 6.50 | 126.45 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 13 | 57 | G | C5-N7-C8 | 6.50 | 107.55 | 104.30 |
| 1 | 13 | 391 | G | C5-C6-O6 | 6.50 | 132.50 | 128.60 |
| 24 | 3K | 39 | U | C6-N1-C2 | -6.50 | 117.10 | 121.00 |
| 26 | 1H | 906 | G | N1-C6-O6 | 6.50 | 123.80 | 119.90 |
| 26 | 1H | 1408 | C | C4-C5-C6 | 6.50 | 120.65 | 117.40 |
| 26 | 1H | 1554 | A | OP1-P-O3' | 6.50 | 119.50 | 105.20 |
| 26 | 1H | 2822 | G | C5-N7-C8 | -6.50 | 101.05 | 104.30 |
| 57 | 3L | 31 | A | N7-C8-N9 | 6.50 | 117.05 | 113.80 |
| 26 | 14 | 270(X) | G | C2-N3-C4 | -6.50 | 108.65 | 111.90 |
| 26 | 14 | 1356 | G | O5'-P-OP2 | 6.50 | 118.50 | 110.70 |
| 1 | 13 | 843 | U | C5-C6-N1 | 6.50 | 125.95 | 122.70 |
| 1 | 13 | 1322 | C | C6-N1-C2 | 6.50 | 122.90 | 120.30 |
| 26 | 1H | 1980 | G | C6-C5-N7 | 6.50 | 134.30 | 130.40 |
| 26 | 1H | 2554 | U | O5'-P-OP1 | -6.50 | 99.85 | 105.70 |
| 26 | 14 | 1303 | G | N1-C6-O6 | -6.50 | 116.00 | 119.90 |
| 26 | 14 | 1639 | U | N3-C2-O2 | -6.50 | 117.65 | 122.20 |
| 26 | 14 | 2526 | G | N3-C2-N2 | -6.50 | 115.35 | 119.90 |
| 1 | 13 | 181 | G | C4-C5-N7 | -6.50 | 108.20 | 110.80 |
| 27 | 16 | 14 | U | N3-C4-O4 | -6.50 | 114.85 | 119.40 |
| 1 | 1G | 299 | G | C5-C6-O6 | 6.50 | 132.50 | 128.60 |
| 26 | 14 | 641 | C | N3-C2-O2 | 6.50 | 126.45 | 121.90 |
| 26 | 14 | 709 | U | O5'-P-OP1 | 6.50 | 118.50 | 110.70 |
| 26 | 14 | 937 | U | N3-C4-O4 | 6.50 | 123.95 | 119.40 |
| 26 | 14 | 1336 | A | N3-C4-C5 | -6.50 | 122.25 | 126.80 |
| 26 | 14 | 2031 | A | C5-C6-N1 | 6.50 | 120.95 | 117.70 |
| 26 | 14 | 2501 | C | N3-C4-C5 | 6.50 | 124.50 | 121.90 |
| 26 | 14 | 2818 | G | C2-N3-C4 | -6.50 | 108.65 | 111.90 |
| 26 | 1H | 206 | U | N3-C4-C5 | 6.50 | 118.50 | 114.60 |
| 26 | 1H | 728 | G | C4-C5-N7 | -6.50 | 108.20 | 110.80 |
| 26 | 1H | 1316 | U | N1-C2-O2 | 6.50 | 127.35 | 122.80 |
| 26 | 1H | 2281 | C | C5-C6-N1 | -6.50 | 117.75 | 121.00 |
| 26 | 1H | 2330 | G | OP2-P-O3' | 6.50 | 119.49 | 105.20 |
| 1 | 1G | 310 | G | N1-C6-O6 | -6.50 | 116.00 | 119.90 |
| 1 | 1G | 584 | G | C4-C5-N7 | 6.50 | 113.40 | 110.80 |
| 26 | 14 | 195 | A | OP2-P-O3' | 6.50 | 119.49 | 105.20 |
| 26 | 14 | 1394 | U | OP1-P-OP2 | -6.50 | 109.86 | 119.60 |
| 26 | 14 | 1543 | A | C5-N7-C8 | 6.50 | 107.15 | 103.90 |
| 26 | 14 | 1652 | A | N1-C6-N6 | -6.50 | 114.70 | 118.60 |
| 26 | 14 | 2573 | C | C5-C4-N4 | -6.50 | 115.65 | 120.20 |
| 26 | 14 | 2709 | G | C8-N9-C4 | 6.50 | 109.00 | 106.40 |
| 26 | 14 | 2842 | G | C5-N7-C8 | -6.50 | 101.05 | 104.30 |
| 26 | 1H | 630 | G | N1-C6-O6 | 6.50 | 123.80 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 779 | U | O5'-P-OP2 | 6.50 | 118.49 | 110.70 |
| 1 | 1G | 432 | A | O5'-P-OP2 | 6.50 | 118.49 | 110.70 |
| 1 | 1G | 678 | U | OP1-P-OP2 | 6.50 | 129.34 | 119.60 |
| 1 | 1G | 742 | G | C4-C5-N7 | 6.50 | 113.40 | 110.80 |
| 1 | 1G | 783 | C | C2-N3-C4 | 6.50 | 123.15 | 119.90 |
| 26 | 14 | 1316 | U | C5-C4-O4 | 6.50 | 129.80 | 125.90 |
| 26 | 14 | 2713 | A | C5-C6-N1 | -6.50 | 114.45 | 117.70 |
| 26 | 1H | 435 | C | OP1-P-O3' | 6.49 | 119.49 | 105.20 |
| 26 | 14 | 249 | C | C5-C6-N1 | 6.49 | 124.25 | 121.00 |
| 26 | 14 | 546 | C | C5-C6-N1 | 6.49 | 124.25 | 121.00 |
| 27 | 1J | 102 | G | OP1-P-O3' | -6.49 | 90.91 | 105.20 |
| 26 | 1H | 1253 | A | C4-C5-C6 | -6.49 | 113.75 | 117.00 |
| 26 | 1H | 2323 | G | C8-N9-C4 | 6.49 | 109.00 | 106.40 |
| 26 | 14 | 391 | G | C6-C5-N7 | -6.49 | 126.50 | 130.40 |
| 26 | 14 | 412 | A | O5'-P-OP1 | -6.49 | 99.86 | 105.70 |
| 1 | 13 | 47 | C | C5-C6-N1 | -6.49 | 117.75 | 121.00 |
| 1 | 13 | 272 | C | N3-C4-C5 | -6.49 | 119.30 | 121.90 |
| 26 | 1H | 457 | A | N9-C4-C5 | -6.49 | 103.20 | 105.80 |
| 26 | 1H | 2245 | U | OP1-P-O3' | 6.49 | 119.48 | 105.20 |
| 26 | 14 | 1008 | C | N3-C4-C5 | -6.49 | 119.30 | 121.90 |
| 26 | 14 | 2274 | A | C5-C6-N1 | -6.49 | 114.45 | 117.70 |
| 26 | 14 | 2827 | C | OP1-P-OP2 | 6.49 | 129.34 | 119.60 |
| 24 | 3K | 10 | G | C6-C5-N7 | 6.49 | 134.29 | 130.40 |
| 26 | 1H | 49 | A | N7-C8-N9 | -6.49 | 110.56 | 113.80 |
| 26 | 1H | 1904 | G | C2-N3-C4 | 6.49 | 115.14 | 111.90 |
| 26 | 14 | 126 | A | C5-C6-N1 | -6.49 | 114.46 | 117.70 |
| 26 | 14 | 426 | C | N1-C2-O2 | 6.49 | 122.79 | 118.90 |
| 26 | 14 | 529 | A | C6-C5-N7 | -6.49 | 127.76 | 132.30 |
| 26 | 14 | 664 | C | C5-C4-N4 | 6.49 | 124.74 | 120.20 |
| 26 | 14 | 1571 | A | C6-N1-C2 | -6.49 | 114.71 | 118.60 |
| 26 | 14 | 2087 | G | N1-C2-N2 | -6.49 | 110.36 | 116.20 |
| 26 | 14 | 2263 | C | OP1-P-OP2 | -6.49 | 109.87 | 119.60 |
| 26 | 1H | 38 | A | C2-N3-C4 | 6.49 | 113.84 | 110.60 |
| 26 | 1H | 436 | C | C4-C5-C6 | -6.49 | 114.16 | 117.40 |
| 26 | 1H | 717 | G | N1-C6-O6 | 6.49 | 123.79 | 119.90 |
| 26 | 1H | 1869 | G | C5-C6-N1 | -6.49 | 108.26 | 111.50 |
| 1 | 1G | 819 | A | N1-C6-N6 | 6.49 | 122.49 | 118.60 |
| 26 | 14 | 371 | A | N1-C2-N3 | 6.49 | 132.54 | 129.30 |
| 26 | 14 | 640 | C | N3-C4-C5 | -6.49 | 119.31 | 121.90 |
| 1 | 13 | 864 | A | C5-N7-C8 | -6.49 | 100.66 | 103.90 |
| 1 | 13 | 971 | G | O5'-P-OP1 | 6.49 | 118.48 | 110.70 |
| 26 | 1H | 572 | A | N1-C2-N3 | 6.49 | 132.54 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 1306 | C | C2-N3-C4 | -6.49 | 116.66 | 119.90 |
| 26 | 1H | 2073 | C | N1-C2-O2 | -6.49 | 115.01 | 118.90 |
| 26 | 1H | 2336 | A | N7-C8-N9 | -6.49 | 110.56 | 113.80 |
| 26 | 1H | 2718 | G | C5-C6-O6 | -6.49 | 124.71 | 128.60 |
| 1 | 1G | 20 | U | O5'-P-OP2 | -6.49 | 99.86 | 105.70 |
| 1 | 1G | 814 | A | C4-C5-N7 | -6.49 | 107.46 | 110.70 |
| 26 | 14 | 22 | C | C5-C6-N1 | -6.49 | 117.76 | 121.00 |
| 26 | 14 | 953 | A | O5'-P-OP1 | -6.49 | 99.86 | 105.70 |
| 26 | 14 | 1295 | C | C6-N1-C2 | 6.49 | 122.89 | 120.30 |
| 26 | 1H | 678 | C | N3-C2-O2 | 6.48 | 126.44 | 121.90 |
| 26 | 1H | 943 | U | N1-C2-O2 | -6.48 | 118.26 | 122.80 |
| 26 | 14 | 558 | G | N7-C8-N9 | -6.48 | 109.86 | 113.10 |
| 26 | 14 | 2614 | A | C5-C6-N6 | 6.48 | 128.89 | 123.70 |
| 1 | 13 | 413 | G | O5'-P-OP1 | -6.48 | 99.87 | 105.70 |
| 1 | 13 | 1203 | C | N3-C2-O2 | -6.48 | 117.36 | 121.90 |
| 23 | 2K | 10 | G | C8-N9-C4 | 6.48 | 108.99 | 106.40 |
| 26 | 1H | 387 | U | C4-C5-C6 | 6.48 | 123.59 | 119.70 |
| 26 | 1H | 1429 | G | O5'-P-OP2 | -6.48 | 99.87 | 105.70 |
| 26 | 1H | 1931 | U | C5-C4-O4 | 6.48 | 129.79 | 125.90 |
| 26 | 1H | 2169 | A | C8-N9-C4 | 6.48 | 108.39 | 105.80 |
| 26 | 1H | 2228 | G | C8-N9-C1' | -6.48 | 118.57 | 127.00 |
| 26 | 1H | 2622 | C | OP2-P-O3' | 6.48 | 119.46 | 105.20 |
| 26 | 14 | 1339 | G | C5-C6-O6 | 6.48 | 132.49 | 128.60 |
| 1 | 13 | 667 | G | C4-C5-N7 | -6.48 | 108.21 | 110.80 |
| 1 | 13 | 742 | G | N3-C2-N2 | 6.48 | 124.44 | 119.90 |
| 26 | 1H | 86 | C | C2-N3-C4 | -6.48 | 116.66 | 119.90 |
| 26 | 1H | 625 | G | C6-N1-C2 | -6.48 | 121.21 | 125.10 |
| 26 | 1H | 1474 | C | OP1-P-O3' | 6.48 | 119.46 | 105.20 |
| 26 | 1H | 1568 | G | N3-C4-C5 | 6.48 | 131.84 | 128.60 |
| 26 | 1H | 1694 | C | C6-N1-C2 | 6.48 | 122.89 | 120.30 |
| 26 | 1H | 2436 | G | C5-N7-C8 | 6.48 | 107.54 | 104.30 |
| 26 | 14 | 253 | C | OP1-P-O3' | -6.48 | 90.94 | 105.20 |
| 26 | 14 | 271(A) | C | C5-C6-N1 | 6.48 | 124.24 | 121.00 |
| 26 | 14 | 1609 | A | N1-C2-N3 | 6.48 | 132.54 | 129.30 |
| 26 | 14 | 1788 | C | O5'-P-OP2 | 6.48 | 118.48 | 110.70 |
| 26 | 14 | 1816 | G | O4'-C1'-N9 | 6.48 | 113.38 | 108.20 |
| 26 | 14 | 1984 | G | OP1-P-OP2 | 6.48 | 129.32 | 119.60 |
| 26 | 14 | 2024 | G | N9-C4-C5 | -6.48 | 102.81 | 105.40 |
| 26 | 14 | 2598 | A | C5-C6-N1 | 6.48 | 120.94 | 117.70 |
| 26 | 1H | 843 | G | OP2-P-O3' | 6.48 | 119.45 | 105.20 |
| 1 | 1G | 786 | G | N7-C8-N9 | -6.48 | 109.86 | 113.10 |
| 26 | 14 | 586 | A | C5-N7-C8 | -6.48 | 100.66 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1778 | U | OP2-P-O3' | 6.48 | 119.45 | 105.20 |
| 1 | 13 | 1054 | C | C5-C6-N1 | 6.48 | 124.24 | 121.00 |
| 26 | 1H | 1611 | C | OP1-P-OP2 | -6.48 | 109.88 | 119.60 |
| 26 | 1H | 1950 | G | N1-C6-O6 | 6.48 | 123.79 | 119.90 |
| 26 | 1H | 2495 | G | N3-C4-C5 | 6.48 | 131.84 | 128.60 |
| 26 | 1H | 2574 | G | C2-N3-C4 | 6.48 | 115.14 | 111.90 |
| 27 | 16 | 103 | U | OP2-P-O3' | 6.48 | 119.45 | 105.20 |
| 1 | 1G | 1450 | U | C5-C6-N1 | 6.48 | 125.94 | 122.70 |
| 1 | 1G | 1462 | G | C2-N3-C4 | -6.48 | 108.66 | 111.90 |
| 57 | 3L | 48 | C | C5-C6-N1 | 6.48 | 124.24 | 121.00 |
| 26 | 14 | 48 | G | N3-C4-N9 | -6.48 | 122.11 | 126.00 |
| 26 | 14 | 1623 | G | C5-C6-O6 | -6.48 | 124.71 | 128.60 |
| 26 | 14 | 1654 | A | C4-C5-C6 | -6.48 | 113.76 | 117.00 |
| 26 | 14 | 2255 | G | C6-C5-N7 | 6.48 | 134.29 | 130.40 |
| 26 | 1H | 132 | G | C4-C5-C6 | 6.48 | 122.69 | 118.80 |
| 26 | 1H | 775 | G | N1-C6-O6 | 6.48 | 123.79 | 119.90 |
| 26 | 1H | 1418 | G | C8-N9-C4 | 6.48 | 108.99 | 106.40 |
| 26 | 1H | 2738 | A | N1-C2-N3 | -6.48 | 126.06 | 129.30 |
| 26 | 14 | 952 | G | N3-C4-C5 | -6.48 | 125.36 | 128.60 |
| 26 | 14 | 1562 | A | C8-N9-C4 | 6.48 | 108.39 | 105.80 |
| 27 | 1J | 88 | C | C5-C6-N1 | 6.48 | 124.24 | 121.00 |
| 1 | 13 | 1266 | G | OP1-P-OP2 | 6.47 | 129.31 | 119.60 |
| 26 | 1H | 146 | G | C2-N3-C4 | -6.47 | 108.66 | 111.90 |
| 26 | 1H | 332 | A | C5-C6-N6 | 6.47 | 128.88 | 123.70 |
| 26 | 1H | 2326 | C | N1-C2-O2 | 6.47 | 122.78 | 118.90 |
| 26 | 1H | 2400 | G | C4-C5-N7 | -6.47 | 108.21 | 110.80 |
| 1 | 1G | 329 | A | N1-C2-N3 | 6.47 | 132.54 | 129.30 |
| 1 | 1G | 1402 | C | N1-C2-O2 | -6.47 | 115.02 | 118.90 |
| 26 | 14 | 399 | G | O5'-P-OP2 | -6.47 | 99.87 | 105.70 |
| 26 | 14 | 781 | A | C5-C6-N6 | -6.47 | 118.52 | 123.70 |
| 26 | 14 | 939 | G | O5'-P-OP2 | -6.47 | 99.87 | 105.70 |
| 26 | 14 | 1626 | G | C4-C5-N7 | -6.47 | 108.21 | 110.80 |
| 26 | 14 | 1769 | G | C4-N9-C1' | 6.47 | 134.92 | 126.50 |
| 26 | 14 | 1827 | C | C4-C5-C6 | 6.47 | 120.64 | 117.40 |
| 26 | 14 | 2547 | U | OP2-P-O3' | 6.47 | 119.44 | 105.20 |
| 1 | 13 | 758 | G | C5-C6-N1 | -6.47 | 108.26 | 111.50 |
| 23 | 2K | 48 | U | C5-C6-N1 | 6.47 | 125.94 | 122.70 |
| 26 | 1H | 140 | A | N3-C4-C5 | 6.47 | 131.33 | 126.80 |
| 26 | 1H | 252 | G | C8-N9-C4 | 6.47 | 108.99 | 106.40 |
| 26 | 1H | 1165 | U | N1-C2-N3 | 6.47 | 118.78 | 114.90 |
| 26 | 1H | 1526 | G | N1-C2-N2 | -6.47 | 110.37 | 116.20 |
| 26 | 1H | 2086 | U | C4-C5-C6 | 6.47 | 123.58 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2608 | G | C2-N3-C4 | 6.47 | 115.14 | 111.90 |
| 1 | 1G | 990 | C | C6-N1-C2 | -6.47 | 117.71 | 120.30 |
| 26 | 14 | 268 | C | N3-C4-N4 | 6.47 | 122.53 | 118.00 |
| 26 | 14 | 1801 | G | N1-C2-N3 | 6.47 | 127.78 | 123.90 |
| 26 | 1H | 1479 | G | C8-N9-C4 | -6.47 | 103.81 | 106.40 |
| 26 | 1H | 1655 | A | N1-C6-N6 | 6.47 | 122.48 | 118.60 |
| 26 | 1H | 2783 | G | N1-C6-O6 | 6.47 | 123.78 | 119.90 |
| 1 | 1G | 45 | U | N3-C2-O2 | 6.47 | 126.73 | 122.20 |
| 1 | 13 | 436 | C | N3-C4-N4 | 6.47 | 122.53 | 118.00 |
| 1 | 13 | 821 | G | C8-N9-C4 | 6.47 | 108.99 | 106.40 |
| 1 | 13 | 1427 | U | OP1-P-O3' | -6.47 | 90.97 | 105.20 |
| 6 | 5E | 30 | LEU | CB-CG-CD2 | -6.47 | 100.00 | 111.00 |
| 26 | 1H | 616 | A | OP1-P-OP2 | 6.47 | 129.30 | 119.60 |
| 26 | 14 | 657 | U | OP2-P-O3' | 6.47 | 119.43 | 105.20 |
| 26 | 14 | 714 | U | C5-C4-O4 | 6.47 | 129.78 | 125.90 |
| 26 | 14 | 1955 | U | N1-C2-O2 | -6.47 | 118.27 | 122.80 |
| 26 | 14 | 2024 | G | C5-C6-O6 | -6.47 | 124.72 | 128.60 |
| 26 | 14 | 2228 | G | C2-N3-C4 | -6.47 | 108.67 | 111.90 |
| 27 | 1J | 88 | C | C2-N3-C4 | 6.47 | 123.14 | 119.90 |
| 1 | 13 | 529 | G | N9-C4-C5 | -6.47 | 102.81 | 105.40 |
| 26 | 1H | 1929 | G | N7-C8-N9 | -6.47 | 109.87 | 113.10 |
| 26 | 1H | 2376 | A | N9-C4-C5 | -6.47 | 103.21 | 105.80 |
| 1 | 1G | 601 | C | C6-N1-C2 | -6.47 | 117.71 | 120.30 |
| 1 | 1G | 786 | G | N1-C6-O6 | -6.47 | 116.02 | 119.90 |
| 26 | 14 | 49 | A | O5'-P-OP1 | -6.47 | 99.88 | 105.70 |
| 26 | 14 | 2571 | C | C5-C6-N1 | -6.47 | 117.77 | 121.00 |
| 26 | 1H | 241 | A | C6-N1-C2 | -6.47 | 114.72 | 118.60 |
| 26 | 1H | 619 | G | N3-C4-N9 | -6.47 | 122.12 | 126.00 |
| 26 | 1H | 1225 | C | C6-N1-C2 | 6.47 | 122.89 | 120.30 |
| 26 | 1H | 1328 | G | O5'-P-OP1 | 6.47 | 118.46 | 110.70 |
| 1 | 1G | 729 | A | C8-N9-C4 | -6.47 | 103.21 | 105.80 |
| 26 | 14 | 551 | G | C5-C6-N1 | -6.47 | 108.27 | 111.50 |
| 26 | 14 | 948 | G | N3-C2-N2 | -6.47 | 115.37 | 119.90 |
| 26 | 14 | 2002 | G | C5-N7-C8 | -6.47 | 101.07 | 104.30 |
| 26 | 14 | 2044 | C | C4-C5-C6 | -6.47 | 114.17 | 117.40 |
| 1 | 13 | 1516 | G | C5-C6-O6 | 6.46 | 132.48 | 128.60 |
| 22 | 1K | 25 | C | N3-C2-O2 | -6.46 | 117.38 | 121.90 |
| 26 | 1H | 573 | G | N1-C6-O6 | -6.46 | 116.02 | 119.90 |
| 26 | 1H | 737 | C | C4-C5-C6 | 6.46 | 120.63 | 117.40 |
| 26 | 1H | 811 | U | OP1-P-OP2 | 6.46 | 129.30 | 119.60 |
| 26 | 1H | 970 | C | C6-N1-C2 | -6.46 | 117.71 | 120.30 |
| 26 | 1H | 1243 | G | N3-C4-C5 | 6.46 | 131.83 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1488 | G | C8-N9-C4 | -6.46 | 103.81 | 106.40 |
| 26 | 1H | 2489 | G | C6-N1-C2 | -6.46 | 121.22 | 125.10 |
| 26 | 1H | 2578 | G | OP2-P-O3' | 6.46 | 119.42 | 105.20 |
| 26 | 1H | 2700 | C | N3-C2-O2 | 6.46 | 126.42 | 121.90 |
| 1 | 1G | 1410 | G | O5'-P-OP2 | -6.46 | 99.88 | 105.70 |
| 26 | 14 | 64 | A | C2-N3-C4 | 6.46 | 113.83 | 110.60 |
| 26 | 14 | 304 | G | N1-C6-O6 | 6.46 | 123.78 | 119.90 |
| 26 | 14 | 442 | G | N1-C2-N3 | 6.46 | 127.78 | 123.90 |
| 26 | 14 | 982 | C | C5-C6-N1 | 6.46 | 124.23 | 121.00 |
| 26 | 14 | 1257 | C | N1-C2-N3 | 6.46 | 123.72 | 119.20 |
| 26 | 14 | 1284 | A | O5'-P-OP1 | 6.46 | 118.46 | 110.70 |
| 26 | 14 | 1319 | G | N1-C6-O6 | 6.46 | 123.78 | 119.90 |
| 26 | 14 | 1784 | A | C5-C6-N6 | -6.46 | 118.53 | 123.70 |
| 26 | 14 | 2499 | C | N3-C4-N4 | 6.46 | 122.53 | 118.00 |
| 26 | 14 | 2685 | G | N1-C6-O6 | 6.46 | 123.78 | 119.90 |
| 26 | 1H | 2383 | G | N3-C2-N2 | 6.46 | 124.42 | 119.90 |
| 26 | 14 | 1409 | C | OP1-P-OP2 | 6.46 | 129.29 | 119.60 |
| 26 | 14 | 2610 | C | C4-C5-C6 | -6.46 | 114.17 | 117.40 |
| 1 | 13 | 752 | G | N1-C6-O6 | 6.46 | 123.78 | 119.90 |
| 1 | 13 | 1317 | C | C5-C4-N4 | 6.46 | 124.72 | 120.20 |
| 26 | 1H | 966 | G | O5'-P-OP2 | -6.46 | 99.89 | 105.70 |
| 26 | 1H | 1164 | G | C4-C5-N7 | -6.46 | 108.22 | 110.80 |
| 26 | 1H | 1692 | U | OP1-P-O3' | 6.46 | 119.42 | 105.20 |
| 26 | 1H | 2360 | A | N9-C4-C5 | -6.46 | 103.22 | 105.80 |
| 26 | 1H | 2677 | G | C5-N7-C8 | 6.46 | 107.53 | 104.30 |
| 26 | 1H | 2825 | C | N1-C2-O2 | -6.46 | 115.02 | 118.90 |
| 1 | 1G | 778 | G | C8-N9-C4 | -6.46 | 103.82 | 106.40 |
| 1 | 1G | 800 | G | N1-C2-N3 | 6.46 | 127.78 | 123.90 |
| 25 | 4L | 10 | G | C5-C6-O6 | -6.46 | 124.72 | 128.60 |
| 26 | 14 | 304 | G | C5-C6-N1 | -6.46 | 108.27 | 111.50 |
| 26 | 14 | 432 | A | C5-N7-C8 | -6.46 | 100.67 | 103.90 |
| 26 | 14 | 854 | G | OP1-P-O3' | 6.46 | 119.41 | 105.20 |
| 26 | 14 | 1256 | G | OP2-P-O3' | 6.46 | 119.42 | 105.20 |
| 26 | 14 | 1571 | A | C5-C6-N6 | -6.46 | 118.53 | 123.70 |
| 26 | 14 | 1674 | G | N7-C8-N9 | -6.46 | 109.87 | 113.10 |
| 26 | 14 | 1903 | G | O5'-P-OP1 | -6.46 | 99.89 | 105.70 |
| 26 | 1H | 1367 | A | C6-N1-C2 | -6.46 | 114.72 | 118.60 |
| 26 | 1H | 2420 | C | OP1-P-OP2 | -6.46 | 109.91 | 119.60 |
| 1 | 1G | 880 | C | N1-C2-N3 | -6.46 | 114.68 | 119.20 |
| 26 | 14 | 2782 | G | C2-N3-C4 | -6.46 | 108.67 | 111.90 |
| 29 | 19 | 65 | ILE | CG1-CB-CG2 | -6.46 | 97.19 | 111.40 |
| 1 | 13 | 1437 | C | N3-C2-O2 | 6.46 | 126.42 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 142 | G | N3-C4-N9 | -6.46 | 122.12 | 126.00 |
| 26 | 1H | 679 | C | OP1-P-OP2 | 6.46 | 129.29 | 119.60 |
| 26 | 1H | 865 | C | N1-C2-O2 | 6.46 | 122.78 | 118.90 |
| 26 | 1H | 1424 | G | C6-N1-C2 | -6.46 | 121.22 | 125.10 |
| 26 | 1H | 1624 | G | C6-N1-C2 | -6.46 | 121.22 | 125.10 |
| 26 | 1H | 1936 | A | C5-C6-N1 | 6.46 | 120.93 | 117.70 |
| 26 | 1H | 2620 | C | OP1-P-OP2 | -6.46 | 109.91 | 119.60 |
| 27 | 16 | 48 | A | N1-C2-N3 | -6.46 | 126.07 | 129.30 |
| 1 | 1G | 359 | U | OP1-P-OP2 | 6.46 | 129.29 | 119.60 |
| 1 | 1G | 898 | G | N3-C4-C5 | 6.46 | 131.83 | 128.60 |
| 26 | 14 | 203 | C | C6-N1-C1' | 6.46 | 128.55 | 120.80 |
| 26 | 14 | 539 | G | OP1-P-OP2 | -6.46 | 109.91 | 119.60 |
| 26 | 14 | 1842 | G | N3-C4-C5 | -6.46 | 125.37 | 128.60 |
| 26 | 14 | 1851 | U | N1-C2-N3 | 6.46 | 118.78 | 114.90 |
| 26 | 14 | 1923 | U | O5'-P-OP2 | 6.46 | 118.45 | 110.70 |
| 26 | 14 | 1966 | A | O5'-P-OP2 | -6.46 | 99.89 | 105.70 |
| 26 | 14 | 2490 | G | N7-C8-N9 | 6.46 | 116.33 | 113.10 |
| 1 | 13 | 132 | C | N3-C4-N4 | 6.46 | 122.52 | 118.00 |
| 23 | 2K | 28 | U | C4-C5-C6 | 6.46 | 123.57 | 119.70 |
| 26 | 1H | 132 | G | OP1-P-O3' | -6.46 | 91.00 | 105.20 |
| 26 | 1H | 911 | A | N1-C6-N6 | -6.46 | 114.73 | 118.60 |
| 26 | 1H | 1299 | G | C5-N7-C8 | -6.46 | 101.07 | 104.30 |
| 26 | 1H | 1309 | G | C4-C5-C6 | 6.46 | 122.67 | 118.80 |
| 26 | 1H | 1537 | C | N1-C2-O2 | 6.46 | 122.77 | 118.90 |
| 26 | 1H | 1601 | G | C6-N1-C2 | 6.46 | 128.97 | 125.10 |
| 26 | 1H | 1810 | A | C5-C6-N6 | -6.46 | 118.53 | 123.70 |
| 26 | 1H | 2532 | G | C4-C5-C6 | 6.46 | 122.67 | 118.80 |
| 1 | 1G | 413 | G | O4'-C1'-N9 | 6.46 | 113.36 | 108.20 |
| 23 | 2L | 77 | A | C4-C5-N7 | 6.46 | 113.93 | 110.70 |
| 57 | 3L | 34 | U | C5-C6-N1 | 6.46 | 125.93 | 122.70 |
| 26 | 14 | 1552 | G | O5'-P-OP2 | -6.46 | 99.89 | 105.70 |
| 1 | 13 | 1478 | C | C2-N3-C4 | -6.46 | 116.67 | 119.90 |
| 26 | 1H | 584 | C | C5-C4-N4 | -6.46 | 115.68 | 120.20 |
| 26 | 1H | 765 | G | N1-C6-O6 | 6.46 | 123.77 | 119.90 |
| 26 | 1H | 1907 | G | O5'-P-OP2 | -6.46 | 99.89 | 105.70 |
| 26 | 1H | 2054 | A | C6-N1-C2 | -6.46 | 114.73 | 118.60 |
| 26 | 1H | 2691 | C | OP1-P-OP2 | 6.46 | 129.28 | 119.60 |
| 1 | 1G | 46 | G | N9-C4-C5 | -6.46 | 102.82 | 105.40 |
| 26 | 14 | 1287 | A | N1-C2-N3 | 6.46 | 132.53 | 129.30 |
| 1 | 13 | 575 | G | C5-N7-C8 | 6.45 | 107.53 | 104.30 |
| 1 | 13 | 1413 | A | C5-C6-N6 | -6.45 | 118.54 | 123.70 |
| 26 | 1H | 270(A) | A | C8-N9-C4 | 6.45 | 108.38 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1198 | U | N3-C4-C5 | 6.45 | 118.47 | 114.60 |
| 26 | 1H | 2274 | A | C4-C5-N7 | 6.45 | 113.93 | 110.70 |
| 41 | B8 | 54 | ARG | CG-CD-NE | 6.45 | 125.35 | 111.80 |
| 1 | 1G | 650 | G | C5-C6-N1 | -6.45 | 108.27 | 111.50 |
| 1 | 1G | 679 | C | N3-C4-C5 | -6.45 | 119.32 | 121.90 |
| 26 | 14 | 1612 | C | N3-C2-O2 | 6.45 | 126.42 | 121.90 |
| 26 | 14 | 1952 | A | OP1-P-OP2 | -6.45 | 109.92 | 119.60 |
| 26 | 14 | 2041 | U | C2-N3-C4 | -6.45 | 123.13 | 127.00 |
| 1 | 13 | 746 | A | C5-C6-N6 | 6.45 | 128.86 | 123.70 |
| 1 | 1G | 758 | G | N3-C4-C5 | 6.45 | 131.83 | 128.60 |
| 26 | 14 | 727 | A | N1-C2-N3 | 6.45 | 132.53 | 129.30 |
| 26 | 14 | 2332 | U | N3-C4-O4 | -6.45 | 114.88 | 119.40 |
| 1 | 13 | 352 | C | C5-C4-N4 | -6.45 | 115.69 | 120.20 |
| 1 | 13 | 595 | G | N1-C2-N2 | -6.45 | 110.39 | 116.20 |
| 26 | 1H | 479 | A | C2-N3-C4 | -6.45 | 107.37 | 110.60 |
| 26 | 1H | 763 | G | N3-C4-N9 | -6.45 | 122.13 | 126.00 |
| 26 | 1H | 867 | C | O5'-P-OP1 | -6.45 | 99.89 | 105.70 |
| 26 | 1H | 1002 | G | N9-C4-C5 | 6.45 | 107.98 | 105.40 |
| 26 | 1H | 1022 | G | N3-C2-N2 | -6.45 | 115.39 | 119.90 |
| 26 | 1H | 1139 | G | C5-N7-C8 | 6.45 | 107.53 | 104.30 |
| 26 | 1H | 1899 | G | N3-C2-N2 | -6.45 | 115.39 | 119.90 |
| 26 | 1H | 2010 | G | C8-N9-C4 | -6.45 | 103.82 | 106.40 |
| 1 | 1G | 576 | G | C5-C6-O6 | 6.45 | 132.47 | 128.60 |
| 23 | 2L | 19 | G | C2-N3-C4 | -6.45 | 108.67 | 111.90 |
| 26 | 14 | 522 | G | N3-C2-N2 | -6.45 | 115.39 | 119.90 |
| 26 | 14 | 668 | G | N3-C4-C5 | 6.45 | 131.82 | 128.60 |
| 26 | 14 | 672 | C | OP2-P-O3' | 6.45 | 119.39 | 105.20 |
| 26 | 14 | 1976 | U | N3-C4-C5 | -6.45 | 110.73 | 114.60 |
| 26 | 14 | 2218 | G | C5-C6-O6 | 6.45 | 132.47 | 128.60 |
| 26 | 14 | 2489 | G | C5-N7-C8 | -6.45 | 101.07 | 104.30 |
| 1 | 13 | 402 | G | C5-C6-O6 | 6.45 | 132.47 | 128.60 |
| 26 | 1H | 56 | A | OP2-P-O3' | 6.45 | 119.39 | 105.20 |
| 26 | 1H | 245 | G | C4-N9-C1' | 6.45 | 134.88 | 126.50 |
| 26 | 1H | 420 | C | C4-C5-C6 | 6.45 | 120.62 | 117.40 |
| 26 | 1H | 684 | G | N3-C2-N2 | -6.45 | 115.39 | 119.90 |
| 26 | 1H | 2383 | G | C5-N7-C8 | -6.45 | 101.08 | 104.30 |
| 26 | 1H | 2737 | G | C8-N9-C4 | 6.45 | 108.98 | 106.40 |
| 45 | F8 | 13 | LEU | CB-CG-CD2 | -6.45 | 100.04 | 111.00 |
| 57 | 3L | 65 | C | C6-N1-C2 | -6.45 | 117.72 | 120.30 |
| 26 | 14 | 732 | C | N3-C2-O2 | 6.45 | 126.41 | 121.90 |
| 26 | 14 | 1619 | G | C5-C6-N1 | 6.45 | 114.72 | 111.50 |
| 26 | 1H | 1852 | C | C2-N1-C1' | -6.45 | 111.71 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1391 | U | OP1-P-OP2 | 6.45 | 129.27 | 119.60 |
| 26 | 14 | 812 | C | N1-C2-O2 | -6.45 | 115.03 | 118.90 |
| 26 | 14 | 2850 | A | C8-N9-C4 | 6.45 | 108.38 | 105.80 |
| 1 | 13 | 308 | C | O5'-P-OP1 | 6.45 | 118.43 | 110.70 |
| 1 | 13 | 780 | A | N3-C4-C5 | 6.45 | 131.31 | 126.80 |
| 1 | 13 | 1059 | C | C4-C5-C6 | -6.45 | 114.18 | 117.40 |
| 1 | 13 | 1265 | G | N1-C6-O6 | 6.45 | 123.77 | 119.90 |
| 26 | 1H | 123 | G | N1-C6-O6 | 6.45 | 123.77 | 119.90 |
| 26 | 1H | 345 | A | N1-C6-N6 | -6.45 | 114.73 | 118.60 |
| 26 | 1H | 903 | C | C4-C5-C6 | -6.45 | 114.18 | 117.40 |
| 26 | 1H | 1597 | A | N7-C8-N9 | -6.45 | 110.58 | 113.80 |
| 26 | 1H | 1851 | U | N1-C2-N3 | 6.45 | 118.77 | 114.90 |
| 26 | 1H | 2033 | A | N3-C4-C5 | -6.45 | 122.29 | 126.80 |
| 26 | 1H | 2751 | G | C8-N9-C4 | -6.45 | 103.82 | 106.40 |
| 27 | 16 | 60 | C | O5'-P-OP2 | 6.45 | 118.43 | 110.70 |
| 26 | 14 | 1284 | A | C8-N9-C4 | 6.45 | 108.38 | 105.80 |
| 26 | 14 | 2268 | A | C4-C5-C6 | 6.45 | 120.22 | 117.00 |
| 26 | 1H | 322 | A | N1-C6-N6 | 6.44 | 122.47 | 118.60 |
| 26 | 14 | 781 | A | O5'-P-OP1 | -6.44 | 99.90 | 105.70 |
| 1 | 13 | 604 | G | N1-C6-O6 | 6.44 | 123.77 | 119.90 |
| 1 | 13 | 1329 | A | C5-N7-C8 | -6.44 | 100.68 | 103.90 |
| 1 | 13 | 1386 | G | C8-N9-C4 | 6.44 | 108.98 | 106.40 |
| 26 | 1H | 292 | C | N1-C2-O2 | -6.44 | 115.03 | 118.90 |
| 26 | 1H | 535 | C | OP2-P-O3' | 6.44 | 119.37 | 105.20 |
| 26 | 1H | 541 | C | N3-C2-O2 | -6.44 | 117.39 | 121.90 |
| 26 | 1H | 744 | G | C4-C5-C6 | 6.44 | 122.67 | 118.80 |
| 26 | 1H | 2378 | A | C5-C6-N1 | -6.44 | 114.48 | 117.70 |
| 26 | 1H | 2445 | G | C4-C5-N7 | -6.44 | 108.22 | 110.80 |
| 26 | 1H | 2662 | A | N7-C8-N9 | 6.44 | 117.02 | 113.80 |
| 1 | 1G | 869 | G | N7-C8-N9 | 6.44 | 116.32 | 113.10 |
| 26 | 14 | 122 | G | N1-C2-N3 | 6.44 | 127.77 | 123.90 |
| 26 | 14 | 582 | G | C6-C5-N7 | -6.44 | 126.53 | 130.40 |
| 26 | 14 | 1882 | C | C5-C6-N1 | 6.44 | 124.22 | 121.00 |
| 26 | 14 | 1937 | A | OP2-P-O3' | 6.44 | 119.37 | 105.20 |
| 26 | 14 | 2083 | G | C5-N7-C8 | -6.44 | 101.08 | 104.30 |
| 26 | 14 | 2376 | A | N9-C4-C5 | -6.44 | 103.22 | 105.80 |
| 1 | 13 | 298 | A | N9-C4-C5 | 6.44 | 108.38 | 105.80 |
| 1 | 13 | 889 | A | N1-C2-N3 | 6.44 | 132.52 | 129.30 |
| 1 | 13 | 942 | G | C6-C5-N7 | -6.44 | 126.54 | 130.40 |
| 1 | 13 | 959 | A | C2-N3-C4 | 6.44 | 113.82 | 110.60 |
| 26 | 1H | 13 | A | C4-C5-N7 | 6.44 | 113.92 | 110.70 |
| 26 | 1H | 137(A) | G | OP1-P-OP2 | 6.44 | 129.26 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 1H | 150 | C | C5-C4-N4 | 6.44 | 124.71 | 120.20 |
| 26 | 1H | 1272 | A | C4-C5-C6 | -6.44 | 113.78 | 117.00 |
| 26 | 1H | 1771 | C | N3-C4-N4 | 6.44 | 122.51 | 118.00 |
| 26 | 1H | 1833 | U | C5-C4-O4 | 6.44 | 129.76 | 125.90 |
| 26 | 1H | 1940 | U | N3-C4-O4 | 6.44 | 123.91 | 119.40 |
| 26 | 1H | 1996 | C | C2-N3-C4 | -6.44 | 116.68 | 119.90 |
| 26 | 1H | 2310 | A | N1-C6-N6 | 6.44 | 122.47 | 118.60 |
| 26 | 1H | 2319 | G | C4-C5-N7 | 6.44 | 113.38 | 110.80 |
| 26 | 1H | 2432 | A | N1-C2-N3 | 6.44 | 132.52 | 129.30 |
| 26 | 1H | 2686 | G | C2-N3-C4 | 6.44 | 115.12 | 111.90 |
| 26 | 1H | 2704 | C | OP1-P-OP2 | 6.44 | 129.26 | 119.60 |
| 26 | 1H | 2872 | G | C5-C6-N1 | -6.44 | 108.28 | 111.50 |
| 29 | 11 | 39 | LYS | N-CA-C | 6.44 | 128.39 | 111.00 |
| 26 | 14 | 494 | G | C5-C6-O6 | -6.44 | 124.73 | 128.60 |
| 26 | 14 | 805 | G | N1-C2-N2 | -6.44 | 110.40 | 116.20 |
| 26 | 14 | 1899 | G | N3-C4-N9 | -6.44 | 122.14 | 126.00 |
| 26 | 14 | 2865 | U | N1-C2-O2 | -6.44 | 118.29 | 122.80 |
| 1 | 13 | 14 | U | OP1-P-OP2 | 6.44 | 129.26 | 119.60 |
| 26 | 1H | 787 | U | C2-N3-C4 | -6.44 | 123.14 | 127.00 |
| 26 | 14 | 572 | A | N3-C4-C5 | -6.44 | 122.29 | 126.80 |
| 26 | 14 | 1818 | U | N1-C2-O2 | -6.44 | 118.29 | 122.80 |
| 26 | 14 | 2456 | C | N3-C4-C5 | -6.44 | 119.32 | 121.90 |
| 1 | 13 | 451 | A | OP1-P-OP2 | 6.44 | 129.26 | 119.60 |
| 1 | 13 | 972 | C | O5'-P-OP2 | 6.44 | 118.43 | 110.70 |
| 1 | 13 | 1417 | G | N3-C2-N2 | -6.44 | 115.39 | 119.90 |
| 26 | 1H | 429 | A | C5-N7-C8 | -6.44 | 100.68 | 103.90 |
| 26 | 1H | 776 | G | N1-C2-N2 | 6.44 | 121.99 | 116.20 |
| 26 | 1H | 1696 | G | C5-C6-O6 | 6.44 | 132.46 | 128.60 |
| 26 | 1H | 1952 | A | N9-C4-C5 | 6.44 | 108.38 | 105.80 |
| 26 | 1H | 2428 | G | C8-N9-C4 | -6.44 | 103.83 | 106.40 |
| 26 | 1H | 2828 | C | C5-C6-N1 | -6.44 | 117.78 | 121.00 |
| 26 | 1H | 2885 | C | OP1-P-OP2 | -6.44 | 109.94 | 119.60 |
| 1 | 1G | 1204 | A | O5'-P-OP1 | 6.44 | 118.42 | 110.70 |
| 1 | 1G | 1489 | G | OP1-P-OP2 | 6.44 | 129.25 | 119.60 |
| 26 | 14 | 203 | C | C2-N3-C4 | -6.44 | 116.68 | 119.90 |
| 26 | 14 | 208 | C | N3-C2-O2 | 6.44 | 126.41 | 121.90 |
| 26 | 14 | 414 | C | N1-C2-O2 | 6.44 | 122.76 | 118.90 |
| 26 | 14 | 535 | C | OP2-P-O3' | 6.44 | 119.36 | 105.20 |
| 26 | 14 | 570 | G | C4-N9-C1' | 6.44 | 134.87 | 126.50 |
| 26 | 14 | 1992 | G | C2'-C3'-O3' | 6.44 | 124.00 | 113.70 |
| 1 | 13 | 730 | G | N1-C2-N2 | 6.44 | 121.99 | 116.20 |
| 1 | 1G | 633 | G | OP1-P-O3' | 6.44 | 119.36 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2391 | G | N3-C2-N2 | -6.44 | 115.39 | 119.90 |
| 26 | 14 | 2428 | G | P-O3'-C3' | 6.44 | 127.42 | 119.70 |
| 26 | 14 | 2462 | U | C2-N3-C4 | -6.44 | 123.14 | 127.00 |
| 1 | 13 | 1432 | G | C4-C5-C6 | 6.43 | 122.66 | 118.80 |
| 26 | 1H | 1799 | G | P-O3'-C3' | 6.43 | 127.42 | 119.70 |
| 26 | 1H | 1828 | G | C5-C6-N1 | -6.43 | 108.28 | 111.50 |
| 26 | 1H | 1900 | A | C5-C6-N6 | -6.43 | 118.55 | 123.70 |
| 26 | 1H | 2451 | A | C4-C5-N7 | -6.43 | 107.48 | 110.70 |
| 54 | P8 | 2 | LYS | CD-CE-NZ | 6.43 | 126.50 | 111.70 |
| 1 | 1G | 314 | C | N3-C2-O2 | -6.43 | 117.40 | 121.90 |
| 26 | 14 | 330 | A | C4-C5-N7 | 6.43 | 113.92 | 110.70 |
| 26 | 14 | 576 | U | N3-C2-O2 | 6.43 | 126.70 | 122.20 |
| 26 | 14 | 577 | G | OP2-P-O3' | 6.43 | 119.36 | 105.20 |
| 26 | 14 | 987 | G | C5-C6-N1 | 6.43 | 114.72 | 111.50 |
| 26 | 14 | 1763 | G | N3-C4-N9 | -6.43 | 122.14 | 126.00 |
| 26 | 14 | 2078 | C | N3-C2-O2 | -6.43 | 117.40 | 121.90 |
| 26 | 14 | 2430 | A | OP1-P-OP2 | -6.43 | 109.95 | 119.60 |
| 26 | 14 | 2647 | U | C6-N1-C2 | 6.43 | 124.86 | 121.00 |
| 1 | 13 | 125 | U | N1-C2-O2 | -6.43 | 118.30 | 122.80 |
| 1 | 13 | 828 | A | N1-C2-N3 | 6.43 | 132.52 | 129.30 |
| 26 | 1H | 12 | U | N1-C2-O2 | 6.43 | 127.30 | 122.80 |
| 26 | 1H | 113 | G | C6-C5-N7 | -6.43 | 126.54 | 130.40 |
| 26 | 1H | 1139 | G | C5-C6-O6 | 6.43 | 132.46 | 128.60 |
| 26 | 1H | 1831 | G | N3-C2-N2 | -6.43 | 115.40 | 119.90 |
| 26 | 1H | 2414 | G | C8-N9-C4 | -6.43 | 103.83 | 106.40 |
| 1 | 1G | 780 | A | C4-C5-N7 | 6.43 | 113.92 | 110.70 |
| 26 | 14 | 270 | A | N3-C4-C5 | 6.43 | 131.30 | 126.80 |
| 26 | 14 | 491 | G | C2-N3-C4 | -6.43 | 108.68 | 111.90 |
| 26 | 14 | 496 | G | OP2-P-O3' | 6.43 | 119.35 | 105.20 |
| 1 | 13 | 104 | G | C5-C6-O6 | -6.43 | 124.74 | 128.60 |
| 26 | 1H | 228 | A | C6-C5-N7 | -6.43 | 127.80 | 132.30 |
| 26 | 1H | 670 | A | C5-C6-N1 | 6.43 | 120.92 | 117.70 |
| 26 | 1H | 750 | A | C5-C6-N6 | -6.43 | 118.56 | 123.70 |
| 26 | 1H | 2243 | U | N3-C2-O2 | -6.43 | 117.70 | 122.20 |
| 27 | 16 | 72 | G | C2-N3-C4 | -6.43 | 108.69 | 111.90 |
| 26 | 14 | 71 | A | C6-C5-N7 | -6.43 | 127.80 | 132.30 |
| 26 | 14 | 460 | A | C4-C5-N7 | 6.43 | 113.92 | 110.70 |
| 26 | 14 | 791 | C | C4-C5-C6 | -6.43 | 114.18 | 117.40 |
| 26 | 14 | 2062 | A | C4-C5-C6 | -6.43 | 113.78 | 117.00 |
| 1 | 13 | 325 | A | N1-C2-N3 | -6.43 | 126.09 | 129.30 |
| 1 | 13 | 520 | A | C5-N7-C8 | -6.43 | 100.69 | 103.90 |
| 1 | 13 | 528 | C | N3-C4-C5 | 6.43 | 124.47 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | 13 | 568 | G | O5'-P-OP2 | 6.43 | 118.42 | 110.70 |
| 26 | 1H | 37 | C | N1-C2-O2 | 6.43 | 122.76 | 118.90 |
| 26 | 1H | 666 | G | C2-N3-C4 | -6.43 | 108.69 | 111.90 |
| 26 | 1H | 1204 | A | C5'-C4'-C3' | -6.43 | 105.71 | 116.00 |
| 26 | 1H | 1285 | G | C4-C5-C6 | 6.43 | 122.66 | 118.80 |
| 26 | 1H | 1971 | A | C6-N1-C2 | -6.43 | 114.74 | 118.60 |
| 26 | 1H | 2486 | G | N3-C2-N2 | -6.43 | 115.40 | 119.90 |
| 1 | 1G | 660 | G | N7-C8-N9 | -6.43 | 109.89 | 113.10 |
| 26 | 14 | 81 | G | C8-N9-C4 | 6.43 | 108.97 | 106.40 |
| 26 | 14 | 503 | A | C4-C5-N7 | -6.43 | 107.48 | 110.70 |
| 26 | 14 | 676 | A | C5-C6-N1 | -6.43 | 114.48 | 117.70 |
| 26 | 14 | 1383 | C | O5'-P-OP1 | 6.43 | 118.42 | 110.70 |
| 26 | 14 | 2329 | G | N1-C6-O6 | -6.43 | 116.04 | 119.90 |
| 1 | 13 | 1292 | U | O5'-P-OP2 | -6.43 | 99.92 | 105.70 |
| 26 | 1H | 1257 | C | C6-N1-C2 | -6.43 | 117.73 | 120.30 |
| 26 | 1H | 2530 | A | C5-C6-N6 | -6.43 | 118.56 | 123.70 |
| 26 | 14 | 189 | G | O4'-C1'-N9 | -6.43 | 103.06 | 108.20 |
| 26 | 1H | 458 | G | O4'-C1'-N9 | 6.43 | 113.34 | 108.20 |
| 26 | 1H | 505 | A | N1-C6-N6 | 6.43 | 122.45 | 118.60 |
| 26 | 1H | 998 | C | C2-N1-C1' | 6.43 | 125.87 | 118.80 |
| 26 | 1H | 1201 | C | O5'-P-OP2 | -6.43 | 99.92 | 105.70 |
| 26 | 1H | 1259 | G | N3-C2-N2 | 6.43 | 124.40 | 119.90 |
| 26 | 1H | 1619 | G | N1-C6-O6 | -6.43 | 116.04 | 119.90 |
| 26 | 1H | 1751 | C | N3-C2-O2 | 6.43 | 126.40 | 121.90 |
| 26 | 1H | 1858 | G | N1-C6-O6 | 6.43 | 123.76 | 119.90 |
| 26 | 1H | 1922 | G | O5'-P-OP2 | -6.43 | 99.92 | 105.70 |
| 26 | 1H | 2192 | G | N1-C6-O6 | 6.43 | 123.76 | 119.90 |
| 26 | 14 | 96 | G | N1-C2-N3 | 6.43 | 127.76 | 123.90 |
| 26 | 14 | 127 | A | N7-C8-N9 | -6.43 | 110.59 | 113.80 |
| 26 | 14 | 207 | A | N1-C2-N3 | 6.43 | 132.51 | 129.30 |
| 26 | 14 | 2286 | A | N7-C8-N9 | 6.43 | 117.01 | 113.80 |
| 26 | 14 | 2634 | G | N7-C8-N9 | -6.43 | 109.89 | 113.10 |
| 26 | 14 | 2782 | G | C4-C5-C6 | 6.43 | 122.66 | 118.80 |
| 1 | 13 | 264 | U | N3-C4-O4 | 6.42 | 123.90 | 119.40 |
| 1 | 13 | 1482 | G | N7-C8-N9 | 6.42 | 116.31 | 113.10 |
| 26 | 1H | 123 | G | N3-C2-N2 | -6.42 | 115.40 | 119.90 |
| 26 | 1H | 180 | G | N1-C6-O6 | 6.42 | 123.75 | 119.90 |
| 26 | 1H | 341 | G | C4-C5-N7 | -6.42 | 108.23 | 110.80 |
| 26 | 1H | 721 | C | N3-C2-O2 | 6.42 | 126.40 | 121.90 |
| 26 | 1H | 1243 | G | N7-C8-N9 | 6.42 | 116.31 | 113.10 |
| 26 | 1H | 1913 | A | O4'-C1'-N9 | 6.42 | 113.34 | 108.20 |
| 26 | 1H | 2254 | C | OP1-P-OP2 | -6.42 | 109.96 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2281 | C | C6-N1-C2 | 6.42 | 122.87 | 120.30 |
| 26 | 1H | 2377 | A | N9-C4-C5 | -6.42 | 103.23 | 105.80 |
| 26 | 1H | 2479 | G | C8-N9-C4 | 6.42 | 108.97 | 106.40 |
| 1 | 1G | 308 | C | C6-N1-C2 | -6.42 | 117.73 | 120.30 |
| 26 | 14 | 110 | G | C8-N9-C4 | 6.42 | 108.97 | 106.40 |
| 26 | 14 | 215 | G | OP1-P-O3' | 6.42 | 119.33 | 105.20 |
| 26 | 14 | 1309 | G | N1-C2-N3 | 6.42 | 127.75 | 123.90 |
| 26 | 14 | 1637 | A | N9-C4-C5 | 6.42 | 108.37 | 105.80 |
| 26 | 14 | 2163 | C | C6-N1-C2 | -6.42 | 117.73 | 120.30 |
| 26 | 1H | 1047 | G | N7-C8-N9 | -6.42 | 109.89 | 113.10 |
| 26 | 1H | 1487 | G | C8-N9-C4 | -6.42 | 103.83 | 106.40 |
| 26 | 1H | 1644 | C | N3-C2-O2 | -6.42 | 117.40 | 121.90 |
| 26 | 1H | 1705 | G | C4-C5-C6 | 6.42 | 122.65 | 118.80 |
| 26 | 14 | 1776 | G | O5'-P-OP2 | 6.42 | 118.41 | 110.70 |
| 26 | 14 | 1856 | G | C4-C5-C6 | 6.42 | 122.65 | 118.80 |
| 26 | 14 | 2740 | A | C2-N3-C4 | -6.42 | 107.39 | 110.60 |
| 1 | 13 | 436 | C | N3-C2-O2 | 6.42 | 126.39 | 121.90 |
| 1 | 13 | 564 | C | OP1-P-OP2 | 6.42 | 129.23 | 119.60 |
| 1 | 13 | 712 | A | C5-C6-N6 | 6.42 | 128.84 | 123.70 |
| 1 | 13 | 761 | G | N3-C4-N9 | 6.42 | 129.85 | 126.00 |
| 1 | 13 | 974 | A | O4'-C1'-N9 | 6.42 | 113.34 | 108.20 |
| 26 | 1H | 618 | G | C5-N7-C8 | 6.42 | 107.51 | 104.30 |
| 26 | 1H | 1523 | U | C6-N1-C2 | -6.42 | 117.15 | 121.00 |
| 26 | 1H | 2441 | C | N3-C4-N4 | -6.42 | 113.50 | 118.00 |
| 26 | 1H | 2883 | A | N7-C8-N9 | 6.42 | 117.01 | 113.80 |
| 23 | 2L | 77 | A | C4-C5-C6 | -6.42 | 113.79 | 117.00 |
| 26 | 14 | 672 | C | N3-C2-O2 | -6.42 | 117.41 | 121.90 |
| 26 | 14 | 741 | G | OP2-P-O3' | 6.42 | 119.33 | 105.20 |
| 26 | 14 | 855 | G | N1-C6-O6 | 6.42 | 123.75 | 119.90 |
| 26 | 14 | 1261 | C | C2-N3-C4 | -6.42 | 116.69 | 119.90 |
| 26 | 14 | 1899 | G | C6-C5-N7 | -6.42 | 126.55 | 130.40 |
| 26 | 14 | 2034 | U | N1-C2-N3 | 6.42 | 118.75 | 114.90 |
| 26 | 14 | 2064 | C | O5'-P-OP2 | -6.42 | 99.92 | 105.70 |
| 26 | 14 | 2315 | G | N3-C4-N9 | 6.42 | 129.85 | 126.00 |
| 26 | 14 | 2679 | A | C5-C6-N6 | -6.42 | 118.56 | 123.70 |
| 26 | 1H | 15 | G | OP2-P-O3' | 6.42 | 119.32 | 105.20 |
| 26 | 1H | 379 | G | C2-N3-C4 | 6.42 | 115.11 | 111.90 |
| 26 | 1H | 638 | G | OP1-P-OP2 | 6.42 | 129.23 | 119.60 |
| 26 | 1H | 2002 | G | N3-C4-C5 | -6.42 | 125.39 | 128.60 |
| 1 | 1G | 1497 | G | N1-C6-O6 | 6.42 | 123.75 | 119.90 |
| 26 | 14 | 1236 | G | N1-C6-O6 | 6.42 | 123.75 | 119.90 |
| 26 | 14 | 2574 | G | N1-C6-O6 | -6.42 | 116.05 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 429 | U | N3-C2-O2 | -6.42 | 117.71 | 122.20 |
| 1 | 13 | 539 | A | N1-C2-N3 | 6.42 | 132.51 | 129.30 |
| 1 | 13 | 564 | C | N3-C4-C5 | -6.42 | 119.33 | 121.90 |
| 26 | 1H | 228 | A | N1-C6-N6 | 6.42 | 122.45 | 118.60 |
| 26 | 1H | 383 | U | C4-C5-C6 | 6.42 | 123.55 | 119.70 |
| 26 | 1H | 1246 | A | N1-C2-N3 | 6.42 | 132.51 | 129.30 |
| 26 | 1H | 1333 | C | N1-C2-N3 | -6.42 | 114.71 | 119.20 |
| 26 | 1H | 1702 | G | N9-C4-C5 | -6.42 | 102.83 | 105.40 |
| 26 | 1H | 1929 | G | C6-C5-N7 | 6.42 | 134.25 | 130.40 |
| 26 | 1H | 2029 | G | OP1-P-OP2 | 6.42 | 129.23 | 119.60 |
| 26 | 1H | 2450 | A | C6-N1-C2 | -6.42 | 114.75 | 118.60 |
| 1 | 1G | 1465 | C | N1-C2-O2 | 6.42 | 122.75 | 118.90 |
| 23 | 2L | 4 | G | C4-C5-N7 | -6.42 | 108.23 | 110.80 |
| 26 | 14 | 521 | G | C6-C5-N7 | -6.42 | 126.55 | 130.40 |
| 26 | 14 | 557 | U | C5-C6-N1 | -6.42 | 119.49 | 122.70 |
| 26 | 14 | 806 | C | C6-N1-C1' | -6.42 | 113.10 | 120.80 |
| 26 | 14 | 1960 | A | O5'-P-OP2 | -6.42 | 99.92 | 105.70 |
| 26 | 14 | 2392 | A | N3-C4-C5 | 6.42 | 131.29 | 126.80 |
| 1 | 13 | 59 | A | N1-C6-N6 | 6.42 | 122.45 | 118.60 |
| 1 | 13 | 781 | A | C4-C5-N7 | 6.42 | 113.91 | 110.70 |
| 1 | 13 | 1519 | A | C4-C5-C6 | 6.42 | 120.21 | 117.00 |
| 26 | 1H | 21 | A | C8-N9-C4 | 6.42 | 108.37 | 105.80 |
| 26 | 1H | 935 | C | C5-C4-N4 | -6.42 | 115.71 | 120.20 |
| 26 | 1H | 1271 | G | N3-C4-N9 | 6.42 | 129.85 | 126.00 |
| 26 | 1H | 1305 | C | N1-C2-O2 | 6.42 | 122.75 | 118.90 |
| 26 | 1H | 1360 | A | N1-C6-N6 | -6.42 | 114.75 | 118.60 |
| 26 | 1H | 1728 | G | N1-C6-O6 | 6.42 | 123.75 | 119.90 |
| 26 | 1H | 1833 | U | N1-C2-O2 | 6.42 | 127.29 | 122.80 |
| 26 | 1H | 2347 | C | OP2-P-O3' | 6.42 | 119.32 | 105.20 |
| 26 | 1H | 2503 | A | C5-N7-C8 | -6.42 | 100.69 | 103.90 |
| 29 | 11 | 271 | ILE | CG1-CB-CG2 | -6.42 | 97.28 | 111.40 |
| 26 | 14 | 1639 | U | N1-C2-N3 | 6.42 | 118.75 | 114.90 |
| 26 | 14 | 2583 | G | O5'-P-OP1 | 6.42 | 118.40 | 110.70 |
| 26 | 1H | 1586 | A | C8-N9-C4 | -6.42 | 103.23 | 105.80 |
| 26 | 1H | 2614 | A | C4-C5-C6 | -6.42 | 113.79 | 117.00 |
| 1 | 1G | 514 | C | C6-N1-C2 | -6.42 | 117.73 | 120.30 |
| 26 | 14 | 397 | G | C4-C5-N7 | 6.42 | 113.37 | 110.80 |
| 26 | 14 | 502 | A | OP1-P-O3' | 6.42 | 119.31 | 105.20 |
| 26 | 14 | 559 | G | C2-N3-C4 | -6.42 | 108.69 | 111.90 |
| 26 | 14 | 2848 | G | N1-C2-N2 | -6.42 | 110.43 | 116.20 |
| 1 | 13 | 736 | C | C4-C5-C6 | -6.41 | 114.19 | 117.40 |
| 1 | 13 | 749 | C | C2-N3-C4 | 6.41 | 123.11 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1015 | A | C8-N9-C4 | 6.41 | 108.36 | 105.80 |
| 1 | 13 | 1228 | C | C2-N3-C4 | 6.41 | 123.11 | 119.90 |
| 22 | 1K | 42 | A | C4-C5-N7 | 6.41 | 113.91 | 110.70 |
| 26 | 1H | 270(Z) | U | N1-C2-N3 | 6.41 | 118.75 | 114.90 |
| 26 | 1H | 771 | G | C4-C5-N7 | 6.41 | 113.37 | 110.80 |
| 26 | 1H | 785 | G | C4-C5-N7 | -6.41 | 108.23 | 110.80 |
| 26 | 1H | 857 | C | N1-C2-O2 | -6.41 | 115.05 | 118.90 |
| 26 | 1H | 1187 | G | OP2-P-O3' | 6.41 | 119.31 | 105.20 |
| 26 | 1H | 1319 | G | C5-C6-N1 | 6.41 | 114.71 | 111.50 |
| 26 | 1H | 1487 | G | O5'-P-OP2 | 6.41 | 118.39 | 110.70 |
| 26 | 1H | 1488 | G | N3-C2-N2 | -6.41 | 115.41 | 119.90 |
| 26 | 1H | 1580 | A | N1-C6-N6 | 6.41 | 122.45 | 118.60 |
| 26 | 1H | 2238 | G | C5-C6-O6 | 6.41 | 132.45 | 128.60 |
| 1 | 1G | 824 | C | N3-C4-C5 | -6.41 | 119.33 | 121.90 |
| 23 | 2L | 44 | A | C2-N3-C4 | 6.41 | 113.81 | 110.60 |
| 26 | 14 | 233 | A | C4-C5-C6 | -6.41 | 113.79 | 117.00 |
| 26 | 14 | 536 | A | O5'-P-OP1 | 6.41 | 118.40 | 110.70 |
| 26 | 14 | 627 | A | N1-C6-N6 | 6.41 | 122.45 | 118.60 |
| 26 | 14 | 1576 | U | C4-C5-C6 | 6.41 | 123.55 | 119.70 |
| 26 | 14 | 2496 | C | N3-C4-C5 | 6.41 | 124.47 | 121.90 |
| 26 | 1H | 1688 | U | OP2-P-O3' | 6.41 | 119.31 | 105.20 |
| 26 | 1H | 2730 | C | C5-C4-N4 | -6.41 | 115.71 | 120.20 |
| 26 | 14 | 954 | G | N3-C4-C5 | -6.41 | 125.39 | 128.60 |
| 26 | 14 | 1571 | A | OP1-P-OP2 | 6.41 | 129.22 | 119.60 |
| 26 | 14 | 1684 | C | N1-C2-O2 | -6.41 | 115.05 | 118.90 |
| 26 | 14 | 2512 | C | N1-C2-O2 | -6.41 | 115.05 | 118.90 |
| 1 | 13 | 5 | U | N3-C4-O4 | 6.41 | 123.89 | 119.40 |
| 1 | 13 | 491 | G | C5-C6-N1 | -6.41 | 108.29 | 111.50 |
| 26 | 1H | 262 | A | N1-C6-N6 | 6.41 | 122.45 | 118.60 |
| 26 | 1H | 1119 | C | N1-C2-O2 | 6.41 | 122.75 | 118.90 |
| 26 | 1H | 1427 | A | N1-C6-N6 | -6.41 | 114.75 | 118.60 |
| 26 | 1H | 1439 | A | N1-C6-N6 | 6.41 | 122.45 | 118.60 |
| 26 | 1H | 1690 | A | N1-C6-N6 | 6.41 | 122.45 | 118.60 |
| 26 | 1H | 1997 | G | C8-N9-C4 | -6.41 | 103.84 | 106.40 |
| 27 | 16 | 30 | C | O5'-P-OP2 | 6.41 | 118.39 | 110.70 |
| 27 | 16 | 71 | C | N3-C4-N4 | 6.41 | 122.49 | 118.00 |
| 1 | 1G | 46 | G | C4-C5-N7 | 6.41 | 113.36 | 110.80 |
| 26 | 14 | 726 | G | C5-C6-O6 | 6.41 | 132.45 | 128.60 |
| 26 | 14 | 1239 | G | C6-C5-N7 | -6.41 | 126.55 | 130.40 |
| 26 | 14 | 1292 | U | C6-N1-C2 | 6.41 | 124.85 | 121.00 |
| 27 | 1J | 36 | C | C4-C5-C6 | -6.41 | 114.19 | 117.40 |
| 1 | 13 | 527 | G | C6-C5-N7 | 6.41 | 134.25 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 739 | C | N1-C2-O2 | -6.41 | 115.06 | 118.90 |
| 1 | 13 | 1072 | G | N1-C2-N2 | -6.41 | 110.43 | 116.20 |
| 26 | 1H | 690 | G | N9-C4-C5 | -6.41 | 102.84 | 105.40 |
| 26 | 1H | 840 | C | C5-C4-N4 | 6.41 | 124.69 | 120.20 |
| 26 | 1H | 988 | A | N7-C8-N9 | 6.41 | 117.00 | 113.80 |
| 26 | 1H | 1163 | G | N9-C4-C5 | 6.41 | 107.96 | 105.40 |
| 26 | 1H | 1734 | C | C5-C4-N4 | 6.41 | 124.69 | 120.20 |
| 26 | 1H | 2018 | G | O5'-P-OP1 | 6.41 | 118.39 | 110.70 |
| 26 | 1H | 2786 | U | N3-C4-O4 | 6.41 | 123.89 | 119.40 |
| 1 | 1G | 586 | C | OP2-P-O3' | 6.41 | 119.30 | 105.20 |
| 26 | 14 | 465 | G | OP1-P-OP2 | -6.41 | 109.99 | 119.60 |
| 26 | 14 | 2244 | U | C5-C4-O4 | 6.41 | 129.75 | 125.90 |
| 27 | 1J | 30 | C | N1-C2-N3 | 6.41 | 123.69 | 119.20 |
| 27 | 1J | 80 | U | OP2-P-O3' | 6.41 | 119.30 | 105.20 |
| 26 | 1H | 189 | G | C8-N9-C1' | -6.41 | 118.67 | 127.00 |
| 1 | 1G | 915 | A | C4-C5-N7 | -6.41 | 107.50 | 110.70 |
| 31 | 39 | 38 | ARG | NE-CZ-NH1 | -6.41 | 117.10 | 120.30 |
| 1 | 13 | 502 | G | C5-C6-O6 | -6.41 | 124.76 | 128.60 |
| 1 | 13 | 581 | G | C5-N7-C8 | -6.41 | 101.10 | 104.30 |
| 1 | 13 | 806 | C | N1-C2-O2 | 6.41 | 122.74 | 118.90 |
| 23 | 2K | 2 | G | N3-C4-N9 | 6.41 | 129.84 | 126.00 |
| 26 | 1H | 182 | A | OP2-P-O3' | 6.41 | 119.29 | 105.20 |
| 26 | 1H | 739 | G | N3-C2-N2 | -6.41 | 115.42 | 119.90 |
| 26 | 1H | 985 | C | N1-C2-O2 | -6.41 | 115.06 | 118.90 |
| 26 | 1H | 1229 | G | OP1-P-OP2 | 6.41 | 129.21 | 119.60 |
| 26 | 1H | 1547 | C | OP1-P-O3' | 6.41 | 119.29 | 105.20 |
| 26 | 1H | 1828 | G | C6-C5-N7 | -6.41 | 126.56 | 130.40 |
| 26 | 1H | 2012 | G | N9-C4-C5 | -6.41 | 102.84 | 105.40 |
| 27 | 16 | 67 | G | N3-C4-C5 | 6.41 | 131.80 | 128.60 |
| 1 | 1G | 258 | G | C5-C6-O6 | -6.41 | 124.76 | 128.60 |
| 1 | 1G | 1508 | G | N7-C8-N9 | -6.41 | 109.90 | 113.10 |
| 26 | 14 | 1400 | G | O5'-P-OP1 | 6.41 | 118.39 | 110.70 |
| 26 | 14 | 1949 | G | OP2-P-O3' | 6.41 | 119.29 | 105.20 |
| 26 | 14 | 2318 | G | C5-C6-N1 | -6.41 | 108.30 | 111.50 |
| 26 | 14 | 2544 | G | C5-C6-O6 | -6.41 | 124.76 | 128.60 |
| 30 | 29 | 8 | LYS | CD-CE-NZ | 6.41 | 126.43 | 111.70 |
| 1 | 13 | 9 | G | N3-C4-C5 | 6.40 | 131.80 | 128.60 |
| 1 | 13 | 1252 | A | O5'-P-OP2 | -6.40 | 99.94 | 105.70 |
| 1 | 13 | 1302 | U | N3-C2-O2 | -6.40 | 117.72 | 122.20 |
| 26 | 1H | 179 | G | N9-C4-C5 | -6.40 | 102.84 | 105.40 |
| 26 | 1H | 2017 | U | C5-C4-O4 | -6.40 | 122.06 | 125.90 |
| 26 | 14 | 1193 | G | N3-C4-C5 | 6.40 | 131.80 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 1 | 13 | 697 | U | C6-N1-C2 | 6.40 | 124.84 | 121.00 |
| 23 | 2K | 65 | G | OP1-P-OP2 | 6.40 | 129.20 | 119.60 |
| 26 | 1H | 513 | A | OP1-P-OP2 | -6.40 | 110.00 | 119.60 |
| 26 | 1H | 642 | G | C8-N9-C4 | -6.40 | 103.84 | 106.40 |
| 26 | 1H | 1635 | G | C2-N3-C4 | -6.40 | 108.70 | 111.90 |
| 26 | 1H | 2518 | A | C4-C5-C6 | 6.40 | 120.20 | 117.00 |
| 26 | 1H | 2554 | U | OP1-P-O3' | 6.40 | 119.28 | 105.20 |
| 1 | 1G | 402 | G | N3-C4-C5 | 6.40 | 131.80 | 128.60 |
| 26 | 14 | 1049 | C | C4-C5-C6 | -6.40 | 114.20 | 117.40 |
| 26 | 14 | 2023 | G | C4-C5-N7 | 6.40 | 113.36 | 110.80 |
| 27 | 1J | 47 | C | N1-C2-N3 | -6.40 | 114.72 | 119.20 |
| 23 | 2K | 34 | U | C6-N1-C2 | 6.40 | 124.84 | 121.00 |
| 26 | 1H | 1123 | C | OP1-P-OP2 | 6.40 | 129.20 | 119.60 |
| 26 | 1H | 1635 | G | N1-C2-N3 | 6.40 | 127.74 | 123.90 |
| 26 | 1H | 1662 | C | N3-C4-C5 | 6.40 | 124.46 | 121.90 |
| 26 | 1H | 2078 | C | C4-C5-C6 | 6.40 | 120.60 | 117.40 |
| 1 | 1G | 120 | A | C5-C6-N6 | -6.40 | 118.58 | 123.70 |
| 1 | 1G | 304 | U | OP1-P-OP2 | 6.40 | 129.20 | 119.60 |
| 26 | 14 | 876 | C | N1-C2-O2 | 6.40 | 122.74 | 118.90 |
| 26 | 14 | 1142(A) | A | N3-C4-N9 | -6.40 | 122.28 | 127.40 |
| 26 | 14 | 1762 | A | N9-C4-C5 | -6.40 | 103.24 | 105.80 |
| 1 | 13 | 573 | A | N9-C4-C5 | 6.40 | 108.36 | 105.80 |
| 26 | 1H | 72 | U | OP1-P-O3' | 6.40 | 119.28 | 105.20 |
| 1 | 1G | 1413 | A | C8-N9-C4 | -6.40 | 103.24 | 105.80 |
| 26 | 14 | 120 | U | OP1-P-OP2 | -6.40 | 110.00 | 119.60 |
| 26 | 14 | 245 | G | N1-C6-O6 | 6.40 | 123.74 | 119.90 |
| 26 | 14 | 654(S) | G | C8-N9-C4 | 6.40 | 108.96 | 106.40 |
| 26 | 1H | 329 | G | C5-C6-N1 | 6.40 | 114.70 | 111.50 |
| 26 | 1H | 474 | G | C5-C6-N1 | 6.40 | 114.70 | 111.50 |
| 26 | 1H | 2005 | A | C8-N9-C4 | 6.40 | 108.36 | 105.80 |
| 26 | 1H | 2496 | C | OP1-P-O3' | 6.40 | 119.27 | 105.20 |
| 1 | 1G | 791 | G | C2-N3-C4 | 6.40 | 115.10 | 111.90 |
| 1 | 1G | 1432 | G | N7-C8-N9 | 6.40 | 116.30 | 113.10 |
| 26 | 14 | 1801 | G | C6-N1-C2 | -6.40 | 121.26 | 125.10 |
| 1 | 13 | 1196 | U | N1-C2-O2 | 6.40 | 127.28 | 122.80 |
| 23 | 2K | 2 | G | N7-C8-N9 | -6.40 | 109.90 | 113.10 |
| 26 | 1H | 2455 | G | O5'-P-OP1 | 6.40 | 118.38 | 110.70 |
| 1 | 1G | 311 | C | N3-C4-C5 | -6.40 | 119.34 | 121.90 |
| 1 | 1G | 363 | A | N9-C4-C5 | 6.40 | 108.36 | 105.80 |
| 26 | 14 | 512 | G | N3-C4-N9 | -6.40 | 122.16 | 126.00 |
| 26 | 14 | 535 | C | O5'-P-OP2 | -6.40 | 99.94 | 105.70 |
| 26 | 14 | 815 | C | OP2-P-O3' | 6.40 | 119.27 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 40 | 65 | 110 | LEU | CA-CB-CG | 6.40 | 130.01 | 115.30 |
| 1 | 13 | 287 | U | C4-C5-C6 | 6.39 | 123.54 | 119.70 |
| 23 | 2K | 26 | C | O5'-P-OP1 | 6.39 | 118.37 | 110.70 |
| 26 | 1H | 288 | C | O5'-P-OP2 | 6.39 | 118.37 | 110.70 |
| 26 | 1H | 309 | G | C2-N3-C4 | 6.39 | 115.10 | 111.90 |
| 26 | 1H | 398 | G | O5'-P-OP2 | -6.39 | 99.95 | 105.70 |
| 26 | 1H | 1331 | A | C6-N1-C2 | -6.39 | 114.76 | 118.60 |
| 26 | 1H | 1647 | G | C4-C5-N7 | -6.39 | 108.24 | 110.80 |
| 26 | 14 | 2057 | A | C5-C6-N1 | 6.39 | 120.90 | 117.70 |
| 26 | 14 | 2302 | G | C8-N9-C4 | -6.39 | 103.84 | 106.40 |
| 1 | 13 | 402 | G | C4-C5-N7 | -6.39 | 108.24 | 110.80 |
| 1 | 13 | 790 | A | C5-C6-N1 | 6.39 | 120.90 | 117.70 |
| 26 | 1H | 978 | G | OP1-P-O3' | 6.39 | 119.27 | 105.20 |
| 26 | 1H | 2429 | G | N3-C4-N9 | -6.39 | 122.16 | 126.00 |
| 26 | 14 | 1332 | G | OP1-P-O3' | 6.39 | 119.26 | 105.20 |
| 26 | 14 | 1585 | C | C6-N1-C1' | -6.39 | 113.13 | 120.80 |
| 26 | 14 | 1590 | U | C5-C4-O4 | 6.39 | 129.74 | 125.90 |
| 26 | 14 | 1616 | A | C5-C6-N1 | -6.39 | 114.50 | 117.70 |
| 26 | 14 | 2292 | C | O5'-P-OP2 | -6.39 | 99.95 | 105.70 |
| 1 | 13 | 1111 | A | C2-N3-C4 | 6.39 | 113.80 | 110.60 |
| 26 | 1H | 470 | A | O5'-P-OP1 | -6.39 | 99.95 | 105.70 |
| 26 | 14 | 523 | C | N3-C2-O2 | 6.39 | 126.37 | 121.90 |
| 26 | 14 | 1007 | C | C2-N3-C4 | -6.39 | 116.70 | 119.90 |
| 1 | 13 | 67 | C | N3-C2-O2 | -6.39 | 117.43 | 121.90 |
| 1 | 13 | 738 | C | O5'-P-OP1 | -6.39 | 99.95 | 105.70 |
| 24 | 3K | 45 | G | C2-N3-C4 | 6.39 | 115.09 | 111.90 |
| 26 | 1H | 221 | A | N7-C8-N9 | -6.39 | 110.61 | 113.80 |
| 26 | 1H | 715 | G | N3-C4-C5 | -6.39 | 125.41 | 128.60 |
| 26 | 1H | 922 | U | C4-C5-C6 | 6.39 | 123.53 | 119.70 |
| 26 | 1H | 944 | G | C2-N3-C4 | -6.39 | 108.71 | 111.90 |
| 26 | 1H | 1153 | C | C4-C5-C6 | 6.39 | 120.59 | 117.40 |
| 26 | 1H | 1923 | U | N3-C4-O4 | 6.39 | 123.87 | 119.40 |
| 1 | 1G | 568 | G | N7-C8-N9 | 6.39 | 116.30 | 113.10 |
| 26 | 14 | 195 | A | C5-N7-C8 | -6.39 | 100.70 | 103.90 |
| 26 | 14 | 576 | U | N3-C4-O4 | 6.39 | 123.87 | 119.40 |
| 26 | 14 | 1514 | U | C5-C4-O4 | 6.39 | 129.73 | 125.90 |
| 26 | 14 | 1860 | G | C5-C6-O6 | -6.39 | 124.77 | 128.60 |
| 26 | 14 | 2270 | G | C6-N1-C2 | -6.39 | 121.27 | 125.10 |
| 26 | 14 | 2331 | G | N3-C4-C5 | -6.39 | 125.41 | 128.60 |
| 26 | 14 | 2427 | C | N1-C2-N3 | -6.39 | 114.73 | 119.20 |
| 26 | 14 | 2521 | C | C5-C6-N1 | -6.39 | 117.81 | 121.00 |
| 26 | 1H | 863 | A | N1-C6-N6 | -6.39 | 114.77 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2600 | A | C8-N9-C4 | -6.39 | 103.25 | 105.80 |
| 26 | 14 | 217 | G | C5-C6-O6 | 6.39 | 132.43 | 128.60 |
| 26 | 14 | 625 | G | C5-C6-N1 | 6.39 | 114.69 | 111.50 |
| 26 | 14 | 1365 | A | N1-C2-N3 | -6.39 | 126.11 | 129.30 |
| 1 | 13 | 449 | C | N3-C2-O2 | -6.39 | 117.43 | 121.90 |
| 1 | 13 | 690 | G | N1-C2-N2 | -6.39 | 110.45 | 116.20 |
| 1 | 13 | 966 | G | N7-C8-N9 | -6.39 | 109.91 | 113.10 |
| 1 | 13 | 1209 | C | N3-C4-N4 | 6.39 | 122.47 | 118.00 |
| 1 | 13 | 1410 | G | C8-N9-C4 | 6.39 | 108.95 | 106.40 |
| 23 | 2K | 27 | G | N1-C2-N2 | 6.39 | 121.95 | 116.20 |
| 26 | 1H | 299 | A | OP2-P-O3' | 6.39 | 119.25 | 105.20 |
| 26 | 1H | 805 | G | N1-C2-N2 | -6.39 | 110.45 | 116.20 |
| 26 | 1H | 1042 | G | C5-C6-N1 | -6.39 | 108.31 | 111.50 |
| 26 | 1H | 2618 | G | C5-N7-C8 | 6.39 | 107.49 | 104.30 |
| 26 | 1H | 2641 | G | N1-C2-N2 | -6.39 | 110.45 | 116.20 |
| 1 | 1G | 260 | G | C4-C5-N7 | -6.39 | 108.25 | 110.80 |
| 26 | 14 | 180 | G | N9-C4-C5 | -6.39 | 102.84 | 105.40 |
| 26 | 14 | 1517 | G | N7-C8-N9 | 6.39 | 116.29 | 113.10 |
| 26 | 14 | 2390 | U | N3-C4-O4 | 6.39 | 123.87 | 119.40 |
| 1 | 13 | 513 | C | N3-C4-C5 | 6.38 | 124.45 | 121.90 |
| 1 | 13 | 1066 | C | C6-N1-C2 | -6.38 | 117.75 | 120.30 |
| 26 | 1H | 95 | G | C4-C5-C6 | 6.38 | 122.63 | 118.80 |
| 26 | 1H | 697 | C | N3-C4-N4 | 6.38 | 122.47 | 118.00 |
| 26 | 1H | 769 | G | C5-C6-O6 | -6.38 | 124.77 | 128.60 |
| 26 | 1H | 975 | G | C5-C6-N1 | 6.38 | 114.69 | 111.50 |
| 26 | 1H | 1342 | A | N1-C6-N6 | 6.38 | 122.43 | 118.60 |
| 26 | 1H | 1494 | A | N1-C6-N6 | -6.38 | 114.77 | 118.60 |
| 26 | 1H | 1529 | A | C4-C5-C6 | -6.38 | 113.81 | 117.00 |
| 27 | 16 | 21 | G | N3-C2-N2 | -6.38 | 115.43 | 119.90 |
| 46 | G8 | 73 | ARG | NE-CZ-NH1 | -6.38 | 117.11 | 120.30 |
| 1 | 1G | 254 | G | O5'-P-OP1 | -6.38 | 99.95 | 105.70 |
| 1 | 1G | 652 | U | N3-C2-O2 | -6.38 | 117.73 | 122.20 |
| 26 | 14 | 468 | G | C8-N9-C4 | 6.38 | 108.95 | 106.40 |
| 26 | 14 | 1767 | C | N1-C2-N3 | 6.38 | 123.67 | 119.20 |
| 26 | 14 | 2639 | A | N1-C6-N6 | 6.38 | 122.43 | 118.60 |
| 26 | 14 | 2755 | C | N3-C2-O2 | -6.38 | 117.43 | 121.90 |
| 29 | 19 | 48 | ARG | NE-CZ-NH2 | 6.38 | 123.49 | 120.30 |
| 1 | 13 | 505 | G | C5-C6-N1 | 6.38 | 114.69 | 111.50 |
| 1 | 13 | 684 | A | C8-N9-C4 | -6.38 | 103.25 | 105.80 |
| 26 | 1H | 2233 | U | N1-C2-O2 | -6.38 | 118.33 | 122.80 |
| 26 | 1H | 2368 | C | O5'-P-OP2 | 6.38 | 118.36 | 110.70 |
| 27 | 16 | 53 | A | C4-C5-N7 | 6.38 | 113.89 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 1G | 28 | G | N7-C8-N9 | 6.38 | 116.29 | 113.10 |
| 1 | 1G | 30 | U | C6-N1-C2 | -6.38 | 117.17 | 121.00 |
| 26 | 14 | 755 | C | C4-C5-C6 | -6.38 | 114.21 | 117.40 |
| 26 | 14 | 2050 | C | N1-C2-O2 | 6.38 | 122.73 | 118.90 |
| 26 | 1H | 840 | C | C2-N3-C4 | -6.38 | 116.71 | 119.90 |
| 26 | 1H | 1537 | C | C6-N1-C2 | -6.38 | 117.75 | 120.30 |
| 26 | 1H | 2232 | U | N3-C4-C5 | -6.38 | 110.77 | 114.60 |
| 26 | 1H | 2840 | C | N1-C2-O2 | 6.38 | 122.73 | 118.90 |
| 27 | 16 | 16 | G | N3-C4-C5 | 6.38 | 131.79 | 128.60 |
| 26 | 14 | 452 | G | OP1-P-OP2 | 6.38 | 129.17 | 119.60 |
| 26 | 14 | 609(A) | G | N1-C2-N2 | -6.38 | 110.46 | 116.20 |
| 26 | 14 | 1353 | A | C6-N1-C2 | -6.38 | 114.77 | 118.60 |
| 26 | 14 | 1798 | U | C5-C6-N1 | -6.38 | 119.51 | 122.70 |
| 26 | 14 | 2413 | G | C4-C5-N7 | 6.38 | 113.35 | 110.80 |
| 26 | 14 | 2487 | G | C2-N3-C4 | -6.38 | 108.71 | 111.90 |
| 26 | 1H | 724 | U | OP1-P-OP2 | -6.38 | 110.03 | 119.60 |
| 27 | 16 | 42 | C | C5-C6-N1 | -6.38 | 117.81 | 121.00 |
| 1 | 13 | 266 | G | O4'-C1'-N9 | -6.38 | 103.10 | 108.20 |
| 1 | 13 | 455 | C | C2-N1-C1' | 6.38 | 125.82 | 118.80 |
| 1 | 13 | 1016 | A | N1-C6-N6 | -6.38 | 114.77 | 118.60 |
| 26 | 1H | 270(O) | U | C5-C6-N1 | 6.38 | 125.89 | 122.70 |
| 26 | 1H | 1024 | G | N9-C4-C5 | -6.38 | 102.85 | 105.40 |
| 26 | 1H | 1401 | G | C6-N1-C2 | 6.38 | 128.93 | 125.10 |
| 26 | 1H | 1783 | A | O4'-C1'-N9 | -6.38 | 103.10 | 108.20 |
| 1 | 1G | 1260 | C | C6-N1-C2 | -6.38 | 117.75 | 120.30 |
| 26 | 14 | 305 | U | N1-C2-O2 | -6.38 | 118.33 | 122.80 |
| 26 | 14 | 365 | C | N1-C2-O2 | -6.38 | 115.07 | 118.90 |
| 26 | 14 | 605 | C | C6-N1-C2 | 6.38 | 122.85 | 120.30 |
| 26 | 14 | 1131 | G | C6-C5-N7 | -6.38 | 126.57 | 130.40 |
| 26 | 14 | 1272 | A | N9-C4-C5 | -6.38 | 103.25 | 105.80 |
| 26 | 14 | 1845 | G | N3-C4-N9 | -6.38 | 122.17 | 126.00 |
| 26 | 14 | 1851 | U | N3-C4-C5 | -6.38 | 110.77 | 114.60 |
| 26 | 14 | 2557 | G | C4-C5-N7 | -6.38 | 108.25 | 110.80 |
| 1 | 13 | 771 | G | C2-N3-C4 | -6.38 | 108.71 | 111.90 |
| 1 | 13 | 1202 | G | N3-C4-N9 | -6.38 | 122.17 | 126.00 |
| 1 | 13 | 1204 | A | C8-N9-C4 | -6.38 | 103.25 | 105.80 |
| 1 | 13 | 1381 | U | C2-N1-C1' | 6.38 | 125.35 | 117.70 |
| 22 | 1K | 38 | A | N3-C4-C5 | 6.38 | 131.26 | 126.80 |
| 26 | 1H | 930 | U | OP1-P-O3' | 6.38 | 119.23 | 105.20 |
| 26 | 1H | 1116 | C | C4-C5-C6 | 6.38 | 120.59 | 117.40 |
| 26 | 1H | 1396 | U | O5'-P-OP1 | -6.38 | 99.96 | 105.70 |
| 26 | 1H | 2728 | U | C5-C6-N1 | -6.38 | 119.51 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1239 | A | O5'-P-OP2 | -6.38 | 99.96 | 105.70 |
| 26 | 14 | 503 | A | C4-C5-C6 | 6.38 | 120.19 | 117.00 |
| 26 | 14 | 950 | G | OP1-P-OP2 | -6.38 | 110.04 | 119.60 |
| 26 | 14 | 2371 | G | O5'-P-OP2 | 6.38 | 118.35 | 110.70 |
| 27 | 1J | 97 | G | C4-C5-C6 | 6.38 | 122.63 | 118.80 |
| 26 | 1H | 787 | U | OP1-P-O3' | 6.38 | 119.22 | 105.20 |
| 26 | 1H | 1244 | G | N7-C8-N9 | -6.38 | 109.91 | 113.10 |
| 26 | 14 | 1120 | G | N3-C4-C5 | 6.38 | 131.79 | 128.60 |
| 26 | 14 | 2640 | G | OP1-P-OP2 | 6.38 | 129.16 | 119.60 |
| 1 | 13 | 1487 | G | O5'-P-OP2 | -6.37 | 99.96 | 105.70 |
| 26 | 1H | 937 | U | N3-C4-O4 | -6.37 | 114.94 | 119.40 |
| 26 | 1H | 947 | G | N1-C6-O6 | 6.37 | 123.72 | 119.90 |
| 26 | 1H | 1475 | G | N3-C2-N2 | -6.37 | 115.44 | 119.90 |
| 26 | 1H | 2308 | G | C6-N1-C2 | 6.37 | 128.92 | 125.10 |
| 26 | 1H | 2359 | C | C6-N1-C2 | -6.37 | 117.75 | 120.30 |
| 26 | 1H | 2380 | C | OP1-P-O3' | -6.37 | 91.18 | 105.20 |
| 26 | 1H | 2786 | U | N1-C2-O2 | -6.37 | 118.34 | 122.80 |
| 26 | 1H | 2856 | C | N1-C2-O2 | 6.37 | 122.72 | 118.90 |
| 1 | 1G | 309 | G | C5-C6-O6 | -6.37 | 124.78 | 128.60 |
| 26 | 14 | 1573 | G | O5'-P-OP2 | -6.37 | 99.96 | 105.70 |
| 26 | 14 | 2244 | U | N3-C4-O4 | -6.37 | 114.94 | 119.40 |
| 26 | 14 | 2580 | U | N1-C2-N3 | 6.37 | 118.72 | 114.90 |
| 26 | 1H | 314 | A | C5-N7-C8 | -6.37 | 100.71 | 103.90 |
| 26 | 1H | 627 | A | OP2-P-O3' | -6.37 | 91.18 | 105.20 |
| 26 | 1H | 1306 | C | C6-N1-C2 | 6.37 | 122.85 | 120.30 |
| 26 | 1H | 1588 | C | OP1-P-OP2 | -6.37 | 110.04 | 119.60 |
| 1 | 1G | 53 | A | C5-C6-N6 | -6.37 | 118.60 | 123.70 |
| 26 | 14 | 86 | C | N3-C4-N4 | 6.37 | 122.46 | 118.00 |
| 26 | 14 | 308 | G | C6-C5-N7 | -6.37 | 126.58 | 130.40 |
| 26 | 14 | 386 | G | C5-N7-C8 | -6.37 | 101.11 | 104.30 |
| 26 | 14 | 492 | A | C6-N1-C2 | -6.37 | 114.78 | 118.60 |
| 26 | 14 | 1266 | G | N3-C4-N9 | 6.37 | 129.82 | 126.00 |
| 26 | 14 | 1281 | G | C8-N9-C4 | -6.37 | 103.85 | 106.40 |
| 26 | 14 | 1437 | C | C6-N1-C2 | -6.37 | 117.75 | 120.30 |
| 26 | 14 | 1467 | C | C5-C6-N1 | -6.37 | 117.81 | 121.00 |
| 26 | 14 | 1828 | G | C8-N9-C4 | -6.37 | 103.85 | 106.40 |
| 26 | 14 | 2079 | U | N3-C4-C5 | -6.37 | 110.78 | 114.60 |
| 26 | 14 | 2216 | G | N3-C2-N2 | -6.37 | 115.44 | 119.90 |
| 26 | 14 | 2702 | U | C5-C6-N1 | -6.37 | 119.51 | 122.70 |
| 26 | 1H | 474 | G | C8-N9-C1' | 6.37 | 135.28 | 127.00 |
| 26 | 14 | 1256 | G | C2-N3-C4 | 6.37 | 115.08 | 111.90 |
| 1 | 13 | 689 | C | C2-N3-C4 | 6.37 | 123.08 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-------------|-------|-------------|----------|
| 1 | 13 | 733 | A | C5-N7-C8 | 6.37 | 107.08 | 103.90 |
| 1 | 13 | 1107 | C | N3-C4-C5 | -6.37 | 119.35 | 121.90 |
| 26 | 1H | 46 | C | OP1-P-O3' | -6.37 | 91.19 | 105.20 |
| 26 | 1H | 252 | G | O5'-P-OP2 | -6.37 | 99.97 | 105.70 |
| 26 | 1H | 1236 | G | OP1-P-OP2 | -6.37 | 110.05 | 119.60 |
| 26 | 1H | 2001 | A | C2-N3-C4 | 6.37 | 113.78 | 110.60 |
| 26 | 1H | 2219 | G | N3-C4-C5 | 6.37 | 131.78 | 128.60 |
| 26 | 1H | 2311 | A | C4-C5-N7 | 6.37 | 113.88 | 110.70 |
| 26 | 1H | 2835 | A | O5'-P-OP1 | 6.37 | 118.34 | 110.70 |
| 1 | 1G | 922 | G | C5-C6-O6 | 6.37 | 132.42 | 128.60 |
| 1 | 1G | 1183 | A | O4'-C1'-N9 | 6.37 | 113.30 | 108.20 |
| 26 | 14 | 270 | A | C5-C6-N1 | -6.37 | 114.52 | 117.70 |
| 26 | 14 | 1223 | C | OP2-P-O3' | 6.37 | 119.21 | 105.20 |
| 26 | 14 | 2430 | A | O5'-P-OP2 | 6.37 | 118.34 | 110.70 |
| 1 | 13 | 50 | A | C5'-C4'-O4' | 6.37 | 116.74 | 109.10 |
| 1 | 13 | 1190 | G | C2-N3-C4 | -6.37 | 108.72 | 111.90 |
| 26 | 1H | 587 | C | N1-C2-N3 | 6.37 | 123.66 | 119.20 |
| 26 | 1H | 1253 | A | N1-C6-N6 | 6.37 | 122.42 | 118.60 |
| 1 | 1G | 266 | G | C4-N9-C1' | 6.37 | 134.78 | 126.50 |
| 26 | 14 | 2060 | A | O5'-P-OP2 | -6.37 | 99.97 | 105.70 |
| 1 | 13 | 428 | G | C2-N3-C4 | -6.37 | 108.72 | 111.90 |
| 1 | 13 | 1491 | G | OP2-P-O3' | 6.37 | 119.20 | 105.20 |
| 26 | 1H | 113 | G | C4-C5-N7 | 6.37 | 113.35 | 110.80 |
| 26 | 1H | 221 | A | N3-C4-C5 | -6.37 | 122.34 | 126.80 |
| 26 | 1H | 1752 | C | N1-C2-N3 | -6.37 | 114.75 | 119.20 |
| 26 | 1H | 2060 | A | N9-C4-C5 | -6.37 | 103.25 | 105.80 |
| 26 | 1H | 2468 | G | OP1-P-OP2 | 6.37 | 129.15 | 119.60 |
| 1 | 1G | 1495 | U | N3-C4-O4 | 6.37 | 123.86 | 119.40 |
| 26 | 14 | 844 | C | O5'-P-OP1 | 6.37 | 118.34 | 110.70 |
| 26 | 14 | 2613 | U | C6-N1-C2 | 6.37 | 124.82 | 121.00 |
| 26 | 14 | 2768 | C | O5'-P-OP2 | -6.37 | 99.97 | 105.70 |
| 1 | 13 | 1260 | C | N3-C4-N4 | 6.36 | 122.45 | 118.00 |
| 26 | 1H | 309 | G | N1-C6-O6 | -6.36 | 116.08 | 119.90 |
| 26 | 1H | 977 | G | C6-C5-N7 | 6.36 | 134.22 | 130.40 |
| 26 | 1H | 1630(A) | C | N3-C4-N4 | -6.36 | 113.55 | 118.00 |
| 26 | 1H | 1784 | A | C4-C5-C6 | -6.36 | 113.82 | 117.00 |
| 26 | 1H | 2377 | A | OP1-P-O3' | 6.36 | 119.20 | 105.20 |
| 1 | 1G | 578 | C | C2-N3-C4 | -6.36 | 116.72 | 119.90 |
| 1 | 1G | 1338 | G | C5-C6-O6 | 6.36 | 132.42 | 128.60 |
| 26 | 14 | 15 | G | C8-N9-C4 | -6.36 | 103.85 | 106.40 |
| 26 | 14 | 259 | G | C5-C6-N1 | -6.36 | 108.32 | 111.50 |
| 26 | 14 | 1158 | C | C2-N3-C4 | -6.36 | 116.72 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1244 | G | N9-C4-C5 | -6.36 | 102.86 | 105.40 |
| 26 | 14 | 1870 | C | O5'-P-OP2 | -6.36 | 99.97 | 105.70 |
| 1 | 13 | 265 | G | OP1-P-OP2 | 6.36 | 129.14 | 119.60 |
| 26 | 1H | 244 | A | C5-C6-N6 | -6.36 | 118.61 | 123.70 |
| 27 | 16 | 13 | A | O5'-P-OP1 | 6.36 | 118.33 | 110.70 |
| 1 | 1G | 666 | G | C5-C6-N1 | -6.36 | 108.32 | 111.50 |
| 1 | 13 | 364 | A | C8-N9-C4 | -6.36 | 103.26 | 105.80 |
| 26 | 1H | 2192 | G | N3-C2-N2 | -6.36 | 115.45 | 119.90 |
| 1 | 1G | 1526 | G | C5-C6-O6 | -6.36 | 124.78 | 128.60 |
| 26 | 14 | 537 | C | N1-C2-O2 | 6.36 | 122.72 | 118.90 |
| 26 | 14 | 2080 | G | N1-C6-O6 | -6.36 | 116.08 | 119.90 |
| 1 | 13 | 997 | U | C6-N1-C2 | -6.36 | 117.19 | 121.00 |
| 26 | 1H | 389 | G | C8-N9-C1' | -6.36 | 118.73 | 127.00 |
| 26 | 1H | 1294 | U | C5-C4-O4 | -6.36 | 122.08 | 125.90 |
| 26 | 1H | 1328 | G | N3-C4-N9 | 6.36 | 129.82 | 126.00 |
| 26 | 1H | 1845 | G | C5-C6-N1 | 6.36 | 114.68 | 111.50 |
| 26 | 1H | 2432 | A | OP1-P-OP2 | 6.36 | 129.14 | 119.60 |
| 26 | 1H | 2497 | A | N9-C4-C5 | 6.36 | 108.34 | 105.80 |
| 26 | 14 | 1622 | G | OP1-P-OP2 | -6.36 | 110.06 | 119.60 |
| 1 | 13 | 181 | G | C5-N7-C8 | 6.36 | 107.48 | 104.30 |
| 1 | 13 | 318 | G | N7-C8-N9 | -6.36 | 109.92 | 113.10 |
| 1 | 13 | 324 | G | C5-N7-C8 | -6.36 | 101.12 | 104.30 |
| 1 | 13 | 436 | C | C6-N1-C2 | -6.36 | 117.76 | 120.30 |
| 1 | 13 | 1518 | A | C5-C6-N6 | 6.36 | 128.79 | 123.70 |
| 26 | 1H | 466 | A | C8-N9-C4 | 6.36 | 108.34 | 105.80 |
| 26 | 1H | 494 | G | C5-C6-O6 | 6.36 | 132.41 | 128.60 |
| 26 | 1H | 1148 | A | C4-C5-N7 | -6.36 | 107.52 | 110.70 |
| 26 | 1H | 1391 | U | N3-C2-O2 | -6.36 | 117.75 | 122.20 |
| 26 | 1H | 1918 | A | C8-N9-C4 | 6.36 | 108.34 | 105.80 |
| 26 | 1H | 2259 | G | C6-C5-N7 | -6.36 | 126.59 | 130.40 |
| 1 | 1G | 107 | G | O5'-P-OP2 | -6.36 | 99.98 | 105.70 |
| 1 | 1G | 687 | A | P-O3'-C3' | 6.36 | 127.33 | 119.70 |
| 1 | 1G | 824 | C | N1-C2-O2 | -6.36 | 115.09 | 118.90 |
| 1 | 1G | 921 | U | O5'-P-OP2 | -6.36 | 99.98 | 105.70 |
| 26 | 14 | 774 | A | C5-C6-N6 | -6.36 | 118.61 | 123.70 |
| 26 | 14 | 961 | C | C5-C6-N1 | -6.36 | 117.82 | 121.00 |
| 26 | 14 | 1443 | G | C4-C5-C6 | 6.36 | 122.61 | 118.80 |
| 26 | 14 | 1606 | G | C2-N3-C4 | 6.36 | 115.08 | 111.90 |
| 26 | 14 | 1613 | G | N3-C2-N2 | 6.36 | 124.35 | 119.90 |
| 1 | 13 | 369 | C | N1-C2-O2 | -6.36 | 115.09 | 118.90 |
| 1 | 13 | 467 | G | N1-C6-O6 | 6.36 | 123.71 | 119.90 |
| 1 | 13 | 675 | A | C5-C6-N1 | -6.36 | 114.52 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 13 | 742 | G | OP1-P-OP2 | 6.36 | 129.13 | 119.60 |
| 1 | 13 | 890 | G | C5-C6-N1 | 6.36 | 114.68 | 111.50 |
| 1 | 13 | 1132 | C | C5-C6-N1 | 6.36 | 124.18 | 121.00 |
| 25 | 4K | 19 | A | C6-C5-N7 | -6.36 | 127.85 | 132.30 |
| 26 | 1H | 103 | A | C8-N9-C4 | 6.36 | 108.34 | 105.80 |
| 26 | 1H | 706 | A | C5-C6-N6 | -6.36 | 118.62 | 123.70 |
| 26 | 1H | 792 | G | O4'-C1'-N9 | -6.36 | 103.11 | 108.20 |
| 26 | 1H | 1052 | C | C2-N3-C4 | 6.36 | 123.08 | 119.90 |
| 26 | 1H | 1854 | A | O5'-P-OP1 | -6.36 | 99.98 | 105.70 |
| 1 | 1G | 121 | C | C2-N1-C1' | 6.36 | 125.79 | 118.80 |
| 26 | 14 | 504 | U | OP1-P-OP2 | 6.36 | 129.13 | 119.60 |
| 26 | 1H | 650 | C | C5-C6-N1 | 6.35 | 124.18 | 121.00 |
| 26 | 1H | 1928 | A | C5-C6-N1 | 6.35 | 120.88 | 117.70 |
| 26 | 1H | 2738 | A | N9-C4-C5 | -6.35 | 103.26 | 105.80 |
| 1 | 1G | 435 | C | C6-N1-C2 | 6.35 | 122.84 | 120.30 |
| 26 | 14 | 1403 | C | O5'-P-OP2 | -6.35 | 99.98 | 105.70 |
| 1 | 13 | 500 | G | N9-C4-C5 | -6.35 | 102.86 | 105.40 |
| 1 | 13 | 609 | A | C6-N1-C2 | -6.35 | 114.79 | 118.60 |
| 1 | 13 | 1128 | C | N1-C2-O2 | 6.35 | 122.71 | 118.90 |
| 24 | 3K | 33 | U | C5-C6-N1 | -6.35 | 119.52 | 122.70 |
| 26 | 1H | 137(A) | G | C8-N9-C4 | -6.35 | 103.86 | 106.40 |
| 26 | 1H | 527 | C | C5-C4-N4 | -6.35 | 115.75 | 120.20 |
| 26 | 1H | 652 | C | N3-C2-O2 | 6.35 | 126.35 | 121.90 |
| 26 | 1H | 1426 | G | C4-C5-N7 | 6.35 | 113.34 | 110.80 |
| 26 | 1H | 1554 | A | N3-C4-C5 | -6.35 | 122.35 | 126.80 |
| 26 | 1H | 2417 | C | O5'-P-OP1 | 6.35 | 118.32 | 110.70 |
| 26 | 14 | 56 | A | N1-C6-N6 | -6.35 | 114.79 | 118.60 |
| 26 | 14 | 449 | A | N1-C2-N3 | -6.35 | 126.12 | 129.30 |
| 26 | 14 | 930 | U | OP1-P-OP2 | 6.35 | 129.13 | 119.60 |
| 26 | 14 | 2731 | G | C4-N9-C1' | 6.35 | 134.76 | 126.50 |
| 1 | 13 | 546 | G | C5-C6-N1 | -6.35 | 108.33 | 111.50 |
| 26 | 1H | 973 | A | C8-N9-C4 | 6.35 | 108.34 | 105.80 |
| 26 | 1H | 2464 | C | C2-N3-C4 | -6.35 | 116.72 | 119.90 |
| 27 | 16 | 98 | G | N1-C6-O6 | 6.35 | 123.71 | 119.90 |
| 1 | 1G | 359 | U | C5-C6-N1 | -6.35 | 119.52 | 122.70 |
| 1 | 1G | 724 | G | N1-C6-O6 | 6.35 | 123.71 | 119.90 |
| 23 | 2K | 34 | U | C5-C6-N1 | -6.35 | 119.53 | 122.70 |
| 26 | 1H | 253 | C | C6-N1-C2 | 6.35 | 122.84 | 120.30 |
| 26 | 1H | 446 | G | N3-C4-N9 | 6.35 | 129.81 | 126.00 |
| 26 | 1H | 783 | A | N9-C4-C5 | 6.35 | 108.34 | 105.80 |
| 26 | 1H | 1263 | U | N1-C2-N3 | -6.35 | 111.09 | 114.90 |
| 26 | 1H | 1677 | A | C4-C5-C6 | 6.35 | 120.17 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1765 | C | C5-C4-N4 | 6.35 | 124.64 | 120.20 |
| 26 | 1H | 1857 | G | C6-C5-N7 | -6.35 | 126.59 | 130.40 |
| 26 | 1H | 1905 | C | N3-C2-O2 | 6.35 | 126.34 | 121.90 |
| 26 | 1H | 2014 | A | C5-N7-C8 | -6.35 | 100.72 | 103.90 |
| 26 | 14 | 186 | G | C6-C5-N7 | 6.35 | 134.21 | 130.40 |
| 26 | 14 | 256 | A | N1-C2-N3 | 6.35 | 132.47 | 129.30 |
| 26 | 14 | 393 | C | N3-C2-O2 | -6.35 | 117.46 | 121.90 |
| 26 | 14 | 826 | U | C6-N1-C1' | 6.35 | 130.09 | 121.20 |
| 26 | 14 | 1310 | G | C5-C6-O6 | -6.35 | 124.79 | 128.60 |
| 26 | 14 | 1986 | A | C2-N3-C4 | -6.35 | 107.43 | 110.60 |
| 26 | 14 | 2301 | C | C5-C6-N1 | 6.35 | 124.17 | 121.00 |
| 1 | 13 | 713 | G | O5'-P-OP1 | -6.35 | 99.99 | 105.70 |
| 26 | 1H | 364 | C | N3-C4-C5 | -6.35 | 119.36 | 121.90 |
| 26 | 1H | 443 | A | N9-C4-C5 | -6.35 | 103.26 | 105.80 |
| 26 | 1H | 583 | G | OP2-P-O3' | -6.35 | 91.24 | 105.20 |
| 26 | 1H | 693 | C | O5'-P-OP2 | -6.35 | 99.99 | 105.70 |
| 26 | 1H | 741 | G | N3-C2-N2 | -6.35 | 115.46 | 119.90 |
| 26 | 1H | 2042 | A | O5'-P-OP2 | -6.35 | 99.99 | 105.70 |
| 26 | 14 | 1478 | G | OP1-P-OP2 | 6.35 | 129.12 | 119.60 |
| 26 | 14 | 1640 | C | OP1-P-OP2 | -6.35 | 110.08 | 119.60 |
| 26 | 14 | 1815 | A | C4-C5-N7 | 6.35 | 113.87 | 110.70 |
| 1 | 13 | 403 | C | N3-C4-C5 | -6.35 | 119.36 | 121.90 |
| 1 | 13 | 1208 | C | O5'-P-OP2 | -6.35 | 99.99 | 105.70 |
| 1 | 13 | 1495 | U | C5-C4-O4 | 6.35 | 129.71 | 125.90 |
| 26 | 1H | 212 | G | OP2-P-O3' | 6.35 | 119.16 | 105.20 |
| 26 | 1H | 1586 | A | C5-N7-C8 | -6.35 | 100.73 | 103.90 |
| 26 | 1H | 2888 | C | C6-N1-C2 | -6.35 | 117.76 | 120.30 |
| 1 | 1G | 346 | G | C4-C5-N7 | 6.35 | 113.34 | 110.80 |
| 1 | 1G | 368 | U | O5'-P-OP2 | -6.35 | 99.99 | 105.70 |
| 26 | 14 | 1273 | U | N1-C2-O2 | -6.35 | 118.36 | 122.80 |
| 26 | 14 | 1767 | C | C2-N3-C4 | -6.35 | 116.73 | 119.90 |
| 26 | 14 | 1891 | G | C4-C5-N7 | -6.35 | 108.26 | 110.80 |
| 1 | 13 | 562 | C | N1-C2-O2 | 6.34 | 122.71 | 118.90 |
| 1 | 13 | 1216 | G | OP1-P-OP2 | 6.34 | 129.12 | 119.60 |
| 26 | 1H | 667 | U | N3-C2-O2 | 6.34 | 126.64 | 122.20 |
| 26 | 1H | 749 | C | N3-C4-N4 | 6.34 | 122.44 | 118.00 |
| 26 | 1H | 1610 | A | C8-N9-C4 | 6.34 | 108.34 | 105.80 |
| 26 | 1H | 2350 | C | C4-C5-C6 | 6.34 | 120.57 | 117.40 |
| 36 | 68 | 23 | ARG | NE-CZ-NH1 | -6.34 | 117.13 | 120.30 |
| 26 | 14 | 117 | G | OP1-P-OP2 | -6.34 | 110.08 | 119.60 |
| 26 | 14 | 540 | G | N3-C4-C5 | 6.34 | 131.77 | 128.60 |
| 26 | 14 | 559 | G | N1-C6-O6 | 6.34 | 123.71 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 622 | G | C8-N9-C4 | 6.34 | 108.94 | 106.40 |
| 26 | 14 | 1203 | G | C4-C5-N7 | -6.34 | 108.26 | 110.80 |
| 26 | 1H | 2587 | A | N1-C2-N3 | 6.34 | 132.47 | 129.30 |
| 1 | 1G | 451 | A | C8-N9-C4 | 6.34 | 108.34 | 105.80 |
| 26 | 14 | 689 | A | O5'-P-OP1 | 6.34 | 118.31 | 110.70 |
| 26 | 14 | 1283 | G | C4-C5-C6 | 6.34 | 122.61 | 118.80 |
| 1 | 13 | 927 | G | C4-C5-N7 | 6.34 | 113.34 | 110.80 |
| 26 | 1H | 102 | G | O5'-P-OP1 | 6.34 | 118.31 | 110.70 |
| 26 | 1H | 530 | G | C2-N3-C4 | -6.34 | 108.73 | 111.90 |
| 26 | 1H | 1197 | G | OP2-P-O3' | 6.34 | 119.15 | 105.20 |
| 26 | 1H | 1989 | G | N1-C2-N2 | 6.34 | 121.91 | 116.20 |
| 26 | 1H | 2070 | G | OP2-P-O3' | 6.34 | 119.15 | 105.20 |
| 29 | 11 | 217 | ARG | CG-CD-NE | 6.34 | 125.12 | 111.80 |
| 1 | 1G | 254 | G | N1-C6-O6 | 6.34 | 123.70 | 119.90 |
| 1 | 13 | 5 | U | C6-N1-C2 | -6.34 | 117.20 | 121.00 |
| 26 | 1H | 1599 | C | N3-C4-N4 | -6.34 | 113.56 | 118.00 |
| 27 | 16 | 50 | G | O5'-P-OP2 | -6.34 | 99.99 | 105.70 |
| 1 | 1G | 66 | G | OP1-P-OP2 | 6.34 | 129.11 | 119.60 |
| 1 | 1G | 110 | C | C2-N3-C4 | -6.34 | 116.73 | 119.90 |
| 1 | 1G | 360 | A | N7-C8-N9 | -6.34 | 110.63 | 113.80 |
| 1 | 1G | 1398 | A | N1-C6-N6 | -6.34 | 114.80 | 118.60 |
| 1 | 1G | 1465 | C | N3-C4-C5 | -6.34 | 119.36 | 121.90 |
| 26 | 14 | 1133 | U | N3-C4-C5 | 6.34 | 118.40 | 114.60 |
| 26 | 14 | 1590 | U | O5'-P-OP1 | -6.34 | 99.99 | 105.70 |
| 1 | 13 | 1490 | C | N1-C2-O2 | -6.34 | 115.10 | 118.90 |
| 1 | 13 | 1521 | G | C2-N3-C4 | -6.34 | 108.73 | 111.90 |
| 26 | 1H | 527 | C | N3-C4-N4 | 6.34 | 122.44 | 118.00 |
| 26 | 14 | 1367 | A | C6-C5-N7 | -6.34 | 127.86 | 132.30 |
| 26 | 14 | 2348 | U | N1-C2-O2 | 6.34 | 127.24 | 122.80 |
| 26 | 14 | 2574 | G | C2-N3-C4 | 6.34 | 115.07 | 111.90 |
| 26 | 14 | 2879 | C | N1-C2-O2 | 6.34 | 122.70 | 118.90 |
| 1 | 13 | 387 | U | OP1-P-O3' | 6.34 | 119.14 | 105.20 |
| 26 | 1H | 305 | U | C6-N1-C2 | -6.34 | 117.20 | 121.00 |
| 26 | 1H | 320 | A | C2-N3-C4 | -6.34 | 107.43 | 110.60 |
| 26 | 1H | 1158 | C | C5-C4-N4 | 6.34 | 124.64 | 120.20 |
| 26 | 1H | 1263 | U | OP1-P-O3' | 6.34 | 119.14 | 105.20 |
| 26 | 1H | 1837 | C | N1-C2-O2 | 6.34 | 122.70 | 118.90 |
| 26 | 1H | 1902 | C | C2-N1-C1' | -6.34 | 111.83 | 118.80 |
| 27 | 16 | 1 | U | C5-C6-N1 | 6.34 | 125.87 | 122.70 |
| 27 | 16 | 65 | C | N1-C2-O2 | 6.34 | 122.70 | 118.90 |
| 1 | 1G | 610 | G | C2-N3-C4 | -6.34 | 108.73 | 111.90 |
| 1 | 1G | 890 | G | N9-C4-C5 | 6.34 | 107.94 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 203 | C | C5-C6-N1 | -6.34 | 117.83 | 121.00 |
| 26 | 14 | 681 | G | N7-C8-N9 | -6.34 | 109.93 | 113.10 |
| 26 | 14 | 1781 | C | N3-C4-N4 | -6.34 | 113.56 | 118.00 |
| 26 | 14 | 2569 | G | N7-C8-N9 | -6.34 | 109.93 | 113.10 |
| 26 | 1H | 681 | G | C6-N1-C2 | -6.33 | 121.30 | 125.10 |
| 26 | 1H | 702 | G | O5'-P-OP2 | -6.33 | 100.00 | 105.70 |
| 26 | 1H | 1465 | G | C5-C6-N1 | 6.33 | 114.67 | 111.50 |
| 26 | 14 | 76 | C | C5-C4-N4 | 6.33 | 124.64 | 120.20 |
| 26 | 14 | 791 | C | N1-C2-O2 | -6.33 | 115.10 | 118.90 |
| 26 | 14 | 1252 | G | C8-N9-C4 | 6.33 | 108.93 | 106.40 |
| 26 | 14 | 1694 | C | C4-C5-C6 | -6.33 | 114.23 | 117.40 |
| 1 | 13 | 310 | G | OP1-P-OP2 | -6.33 | 110.10 | 119.60 |
| 1 | 13 | 913 | A | N1-C2-N3 | 6.33 | 132.47 | 129.30 |
| 26 | 1H | 284 | U | OP2-P-O3' | 6.33 | 119.13 | 105.20 |
| 26 | 1H | 1974 | C | C2-N3-C4 | 6.33 | 123.07 | 119.90 |
| 26 | 1H | 2423 | U | C5-C6-N1 | -6.33 | 119.53 | 122.70 |
| 1 | 1G | 128 | G | C5-C6-O6 | 6.33 | 132.40 | 128.60 |
| 26 | 14 | 326 | G | C5-C6-O6 | 6.33 | 132.40 | 128.60 |
| 26 | 14 | 430 | G | N9-C4-C5 | -6.33 | 102.87 | 105.40 |
| 26 | 14 | 435 | C | C6-N1-C2 | 6.33 | 122.83 | 120.30 |
| 26 | 14 | 1647 | G | C6-N1-C2 | -6.33 | 121.30 | 125.10 |
| 26 | 14 | 1976 | U | OP1-P-OP2 | 6.33 | 129.10 | 119.60 |
| 26 | 14 | 2853 | C | O5'-P-OP2 | -6.33 | 100.00 | 105.70 |
| 1 | 13 | 1235 | U | C6-N1-C2 | -6.33 | 117.20 | 121.00 |
| 1 | 13 | 1270 | C | C4-C5-C6 | -6.33 | 114.23 | 117.40 |
| 26 | 1H | 1410 | G | N7-C8-N9 | -6.33 | 109.93 | 113.10 |
| 26 | 1H | 2456 | C | OP2-P-O3' | 6.33 | 119.13 | 105.20 |
| 26 | 1H | 2532 | G | C5-C6-N1 | -6.33 | 108.33 | 111.50 |
| 1 | 1G | 284 | G | C8-N9-C4 | 6.33 | 108.93 | 106.40 |
| 26 | 14 | 238 | C | C5-C6-N1 | -6.33 | 117.83 | 121.00 |
| 26 | 14 | 1532 | C | N3-C4-C5 | -6.33 | 119.37 | 121.90 |
| 26 | 14 | 2256 | G | N3-C2-N2 | 6.33 | 124.33 | 119.90 |
| 26 | 14 | 2384 | G | C4-C5-N7 | -6.33 | 108.27 | 110.80 |
| 26 | 1H | 202 | U | C6-N1-C2 | 6.33 | 124.80 | 121.00 |
| 26 | 1H | 512 | G | C5-N7-C8 | -6.33 | 101.14 | 104.30 |
| 26 | 1H | 1311 | G | N1-C2-N3 | 6.33 | 127.70 | 123.90 |
| 26 | 1H | 1683 | C | OP1-P-O3' | 6.33 | 119.13 | 105.20 |
| 26 | 1H | 1941 | C | C4-C5-C6 | 6.33 | 120.56 | 117.40 |
| 26 | 1H | 2766 | G | C8-N9-C4 | -6.33 | 103.87 | 106.40 |
| 27 | 16 | 44 | G | P-O3'-C3' | 6.33 | 127.30 | 119.70 |
| 1 | 1G | 923 | A | N1-C2-N3 | 6.33 | 132.47 | 129.30 |
| 56 | 1L | 76 | A | N1-C6-N6 | 6.33 | 122.40 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 23 | 2L | 2 | G | C2-N3-C4 | 6.33 | 115.06 | 111.90 |
| 26 | 14 | 992 | C | O5'-P-OP1 | 6.33 | 118.30 | 110.70 |
| 26 | 14 | 2616 | C | OP2-P-O3' | 6.33 | 119.13 | 105.20 |
| 1 | 13 | 285 | G | C5-C6-O6 | -6.33 | 124.80 | 128.60 |
| 1 | 13 | 397 | A | C5-C6-N6 | 6.33 | 128.76 | 123.70 |
| 1 | 13 | 1069 | C | OP1-P-OP2 | 6.33 | 129.09 | 119.60 |
| 1 | 13 | 1283 | G | C2-N3-C4 | 6.33 | 115.06 | 111.90 |
| 26 | 1H | 465 | G | OP2-P-O3' | 6.33 | 119.12 | 105.20 |
| 26 | 1H | 873 | G | O5'-P-OP2 | -6.33 | 100.00 | 105.70 |
| 26 | 1H | 2545 | G | N9-C4-C5 | 6.33 | 107.93 | 105.40 |
| 26 | 1H | 2745 | C | C6-N1-C2 | -6.33 | 117.77 | 120.30 |
| 27 | 16 | 67 | G | N9-C4-C5 | -6.33 | 102.87 | 105.40 |
| 1 | 1G | 766 | A | N1-C6-N6 | 6.33 | 122.40 | 118.60 |
| 23 | 2L | 19 | G | C4-N9-C1' | -6.33 | 118.27 | 126.50 |
| 26 | 14 | 307 | G | N1-C6-O6 | 6.33 | 123.70 | 119.90 |
| 26 | 14 | 675 | A | C6-N1-C2 | 6.33 | 122.40 | 118.60 |
| 26 | 14 | 2426 | A | C6-N1-C2 | 6.33 | 122.40 | 118.60 |
| 26 | 1H | 99 | U | C5-C4-O4 | 6.33 | 129.70 | 125.90 |
| 26 | 1H | 704 | G | N1-C6-O6 | 6.33 | 123.70 | 119.90 |
| 26 | 1H | 1156 | A | N1-C2-N3 | 6.33 | 132.46 | 129.30 |
| 26 | 1H | 1501 | C | C5-C6-N1 | 6.33 | 124.16 | 121.00 |
| 26 | 1H | 1766 | U | C5-C4-O4 | -6.33 | 122.10 | 125.90 |
| 26 | 1H | 1926 | U | C5-C4-O4 | 6.33 | 129.70 | 125.90 |
| 1 | 1G | 889 | A | C5-C6-N1 | 6.33 | 120.86 | 117.70 |
| 26 | 14 | 1409 | C | N1-C2-O2 | -6.33 | 115.10 | 118.90 |
| 1 | 13 | 520 | A | N9-C4-C5 | -6.33 | 103.27 | 105.80 |
| 1 | 13 | 1227 | A | C2-N3-C4 | -6.33 | 107.44 | 110.60 |
| 1 | 13 | 1400 | C | C6-N1-C1' | -6.33 | 113.21 | 120.80 |
| 1 | 13 | 1467 | G | C5-C6-N1 | -6.33 | 108.34 | 111.50 |
| 26 | 1H | 414 | C | OP1-P-OP2 | 6.33 | 129.09 | 119.60 |
| 26 | 1H | 998 | C | OP1-P-OP2 | -6.33 | 110.11 | 119.60 |
| 26 | 1H | 1551 | C | C4-C5-C6 | 6.33 | 120.56 | 117.40 |
| 26 | 1H | 1854 | A | OP1-P-OP2 | 6.33 | 129.09 | 119.60 |
| 26 | 1H | 2032 | G | N1-C2-N3 | 6.33 | 127.69 | 123.90 |
| 26 | 14 | 153 | C | OP1-P-OP2 | -6.33 | 110.11 | 119.60 |
| 26 | 14 | 270(Q) | C | C6-N1-C2 | -6.33 | 117.77 | 120.30 |
| 26 | 14 | 516 | C | O5'-P-OP1 | -6.33 | 100.01 | 105.70 |
| 26 | 14 | 775 | G | C6-N1-C2 | -6.33 | 121.30 | 125.10 |
| 26 | 14 | 1204 | A | O4'-C1'-N9 | 6.33 | 113.26 | 108.20 |
| 26 | 14 | 1585 | C | N1-C2-N3 | -6.33 | 114.77 | 119.20 |
| 26 | 14 | 2599 | G | C6-N1-C2 | -6.33 | 121.30 | 125.10 |
| 26 | 14 | 2700 | C | N1-C2-O2 | -6.33 | 115.11 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 427 | U | N3-C2-O2 | -6.32 | 117.77 | 122.20 |
| 1 | 13 | 771 | G | N3-C2-N2 | -6.32 | 115.47 | 119.90 |
| 1 | 13 | 913 | A | P-O3'-C3' | 6.32 | 127.29 | 119.70 |
| 26 | 1H | 241 | A | N1-C2-N3 | 6.32 | 132.46 | 129.30 |
| 26 | 1H | 273 | G | C8-N9-C4 | 6.32 | 108.93 | 106.40 |
| 26 | 1H | 1915 | U | N1-C2-N3 | 6.32 | 118.69 | 114.90 |
| 26 | 1H | 2438 | U | C5-C6-N1 | -6.32 | 119.54 | 122.70 |
| 1 | 1G | 869 | G | C8-N9-C4 | -6.32 | 103.87 | 106.40 |
| 1 | 1G | 1462 | G | N3-C4-N9 | -6.32 | 122.21 | 126.00 |
| 26 | 14 | 212 | G | C5-C6-O6 | -6.32 | 124.81 | 128.60 |
| 26 | 14 | 1232 | G | N3-C4-C5 | 6.32 | 131.76 | 128.60 |
| 1 | 13 | 429 | U | N1-C2-O2 | 6.32 | 127.22 | 122.80 |
| 26 | 1H | 723 | G | OP1-P-O3' | 6.32 | 119.11 | 105.20 |
| 26 | 1H | 1977 | A | C5-C6-N6 | 6.32 | 128.76 | 123.70 |
| 26 | 1H | 2711 | A | P-O3'-C3' | 6.32 | 127.29 | 119.70 |
| 26 | 14 | 1909 | C | C5-C6-N1 | -6.32 | 117.84 | 121.00 |
| 1 | 13 | 235 | C | N3-C4-N4 | 6.32 | 122.42 | 118.00 |
| 1 | 13 | 976 | G | C4-C5-C6 | 6.32 | 122.59 | 118.80 |
| 1 | 13 | 1370 | G | C6-C5-N7 | -6.32 | 126.61 | 130.40 |
| 25 | 4K | 18 | G | C5-C6-O6 | 6.32 | 132.39 | 128.60 |
| 26 | 1H | 177 | G | N1-C6-O6 | -6.32 | 116.11 | 119.90 |
| 26 | 1H | 343 | C | C5-C6-N1 | 6.32 | 124.16 | 121.00 |
| 26 | 1H | 1297 | C | O5'-P-OP2 | -6.32 | 100.01 | 105.70 |
| 26 | 1H | 1357 | U | N1-C2-N3 | 6.32 | 118.69 | 114.90 |
| 26 | 1H | 2068 | U | C4-C5-C6 | -6.32 | 115.91 | 119.70 |
| 26 | 1H | 2583 | G | C6-C5-N7 | -6.32 | 126.61 | 130.40 |
| 26 | 1H | 2619 | C | C5-C4-N4 | -6.32 | 115.78 | 120.20 |
| 26 | 1H | 2870 | C | C6-N1-C2 | -6.32 | 117.77 | 120.30 |
| 26 | 14 | 85 | G | N1-C2-N2 | -6.32 | 110.51 | 116.20 |
| 26 | 14 | 224 | G | N1-C2-N2 | -6.32 | 110.51 | 116.20 |
| 26 | 14 | 456 | C | C2-N3-C4 | -6.32 | 116.74 | 119.90 |
| 26 | 14 | 1518 | C | O5'-P-OP1 | -6.32 | 100.01 | 105.70 |
| 1 | 13 | 541 | G | C5-C6-O6 | -6.32 | 124.81 | 128.60 |
| 26 | 1H | 1328 | G | N1-C2-N3 | 6.32 | 127.69 | 123.90 |
| 26 | 14 | 808 | G | N1-C6-O6 | -6.32 | 116.11 | 119.90 |
| 49 | F5 | 46 | LEU | CB-CG-CD1 | -6.32 | 100.26 | 111.00 |
| 26 | 1H | 79 | G | N7-C8-N9 | 6.32 | 116.26 | 113.10 |
| 26 | 1H | 313 | C | C6-N1-C2 | -6.32 | 117.77 | 120.30 |
| 26 | 1H | 386 | G | N9-C4-C5 | -6.32 | 102.87 | 105.40 |
| 26 | 1H | 827 | U | N3-C4-O4 | 6.32 | 123.82 | 119.40 |
| 26 | 1H | 839 | U | OP1-P-OP2 | 6.32 | 129.08 | 119.60 |
| 26 | 1H | 1007 | C | C2-N3-C4 | -6.32 | 116.74 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1220 | A | OP1-P-O3' | 6.32 | 119.10 | 105.20 |
| 26 | 1H | 1595 | G | C5-C6-O6 | -6.32 | 124.81 | 128.60 |
| 26 | 1H | 1810 | A | C2-N3-C4 | 6.32 | 113.76 | 110.60 |
| 26 | 1H | 1953 | A | C6-N1-C2 | -6.32 | 114.81 | 118.60 |
| 26 | 1H | 2346 | A | O5'-P-OP1 | -6.32 | 100.01 | 105.70 |
| 26 | 1H | 2441 | C | C5-C6-N1 | -6.32 | 117.84 | 121.00 |
| 26 | 1H | 2527 | C | C5-C4-N4 | -6.32 | 115.78 | 120.20 |
| 1 | 1G | 1139 | G | C8-N9-C4 | 6.32 | 108.93 | 106.40 |
| 26 | 14 | 631 | A | N1-C2-N3 | 6.32 | 132.46 | 129.30 |
| 26 | 14 | 669 | G | OP1-P-OP2 | -6.32 | 110.12 | 119.60 |
| 26 | 14 | 1253 | A | OP1-P-OP2 | -6.32 | 110.12 | 119.60 |
| 26 | 14 | 2091 | U | C5-C4-O4 | 6.32 | 129.69 | 125.90 |
| 26 | 14 | 2877 | G | O5'-P-OP1 | 6.32 | 118.28 | 110.70 |
| 1 | 13 | 777 | A | N7-C8-N9 | 6.32 | 116.96 | 113.80 |
| 1 | 13 | 928 | G | N3-C2-N2 | -6.32 | 115.48 | 119.90 |
| 26 | 1H | 86 | C | OP1-P-O3' | -6.32 | 91.31 | 105.20 |
| 26 | 1H | 222 | A | N7-C8-N9 | -6.32 | 110.64 | 113.80 |
| 26 | 1H | 1626 | G | C6-N1-C2 | -6.32 | 121.31 | 125.10 |
| 26 | 1H | 1639 | U | OP1-P-OP2 | -6.32 | 110.13 | 119.60 |
| 26 | 1H | 2580 | U | N1-C2-O2 | -6.32 | 118.38 | 122.80 |
| 26 | 1H | 2632 | A | C2-N3-C4 | -6.32 | 107.44 | 110.60 |
| 26 | 14 | 913 | U | C5-C6-N1 | 6.32 | 125.86 | 122.70 |
| 26 | 14 | 1297 | C | N3-C4-N4 | -6.32 | 113.58 | 118.00 |
| 26 | 14 | 1959 | G | C6-C5-N7 | 6.32 | 134.19 | 130.40 |
| 26 | 14 | 2376 | A | OP2-P-O3' | -6.32 | 91.31 | 105.20 |
| 26 | 14 | 2644 | G | C5-C6-O6 | 6.32 | 132.39 | 128.60 |
| 1 | 13 | 756 | C | N3-C4-C5 | 6.31 | 124.42 | 121.90 |
| 26 | 1H | 1384 | A | O5'-P-OP1 | 6.31 | 118.28 | 110.70 |
| 26 | 1H | 2237 | G | C5-C6-O6 | 6.31 | 132.39 | 128.60 |
| 26 | 1H | 2600 | A | N1-C2-N3 | 6.31 | 132.46 | 129.30 |
| 26 | 14 | 49 | A | P-O3'-C3' | 6.31 | 127.28 | 119.70 |
| 26 | 14 | 863 | A | O5'-P-OP2 | -6.31 | 100.02 | 105.70 |
| 26 | 14 | 2384 | G | C5-N7-C8 | 6.31 | 107.46 | 104.30 |
| 14 | 5I | 43 | CYS | CA-CB-SG | -6.31 | 102.64 | 114.00 |
| 23 | 2K | 30 | G | N1-C2-N3 | 6.31 | 127.69 | 123.90 |
| 26 | 1H | 332 | A | N3-C4-C5 | 6.31 | 131.22 | 126.80 |
| 26 | 1H | 590 | A | N7-C8-N9 | 6.31 | 116.96 | 113.80 |
| 26 | 1H | 1375 | C | N3-C4-N4 | 6.31 | 122.42 | 118.00 |
| 26 | 1H | 2259 | G | N1-C2-N3 | 6.31 | 127.69 | 123.90 |
| 26 | 1H | 2640 | G | N3-C2-N2 | -6.31 | 115.48 | 119.90 |
| 1 | 1G | 884 | U | C4-C5-C6 | 6.31 | 123.49 | 119.70 |
| 1 | 1G | 1188 | A | N7-C8-N9 | -6.31 | 110.64 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 459 | U | N3-C4-C5 | 6.31 | 118.39 | 114.60 |
| 26 | 14 | 1343 | G | C6-C5-N7 | -6.31 | 126.61 | 130.40 |
| 26 | 14 | 1519 | G | C4-C5-N7 | -6.31 | 108.28 | 110.80 |
| 26 | 14 | 1773 | A | C5-C6-N1 | 6.31 | 120.86 | 117.70 |
| 26 | 14 | 2056 | G | N9-C4-C5 | -6.31 | 102.88 | 105.40 |
| 26 | 14 | 2678 | C | N1-C2-O2 | -6.31 | 115.11 | 118.90 |
| 26 | 1H | 1137 | G | N1-C6-O6 | 6.31 | 123.69 | 119.90 |
| 1 | 1G | 586 | C | N3-C4-C5 | -6.31 | 119.38 | 121.90 |
| 1 | 13 | 735 | C | N3-C4-N4 | -6.31 | 113.58 | 118.00 |
| 26 | 1H | 385 | C | N1-C2-O2 | -6.31 | 115.11 | 118.90 |
| 26 | 1H | 802 | A | N7-C8-N9 | 6.31 | 116.95 | 113.80 |
| 26 | 1H | 1228 | G | N1-C2-N2 | -6.31 | 110.52 | 116.20 |
| 26 | 1H | 1618 | A | O5'-P-OP2 | 6.31 | 118.27 | 110.70 |
| 26 | 1H | 1765 | C | C4-C5-C6 | 6.31 | 120.56 | 117.40 |
| 26 | 1H | 1869 | G | N7-C8-N9 | 6.31 | 116.25 | 113.10 |
| 26 | 1H | 2049 | G | N9-C4-C5 | 6.31 | 107.92 | 105.40 |
| 26 | 1H | 2289 | G | N1-C2-N3 | -6.31 | 120.11 | 123.90 |
| 26 | 1H | 2717 | G | C5-C6-O6 | -6.31 | 124.81 | 128.60 |
| 26 | 14 | 571 | A | N3-C4-C5 | -6.31 | 122.38 | 126.80 |
| 26 | 14 | 1828 | G | C5-N7-C8 | 6.31 | 107.45 | 104.30 |
| 26 | 14 | 1969 | A | O4'-C1'-N9 | 6.31 | 113.25 | 108.20 |
| 26 | 14 | 2823 | A | C8-N9-C4 | 6.31 | 108.32 | 105.80 |
| 40 | 65 | 110 | LEU | CB-CG-CD1 | 6.31 | 121.73 | 111.00 |
| 1 | 13 | 191 | G | N7-C8-N9 | 6.31 | 116.25 | 113.10 |
| 1 | 13 | 902 | G | O5'-P-OP2 | -6.31 | 100.02 | 105.70 |
| 1 | 13 | 1426 | C | N3-C4-C5 | -6.31 | 119.38 | 121.90 |
| 26 | 1H | 995 | C | N1-C2-N3 | -6.31 | 114.78 | 119.20 |
| 26 | 1H | 1225 | C | N1-C2-O2 | -6.31 | 115.12 | 118.90 |
| 26 | 1H | 1892 | C | O5'-P-OP2 | -6.31 | 100.02 | 105.70 |
| 26 | 1H | 2262 | U | C6-N1-C2 | -6.31 | 117.22 | 121.00 |
| 26 | 1H | 2375 | G | N3-C2-N2 | -6.31 | 115.48 | 119.90 |
| 26 | 1H | 2609 | U | N1-C2-N3 | 6.31 | 118.69 | 114.90 |
| 26 | 1H | 2691 | C | O5'-P-OP1 | -6.31 | 100.02 | 105.70 |
| 1 | 1G | 30 | U | C5-C4-O4 | 6.31 | 129.68 | 125.90 |
| 26 | 14 | 530 | G | C4-C5-C6 | 6.31 | 122.58 | 118.80 |
| 26 | 14 | 956 | G | C5-C6-N1 | -6.31 | 108.35 | 111.50 |
| 26 | 14 | 1837 | C | N3-C4-C5 | -6.31 | 119.38 | 121.90 |
| 26 | 14 | 2422 | A | C2-N3-C4 | -6.31 | 107.45 | 110.60 |
| 26 | 14 | 2501 | C | C2-N1-C1' | -6.31 | 111.86 | 118.80 |
| 26 | 14 | 2599 | G | C5-C6-N1 | 6.31 | 114.65 | 111.50 |
| 26 | 14 | 2787 | C | C5-C6-N1 | 6.31 | 124.15 | 121.00 |
| 26 | 1H | 2493 | U | OP1-P-OP2 | 6.31 | 129.06 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2544 | G | C4-C5-C6 | 6.31 | 122.58 | 118.80 |
| 27 | 16 | 111 | U | N3-C2-O2 | -6.31 | 117.79 | 122.20 |
| 26 | 14 | 509 | C | C2-N3-C4 | -6.31 | 116.75 | 119.90 |
| 26 | 14 | 570 | G | C8-N9-C4 | -6.31 | 103.88 | 106.40 |
| 1 | 13 | 279 | A | C2-N3-C4 | -6.30 | 107.45 | 110.60 |
| 26 | 1H | 119 | A | O4'-C1'-N9 | 6.30 | 113.24 | 108.20 |
| 26 | 1H | 234 | C | N3-C2-O2 | -6.30 | 117.49 | 121.90 |
| 26 | 1H | 818 | G | OP2-P-O3' | 6.30 | 119.07 | 105.20 |
| 26 | 1H | 2359 | C | OP1-P-O3' | 6.30 | 119.07 | 105.20 |
| 26 | 1H | 2534 | A | OP2-P-O3' | 6.30 | 119.07 | 105.20 |
| 26 | 14 | 389 | G | N9-C4-C5 | -6.30 | 102.88 | 105.40 |
| 26 | 14 | 523 | C | OP1-P-O3' | 6.30 | 119.07 | 105.20 |
| 26 | 14 | 1698 | A | N1-C2-N3 | 6.30 | 132.45 | 129.30 |
| 26 | 14 | 1728 | G | N1-C2-N3 | -6.30 | 120.12 | 123.90 |
| 26 | 14 | 1930 | G | N3-C4-C5 | -6.30 | 125.45 | 128.60 |
| 26 | 14 | 2008 | C | N3-C2-O2 | 6.30 | 126.31 | 121.90 |
| 1 | 13 | 960 | U | N3-C4-O4 | 6.30 | 123.81 | 119.40 |
| 26 | 1H | 118 | A | C8-N9-C4 | 6.30 | 108.32 | 105.80 |
| 26 | 1H | 2387 | U | C4-C5-C6 | 6.30 | 123.48 | 119.70 |
| 1 | 1G | 901 | A | N1-C6-N6 | -6.30 | 114.82 | 118.60 |
| 26 | 14 | 2842 | G | N1-C6-O6 | 6.30 | 123.68 | 119.90 |
| 1 | 13 | 284 | G | C5-C6-N1 | 6.30 | 114.65 | 111.50 |
| 24 | 3K | 28 | U | N1-C2-O2 | 6.30 | 127.21 | 122.80 |
| 26 | 1H | 227 | A | O5'-P-OP2 | 6.30 | 118.26 | 110.70 |
| 26 | 1H | 578 | A | OP2-P-O3' | 6.30 | 119.06 | 105.20 |
| 26 | 1H | 1396 | U | O4'-C1'-N1 | 6.30 | 113.24 | 108.20 |
| 26 | 1H | 1572 | A | N1-C2-N3 | 6.30 | 132.45 | 129.30 |
| 26 | 1H | 1799 | G | N3-C4-C5 | -6.30 | 125.45 | 128.60 |
| 26 | 14 | 526 | A | O5'-P-OP2 | -6.30 | 100.03 | 105.70 |
| 26 | 14 | 1417 | C | C2-N3-C4 | -6.30 | 116.75 | 119.90 |
| 26 | 14 | 2370 | G | N7-C8-N9 | -6.30 | 109.95 | 113.10 |
| 26 | 14 | 2680 | C | C5-C4-N4 | -6.30 | 115.79 | 120.20 |
| 1 | 13 | 316 | G | C8-N9-C4 | 6.30 | 108.92 | 106.40 |
| 26 | 1H | 425 | G | C5-N7-C8 | 6.30 | 107.45 | 104.30 |
| 26 | 1H | 755 | C | N3-C4-N4 | 6.30 | 122.41 | 118.00 |
| 26 | 1H | 1324 | G | N9-C4-C5 | 6.30 | 107.92 | 105.40 |
| 26 | 1H | 1340 | U | N1-C2-O2 | -6.30 | 118.39 | 122.80 |
| 26 | 1H | 1348 | G | N1-C2-N2 | 6.30 | 121.87 | 116.20 |
| 26 | 1H | 1427 | A | OP1-P-OP2 | 6.30 | 129.05 | 119.60 |
| 26 | 1H | 1569 | A | O5'-P-OP1 | -6.30 | 100.03 | 105.70 |
| 26 | 1H | 1634 | A | C4-C5-N7 | -6.30 | 107.55 | 110.70 |
| 26 | 1H | 1914 | C | O4'-C1'-N1 | 6.30 | 113.24 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 935 | A | N7-C8-N9 | -6.30 | 110.65 | 113.80 |
| 26 | 14 | 349 | G | C5-C6-N1 | -6.30 | 108.35 | 111.50 |
| 26 | 14 | 510 | C | OP1-P-OP2 | 6.30 | 129.05 | 119.60 |
| 26 | 14 | 1285 | G | C8-N9-C4 | 6.30 | 108.92 | 106.40 |
| 26 | 14 | 2081 | C | N3-C4-N4 | -6.30 | 113.59 | 118.00 |
| 50 | G5 | 33 | MET | CB-CG-SD | -6.30 | 93.50 | 112.40 |
| 1 | 13 | 666 | G | C5-N7-C8 | -6.30 | 101.15 | 104.30 |
| 1 | 13 | 1521 | G | C6-N1-C2 | -6.30 | 121.32 | 125.10 |
| 26 | 1H | 239 | U | O5'-P-OP2 | -6.30 | 100.03 | 105.70 |
| 26 | 1H | 2380 | C | C4-C5-C6 | 6.30 | 120.55 | 117.40 |
| 26 | 1H | 2515 | C | C4-C5-C6 | -6.30 | 114.25 | 117.40 |
| 1 | 1G | 236 | G | C4-C5-C6 | 6.30 | 122.58 | 118.80 |
| 26 | 14 | 652 | C | N1-C2-O2 | -6.30 | 115.12 | 118.90 |
| 26 | 14 | 1763 | G | C4-C5-N7 | -6.30 | 108.28 | 110.80 |
| 26 | 14 | 1979 | C | N1-C2-O2 | -6.30 | 115.12 | 118.90 |
| 26 | 14 | 2530 | A | N1-C6-N6 | 6.30 | 122.38 | 118.60 |
| 1 | 13 | 1057 | G | C5-C6-O6 | 6.30 | 132.38 | 128.60 |
| 26 | 1H | 164 | U | C5-C6-N1 | 6.30 | 125.85 | 122.70 |
| 26 | 1H | 575 | A | C5-C6-N6 | -6.30 | 118.66 | 123.70 |
| 26 | 1H | 1516 | U | OP1-P-O3' | 6.30 | 119.05 | 105.20 |
| 26 | 1H | 1650 | G | C6-C5-N7 | -6.30 | 126.62 | 130.40 |
| 26 | 1H | 1658 | C | C2-N3-C4 | -6.30 | 116.75 | 119.90 |
| 26 | 1H | 2298 | A | C8-N9-C4 | 6.30 | 108.32 | 105.80 |
| 29 | 11 | 257 | LEU | CA-CB-CG | 6.30 | 129.78 | 115.30 |
| 1 | 13 | 781 | A | C6-C5-N7 | -6.29 | 127.89 | 132.30 |
| 1 | 13 | 1415 | G | C8-N9-C1' | -6.29 | 118.82 | 127.00 |
| 26 | 1H | 19 | C | C5-C6-N1 | -6.29 | 117.85 | 121.00 |
| 26 | 1H | 476 | G | C2-N3-C4 | -6.29 | 108.75 | 111.90 |
| 1 | 1G | 1272 | G | C8-N9-C4 | -6.29 | 103.88 | 106.40 |
| 26 | 14 | 35 | G | C6-C5-N7 | 6.29 | 134.18 | 130.40 |
| 26 | 14 | 1955 | U | N3-C2-O2 | -6.29 | 117.79 | 122.20 |
| 1 | 13 | 564 | C | O5'-P-OP1 | -6.29 | 100.04 | 105.70 |
| 26 | 1H | 19 | C | C6-N1-C2 | 6.29 | 122.82 | 120.30 |
| 26 | 1H | 292 | C | C4-C5-C6 | 6.29 | 120.55 | 117.40 |
| 26 | 1H | 587 | C | N1-C2-O2 | -6.29 | 115.12 | 118.90 |
| 26 | 1H | 996 | A | C8-N9-C4 | 6.29 | 108.32 | 105.80 |
| 26 | 1H | 1259 | G | C5-C6-N1 | -6.29 | 108.35 | 111.50 |
| 26 | 1H | 1422 | G | N3-C2-N2 | -6.29 | 115.50 | 119.90 |
| 26 | 1H | 1527 | G | OP1-P-OP2 | -6.29 | 110.16 | 119.60 |
| 26 | 1H | 2089 | U | C5-C4-O4 | -6.29 | 122.12 | 125.90 |
| 26 | 1H | 2255 | G | C4-C5-N7 | -6.29 | 108.28 | 110.80 |
| 27 | 16 | 96 | G | C5-C6-N1 | 6.29 | 114.65 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 47 | H8 | 61 | LEU | CB-CG-CD2 | 6.29 | 121.70 | 111.00 |
| 26 | 14 | 333 | G | O5'-P-OP2 | 6.29 | 118.25 | 110.70 |
| 26 | 14 | 1388 | G | C5-C6-N1 | -6.29 | 108.35 | 111.50 |
| 26 | 14 | 1977 | A | C4-C5-N7 | -6.29 | 107.55 | 110.70 |
| 26 | 14 | 2728 | U | C5-C4-O4 | -6.29 | 122.12 | 125.90 |
| 27 | 1J | 8 | U | O5'-P-OP1 | 6.29 | 118.25 | 110.70 |
| 1 | 13 | 959 | A | C5-C6-N1 | 6.29 | 120.85 | 117.70 |
| 1 | 13 | 963 | G | O5'-P-OP2 | -6.29 | 100.04 | 105.70 |
| 26 | 1H | 807 | U | C5-C4-O4 | -6.29 | 122.12 | 125.90 |
| 26 | 1H | 2042 | A | O5'-P-OP1 | 6.29 | 118.25 | 110.70 |
| 26 | 14 | 305 | U | C6-N1-C2 | -6.29 | 117.23 | 121.00 |
| 26 | 14 | 1394 | U | C6-N1-C2 | -6.29 | 117.22 | 121.00 |
| 26 | 14 | 1966 | A | N3-C4-C5 | -6.29 | 122.40 | 126.80 |
| 26 | 14 | 2555 | U | OP2-P-O3' | 6.29 | 119.04 | 105.20 |
| 1 | 13 | 593 | G | N3-C2-N2 | -6.29 | 115.50 | 119.90 |
| 1 | 13 | 1523 | G | C5-N7-C8 | 6.29 | 107.44 | 104.30 |
| 26 | 1H | 1679 | U | N3-C4-O4 | 6.29 | 123.80 | 119.40 |
| 26 | 1H | 2337 | G | C8-N9-C4 | -6.29 | 103.88 | 106.40 |
| 1 | 1G | 894 | G | C2-N3-C4 | -6.29 | 108.75 | 111.90 |
| 1 | 1G | 898 | G | N7-C8-N9 | -6.29 | 109.95 | 113.10 |
| 26 | 14 | 613 | U | C5-C4-O4 | -6.29 | 122.13 | 125.90 |
| 1 | 13 | 500 | G | N7-C8-N9 | -6.29 | 109.96 | 113.10 |
| 26 | 1H | 1900 | A | N3-C4-C5 | -6.29 | 122.40 | 126.80 |
| 26 | 1H | 2257 | U | OP2-P-O3' | 6.29 | 119.03 | 105.20 |
| 26 | 1H | 2407 | G | OP2-P-O3' | 6.29 | 119.03 | 105.20 |
| 26 | 1H | 2553 | G | C6-N1-C2 | -6.29 | 121.33 | 125.10 |
| 26 | 14 | 265 | A | N3-C4-C5 | 6.29 | 131.20 | 126.80 |
| 26 | 14 | 1900 | A | N1-C2-N3 | 6.29 | 132.44 | 129.30 |
| 26 | 14 | 2413 | G | N9-C4-C5 | -6.29 | 102.89 | 105.40 |
| 26 | 14 | 2464 | C | N1-C2-N3 | -6.29 | 114.80 | 119.20 |
| 1 | 13 | 52 | G | C6-C5-N7 | -6.29 | 126.63 | 130.40 |
| 26 | 1H | 1779 | U | OP1-P-OP2 | 6.29 | 129.03 | 119.60 |
| 26 | 1H | 2049 | G | N1-C2-N2 | 6.29 | 121.86 | 116.20 |
| 26 | 14 | 2369 | A | N9-C4-C5 | 6.29 | 108.31 | 105.80 |
| 1 | 13 | 243 | A | C5-C6-N6 | -6.29 | 118.67 | 123.70 |
| 1 | 13 | 970 | C | N3-C2-O2 | -6.29 | 117.50 | 121.90 |
| 1 | 13 | 1214 | C | N1-C2-O2 | -6.29 | 115.13 | 118.90 |
| 26 | 1H | 261 | G | C8-N9-C4 | 6.29 | 108.91 | 106.40 |
| 26 | 1H | 701 | G | N3-C4-N9 | -6.29 | 122.23 | 126.00 |
| 26 | 1H | 921 | G | O5'-P-OP2 | 6.29 | 118.24 | 110.70 |
| 26 | 1H | 1338 | G | OP1-P-O3' | 6.29 | 119.03 | 105.20 |
| 26 | 1H | 1421 | G | N3-C2-N2 | -6.29 | 115.50 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2781 | A | N3-C4-C5 | 6.29 | 131.20 | 126.80 |
| 27 | 16 | 79 | C | OP2-P-O3' | 6.29 | 119.03 | 105.20 |
| 26 | 14 | 16 | G | C6-C5-N7 | -6.29 | 126.63 | 130.40 |
| 26 | 14 | 113 | G | N1-C2-N3 | -6.29 | 120.13 | 123.90 |
| 26 | 14 | 809 | G | C5-C6-N1 | -6.29 | 108.36 | 111.50 |
| 26 | 14 | 843 | G | C2-N3-C4 | -6.29 | 108.76 | 111.90 |
| 26 | 14 | 848 | G | C6-N1-C2 | -6.29 | 121.33 | 125.10 |
| 26 | 14 | 2621 | A | C6-N1-C2 | -6.29 | 114.83 | 118.60 |
| 54 | L5 | 19 | ARG | NE-CZ-NH1 | -6.29 | 117.16 | 120.30 |
| 23 | 2K | 24 | C | C2-N3-C4 | -6.28 | 116.76 | 119.90 |
| 26 | 1H | 595 | C | O5'-P-OP1 | 6.28 | 118.24 | 110.70 |
| 26 | 1H | 608 | A | N7-C8-N9 | -6.28 | 110.66 | 113.80 |
| 26 | 1H | 937 | U | C5-C6-N1 | -6.28 | 119.56 | 122.70 |
| 26 | 1H | 1561 | G | C5-C6-O6 | 6.28 | 132.37 | 128.60 |
| 26 | 1H | 2779 | U | N3-C4-O4 | -6.28 | 115.00 | 119.40 |
| 26 | 14 | 826 | U | C5-C6-N1 | -6.28 | 119.56 | 122.70 |
| 26 | 14 | 1506 | C | C6-N1-C2 | -6.28 | 117.79 | 120.30 |
| 26 | 14 | 1635 | G | N3-C2-N2 | -6.28 | 115.50 | 119.90 |
| 26 | 14 | 1837 | C | N3-C2-O2 | -6.28 | 117.50 | 121.90 |
| 1 | 13 | 140 | A | N1-C6-N6 | 6.28 | 122.37 | 118.60 |
| 1 | 13 | 538 | G | N7-C8-N9 | -6.28 | 109.96 | 113.10 |
| 26 | 1H | 575 | A | N7-C8-N9 | -6.28 | 110.66 | 113.80 |
| 26 | 1H | 847 | U | N1-C2-N3 | 6.28 | 118.67 | 114.90 |
| 26 | 1H | 1704 | G | O5'-P-OP1 | 6.28 | 118.24 | 110.70 |
| 1 | 1G | 1243 | C | O5'-P-OP2 | -6.28 | 100.05 | 105.70 |
| 1 | 1G | 1272 | G | N7-C8-N9 | 6.28 | 116.24 | 113.10 |
| 26 | 14 | 678 | C | C5-C6-N1 | -6.28 | 117.86 | 121.00 |
| 26 | 14 | 787 | U | OP1-P-OP2 | -6.28 | 110.18 | 119.60 |
| 26 | 14 | 1236 | G | C2-N3-C4 | -6.28 | 108.76 | 111.90 |
| 26 | 14 | 2280 | G | C4-C5-N7 | 6.28 | 113.31 | 110.80 |
| 1 | 13 | 99 | C | N3-C4-C5 | -6.28 | 119.39 | 121.90 |
| 1 | 13 | 326 | G | C5-C6-O6 | 6.28 | 132.37 | 128.60 |
| 24 | 3K | 37 | A | N1-C2-N3 | -6.28 | 126.16 | 129.30 |
| 26 | 1H | 452 | G | C4-C5-N7 | -6.28 | 108.29 | 110.80 |
| 26 | 1H | 973 | A | N1-C6-N6 | 6.28 | 122.37 | 118.60 |
| 26 | 1H | 1037 | G | N3-C4-C5 | 6.28 | 131.74 | 128.60 |
| 26 | 1H | 1403 | C | C5-C6-N1 | 6.28 | 124.14 | 121.00 |
| 26 | 1H | 2390 | U | N3-C4-C5 | -6.28 | 110.83 | 114.60 |
| 26 | 14 | 663 | G | C4-C5-N7 | -6.28 | 108.29 | 110.80 |
| 26 | 14 | 1264 | G | C5-N7-C8 | 6.28 | 107.44 | 104.30 |
| 26 | 14 | 1284 | A | C5-C6-N6 | -6.28 | 118.68 | 123.70 |
| 26 | 14 | 1564 | C | N1-C2-O2 | 6.28 | 122.67 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1780 | A | C5-C6-N6 | 6.28 | 128.72 | 123.70 |
| 1 | 13 | 1340 | A | C6-C5-N7 | -6.28 | 127.91 | 132.30 |
| 26 | 1H | 2373 | G | N1-C2-N3 | 6.28 | 127.67 | 123.90 |
| 26 | 14 | 1559 | G | N3-C4-N9 | -6.28 | 122.23 | 126.00 |
| 26 | 14 | 1993 | U | N1-C2-N3 | 6.28 | 118.67 | 114.90 |
| 26 | 14 | 2005 | A | N9-C4-C5 | 6.28 | 108.31 | 105.80 |
| 26 | 14 | 2711 | A | OP1-P-O3' | 6.28 | 119.01 | 105.20 |
| 26 | 1H | 233 | A | N1-C6-N6 | -6.28 | 114.83 | 118.60 |
| 26 | 1H | 345 | A | O5'-P-OP1 | 6.28 | 118.23 | 110.70 |
| 26 | 1H | 2313 | C | C4-C5-C6 | 6.28 | 120.54 | 117.40 |
| 1 | 1G | 1128 | C | C5-C6-N1 | 6.28 | 124.14 | 121.00 |
| 1 | 1G | 1474 | G | C5-C6-O6 | -6.28 | 124.83 | 128.60 |
| 26 | 14 | 2338 | G | C8-N9-C4 | 6.28 | 108.91 | 106.40 |
| 26 | 14 | 2702 | U | N3-C2-O2 | -6.28 | 117.81 | 122.20 |
| 26 | 14 | 2877 | G | OP2-P-O3' | 6.28 | 119.01 | 105.20 |
| 1 | 13 | 57 | G | C4-C5-N7 | -6.28 | 108.29 | 110.80 |
| 1 | 13 | 62 | U | N3-C2-O2 | -6.28 | 117.81 | 122.20 |
| 1 | 13 | 639 | G | OP1-P-O3' | 6.28 | 119.01 | 105.20 |
| 1 | 13 | 887 | G | C8-N9-C4 | 6.28 | 108.91 | 106.40 |
| 26 | 1H | 1164 | G | O5'-P-OP2 | -6.28 | 100.05 | 105.70 |
| 26 | 1H | 1609 | A | C4-C5-N7 | -6.28 | 107.56 | 110.70 |
| 26 | 1H | 1957 | C | C5-C4-N4 | 6.28 | 124.59 | 120.20 |
| 26 | 1H | 2055 | C | N1-C1'-C2' | -6.28 | 105.10 | 112.00 |
| 1 | 1G | 230 | G | N3-C2-N2 | -6.28 | 115.51 | 119.90 |
| 26 | 14 | 530 | G | N3-C4-N9 | 6.28 | 129.76 | 126.00 |
| 26 | 14 | 568 | U | OP1-P-OP2 | 6.28 | 129.01 | 119.60 |
| 26 | 14 | 1298 | C | C5-C6-N1 | 6.28 | 124.14 | 121.00 |
| 26 | 14 | 1346 | G | N1-C6-O6 | -6.28 | 116.14 | 119.90 |
| 26 | 14 | 2218 | G | N3-C4-N9 | -6.28 | 122.23 | 126.00 |
| 26 | 14 | 2348 | U | C5-C4-O4 | -6.28 | 122.14 | 125.90 |
| 1 | 13 | 871 | U | N1-C2-O2 | 6.27 | 127.19 | 122.80 |
| 1 | 1G | 1515 | C | OP1-P-OP2 | 6.27 | 129.01 | 119.60 |
| 26 | 14 | 1272 | A | C5-C6-N6 | -6.27 | 118.68 | 123.70 |
| 26 | 14 | 1305 | C | C5-C6-N1 | -6.27 | 117.86 | 121.00 |
| 27 | 1J | 40 | U | C2-N1-C1' | -6.27 | 110.17 | 117.70 |
| 1 | 13 | 1391 | U | N3-C2-O2 | -6.27 | 117.81 | 122.20 |
| 26 | 1H | 771 | G | C4-C5-C6 | -6.27 | 115.04 | 118.80 |
| 26 | 1H | 1156 | A | C8-N9-C4 | -6.27 | 103.29 | 105.80 |
| 26 | 1H | 2243 | U | N3-C4-C5 | -6.27 | 110.84 | 114.60 |
| 26 | 1H | 2575 | C | C2-N3-C4 | -6.27 | 116.76 | 119.90 |
| 1 | 1G | 660 | G | C6-C5-N7 | 6.27 | 134.16 | 130.40 |
| 26 | 14 | 255 | A | C5-N7-C8 | -6.27 | 100.76 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 14 | 1005 | C | N3-C2-O2 | -6.27 | 117.51 | 121.90 |
| 26 | 14 | 1243 | G | C6-C5-N7 | -6.27 | 126.64 | 130.40 |
| 26 | 14 | 1578 | U | N3-C2-O2 | -6.27 | 117.81 | 122.20 |
| 26 | 14 | 2437 | U | OP2-P-O3' | 6.27 | 119.00 | 105.20 |
| 26 | 1H | 868 | U | C5-C6-N1 | -6.27 | 119.56 | 122.70 |
| 26 | 1H | 1199 | U | C2-N3-C4 | -6.27 | 123.24 | 127.00 |
| 26 | 1H | 1247 | A | C6-N1-C2 | -6.27 | 114.84 | 118.60 |
| 26 | 14 | 264 | C | C2-N1-C1' | 6.27 | 125.70 | 118.80 |
| 26 | 14 | 1870 | C | C6-N1-C2 | 6.27 | 122.81 | 120.30 |
| 26 | 14 | 1970 | A | C6-C5-N7 | -6.27 | 127.91 | 132.30 |
| 26 | 14 | 2461 | C | OP1-P-OP2 | 6.27 | 129.01 | 119.60 |
| 26 | 14 | 2699 | C | C5-C4-N4 | -6.27 | 115.81 | 120.20 |
| 1 | 13 | 1502 | A | C5-C6-N6 | -6.27 | 118.69 | 123.70 |
| 23 | 2K | 34 | U | OP1-P-OP2 | 6.27 | 129.00 | 119.60 |
| 23 | 2K | 49 | C | N1-C2-O2 | 6.27 | 122.66 | 118.90 |
| 26 | 1H | 446 | G | C6-C5-N7 | -6.27 | 126.64 | 130.40 |
| 26 | 1H | 667 | U | N1-C2-O2 | -6.27 | 118.41 | 122.80 |
| 26 | 1H | 757 | U | C5-C4-O4 | 6.27 | 129.66 | 125.90 |
| 26 | 1H | 856 | C | OP1-P-OP2 | 6.27 | 129.00 | 119.60 |
| 26 | 1H | 1015 | G | C5-C6-O6 | -6.27 | 124.84 | 128.60 |
| 26 | 1H | 1639 | U | C4-C5-C6 | 6.27 | 123.46 | 119.70 |
| 26 | 1H | 1982 | C | N3-C4-N4 | 6.27 | 122.39 | 118.00 |
| 30 | 21 | 152 | LYS | C-N-CA | -6.27 | 109.14 | 122.30 |
| 26 | 14 | 782 | A | N3-C4-N9 | 6.27 | 132.42 | 127.40 |
| 26 | 14 | 1296 | G | N7-C8-N9 | -6.27 | 109.97 | 113.10 |
| 1 | 13 | 394 | G | N1-C2-N3 | 6.27 | 127.66 | 123.90 |
| 26 | 1H | 1163 | G | C4-C5-N7 | -6.27 | 108.29 | 110.80 |
| 26 | 1H | 1265 | A | C5'-C4'-C3' | -6.27 | 105.97 | 116.00 |
| 26 | 1H | 1559 | G | N9-C4-C5 | -6.27 | 102.89 | 105.40 |
| 26 | 1H | 1604 | C | O5'-P-OP2 | 6.27 | 118.22 | 110.70 |
| 26 | 1H | 1765 | C | OP1-P-O3' | 6.27 | 118.99 | 105.20 |
| 26 | 1H | 2069 | G | N1-C2-N2 | 6.27 | 121.84 | 116.20 |
| 26 | 1H | 2427 | C | N3-C4-N4 | 6.27 | 122.39 | 118.00 |
| 26 | 1H | 2773 | C | OP2-P-O3' | 6.27 | 118.99 | 105.20 |
| 27 | 16 | 23 | G | C5-C6-N1 | -6.27 | 108.37 | 111.50 |
| 27 | 16 | 49 | C | N3-C4-N4 | 6.27 | 122.39 | 118.00 |
| 1 | 1G | 197 | A | C8-N9-C4 | -6.27 | 103.29 | 105.80 |
| 1 | 1G | 495 | A | C5-C6-N6 | 6.27 | 128.71 | 123.70 |
| 26 | 14 | 102 | G | C4-N9-C1' | -6.27 | 118.35 | 126.50 |
| 26 | 14 | 445 | C | N1-C2-O2 | -6.27 | 115.14 | 118.90 |
| 26 | 14 | 599 | G | N1-C2-N3 | 6.27 | 127.66 | 123.90 |
| 26 | 14 | 760 | G | C6-C5-N7 | -6.27 | 126.64 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1303 | G | C6-N1-C2 | -6.27 | 121.34 | 125.10 |
| 26 | 14 | 1408 | C | N1-C2-N3 | 6.27 | 123.59 | 119.20 |
| 26 | 14 | 1655 | A | C8-N9-C4 | 6.27 | 108.31 | 105.80 |
| 26 | 14 | 1861 | G | C5-C6-N1 | -6.27 | 108.37 | 111.50 |
| 26 | 14 | 2721 | A | C5-C6-N6 | 6.27 | 128.71 | 123.70 |
| 1 | 13 | 888 | G | C6-C5-N7 | -6.27 | 126.64 | 130.40 |
| 26 | 1H | 92 | G | C4-C5-N7 | 6.27 | 113.31 | 110.80 |
| 26 | 1H | 1307 | A | N1-C2-N3 | 6.27 | 132.43 | 129.30 |
| 26 | 1H | 1349 | A | C5-N7-C8 | -6.27 | 100.77 | 103.90 |
| 1 | 1G | 1469 | G | N3-C2-N2 | -6.27 | 115.51 | 119.90 |
| 1 | 1G | 1495 | U | N1-C2-N3 | 6.27 | 118.66 | 114.90 |
| 23 | 2L | 57 | C | OP1-P-O3' | 6.27 | 118.98 | 105.20 |
| 26 | 14 | 932 | G | C4-C5-N7 | -6.27 | 108.29 | 110.80 |
| 26 | 14 | 1897 | G | O5'-P-OP1 | -6.27 | 100.06 | 105.70 |
| 26 | 14 | 2764 | A | C8-N9-C4 | 6.27 | 108.31 | 105.80 |
| 1 | 13 | 517 | G | C5-C6-O6 | -6.26 | 124.84 | 128.60 |
| 1 | 13 | 1356 | G | N1-C6-O6 | 6.26 | 123.66 | 119.90 |
| 26 | 1H | 79 | G | O5'-P-OP1 | -6.26 | 100.06 | 105.70 |
| 26 | 1H | 551 | G | C2-N3-C4 | -6.26 | 108.77 | 111.90 |
| 26 | 1H | 1804 | C | N3-C4-C5 | 6.26 | 124.41 | 121.90 |
| 26 | 14 | 1639 | U | C5-C6-N1 | -6.26 | 119.57 | 122.70 |
| 26 | 14 | 1789 | A | OP1-P-O3' | 6.26 | 118.98 | 105.20 |
| 26 | 14 | 2492 | U | OP1-P-OP2 | -6.26 | 110.20 | 119.60 |
| 26 | 14 | 2594 | C | C5-C4-N4 | -6.26 | 115.81 | 120.20 |
| 26 | 14 | 2762 | G | C4-N9-C1' | 6.26 | 134.64 | 126.50 |
| 26 | 1H | 2567 | G | O5'-P-OP2 | 6.26 | 118.22 | 110.70 |
| 26 | 14 | 1278 | A | C8-N9-C1' | 6.26 | 138.97 | 127.70 |
| 1 | 13 | 450 | G | C4-C5-N7 | -6.26 | 108.30 | 110.80 |
| 1 | 13 | 540 | G | O5'-P-OP2 | -6.26 | 100.07 | 105.70 |
| 26 | 1H | 250 | G | C6-C5-N7 | -6.26 | 126.64 | 130.40 |
| 26 | 1H | 686 | G | OP1-P-OP2 | 6.26 | 128.99 | 119.60 |
| 26 | 1H | 2351 | G | N3-C4-C5 | -6.26 | 125.47 | 128.60 |
| 26 | 1H | 2445 | G | OP2-P-O3' | 6.26 | 118.97 | 105.20 |
| 1 | 1G | 721 | G | C5-C6-O6 | 6.26 | 132.36 | 128.60 |
| 1 | 1G | 776 | G | C5-C6-N1 | -6.26 | 108.37 | 111.50 |
| 26 | 14 | 575 | A | N7-C8-N9 | -6.26 | 110.67 | 113.80 |
| 26 | 14 | 1202 | C | N1-C2-N3 | 6.26 | 123.58 | 119.20 |
| 26 | 14 | 1919 | A | O5'-P-OP1 | -6.26 | 100.06 | 105.70 |
| 26 | 14 | 2429 | G | OP1-P-O3' | -6.26 | 91.42 | 105.20 |
| 26 | 14 | 2456 | C | OP2-P-O3' | 6.26 | 118.97 | 105.20 |
| 1 | 13 | 583 | A | C6-N1-C2 | 6.26 | 122.36 | 118.60 |
| 26 | 1H | 194 | G | O5'-P-OP2 | 6.26 | 118.21 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 631 | A | N7-C8-N9 | -6.26 | 110.67 | 113.80 |
| 26 | 1H | 796 | C | N3-C2-O2 | 6.26 | 126.28 | 121.90 |
| 26 | 1H | 1199 | U | N3-C2-O2 | 6.26 | 126.58 | 122.20 |
| 26 | 1H | 1300 | U | OP2-P-O3' | -6.26 | 91.43 | 105.20 |
| 26 | 1H | 1358 | G | C5-C6-O6 | 6.26 | 132.35 | 128.60 |
| 26 | 1H | 2485 | G | C6-N1-C2 | -6.26 | 121.34 | 125.10 |
| 27 | 16 | 59 | A | OP1-P-OP2 | -6.26 | 110.21 | 119.60 |
| 1 | 1G | 413 | G | C8-N9-C1' | 6.26 | 135.14 | 127.00 |
| 26 | 14 | 245 | G | C5-C6-O6 | -6.26 | 124.84 | 128.60 |
| 26 | 14 | 930 | U | C5-C4-O4 | 6.26 | 129.66 | 125.90 |
| 26 | 14 | 1150 | C | O5'-P-OP1 | -6.26 | 100.07 | 105.70 |
| 26 | 14 | 1237 | A | OP1-P-OP2 | -6.26 | 110.21 | 119.60 |
| 26 | 14 | 1255 | U | N3-C4-O4 | 6.26 | 123.78 | 119.40 |
| 26 | 14 | 1954 | G | N1-C6-O6 | -6.26 | 116.14 | 119.90 |
| 26 | 14 | 2301 | C | N3-C4-C5 | -6.26 | 119.40 | 121.90 |
| 26 | 14 | 2411 | A | C5-N7-C8 | -6.26 | 100.77 | 103.90 |
| 26 | 1H | 633 | A | C5-C6-N6 | -6.26 | 118.69 | 123.70 |
| 26 | 1H | 1568 | G | N7-C8-N9 | -6.26 | 109.97 | 113.10 |
| 26 | 1H | 2357 | U | C5-C6-N1 | 6.26 | 125.83 | 122.70 |
| 1 | 1G | 146 | G | C5-C6-N1 | -6.26 | 108.37 | 111.50 |
| 26 | 14 | 324 | A | N9-C4-C5 | 6.26 | 108.30 | 105.80 |
| 26 | 14 | 345 | A | C8-N9-C4 | 6.26 | 108.30 | 105.80 |
| 26 | 14 | 660 | G | C4-C5-N7 | -6.26 | 108.30 | 110.80 |
| 26 | 14 | 2242 | G | C4-C5-N7 | -6.26 | 108.30 | 110.80 |
| 53 | J5 | 20 | ARG | NE-CZ-NH2 | 6.26 | 123.43 | 120.30 |
| 1 | 13 | 488 | C | O5'-P-OP1 | -6.26 | 100.07 | 105.70 |
| 1 | 13 | 750 | G | O5'-P-OP1 | -6.26 | 100.07 | 105.70 |
| 26 | 1H | 271(C) | U | N3-C4-O4 | -6.26 | 115.02 | 119.40 |
| 26 | 1H | 612 | G | C8-N9-C4 | 6.26 | 108.90 | 106.40 |
| 26 | 1H | 2217 | G | N1-C6-O6 | 6.26 | 123.65 | 119.90 |
| 26 | 1H | 2331 | G | N1-C2-N3 | 6.26 | 127.65 | 123.90 |
| 26 | 1H | 2681 | C | C2-N1-C1' | 6.26 | 125.68 | 118.80 |
| 26 | 1H | 2877 | G | N1-C6-O6 | 6.26 | 123.65 | 119.90 |
| 1 | 1G | 823 | G | N3-C4-C5 | 6.26 | 131.73 | 128.60 |
| 1 | 1G | 972 | C | N3-C4-C5 | -6.26 | 119.40 | 121.90 |
| 26 | 14 | 923 | C | OP1-P-O3' | 6.26 | 118.96 | 105.20 |
| 26 | 14 | 1973 | G | N1-C6-O6 | -6.26 | 116.15 | 119.90 |
| 26 | 14 | 1988 | C | C4-C5-C6 | -6.26 | 114.27 | 117.40 |
| 26 | 14 | 2235 | G | C5-C6-N1 | 6.26 | 114.63 | 111.50 |
| 26 | 1H | 2779 | U | C2-N3-C4 | -6.25 | 123.25 | 127.00 |
| 1 | 1G | 1397 | C | C5-C6-N1 | 6.25 | 124.13 | 121.00 |
| 1 | 1G | 1529 | G | C2-N3-C4 | 6.25 | 115.03 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 34 | C | N3-C4-N4 | 6.25 | 122.38 | 118.00 |
| 26 | 14 | 102 | G | P-O3'-C3' | 6.25 | 127.21 | 119.70 |
| 26 | 14 | 447 | A | C5-C6-N6 | 6.25 | 128.70 | 123.70 |
| 26 | 14 | 1438 | U | N3-C2-O2 | -6.25 | 117.82 | 122.20 |
| 1 | 13 | 550 | G | C5-C6-N1 | 6.25 | 114.63 | 111.50 |
| 1 | 13 | 1468 | A | C6-N1-C2 | -6.25 | 114.85 | 118.60 |
| 26 | 1H | 536 | A | N1-C2-N3 | 6.25 | 132.43 | 129.30 |
| 26 | 1H | 673 | C | C2-N1-C1' | -6.25 | 111.92 | 118.80 |
| 26 | 1H | 1989 | G | C4-C5-N7 | -6.25 | 108.30 | 110.80 |
| 26 | 1H | 2264 | C | O4'-C1'-N1 | 6.25 | 113.20 | 108.20 |
| 26 | 1H | 2513 | G | N3-C2-N2 | -6.25 | 115.52 | 119.90 |
| 26 | 14 | 2510 | C | N1-C2-N3 | 6.25 | 123.58 | 119.20 |
| 26 | 14 | 2516 | G | OP1-P-O3' | -6.25 | 91.44 | 105.20 |
| 1 | 13 | 1512 | U | N3-C2-O2 | -6.25 | 117.83 | 122.20 |
| 26 | 1H | 1264 | G | N1-C2-N3 | 6.25 | 127.65 | 123.90 |
| 26 | 1H | 1518 | C | C5-C6-N1 | 6.25 | 124.13 | 121.00 |
| 26 | 1H | 1789 | A | N1-C6-N6 | -6.25 | 114.85 | 118.60 |
| 26 | 1H | 2236 | C | C4-C5-C6 | 6.25 | 120.53 | 117.40 |
| 26 | 1H | 2457 | U | N3-C2-O2 | 6.25 | 126.58 | 122.20 |
| 1 | 1G | 622 | A | N7-C8-N9 | -6.25 | 110.67 | 113.80 |
| 1 | 1G | 898 | G | OP1-P-OP2 | 6.25 | 128.98 | 119.60 |
| 26 | 14 | 110 | G | C5-C6-O6 | -6.25 | 124.85 | 128.60 |
| 26 | 14 | 363(D) | G | N9-C4-C5 | -6.25 | 102.90 | 105.40 |
| 26 | 14 | 765 | G | N1-C2-N3 | 6.25 | 127.65 | 123.90 |
| 26 | 14 | 1289 | C | N1-C2-N3 | 6.25 | 123.58 | 119.20 |
| 26 | 14 | 2592 | G | O5'-P-OP1 | 6.25 | 118.20 | 110.70 |
| 26 | 14 | 2617 | C | N1-C2-N3 | -6.25 | 114.82 | 119.20 |
| 26 | 14 | 2688 | U | C2-N3-C4 | -6.25 | 123.25 | 127.00 |
| 26 | 14 | 2731 | G | N3-C2-N2 | -6.25 | 115.52 | 119.90 |
| 26 | 1H | 175 | G | C4-C5-N7 | 6.25 | 113.30 | 110.80 |
| 26 | 1H | 472 | A | C5-C6-N6 | -6.25 | 118.70 | 123.70 |
| 26 | 14 | 89 | G | N9-C4-C5 | -6.25 | 102.90 | 105.40 |
| 1 | 13 | 21 | G | C5-N7-C8 | 6.25 | 107.42 | 104.30 |
| 1 | 13 | 1178 | G | C8-N9-C4 | -6.25 | 103.90 | 106.40 |
| 26 | 1H | 582 | G | C5-C6-O6 | -6.25 | 124.85 | 128.60 |
| 26 | 1H | 1299 | G | C6-C5-N7 | -6.25 | 126.65 | 130.40 |
| 26 | 1H | 1454 | U | C5-C4-O4 | 6.25 | 129.65 | 125.90 |
| 26 | 1H | 1607 | C | C5-C6-N1 | 6.25 | 124.12 | 121.00 |
| 26 | 1H | 1779 | U | C6-N1-C2 | 6.25 | 124.75 | 121.00 |
| 26 | 1H | 1888 | G | N7-C8-N9 | 6.25 | 116.22 | 113.10 |
| 26 | 1H | 2280 | G | OP1-P-O3' | 6.25 | 118.95 | 105.20 |
| 26 | 1H | 2772 | C | O5'-P-OP2 | -6.25 | 100.08 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 495 | G | N3-C4-N9 | -6.25 | 122.25 | 126.00 |
| 26 | 14 | 575 | A | C6-N1-C2 | -6.25 | 114.85 | 118.60 |
| 26 | 14 | 721 | C | C5-C4-N4 | -6.25 | 115.83 | 120.20 |
| 26 | 14 | 1500 | G | C5-N7-C8 | -6.25 | 101.18 | 104.30 |
| 26 | 14 | 2784 | C | N3-C2-O2 | 6.25 | 126.27 | 121.90 |
| 1 | 13 | 1250 | A | C5-C6-N6 | 6.25 | 128.70 | 123.70 |
| 1 | 13 | 1268 | A | C6-N1-C2 | -6.25 | 114.85 | 118.60 |
| 26 | 1H | 86 | C | OP2-P-O3' | 6.25 | 118.94 | 105.20 |
| 26 | 1H | 328 | U | OP2-P-O3' | 6.25 | 118.94 | 105.20 |
| 26 | 1H | 814 | C | C5-C6-N1 | -6.25 | 117.88 | 121.00 |
| 26 | 1H | 848 | G | C4-C5-N7 | -6.25 | 108.30 | 110.80 |
| 26 | 1H | 2228 | G | C6-C5-N7 | -6.25 | 126.65 | 130.40 |
| 1 | 1G | 481 | G | C4-C5-C6 | 6.25 | 122.55 | 118.80 |
| 26 | 14 | 577 | G | C4-C5-C6 | 6.25 | 122.55 | 118.80 |
| 26 | 14 | 1695 | G | C4-N9-C1' | 6.25 | 134.62 | 126.50 |
| 26 | 14 | 1840 | G | N1-C6-O6 | 6.25 | 123.65 | 119.90 |
| 26 | 14 | 1936 | A | O4'-C1'-N9 | 6.25 | 113.20 | 108.20 |
| 26 | 14 | 2565 | A | C4-C5-C6 | -6.25 | 113.88 | 117.00 |
| 26 | 14 | 2702 | U | N3-C4-O4 | -6.25 | 115.03 | 119.40 |
| 26 | 1H | 98 | G | O5'-P-OP2 | -6.25 | 100.08 | 105.70 |
| 26 | 1H | 578 | A | C5-C6-N6 | -6.25 | 118.70 | 123.70 |
| 27 | 16 | 4 | C | C6-N1-C2 | 6.25 | 122.80 | 120.30 |
| 26 | 14 | 1351 | C | C4-C5-C6 | 6.25 | 120.52 | 117.40 |
| 26 | 1H | 124 | G | C4-N9-C1' | -6.24 | 118.38 | 126.50 |
| 26 | 1H | 1517 | G | C4-C5-N7 | 6.24 | 113.30 | 110.80 |
| 26 | 1H | 1689 | A | OP1-P-OP2 | 6.24 | 128.97 | 119.60 |
| 26 | 1H | 2355 | C | C4-C5-C6 | 6.24 | 120.52 | 117.40 |
| 26 | 14 | 14 | A | C5-C6-N1 | 6.24 | 120.82 | 117.70 |
| 26 | 14 | 1649 | G | N1-C2-N3 | 6.24 | 127.65 | 123.90 |
| 26 | 14 | 1826 | G | C6-C5-N7 | 6.24 | 134.15 | 130.40 |
| 26 | 1H | 621 | A | N7-C8-N9 | 6.24 | 116.92 | 113.80 |
| 26 | 1H | 2523 | G | C5-C6-N1 | 6.24 | 114.62 | 111.50 |
| 26 | 14 | 51 | G | C8-N9-C1' | -6.24 | 118.89 | 127.00 |
| 26 | 14 | 141 | A | C5-N7-C8 | -6.24 | 100.78 | 103.90 |
| 26 | 14 | 830 | G | C8-N9-C4 | 6.24 | 108.90 | 106.40 |
| 26 | 14 | 993 | G | C5-C6-O6 | 6.24 | 132.34 | 128.60 |
| 26 | 14 | 1228 | G | N1-C6-O6 | -6.24 | 116.16 | 119.90 |
| 26 | 14 | 1930 | G | N9-C1'-C2' | 6.24 | 122.11 | 114.00 |
| 1 | 13 | 231 | G | N9-C4-C5 | 6.24 | 107.90 | 105.40 |
| 1 | 13 | 369 | C | C2-N3-C4 | -6.24 | 116.78 | 119.90 |
| 1 | 13 | 1048 | G | C5-C6-O6 | -6.24 | 124.86 | 128.60 |
| 26 | 1H | 843 | G | C2-N3-C4 | -6.24 | 108.78 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 917 | A | C5-N7-C8 | -6.24 | 100.78 | 103.90 |
| 26 | 1H | 1218 | C | OP1-P-OP2 | 6.24 | 128.96 | 119.60 |
| 26 | 1H | 1404 | C | N1-C2-N3 | -6.24 | 114.83 | 119.20 |
| 26 | 1H | 1634 | A | N1-C6-N6 | 6.24 | 122.34 | 118.60 |
| 26 | 1H | 1989 | G | C5-C6-O6 | -6.24 | 124.86 | 128.60 |
| 26 | 1H | 2375 | G | N1-C2-N2 | 6.24 | 121.82 | 116.20 |
| 27 | 16 | 106 | G | C8-N9-C4 | 6.24 | 108.90 | 106.40 |
| 26 | 14 | 70 | G | N3-C4-N9 | 6.24 | 129.74 | 126.00 |
| 26 | 14 | 629 | G | C2-N3-C4 | -6.24 | 108.78 | 111.90 |
| 26 | 14 | 2506 | U | C4-C5-C6 | 6.24 | 123.44 | 119.70 |
| 26 | 14 | 2599 | G | N9-C4-C5 | 6.24 | 107.90 | 105.40 |
| 27 | 1J | 28 | C | N3-C4-C5 | 6.24 | 124.40 | 121.90 |
| 1 | 13 | 1239 | A | N9-C4-C5 | -6.24 | 103.31 | 105.80 |
| 22 | 1K | 27 | G | C5-N7-C8 | 6.24 | 107.42 | 104.30 |
| 26 | 1H | 316 | C | C2-N3-C4 | -6.24 | 116.78 | 119.90 |
| 26 | 1H | 1052 | C | O5'-P-OP2 | 6.24 | 118.19 | 110.70 |
| 26 | 1H | 2284 | C | C6-N1-C2 | 6.24 | 122.80 | 120.30 |
| 26 | 1H | 2760 | C | C2-N3-C4 | -6.24 | 116.78 | 119.90 |
| 26 | 14 | 626 | U | N3-C2-O2 | 6.24 | 126.57 | 122.20 |
| 26 | 14 | 2325 | G | C4-C5-N7 | -6.24 | 108.31 | 110.80 |
| 26 | 14 | 2662 | A | C8-N9-C4 | 6.24 | 108.30 | 105.80 |
| 26 | 14 | 2726 | U | N3-C2-O2 | -6.24 | 117.83 | 122.20 |
| 26 | 1H | 652 | C | C5-C4-N4 | -6.24 | 115.83 | 120.20 |
| 26 | 1H | 1006 | C | OP1-P-OP2 | 6.24 | 128.96 | 119.60 |
| 26 | 1H | 2477 | C | N1-C2-O2 | 6.24 | 122.64 | 118.90 |
| 1 | 1G | 166 | G | N1-C6-O6 | 6.24 | 123.64 | 119.90 |
| 1 | 1G | 1469 | G | C6-N1-C2 | 6.24 | 128.84 | 125.10 |
| 26 | 14 | 2697 | G | N9-C4-C5 | -6.24 | 102.91 | 105.40 |
| 26 | 1H | 283 | A | C5-C6-N6 | 6.24 | 128.69 | 123.70 |
| 26 | 1H | 801 | G | C8-N9-C1' | 6.24 | 135.11 | 127.00 |
| 26 | 1H | 2713 | A | C4-C5-C6 | 6.24 | 120.12 | 117.00 |
| 1 | 1G | 902 | G | C5-C6-O6 | -6.24 | 124.86 | 128.60 |
| 1 | 1G | 1482 | G | C8-N9-C1' | -6.24 | 118.89 | 127.00 |
| 1 | 1G | 1519 | A | C8-N9-C4 | -6.24 | 103.31 | 105.80 |
| 26 | 14 | 361 | G | N3-C4-C5 | -6.24 | 125.48 | 128.60 |
| 26 | 14 | 2264 | C | OP1-P-OP2 | -6.24 | 110.25 | 119.60 |
| 1 | 13 | 806 | C | C6-N1-C2 | 6.23 | 122.79 | 120.30 |
| 26 | 14 | 2067 | G | N1-C6-O6 | 6.23 | 123.64 | 119.90 |
| 1 | 13 | 742 | G | N3-C4-C5 | 6.23 | 131.72 | 128.60 |
| 1 | 13 | 973 | G | N1-C2-N3 | 6.23 | 127.64 | 123.90 |
| 1 | 13 | 1129 | C | C2-N3-C4 | 6.23 | 123.02 | 119.90 |
| 1 | 13 | 1320 | C | C6-N1-C2 | 6.23 | 122.79 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 271(A) | C | C6-N1-C2 | 6.23 | 122.79 | 120.30 |
| 26 | 1H | 638 | G | C5-C6-N1 | -6.23 | 108.38 | 111.50 |
| 26 | 1H | 796 | C | OP2-P-O3' | 6.23 | 118.91 | 105.20 |
| 26 | 1H | 1139 | G | N1-C6-O6 | -6.23 | 116.16 | 119.90 |
| 1 | 1G | 688 | G | N1-C2-N3 | 6.23 | 127.64 | 123.90 |
| 26 | 14 | 1812 | A | N1-C2-N3 | 6.23 | 132.42 | 129.30 |
| 26 | 14 | 2330 | G | C8-N9-C1' | -6.23 | 118.90 | 127.00 |
| 26 | 14 | 2427 | C | N3-C4-N4 | 6.23 | 122.36 | 118.00 |
| 26 | 14 | 2522 | U | N3-C4-O4 | -6.23 | 115.04 | 119.40 |
| 1 | 13 | 52 | G | N1-C2-N2 | -6.23 | 110.59 | 116.20 |
| 1 | 13 | 1480 | G | C4-C5-N7 | -6.23 | 108.31 | 110.80 |
| 23 | 2K | 23 | G | C6-N1-C2 | 6.23 | 128.84 | 125.10 |
| 26 | 1H | 344 | G | N3-C4-C5 | -6.23 | 125.48 | 128.60 |
| 26 | 1H | 539 | G | C6-N1-C2 | 6.23 | 128.84 | 125.10 |
| 26 | 1H | 1445 | C | C5-C6-N1 | 6.23 | 124.11 | 121.00 |
| 38 | 88 | 85 | LYS | N-CA-C | -6.23 | 94.18 | 111.00 |
| 1 | 1G | 569 | C | C5-C6-N1 | 6.23 | 124.11 | 121.00 |
| 26 | 14 | 691 | C | N1-C2-N3 | 6.23 | 123.56 | 119.20 |
| 26 | 14 | 701 | G | C4-C5-N7 | -6.23 | 108.31 | 110.80 |
| 26 | 14 | 949 | C | N3-C2-O2 | 6.23 | 126.26 | 121.90 |
| 26 | 14 | 1555 | G | N9-C4-C5 | 6.23 | 107.89 | 105.40 |
| 26 | 14 | 1804 | C | C5-C6-N1 | 6.23 | 124.11 | 121.00 |
| 26 | 14 | 2290 | G | C5-C6-O6 | -6.23 | 124.86 | 128.60 |
| 26 | 1H | 1470 | G | N9-C4-C5 | 6.23 | 107.89 | 105.40 |
| 32 | 41 | 94 | LEU | CB-CG-CD1 | -6.23 | 100.41 | 111.00 |
| 26 | 14 | 641 | C | O5'-P-OP1 | -6.23 | 100.09 | 105.70 |
| 26 | 14 | 739 | G | C5-C6-O6 | 6.23 | 132.34 | 128.60 |
| 1 | 13 | 863 | U | C6-N1-C1' | 6.23 | 129.92 | 121.20 |
| 1 | 13 | 941 | G | C6-C5-N7 | 6.23 | 134.14 | 130.40 |
| 1 | 13 | 1323 | G | O5'-P-OP1 | -6.23 | 100.10 | 105.70 |
| 1 | 13 | 1424 | C | C5-C6-N1 | -6.23 | 117.89 | 121.00 |
| 26 | 1H | 206 | U | N1-C2-N3 | -6.23 | 111.16 | 114.90 |
| 26 | 1H | 806 | C | OP1-P-OP2 | -6.23 | 110.26 | 119.60 |
| 26 | 1H | 1403 | C | N3-C4-C5 | -6.23 | 119.41 | 121.90 |
| 26 | 1H | 1947 | C | N1-C2-O2 | 6.23 | 122.64 | 118.90 |
| 1 | 1G | 230 | G | N1-C2-N3 | 6.23 | 127.64 | 123.90 |
| 1 | 1G | 414 | A | C5-C6-N6 | -6.23 | 118.72 | 123.70 |
| 1 | 1G | 742 | G | N1-C6-O6 | 6.23 | 123.64 | 119.90 |
| 26 | 14 | 760 | G | N7-C8-N9 | 6.23 | 116.21 | 113.10 |
| 26 | 14 | 966 | G | C5-C6-O6 | 6.23 | 132.34 | 128.60 |
| 26 | 14 | 2060 | A | O4'-C1'-N9 | 6.23 | 113.18 | 108.20 |
| 26 | 14 | 2444 | G | N1-C2-N3 | 6.23 | 127.64 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 141 | A | O4'-C1'-N9 | 6.23 | 113.18 | 108.20 |
| 26 | 1H | 1249 | U | C5-C6-N1 | -6.23 | 119.59 | 122.70 |
| 26 | 1H | 1488 | G | N7-C8-N9 | 6.23 | 116.21 | 113.10 |
| 26 | 14 | 535 | C | C2-N3-C4 | -6.23 | 116.79 | 119.90 |
| 26 | 14 | 2557 | G | C5-N7-C8 | 6.23 | 107.41 | 104.30 |
| 1 | 13 | 734 | G | OP2-P-O3' | 6.22 | 118.89 | 105.20 |
| 1 | 13 | 951 | G | C5-C6-O6 | 6.22 | 132.33 | 128.60 |
| 1 | 13 | 1309 | G | N1-C6-O6 | 6.22 | 123.63 | 119.90 |
| 26 | 1H | 43 | G | OP1-P-OP2 | -6.22 | 110.27 | 119.60 |
| 26 | 1H | 491 | G | O4'-C1'-N9 | -6.22 | 103.22 | 108.20 |
| 26 | 1H | 680 | G | C8-N9-C4 | 6.22 | 108.89 | 106.40 |
| 26 | 1H | 924 | C | N3-C4-C5 | 6.22 | 124.39 | 121.90 |
| 26 | 1H | 1189 | A | C6-C5-N7 | -6.22 | 127.94 | 132.30 |
| 26 | 1H | 1422 | G | C6-C5-N7 | -6.22 | 126.67 | 130.40 |
| 26 | 1H | 1553 | A | C5-C6-N1 | 6.22 | 120.81 | 117.70 |
| 26 | 1H | 1907 | G | N3-C4-N9 | -6.22 | 122.27 | 126.00 |
| 26 | 1H | 2618 | G | C2-N3-C4 | 6.22 | 115.01 | 111.90 |
| 27 | 16 | 39 | A | OP1-P-OP2 | -6.22 | 110.26 | 119.60 |
| 26 | 14 | 52 | A | C5-C6-N6 | 6.22 | 128.68 | 123.70 |
| 26 | 14 | 1393 | A | C6-N1-C2 | -6.22 | 114.86 | 118.60 |
| 26 | 14 | 1918 | A | C5-N7-C8 | -6.22 | 100.79 | 103.90 |
| 26 | 14 | 2219 | G | N3-C4-C5 | 6.22 | 131.71 | 128.60 |
| 26 | 14 | 2226 | C | C4-C5-C6 | -6.22 | 114.29 | 117.40 |
| 26 | 14 | 2371 | G | N3-C4-C5 | 6.22 | 131.71 | 128.60 |
| 26 | 14 | 2867 | G | O4'-C1'-N9 | 6.22 | 113.18 | 108.20 |
| 1 | 13 | 357 | G | C8-N9-C4 | -6.22 | 103.91 | 106.40 |
| 26 | 1H | 711 | G | C5-C6-N1 | -6.22 | 108.39 | 111.50 |
| 26 | 1H | 1689 | A | N3-C4-C5 | 6.22 | 131.16 | 126.80 |
| 1 | 1G | 528 | C | N1-C2-N3 | -6.22 | 114.84 | 119.20 |
| 1 | 1G | 586 | C | O5'-P-OP1 | 6.22 | 118.17 | 110.70 |
| 1 | 1G | 1199 | U | C5-C4-O4 | 6.22 | 129.63 | 125.90 |
| 23 | 2L | 68 | C | N1-C2-O2 | 6.22 | 122.63 | 118.90 |
| 26 | 14 | 432 | A | C6-C5-N7 | -6.22 | 127.94 | 132.30 |
| 26 | 14 | 828 | U | C2-N1-C1' | 6.22 | 125.17 | 117.70 |
| 26 | 14 | 853 | G | C4-C5-N7 | -6.22 | 108.31 | 110.80 |
| 26 | 14 | 1802 | A | N9-C4-C5 | 6.22 | 108.29 | 105.80 |
| 26 | 14 | 2053 | G | C5-C6-O6 | 6.22 | 132.33 | 128.60 |
| 26 | 1H | 615 | G | C4-C5-N7 | -6.22 | 108.31 | 110.80 |
| 26 | 14 | 1520 | U | O5'-P-OP2 | -6.22 | 100.10 | 105.70 |
| 26 | 14 | 2723 | C | C5-C4-N4 | 6.22 | 124.55 | 120.20 |
| 1 | 13 | 51 | A | N1-C2-N3 | 6.22 | 132.41 | 129.30 |
| 1 | 13 | 928 | G | N1-C6-O6 | 6.22 | 123.63 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 795 | C | N3-C4-N4 | -6.22 | 113.65 | 118.00 |
| 26 | 1H | 910 | A | N7-C8-N9 | 6.22 | 116.91 | 113.80 |
| 26 | 1H | 1953 | A | C5-C6-N1 | 6.22 | 120.81 | 117.70 |
| 26 | 1H | 2320 | A | O4'-C1'-N9 | 6.22 | 113.17 | 108.20 |
| 26 | 1H | 2497 | A | C4-C5-C6 | 6.22 | 120.11 | 117.00 |
| 1 | 1G | 556 | C | C6-N1-C2 | 6.22 | 122.79 | 120.30 |
| 1 | 1G | 558 | G | N1-C2-N3 | 6.22 | 127.63 | 123.90 |
| 26 | 14 | 2072 | G | N7-C8-N9 | -6.22 | 109.99 | 113.10 |
| 26 | 14 | 2827 | C | N3-C4-C5 | 6.22 | 124.39 | 121.90 |
| 27 | 1J | 32 | C | C5-C6-N1 | -6.22 | 117.89 | 121.00 |
| 26 | 14 | 87 | C | N3-C2-O2 | -6.22 | 117.55 | 121.90 |
| 26 | 14 | 2814 | C | O5'-P-OP1 | -6.22 | 100.10 | 105.70 |
| 1 | 13 | 498 | A | N9-C4-C5 | 6.22 | 108.29 | 105.80 |
| 1 | 13 | 1053 | G | C5-C6-N1 | 6.22 | 114.61 | 111.50 |
| 24 | 3K | 34 | U | C5-C4-O4 | -6.22 | 122.17 | 125.90 |
| 26 | 1H | 519 | U | N1-C2-O2 | -6.22 | 118.45 | 122.80 |
| 26 | 1H | 724 | U | C5-C4-O4 | 6.22 | 129.63 | 125.90 |
| 26 | 1H | 1460 | A | C2-N3-C4 | -6.22 | 107.49 | 110.60 |
| 26 | 1H | 1478 | G | O5'-P-OP1 | 6.22 | 118.16 | 110.70 |
| 26 | 1H | 1549 | C | N1-C2-O2 | 6.22 | 122.63 | 118.90 |
| 1 | 1G | 666 | G | C8-N9-C1' | -6.22 | 118.92 | 127.00 |
| 26 | 14 | 52 | A | C8-N9-C4 | -6.22 | 103.31 | 105.80 |
| 26 | 14 | 1357 | U | OP1-P-OP2 | 6.22 | 128.93 | 119.60 |
| 26 | 14 | 2020 | A | C5-C6-N6 | 6.22 | 128.67 | 123.70 |
| 26 | 14 | 2325 | G | N1-C2-N3 | 6.22 | 127.63 | 123.90 |
| 26 | 14 | 2396 | G | C5-N7-C8 | -6.22 | 101.19 | 104.30 |
| 1 | 13 | 664 | G | N1-C6-O6 | -6.21 | 116.17 | 119.90 |
| 1 | 13 | 1215 | G | C5-C6-N1 | -6.21 | 108.39 | 111.50 |
| 26 | 1H | 57 | C | OP2-P-O3' | 6.21 | 118.87 | 105.20 |
| 26 | 1H | 202 | U | C4-C5-C6 | -6.21 | 115.97 | 119.70 |
| 26 | 1H | 1203 | G | C5-C6-N1 | 6.21 | 114.61 | 111.50 |
| 26 | 1H | 1563 | G | C8-N9-C4 | -6.21 | 103.91 | 106.40 |
| 26 | 1H | 1588 | C | OP2-P-O3' | -6.21 | 91.53 | 105.20 |
| 1 | 1G | 529 | G | C5-N7-C8 | -6.21 | 101.19 | 104.30 |
| 26 | 14 | 761 | A | C6-C5-N7 | 6.21 | 136.65 | 132.30 |
| 26 | 14 | 1236 | G | C6-C5-N7 | -6.21 | 126.67 | 130.40 |
| 26 | 14 | 1573 | G | C2-N3-C4 | -6.21 | 108.79 | 111.90 |
| 26 | 14 | 2686 | G | O5'-P-OP1 | -6.21 | 100.11 | 105.70 |
| 30 | 29 | 47 | VAL | CG1-CB-CG2 | -6.21 | 100.96 | 110.90 |
| 1 | 13 | 1420 | C | C2-N3-C4 | -6.21 | 116.79 | 119.90 |
| 26 | 1H | 1498 | C | O5'-P-OP1 | -6.21 | 100.11 | 105.70 |
| 26 | 1H | 1785 | A | C5-C6-N1 | 6.21 | 120.81 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2478 | A | N1-C6-N6 | -6.21 | 114.87 | 118.60 |
| 26 | 14 | 33 | U | N1-C2-O2 | -6.21 | 118.45 | 122.80 |
| 26 | 14 | 751 | A | N7-C8-N9 | -6.21 | 110.69 | 113.80 |
| 26 | 14 | 2835 | A | C4-C5-C6 | -6.21 | 113.89 | 117.00 |
| 27 | 1J | 55 | U | N3-C4-C5 | -6.21 | 110.87 | 114.60 |
| 1 | 13 | 186 | C | OP1-P-O3' | 6.21 | 118.86 | 105.20 |
| 1 | 13 | 888 | G | N1-C2-N3 | 6.21 | 127.63 | 123.90 |
| 1 | 13 | 1406 | U | O5'-P-OP2 | -6.21 | 100.11 | 105.70 |
| 26 | 1H | 64 | A | C6-N1-C2 | -6.21 | 114.87 | 118.60 |
| 26 | 1H | 154 | G | N3-C4-C5 | 6.21 | 131.71 | 128.60 |
| 26 | 1H | 1726 | G | N7-C8-N9 | -6.21 | 109.99 | 113.10 |
| 26 | 1H | 2716 | U | N1-C2-N3 | 6.21 | 118.63 | 114.90 |
| 1 | 1G | 684 | A | C5-C6-N1 | -6.21 | 114.59 | 117.70 |
| 26 | 14 | 683 | C | C6-N1-C2 | 6.21 | 122.78 | 120.30 |
| 26 | 14 | 1631 | A | C2-N3-C4 | -6.21 | 107.50 | 110.60 |
| 26 | 14 | 2005 | A | N7-C8-N9 | -6.21 | 110.69 | 113.80 |
| 26 | 14 | 2250 | G | C8-N9-C4 | -6.21 | 103.92 | 106.40 |
| 1 | 13 | 312 | C | N3-C4-N4 | 6.21 | 122.35 | 118.00 |
| 1 | 13 | 1519 | A | C8-N9-C4 | -6.21 | 103.32 | 105.80 |
| 26 | 1H | 335 | C | C2-N3-C4 | 6.21 | 123.00 | 119.90 |
| 26 | 1H | 2504 | U | N1-C2-O2 | -6.21 | 118.45 | 122.80 |
| 1 | 1G | 800 | G | C4-N9-C1' | 6.21 | 134.57 | 126.50 |
| 26 | 14 | 28 | A | N7-C8-N9 | 6.21 | 116.91 | 113.80 |
| 26 | 14 | 126 | A | N1-C2-N3 | 6.21 | 132.41 | 129.30 |
| 26 | 14 | 436 | C | N3-C4-N4 | -6.21 | 113.65 | 118.00 |
| 26 | 14 | 452 | G | N1-C2-N3 | 6.21 | 127.63 | 123.90 |
| 26 | 14 | 509 | C | N3-C2-O2 | -6.21 | 117.55 | 121.90 |
| 26 | 14 | 1702 | G | N1-C2-N3 | 6.21 | 127.63 | 123.90 |
| 26 | 14 | 2699 | C | C2-N3-C4 | -6.21 | 116.80 | 119.90 |
| 1 | 13 | 382 | A | C8-N9-C4 | 6.21 | 108.28 | 105.80 |
| 26 | 1H | 1026 | U | O4'-C1'-N1 | 6.21 | 113.17 | 108.20 |
| 26 | 1H | 1329 | U | O5'-P-OP1 | -6.21 | 100.11 | 105.70 |
| 26 | 1H | 1818 | U | N1-C2-O2 | 6.21 | 127.15 | 122.80 |
| 26 | 1H | 2092 | U | C5-C6-N1 | 6.21 | 125.80 | 122.70 |
| 26 | 1H | 2833 | G | O5'-P-OP2 | -6.21 | 100.11 | 105.70 |
| 1 | 1G | 50 | A | C5-N7-C8 | 6.21 | 107.00 | 103.90 |
| 26 | 14 | 738 | G | N7-C8-N9 | 6.21 | 116.20 | 113.10 |
| 26 | 14 | 1270 | C | C6-N1-C2 | -6.21 | 117.82 | 120.30 |
| 26 | 14 | 1688 | U | C6-N1-C1' | 6.21 | 129.89 | 121.20 |
| 26 | 14 | 2020 | A | C8-N9-C4 | -6.21 | 103.32 | 105.80 |
| 1 | 13 | 1441 | G | N3-C2-N2 | -6.21 | 115.56 | 119.90 |
| 26 | 1H | 208 | C | OP2-P-O3' | 6.21 | 118.85 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 680 | G | C5-N7-C8 | 6.21 | 107.40 | 104.30 |
| 26 | 1H | 1423 | G | C5-C6-O6 | 6.21 | 132.32 | 128.60 |
| 26 | 1H | 1622 | G | C2-N3-C4 | -6.21 | 108.80 | 111.90 |
| 26 | 1H | 2325 | G | OP1-P-OP2 | 6.21 | 128.91 | 119.60 |
| 26 | 1H | 2617 | C | OP2-P-O3' | 6.21 | 118.85 | 105.20 |
| 26 | 1H | 2839 | G | N3-C2-N2 | -6.21 | 115.56 | 119.90 |
| 1 | 1G | 534 | U | OP2-P-O3' | 6.21 | 118.85 | 105.20 |
| 1 | 1G | 663 | A | C5-C6-N1 | -6.21 | 114.60 | 117.70 |
| 1 | 1G | 991 | U | N3-C2-O2 | -6.21 | 117.86 | 122.20 |
| 1 | 1G | 1261 | A | C8-N9-C4 | -6.21 | 103.32 | 105.80 |
| 26 | 14 | 72 | U | C2-N3-C4 | -6.21 | 123.28 | 127.00 |
| 26 | 14 | 387 | U | N1-C2-N3 | -6.21 | 111.18 | 114.90 |
| 26 | 14 | 389 | G | N3-C4-N9 | 6.21 | 129.72 | 126.00 |
| 26 | 14 | 675 | A | N3-C4-C5 | 6.21 | 131.15 | 126.80 |
| 26 | 14 | 841 | A | OP1-P-OP2 | 6.21 | 128.91 | 119.60 |
| 26 | 14 | 863 | A | C5-C6-N1 | 6.21 | 120.80 | 117.70 |
| 26 | 14 | 1664 | A | N1-C2-N3 | 6.21 | 132.40 | 129.30 |
| 26 | 14 | 2361 | A | C5-C6-N1 | -6.21 | 114.60 | 117.70 |
| 26 | 1H | 129 | C | C6-N1-C2 | 6.21 | 122.78 | 120.30 |
| 27 | 16 | 103 | U | C5-C4-O4 | -6.21 | 122.18 | 125.90 |
| 26 | 14 | 469 | G | C4-C5-C6 | -6.21 | 115.08 | 118.80 |
| 26 | 14 | 2041 | U | N3-C2-O2 | -6.21 | 117.86 | 122.20 |
| 26 | 14 | 2232 | U | C6-N1-C2 | -6.21 | 117.28 | 121.00 |
| 26 | 14 | 2313 | C | N3-C4-C5 | -6.21 | 119.42 | 121.90 |
| 1 | 13 | 247 | G | N3-C4-C5 | -6.20 | 125.50 | 128.60 |
| 1 | 13 | 853 | G | N3-C4-C5 | 6.20 | 131.70 | 128.60 |
| 1 | 13 | 881 | G | C5-N7-C8 | 6.20 | 107.40 | 104.30 |
| 1 | 13 | 1467 | G | C4-C5-N7 | -6.20 | 108.32 | 110.80 |
| 26 | 1H | 345 | A | N7-C8-N9 | 6.20 | 116.90 | 113.80 |
| 26 | 1H | 599 | G | O5'-P-OP2 | -6.20 | 100.12 | 105.70 |
| 26 | 1H | 1829 | A | OP2-P-O3' | 6.20 | 118.85 | 105.20 |
| 1 | 1G | 565 | U | N3-C2-O2 | -6.20 | 117.86 | 122.20 |
| 1 | 1G | 1227 | A | N1-C6-N6 | 6.20 | 122.32 | 118.60 |
| 1 | 1G | 1465 | C | C2-N1-C1' | 6.20 | 125.62 | 118.80 |
| 26 | 14 | 759 | G | N9-C4-C5 | 6.20 | 107.88 | 105.40 |
| 26 | 14 | 991 | C | OP1-P-OP2 | -6.20 | 110.29 | 119.60 |
| 26 | 14 | 1032 | A | C8-N9-C4 | 6.20 | 108.28 | 105.80 |
| 26 | 14 | 1424 | G | C8-N9-C4 | 6.20 | 108.88 | 106.40 |
| 26 | 14 | 1480 | G | C5-C6-N1 | -6.20 | 108.40 | 111.50 |
| 26 | 14 | 1769 | G | C4-C5-C6 | 6.20 | 122.52 | 118.80 |
| 26 | 14 | 2287 | A | C6-N1-C2 | 6.20 | 122.32 | 118.60 |
| 27 | 1J | 104 | A | N1-C6-N6 | 6.20 | 122.32 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 883 | C | C6-N1-C2 | -6.20 | 117.82 | 120.30 |
| 1 | 13 | 1479 | C | N3-C4-C5 | 6.20 | 124.38 | 121.90 |
| 26 | 1H | 1488 | G | C2-N3-C4 | -6.20 | 108.80 | 111.90 |
| 1 | 1G | 108 | G | N7-C8-N9 | 6.20 | 116.20 | 113.10 |
| 1 | 1G | 244 | U | N1-C2-O2 | 6.20 | 127.14 | 122.80 |
| 1 | 1G | 900 | A | C8-N9-C4 | 6.20 | 108.28 | 105.80 |
| 26 | 14 | 1154 | G | C5-N7-C8 | -6.20 | 101.20 | 104.30 |
| 26 | 14 | 1970 | A | C5-N7-C8 | -6.20 | 100.80 | 103.90 |
| 1 | 13 | 137 | C | C4-C5-C6 | -6.20 | 114.30 | 117.40 |
| 1 | 13 | 561 | U | OP1-P-OP2 | -6.20 | 110.30 | 119.60 |
| 1 | 13 | 618 | C | C5-C6-N1 | 6.20 | 124.10 | 121.00 |
| 1 | 13 | 824 | C | N1-C2-O2 | -6.20 | 115.18 | 118.90 |
| 26 | 1H | 193 | U | OP2-P-O3' | 6.20 | 118.84 | 105.20 |
| 26 | 1H | 420 | C | N1-C2-O2 | -6.20 | 115.18 | 118.90 |
| 26 | 1H | 659 | C | O5'-P-OP2 | -6.20 | 100.12 | 105.70 |
| 26 | 1H | 847 | U | C2-N3-C4 | -6.20 | 123.28 | 127.00 |
| 26 | 1H | 1030 | G | C4-C5-C6 | 6.20 | 122.52 | 118.80 |
| 26 | 1H | 1962 | C | C5-C6-N1 | 6.20 | 124.10 | 121.00 |
| 26 | 1H | 2058 | A | C6-C5-N7 | -6.20 | 127.96 | 132.30 |
| 26 | 1H | 2714 | G | N3-C2-N2 | -6.20 | 115.56 | 119.90 |
| 1 | 1G | 915 | A | N1-C6-N6 | -6.20 | 114.88 | 118.60 |
| 26 | 14 | 969 | U | O5'-P-OP1 | -6.20 | 100.12 | 105.70 |
| 26 | 14 | 1309 | G | N3-C4-C5 | 6.20 | 131.70 | 128.60 |
| 26 | 14 | 1522 | G | C6-N1-C2 | -6.20 | 121.38 | 125.10 |
| 26 | 14 | 2034 | U | C4-C5-C6 | 6.20 | 123.42 | 119.70 |
| 26 | 14 | 2084 | C | OP1-P-OP2 | 6.20 | 128.90 | 119.60 |
| 26 | 14 | 2279 | G | OP1-P-OP2 | -6.20 | 110.30 | 119.60 |
| 26 | 14 | 2427 | C | C5-C4-N4 | -6.20 | 115.86 | 120.20 |
| 26 | 14 | 2517 | C | N1-C2-O2 | -6.20 | 115.18 | 118.90 |
| 26 | 14 | 2707 | G | C8-N9-C4 | 6.20 | 108.88 | 106.40 |
| 26 | 14 | 2772 | C | N3-C4-N4 | -6.20 | 113.66 | 118.00 |
| 26 | 14 | 2850 | A | N9-C4-C5 | -6.20 | 103.32 | 105.80 |
| 26 | 14 | 2893 | G | C2-N3-C4 | 6.20 | 115.00 | 111.90 |
| 1 | 13 | 265 | G | N3-C2-N2 | -6.20 | 115.56 | 119.90 |
| 26 | 1H | 954 | G | C5-N7-C8 | 6.20 | 107.40 | 104.30 |
| 26 | 1H | 1705 | G | N1-C2-N2 | -6.20 | 110.62 | 116.20 |
| 26 | 1H | 2063 | C | OP1-P-OP2 | 6.20 | 128.90 | 119.60 |
| 26 | 1H | 2270 | G | C8-N9-C1' | -6.20 | 118.94 | 127.00 |
| 1 | 1G | 1432 | G | C4-C5-C6 | 6.20 | 122.52 | 118.80 |
| 26 | 14 | 596 | G | N7-C8-N9 | 6.20 | 116.20 | 113.10 |
| 26 | 14 | 2049 | G | C5-C6-O6 | -6.20 | 124.88 | 128.60 |
| 26 | 14 | 2755 | C | C6-N1-C1' | -6.20 | 113.36 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1205 | U | C6-N1-C1' | 6.20 | 129.88 | 121.20 |
| 1 | 13 | 1329 | A | N9-C4-C5 | -6.20 | 103.32 | 105.80 |
| 1 | 13 | 1497 | G | N1-C6-O6 | -6.20 | 116.18 | 119.90 |
| 26 | 1H | 247 | G | O5'-P-OP1 | 6.20 | 118.14 | 110.70 |
| 26 | 1H | 374 | A | N1-C2-N3 | -6.20 | 126.20 | 129.30 |
| 26 | 1H | 859 | G | N7-C8-N9 | -6.20 | 110.00 | 113.10 |
| 26 | 1H | 1923 | U | N3-C4-C5 | -6.20 | 110.88 | 114.60 |
| 1 | 1G | 915 | A | C2-N3-C4 | 6.20 | 113.70 | 110.60 |
| 26 | 14 | 401 | A | C8-N9-C4 | -6.20 | 103.32 | 105.80 |
| 26 | 14 | 955 | C | OP1-P-OP2 | 6.20 | 128.90 | 119.60 |
| 26 | 14 | 1960 | A | C4-C5-N7 | -6.20 | 107.60 | 110.70 |
| 1 | 13 | 108 | G | N1-C2-N3 | -6.20 | 120.18 | 123.90 |
| 1 | 13 | 289 | G | O5'-P-OP2 | -6.20 | 100.12 | 105.70 |
| 26 | 1H | 607 | U | N1-C2-O2 | 6.20 | 127.14 | 122.80 |
| 26 | 1H | 933 | A | N9-C4-C5 | 6.20 | 108.28 | 105.80 |
| 26 | 1H | 961 | C | N3-C4-C5 | 6.20 | 124.38 | 121.90 |
| 26 | 1H | 1010 | A | C5-C6-N1 | -6.20 | 114.60 | 117.70 |
| 26 | 1H | 1413 | G | N3-C2-N2 | -6.20 | 115.56 | 119.90 |
| 26 | 1H | 1415 | U | N3-C2-O2 | -6.20 | 117.86 | 122.20 |
| 26 | 1H | 1525 | G | N1-C6-O6 | -6.20 | 116.18 | 119.90 |
| 26 | 1H | 1891 | G | C5-N7-C8 | -6.20 | 101.20 | 104.30 |
| 26 | 1H | 2261 | C | O5'-P-OP1 | 6.20 | 118.14 | 110.70 |
| 26 | 1H | 2642 | G | OP2-P-O3' | 6.20 | 118.83 | 105.20 |
| 1 | 1G | 128 | G | C5-C6-N1 | -6.20 | 108.40 | 111.50 |
| 26 | 14 | 187 | G | C6-C5-N7 | -6.20 | 126.68 | 130.40 |
| 26 | 14 | 2023 | G | C8-N9-C4 | -6.20 | 103.92 | 106.40 |
| 26 | 14 | 2375 | G | N1-C2-N3 | -6.20 | 120.18 | 123.90 |
| 1 | 13 | 130 | A | C4-C5-N7 | 6.19 | 113.80 | 110.70 |
| 1 | 13 | 890 | G | C2-N3-C4 | 6.19 | 115.00 | 111.90 |
| 26 | 1H | 342 | G | N3-C4-C5 | -6.19 | 125.50 | 128.60 |
| 26 | 1H | 1819 | A | C8-N9-C4 | 6.19 | 108.28 | 105.80 |
| 26 | 1H | 2441 | C | OP1-P-OP2 | -6.19 | 110.31 | 119.60 |
| 1 | 1G | 560 | U | C5-C6-N1 | 6.19 | 125.80 | 122.70 |
| 26 | 14 | 1764 | G | N1-C6-O6 | -6.19 | 116.18 | 119.90 |
| 1 | 13 | 136 | C | C5-C6-N1 | -6.19 | 117.90 | 121.00 |
| 1 | 13 | 576 | G | C4-C5-C6 | 6.19 | 122.52 | 118.80 |
| 1 | 13 | 699 | C | C6-N1-C2 | -6.19 | 117.82 | 120.30 |
| 1 | 13 | 856 | C | C5-C6-N1 | 6.19 | 124.10 | 121.00 |
| 1 | 13 | 990 | C | C5-C6-N1 | 6.19 | 124.10 | 121.00 |
| 1 | 13 | 1441 | G | C2-N3-C4 | -6.19 | 108.80 | 111.90 |
| 26 | 1H | 299 | A | N1-C6-N6 | -6.19 | 114.88 | 118.60 |
| 26 | 1H | 1384 | A | C2-N3-C4 | 6.19 | 113.70 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1784 | A | N7-C8-N9 | 6.19 | 116.90 | 113.80 |
| 26 | 1H | 2390 | U | N3-C2-O2 | 6.19 | 126.53 | 122.20 |
| 1 | 1G | 775 | G | C5-C6-N1 | -6.19 | 108.40 | 111.50 |
| 1 | 1G | 919 | A | N1-C6-N6 | -6.19 | 114.88 | 118.60 |
| 1 | 1G | 1438 | G | C5-C6-N1 | -6.19 | 108.40 | 111.50 |
| 26 | 14 | 123 | G | N1-C2-N2 | -6.19 | 110.63 | 116.20 |
| 26 | 14 | 1164 | G | N3-C4-N9 | -6.19 | 122.28 | 126.00 |
| 26 | 14 | 1908 | C | N1-C2-N3 | 6.19 | 123.53 | 119.20 |
| 26 | 14 | 1978 | A | C5-C6-N6 | 6.19 | 128.65 | 123.70 |
| 26 | 14 | 2270 | G | N1-C2-N3 | 6.19 | 127.61 | 123.90 |
| 26 | 14 | 2278 | A | OP1-P-O3' | 6.19 | 118.83 | 105.20 |
| 26 | 14 | 2296 | U | O5'-P-OP1 | -6.19 | 100.13 | 105.70 |
| 1 | 13 | 139 | G | N9-C4-C5 | 6.19 | 107.88 | 105.40 |
| 1 | 13 | 687 | A | N1-C6-N6 | -6.19 | 114.89 | 118.60 |
| 1 | 13 | 1406 | U | O5'-P-OP1 | 6.19 | 118.13 | 110.70 |
| 26 | 1H | 531 | C | N1-C2-O2 | -6.19 | 115.19 | 118.90 |
| 26 | 1H | 754 | C | N3-C4-C5 | 6.19 | 124.38 | 121.90 |
| 26 | 1H | 870 | A | N1-C6-N6 | -6.19 | 114.89 | 118.60 |
| 26 | 1H | 1440 | G | C5-C6-N1 | -6.19 | 108.41 | 111.50 |
| 26 | 1H | 1830 | C | C2-N1-C1' | -6.19 | 111.99 | 118.80 |
| 1 | 1G | 1508 | G | N1-C6-O6 | -6.19 | 116.19 | 119.90 |
| 26 | 14 | 493 | G | C2-N3-C4 | -6.19 | 108.80 | 111.90 |
| 26 | 14 | 1465 | G | C5-N7-C8 | -6.19 | 101.20 | 104.30 |
| 26 | 14 | 2447 | G | C6-C5-N7 | -6.19 | 126.69 | 130.40 |
| 26 | 14 | 2490 | G | N3-C4-C5 | 6.19 | 131.70 | 128.60 |
| 26 | 1H | 216 | A | O5'-P-OP2 | 6.19 | 118.13 | 110.70 |
| 26 | 1H | 697 | C | O5'-P-OP1 | -6.19 | 100.13 | 105.70 |
| 26 | 1H | 1296 | G | N3-C4-C5 | -6.19 | 125.50 | 128.60 |
| 26 | 1H | 2240 | C | C6-N1-C2 | 6.19 | 122.78 | 120.30 |
| 1 | 1G | 558 | G | C5-N7-C8 | 6.19 | 107.39 | 104.30 |
| 26 | 14 | 2432 | A | C5-C6-N6 | -6.19 | 118.75 | 123.70 |
| 22 | 1K | 61 | C | N3-C4-N4 | 6.19 | 122.33 | 118.00 |
| 26 | 1H | 60 | G | N9-C4-C5 | -6.19 | 102.92 | 105.40 |
| 26 | 1H | 71 | A | C8-N9-C4 | -6.19 | 103.33 | 105.80 |
| 26 | 1H | 464 | U | C5-C6-N1 | -6.19 | 119.61 | 122.70 |
| 26 | 1H | 616 | A | C5-N7-C8 | -6.19 | 100.81 | 103.90 |
| 26 | 1H | 807 | U | C6-N1-C2 | 6.19 | 124.71 | 121.00 |
| 26 | 1H | 1215 | G | C8-N9-C4 | -6.19 | 103.92 | 106.40 |
| 26 | 1H | 1404 | C | C5-C6-N1 | -6.19 | 117.91 | 121.00 |
| 26 | 1H | 2594 | C | O5'-P-OP1 | 6.19 | 118.12 | 110.70 |
| 26 | 1H | 2846 | G | C2-N3-C4 | -6.19 | 108.81 | 111.90 |
| 1 | 1G | 138 | G | N3-C4-C5 | 6.19 | 131.69 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-------------|-------|-------------|----------|
| 1 | 1G | 550 | G | O5'-P-OP2 | 6.19 | 118.13 | 110.70 |
| 26 | 14 | 202 | U | N3-C4-O4 | 6.19 | 123.73 | 119.40 |
| 26 | 14 | 2018 | G | N1-C6-O6 | -6.19 | 116.19 | 119.90 |
| 1 | 13 | 31 | G | C5-C6-N1 | 6.19 | 114.59 | 111.50 |
| 1 | 13 | 1108 | G | C4-C5-N7 | -6.19 | 108.33 | 110.80 |
| 26 | 1H | 396 | G | C5-C6-O6 | -6.19 | 124.89 | 128.60 |
| 57 | 3L | 71 | C | C5'-C4'-O4' | 6.19 | 116.52 | 109.10 |
| 26 | 14 | 462 | C | N3-C4-N4 | 6.19 | 122.33 | 118.00 |
| 26 | 14 | 824 | A | N7-C8-N9 | -6.19 | 110.71 | 113.80 |
| 26 | 14 | 960 | A | OP1-P-OP2 | 6.19 | 128.88 | 119.60 |
| 26 | 14 | 1009 | A | N1-C6-N6 | -6.19 | 114.89 | 118.60 |
| 26 | 14 | 1397 | U | O5'-P-OP1 | -6.19 | 100.13 | 105.70 |
| 26 | 14 | 2712(A) | A | C5-C6-N1 | 6.19 | 120.79 | 117.70 |
| 1 | 13 | 584 | G | N1-C2-N3 | 6.18 | 127.61 | 123.90 |
| 1 | 13 | 769 | G | N1-C2-N3 | -6.18 | 120.19 | 123.90 |
| 26 | 1H | 381 | G | N7-C8-N9 | -6.18 | 110.01 | 113.10 |
| 26 | 1H | 778 | G | N1-C2-N2 | -6.18 | 110.63 | 116.20 |
| 26 | 1H | 1136 | G | C2-N3-C4 | -6.18 | 108.81 | 111.90 |
| 26 | 1H | 1967 | C | C4-C5-C6 | 6.18 | 120.49 | 117.40 |
| 26 | 1H | 2225 | A | C6-C5-N7 | 6.18 | 136.63 | 132.30 |
| 1 | 1G | 117 | G | C4-N9-C1' | 6.18 | 134.54 | 126.50 |
| 23 | 2L | 76 | C | N1-C2-O2 | -6.18 | 115.19 | 118.90 |
| 26 | 14 | 1770 | G | O5'-P-OP1 | -6.18 | 100.13 | 105.70 |
| 26 | 14 | 1985 | G | N1-C2-N2 | -6.18 | 110.64 | 116.20 |
| 26 | 14 | 2452 | C | N3-C4-N4 | 6.18 | 122.33 | 118.00 |
| 26 | 14 | 2709 | G | O4'-C1'-N9 | -6.18 | 103.25 | 108.20 |
| 26 | 1H | 1188 | U | N3-C2-O2 | 6.18 | 126.53 | 122.20 |
| 26 | 1H | 1332 | G | O4'-C1'-N9 | -6.18 | 103.25 | 108.20 |
| 26 | 1H | 2404 | C | C5-C6-N1 | -6.18 | 117.91 | 121.00 |
| 26 | 1H | 2721 | A | N3-C4-C5 | 6.18 | 131.13 | 126.80 |
| 27 | 16 | 81 | G | C2-N3-C4 | -6.18 | 108.81 | 111.90 |
| 1 | 1G | 302 | G | C8-N9-C4 | 6.18 | 108.87 | 106.40 |
| 26 | 14 | 13 | A | N1-C2-N3 | -6.18 | 126.21 | 129.30 |
| 26 | 14 | 262 | A | N1-C6-N6 | -6.18 | 114.89 | 118.60 |
| 26 | 14 | 2029 | G | O5'-P-OP1 | -6.18 | 100.14 | 105.70 |
| 26 | 14 | 2206 | C | N3-C4-N4 | 6.18 | 122.33 | 118.00 |
| 26 | 1H | 219 | G | OP1-P-O3' | 6.18 | 118.80 | 105.20 |
| 26 | 1H | 1159 | U | O4'-C1'-N1 | 6.18 | 113.14 | 108.20 |
| 26 | 1H | 1593 | G | C4-C5-N7 | 6.18 | 113.27 | 110.80 |
| 26 | 1H | 2288 | A | C8-N9-C4 | 6.18 | 108.27 | 105.80 |
| 1 | 1G | 544 | G | OP1-P-OP2 | 6.18 | 128.87 | 119.60 |
| 26 | 14 | 948 | G | C8-N9-C4 | -6.18 | 103.93 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | 13 | 798 | G | O5'-P-OP1 | 6.18 | 118.12 | 110.70 |
| 1 | 13 | 914 | A | O5'-P-OP1 | -6.18 | 100.14 | 105.70 |
| 1 | 13 | 1052 | U | OP2-P-O3' | 6.18 | 118.80 | 105.20 |
| 26 | 1H | 35 | G | N1-C2-N2 | -6.18 | 110.64 | 116.20 |
| 26 | 1H | 606 | U | C5-C6-N1 | -6.18 | 119.61 | 122.70 |
| 26 | 1H | 960 | A | C6-C5-N7 | 6.18 | 136.62 | 132.30 |
| 26 | 1H | 1204 | A | C3'-C2'-C1' | -6.18 | 96.56 | 101.50 |
| 26 | 1H | 1572 | A | O5'-P-OP1 | 6.18 | 118.11 | 110.70 |
| 26 | 1H | 1627 | G | N3-C4-N9 | 6.18 | 129.71 | 126.00 |
| 26 | 1H | 1775 | U | C5-C6-N1 | -6.18 | 119.61 | 122.70 |
| 26 | 1H | 1917 | U | C4-C5-C6 | -6.18 | 115.99 | 119.70 |
| 26 | 1H | 2008 | C | N1-C2-O2 | 6.18 | 122.61 | 118.90 |
| 26 | 1H | 2594 | C | OP1-P-OP2 | -6.18 | 110.33 | 119.60 |
| 1 | 1G | 43 | C | N3-C2-O2 | 6.18 | 126.23 | 121.90 |
| 1 | 1G | 1414 | U | O5'-P-OP1 | -6.18 | 100.14 | 105.70 |
| 57 | 3L | 2 | G | C8-N9-C4 | 6.18 | 108.87 | 106.40 |
| 26 | 14 | 1005 | C | N3-C4-N4 | -6.18 | 113.67 | 118.00 |
| 26 | 14 | 1240 | U | N3-C2-O2 | 6.18 | 126.53 | 122.20 |
| 26 | 14 | 1779 | U | C6-N1-C1' | -6.18 | 112.55 | 121.20 |
| 26 | 14 | 1863 | G | OP1-P-OP2 | 6.18 | 128.87 | 119.60 |
| 26 | 14 | 2078 | C | N3-C4-C5 | -6.18 | 119.43 | 121.90 |
| 26 | 14 | 2464 | C | O5'-P-OP1 | 6.18 | 118.12 | 110.70 |
| 26 | 14 | 2874 | C | C5-C4-N4 | -6.18 | 115.87 | 120.20 |
| 29 | 19 | 37 | LEU | CB-CG-CD2 | -6.18 | 100.49 | 111.00 |
| 1 | 13 | 650 | G | C8-N9-C4 | -6.18 | 103.93 | 106.40 |
| 1 | 13 | 725 | G | C8-N9-C4 | 6.18 | 108.87 | 106.40 |
| 26 | 1H | 444 | C | N3-C4-N4 | 6.18 | 122.33 | 118.00 |
| 26 | 1H | 708 | C | N3-C4-N4 | -6.18 | 113.68 | 118.00 |
| 26 | 1H | 1284 | A | O5'-P-OP2 | -6.18 | 100.14 | 105.70 |
| 26 | 1H | 1500 | G | O5'-P-OP2 | -6.18 | 100.14 | 105.70 |
| 26 | 1H | 1936 | A | N9-C1'-C2' | 6.18 | 122.03 | 114.00 |
| 26 | 1H | 2417 | C | C5-C6-N1 | -6.18 | 117.91 | 121.00 |
| 26 | 1H | 2818 | G | N3-C4-C5 | 6.18 | 131.69 | 128.60 |
| 26 | 14 | 72 | U | N1-C2-O2 | -6.18 | 118.47 | 122.80 |
| 26 | 14 | 1655 | A | N1-C6-N6 | -6.18 | 114.89 | 118.60 |
| 1 | 13 | 747 | C | N1-C2-O2 | 6.18 | 122.61 | 118.90 |
| 26 | 1H | 600 | G | O5'-P-OP2 | -6.18 | 100.14 | 105.70 |
| 26 | 1H | 1109 | C | C6-N1-C1' | -6.18 | 113.39 | 120.80 |
| 26 | 1H | 1905 | C | P-O3'-C3' | 6.18 | 127.11 | 119.70 |
| 1 | 1G | 552 | U | C6-N1-C2 | -6.18 | 117.29 | 121.00 |
| 1 | 1G | 569 | C | N3-C2-O2 | -6.18 | 117.58 | 121.90 |
| 1 | 1G | 800 | G | N7-C8-N9 | 6.18 | 116.19 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 593 | G | N9-C4-C5 | 6.18 | 107.87 | 105.40 |
| 26 | 14 | 600 | G | C4-C5-N7 | 6.18 | 113.27 | 110.80 |
| 26 | 14 | 1351 | C | N1-C2-O2 | -6.18 | 115.19 | 118.90 |
| 26 | 14 | 1601 | G | N3-C2-N2 | 6.18 | 124.22 | 119.90 |
| 26 | 14 | 1816 | G | C4-C5-N7 | -6.18 | 108.33 | 110.80 |
| 26 | 14 | 1816 | G | C4-N9-C1' | -6.18 | 118.47 | 126.50 |
| 26 | 1H | 674 | G | OP1-P-O3' | -6.17 | 91.62 | 105.20 |
| 26 | 1H | 2363 | C | C5-C6-N1 | -6.17 | 117.91 | 121.00 |
| 26 | 1H | 2553 | G | N3-C4-C5 | -6.17 | 125.51 | 128.60 |
| 1 | 1G | 286 | G | C8-N9-C4 | 6.17 | 108.87 | 106.40 |
| 1 | 1G | 894 | G | N3-C4-C5 | 6.17 | 131.69 | 128.60 |
| 26 | 14 | 1302 | A | C6-C5-N7 | 6.17 | 136.62 | 132.30 |
| 26 | 14 | 1336 | A | C6-C5-N7 | 6.17 | 136.62 | 132.30 |
| 1 | 13 | 185 | A | C2-N3-C4 | 6.17 | 113.69 | 110.60 |
| 26 | 1H | 1348 | G | C4-C5-N7 | 6.17 | 113.27 | 110.80 |
| 26 | 1H | 2775 | A | OP1-P-OP2 | 6.17 | 128.86 | 119.60 |
| 26 | 14 | 212 | G | N3-C2-N2 | -6.17 | 115.58 | 119.90 |
| 26 | 14 | 559 | G | C5-N7-C8 | 6.17 | 107.39 | 104.30 |
| 26 | 14 | 1660 | C | N3-C2-O2 | -6.17 | 117.58 | 121.90 |
| 26 | 1H | 242 | G | N7-C8-N9 | -6.17 | 110.01 | 113.10 |
| 26 | 1H | 722 | A | N1-C2-N3 | 6.17 | 132.39 | 129.30 |
| 26 | 1H | 1013 | C | N3-C4-C5 | -6.17 | 119.43 | 121.90 |
| 26 | 1H | 1028 | A | N7-C8-N9 | -6.17 | 110.72 | 113.80 |
| 1 | 1G | 1307 | U | C5-C6-N1 | 6.17 | 125.79 | 122.70 |
| 1 | 1G | 1334 | G | C6-C5-N7 | -6.17 | 126.70 | 130.40 |
| 26 | 14 | 707 | G | C4-C5-C6 | 6.17 | 122.50 | 118.80 |
| 26 | 14 | 1812 | A | C4-C5-C6 | 6.17 | 120.09 | 117.00 |
| 26 | 14 | 1863 | G | N1-C2-N3 | 6.17 | 127.60 | 123.90 |
| 26 | 14 | 2361 | A | C8-N9-C4 | 6.17 | 108.27 | 105.80 |
| 26 | 14 | 2508 | G | C5-N7-C8 | -6.17 | 101.21 | 104.30 |
| 1 | 13 | 438 | G | O5'-P-OP2 | -6.17 | 100.15 | 105.70 |
| 1 | 13 | 1204 | A | C5-N7-C8 | -6.17 | 100.81 | 103.90 |
| 1 | 13 | 1240 | U | C5-C4-O4 | -6.17 | 122.20 | 125.90 |
| 26 | 1H | 1202 | C | C4-C5-C6 | 6.17 | 120.48 | 117.40 |
| 26 | 1H | 2868 | A | C2-N3-C4 | 6.17 | 113.69 | 110.60 |
| 23 | 2L | 3 | C | C5-C6-N1 | -6.17 | 117.92 | 121.00 |
| 26 | 14 | 1016 | G | C5-C6-N1 | -6.17 | 108.42 | 111.50 |
| 26 | 14 | 1499 | C | N1-C2-O2 | -6.17 | 115.20 | 118.90 |
| 1 | 13 | 915 | A | N1-C2-N3 | 6.17 | 132.38 | 129.30 |
| 23 | 2K | 13 | C | C2-N3-C4 | 6.17 | 122.98 | 119.90 |
| 26 | 1H | 474 | G | N1-C6-O6 | -6.17 | 116.20 | 119.90 |
| 26 | 1H | 2256 | G | O5'-P-OP1 | 6.17 | 118.10 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 1H | 2406 | U | N3-C2-O2 | -6.17 | 117.88 | 122.20 |
| 1 | 1G | 449 | C | N3-C2-O2 | -6.17 | 117.58 | 121.90 |
| 1 | 1G | 647 | C | N3-C4-C5 | -6.17 | 119.43 | 121.90 |
| 1 | 1G | 1461 | G | N1-C2-N3 | 6.17 | 127.60 | 123.90 |
| 26 | 14 | 1145 | C | N1-C2-O2 | -6.17 | 115.20 | 118.90 |
| 26 | 14 | 1299 | G | N1-C2-N3 | -6.17 | 120.20 | 123.90 |
| 26 | 14 | 2497 | A | O5'-P-OP1 | -6.17 | 100.15 | 105.70 |
| 1 | 13 | 227 | G | C2-N3-C4 | -6.17 | 108.82 | 111.90 |
| 1 | 13 | 646 | U | N1-C2-N3 | 6.17 | 118.60 | 114.90 |
| 1 | 13 | 856 | C | N3-C4-N4 | 6.17 | 122.32 | 118.00 |
| 1 | 13 | 1077 | G | N9-C1'-C2' | -6.17 | 105.22 | 112.00 |
| 1 | 13 | 1205 | U | C5-C4-O4 | 6.17 | 129.60 | 125.90 |
| 26 | 1H | 210 | C | OP2-P-O3' | 6.17 | 118.77 | 105.20 |
| 26 | 1H | 2817 | G | N7-C8-N9 | 6.17 | 116.18 | 113.10 |
| 1 | 1G | 1327 | C | C6-N1-C2 | 6.17 | 122.77 | 120.30 |
| 26 | 14 | 194 | G | C5-C6-N1 | -6.17 | 108.42 | 111.50 |
| 26 | 14 | 265 | A | N1-C2-N3 | 6.17 | 132.38 | 129.30 |
| 26 | 14 | 409 | C | N3-C2-O2 | 6.17 | 126.22 | 121.90 |
| 26 | 14 | 800 | A | C4-C5-C6 | -6.17 | 113.92 | 117.00 |
| 26 | 14 | 2032 | G | C4-C5-N7 | 6.17 | 113.27 | 110.80 |
| 1 | 13 | 405 | U | C2-N3-C4 | 6.17 | 130.70 | 127.00 |
| 1 | 13 | 1198 | G | N3-C2-N2 | -6.17 | 115.58 | 119.90 |
| 26 | 1H | 196 | A | N1-C6-N6 | 6.17 | 122.30 | 118.60 |
| 26 | 1H | 1517 | G | C5-N7-C8 | -6.17 | 101.22 | 104.30 |
| 26 | 1H | 1634 | A | C6-N1-C2 | -6.17 | 114.90 | 118.60 |
| 26 | 1H | 1846 | G | N1-C2-N3 | 6.17 | 127.60 | 123.90 |
| 26 | 14 | 1449(A) | G | C5-C6-N1 | -6.17 | 108.42 | 111.50 |
| 26 | 14 | 2005 | A | C6-C5-N7 | 6.17 | 136.62 | 132.30 |
| 1 | 13 | 23 | C | C5-C6-N1 | 6.16 | 124.08 | 121.00 |
| 23 | 2K | 14 | A | C5-C6-N1 | -6.16 | 114.62 | 117.70 |
| 26 | 1H | 32 | C | N3-C2-O2 | -6.16 | 117.58 | 121.90 |
| 26 | 1H | 776 | G | O4'-C1'-N9 | -6.16 | 103.27 | 108.20 |
| 26 | 1H | 1151 | G | C6-N1-C2 | 6.16 | 128.80 | 125.10 |
| 26 | 1H | 1682 | G | O5'-P-OP2 | -6.16 | 100.15 | 105.70 |
| 26 | 1H | 2025 | C | N1-C2-O2 | -6.16 | 115.20 | 118.90 |
| 26 | 1H | 2237 | G | N9-C4-C5 | -6.16 | 102.93 | 105.40 |
| 26 | 1H | 2327 | A | O5'-P-OP2 | 6.16 | 118.10 | 110.70 |
| 1 | 1G | 568 | G | C5-N7-C8 | -6.16 | 101.22 | 104.30 |
| 26 | 14 | 57 | C | C4-C5-C6 | -6.16 | 114.32 | 117.40 |
| 26 | 14 | 435 | C | C5-C6-N1 | -6.16 | 117.92 | 121.00 |
| 26 | 14 | 852 | G | C8-N9-C4 | -6.16 | 103.93 | 106.40 |
| 26 | 14 | 1189 | A | OP1-P-OP2 | -6.16 | 110.36 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1647 | G | O5'-P-OP1 | 6.16 | 118.10 | 110.70 |
| 26 | 14 | 1813 | G | C2-N3-C4 | 6.16 | 114.98 | 111.90 |
| 26 | 14 | 2503 | A | C4-C5-N7 | -6.16 | 107.62 | 110.70 |
| 1 | 13 | 766 | A | C5-C6-N1 | -6.16 | 114.62 | 117.70 |
| 1 | 13 | 990 | C | C6-N1-C2 | -6.16 | 117.83 | 120.30 |
| 26 | 1H | 2723 | C | C4-C5-C6 | 6.16 | 120.48 | 117.40 |
| 1 | 1G | 965 | A | N1-C6-N6 | -6.16 | 114.90 | 118.60 |
| 1 | 1G | 1251 | A | C6-N1-C2 | -6.16 | 114.90 | 118.60 |
| 1 | 1G | 1473 | A | C4-C5-N7 | 6.16 | 113.78 | 110.70 |
| 26 | 14 | 1725 | G | C4-N9-C1' | 6.16 | 134.51 | 126.50 |
| 26 | 14 | 2245 | U | O5'-P-OP1 | 6.16 | 118.09 | 110.70 |
| 26 | 14 | 2287 | A | N1-C6-N6 | 6.16 | 122.30 | 118.60 |
| 24 | 3K | 39 | U | C2-N3-C4 | 6.16 | 130.70 | 127.00 |
| 25 | 4K | 14 | A | N1-C6-N6 | -6.16 | 114.90 | 118.60 |
| 26 | 1H | 51 | G | C6-N1-C2 | -6.16 | 121.40 | 125.10 |
| 26 | 1H | 121 | G | OP2-P-O3' | 6.16 | 118.75 | 105.20 |
| 26 | 1H | 788 | A | C6-C5-N7 | -6.16 | 127.99 | 132.30 |
| 26 | 1H | 1946 | U | N3-C2-O2 | -6.16 | 117.89 | 122.20 |
| 26 | 1H | 2620 | C | N3-C2-O2 | 6.16 | 126.21 | 121.90 |
| 26 | 1H | 2696 | U | C4-C5-C6 | 6.16 | 123.40 | 119.70 |
| 26 | 1H | 2774 | C | N1-C2-O2 | 6.16 | 122.60 | 118.90 |
| 26 | 1H | 2778 | A | O5'-P-OP2 | -6.16 | 100.16 | 105.70 |
| 26 | 14 | 579 | G | N7-C8-N9 | 6.16 | 116.18 | 113.10 |
| 26 | 14 | 2724 | C | N3-C4-C5 | -6.16 | 119.44 | 121.90 |
| 1 | 13 | 858 | G | C8-N9-C4 | -6.16 | 103.94 | 106.40 |
| 24 | 3K | 71 | C | C6-N1-C2 | 6.16 | 122.76 | 120.30 |
| 26 | 1H | 567 | A | C6-N1-C2 | -6.16 | 114.91 | 118.60 |
| 26 | 1H | 968 | G | C5-C6-N1 | -6.16 | 108.42 | 111.50 |
| 26 | 1H | 1424 | G | OP1-P-OP2 | 6.16 | 128.84 | 119.60 |
| 26 | 1H | 2265 | U | N1-C2-O2 | 6.16 | 127.11 | 122.80 |
| 26 | 1H | 2495 | G | OP2-P-O3' | 6.16 | 118.75 | 105.20 |
| 26 | 1H | 2537 | U | O5'-P-OP1 | -6.16 | 100.16 | 105.70 |
| 1 | 1G | 293 | G | C4-C5-N7 | 6.16 | 113.26 | 110.80 |
| 1 | 1G | 735 | C | N1-C2-O2 | -6.16 | 115.20 | 118.90 |
| 1 | 1G | 809 | G | N3-C2-N2 | 6.16 | 124.21 | 119.90 |
| 25 | 4L | 12 | A | N7-C8-N9 | 6.16 | 116.88 | 113.80 |
| 26 | 14 | 1681 | G | O5'-P-OP1 | -6.16 | 100.16 | 105.70 |
| 26 | 14 | 2356 | C | C5-C6-N1 | -6.16 | 117.92 | 121.00 |
| 26 | 14 | 2695 | C | N1-C2-O2 | -6.16 | 115.20 | 118.90 |
| 26 | 14 | 2718 | G | C8-N9-C4 | -6.16 | 103.94 | 106.40 |
| 1 | 13 | 1472 | U | N1-C2-O2 | 6.16 | 127.11 | 122.80 |
| 26 | 1H | 54 | G | C8-N9-C4 | -6.16 | 103.94 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1597 | A | C8-N9-C4 | 6.16 | 108.26 | 105.80 |
| 26 | 1H | 2366 | A | C6-N1-C2 | -6.16 | 114.91 | 118.60 |
| 26 | 1H | 2494 | G | C4-C5-N7 | -6.16 | 108.34 | 110.80 |
| 1 | 1G | 328 | C | O5'-P-OP2 | -6.16 | 100.16 | 105.70 |
| 26 | 14 | 715 | G | C4-C5-N7 | 6.16 | 113.26 | 110.80 |
| 26 | 14 | 1662 | C | N3-C2-O2 | -6.16 | 117.59 | 121.90 |
| 26 | 1H | 120 | U | N1-C2-N3 | 6.16 | 118.59 | 114.90 |
| 26 | 1H | 311 | A | N9-C4-C5 | -6.16 | 103.34 | 105.80 |
| 26 | 1H | 333 | G | C5-C6-N1 | 6.16 | 114.58 | 111.50 |
| 26 | 1H | 1197 | G | C5-C6-O6 | 6.16 | 132.29 | 128.60 |
| 26 | 1H | 1829 | A | C5-C6-N1 | 6.16 | 120.78 | 117.70 |
| 26 | 1H | 2601 | C | N3-C2-O2 | -6.16 | 117.59 | 121.90 |
| 1 | 1G | 605 | U | O5'-P-OP1 | -6.16 | 100.16 | 105.70 |
| 26 | 14 | 798 | G | C8-N9-C4 | 6.16 | 108.86 | 106.40 |
| 26 | 14 | 965 | C | N1-C2-N3 | 6.16 | 123.51 | 119.20 |
| 26 | 14 | 1021 | A | N3-C4-N9 | -6.16 | 122.48 | 127.40 |
| 26 | 14 | 1284 | A | C4-C5-N7 | 6.16 | 113.78 | 110.70 |
| 26 | 14 | 1293 | C | C2-N3-C4 | -6.16 | 116.82 | 119.90 |
| 26 | 14 | 1377 | G | N3-C2-N2 | -6.16 | 115.59 | 119.90 |
| 26 | 14 | 1448 | G | OP1-P-OP2 | 6.16 | 128.83 | 119.60 |
| 26 | 14 | 2505 | G | N9-C4-C5 | 6.16 | 107.86 | 105.40 |
| 1 | 13 | 925 | G | N1-C6-O6 | 6.15 | 123.59 | 119.90 |
| 26 | 1H | 21 | A | O5'-P-OP2 | -6.15 | 100.16 | 105.70 |
| 26 | 1H | 509 | C | C4-C5-C6 | 6.15 | 120.48 | 117.40 |
| 26 | 1H | 1370 | C | C5-C6-N1 | -6.15 | 117.92 | 121.00 |
| 26 | 1H | 1627 | G | O5'-P-OP1 | 6.15 | 118.08 | 110.70 |
| 26 | 1H | 1942 | C | N1-C2-N3 | -6.15 | 114.89 | 119.20 |
| 26 | 1H | 2246 | G | N1-C6-O6 | -6.15 | 116.21 | 119.90 |
| 1 | 1G | 7 | G | N7-C8-N9 | 6.15 | 116.18 | 113.10 |
| 1 | 1G | 602 | A | N1-C6-N6 | 6.15 | 122.29 | 118.60 |
| 26 | 14 | 778 | G | N1-C6-O6 | -6.15 | 116.21 | 119.90 |
| 26 | 14 | 822 | U | C4-C5-C6 | -6.15 | 116.01 | 119.70 |
| 26 | 1H | 106 | C | N3-C2-O2 | 6.15 | 126.21 | 121.90 |
| 26 | 1H | 357 | A | C8-N9-C4 | -6.15 | 103.34 | 105.80 |
| 26 | 1H | 1003 | G | N3-C2-N2 | -6.15 | 115.59 | 119.90 |
| 26 | 1H | 1785 | A | O4'-C1'-N9 | 6.15 | 113.12 | 108.20 |
| 26 | 1H | 2829 | C | OP2-P-O3' | 6.15 | 118.73 | 105.20 |
| 37 | 78 | 45 | LEU | CB-CG-CD2 | -6.15 | 100.54 | 111.00 |
| 26 | 14 | 68 | G | N3-C2-N2 | -6.15 | 115.59 | 119.90 |
| 1 | 13 | 1275 | A | O5'-P-OP2 | -6.15 | 100.16 | 105.70 |
| 26 | 1H | 117 | G | C5-C6-N1 | 6.15 | 114.58 | 111.50 |
| 26 | 1H | 223 | A | O5'-P-OP2 | -6.15 | 100.17 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2579 | C | C2-N3-C4 | -6.15 | 116.83 | 119.90 |
| 1 | 1G | 923 | A | C8-N9-C4 | -6.15 | 103.34 | 105.80 |
| 26 | 14 | 486 | C | C5-C4-N4 | -6.15 | 115.89 | 120.20 |
| 26 | 14 | 725 | G | C5-C6-N1 | -6.15 | 108.42 | 111.50 |
| 26 | 14 | 941 | A | C4-C5-C6 | 6.15 | 120.08 | 117.00 |
| 26 | 14 | 1520 | U | OP2-P-O3' | 6.15 | 118.73 | 105.20 |
| 26 | 14 | 1644 | C | N3-C2-O2 | -6.15 | 117.59 | 121.90 |
| 26 | 14 | 2020 | A | N1-C2-N3 | 6.15 | 132.38 | 129.30 |
| 26 | 14 | 2060 | A | C5-N7-C8 | -6.15 | 100.82 | 103.90 |
| 26 | 14 | 2553 | G | C8-N9-C1' | -6.15 | 119.01 | 127.00 |
| 1 | 13 | 1427 | U | O5'-P-OP2 | -6.15 | 100.17 | 105.70 |
| 23 | 2K | 9 | G | O5'-P-OP1 | 6.15 | 118.08 | 110.70 |
| 26 | 1H | 1193 | G | C5-N7-C8 | 6.15 | 107.38 | 104.30 |
| 26 | 1H | 1354 | A | C5-C6-N6 | -6.15 | 118.78 | 123.70 |
| 26 | 1H | 1752 | C | O5'-P-OP1 | -6.15 | 100.17 | 105.70 |
| 26 | 1H | 1773 | A | O5'-P-OP1 | 6.15 | 118.08 | 110.70 |
| 26 | 1H | 2640 | G | N9-C4-C5 | 6.15 | 107.86 | 105.40 |
| 26 | 1H | 2758 | A | C6-N1-C2 | 6.15 | 122.29 | 118.60 |
| 26 | 14 | 1003 | G | N3-C2-N2 | -6.15 | 115.60 | 119.90 |
| 26 | 14 | 1822 | G | C4-C5-C6 | 6.15 | 122.49 | 118.80 |
| 26 | 14 | 2013 | A | C2-N3-C4 | -6.15 | 107.53 | 110.60 |
| 26 | 14 | 2601 | C | N3-C4-C5 | 6.15 | 124.36 | 121.90 |
| 26 | 14 | 2602 | A | O5'-P-OP2 | 6.15 | 118.08 | 110.70 |
| 1 | 13 | 305 | G | C8-N9-C1' | -6.15 | 119.01 | 127.00 |
| 1 | 13 | 353 | A | C5-N7-C8 | -6.15 | 100.83 | 103.90 |
| 1 | 13 | 905 | U | C5-C4-O4 | 6.15 | 129.59 | 125.90 |
| 1 | 13 | 1266 | G | C2-N3-C4 | -6.15 | 108.83 | 111.90 |
| 26 | 1H | 1215 | G | N7-C8-N9 | 6.15 | 116.17 | 113.10 |
| 26 | 1H | 1888 | G | N3-C4-N9 | 6.15 | 129.69 | 126.00 |
| 26 | 1H | 1913 | A | C8-N9-C4 | -6.15 | 103.34 | 105.80 |
| 26 | 1H | 2028 | U | N1-C2-N3 | 6.15 | 118.59 | 114.90 |
| 1 | 1G | 761 | G | C4-C5-N7 | 6.15 | 113.26 | 110.80 |
| 26 | 14 | 824 | A | C5-C6-N1 | 6.15 | 120.77 | 117.70 |
| 26 | 14 | 1683 | C | N1-C2-N3 | 6.15 | 123.50 | 119.20 |
| 26 | 1H | 1939 | U | N1-C2-N3 | -6.15 | 111.21 | 114.90 |
| 1 | 1G | 889 | A | OP1-P-OP2 | 6.15 | 128.82 | 119.60 |
| 26 | 14 | 176 | G | N1-C2-N3 | 6.15 | 127.59 | 123.90 |
| 26 | 14 | 1228 | G | C4-C5-N7 | -6.15 | 108.34 | 110.80 |
| 1 | 13 | 488 | C | C4-C5-C6 | 6.14 | 120.47 | 117.40 |
| 1 | 13 | 522 | C | C6-N1-C2 | 6.14 | 122.76 | 120.30 |
| 1 | 13 | 936 | C | N3-C2-O2 | -6.14 | 117.60 | 121.90 |
| 1 | 13 | 974 | A | C4-C5-N7 | 6.14 | 113.77 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 96 | G | C2-N3-C4 | -6.14 | 108.83 | 111.90 |
| 26 | 1H | 193 | U | OP1-P-OP2 | -6.14 | 110.38 | 119.60 |
| 26 | 1H | 791 | C | N3-C4-C5 | 6.14 | 124.36 | 121.90 |
| 26 | 1H | 2248 | C | N3-C4-N4 | -6.14 | 113.70 | 118.00 |
| 1 | 1G | 898 | G | O5'-P-OP2 | -6.14 | 100.17 | 105.70 |
| 1 | 1G | 1528 | U | O5'-P-OP1 | 6.14 | 118.07 | 110.70 |
| 26 | 14 | 765 | G | C5-C6-O6 | 6.14 | 132.29 | 128.60 |
| 26 | 14 | 1004 | C | N3-C4-C5 | -6.14 | 119.44 | 121.90 |
| 26 | 14 | 1354 | A | C6-N1-C2 | -6.14 | 114.91 | 118.60 |
| 26 | 14 | 1673 | U | OP2-P-O3' | 6.14 | 118.72 | 105.20 |
| 1 | 13 | 1378 | C | OP1-P-OP2 | 6.14 | 128.81 | 119.60 |
| 26 | 1H | 975 | G | C5-C6-O6 | -6.14 | 124.92 | 128.60 |
| 26 | 1H | 1003 | G | C8-N9-C1' | -6.14 | 119.02 | 127.00 |
| 1 | 1G | 778 | G | N3-C4-C5 | -6.14 | 125.53 | 128.60 |
| 1 | 1G | 1482 | G | N3-C4-N9 | 6.14 | 129.69 | 126.00 |
| 26 | 14 | 59 | U | OP2-P-O3' | 6.14 | 118.72 | 105.20 |
| 27 | 1J | 98 | G | OP1-P-OP2 | 6.14 | 128.81 | 119.60 |
| 1 | 13 | 255 | G | C2-N3-C4 | -6.14 | 108.83 | 111.90 |
| 1 | 13 | 585 | G | C5-C6-O6 | 6.14 | 132.28 | 128.60 |
| 1 | 13 | 1518 | A | OP1-P-OP2 | 6.14 | 128.81 | 119.60 |
| 23 | 2K | 1 | C | C5-C6-N1 | 6.14 | 124.07 | 121.00 |
| 26 | 1H | 524 | U | N3-C2-O2 | -6.14 | 117.90 | 122.20 |
| 26 | 1H | 2345 | G | N1-C2-N3 | 6.14 | 127.58 | 123.90 |
| 26 | 1H | 2758 | A | N1-C2-N3 | -6.14 | 126.23 | 129.30 |
| 23 | 2L | 4 | G | C5-N7-C8 | 6.14 | 107.37 | 104.30 |
| 26 | 14 | 116 | C | N3-C4-N4 | 6.14 | 122.30 | 118.00 |
| 26 | 1H | 502 | A | N9-C4-C5 | 6.14 | 108.26 | 105.80 |
| 26 | 1H | 631 | A | OP1-P-O3' | 6.14 | 118.71 | 105.20 |
| 26 | 1H | 1197 | G | N1-C2-N2 | 6.14 | 121.72 | 116.20 |
| 26 | 1H | 1830 | C | C2-N3-C4 | -6.14 | 116.83 | 119.90 |
| 26 | 1H | 2549 | G | N7-C8-N9 | -6.14 | 110.03 | 113.10 |
| 26 | 1H | 2775 | A | O5'-P-OP2 | -6.14 | 100.17 | 105.70 |
| 27 | 16 | 93 | C | OP2-P-O3' | 6.14 | 118.71 | 105.20 |
| 26 | 14 | 879 | G | C2-N3-C4 | 6.14 | 114.97 | 111.90 |
| 26 | 14 | 1130 | U | C5-C6-N1 | -6.14 | 119.63 | 122.70 |
| 26 | 14 | 1322 | A | N7-C8-N9 | -6.14 | 110.73 | 113.80 |
| 26 | 14 | 1477 | A | O5'-P-OP2 | -6.14 | 100.17 | 105.70 |
| 26 | 14 | 2437 | U | C6-N1-C2 | -6.14 | 117.32 | 121.00 |
| 1 | 13 | 770 | C | C6-N1-C2 | 6.14 | 122.75 | 120.30 |
| 1 | 13 | 965 | A | C5-N7-C8 | -6.14 | 100.83 | 103.90 |
| 22 | 1K | 64 | G | N3-C4-C5 | -6.14 | 125.53 | 128.60 |
| 26 | 1H | 84 | A | N7-C8-N9 | -6.14 | 110.73 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 237 | C | C4-C5-C6 | 6.14 | 120.47 | 117.40 |
| 26 | 1H | 250 | G | C6-N1-C2 | 6.14 | 128.78 | 125.10 |
| 26 | 1H | 418 | G | N9-C4-C5 | -6.14 | 102.94 | 105.40 |
| 1 | 1G | 61 | G | O5'-P-OP1 | 6.14 | 118.07 | 110.70 |
| 26 | 14 | 624 | C | N3-C2-O2 | 6.14 | 126.20 | 121.90 |
| 26 | 14 | 1024 | G | O5'-P-OP1 | -6.14 | 100.17 | 105.70 |
| 26 | 1H | 103 | A | N9-C4-C5 | -6.14 | 103.34 | 105.80 |
| 26 | 1H | 586 | A | C5-C6-N1 | 6.14 | 120.77 | 117.70 |
| 26 | 1H | 1274 | A | C4-C5-C6 | 6.14 | 120.07 | 117.00 |
| 26 | 1H | 1349 | A | C4-C5-N7 | 6.14 | 113.77 | 110.70 |
| 26 | 1H | 1814 | G | N1-C2-N3 | 6.14 | 127.58 | 123.90 |
| 26 | 1H | 2250 | G | N3-C2-N2 | -6.14 | 115.61 | 119.90 |
| 26 | 1H | 2538 | C | OP1-P-OP2 | 6.14 | 128.81 | 119.60 |
| 26 | 14 | 1989 | G | C6-N1-C2 | -6.14 | 121.42 | 125.10 |
| 1 | 13 | 1485 | U | C5-C6-N1 | -6.13 | 119.63 | 122.70 |
| 26 | 1H | 87 | C | N3-C2-O2 | -6.13 | 117.61 | 121.90 |
| 26 | 1H | 274 | G | C8-N9-C4 | -6.13 | 103.95 | 106.40 |
| 26 | 1H | 2093 | G | C5-C6-N1 | -6.13 | 108.43 | 111.50 |
| 26 | 1H | 2459 | A | C8-N9-C4 | -6.13 | 103.35 | 105.80 |
| 1 | 1G | 253 | U | N3-C2-O2 | 6.13 | 126.49 | 122.20 |
| 1 | 1G | 510 | A | C4-C5-N7 | 6.13 | 113.77 | 110.70 |
| 1 | 1G | 1303 | C | N1-C2-O2 | 6.13 | 122.58 | 118.90 |
| 26 | 14 | 254 | G | N1-C6-O6 | -6.13 | 116.22 | 119.90 |
| 26 | 14 | 642 | G | N3-C2-N2 | -6.13 | 115.61 | 119.90 |
| 26 | 14 | 849 | A | OP1-P-O3' | 6.13 | 118.70 | 105.20 |
| 26 | 14 | 2569 | G | O5'-P-OP2 | -6.13 | 100.18 | 105.70 |
| 26 | 14 | 2586 | C | N1-C2-O2 | -6.13 | 115.22 | 118.90 |
| 1 | 13 | 325 | A | O5'-P-OP2 | -6.13 | 100.18 | 105.70 |
| 1 | 13 | 1326 | C | O5'-P-OP2 | -6.13 | 100.18 | 105.70 |
| 26 | 1H | 592 | G | OP1-P-O3' | -6.13 | 91.71 | 105.20 |
| 26 | 1H | 2715 | C | C5-C4-N4 | -6.13 | 115.91 | 120.20 |
| 1 | 1G | 904 | C | C2-N3-C4 | -6.13 | 116.83 | 119.90 |
| 26 | 14 | 1405 | U | C4-C5-C6 | 6.13 | 123.38 | 119.70 |
| 1 | 13 | 417 | C | C5-C4-N4 | 6.13 | 124.49 | 120.20 |
| 1 | 13 | 554 | C | C2-N3-C4 | 6.13 | 122.97 | 119.90 |
| 23 | 2K | 75 | C | N1-C2-O2 | 6.13 | 122.58 | 118.90 |
| 26 | 1H | 131 | G | N7-C8-N9 | 6.13 | 116.17 | 113.10 |
| 26 | 1H | 652 | C | C6-N1-C2 | -6.13 | 117.85 | 120.30 |
| 26 | 1H | 1236 | G | N7-C8-N9 | -6.13 | 110.03 | 113.10 |
| 26 | 1H | 1651 | G | N3-C2-N2 | -6.13 | 115.61 | 119.90 |
| 26 | 1H | 1772 | G | O5'-P-OP1 | -6.13 | 100.18 | 105.70 |
| 26 | 1H | 1799 | G | N9-C4-C5 | -6.13 | 102.95 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 286 | G | N7-C8-N9 | -6.13 | 110.03 | 113.10 |
| 1 | 1G | 402 | G | C5-C6-N1 | -6.13 | 108.44 | 111.50 |
| 1 | 1G | 1338 | G | N1-C6-O6 | -6.13 | 116.22 | 119.90 |
| 26 | 14 | 206 | U | C5-C4-O4 | 6.13 | 129.58 | 125.90 |
| 26 | 14 | 540 | G | N1-C6-O6 | 6.13 | 123.58 | 119.90 |
| 26 | 14 | 1514 | U | N1-C2-O2 | -6.13 | 118.51 | 122.80 |
| 26 | 14 | 2581 | G | C4-N9-C1' | 6.13 | 134.47 | 126.50 |
| 26 | 14 | 2616 | C | OP1-P-O3' | -6.13 | 91.71 | 105.20 |
| 26 | 1H | 804 | A | OP1-P-OP2 | -6.13 | 110.41 | 119.60 |
| 26 | 1H | 2781 | A | O5'-P-OP1 | -6.13 | 100.18 | 105.70 |
| 1 | 1G | 24 | U | OP1-P-OP2 | 6.13 | 128.79 | 119.60 |
| 26 | 14 | 2628 | C | N3-C4-N4 | -6.13 | 113.71 | 118.00 |
| 1 | 13 | 889 | A | C8-N9-C4 | 6.13 | 108.25 | 105.80 |
| 26 | 1H | 400 | G | N9-C4-C5 | 6.13 | 107.85 | 105.40 |
| 26 | 1H | 1245 | G | C8-N9-C4 | 6.13 | 108.85 | 106.40 |
| 26 | 1H | 1702 | G | N7-C8-N9 | -6.13 | 110.04 | 113.10 |
| 26 | 1H | 1936 | A | C6-N1-C2 | -6.13 | 114.92 | 118.60 |
| 26 | 1H | 2414 | G | N3-C2-N2 | -6.13 | 115.61 | 119.90 |
| 26 | 1H | 2569 | G | O4'-C1'-N9 | -6.13 | 103.30 | 108.20 |
| 1 | 1G | 730 | G | OP1-P-OP2 | 6.13 | 128.79 | 119.60 |
| 1 | 1G | 1356 | G | N7-C8-N9 | 6.13 | 116.16 | 113.10 |
| 1 | 1G | 1451 | A | N1-C6-N6 | -6.13 | 114.92 | 118.60 |
| 23 | 2L | 75 | C | C2-N3-C4 | 6.13 | 122.96 | 119.90 |
| 26 | 14 | 2455 | G | OP1-P-O3' | -6.13 | 91.72 | 105.20 |
| 26 | 14 | 2576 | G | C4-C5-N7 | 6.13 | 113.25 | 110.80 |
| 26 | 14 | 2879 | C | OP1-P-OP2 | -6.13 | 110.41 | 119.60 |
| 1 | 13 | 235 | C | C5-C4-N4 | -6.13 | 115.91 | 120.20 |
| 1 | 13 | 1524 | C | C6-N1-C2 | 6.13 | 122.75 | 120.30 |
| 26 | 1H | 533 | G | C6-C5-N7 | 6.13 | 134.08 | 130.40 |
| 26 | 1H | 998 | C | N3-C4-C5 | -6.13 | 119.45 | 121.90 |
| 26 | 1H | 1668 | A | N7-C8-N9 | -6.13 | 110.74 | 113.80 |
| 26 | 1H | 1819 | A | OP1-P-OP2 | 6.13 | 128.79 | 119.60 |
| 26 | 1H | 2199 | A | OP1-P-OP2 | -6.13 | 110.41 | 119.60 |
| 26 | 1H | 2494 | G | C8-N9-C4 | -6.13 | 103.95 | 106.40 |
| 26 | 1H | 2525 | G | C5-C6-N1 | -6.13 | 108.44 | 111.50 |
| 1 | 1G | 63 | C | N3-C2-O2 | -6.13 | 117.61 | 121.90 |
| 1 | 1G | 1405 | G | N3-C2-N2 | 6.13 | 124.19 | 119.90 |
| 26 | 14 | 1385 | G | C4-C5-C6 | -6.13 | 115.12 | 118.80 |
| 26 | 14 | 2581 | G | N1-C6-O6 | 6.13 | 123.58 | 119.90 |
| 26 | 14 | 2639 | A | N9-C4-C5 | -6.13 | 103.35 | 105.80 |
| 26 | 14 | 2651 | C | N3-C2-O2 | -6.13 | 117.61 | 121.90 |
| 26 | 1H | 145 | G | C2-N3-C4 | -6.12 | 108.84 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 1619 | G | C5-C6-O6 | 6.12 | 132.28 | 128.60 |
| 44 | E8 | 77 | ASP | CB-CG-OD1 | -6.12 | 112.79 | 118.30 |
| 25 | 4L | 10 | G | N1-C6-O6 | 6.12 | 123.58 | 119.90 |
| 26 | 14 | 84 | A | C5-N7-C8 | 6.12 | 106.96 | 103.90 |
| 1 | 13 | 237 | C | N3-C4-N4 | -6.12 | 113.71 | 118.00 |
| 1 | 13 | 768 | A | C4-C5-C6 | 6.12 | 120.06 | 117.00 |
| 1 | 13 | 779 | C | C5-C4-N4 | 6.12 | 124.49 | 120.20 |
| 26 | 1H | 1544 | C | N1-C2-N3 | -6.12 | 114.91 | 119.20 |
| 26 | 1H | 1628 | G | N9-C4-C5 | 6.12 | 107.85 | 105.40 |
| 1 | 1G | 708 | C | C5-C6-N1 | 6.12 | 124.06 | 121.00 |
| 23 | 2L | 57 | C | C6-N1-C2 | 6.12 | 122.75 | 120.30 |
| 26 | 14 | 1796 | U | C2-N1-C1' | -6.12 | 110.35 | 117.70 |
| 26 | 14 | 2078 | C | C4-C5-C6 | 6.12 | 120.46 | 117.40 |
| 26 | 14 | 2441 | C | C5-C4-N4 | 6.12 | 124.49 | 120.20 |
| 22 | 1K | 61 | C | C2-N1-C1' | 6.12 | 125.53 | 118.80 |
| 26 | 1H | 46 | C | C5-C6-N1 | 6.12 | 124.06 | 121.00 |
| 26 | 1H | 102 | G | C4-C5-N7 | -6.12 | 108.35 | 110.80 |
| 26 | 1H | 109 | G | N1-C2-N2 | -6.12 | 110.69 | 116.20 |
| 26 | 1H | 146 | G | N1-C6-O6 | 6.12 | 123.57 | 119.90 |
| 26 | 1H | 1050 | A | N1-C6-N6 | 6.12 | 122.27 | 118.60 |
| 26 | 1H | 1332 | G | C5-C6-O6 | -6.12 | 124.93 | 128.60 |
| 26 | 1H | 1477 | A | C8-N9-C4 | -6.12 | 103.35 | 105.80 |
| 26 | 1H | 2867 | G | N3-C4-N9 | -6.12 | 122.33 | 126.00 |
| 26 | 14 | 1949 | G | N1-C2-N2 | -6.12 | 110.69 | 116.20 |
| 26 | 14 | 2595 | G | N3-C4-C5 | 6.12 | 131.66 | 128.60 |
| 1 | 13 | 1194 | U | N3-C4-C5 | -6.12 | 110.93 | 114.60 |
| 26 | 1H | 2821 | A | O5'-P-OP2 | -6.12 | 100.19 | 105.70 |
| 1 | 1G | 787 | A | C4-C5-N7 | 6.12 | 113.76 | 110.70 |
| 22 | 1K | 27 | G | O4'-C1'-N9 | 6.12 | 113.09 | 108.20 |
| 26 | 1H | 179 | G | N3-C4-C5 | 6.12 | 131.66 | 128.60 |
| 26 | 1H | 270(A) | A | C6-N1-C2 | -6.12 | 114.93 | 118.60 |
| 26 | 1H | 829 | A | OP1-P-OP2 | 6.12 | 128.78 | 119.60 |
| 26 | 1H | 1128 | A | N1-C6-N6 | 6.12 | 122.27 | 118.60 |
| 26 | 1H | 1627 | G | C4-C5-N7 | -6.12 | 108.35 | 110.80 |
| 26 | 1H | 1675 | C | N3-C2-O2 | -6.12 | 117.62 | 121.90 |
| 26 | 1H | 1999 | C | C6-N1-C2 | 6.12 | 122.75 | 120.30 |
| 26 | 1H | 2693 | A | C4-C5-C6 | 6.12 | 120.06 | 117.00 |
| 26 | 14 | 493 | G | C5-C6-N1 | -6.12 | 108.44 | 111.50 |
| 26 | 14 | 593 | G | N3-C2-N2 | -6.12 | 115.62 | 119.90 |
| 26 | 14 | 710 | G | N1-C6-O6 | 6.12 | 123.57 | 119.90 |
| 26 | 14 | 785 | G | N3-C2-N2 | -6.12 | 115.62 | 119.90 |
| 26 | 14 | 913 | U | C4-C5-C6 | -6.12 | 116.03 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1936 | A | OP1-P-OP2 | -6.12 | 110.42 | 119.60 |
| 1 | 13 | 430 | A | N9-C4-C5 | -6.12 | 103.35 | 105.80 |
| 1 | 13 | 570 | G | C5-N7-C8 | -6.12 | 101.24 | 104.30 |
| 1 | 13 | 874 | G | C5-C6-N1 | 6.12 | 114.56 | 111.50 |
| 26 | 14 | 364 | C | N1-C2-O2 | 6.12 | 122.57 | 118.90 |
| 26 | 14 | 573 | G | C4-C5-N7 | -6.12 | 108.35 | 110.80 |
| 26 | 14 | 746 | A | O5'-P-OP1 | -6.12 | 100.19 | 105.70 |
| 26 | 14 | 1764 | G | N9-C4-C5 | 6.12 | 107.85 | 105.40 |
| 26 | 14 | 2409 | G | C4-C5-N7 | 6.12 | 113.25 | 110.80 |
| 1 | 13 | 830 | G | C2-N3-C4 | -6.12 | 108.84 | 111.90 |
| 1 | 13 | 979 | C | N3-C4-C5 | -6.12 | 119.45 | 121.90 |
| 26 | 1H | 65 | C | C4-C5-C6 | 6.12 | 120.46 | 117.40 |
| 26 | 1H | 680 | G | N1-C2-N2 | -6.12 | 110.70 | 116.20 |
| 26 | 1H | 828 | U | OP1-P-OP2 | 6.12 | 128.77 | 119.60 |
| 26 | 1H | 2578 | G | N7-C8-N9 | -6.12 | 110.04 | 113.10 |
| 1 | 1G | 310 | G | C6-C5-N7 | 6.12 | 134.07 | 130.40 |
| 26 | 14 | 442 | G | C2-N3-C4 | -6.12 | 108.84 | 111.90 |
| 26 | 14 | 597 | U | C2-N3-C4 | -6.12 | 123.33 | 127.00 |
| 26 | 14 | 803 | U | N3-C2-O2 | -6.12 | 117.92 | 122.20 |
| 26 | 14 | 1944 | U | C5-C6-N1 | -6.12 | 119.64 | 122.70 |
| 26 | 14 | 2639 | A | C5-C6-N6 | -6.12 | 118.81 | 123.70 |
| 1 | 13 | 492 | G | C2-N3-C4 | -6.11 | 108.84 | 111.90 |
| 1 | 13 | 757 | U | C5-C6-N1 | -6.11 | 119.64 | 122.70 |
| 1 | 13 | 817 | C | C5-C4-N4 | -6.11 | 115.92 | 120.20 |
| 1 | 13 | 1437 | C | C4-C5-C6 | -6.11 | 114.34 | 117.40 |
| 26 | 1H | 607 | U | N3-C2-O2 | -6.11 | 117.92 | 122.20 |
| 26 | 1H | 1805 | U | OP2-P-O3' | 6.11 | 118.65 | 105.20 |
| 26 | 1H | 1902 | C | O5'-P-OP1 | -6.11 | 100.20 | 105.70 |
| 26 | 1H | 2760 | C | OP2-P-O3' | 6.11 | 118.65 | 105.20 |
| 26 | 14 | 81 | G | C2-N3-C4 | -6.11 | 108.84 | 111.90 |
| 26 | 14 | 1209 | G | C5-C6-N1 | -6.11 | 108.44 | 111.50 |
| 26 | 14 | 1702 | G | N1-C2-N2 | -6.11 | 110.70 | 116.20 |
| 26 | 14 | 1832 | C | C4-C5-C6 | 6.11 | 120.46 | 117.40 |
| 26 | 14 | 1993 | U | C6-N1-C2 | -6.11 | 117.33 | 121.00 |
| 26 | 14 | 2843 | G | C5-C6-N1 | 6.11 | 114.56 | 111.50 |
| 26 | 1H | 440 | G | OP1-P-OP2 | -6.11 | 110.43 | 119.60 |
| 26 | 1H | 1366 | A | O5'-P-OP1 | 6.11 | 118.03 | 110.70 |
| 26 | 1H | 1372 | U | C5-C6-N1 | -6.11 | 119.64 | 122.70 |
| 26 | 1H | 2093 | G | O5'-P-OP2 | -6.11 | 100.20 | 105.70 |
| 1 | 1G | 598 | U | N3-C4-C5 | -6.11 | 110.93 | 114.60 |
| 26 | 14 | 208 | C | C5-C4-N4 | -6.11 | 115.92 | 120.20 |
| 26 | 14 | 1515 | C | C5-C6-N1 | -6.11 | 117.94 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1609 | A | C6-N1-C2 | -6.11 | 114.93 | 118.60 |
| 1 | 13 | 112 | G | N7-C8-N9 | 6.11 | 116.16 | 113.10 |
| 1 | 13 | 442 | C | N3-C4-C5 | -6.11 | 119.45 | 121.90 |
| 1 | 13 | 798 | G | C5-N7-C8 | -6.11 | 101.25 | 104.30 |
| 1 | 13 | 942 | G | N1-C6-O6 | 6.11 | 123.57 | 119.90 |
| 1 | 13 | 1310 | G | N3-C2-N2 | 6.11 | 124.18 | 119.90 |
| 1 | 13 | 1520 | G | C4-C5-N7 | 6.11 | 113.24 | 110.80 |
| 26 | 1H | 715 | G | C4-C5-N7 | -6.11 | 108.36 | 110.80 |
| 26 | 1H | 1165 | U | C4-C5-C6 | 6.11 | 123.37 | 119.70 |
| 26 | 1H | 1630 | G | C2-N3-C4 | 6.11 | 114.95 | 111.90 |
| 26 | 1H | 1704 | G | N3-C2-N2 | -6.11 | 115.62 | 119.90 |
| 26 | 1H | 2028 | U | OP1-P-O3' | 6.11 | 118.64 | 105.20 |
| 26 | 1H | 2068 | U | N3-C4-C5 | 6.11 | 118.27 | 114.60 |
| 26 | 1H | 2876 | G | N3-C4-C5 | 6.11 | 131.66 | 128.60 |
| 26 | 14 | 59 | U | O5'-P-OP2 | -6.11 | 100.20 | 105.70 |
| 26 | 14 | 127 | A | C5-C6-N1 | 6.11 | 120.75 | 117.70 |
| 26 | 14 | 802 | A | C4-C5-N7 | -6.11 | 107.64 | 110.70 |
| 26 | 14 | 802 | A | OP1-P-OP2 | 6.11 | 128.77 | 119.60 |
| 26 | 14 | 2715 | C | O5'-P-OP1 | 6.11 | 118.03 | 110.70 |
| 26 | 14 | 2823 | A | C6-N1-C2 | 6.11 | 122.27 | 118.60 |
| 27 | 1J | 97 | G | N1-C6-O6 | 6.11 | 123.57 | 119.90 |
| 1 | 13 | 109 | A | O5'-P-OP2 | -6.11 | 100.20 | 105.70 |
| 24 | 3K | 29 | U | N1-C2-O2 | 6.11 | 127.08 | 122.80 |
| 1 | 1G | 953 | G | N1-C2-N2 | -6.11 | 110.70 | 116.20 |
| 26 | 14 | 138 | G | C8-N9-C4 | -6.11 | 103.96 | 106.40 |
| 26 | 14 | 912 | C | C5-C6-N1 | 6.11 | 124.06 | 121.00 |
| 26 | 1H | 43 | G | C5-C6-O6 | 6.11 | 132.26 | 128.60 |
| 26 | 1H | 1192 | G | C8-N9-C4 | 6.11 | 108.84 | 106.40 |
| 26 | 1H | 1421 | G | C2-N3-C4 | -6.11 | 108.85 | 111.90 |
| 26 | 1H | 2424 | C | C5-C6-N1 | 6.11 | 124.05 | 121.00 |
| 27 | 16 | 23 | G | C6-N1-C2 | 6.11 | 128.76 | 125.10 |
| 1 | 1G | 977 | A | C5-C6-N1 | 6.11 | 120.75 | 117.70 |
| 26 | 14 | 580 | C | C6-N1-C2 | -6.11 | 117.86 | 120.30 |
| 26 | 14 | 746 | A | N9-C4-C5 | 6.11 | 108.24 | 105.80 |
| 26 | 14 | 2540 | C | C5-C6-N1 | -6.11 | 117.95 | 121.00 |
| 26 | 14 | 2689 | U | C2-N3-C4 | -6.11 | 123.34 | 127.00 |
| 26 | 14 | 2818 | G | O5'-P-OP1 | 6.11 | 118.03 | 110.70 |
| 1 | 13 | 423 | G | C5-C6-O6 | -6.11 | 124.94 | 128.60 |
| 26 | 1H | 425 | G | C4-C5-N7 | -6.11 | 108.36 | 110.80 |
| 26 | 1H | 1367 | A | C2-N3-C4 | -6.11 | 107.55 | 110.60 |
| 26 | 1H | 2732 | G | C5-C6-N1 | 6.11 | 114.55 | 111.50 |
| 27 | 16 | 58 | A | N7-C8-N9 | 6.11 | 116.85 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 1 | 1G | 597 | G | N9-C4-C5 | -6.11 | 102.96 | 105.40 |
| 1 | 1G | 796 | C | C6-N1-C2 | 6.11 | 122.74 | 120.30 |
| 26 | 14 | 77 | C | N3-C4-C5 | 6.11 | 124.34 | 121.90 |
| 26 | 14 | 1395 | A | OP2-P-O3' | 6.11 | 118.63 | 105.20 |
| 26 | 14 | 1422 | G | N3-C4-N9 | -6.11 | 122.34 | 126.00 |
| 26 | 14 | 1789 | A | OP2-P-O3' | -6.11 | 91.77 | 105.20 |
| 26 | 14 | 2345 | G | OP1-P-O3' | 6.11 | 118.63 | 105.20 |
| 26 | 14 | 2346 | A | C6-C5-N7 | -6.11 | 128.03 | 132.30 |
| 1 | 13 | 1299 | A | OP1-P-OP2 | 6.10 | 128.76 | 119.60 |
| 26 | 1H | 477 | A | C8-N9-C4 | -6.10 | 103.36 | 105.80 |
| 26 | 1H | 564 | C | C6-N1-C2 | -6.10 | 117.86 | 120.30 |
| 26 | 1H | 1630(A) | C | C6-N1-C2 | -6.10 | 117.86 | 120.30 |
| 26 | 14 | 2209 | C | N1-C2-N3 | 6.10 | 123.47 | 119.20 |
| 26 | 14 | 2782 | G | C5-N7-C8 | -6.10 | 101.25 | 104.30 |
| 1 | 13 | 896 | C | N3-C4-C5 | -6.10 | 119.46 | 121.90 |
| 1 | 13 | 901 | A | OP1-P-O3' | -6.10 | 91.78 | 105.20 |
| 26 | 1H | 187 | G | C5-C6-O6 | 6.10 | 132.26 | 128.60 |
| 26 | 1H | 533 | G | O5'-P-OP1 | -6.10 | 100.21 | 105.70 |
| 26 | 1H | 646 | A | N7-C8-N9 | 6.10 | 116.85 | 113.80 |
| 26 | 1H | 1482 | U | C6-N1-C2 | -6.10 | 117.34 | 121.00 |
| 26 | 1H | 1576 | U | N3-C2-O2 | -6.10 | 117.93 | 122.20 |
| 26 | 1H | 1651 | G | N3-C4-N9 | -6.10 | 122.34 | 126.00 |
| 26 | 1H | 2060 | A | C4-C5-C6 | -6.10 | 113.95 | 117.00 |
| 1 | 1G | 111 | G | N3-C4-N9 | -6.10 | 122.34 | 126.00 |
| 26 | 14 | 1239 | G | C2-N3-C4 | -6.10 | 108.85 | 111.90 |
| 27 | 1J | 36 | C | C5-C4-N4 | -6.10 | 115.93 | 120.20 |
| 1 | 13 | 1484 | C | N1-C2-N3 | 6.10 | 123.47 | 119.20 |
| 26 | 1H | 70 | G | P-O3'-C3' | 6.10 | 127.02 | 119.70 |
| 26 | 1H | 1195 | G | N1-C6-O6 | -6.10 | 116.24 | 119.90 |
| 26 | 1H | 1787 | A | OP2-P-O3' | -6.10 | 91.78 | 105.20 |
| 26 | 14 | 302 | C | OP1-P-OP2 | -6.10 | 110.45 | 119.60 |
| 1 | 13 | 243 | A | C5-C6-N1 | 6.10 | 120.75 | 117.70 |
| 1 | 13 | 630 | G | C5-C6-N1 | -6.10 | 108.45 | 111.50 |
| 1 | 13 | 1139 | G | C8-N9-C4 | 6.10 | 108.84 | 106.40 |
| 1 | 13 | 1513 | A | C5-C6-N6 | -6.10 | 118.82 | 123.70 |
| 26 | 1H | 412 | A | C5-N7-C8 | 6.10 | 106.95 | 103.90 |
| 26 | 1H | 831 | G | N3-C4-C5 | 6.10 | 131.65 | 128.60 |
| 26 | 1H | 2325 | G | N3-C4-C5 | -6.10 | 125.55 | 128.60 |
| 1 | 1G | 372 | C | N1-C2-N3 | -6.10 | 114.93 | 119.20 |
| 26 | 14 | 1408 | C | O5'-P-OP2 | 6.10 | 118.02 | 110.70 |
| 26 | 14 | 1500 | G | C5-C6-N1 | -6.10 | 108.45 | 111.50 |
| 26 | 14 | 2550 | G | C4-C5-N7 | 6.10 | 113.24 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2576 | G | C2-N3-C4 | 6.10 | 114.95 | 111.90 |
| 26 | 14 | 2589 | A | C8-N9-C4 | 6.10 | 108.24 | 105.80 |
| 1 | 13 | 605 | U | N3-C4-C5 | -6.10 | 110.94 | 114.60 |
| 26 | 1H | 818 | G | N9-C4-C5 | 6.10 | 107.84 | 105.40 |
| 26 | 1H | 970 | C | N3-C4-N4 | 6.10 | 122.27 | 118.00 |
| 26 | 1H | 1257 | C | C2-N3-C4 | -6.10 | 116.85 | 119.90 |
| 26 | 1H | 1296 | G | C2-N3-C4 | 6.10 | 114.95 | 111.90 |
| 26 | 1H | 2589 | A | N7-C8-N9 | -6.10 | 110.75 | 113.80 |
| 1 | 1G | 298 | A | O4'-C1'-N9 | -6.10 | 103.32 | 108.20 |
| 1 | 1G | 1080 | A | N9-C4-C5 | 6.10 | 108.24 | 105.80 |
| 26 | 14 | 82 | G | C4-C5-N7 | -6.10 | 108.36 | 110.80 |
| 26 | 14 | 669 | G | N1-C6-O6 | -6.10 | 116.24 | 119.90 |
| 26 | 14 | 690 | G | C5-C6-O6 | 6.10 | 132.26 | 128.60 |
| 26 | 14 | 1416 | G | N7-C8-N9 | -6.10 | 110.05 | 113.10 |
| 26 | 14 | 2490 | G | C5-C6-O6 | 6.10 | 132.26 | 128.60 |
| 1 | 13 | 220 | G | C8-N9-C4 | -6.10 | 103.96 | 106.40 |
| 1 | 13 | 518 | C | N3-C4-C5 | -6.10 | 119.46 | 121.90 |
| 26 | 1H | 244 | A | N9-C4-C5 | -6.10 | 103.36 | 105.80 |
| 26 | 1H | 1965 | C | O5'-P-OP2 | 6.10 | 118.02 | 110.70 |
| 26 | 1H | 2415 | G | N7-C8-N9 | 6.10 | 116.15 | 113.10 |
| 26 | 1H | 2527 | C | N1-C2-N3 | -6.10 | 114.93 | 119.20 |
| 1 | 1G | 666 | G | C4-N9-C1' | 6.10 | 134.43 | 126.50 |
| 26 | 14 | 471 | A | N1-C2-N3 | 6.10 | 132.35 | 129.30 |
| 26 | 14 | 2049 | G | N7-C8-N9 | 6.10 | 116.15 | 113.10 |
| 1 | 13 | 618 | C | N3-C4-C5 | -6.09 | 119.46 | 121.90 |
| 1 | 13 | 793 | U | C4-C5-C6 | 6.09 | 123.36 | 119.70 |
| 26 | 1H | 271 | G | N1-C6-O6 | 6.09 | 123.56 | 119.90 |
| 26 | 1H | 1286 | A | N7-C8-N9 | -6.09 | 110.75 | 113.80 |
| 26 | 1H | 1325 | G | C8-N9-C4 | -6.09 | 103.96 | 106.40 |
| 1 | 1G | 865 | A | C8-N9-C4 | -6.09 | 103.36 | 105.80 |
| 1 | 1G | 1404 | C | C4-C5-C6 | -6.09 | 114.35 | 117.40 |
| 26 | 14 | 233 | A | N1-C2-N3 | -6.09 | 126.25 | 129.30 |
| 26 | 14 | 1358 | G | C8-N9-C4 | -6.09 | 103.96 | 106.40 |
| 26 | 14 | 1407 | C | OP1-P-OP2 | -6.09 | 110.46 | 119.60 |
| 26 | 14 | 1701 | A | C6-N1-C2 | -6.09 | 114.94 | 118.60 |
| 1 | 13 | 559 | A | C8-N9-C4 | -6.09 | 103.36 | 105.80 |
| 26 | 1H | 567 | A | N7-C8-N9 | 6.09 | 116.85 | 113.80 |
| 26 | 1H | 659 | C | OP1-P-O3' | -6.09 | 91.80 | 105.20 |
| 26 | 1H | 2642 | G | N1-C2-N2 | -6.09 | 110.72 | 116.20 |
| 1 | 1G | 245 | C | C5-C4-N4 | 6.09 | 124.47 | 120.20 |
| 1 | 13 | 446 | G | N1-C6-O6 | 6.09 | 123.56 | 119.90 |
| 26 | 1H | 933 | A | N3-C4-C5 | -6.09 | 122.53 | 126.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1035 | U | OP1-P-OP2 | 6.09 | 128.74 | 119.60 |
| 26 | 1H | 1474 | C | OP1-P-OP2 | -6.09 | 110.46 | 119.60 |
| 26 | 1H | 2379 | G | C5-C6-N1 | 6.09 | 114.55 | 111.50 |
| 26 | 1H | 2691 | C | N3-C4-C5 | 6.09 | 124.34 | 121.90 |
| 1 | 1G | 413 | G | C5-C6-O6 | 6.09 | 132.25 | 128.60 |
| 1 | 1G | 975 | A | C2-N3-C4 | -6.09 | 107.55 | 110.60 |
| 1 | 1G | 1487 | G | O5'-P-OP2 | -6.09 | 100.22 | 105.70 |
| 26 | 14 | 1259 | G | OP1-P-OP2 | -6.09 | 110.46 | 119.60 |
| 26 | 14 | 1678 | G | C4-C5-C6 | -6.09 | 115.14 | 118.80 |
| 26 | 14 | 2017 | U | C5-C6-N1 | -6.09 | 119.65 | 122.70 |
| 26 | 14 | 2065 | C | N1-C2-O2 | 6.09 | 122.56 | 118.90 |
| 26 | 14 | 2444 | G | C4-C5-N7 | -6.09 | 108.36 | 110.80 |
| 26 | 14 | 2468 | G | C5-C6-N1 | 6.09 | 114.55 | 111.50 |
| 1 | 13 | 64 | G | N3-C4-C5 | 6.09 | 131.64 | 128.60 |
| 1 | 13 | 1227 | A | C5-N7-C8 | -6.09 | 100.86 | 103.90 |
| 22 | 1K | 22 | G | N3-C4-C5 | -6.09 | 125.56 | 128.60 |
| 26 | 1H | 39 | C | C2-N3-C4 | -6.09 | 116.86 | 119.90 |
| 26 | 1H | 216 | A | OP1-P-O3' | 6.09 | 118.60 | 105.20 |
| 26 | 1H | 1280 | G | N9-C1'-C2' | -6.09 | 105.30 | 112.00 |
| 26 | 1H | 1680 | U | C4-C5-C6 | -6.09 | 116.05 | 119.70 |
| 26 | 1H | 1801 | G | C5-C6-O6 | -6.09 | 124.95 | 128.60 |
| 27 | 16 | 50 | G | N7-C8-N9 | 6.09 | 116.14 | 113.10 |
| 25 | 4L | 16 | A | N9-C4-C5 | -6.09 | 103.36 | 105.80 |
| 26 | 14 | 660 | G | N1-C2-N3 | 6.09 | 127.55 | 123.90 |
| 26 | 14 | 723 | G | C2-N3-C4 | -6.09 | 108.86 | 111.90 |
| 26 | 14 | 1136 | G | C5-C6-O6 | -6.09 | 124.95 | 128.60 |
| 26 | 14 | 1790 | C | N3-C4-C5 | 6.09 | 124.34 | 121.90 |
| 26 | 14 | 1944 | U | N3-C4-O4 | 6.09 | 123.66 | 119.40 |
| 26 | 14 | 1987 | G | N3-C2-N2 | -6.09 | 115.64 | 119.90 |
| 26 | 14 | 2348 | U | C6-N1-C2 | 6.09 | 124.65 | 121.00 |
| 26 | 14 | 2383 | G | N3-C2-N2 | 6.09 | 124.16 | 119.90 |
| 26 | 14 | 2644 | G | N9-C4-C5 | 6.09 | 107.83 | 105.40 |
| 1 | 13 | 869 | G | C5-C6-N1 | -6.09 | 108.46 | 111.50 |
| 26 | 1H | 715 | G | C5-N7-C8 | 6.09 | 107.34 | 104.30 |
| 26 | 1H | 1661 | G | O5'-P-OP1 | 6.09 | 118.00 | 110.70 |
| 26 | 1H | 1797 | C | C5-C6-N1 | -6.09 | 117.96 | 121.00 |
| 43 | D8 | 40 | LEU | CA-CB-CG | 6.09 | 129.30 | 115.30 |
| 1 | 1G | 925 | G | C5-N7-C8 | 6.09 | 107.34 | 104.30 |
| 26 | 1H | 214 | G | C4-C5-N7 | 6.09 | 113.23 | 110.80 |
| 26 | 1H | 1032 | A | N7-C8-N9 | -6.09 | 110.76 | 113.80 |
| 26 | 1H | 1187 | G | N9-C4-C5 | -6.09 | 102.97 | 105.40 |
| 26 | 1H | 1339 | G | N3-C4-C5 | -6.09 | 125.56 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1341 | U | OP1-P-O3' | 6.09 | 118.59 | 105.20 |
| 26 | 1H | 1780 | A | C5-C6-N6 | 6.09 | 128.57 | 123.70 |
| 26 | 1H | 2028 | U | O5'-P-OP2 | 6.09 | 118.00 | 110.70 |
| 27 | 16 | 6 | C | C2-N3-C4 | -6.09 | 116.86 | 119.90 |
| 57 | 3L | 37 | A | O5'-P-OP2 | -6.09 | 100.22 | 105.70 |
| 26 | 14 | 398 | G | N3-C2-N2 | -6.09 | 115.64 | 119.90 |
| 26 | 14 | 573 | G | N9-C4-C5 | 6.09 | 107.83 | 105.40 |
| 1 | 13 | 285 | G | O5'-P-OP1 | 6.08 | 118.00 | 110.70 |
| 1 | 13 | 766 | A | C2-N3-C4 | -6.08 | 107.56 | 110.60 |
| 26 | 1H | 26 | G | C4-C5-C6 | 6.08 | 122.45 | 118.80 |
| 26 | 14 | 472 | A | N9-C4-C5 | 6.08 | 108.23 | 105.80 |
| 26 | 14 | 2255 | G | C2-N3-C4 | 6.08 | 114.94 | 111.90 |
| 26 | 14 | 2675 | A | O5'-P-OP1 | 6.08 | 118.00 | 110.70 |
| 1 | 13 | 828 | A | O5'-P-OP2 | -6.08 | 100.22 | 105.70 |
| 26 | 1H | 456 | C | C5-C4-N4 | -6.08 | 115.94 | 120.20 |
| 26 | 1H | 533 | G | N7-C8-N9 | -6.08 | 110.06 | 113.10 |
| 26 | 1H | 688 | U | N3-C4-C5 | -6.08 | 110.95 | 114.60 |
| 26 | 1H | 974(A) | C | OP1-P-O3' | 6.08 | 118.58 | 105.20 |
| 26 | 1H | 2405 | G | C8-N9-C4 | 6.08 | 108.83 | 106.40 |
| 1 | 1G | 231 | G | C5-C6-O6 | 6.08 | 132.25 | 128.60 |
| 26 | 14 | 1148 | A | C2-N3-C4 | 6.08 | 113.64 | 110.60 |
| 26 | 14 | 1378 | A | O5'-P-OP1 | -6.08 | 100.22 | 105.70 |
| 26 | 14 | 1698 | A | C4-C5-C6 | 6.08 | 120.04 | 117.00 |
| 26 | 14 | 2779 | U | C2-N3-C4 | -6.08 | 123.35 | 127.00 |
| 1 | 13 | 467 | G | C4-C5-N7 | 6.08 | 113.23 | 110.80 |
| 1 | 13 | 1087 | G | C8-N9-C4 | -6.08 | 103.97 | 106.40 |
| 23 | 2K | 36 | A | N1-C6-N6 | -6.08 | 114.95 | 118.60 |
| 26 | 1H | 247 | G | N3-C4-N9 | -6.08 | 122.35 | 126.00 |
| 26 | 1H | 644 | A | C8-N9-C4 | 6.08 | 108.23 | 105.80 |
| 26 | 1H | 807 | U | C5-C6-N1 | -6.08 | 119.66 | 122.70 |
| 26 | 1H | 1612 | C | OP1-P-O3' | 6.08 | 118.58 | 105.20 |
| 26 | 1H | 1779 | U | C2-N3-C4 | -6.08 | 123.35 | 127.00 |
| 26 | 1H | 1828 | G | N1-C2-N3 | 6.08 | 127.55 | 123.90 |
| 26 | 1H | 2048 | G | N3-C2-N2 | -6.08 | 115.64 | 119.90 |
| 26 | 1H | 2295 | C | N3-C4-C5 | -6.08 | 119.47 | 121.90 |
| 27 | 16 | 28 | C | C5-C6-N1 | 6.08 | 124.04 | 121.00 |
| 1 | 1G | 970 | C | C2-N3-C4 | 6.08 | 122.94 | 119.90 |
| 1 | 1G | 1514 | C | C5-C6-N1 | 6.08 | 124.04 | 121.00 |
| 26 | 14 | 50 | U | C5-C6-N1 | -6.08 | 119.66 | 122.70 |
| 26 | 14 | 70 | G | N3-C4-C5 | -6.08 | 125.56 | 128.60 |
| 26 | 14 | 122 | G | C5-C6-N1 | 6.08 | 114.54 | 111.50 |
| 26 | 14 | 1219 | G | N9-C4-C5 | -6.08 | 102.97 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1827 | C | N1-C2-N3 | 6.08 | 123.46 | 119.20 |
| 26 | 14 | 1964 | G | N3-C4-N9 | 6.08 | 129.65 | 126.00 |
| 26 | 14 | 2089 | U | N3-C2-O2 | 6.08 | 126.46 | 122.20 |
| 26 | 14 | 2108 | C | N3-C4-C5 | -6.08 | 119.47 | 121.90 |
| 26 | 14 | 2242 | G | C6-C5-N7 | 6.08 | 134.05 | 130.40 |
| 26 | 14 | 2265 | U | N3-C4-C5 | -6.08 | 110.95 | 114.60 |
| 26 | 14 | 2492 | U | C5-C6-N1 | 6.08 | 125.74 | 122.70 |
| 26 | 1H | 679 | C | C6-N1-C2 | 6.08 | 122.73 | 120.30 |
| 26 | 1H | 1559 | G | C4-C5-N7 | 6.08 | 113.23 | 110.80 |
| 26 | 1H | 2330 | G | OP1-P-OP2 | 6.08 | 128.72 | 119.60 |
| 26 | 1H | 2490 | G | OP2-P-O3' | -6.08 | 91.82 | 105.20 |
| 1 | 1G | 875 | C | N1-C2-O2 | 6.08 | 122.55 | 118.90 |
| 26 | 14 | 1663 | C | C6-N1-C2 | 6.08 | 122.73 | 120.30 |
| 26 | 14 | 2627 | G | C4-C5-N7 | 6.08 | 113.23 | 110.80 |
| 1 | 13 | 302 | G | N1-C6-O6 | -6.08 | 116.25 | 119.90 |
| 1 | 13 | 577 | G | N7-C8-N9 | 6.08 | 116.14 | 113.10 |
| 1 | 13 | 821 | G | N1-C6-O6 | 6.08 | 123.55 | 119.90 |
| 26 | 1H | 2254 | C | N3-C4-N4 | 6.08 | 122.25 | 118.00 |
| 1 | 1G | 210 | U | C6-N1-C2 | -6.08 | 117.35 | 121.00 |
| 1 | 1G | 285 | G | OP1-P-O3' | 6.08 | 118.57 | 105.20 |
| 1 | 1G | 873 | A | C6-C5-N7 | 6.08 | 136.56 | 132.30 |
| 1 | 1G | 1438 | G | N3-C4-C5 | 6.08 | 131.64 | 128.60 |
| 26 | 14 | 725 | G | N1-C6-O6 | 6.08 | 123.55 | 119.90 |
| 26 | 14 | 1848 | A | C8-N9-C4 | 6.08 | 108.23 | 105.80 |
| 26 | 14 | 1950 | G | N7-C8-N9 | 6.08 | 116.14 | 113.10 |
| 1 | 13 | 758 | G | C5-C6-O6 | -6.08 | 124.95 | 128.60 |
| 26 | 1H | 102 | G | C5-N7-C8 | 6.08 | 107.34 | 104.30 |
| 26 | 1H | 266 | G | N3-C4-C5 | -6.08 | 125.56 | 128.60 |
| 26 | 1H | 1486 | A | C6-C5-N7 | -6.08 | 128.05 | 132.30 |
| 26 | 1H | 2395 | C | C6-N1-C1' | -6.08 | 113.51 | 120.80 |
| 1 | 13 | 802 | A | C5-C6-N1 | -6.08 | 114.66 | 117.70 |
| 1 | 13 | 965 | A | N7-C8-N9 | 6.08 | 116.84 | 113.80 |
| 23 | 2K | 23 | G | N1-C2-N3 | -6.08 | 120.25 | 123.90 |
| 26 | 1H | 751 | A | C5-C6-N6 | -6.08 | 118.84 | 123.70 |
| 26 | 1H | 1191 | G | O5'-P-OP2 | -6.08 | 100.23 | 105.70 |
| 26 | 1H | 1274 | A | OP1-P-OP2 | 6.08 | 128.71 | 119.60 |
| 26 | 1H | 1644 | C | OP1-P-OP2 | -6.08 | 110.49 | 119.60 |
| 26 | 1H | 1707 | G | C5-N7-C8 | -6.08 | 101.26 | 104.30 |
| 26 | 1H | 2387 | U | N1-C2-O2 | -6.08 | 118.55 | 122.80 |
| 1 | 1G | 783 | C | C4-C5-C6 | -6.08 | 114.36 | 117.40 |
| 26 | 14 | 471 | A | C5-N7-C8 | -6.08 | 100.86 | 103.90 |
| 26 | 14 | 787 | U | C5-C6-N1 | 6.08 | 125.74 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1021 | A | C6-N1-C2 | 6.08 | 122.25 | 118.60 |
| 26 | 14 | 1277 | G | OP1-P-OP2 | 6.08 | 128.71 | 119.60 |
| 26 | 14 | 2250 | G | N1-C2-N3 | -6.08 | 120.25 | 123.90 |
| 1 | 13 | 240 | C | N3-C4-N4 | -6.07 | 113.75 | 118.00 |
| 1 | 13 | 939 | G | N1-C2-N3 | 6.07 | 127.54 | 123.90 |
| 26 | 1H | 776 | G | C5-C6-O6 | 6.07 | 132.24 | 128.60 |
| 26 | 1H | 1639 | U | N1-C2-O2 | 6.07 | 127.05 | 122.80 |
| 26 | 1H | 2018 | G | C5-C6-N1 | -6.07 | 108.46 | 111.50 |
| 26 | 1H | 2527 | C | C2-N3-C4 | 6.07 | 122.94 | 119.90 |
| 1 | 1G | 4 | U | N3-C2-O2 | -6.07 | 117.95 | 122.20 |
| 1 | 1G | 512 | U | N3-C2-O2 | -6.07 | 117.95 | 122.20 |
| 26 | 14 | 3 | U | C2-N1-C1' | 6.07 | 124.99 | 117.70 |
| 26 | 14 | 432 | A | N7-C8-N9 | 6.07 | 116.84 | 113.80 |
| 26 | 14 | 441 | U | OP1-P-OP2 | 6.07 | 128.71 | 119.60 |
| 26 | 14 | 925 | C | N3-C4-N4 | -6.07 | 113.75 | 118.00 |
| 26 | 14 | 1978 | A | O5'-P-OP2 | -6.07 | 100.23 | 105.70 |
| 26 | 14 | 2323 | G | OP1-P-OP2 | 6.07 | 128.71 | 119.60 |
| 1 | 13 | 571 | U | C6-N1-C2 | -6.07 | 117.36 | 121.00 |
| 1 | 13 | 724 | G | N1-C6-O6 | -6.07 | 116.26 | 119.90 |
| 1 | 13 | 1204 | A | N7-C8-N9 | 6.07 | 116.84 | 113.80 |
| 26 | 1H | 617 | G | N1-C2-N2 | -6.07 | 110.73 | 116.20 |
| 26 | 1H | 1386 | C | N3-C4-C5 | -6.07 | 119.47 | 121.90 |
| 26 | 14 | 720 | C | N3-C2-O2 | 6.07 | 126.15 | 121.90 |
| 26 | 14 | 985 | C | O5'-P-OP2 | -6.07 | 100.23 | 105.70 |
| 26 | 14 | 1340 | U | C5-C6-N1 | -6.07 | 119.66 | 122.70 |
| 26 | 14 | 2079 | U | N1-C2-O2 | -6.07 | 118.55 | 122.80 |
| 1 | 13 | 950 | U | C2-N1-C1' | -6.07 | 110.42 | 117.70 |
| 1 | 13 | 985 | C | C6-N1-C2 | 6.07 | 122.73 | 120.30 |
| 26 | 1H | 662 | G | N3-C2-N2 | 6.07 | 124.15 | 119.90 |
| 26 | 1H | 934 | G | N1-C6-O6 | 6.07 | 123.54 | 119.90 |
| 26 | 1H | 1297 | C | OP2-P-O3' | -6.07 | 91.84 | 105.20 |
| 26 | 1H | 1437 | C | OP1-P-O3' | 6.07 | 118.56 | 105.20 |
| 26 | 1H | 2067 | G | N3-C2-N2 | -6.07 | 115.65 | 119.90 |
| 26 | 1H | 2254 | C | C5-C4-N4 | -6.07 | 115.95 | 120.20 |
| 1 | 1G | 925 | G | C2-N3-C4 | -6.07 | 108.86 | 111.90 |
| 26 | 14 | 489 | G | N1-C6-O6 | 6.07 | 123.54 | 119.90 |
| 26 | 14 | 625 | G | OP1-P-OP2 | 6.07 | 128.71 | 119.60 |
| 26 | 14 | 930 | U | O5'-P-OP1 | -6.07 | 100.24 | 105.70 |
| 26 | 14 | 1263 | U | N3-C4-O4 | 6.07 | 123.65 | 119.40 |
| 26 | 14 | 1359 | A | C4-N9-C1' | -6.07 | 115.37 | 126.30 |
| 26 | 14 | 2597 | G | C6-N1-C2 | 6.07 | 128.74 | 125.10 |
| 27 | 1J | 73 | A | C8-N9-C4 | -6.07 | 103.37 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1827 | C | C5-C6-N1 | 6.07 | 124.03 | 121.00 |
| 26 | 1H | 2255 | G | N9-C4-C5 | 6.07 | 107.83 | 105.40 |
| 26 | 14 | 2259 | G | O5'-P-OP2 | 6.07 | 117.98 | 110.70 |
| 26 | 14 | 2319 | G | N3-C2-N2 | 6.07 | 124.15 | 119.90 |
| 1 | 13 | 307 | C | C4-C5-C6 | 6.07 | 120.43 | 117.40 |
| 26 | 1H | 254 | G | C5-C6-O6 | -6.07 | 124.96 | 128.60 |
| 26 | 1H | 298 | G | O5'-P-OP1 | -6.07 | 100.24 | 105.70 |
| 26 | 1H | 933 | A | N1-C6-N6 | -6.07 | 114.96 | 118.60 |
| 26 | 1H | 1338 | G | C5-C6-O6 | -6.07 | 124.96 | 128.60 |
| 29 | 11 | 105 | ILE | CG1-CB-CG2 | -6.07 | 98.05 | 111.40 |
| 1 | 1G | 676 | A | O5'-P-OP1 | -6.07 | 100.24 | 105.70 |
| 1 | 1G | 831 | U | C2-N3-C4 | 6.07 | 130.64 | 127.00 |
| 26 | 14 | 83 | G | N3-C2-N2 | -6.07 | 115.65 | 119.90 |
| 26 | 14 | 311 | A | C5-N7-C8 | -6.07 | 100.87 | 103.90 |
| 26 | 14 | 1558 | A | C4-C5-C6 | 6.07 | 120.03 | 117.00 |
| 26 | 14 | 1613 | G | C5-C6-N1 | 6.07 | 114.53 | 111.50 |
| 26 | 14 | 1821 | A | C6-C5-N7 | -6.07 | 128.05 | 132.30 |
| 26 | 14 | 2359 | C | O5'-P-OP1 | -6.07 | 100.24 | 105.70 |
| 1 | 13 | 237 | C | C4-C5-C6 | 6.07 | 120.43 | 117.40 |
| 1 | 13 | 783 | C | N1-C2-N3 | -6.07 | 114.95 | 119.20 |
| 26 | 1H | 510 | C | N3-C4-N4 | -6.07 | 113.75 | 118.00 |
| 26 | 1H | 703 | U | OP2-P-O3' | -6.07 | 91.85 | 105.20 |
| 26 | 1H | 1289 | C | N3-C4-C5 | 6.07 | 124.33 | 121.90 |
| 26 | 1H | 2365 | G | C2-N3-C4 | 6.07 | 114.93 | 111.90 |
| 1 | 1G | 6 | G | N1-C2-N2 | 6.07 | 121.66 | 116.20 |
| 1 | 1G | 785 | G | N1-C6-O6 | 6.07 | 123.54 | 119.90 |
| 23 | 2L | 39 | A | C5-N7-C8 | -6.07 | 100.87 | 103.90 |
| 26 | 14 | 425 | G | N3-C4-C5 | 6.07 | 131.63 | 128.60 |
| 26 | 14 | 584 | C | N3-C2-O2 | 6.07 | 126.15 | 121.90 |
| 26 | 14 | 784 | A | N3-C4-C5 | 6.07 | 131.05 | 126.80 |
| 26 | 14 | 1376 | C | OP2-P-O3' | 6.07 | 118.54 | 105.20 |
| 26 | 14 | 1843 | C | C5-C6-N1 | -6.07 | 117.97 | 121.00 |
| 26 | 14 | 2593 | U | O5'-P-OP1 | 6.07 | 117.98 | 110.70 |
| 26 | 14 | 2847 | U | N1-C2-N3 | -6.07 | 111.26 | 114.90 |
| 26 | 14 | 2853 | C | O5'-P-OP1 | 6.07 | 117.98 | 110.70 |
| 1 | 1G | 956 | U | C6-N1-C2 | -6.06 | 117.36 | 121.00 |
| 26 | 14 | 2448 | A | N9-C4-C5 | 6.06 | 108.23 | 105.80 |
| 1 | 13 | 755 | G | C4-C5-C6 | 6.06 | 122.44 | 118.80 |
| 1 | 13 | 827 | U | C2-N1-C1' | 6.06 | 124.97 | 117.70 |
| 1 | 13 | 1283 | G | O5'-P-OP1 | -6.06 | 100.24 | 105.70 |
| 1 | 13 | 1331 | G | OP1-P-OP2 | -6.06 | 110.50 | 119.60 |
| 26 | 1H | 292 | C | N3-C4-C5 | -6.06 | 119.47 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 540 | G | N3-C2-N2 | -6.06 | 115.66 | 119.90 |
| 26 | 1H | 871 | U | C4-C5-C6 | 6.06 | 123.34 | 119.70 |
| 26 | 1H | 2307 | G | C6-C5-N7 | -6.06 | 126.76 | 130.40 |
| 26 | 1H | 2556 | C | C4-C5-C6 | -6.06 | 114.37 | 117.40 |
| 26 | 1H | 2867 | G | C4-C5-N7 | -6.06 | 108.38 | 110.80 |
| 31 | 31 | 33 | LEU | CB-CG-CD2 | -6.06 | 100.69 | 111.00 |
| 40 | A8 | 20 | ARG | NE-CZ-NH1 | 6.06 | 123.33 | 120.30 |
| 1 | 1G | 690 | G | C5-C6-N1 | -6.06 | 108.47 | 111.50 |
| 26 | 14 | 466 | A | C2-N3-C4 | 6.06 | 113.63 | 110.60 |
| 26 | 14 | 681 | G | OP1-P-OP2 | 6.06 | 128.69 | 119.60 |
| 26 | 14 | 1955 | U | N1-C1'-C2' | 6.06 | 121.88 | 114.00 |
| 26 | 1H | 649 | G | N3-C2-N2 | -6.06 | 115.66 | 119.90 |
| 26 | 14 | 1594 | G | C5-N7-C8 | -6.06 | 101.27 | 104.30 |
| 26 | 14 | 1970 | A | C4-C5-N7 | 6.06 | 113.73 | 110.70 |
| 26 | 14 | 2359 | C | C4-C5-C6 | 6.06 | 120.43 | 117.40 |
| 26 | 14 | 2455 | G | N1-C6-O6 | 6.06 | 123.54 | 119.90 |
| 1 | 13 | 416 | G | C5-C6-N1 | -6.06 | 108.47 | 111.50 |
| 1 | 13 | 554 | C | C6-N1-C2 | -6.06 | 117.88 | 120.30 |
| 1 | 13 | 1439 | C | O5'-P-OP2 | -6.06 | 100.25 | 105.70 |
| 23 | 2K | 71 | G | OP2-P-O3' | 6.06 | 118.53 | 105.20 |
| 26 | 1H | 557 | U | N1-C2-N3 | 6.06 | 118.54 | 114.90 |
| 26 | 1H | 624 | C | N1-C2-N3 | -6.06 | 114.96 | 119.20 |
| 26 | 1H | 935 | C | N3-C4-C5 | 6.06 | 124.32 | 121.90 |
| 26 | 1H | 991 | C | C2-N1-C1' | -6.06 | 112.14 | 118.80 |
| 26 | 1H | 2004 | G | C4-C5-N7 | 6.06 | 113.22 | 110.80 |
| 26 | 1H | 2060 | A | OP1-P-O3' | -6.06 | 91.87 | 105.20 |
| 26 | 1H | 2298 | A | C5-C6-N1 | 6.06 | 120.73 | 117.70 |
| 1 | 1G | 69 | G | C8-N9-C4 | 6.06 | 108.82 | 106.40 |
| 1 | 1G | 906 | G | C6-C5-N7 | -6.06 | 126.76 | 130.40 |
| 26 | 14 | 52 | A | OP2-P-O3' | 6.06 | 118.53 | 105.20 |
| 26 | 14 | 208 | C | N3-C4-N4 | 6.06 | 122.24 | 118.00 |
| 26 | 14 | 210 | C | C2-N3-C4 | -6.06 | 116.87 | 119.90 |
| 26 | 14 | 1283 | G | C8-N9-C1' | -6.06 | 119.12 | 127.00 |
| 26 | 14 | 1781 | C | C2-N3-C4 | -6.06 | 116.87 | 119.90 |
| 26 | 14 | 2003 | G | C8-N9-C4 | -6.06 | 103.98 | 106.40 |
| 26 | 14 | 2415 | G | C5-C6-O6 | -6.06 | 124.96 | 128.60 |
| 1 | 13 | 1257 | U | N3-C2-O2 | -6.06 | 117.96 | 122.20 |
| 1 | 13 | 1485 | U | C6-N1-C1' | 6.06 | 129.68 | 121.20 |
| 26 | 1H | 65 | C | N3-C2-O2 | -6.06 | 117.66 | 121.90 |
| 26 | 1H | 222 | A | O4'-C1'-N9 | -6.06 | 103.35 | 108.20 |
| 26 | 1H | 302 | C | O5'-P-OP1 | 6.06 | 117.97 | 110.70 |
| 26 | 1H | 685 | A | C5-C6-N6 | -6.06 | 118.85 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 1H | 990 | A | C8-N9-C4 | -6.06 | 103.38 | 105.80 |
| 26 | 1H | 1568 | G | N1-C2-N2 | 6.06 | 121.65 | 116.20 |
| 26 | 1H | 2005 | A | N1-C2-N3 | 6.06 | 132.33 | 129.30 |
| 26 | 1H | 2479 | G | O5'-P-OP2 | -6.06 | 100.25 | 105.70 |
| 1 | 1G | 311 | C | OP2-P-O3' | 6.06 | 118.53 | 105.20 |
| 1 | 1G | 624 | C | C5-C6-N1 | 6.06 | 124.03 | 121.00 |
| 26 | 14 | 249 | C | C2-N3-C4 | 6.06 | 122.93 | 119.90 |
| 26 | 14 | 1237 | A | N7-C8-N9 | 6.06 | 116.83 | 113.80 |
| 26 | 14 | 1243 | G | N1-C2-N2 | -6.06 | 110.75 | 116.20 |
| 26 | 14 | 1567 | A | N1-C2-N3 | 6.06 | 132.33 | 129.30 |
| 26 | 14 | 1623 | G | OP1-P-OP2 | 6.06 | 128.69 | 119.60 |
| 26 | 14 | 1862 | G | C5-C6-O6 | 6.06 | 132.24 | 128.60 |
| 26 | 14 | 2260 | C | C4-C5-C6 | 6.06 | 120.43 | 117.40 |
| 26 | 14 | 2502 | G | P-O3'-C3' | 6.06 | 126.97 | 119.70 |
| 26 | 14 | 2617 | C | C2-N1-C1' | -6.06 | 112.14 | 118.80 |
| 1 | 13 | 520 | A | C4-C5-N7 | 6.06 | 113.73 | 110.70 |
| 26 | 1H | 1792 | G | C5-C6-O6 | 6.06 | 132.23 | 128.60 |
| 26 | 14 | 782 | A | C5-C6-N6 | -6.06 | 118.86 | 123.70 |
| 26 | 14 | 995 | C | C5-C4-N4 | 6.06 | 124.44 | 120.20 |
| 26 | 14 | 1635 | G | C5-C6-O6 | -6.06 | 124.97 | 128.60 |
| 26 | 14 | 2812 | G | OP1-P-OP2 | -6.06 | 110.52 | 119.60 |
| 26 | 1H | 760 | G | N1-C2-N3 | 6.05 | 127.53 | 123.90 |
| 26 | 1H | 1202 | C | OP2-P-O3' | 6.05 | 118.52 | 105.20 |
| 26 | 1H | 1205 | U | C4-C5-C6 | 6.05 | 123.33 | 119.70 |
| 26 | 1H | 2617 | C | N3-C2-O2 | 6.05 | 126.14 | 121.90 |
| 1 | 1G | 33 | A | C8-N9-C4 | -6.05 | 103.38 | 105.80 |
| 1 | 1G | 210 | U | C5-C6-N1 | 6.05 | 125.73 | 122.70 |
| 4 | 32 | 194 | LEU | CA-CB-CG | 6.05 | 129.22 | 115.30 |
| 26 | 14 | 502 | A | C5-C6-N1 | -6.05 | 114.67 | 117.70 |
| 26 | 14 | 584 | C | C2-N3-C4 | -6.05 | 116.87 | 119.90 |
| 26 | 14 | 2069 | G | OP2-P-O3' | 6.05 | 118.52 | 105.20 |
| 26 | 14 | 2447 | G | N7-C8-N9 | -6.05 | 110.07 | 113.10 |
| 26 | 1H | 1665 | A | C5-C6-N1 | 6.05 | 120.73 | 117.70 |
| 26 | 1H | 1916 | A | C6-N1-C2 | -6.05 | 114.97 | 118.60 |
| 26 | 1H | 2673 | G | N1-C6-O6 | -6.05 | 116.27 | 119.90 |
| 26 | 14 | 1142(A) | A | C5-N7-C8 | -6.05 | 100.87 | 103.90 |
| 26 | 14 | 1419 | A | O4'-C1'-N9 | 6.05 | 113.04 | 108.20 |
| 26 | 14 | 2238 | G | N1-C2-N2 | 6.05 | 121.65 | 116.20 |
| 1 | 13 | 542 | G | N3-C4-C5 | 6.05 | 131.62 | 128.60 |
| 1 | 13 | 812 | C | O5'-P-OP2 | 6.05 | 117.96 | 110.70 |
| 1 | 13 | 1409 | C | C2-N3-C4 | -6.05 | 116.87 | 119.90 |
| 1 | 13 | 1475 | G | N1-C2-N3 | 6.05 | 127.53 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 68 | G | N1-C2-N3 | 6.05 | 127.53 | 123.90 |
| 26 | 1H | 180 | G | C8-N9-C1' | -6.05 | 119.13 | 127.00 |
| 26 | 1H | 441 | U | C5-C4-O4 | -6.05 | 122.27 | 125.90 |
| 26 | 1H | 979 | G | N3-C2-N2 | -6.05 | 115.66 | 119.90 |
| 26 | 1H | 2360 | A | N1-C2-N3 | 6.05 | 132.33 | 129.30 |
| 26 | 1H | 2408 | U | O5'-P-OP2 | -6.05 | 100.25 | 105.70 |
| 26 | 1H | 2485 | G | C2-N3-C4 | -6.05 | 108.87 | 111.90 |
| 26 | 1H | 2616 | C | N1-C2-O2 | -6.05 | 115.27 | 118.90 |
| 26 | 1H | 2717 | G | N7-C8-N9 | -6.05 | 110.07 | 113.10 |
| 1 | 1G | 44 | G | N1-C2-N3 | 6.05 | 127.53 | 123.90 |
| 26 | 14 | 89 | G | N1-C6-O6 | 6.05 | 123.53 | 119.90 |
| 26 | 14 | 1282 | U | C4-C5-C6 | 6.05 | 123.33 | 119.70 |
| 26 | 14 | 1500 | G | C2-N3-C4 | -6.05 | 108.87 | 111.90 |
| 26 | 14 | 1555 | G | N3-C4-C5 | -6.05 | 125.57 | 128.60 |
| 26 | 14 | 1918 | A | C4-C5-N7 | 6.05 | 113.73 | 110.70 |
| 26 | 14 | 1926 | U | C5-C4-O4 | 6.05 | 129.53 | 125.90 |
| 26 | 14 | 2426 | A | N9-C4-C5 | -6.05 | 103.38 | 105.80 |
| 26 | 14 | 2429 | G | O5'-P-OP2 | -6.05 | 100.25 | 105.70 |
| 26 | 14 | 2820 | A | C6-N1-C2 | 6.05 | 122.23 | 118.60 |
| 1 | 13 | 670 | G | N1-C2-N2 | -6.05 | 110.75 | 116.20 |
| 1 | 13 | 1340 | A | C5-N7-C8 | -6.05 | 100.88 | 103.90 |
| 1 | 13 | 1467 | G | N3-C4-N9 | -6.05 | 122.37 | 126.00 |
| 24 | 3K | 32 | C | C6-N1-C2 | -6.05 | 117.88 | 120.30 |
| 26 | 1H | 601 | C | N3-C4-C5 | 6.05 | 124.32 | 121.90 |
| 26 | 1H | 621 | A | N3-C4-N9 | -6.05 | 122.56 | 127.40 |
| 26 | 1H | 956 | G | C5-N7-C8 | 6.05 | 107.33 | 104.30 |
| 26 | 1H | 1609 | A | N1-C2-N3 | 6.05 | 132.32 | 129.30 |
| 26 | 1H | 1900 | A | O5'-P-OP2 | -6.05 | 100.26 | 105.70 |
| 26 | 1H | 2064 | C | C6-N1-C1' | 6.05 | 128.06 | 120.80 |
| 26 | 1H | 2226 | C | C2-N3-C4 | -6.05 | 116.88 | 119.90 |
| 26 | 1H | 2422 | A | N1-C6-N6 | -6.05 | 114.97 | 118.60 |
| 1 | 1G | 1274 | G | N7-C8-N9 | 6.05 | 116.12 | 113.10 |
| 1 | 1G | 1419 | G | C6-N1-C2 | 6.05 | 128.73 | 125.10 |
| 26 | 14 | 75 | G | N9-C4-C5 | 6.05 | 107.82 | 105.40 |
| 26 | 14 | 104 | U | O5'-P-OP2 | -6.05 | 100.25 | 105.70 |
| 26 | 14 | 638 | G | C4-C5-C6 | 6.05 | 122.43 | 118.80 |
| 26 | 14 | 879 | G | N3-C4-N9 | 6.05 | 129.63 | 126.00 |
| 26 | 14 | 1370 | C | N3-C2-O2 | 6.05 | 126.13 | 121.90 |
| 26 | 14 | 2026 | C | O5'-P-OP2 | -6.05 | 100.26 | 105.70 |
| 26 | 14 | 2386 | C | OP2-P-O3' | 6.05 | 118.51 | 105.20 |
| 27 | 1J | 94 | C | C2-N3-C4 | 6.05 | 122.92 | 119.90 |
| 26 | 1H | 789 | A | C8-N9-C4 | 6.05 | 108.22 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1024 | G | C8-N9-C1' | -6.05 | 119.14 | 127.00 |
| 26 | 1H | 2296 | U | N3-C4-C5 | -6.05 | 110.97 | 114.60 |
| 1 | 1G | 7 | G | N1-C6-O6 | 6.05 | 123.53 | 119.90 |
| 1 | 1G | 239 | U | N3-C4-C5 | -6.05 | 110.97 | 114.60 |
| 1 | 1G | 579 | G | O5'-P-OP2 | -6.05 | 100.26 | 105.70 |
| 26 | 14 | 497 | A | N1-C6-N6 | 6.05 | 122.23 | 118.60 |
| 26 | 14 | 1519 | G | O5'-P-OP1 | -6.05 | 100.26 | 105.70 |
| 26 | 14 | 1626 | G | N1-C6-O6 | -6.05 | 116.27 | 119.90 |
| 26 | 14 | 1949 | G | N1-C2-N3 | 6.05 | 127.53 | 123.90 |
| 27 | 1J | 55 | U | C6-N1-C2 | -6.05 | 117.37 | 121.00 |
| 32 | 49 | 6 | ALA | N-CA-C | 6.05 | 127.33 | 111.00 |
| 1 | 13 | 538 | G | N9-C4-C5 | -6.05 | 102.98 | 105.40 |
| 1 | 13 | 744 | C | N3-C2-O2 | 6.05 | 126.13 | 121.90 |
| 1 | 13 | 903 | G | N7-C8-N9 | -6.05 | 110.08 | 113.10 |
| 1 | 13 | 975 | A | OP1-P-OP2 | 6.05 | 128.67 | 119.60 |
| 1 | 13 | 1431 | C | N1-C2-O2 | -6.05 | 115.27 | 118.90 |
| 24 | 3K | 2 | G | C5-C6-O6 | -6.05 | 124.97 | 128.60 |
| 26 | 1H | 62 | C | OP2-P-O3' | 6.05 | 118.50 | 105.20 |
| 26 | 1H | 289 | A | C5-C6-N1 | -6.05 | 114.68 | 117.70 |
| 1 | 1G | 52 | G | N1-C2-N2 | -6.05 | 110.76 | 116.20 |
| 1 | 1G | 118 | U | N3-C4-O4 | 6.05 | 123.63 | 119.40 |
| 1 | 1G | 890 | G | C5-N7-C8 | 6.05 | 107.32 | 104.30 |
| 1 | 1G | 1466 | C | C2-N3-C4 | -6.05 | 116.88 | 119.90 |
| 26 | 14 | 56 | A | C6-N1-C2 | 6.05 | 122.23 | 118.60 |
| 26 | 14 | 989 | G | C8-N9-C4 | 6.05 | 108.82 | 106.40 |
| 26 | 14 | 1154 | G | N7-C8-N9 | 6.05 | 116.12 | 113.10 |
| 26 | 14 | 1237 | A | C5-C6-N6 | 6.05 | 128.54 | 123.70 |
| 26 | 14 | 1321 | A | C6-N1-C2 | -6.05 | 114.97 | 118.60 |
| 26 | 14 | 1985 | G | N9-C4-C5 | -6.05 | 102.98 | 105.40 |
| 1 | 13 | 835 | U | OP1-P-OP2 | -6.04 | 110.53 | 119.60 |
| 26 | 1H | 734 | A | C8-N9-C4 | 6.04 | 108.22 | 105.80 |
| 26 | 1H | 746 | A | C5-N7-C8 | -6.04 | 100.88 | 103.90 |
| 26 | 1H | 814 | C | C2-N1-C1' | -6.04 | 112.15 | 118.80 |
| 26 | 1H | 1399 | C | C4-C5-C6 | -6.04 | 114.38 | 117.40 |
| 26 | 14 | 1448 | G | N3-C2-N2 | -6.04 | 115.67 | 119.90 |
| 26 | 14 | 1513 | C | N3-C4-N4 | 6.04 | 122.23 | 118.00 |
| 26 | 14 | 2651 | C | N3-C4-N4 | -6.04 | 113.77 | 118.00 |
| 1 | 13 | 124 | G | N1-C6-O6 | -6.04 | 116.27 | 119.90 |
| 1 | 13 | 127 | G | OP2-P-O3' | 6.04 | 118.50 | 105.20 |
| 26 | 1H | 635 | C | N1-C2-O2 | 6.04 | 122.53 | 118.90 |
| 26 | 1H | 652 | C | N1-C2-O2 | -6.04 | 115.27 | 118.90 |
| 26 | 1H | 1024 | G | C2-N3-C4 | -6.04 | 108.88 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1146 | C | N1-C2-O2 | -6.04 | 115.27 | 118.90 |
| 26 | 1H | 1444 | G | N1-C6-O6 | -6.04 | 116.27 | 119.90 |
| 26 | 1H | 1643 | G | N3-C4-C5 | -6.04 | 125.58 | 128.60 |
| 26 | 1H | 2319 | G | N9-C4-C5 | -6.04 | 102.98 | 105.40 |
| 26 | 1H | 2466 | C | N3-C4-C5 | 6.04 | 124.32 | 121.90 |
| 26 | 1H | 2527 | C | N3-C4-N4 | 6.04 | 122.23 | 118.00 |
| 37 | 78 | 19 | VAL | C-N-CA | 6.04 | 134.99 | 122.30 |
| 1 | 1G | 43 | C | C5-C4-N4 | -6.04 | 115.97 | 120.20 |
| 1 | 1G | 50 | A | N9-C4-C5 | 6.04 | 108.22 | 105.80 |
| 26 | 14 | 529 | A | C4-C5-C6 | 6.04 | 120.02 | 117.00 |
| 26 | 14 | 1610 | A | N1-C2-N3 | 6.04 | 132.32 | 129.30 |
| 26 | 14 | 2026 | C | C4-C5-C6 | -6.04 | 114.38 | 117.40 |
| 26 | 14 | 2062 | A | OP1-P-OP2 | -6.04 | 110.53 | 119.60 |
| 26 | 14 | 2373 | G | N1-C2-N3 | 6.04 | 127.53 | 123.90 |
| 26 | 1H | 264 | C | N3-C4-C5 | 6.04 | 124.32 | 121.90 |
| 26 | 1H | 1450 | C | N3-C2-O2 | 6.04 | 126.13 | 121.90 |
| 26 | 1H | 1525 | G | OP1-P-O3' | 6.04 | 118.49 | 105.20 |
| 26 | 1H | 1902 | C | C6-N1-C1' | 6.04 | 128.05 | 120.80 |
| 26 | 1H | 2067 | G | C5-C6-N1 | 6.04 | 114.52 | 111.50 |
| 26 | 1H | 2534 | A | C5-C6-N6 | -6.04 | 118.87 | 123.70 |
| 26 | 1H | 2732 | G | N1-C6-O6 | -6.04 | 116.28 | 119.90 |
| 27 | 16 | 36 | C | N3-C4-C5 | 6.04 | 124.32 | 121.90 |
| 1 | 1G | 362 | G | N1-C6-O6 | -6.04 | 116.28 | 119.90 |
| 26 | 14 | 1195 | G | C4-C5-N7 | -6.04 | 108.38 | 110.80 |
| 26 | 14 | 1273 | U | C2-N3-C4 | -6.04 | 123.38 | 127.00 |
| 26 | 14 | 1693 | U | N1-C2-N3 | 6.04 | 118.53 | 114.90 |
| 26 | 14 | 1706 | U | C4-C5-C6 | 6.04 | 123.33 | 119.70 |
| 26 | 14 | 2770 | G | C5-N7-C8 | -6.04 | 101.28 | 104.30 |
| 26 | 14 | 2869 | G | C5-C6-O6 | -6.04 | 124.97 | 128.60 |
| 27 | 1J | 72 | G | C4-C5-N7 | -6.04 | 108.38 | 110.80 |
| 27 | 1J | 89 | G | C5-N7-C8 | -6.04 | 101.28 | 104.30 |
| 1 | 13 | 667 | G | N1-C2-N2 | 6.04 | 121.64 | 116.20 |
| 1 | 13 | 1455 | G | N9-C4-C5 | -6.04 | 102.98 | 105.40 |
| 26 | 1H | 593 | G | OP2-P-O3' | 6.04 | 118.49 | 105.20 |
| 26 | 1H | 1136 | G | N1-C2-N3 | 6.04 | 127.52 | 123.90 |
| 26 | 1H | 1854 | A | C6-C5-N7 | 6.04 | 136.53 | 132.30 |
| 1 | 1G | 851 | G | C6-C5-N7 | -6.04 | 126.78 | 130.40 |
| 26 | 14 | 334 | C | C6-N1-C2 | 6.04 | 122.72 | 120.30 |
| 26 | 14 | 1797 | C | C2-N3-C4 | -6.04 | 116.88 | 119.90 |
| 26 | 14 | 2772 | C | N3-C2-O2 | -6.04 | 117.67 | 121.90 |
| 1 | 13 | 1359 | C | N1-C2-N3 | -6.04 | 114.97 | 119.20 |
| 26 | 1H | 822 | U | N1-C2-O2 | 6.04 | 127.03 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 870 | A | C6-N1-C2 | -6.04 | 114.98 | 118.60 |
| 26 | 1H | 1210 | A | C5-C6-N6 | -6.04 | 118.87 | 123.70 |
| 26 | 1H | 1286 | A | N3-C4-C5 | -6.04 | 122.57 | 126.80 |
| 26 | 1H | 1914 | C | N3-C4-N4 | -6.04 | 113.77 | 118.00 |
| 26 | 1H | 2256 | G | OP2-P-O3' | 6.04 | 118.48 | 105.20 |
| 26 | 14 | 51 | G | N3-C2-N2 | 6.04 | 124.13 | 119.90 |
| 26 | 14 | 744 | G | N1-C2-N3 | 6.04 | 127.52 | 123.90 |
| 26 | 14 | 897 | C | N1-C2-O2 | 6.04 | 122.52 | 118.90 |
| 26 | 14 | 2250 | G | N1-C6-O6 | -6.04 | 116.28 | 119.90 |
| 26 | 14 | 2487 | G | N1-C2-N3 | 6.04 | 127.52 | 123.90 |
| 26 | 14 | 2543 | G | C2-N3-C4 | 6.04 | 114.92 | 111.90 |
| 1 | 13 | 282 | A | OP1-P-O3' | 6.04 | 118.48 | 105.20 |
| 24 | 3K | 10 | G | N1-C6-O6 | -6.04 | 116.28 | 119.90 |
| 26 | 1H | 1474 | C | C2-N3-C4 | 6.04 | 122.92 | 119.90 |
| 26 | 1H | 2736 | G | N1-C6-O6 | -6.04 | 116.28 | 119.90 |
| 27 | 16 | 8 | U | O5'-P-OP2 | -6.04 | 100.27 | 105.70 |
| 26 | 14 | 389 | G | N1-C2-N2 | -6.04 | 110.77 | 116.20 |
| 26 | 14 | 1270 | C | C2-N3-C4 | 6.04 | 122.92 | 119.90 |
| 26 | 14 | 2820 | A | OP1-P-O3' | 6.04 | 118.48 | 105.20 |
| 1 | 13 | 19 | C | N3-C4-C5 | -6.04 | 119.49 | 121.90 |
| 1 | 13 | 246 | A | C4-C5-N7 | 6.04 | 113.72 | 110.70 |
| 1 | 13 | 664 | G | N7-C8-N9 | -6.04 | 110.08 | 113.10 |
| 1 | 13 | 808 | C | C6-N1-C2 | 6.04 | 122.71 | 120.30 |
| 1 | 13 | 1151 | A | O5'-P-OP2 | -6.04 | 100.27 | 105.70 |
| 1 | 13 | 1285 | A | N1-C6-N6 | -6.04 | 114.98 | 118.60 |
| 24 | 3K | 2 | G | C8-N9-C4 | 6.04 | 108.81 | 106.40 |
| 26 | 1H | 383 | U | C2-N1-C1' | -6.04 | 110.46 | 117.70 |
| 26 | 1H | 820 | A | OP1-P-O3' | -6.04 | 91.92 | 105.20 |
| 26 | 1H | 932 | G | C2-N3-C4 | -6.04 | 108.88 | 111.90 |
| 26 | 1H | 2002 | G | C2-N3-C4 | 6.04 | 114.92 | 111.90 |
| 26 | 1H | 2033 | A | O5'-P-OP1 | -6.04 | 100.27 | 105.70 |
| 26 | 1H | 2324 | C | C2-N3-C4 | -6.04 | 116.88 | 119.90 |
| 40 | A8 | 9 | ARG | NE-CZ-NH1 | -6.04 | 117.28 | 120.30 |
| 1 | 1G | 314 | C | C2-N3-C4 | -6.04 | 116.88 | 119.90 |
| 1 | 1G | 740 | U | C2-N3-C4 | 6.04 | 130.62 | 127.00 |
| 26 | 14 | 1355 | G | N7-C8-N9 | 6.04 | 116.12 | 113.10 |
| 26 | 14 | 1463 | C | N3-C4-C5 | -6.04 | 119.49 | 121.90 |
| 26 | 14 | 1897 | G | C8-N9-C4 | 6.04 | 108.81 | 106.40 |
| 26 | 14 | 2392 | A | C6-C5-N7 | -6.04 | 128.07 | 132.30 |
| 26 | 14 | 2607 | G | N1-C2-N3 | 6.04 | 127.52 | 123.90 |
| 27 | 1J | 113 | C | C6-N1-C1' | -6.04 | 113.56 | 120.80 |
| 1 | 13 | 251 | G | C5-N7-C8 | -6.03 | 101.28 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 1 | 13 | 351 | G | O5'-P-OP1 | -6.03 | 100.27 | 105.70 |
| 1 | 13 | 401 | C | C4-C5-C6 | 6.03 | 120.42 | 117.40 |
| 1 | 13 | 1050 | G | C5-C6-O6 | -6.03 | 124.98 | 128.60 |
| 26 | 1H | 270(O) | U | C6-N1-C2 | -6.03 | 117.38 | 121.00 |
| 26 | 1H | 427 | U | N3-C4-C5 | -6.03 | 110.98 | 114.60 |
| 26 | 1H | 444 | C | OP1-P-OP2 | -6.03 | 110.55 | 119.60 |
| 26 | 1H | 727 | A | OP2-P-O3' | 6.03 | 118.47 | 105.20 |
| 26 | 1H | 800 | A | O5'-P-OP1 | -6.03 | 100.27 | 105.70 |
| 26 | 1H | 1607 | C | C2-N3-C4 | 6.03 | 122.92 | 119.90 |
| 26 | 1H | 1754 | C | OP1-P-O3' | 6.03 | 118.47 | 105.20 |
| 26 | 1H | 2445 | G | C5-C6-O6 | 6.03 | 132.22 | 128.60 |
| 26 | 1H | 2472 | G | C5-C6-O6 | -6.03 | 124.98 | 128.60 |
| 26 | 14 | 751 | A | OP2-P-O3' | 6.03 | 118.47 | 105.20 |
| 26 | 14 | 1488 | G | C5-C6-N1 | -6.03 | 108.48 | 111.50 |
| 26 | 14 | 1614 | A | N1-C2-N3 | 6.03 | 132.32 | 129.30 |
| 26 | 14 | 1954 | G | C2-N3-C4 | 6.03 | 114.92 | 111.90 |
| 26 | 14 | 2076 | U | C6-N1-C2 | -6.03 | 117.38 | 121.00 |
| 26 | 1H | 481 | G | C5-C6-N1 | -6.03 | 108.48 | 111.50 |
| 26 | 1H | 651 | G | N3-C4-C5 | -6.03 | 125.58 | 128.60 |
| 1 | 1G | 481 | G | N3-C4-N9 | 6.03 | 129.62 | 126.00 |
| 1 | 1G | 736 | C | N1-C2-O2 | -6.03 | 115.28 | 118.90 |
| 26 | 14 | 692 | C | C6-N1-C2 | 6.03 | 122.71 | 120.30 |
| 26 | 14 | 1422 | G | N1-C6-O6 | 6.03 | 123.52 | 119.90 |
| 26 | 14 | 1429 | G | N3-C4-C5 | -6.03 | 125.58 | 128.60 |
| 1 | 13 | 249 | U | O5'-P-OP1 | -6.03 | 100.27 | 105.70 |
| 1 | 13 | 1065 | U | C4-C5-C6 | -6.03 | 116.08 | 119.70 |
| 1 | 13 | 1196 | U | O5'-P-OP2 | -6.03 | 100.27 | 105.70 |
| 22 | 1K | 76 | A | C4-N9-C1' | 6.03 | 137.15 | 126.30 |
| 26 | 1H | 1545(A) | A | C4-C5-C6 | -6.03 | 113.98 | 117.00 |
| 26 | 1H | 1728 | G | N9-C4-C5 | -6.03 | 102.99 | 105.40 |
| 26 | 1H | 2208 | U | C6-N1-C2 | 6.03 | 124.62 | 121.00 |
| 26 | 1H | 2301 | C | N3-C4-N4 | -6.03 | 113.78 | 118.00 |
| 26 | 1H | 2817 | G | N9-C4-C5 | 6.03 | 107.81 | 105.40 |
| 1 | 1G | 1190 | G | C4-C5-N7 | -6.03 | 108.39 | 110.80 |
| 1 | 1G | 1239 | A | OP1-P-OP2 | 6.03 | 128.65 | 119.60 |
| 26 | 14 | 189 | G | C2-N3-C4 | -6.03 | 108.89 | 111.90 |
| 26 | 14 | 270(V) | G | OP1-P-O3' | 6.03 | 118.47 | 105.20 |
| 26 | 14 | 699 | A | N9-C4-C5 | 6.03 | 108.21 | 105.80 |
| 26 | 14 | 2679 | A | C6-N1-C2 | -6.03 | 114.98 | 118.60 |
| 1 | 13 | 1300 | G | C5-C6-O6 | 6.03 | 132.22 | 128.60 |
| 26 | 1H | 214 | G | C5-N7-C8 | -6.03 | 101.29 | 104.30 |
| 26 | 1H | 746 | A | O5'-P-OP1 | -6.03 | 100.27 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 948 | G | C5-N7-C8 | -6.03 | 101.29 | 104.30 |
| 26 | 1H | 1205 | U | C6-N1-C2 | -6.03 | 117.38 | 121.00 |
| 26 | 14 | 524 | U | N1-C2-O2 | 6.03 | 127.02 | 122.80 |
| 26 | 14 | 999 | U | N1-C2-O2 | 6.03 | 127.02 | 122.80 |
| 26 | 14 | 2232 | U | N1-C2-N3 | 6.03 | 118.52 | 114.90 |
| 1 | 13 | 241 | C | N3-C2-O2 | 6.03 | 126.12 | 121.90 |
| 1 | 13 | 748 | C | P-O3'-C3' | 6.03 | 126.93 | 119.70 |
| 1 | 13 | 1268 | A | N1-C6-N6 | -6.03 | 114.98 | 118.60 |
| 26 | 1H | 599 | G | O5'-P-OP1 | 6.03 | 117.93 | 110.70 |
| 26 | 1H | 1324 | G | N3-C4-C5 | 6.03 | 131.61 | 128.60 |
| 26 | 1H | 1560 | G | N3-C2-N2 | -6.03 | 115.68 | 119.90 |
| 1 | 1G | 300 | A | N1-C2-N3 | 6.03 | 132.31 | 129.30 |
| 1 | 1G | 652 | U | O4'-C1'-N1 | 6.03 | 113.02 | 108.20 |
| 1 | 1G | 767 | A | C5-C6-N1 | 6.03 | 120.71 | 117.70 |
| 57 | 3L | 34 | U | C6-N1-C1' | -6.03 | 112.76 | 121.20 |
| 26 | 14 | 311 | A | C6-C5-N7 | -6.03 | 128.08 | 132.30 |
| 26 | 14 | 1388 | G | OP1-P-OP2 | 6.03 | 128.64 | 119.60 |
| 26 | 14 | 2625 | G | C2-N3-C4 | -6.03 | 108.89 | 111.90 |
| 27 | 1J | 105 | G | C5-C6-O6 | -6.03 | 124.98 | 128.60 |
| 1 | 13 | 560 | U | C5-C6-N1 | 6.03 | 125.71 | 122.70 |
| 1 | 13 | 869 | G | C5-N7-C8 | -6.03 | 101.29 | 104.30 |
| 1 | 13 | 1265 | G | C8-N9-C4 | 6.03 | 108.81 | 106.40 |
| 26 | 1H | 649 | G | N7-C8-N9 | 6.03 | 116.11 | 113.10 |
| 26 | 1H | 708 | C | N3-C4-C5 | 6.03 | 124.31 | 121.90 |
| 26 | 1H | 1139 | G | C4-C5-N7 | -6.03 | 108.39 | 110.80 |
| 26 | 1H | 1376 | C | C2-N1-C1' | 6.03 | 125.43 | 118.80 |
| 26 | 1H | 1465 | G | C2-N3-C4 | 6.03 | 114.91 | 111.90 |
| 26 | 1H | 1637 | A | N3-C4-N9 | 6.03 | 132.22 | 127.40 |
| 1 | 1G | 1367 | C | N1-C2-O2 | 6.03 | 122.52 | 118.90 |
| 26 | 14 | 235 | U | P-O3'-C3' | -6.03 | 112.47 | 119.70 |
| 26 | 14 | 328 | U | N3-C4-O4 | 6.03 | 123.62 | 119.40 |
| 26 | 14 | 399 | G | N1-C2-N2 | -6.03 | 110.78 | 116.20 |
| 26 | 14 | 1266 | G | C5-C6-O6 | -6.03 | 124.98 | 128.60 |
| 26 | 14 | 1906 | G | C4-C5-N7 | 6.03 | 113.21 | 110.80 |
| 26 | 14 | 2678 | C | C5-C4-N4 | -6.03 | 115.98 | 120.20 |
| 54 | L5 | 12 | ARG | NE-CZ-NH1 | -6.03 | 117.29 | 120.30 |
| 1 | 13 | 298 | A | C8-N9-C4 | -6.02 | 103.39 | 105.80 |
| 26 | 1H | 1839 | G | N1-C6-O6 | -6.02 | 116.28 | 119.90 |
| 26 | 1H | 2246 | G | C6-N1-C2 | -6.02 | 121.49 | 125.10 |
| 26 | 1H | 2721 | A | C5-N7-C8 | -6.02 | 100.89 | 103.90 |
| 26 | 1H | 2866 | U | O5'-P-OP2 | -6.02 | 100.28 | 105.70 |
| 1 | 1G | 740 | U | O4'-C1'-N1 | 6.02 | 113.02 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1196 | C | N3-C4-C5 | 6.02 | 124.31 | 121.90 |
| 26 | 1H | 154 | G | C5-C6-O6 | -6.02 | 124.99 | 128.60 |
| 26 | 1H | 1764 | G | C5-N7-C8 | 6.02 | 107.31 | 104.30 |
| 26 | 1H | 1891 | G | N3-C4-N9 | -6.02 | 122.39 | 126.00 |
| 26 | 1H | 2460 | U | N1-C2-O2 | -6.02 | 118.58 | 122.80 |
| 26 | 1H | 2760 | C | C6-N1-C2 | 6.02 | 122.71 | 120.30 |
| 1 | 1G | 265 | G | C5-N7-C8 | 6.02 | 107.31 | 104.30 |
| 1 | 1G | 697 | U | C6-N1-C2 | 6.02 | 124.61 | 121.00 |
| 1 | 1G | 913 | A | P-O3'-C3' | 6.02 | 126.93 | 119.70 |
| 26 | 14 | 217 | G | C4-C5-N7 | -6.02 | 108.39 | 110.80 |
| 26 | 14 | 348 | G | N3-C4-C5 | 6.02 | 131.61 | 128.60 |
| 26 | 14 | 352 | G | C4-C5-C6 | 6.02 | 122.41 | 118.80 |
| 26 | 14 | 1789 | A | C5-C6-N1 | 6.02 | 120.71 | 117.70 |
| 26 | 14 | 2405 | G | C5-C6-N1 | -6.02 | 108.49 | 111.50 |
| 1 | 13 | 1240 | U | N3-C2-O2 | 6.02 | 126.42 | 122.20 |
| 26 | 1H | 24 | G | C2-N3-C4 | -6.02 | 108.89 | 111.90 |
| 26 | 1H | 32 | C | C5-C4-N4 | 6.02 | 124.42 | 120.20 |
| 26 | 1H | 282 | A | C4-C5-N7 | -6.02 | 107.69 | 110.70 |
| 26 | 1H | 1502 | C | OP1-P-OP2 | -6.02 | 110.57 | 119.60 |
| 26 | 1H | 1947 | C | C5-C4-N4 | -6.02 | 115.98 | 120.20 |
| 1 | 1G | 886 | G | N9-C4-C5 | -6.02 | 102.99 | 105.40 |
| 1 | 1G | 891 | U | N3-C4-O4 | 6.02 | 123.61 | 119.40 |
| 1 | 1G | 1506 | U | O5'-P-OP1 | 6.02 | 117.92 | 110.70 |
| 23 | 2L | 77 | A | N9-C4-C5 | -6.02 | 103.39 | 105.80 |
| 26 | 14 | 1303 | G | OP2-P-O3' | 6.02 | 118.45 | 105.20 |
| 1 | 13 | 467 | G | C6-C5-N7 | -6.02 | 126.79 | 130.40 |
| 1 | 13 | 766 | A | N1-C2-N3 | -6.02 | 126.29 | 129.30 |
| 1 | 13 | 781 | A | C6-N1-C2 | -6.02 | 114.99 | 118.60 |
| 26 | 1H | 261 | G | O5'-P-OP2 | -6.02 | 100.28 | 105.70 |
| 26 | 1H | 500 | G | C6-C5-N7 | 6.02 | 134.01 | 130.40 |
| 26 | 1H | 1718 | G | C5-N7-C8 | 6.02 | 107.31 | 104.30 |
| 26 | 1H | 2442 | C | C2-N3-C4 | -6.02 | 116.89 | 119.90 |
| 26 | 1H | 2764 | A | N3-C4-C5 | 6.02 | 131.01 | 126.80 |
| 26 | 1H | 2888 | C | O5'-P-OP1 | -6.02 | 100.28 | 105.70 |
| 1 | 1G | 108 | G | C5-C6-N1 | 6.02 | 114.51 | 111.50 |
| 1 | 1G | 265 | G | N3-C2-N2 | 6.02 | 124.11 | 119.90 |
| 26 | 14 | 444 | C | C2-N1-C1' | -6.02 | 112.18 | 118.80 |
| 26 | 14 | 524 | U | C4-C5-C6 | 6.02 | 123.31 | 119.70 |
| 26 | 14 | 614 | U | N3-C2-O2 | 6.02 | 126.41 | 122.20 |
| 26 | 14 | 776 | G | N7-C8-N9 | -6.02 | 110.09 | 113.10 |
| 26 | 14 | 837 | C | C5-C4-N4 | -6.02 | 115.99 | 120.20 |
| 26 | 14 | 1203 | G | C5-C6-O6 | 6.02 | 132.21 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1791 | A | C5-N7-C8 | -6.02 | 100.89 | 103.90 |
| 26 | 14 | 2344 | U | N3-C4-O4 | -6.02 | 115.19 | 119.40 |
| 26 | 14 | 2358 | G | C4-C5-N7 | -6.02 | 108.39 | 110.80 |
| 1 | 13 | 229 | U | N3-C4-O4 | 6.02 | 123.61 | 119.40 |
| 1 | 13 | 979 | C | N1-C2-O2 | -6.02 | 115.29 | 118.90 |
| 25 | 4K | 18 | G | C4-C5-N7 | -6.02 | 108.39 | 110.80 |
| 26 | 1H | 1162 | G | OP1-P-OP2 | -6.02 | 110.57 | 119.60 |
| 26 | 1H | 1666 | G | N1-C6-O6 | -6.02 | 116.29 | 119.90 |
| 26 | 1H | 2573 | C | C2-N1-C1' | 6.02 | 125.42 | 118.80 |
| 26 | 1H | 2815 | C | OP1-P-OP2 | 6.02 | 128.63 | 119.60 |
| 26 | 1H | 2863 | C | C5-C6-N1 | -6.02 | 117.99 | 121.00 |
| 27 | 16 | 89(A) | A | N9-C4-C5 | -6.02 | 103.39 | 105.80 |
| 26 | 14 | 264 | C | N3-C4-C5 | -6.02 | 119.49 | 121.90 |
| 26 | 14 | 597 | U | N1-C2-N3 | 6.02 | 118.51 | 114.90 |
| 26 | 14 | 2710 | C | OP1-P-O3' | -6.02 | 91.96 | 105.20 |
| 26 | 1H | 2012 | G | OP2-P-O3' | 6.02 | 118.44 | 105.20 |
| 1 | 13 | 1068 | G | N7-C8-N9 | 6.01 | 116.11 | 113.10 |
| 26 | 1H | 73 | A | C2-N3-C4 | 6.01 | 113.61 | 110.60 |
| 26 | 1H | 493 | G | C5-C6-N1 | -6.01 | 108.49 | 111.50 |
| 26 | 1H | 672 | C | OP2-P-O3' | 6.01 | 118.43 | 105.20 |
| 26 | 1H | 959 | A | N1-C6-N6 | -6.01 | 114.99 | 118.60 |
| 26 | 1H | 1143 | A | OP1-P-OP2 | 6.01 | 128.62 | 119.60 |
| 26 | 1H | 1261 | C | N1-C2-O2 | -6.01 | 115.29 | 118.90 |
| 26 | 1H | 1500 | G | N3-C4-C5 | 6.01 | 131.61 | 128.60 |
| 26 | 1H | 1665 | A | C6-N1-C2 | -6.01 | 114.99 | 118.60 |
| 26 | 1H | 1815 | A | OP1-P-O3' | 6.01 | 118.43 | 105.20 |
| 26 | 1H | 2578 | G | N3-C4-C5 | -6.01 | 125.59 | 128.60 |
| 26 | 14 | 668 | G | C8-N9-C4 | 6.01 | 108.81 | 106.40 |
| 26 | 14 | 733 | G | N1-C2-N2 | -6.01 | 110.79 | 116.20 |
| 26 | 14 | 1142 | U | N1-C2-O2 | 6.01 | 127.01 | 122.80 |
| 26 | 14 | 2818 | G | C5-C6-O6 | -6.01 | 124.99 | 128.60 |
| 26 | 1H | 44 | A | OP2-P-O3' | 6.01 | 118.43 | 105.20 |
| 27 | 16 | 34 | U | N1-C2-O2 | -6.01 | 118.59 | 122.80 |
| 1 | 1G | 111 | G | OP2-P-O3' | 6.01 | 118.43 | 105.20 |
| 1 | 1G | 239 | U | C2-N3-C4 | 6.01 | 130.61 | 127.00 |
| 1 | 1G | 516 | U | N3-C4-C5 | -6.01 | 110.99 | 114.60 |
| 26 | 14 | 138 | G | C2-N3-C4 | 6.01 | 114.91 | 111.90 |
| 26 | 14 | 393 | C | N1-C2-O2 | 6.01 | 122.51 | 118.90 |
| 26 | 14 | 1025 | G | C5-C6-O6 | -6.01 | 124.99 | 128.60 |
| 26 | 14 | 1449 | A | N7-C8-N9 | 6.01 | 116.81 | 113.80 |
| 27 | 1J | 79 | C | C5-C6-N1 | 6.01 | 124.01 | 121.00 |
| 1 | 13 | 623 | C | N3-C4-C5 | -6.01 | 119.50 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 97 | C | C6-N1-C2 | 6.01 | 122.70 | 120.30 |
| 26 | 1H | 528 | A | C8-N9-C1' | 6.01 | 138.52 | 127.70 |
| 26 | 1H | 1534 | G | N3-C4-C5 | -6.01 | 125.59 | 128.60 |
| 26 | 1H | 1577 | C | C4-C5-C6 | 6.01 | 120.41 | 117.40 |
| 26 | 1H | 1814 | G | C4-C5-N7 | -6.01 | 108.39 | 110.80 |
| 26 | 1H | 2680 | C | N1-C2-O2 | -6.01 | 115.29 | 118.90 |
| 27 | 16 | 110 | G | OP1-P-OP2 | -6.01 | 110.58 | 119.60 |
| 1 | 1G | 7 | G | C5-C6-N1 | -6.01 | 108.49 | 111.50 |
| 1 | 1G | 332 | G | N9-C4-C5 | -6.01 | 103.00 | 105.40 |
| 1 | 1G | 385 | C | C4-C5-C6 | 6.01 | 120.41 | 117.40 |
| 1 | 1G | 748 | C | P-O3'-C3' | 6.01 | 126.91 | 119.70 |
| 1 | 1G | 1508 | G | C8-N9-C4 | 6.01 | 108.80 | 106.40 |
| 26 | 14 | 698 | C | N1-C2-O2 | -6.01 | 115.29 | 118.90 |
| 26 | 14 | 1257 | C | OP2-P-O3' | 6.01 | 118.42 | 105.20 |
| 26 | 14 | 2023 | G | C6-C5-N7 | -6.01 | 126.79 | 130.40 |
| 1 | 13 | 99 | C | C2-N3-C4 | 6.01 | 122.91 | 119.90 |
| 1 | 13 | 481 | G | N1-C2-N3 | 6.01 | 127.51 | 123.90 |
| 1 | 13 | 771 | G | N3-C4-C5 | 6.01 | 131.60 | 128.60 |
| 1 | 13 | 863 | U | C2-N1-C1' | -6.01 | 110.49 | 117.70 |
| 1 | 13 | 1056 | U | O5'-P-OP2 | -6.01 | 100.29 | 105.70 |
| 1 | 13 | 1067 | A | O5'-P-OP1 | -6.01 | 100.29 | 105.70 |
| 26 | 1H | 866 | A | OP2-P-O3' | 6.01 | 118.42 | 105.20 |
| 26 | 14 | 320 | A | O5'-P-OP2 | -6.01 | 100.29 | 105.70 |
| 26 | 14 | 913 | U | C2-N3-C4 | 6.01 | 130.61 | 127.00 |
| 26 | 14 | 1462 | C | N1-C2-O2 | -6.01 | 115.30 | 118.90 |
| 26 | 14 | 2677 | G | N1-C2-N3 | 6.01 | 127.51 | 123.90 |
| 26 | 14 | 2692 | C | N3-C2-O2 | -6.01 | 117.69 | 121.90 |
| 1 | 13 | 585 | G | N7-C8-N9 | -6.01 | 110.10 | 113.10 |
| 26 | 1H | 111 | A | C8-N9-C4 | 6.01 | 108.20 | 105.80 |
| 26 | 1H | 165 | U | N1-C2-O2 | 6.01 | 127.01 | 122.80 |
| 26 | 1H | 702 | G | N1-C6-O6 | 6.01 | 123.50 | 119.90 |
| 26 | 1H | 2573 | C | C4-C5-C6 | 6.01 | 120.40 | 117.40 |
| 1 | 1G | 414 | A | C8-N9-C4 | 6.01 | 108.20 | 105.80 |
| 1 | 1G | 486 | U | N3-C2-O2 | -6.01 | 117.99 | 122.20 |
| 26 | 14 | 954 | G | C4-C5-N7 | -6.01 | 108.40 | 110.80 |
| 26 | 14 | 1377 | G | N1-C2-N3 | 6.01 | 127.50 | 123.90 |
| 26 | 14 | 2210 | G | C8-N9-C1' | -6.01 | 119.19 | 127.00 |
| 1 | 13 | 533 | A | N1-C6-N6 | 6.01 | 122.20 | 118.60 |
| 1 | 13 | 767 | A | C5-C6-N6 | 6.01 | 128.50 | 123.70 |
| 23 | 2K | 46 | G | C2-N3-C4 | -6.01 | 108.90 | 111.90 |
| 23 | 2K | 63 | C | N1-C2-O2 | 6.01 | 122.50 | 118.90 |
| 26 | 1H | 842 | G | C8-N9-C1' | 6.01 | 134.81 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 1196 | C | C4-C5-C6 | 6.01 | 120.40 | 117.40 |
| 26 | 1H | 1769 | G | N1-C6-O6 | 6.01 | 123.50 | 119.90 |
| 26 | 1H | 2366 | A | N3-C4-C5 | -6.01 | 122.59 | 126.80 |
| 26 | 1H | 2589 | A | C8-N9-C4 | 6.01 | 108.20 | 105.80 |
| 26 | 1H | 2849 | U | OP1-P-O3' | 6.01 | 118.41 | 105.20 |
| 1 | 1G | 186(F) | C | C5-C6-N1 | 6.01 | 124.00 | 121.00 |
| 1 | 1G | 414 | A | N9-C4-C5 | -6.01 | 103.40 | 105.80 |
| 1 | 1G | 1363 | A | C8-N9-C4 | 6.01 | 108.20 | 105.80 |
| 57 | 3L | 3 | G | N7-C8-N9 | -6.01 | 110.10 | 113.10 |
| 26 | 14 | 540 | G | N3-C2-N2 | -6.01 | 115.70 | 119.90 |
| 26 | 14 | 631 | A | OP1-P-O3' | 6.01 | 118.42 | 105.20 |
| 26 | 14 | 808 | G | N1-C2-N2 | -6.01 | 110.80 | 116.20 |
| 26 | 14 | 1015 | G | C5-C6-O6 | 6.01 | 132.20 | 128.60 |
| 26 | 14 | 2258 | C | N3-C4-N4 | 6.01 | 122.20 | 118.00 |
| 26 | 14 | 2303 | G | C5-C6-N1 | -6.01 | 108.50 | 111.50 |
| 26 | 14 | 2435 | A | OP1-P-OP2 | 6.01 | 128.61 | 119.60 |
| 26 | 14 | 2618 | G | N7-C8-N9 | 6.01 | 116.10 | 113.10 |
| 1 | 13 | 1338 | G | N9-C4-C5 | 6.00 | 107.80 | 105.40 |
| 26 | 1H | 17 | G | C5-C6-O6 | -6.00 | 125.00 | 128.60 |
| 26 | 1H | 483 | A | C5-C6-N6 | 6.00 | 128.50 | 123.70 |
| 26 | 1H | 1124 | C | C4-C5-C6 | 6.00 | 120.40 | 117.40 |
| 26 | 1H | 1402 | C | N3-C2-O2 | 6.00 | 126.10 | 121.90 |
| 26 | 1H | 2008 | C | O5'-P-OP2 | -6.00 | 100.30 | 105.70 |
| 26 | 14 | 121 | G | C2-N3-C4 | -6.00 | 108.90 | 111.90 |
| 1 | 13 | 1488 | G | N3-C2-N2 | 6.00 | 124.10 | 119.90 |
| 22 | 1K | 26 | A | C5-N7-C8 | 6.00 | 106.90 | 103.90 |
| 26 | 1H | 1273 | U | N1-C2-O2 | -6.00 | 118.60 | 122.80 |
| 27 | 16 | 53 | A | C8-N9-C4 | -6.00 | 103.40 | 105.80 |
| 27 | 16 | 102 | G | O5'-P-OP1 | 6.00 | 117.90 | 110.70 |
| 1 | 1G | 196 | A | N1-C6-N6 | -6.00 | 115.00 | 118.60 |
| 1 | 1G | 1285 | A | C8-N9-C4 | 6.00 | 108.20 | 105.80 |
| 26 | 14 | 681 | G | N1-C2-N2 | -6.00 | 110.80 | 116.20 |
| 26 | 14 | 1294 | U | N3-C4-O4 | 6.00 | 123.60 | 119.40 |
| 26 | 14 | 1673 | U | O4'-C1'-N1 | 6.00 | 113.00 | 108.20 |
| 26 | 14 | 1937 | A | O4'-C1'-N9 | 6.00 | 113.00 | 108.20 |
| 26 | 14 | 2392 | A | C4-C5-N7 | 6.00 | 113.70 | 110.70 |
| 1 | 13 | 413 | G | C4-C5-N7 | -6.00 | 108.40 | 110.80 |
| 1 | 13 | 782 | A | C5-C6-N6 | -6.00 | 118.90 | 123.70 |
| 1 | 13 | 1364 | U | N3-C4-C5 | -6.00 | 111.00 | 114.60 |
| 1 | 13 | 1429 | C | C6-N1-C2 | 6.00 | 122.70 | 120.30 |
| 2 | 1E | 187 | LEU | CA-CB-CG | 6.00 | 129.10 | 115.30 |
| 26 | 1H | 493 | G | C5-N7-C8 | 6.00 | 107.30 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2607 | G | N3-C4-C5 | 6.00 | 131.60 | 128.60 |
| 1 | 1G | 474 | G | C5-C6-N1 | -6.00 | 108.50 | 111.50 |
| 1 | 1G | 881 | G | N1-C6-O6 | 6.00 | 123.50 | 119.90 |
| 26 | 14 | 2373 | G | N1-C6-O6 | 6.00 | 123.50 | 119.90 |
| 26 | 14 | 2578 | G | C6-N1-C2 | -6.00 | 121.50 | 125.10 |
| 26 | 14 | 2636 | U | N3-C2-O2 | -6.00 | 118.00 | 122.20 |
| 26 | 14 | 2893 | G | P-O3'-C3' | 6.00 | 126.90 | 119.70 |
| 26 | 1H | 94 | G | C5-C6-N1 | -6.00 | 108.50 | 111.50 |
| 26 | 1H | 350 | U | C5-C4-O4 | 6.00 | 129.50 | 125.90 |
| 26 | 1H | 945 | A | C5-C6-N6 | -6.00 | 118.90 | 123.70 |
| 26 | 1H | 2194 | G | C8-N9-C4 | -6.00 | 104.00 | 106.40 |
| 26 | 1H | 2637 | U | C5-C4-O4 | -6.00 | 122.30 | 125.90 |
| 26 | 14 | 845 | G | C4-C5-N7 | 6.00 | 113.20 | 110.80 |
| 26 | 14 | 2882 | A | OP1-P-OP2 | 6.00 | 128.60 | 119.60 |
| 1 | 13 | 1214 | C | C6-N1-C2 | 6.00 | 122.70 | 120.30 |
| 23 | 2K | 18 | C | C4-C5-C6 | -6.00 | 114.40 | 117.40 |
| 26 | 1H | 574 | C | C6-N1-C2 | -6.00 | 117.90 | 120.30 |
| 26 | 1H | 673 | C | O5'-P-OP2 | -6.00 | 100.30 | 105.70 |
| 26 | 1H | 907 | U | N1-C2-N3 | -6.00 | 111.30 | 114.90 |
| 26 | 1H | 1414 | G | O5'-P-OP1 | -6.00 | 100.30 | 105.70 |
| 26 | 1H | 1627 | G | C4-C5-C6 | 6.00 | 122.40 | 118.80 |
| 26 | 1H | 1710 | C | C2-N1-C1' | -6.00 | 112.20 | 118.80 |
| 26 | 1H | 2087 | G | N1-C2-N3 | -6.00 | 120.30 | 123.90 |
| 26 | 1H | 2550 | G | N1-C6-O6 | 6.00 | 123.50 | 119.90 |
| 1 | 1G | 1519 | A | N1-C6-N6 | -6.00 | 115.00 | 118.60 |
| 26 | 14 | 186 | G | C5-C6-O6 | 6.00 | 132.20 | 128.60 |
| 26 | 14 | 464 | U | O5'-P-OP1 | -6.00 | 100.30 | 105.70 |
| 26 | 14 | 558 | G | C2-N3-C4 | -6.00 | 108.90 | 111.90 |
| 26 | 14 | 835 | A | C5-C6-N1 | 6.00 | 120.70 | 117.70 |
| 26 | 14 | 1892 | C | C6-N1-C1' | 6.00 | 128.00 | 120.80 |
| 26 | 14 | 2210 | G | C5-C6-O6 | 6.00 | 132.20 | 128.60 |
| 1 | 13 | 553 | A | C5-C6-N6 | 6.00 | 128.50 | 123.70 |
| 1 | 13 | 703 | G | C8-N9-C1' | -6.00 | 119.20 | 127.00 |
| 1 | 13 | 1139 | G | N3-C4-N9 | -6.00 | 122.40 | 126.00 |
| 26 | 1H | 216 | A | C6-N1-C2 | -6.00 | 115.00 | 118.60 |
| 26 | 1H | 265 | A | N3-C4-C5 | 6.00 | 131.00 | 126.80 |
| 26 | 1H | 570 | G | C8-N9-C4 | -6.00 | 104.00 | 106.40 |
| 26 | 1H | 739 | G | O5'-P-OP2 | -6.00 | 100.30 | 105.70 |
| 26 | 1H | 1263 | U | C5-C6-N1 | 6.00 | 125.70 | 122.70 |
| 26 | 1H | 1566 | A | N3-C4-C5 | 6.00 | 131.00 | 126.80 |
| 26 | 1H | 1642 | G | C6-C5-N7 | 6.00 | 134.00 | 130.40 |
| 26 | 1H | 2386 | C | N3-C4-N4 | -6.00 | 113.80 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 29 | 11 | 38 | LYS | CB-CA-C | 6.00 | 122.39 | 110.40 |
| 1 | 1G | 7 | G | N3-C4-C5 | 6.00 | 131.60 | 128.60 |
| 26 | 14 | 68 | G | C6-C5-N7 | -6.00 | 126.80 | 130.40 |
| 26 | 14 | 183 | C | C5-C6-N1 | -6.00 | 118.00 | 121.00 |
| 26 | 14 | 263 | C | C2-N3-C4 | -6.00 | 116.90 | 119.90 |
| 26 | 14 | 660 | G | C4-C5-C6 | 6.00 | 122.40 | 118.80 |
| 26 | 14 | 811 | U | N3-C4-O4 | -6.00 | 115.20 | 119.40 |
| 26 | 14 | 839 | U | C5-C6-N1 | -6.00 | 119.70 | 122.70 |
| 26 | 14 | 955 | C | C5-C4-N4 | 6.00 | 124.40 | 120.20 |
| 26 | 14 | 1903 | G | N7-C8-N9 | -6.00 | 110.10 | 113.10 |
| 26 | 14 | 2518 | A | C6-N1-C2 | 6.00 | 122.20 | 118.60 |
| 26 | 14 | 2702 | U | C5-C4-O4 | 6.00 | 129.50 | 125.90 |
| 26 | 1H | 1425 | G | C4-C5-N7 | 6.00 | 113.20 | 110.80 |
| 26 | 1H | 1934 | C | N3-C2-O2 | 6.00 | 126.10 | 121.90 |
| 1 | 1G | 27 | G | OP1-P-OP2 | -6.00 | 110.61 | 119.60 |
| 1 | 1G | 38 | G | N1-C2-N3 | 6.00 | 127.50 | 123.90 |
| 1 | 1G | 241 | C | C5-C6-N1 | -6.00 | 118.00 | 121.00 |
| 1 | 1G | 833 | U | N1-C2-O2 | 6.00 | 127.00 | 122.80 |
| 1 | 1G | 1472 | U | O5'-P-OP2 | -6.00 | 100.30 | 105.70 |
| 26 | 14 | 620 | G | O5'-P-OP2 | -6.00 | 100.31 | 105.70 |
| 26 | 14 | 2673 | G | N1-C2-N3 | 6.00 | 127.50 | 123.90 |
| 1 | 13 | 587 | G | C5-C6-O6 | -5.99 | 125.00 | 128.60 |
| 26 | 1H | 55 | G | OP1-P-OP2 | -5.99 | 110.61 | 119.60 |
| 26 | 1H | 1650 | G | C4-C5-C6 | 5.99 | 122.40 | 118.80 |
| 26 | 1H | 2332 | U | C6-N1-C2 | 5.99 | 124.60 | 121.00 |
| 26 | 1H | 2436 | G | C6-N1-C2 | -5.99 | 121.50 | 125.10 |
| 1 | 1G | 240 | C | C2-N3-C4 | -5.99 | 116.90 | 119.90 |
| 26 | 14 | 199 | A | N3-C4-N9 | 5.99 | 132.20 | 127.40 |
| 26 | 14 | 571 | A | C5-N7-C8 | -5.99 | 100.90 | 103.90 |
| 26 | 14 | 973 | A | C8-N9-C4 | 5.99 | 108.20 | 105.80 |
| 26 | 14 | 1412 | A | N7-C8-N9 | 5.99 | 116.80 | 113.80 |
| 26 | 14 | 1520 | U | N3-C4-O4 | -5.99 | 115.20 | 119.40 |
| 26 | 14 | 1773 | A | C5-N7-C8 | -5.99 | 100.90 | 103.90 |
| 26 | 14 | 1863 | G | C2-N3-C4 | -5.99 | 108.90 | 111.90 |
| 29 | 19 | 61 | LEU | CB-CG-CD2 | -5.99 | 100.81 | 111.00 |
| 1 | 13 | 252 | U | C6-N1-C2 | 5.99 | 124.59 | 121.00 |
| 1 | 13 | 480 | U | C6-N1-C2 | 5.99 | 124.59 | 121.00 |
| 1 | 13 | 509 | A | N1-C6-N6 | -5.99 | 115.00 | 118.60 |
| 26 | 1H | 123 | G | C2-N3-C4 | -5.99 | 108.90 | 111.90 |
| 26 | 1H | 272 | G | C8-N9-C4 | 5.99 | 108.80 | 106.40 |
| 26 | 1H | 2072 | G | C5-N7-C8 | 5.99 | 107.30 | 104.30 |
| 26 | 1H | 2479 | G | O5'-P-OP1 | 5.99 | 117.89 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-------------|-------|-------------|----------|
| 26 | 1H | 2640 | G | N3-C4-N9 | -5.99 | 122.41 | 126.00 |
| 26 | 1H | 2877 | G | C6-N1-C2 | 5.99 | 128.69 | 125.10 |
| 26 | 14 | 757 | U | OP1-P-OP2 | 5.99 | 128.59 | 119.60 |
| 26 | 14 | 1955 | U | OP1-P-OP2 | 5.99 | 128.59 | 119.60 |
| 26 | 14 | 2036 | C | N3-C4-C5 | 5.99 | 124.30 | 121.90 |
| 26 | 14 | 2253 | G | N1-C2-N2 | -5.99 | 110.81 | 116.20 |
| 26 | 14 | 2854 | G | N7-C8-N9 | 5.99 | 116.10 | 113.10 |
| 1 | 13 | 191(F) | U | C5-C6-N1 | 5.99 | 125.69 | 122.70 |
| 1 | 13 | 759 | A | OP2-P-O3' | 5.99 | 118.38 | 105.20 |
| 1 | 13 | 1139 | G | N3-C4-C5 | 5.99 | 131.59 | 128.60 |
| 1 | 13 | 1352 | C | C6-N1-C2 | 5.99 | 122.70 | 120.30 |
| 26 | 1H | 615 | G | O5'-P-OP2 | -5.99 | 100.31 | 105.70 |
| 26 | 1H | 668 | G | N3-C4-N9 | -5.99 | 122.41 | 126.00 |
| 26 | 1H | 726 | G | C2-N3-C4 | -5.99 | 108.90 | 111.90 |
| 26 | 1H | 968 | G | N7-C8-N9 | 5.99 | 116.10 | 113.10 |
| 26 | 1H | 1630 | G | O5'-P-OP2 | 5.99 | 117.89 | 110.70 |
| 26 | 1H | 1734 | C | C2-N1-C1' | -5.99 | 112.21 | 118.80 |
| 26 | 1H | 1798 | U | O5'-P-OP2 | -5.99 | 100.31 | 105.70 |
| 26 | 1H | 2523 | G | C8-N9-C4 | -5.99 | 104.00 | 106.40 |
| 26 | 1H | 2681 | C | C2'-C3'-O3' | 5.99 | 123.28 | 113.70 |
| 27 | 16 | 46 | A | N1-C2-N3 | 5.99 | 132.29 | 129.30 |
| 27 | 16 | 105 | G | OP1-P-OP2 | 5.99 | 128.59 | 119.60 |
| 26 | 14 | 527 | C | O4'-C1'-N1 | 5.99 | 112.99 | 108.20 |
| 26 | 14 | 737 | C | N1-C2-N3 | 5.99 | 123.39 | 119.20 |
| 26 | 14 | 824 | A | C2-N3-C4 | 5.99 | 113.60 | 110.60 |
| 26 | 14 | 872 | A | N1-C6-N6 | 5.99 | 122.19 | 118.60 |
| 26 | 14 | 951 | C | C4-C5-C6 | -5.99 | 114.40 | 117.40 |
| 26 | 14 | 1309 | G | OP1-P-OP2 | -5.99 | 110.61 | 119.60 |
| 26 | 14 | 1406 | U | N1-C2-O2 | -5.99 | 118.61 | 122.80 |
| 26 | 14 | 2068 | U | OP1-P-O3' | 5.99 | 118.38 | 105.20 |
| 26 | 14 | 2676 | C | C5-C6-N1 | -5.99 | 118.00 | 121.00 |
| 26 | 14 | 2707 | G | C6-C5-N7 | -5.99 | 126.81 | 130.40 |
| 1 | 13 | 765 | G | C4-C5-N7 | 5.99 | 113.20 | 110.80 |
| 1 | 13 | 793 | U | N1-C2-N3 | 5.99 | 118.49 | 114.90 |
| 1 | 13 | 968 | A | C5-C6-N6 | -5.99 | 118.91 | 123.70 |
| 26 | 1H | 655 | A | N7-C8-N9 | 5.99 | 116.79 | 113.80 |
| 26 | 1H | 1167 | U | O4'-C1'-N1 | -5.99 | 103.41 | 108.20 |
| 26 | 1H | 1244 | G | OP2-P-O3' | 5.99 | 118.38 | 105.20 |
| 26 | 1H | 1303 | G | OP2-P-O3' | 5.99 | 118.38 | 105.20 |
| 26 | 1H | 1304 | C | N1-C1'-C2' | -5.99 | 105.41 | 112.00 |
| 26 | 1H | 1919 | A | OP1-P-OP2 | 5.99 | 128.58 | 119.60 |
| 1 | 1G | 43 | C | N3-C4-N4 | 5.99 | 122.19 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1079 | G | C4-C5-C6 | 5.99 | 122.39 | 118.80 |
| 23 | 2L | 40 | C | O5'-P-OP2 | 5.99 | 117.89 | 110.70 |
| 26 | 14 | 613 | U | C6-N1-C1' | -5.99 | 112.81 | 121.20 |
| 26 | 14 | 2022 | U | C6-N1-C1' | -5.99 | 112.82 | 121.20 |
| 26 | 14 | 2087 | G | N9-C4-C5 | -5.99 | 103.00 | 105.40 |
| 26 | 14 | 2716 | U | N3-C4-O4 | 5.99 | 123.59 | 119.40 |
| 26 | 14 | 2783 | G | C8-N9-C4 | 5.99 | 108.80 | 106.40 |
| 1 | 13 | 1059 | C | N3-C4-N4 | -5.99 | 113.81 | 118.00 |
| 26 | 1H | 1946 | U | C5-C4-O4 | 5.99 | 129.49 | 125.90 |
| 26 | 1H | 2845 | G | C5-N7-C8 | 5.99 | 107.29 | 104.30 |
| 26 | 14 | 88 | G | N1-C6-O6 | -5.99 | 116.31 | 119.90 |
| 26 | 14 | 90 | U | N3-C2-O2 | -5.99 | 118.01 | 122.20 |
| 26 | 14 | 149 | A | C5-C6-N1 | -5.99 | 114.71 | 117.70 |
| 26 | 14 | 949 | C | OP2-P-O3' | 5.99 | 118.37 | 105.20 |
| 26 | 14 | 1323 | U | C2-N1-C1' | -5.99 | 110.52 | 117.70 |
| 26 | 14 | 1329 | U | OP1-P-OP2 | 5.99 | 128.58 | 119.60 |
| 26 | 14 | 2012 | G | C6-C5-N7 | -5.99 | 126.81 | 130.40 |
| 26 | 1H | 656 | G | C5-C6-O6 | 5.99 | 132.19 | 128.60 |
| 26 | 1H | 727 | A | C5-C6-N1 | -5.99 | 114.71 | 117.70 |
| 26 | 1H | 729 | G | OP2-P-O3' | 5.99 | 118.37 | 105.20 |
| 26 | 1H | 933 | A | C6-N1-C2 | -5.99 | 115.01 | 118.60 |
| 26 | 1H | 1765 | C | O5'-P-OP2 | -5.99 | 100.31 | 105.70 |
| 26 | 1H | 2018 | G | N3-C4-N9 | -5.99 | 122.41 | 126.00 |
| 26 | 1H | 2062 | A | C6-N1-C2 | 5.99 | 122.19 | 118.60 |
| 26 | 1H | 2242 | G | C5-N7-C8 | 5.99 | 107.29 | 104.30 |
| 26 | 14 | 777 | A | N1-C6-N6 | 5.99 | 122.19 | 118.60 |
| 26 | 14 | 972 | G | N7-C8-N9 | 5.99 | 116.09 | 113.10 |
| 26 | 14 | 2192 | G | C5-C6-O6 | -5.99 | 125.01 | 128.60 |
| 26 | 14 | 2414 | G | C5-C6-N1 | -5.99 | 108.51 | 111.50 |
| 26 | 14 | 2832 | U | N3-C2-O2 | 5.99 | 126.39 | 122.20 |
| 1 | 13 | 1328 | C | C2-N3-C4 | 5.98 | 122.89 | 119.90 |
| 26 | 1H | 1261 | C | C4-C5-C6 | 5.98 | 120.39 | 117.40 |
| 26 | 14 | 765 | G | C5-C6-N1 | -5.98 | 108.51 | 111.50 |
| 26 | 14 | 951 | C | OP1-P-OP2 | -5.98 | 110.62 | 119.60 |
| 26 | 14 | 974 | G | C2-N3-C4 | 5.98 | 114.89 | 111.90 |
| 1 | 13 | 517 | G | N9-C4-C5 | -5.98 | 103.01 | 105.40 |
| 1 | 13 | 907 | A | C4-C5-N7 | 5.98 | 113.69 | 110.70 |
| 1 | 13 | 1205 | U | O5'-P-OP1 | -5.98 | 100.32 | 105.70 |
| 26 | 1H | 701 | G | C4-C5-N7 | -5.98 | 108.41 | 110.80 |
| 26 | 1H | 1472 | A | N1-C6-N6 | -5.98 | 115.01 | 118.60 |
| 26 | 1H | 1840 | G | C5-N7-C8 | -5.98 | 101.31 | 104.30 |
| 1 | 1G | 147 | G | C8-N9-C4 | -5.98 | 104.01 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2302 | G | N3-C4-C5 | -5.98 | 125.61 | 128.60 |
| 26 | 1H | 34 | C | C2-N3-C4 | 5.98 | 122.89 | 119.90 |
| 26 | 1H | 877 | U | C5-C6-N1 | 5.98 | 125.69 | 122.70 |
| 26 | 1H | 1412 | A | C8-N9-C4 | -5.98 | 103.41 | 105.80 |
| 26 | 1H | 1808 | U | C6-N1-C2 | 5.98 | 124.59 | 121.00 |
| 26 | 1H | 1996 | C | C4-C5-C6 | 5.98 | 120.39 | 117.40 |
| 26 | 1H | 2875 | C | N3-C2-O2 | -5.98 | 117.71 | 121.90 |
| 1 | 1G | 736 | C | N3-C4-N4 | 5.98 | 122.19 | 118.00 |
| 1 | 1G | 1438 | G | C2-N3-C4 | -5.98 | 108.91 | 111.90 |
| 26 | 14 | 1408 | C | N3-C4-C5 | -5.98 | 119.51 | 121.90 |
| 26 | 14 | 2238 | G | C2-N3-C4 | 5.98 | 114.89 | 111.90 |
| 26 | 14 | 2729 | G | N9-C4-C5 | -5.98 | 103.01 | 105.40 |
| 26 | 14 | 2840 | C | C2-N3-C4 | -5.98 | 116.91 | 119.90 |
| 26 | 14 | 2874 | C | N3-C4-N4 | 5.98 | 122.19 | 118.00 |
| 26 | 1H | 375 | C | N3-C4-N4 | -5.98 | 113.81 | 118.00 |
| 26 | 1H | 576 | U | O5'-P-OP2 | -5.98 | 100.32 | 105.70 |
| 26 | 1H | 1467 | C | O5'-P-OP1 | 5.98 | 117.88 | 110.70 |
| 26 | 1H | 1473 | G | N3-C4-C5 | 5.98 | 131.59 | 128.60 |
| 27 | 16 | 111 | U | OP1-P-OP2 | 5.98 | 128.57 | 119.60 |
| 26 | 14 | 472 | A | C4-C5-C6 | 5.98 | 119.99 | 117.00 |
| 26 | 14 | 620 | G | C5-C6-N1 | -5.98 | 108.51 | 111.50 |
| 26 | 14 | 794 | G | N1-C2-N2 | -5.98 | 110.82 | 116.20 |
| 26 | 14 | 1943 | U | N3-C2-O2 | 5.98 | 126.39 | 122.20 |
| 1 | 13 | 665 | A | N1-C2-N3 | -5.98 | 126.31 | 129.30 |
| 26 | 1H | 189 | G | N9-C4-C5 | -5.98 | 103.01 | 105.40 |
| 26 | 1H | 673 | C | C6-N1-C2 | 5.98 | 122.69 | 120.30 |
| 26 | 1H | 1367 | A | C6-C5-N7 | -5.98 | 128.12 | 132.30 |
| 26 | 1H | 1594 | G | C8-N9-C4 | -5.98 | 104.01 | 106.40 |
| 26 | 1H | 1678 | G | N3-C2-N2 | -5.98 | 115.72 | 119.90 |
| 26 | 1H | 2209 | C | N3-C4-C5 | 5.98 | 124.29 | 121.90 |
| 26 | 1H | 2505 | G | C8-N9-C4 | -5.98 | 104.01 | 106.40 |
| 26 | 1H | 2570 | G | C5-N7-C8 | -5.98 | 101.31 | 104.30 |
| 27 | 16 | 62 | C | O5'-P-OP2 | -5.98 | 100.32 | 105.70 |
| 26 | 14 | 932 | G | OP2-P-O3' | 5.98 | 118.35 | 105.20 |
| 26 | 14 | 1039 | G | N1-C6-O6 | 5.98 | 123.49 | 119.90 |
| 26 | 14 | 1675 | C | OP2-P-O3' | 5.98 | 118.35 | 105.20 |
| 26 | 14 | 2188 | C | N1-C2-O2 | -5.98 | 115.31 | 118.90 |
| 26 | 14 | 2436 | G | N3-C2-N2 | -5.98 | 115.72 | 119.90 |
| 26 | 14 | 2535 | G | C4-C5-N7 | -5.98 | 108.41 | 110.80 |
| 1 | 13 | 870 | U | C4-C5-C6 | -5.98 | 116.11 | 119.70 |
| 26 | 1H | 697 | C | N3-C2-O2 | 5.98 | 126.08 | 121.90 |
| 26 | 1H | 1812 | A | C2-N3-C4 | -5.98 | 107.61 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2401 | U | C6-N1-C2 | -5.98 | 117.41 | 121.00 |
| 54 | P8 | 42 | LEU | CA-CB-CG | 5.98 | 129.05 | 115.30 |
| 1 | 1G | 525 | C | C5-C6-N1 | 5.98 | 123.99 | 121.00 |
| 26 | 14 | 941 | A | C5-N7-C8 | -5.98 | 100.91 | 103.90 |
| 26 | 14 | 1546 | C | O5'-P-OP2 | 5.98 | 117.87 | 110.70 |
| 26 | 14 | 1617 | C | C4-C5-C6 | 5.98 | 120.39 | 117.40 |
| 1 | 13 | 45 | U | C5-C4-O4 | 5.97 | 129.48 | 125.90 |
| 1 | 13 | 806 | C | N3-C4-N4 | -5.97 | 113.82 | 118.00 |
| 1 | 13 | 873 | A | C2-N3-C4 | 5.97 | 113.59 | 110.60 |
| 26 | 1H | 119 | A | C5-C6-N6 | 5.97 | 128.48 | 123.70 |
| 26 | 1H | 470 | A | N1-C2-N3 | 5.97 | 132.29 | 129.30 |
| 26 | 1H | 1303 | G | O5'-P-OP2 | -5.97 | 100.32 | 105.70 |
| 26 | 1H | 1733 | G | N7-C8-N9 | -5.97 | 110.11 | 113.10 |
| 26 | 1H | 2556 | C | C2-N3-C4 | -5.97 | 116.91 | 119.90 |
| 26 | 1H | 2638 | G | C8-N9-C4 | 5.97 | 108.79 | 106.40 |
| 1 | 1G | 539 | A | O5'-P-OP2 | -5.97 | 100.32 | 105.70 |
| 26 | 14 | 518 | G | C8-N9-C1' | -5.97 | 119.23 | 127.00 |
| 26 | 14 | 1468 | C | C2-N3-C4 | 5.97 | 122.89 | 119.90 |
| 26 | 14 | 1520 | U | N3-C2-O2 | -5.97 | 118.02 | 122.20 |
| 26 | 14 | 1933 | G | C5-N7-C8 | 5.97 | 107.29 | 104.30 |
| 26 | 14 | 1968 | G | N3-C2-N2 | -5.97 | 115.72 | 119.90 |
| 1 | 13 | 320 | C | C2-N1-C1' | -5.97 | 112.23 | 118.80 |
| 1 | 13 | 659 | U | O5'-P-OP1 | -5.97 | 100.32 | 105.70 |
| 26 | 1H | 185 | U | C2-N3-C4 | -5.97 | 123.42 | 127.00 |
| 26 | 1H | 371 | A | C5-N7-C8 | -5.97 | 100.91 | 103.90 |
| 26 | 1H | 477 | A | O5'-P-OP2 | -5.97 | 100.33 | 105.70 |
| 26 | 1H | 626 | U | C6-N1-C1' | 5.97 | 129.56 | 121.20 |
| 26 | 1H | 780 | G | N3-C2-N2 | -5.97 | 115.72 | 119.90 |
| 26 | 1H | 1184 | G | C5-C6-N1 | -5.97 | 108.51 | 111.50 |
| 26 | 1H | 1201 | C | C5-C4-N4 | -5.97 | 116.02 | 120.20 |
| 26 | 1H | 1307 | A | O4'-C1'-N9 | -5.97 | 103.42 | 108.20 |
| 26 | 1H | 1830 | C | C4-C5-C6 | -5.97 | 114.41 | 117.40 |
| 26 | 1H | 2240 | C | N1-C2-O2 | -5.97 | 115.32 | 118.90 |
| 50 | K8 | 69 | ARG | NE-CZ-NH1 | 5.97 | 123.29 | 120.30 |
| 1 | 1G | 692 | U | N1-C2-N3 | 5.97 | 118.48 | 114.90 |
| 1 | 1G | 1426 | C | C6-N1-C2 | 5.97 | 122.69 | 120.30 |
| 26 | 14 | 17 | G | OP1-P-OP2 | -5.97 | 110.64 | 119.60 |
| 26 | 14 | 34 | C | C6-N1-C1' | -5.97 | 113.63 | 120.80 |
| 26 | 14 | 819 | A | C6-N1-C2 | -5.97 | 115.02 | 118.60 |
| 26 | 14 | 2724 | C | C2-N3-C4 | -5.97 | 116.91 | 119.90 |
| 26 | 14 | 2764 | A | C5-C6-N6 | 5.97 | 128.48 | 123.70 |
| 29 | 19 | 103 | ARG | NE-CZ-NH2 | -5.97 | 117.31 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 601 | C | O5'-P-OP2 | -5.97 | 100.33 | 105.70 |
| 26 | 1H | 1277 | G | N1-C6-O6 | -5.97 | 116.32 | 119.90 |
| 26 | 1H | 1823 | G | C5-N7-C8 | -5.97 | 101.31 | 104.30 |
| 1 | 1G | 1276 | G | N1-C6-O6 | 5.97 | 123.48 | 119.90 |
| 26 | 14 | 768 | G | N3-C4-N9 | 5.97 | 129.58 | 126.00 |
| 26 | 14 | 2777 | G | C5-N7-C8 | 5.97 | 107.29 | 104.30 |
| 1 | 13 | 366 | C | OP1-P-OP2 | 5.97 | 128.55 | 119.60 |
| 26 | 1H | 467 | G | N1-C2-N3 | -5.97 | 120.32 | 123.90 |
| 26 | 1H | 543 | C | C6-N1-C2 | 5.97 | 122.69 | 120.30 |
| 26 | 1H | 779 | U | C5-C6-N1 | -5.97 | 119.72 | 122.70 |
| 26 | 1H | 832 | G | N1-C6-O6 | -5.97 | 116.32 | 119.90 |
| 26 | 1H | 863 | A | C2-N3-C4 | 5.97 | 113.58 | 110.60 |
| 26 | 1H | 983 | A | C5-C6-N1 | 5.97 | 120.69 | 117.70 |
| 26 | 1H | 1368 | G | C2-N3-C4 | 5.97 | 114.89 | 111.90 |
| 26 | 1H | 1642 | G | C4-C5-N7 | -5.97 | 108.41 | 110.80 |
| 26 | 1H | 2758 | A | OP2-P-O3' | 5.97 | 118.33 | 105.20 |
| 1 | 1G | 260 | G | N3-C2-N2 | -5.97 | 115.72 | 119.90 |
| 1 | 1G | 818 | G | C4-C5-N7 | -5.97 | 108.41 | 110.80 |
| 26 | 14 | 1347 | G | OP2-P-O3' | -5.97 | 92.06 | 105.20 |
| 26 | 14 | 1373 | A | O5'-P-OP1 | 5.97 | 117.86 | 110.70 |
| 26 | 14 | 1464 | C | C6-N1-C2 | -5.97 | 117.91 | 120.30 |
| 26 | 14 | 2400 | G | OP1-P-OP2 | -5.97 | 110.65 | 119.60 |
| 26 | 14 | 2438 | U | C6-N1-C2 | 5.97 | 124.58 | 121.00 |
| 1 | 13 | 397 | A | C2-N3-C4 | -5.97 | 107.62 | 110.60 |
| 1 | 13 | 1506 | U | C5-C4-O4 | -5.97 | 122.32 | 125.90 |
| 26 | 1H | 671 | C | C2-N3-C4 | -5.97 | 116.92 | 119.90 |
| 26 | 1H | 1342 | A | N7-C8-N9 | 5.97 | 116.78 | 113.80 |
| 26 | 1H | 2339 | G | C2-N3-C4 | -5.97 | 108.92 | 111.90 |
| 26 | 1H | 2516 | G | N9-C4-C5 | 5.97 | 107.79 | 105.40 |
| 1 | 1G | 508 | C | C6-N1-C1' | -5.97 | 113.64 | 120.80 |
| 1 | 1G | 937 | A | OP1-P-O3' | 5.97 | 118.33 | 105.20 |
| 1 | 1G | 1314 | C | C5-C6-N1 | 5.97 | 123.98 | 121.00 |
| 26 | 14 | 59 | U | N3-C2-O2 | -5.97 | 118.02 | 122.20 |
| 26 | 14 | 1270 | C | C5-C4-N4 | 5.97 | 124.38 | 120.20 |
| 26 | 14 | 1426 | G | N1-C6-O6 | 5.97 | 123.48 | 119.90 |
| 26 | 14 | 1607 | C | C6-N1-C2 | 5.97 | 122.69 | 120.30 |
| 26 | 14 | 2494 | G | C5-C6-O6 | 5.97 | 132.18 | 128.60 |
| 1 | 13 | 516 | U | C2-N1-C1' | 5.97 | 124.86 | 117.70 |
| 1 | 13 | 1048 | G | N3-C2-N2 | -5.97 | 115.72 | 119.90 |
| 2 | 1E | 149 | LEU | CA-CB-CG | -5.97 | 101.58 | 115.30 |
| 26 | 1H | 674 | G | C5-C6-O6 | -5.97 | 125.02 | 128.60 |
| 26 | 1H | 847 | U | O5'-P-OP1 | -5.97 | 100.33 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 1H | 1106 | G | N7-C8-N9 | 5.97 | 116.08 | 113.10 |
| 26 | 1H | 2023 | G | N7-C8-N9 | 5.97 | 116.08 | 113.10 |
| 26 | 1H | 2543 | G | N7-C8-N9 | -5.97 | 110.12 | 113.10 |
| 26 | 14 | 308 | G | C4-C5-N7 | 5.97 | 113.19 | 110.80 |
| 26 | 14 | 560 | C | OP1-P-OP2 | -5.97 | 110.65 | 119.60 |
| 26 | 14 | 580 | C | C5-C6-N1 | 5.97 | 123.98 | 121.00 |
| 26 | 14 | 2049 | G | C6-N1-C2 | -5.97 | 121.52 | 125.10 |
| 26 | 14 | 2447 | G | P-O3'-C3' | 5.97 | 126.86 | 119.70 |
| 49 | F5 | 91 | LYS | CD-CE-NZ | 5.97 | 125.42 | 111.70 |
| 1 | 13 | 423 | G | C4-C5-N7 | 5.96 | 113.19 | 110.80 |
| 1 | 13 | 822 | C | O5'-P-OP2 | -5.96 | 100.33 | 105.70 |
| 1 | 13 | 1481 | U | N1-C2-O2 | -5.96 | 118.62 | 122.80 |
| 1 | 13 | 1483 | A | C6-N1-C2 | -5.96 | 115.02 | 118.60 |
| 1 | 13 | 1508 | G | N1-C2-N2 | -5.96 | 110.83 | 116.20 |
| 26 | 1H | 822 | U | N1-C2-N3 | 5.96 | 118.48 | 114.90 |
| 26 | 1H | 912 | C | C4-C5-C6 | -5.96 | 114.42 | 117.40 |
| 26 | 1H | 1987 | G | N1-C2-N3 | 5.96 | 127.48 | 123.90 |
| 26 | 1H | 2506 | U | N1-C2-N3 | -5.96 | 111.32 | 114.90 |
| 1 | 1G | 175 | C | N3-C2-O2 | 5.96 | 126.08 | 121.90 |
| 1 | 1G | 1350 | A | C4-C5-C6 | 5.96 | 119.98 | 117.00 |
| 1 | 1G | 1394 | A | N7-C8-N9 | 5.96 | 116.78 | 113.80 |
| 1 | 1G | 1497 | G | C6-C5-N7 | -5.96 | 126.82 | 130.40 |
| 26 | 14 | 274 | G | N1-C6-O6 | 5.96 | 123.48 | 119.90 |
| 26 | 14 | 683 | C | C5-C6-N1 | -5.96 | 118.02 | 121.00 |
| 26 | 14 | 783 | A | N9-C4-C5 | -5.96 | 103.41 | 105.80 |
| 26 | 14 | 1991 | U | OP1-P-O3' | 5.96 | 118.32 | 105.20 |
| 42 | 85 | 36 | ARG | NE-CZ-NH1 | -5.96 | 117.32 | 120.30 |
| 26 | 1H | 472 | A | N7-C8-N9 | -5.96 | 110.82 | 113.80 |
| 26 | 1H | 500 | G | C4-C5-N7 | -5.96 | 108.42 | 110.80 |
| 26 | 1H | 965 | C | O5'-P-OP1 | -5.96 | 100.33 | 105.70 |
| 26 | 1H | 1210 | A | N3-C4-C5 | 5.96 | 130.97 | 126.80 |
| 26 | 1H | 1340 | U | C6-N1-C2 | 5.96 | 124.58 | 121.00 |
| 26 | 1H | 1569 | A | N1-C6-N6 | 5.96 | 122.18 | 118.60 |
| 1 | 1G | 1206 | G | C4-C5-N7 | 5.96 | 113.19 | 110.80 |
| 26 | 14 | 517 | C | C4-C5-C6 | -5.96 | 114.42 | 117.40 |
| 26 | 14 | 1210 | A | C2-N3-C4 | -5.96 | 107.62 | 110.60 |
| 26 | 14 | 1241 | A | N1-C2-N3 | 5.96 | 132.28 | 129.30 |
| 26 | 14 | 2826 | A | C6-N1-C2 | -5.96 | 115.02 | 118.60 |
| 1 | 13 | 5 | U | C5'-C4'-O4' | 5.96 | 116.25 | 109.10 |
| 1 | 13 | 901 | A | OP2-P-O3' | 5.96 | 118.32 | 105.20 |
| 26 | 1H | 301 | G | C8-N9-C4 | 5.96 | 108.78 | 106.40 |
| 26 | 1H | 338 | G | O5'-P-OP1 | -5.96 | 100.33 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 446 | G | C5-C6-O6 | -5.96 | 125.02 | 128.60 |
| 26 | 1H | 1728 | G | C5-N7-C8 | -5.96 | 101.32 | 104.30 |
| 26 | 1H | 1858 | G | C5-N7-C8 | -5.96 | 101.32 | 104.30 |
| 26 | 1H | 2215 | G | C2-N3-C4 | -5.96 | 108.92 | 111.90 |
| 26 | 1H | 2277 | G | N1-C2-N2 | -5.96 | 110.83 | 116.20 |
| 42 | C8 | 74 | LEU | CB-CG-CD2 | -5.96 | 100.87 | 111.00 |
| 1 | 1G | 129 | U | O5'-P-OP2 | -5.96 | 100.33 | 105.70 |
| 1 | 1G | 884 | U | N3-C4-C5 | -5.96 | 111.02 | 114.60 |
| 26 | 14 | 836 | G | N3-C2-N2 | 5.96 | 124.07 | 119.90 |
| 26 | 14 | 1857 | G | C4-C5-C6 | 5.96 | 122.38 | 118.80 |
| 26 | 14 | 2707 | G | O5'-P-OP1 | 5.96 | 117.85 | 110.70 |
| 27 | 1J | 30 | C | C4-C5-C6 | 5.96 | 120.38 | 117.40 |
| 1 | 13 | 270 | A | N9-C4-C5 | 5.96 | 108.18 | 105.80 |
| 23 | 2K | 35 | C | OP1-P-O3' | 5.96 | 118.31 | 105.20 |
| 26 | 1H | 1339 | G | O5'-P-OP1 | -5.96 | 100.34 | 105.70 |
| 26 | 1H | 2722 | G | C4-C5-C6 | -5.96 | 115.22 | 118.80 |
| 1 | 1G | 352 | C | N3-C4-C5 | -5.96 | 119.52 | 121.90 |
| 1 | 1G | 806 | C | C5-C6-N1 | 5.96 | 123.98 | 121.00 |
| 26 | 14 | 1373 | A | C6-N1-C2 | -5.96 | 115.02 | 118.60 |
| 26 | 14 | 1529 | A | C8-N9-C4 | -5.96 | 103.42 | 105.80 |
| 26 | 14 | 2040 | C | C5-C4-N4 | -5.96 | 116.03 | 120.20 |
| 26 | 14 | 2877 | G | N1-C6-O6 | 5.96 | 123.48 | 119.90 |
| 1 | 13 | 1520 | G | N3-C4-N9 | 5.96 | 129.57 | 126.00 |
| 26 | 1H | 26 | G | OP1-P-O3' | 5.96 | 118.31 | 105.20 |
| 26 | 1H | 338 | G | C5-C6-N1 | 5.96 | 114.48 | 111.50 |
| 26 | 1H | 1552 | G | O5'-P-OP2 | -5.96 | 100.34 | 105.70 |
| 26 | 1H | 1648 | C | N3-C4-N4 | -5.96 | 113.83 | 118.00 |
| 26 | 1H | 1668 | A | C2-N3-C4 | 5.96 | 113.58 | 110.60 |
| 1 | 1G | 342 | C | C5-C6-N1 | 5.96 | 123.98 | 121.00 |
| 1 | 1G | 851 | G | C4-C5-N7 | 5.96 | 113.18 | 110.80 |
| 23 | 2L | 42 | C | N1-C2-O2 | 5.96 | 122.47 | 118.90 |
| 26 | 14 | 120 | U | O5'-P-OP2 | 5.96 | 117.85 | 110.70 |
| 26 | 14 | 187 | G | N3-C4-C5 | 5.96 | 131.58 | 128.60 |
| 26 | 14 | 397 | G | N9-C4-C5 | -5.96 | 103.02 | 105.40 |
| 26 | 14 | 1897 | G | N3-C2-N2 | -5.96 | 115.73 | 119.90 |
| 1 | 13 | 781 | A | N9-C4-C5 | -5.96 | 103.42 | 105.80 |
| 1 | 13 | 1523 | G | N1-C6-O6 | -5.96 | 116.33 | 119.90 |
| 23 | 2K | 74 | A | N1-C2-N3 | -5.96 | 126.32 | 129.30 |
| 26 | 1H | 361 | G | C8-N9-C4 | 5.96 | 108.78 | 106.40 |
| 26 | 1H | 444 | C | C5-C6-N1 | 5.96 | 123.98 | 121.00 |
| 26 | 1H | 1107 | G | C4-N9-C1' | 5.96 | 134.25 | 126.50 |
| 26 | 1H | 2569 | G | C8-N9-C1' | -5.96 | 119.25 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 30 | 21 | 144 | ARG | NE-CZ-NH2 | 5.96 | 123.28 | 120.30 |
| 1 | 1G | 254 | G | O5'-P-OP2 | 5.96 | 117.85 | 110.70 |
| 1 | 1G | 578 | C | C5-C6-N1 | -5.96 | 118.02 | 121.00 |
| 1 | 1G | 741 | G | C6-C5-N7 | -5.96 | 126.83 | 130.40 |
| 1 | 1G | 838 | G | N3-C2-N2 | -5.96 | 115.73 | 119.90 |
| 26 | 14 | 15 | G | N7-C8-N9 | 5.96 | 116.08 | 113.10 |
| 26 | 14 | 113 | G | C5-C6-O6 | -5.96 | 125.03 | 128.60 |
| 26 | 14 | 213 | A | C2-N3-C4 | -5.96 | 107.62 | 110.60 |
| 26 | 14 | 733 | G | N3-C4-N9 | 5.96 | 129.57 | 126.00 |
| 26 | 14 | 2318 | G | N9-C4-C5 | -5.96 | 103.02 | 105.40 |
| 1 | 13 | 1312 | G | O5'-P-OP1 | 5.96 | 117.85 | 110.70 |
| 1 | 13 | 1392 | G | OP1-P-O3' | 5.96 | 118.30 | 105.20 |
| 26 | 1H | 595 | C | OP1-P-O3' | -5.96 | 92.10 | 105.20 |
| 26 | 1H | 2542 | A | C2-N3-C4 | -5.96 | 107.62 | 110.60 |
| 1 | 1G | 186 | C | C6-N1-C2 | -5.96 | 117.92 | 120.30 |
| 1 | 1G | 401 | C | N1-C2-O2 | -5.96 | 115.33 | 118.90 |
| 1 | 1G | 823 | G | O5'-P-OP1 | -5.96 | 100.34 | 105.70 |
| 26 | 14 | 1743 | G | C4-C5-C6 | 5.96 | 122.37 | 118.80 |
| 26 | 14 | 1962 | C | C5-C4-N4 | -5.96 | 116.03 | 120.20 |
| 27 | 1J | 52 | A | N1-C6-N6 | -5.96 | 115.03 | 118.60 |
| 26 | 1H | 266 | G | C5-N7-C8 | 5.95 | 107.28 | 104.30 |
| 26 | 1H | 361 | G | C5-C6-O6 | 5.95 | 132.17 | 128.60 |
| 26 | 1H | 837 | C | N1-C2-O2 | 5.95 | 122.47 | 118.90 |
| 26 | 1H | 874 | G | N9-C4-C5 | -5.95 | 103.02 | 105.40 |
| 26 | 1H | 913 | U | C5-C6-N1 | -5.95 | 119.72 | 122.70 |
| 26 | 1H | 2732 | G | N3-C4-C5 | -5.95 | 125.62 | 128.60 |
| 26 | 14 | 135 | G | N1-C2-N3 | 5.95 | 127.47 | 123.90 |
| 26 | 14 | 140 | A | O5'-P-OP2 | 5.95 | 117.84 | 110.70 |
| 26 | 14 | 318 | C | C6-N1-C2 | 5.95 | 122.68 | 120.30 |
| 26 | 14 | 530 | G | C8-N9-C1' | -5.95 | 119.26 | 127.00 |
| 26 | 14 | 587 | C | C5-C6-N1 | -5.95 | 118.02 | 121.00 |
| 26 | 14 | 775 | G | O4'-C1'-N9 | 5.95 | 112.96 | 108.20 |
| 26 | 14 | 1268 | A | C5-N7-C8 | 5.95 | 106.88 | 103.90 |
| 26 | 14 | 1374 | G | C5-C6-O6 | -5.95 | 125.03 | 128.60 |
| 26 | 14 | 1849 | G | N9-C4-C5 | 5.95 | 107.78 | 105.40 |
| 39 | 55 | 75 | LEU | CB-CG-CD2 | 5.95 | 121.12 | 111.00 |
| 1 | 13 | 761 | G | C8-N9-C1' | -5.95 | 119.26 | 127.00 |
| 26 | 1H | 739 | G | C4-C5-N7 | -5.95 | 108.42 | 110.80 |
| 26 | 1H | 1619 | G | C4-C5-N7 | -5.95 | 108.42 | 110.80 |
| 26 | 1H | 1973 | G | C8-N9-C4 | -5.95 | 104.02 | 106.40 |
| 26 | 14 | 1494 | A | N1-C6-N6 | -5.95 | 115.03 | 118.60 |
| 1 | 13 | 505 | G | C4-C5-N7 | 5.95 | 113.18 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1333 | A | N1-C6-N6 | -5.95 | 115.03 | 118.60 |
| 23 | 2K | 11 | A | N9-C4-C5 | 5.95 | 108.18 | 105.80 |
| 26 | 1H | 141 | A | N1-C6-N6 | 5.95 | 122.17 | 118.60 |
| 26 | 1H | 805 | G | N7-C8-N9 | -5.95 | 110.12 | 113.10 |
| 26 | 1H | 1186 | G | C6-C5-N7 | 5.95 | 133.97 | 130.40 |
| 26 | 1H | 1200 | C | C4-C5-C6 | 5.95 | 120.38 | 117.40 |
| 26 | 1H | 1303 | G | N7-C8-N9 | -5.95 | 110.12 | 113.10 |
| 26 | 1H | 1669 | A | C5-C6-N6 | -5.95 | 118.94 | 123.70 |
| 26 | 1H | 1812 | A | C5-C6-N6 | 5.95 | 128.46 | 123.70 |
| 26 | 1H | 2592 | G | N1-C2-N2 | -5.95 | 110.84 | 116.20 |
| 26 | 1H | 2721 | A | C8-N9-C4 | 5.95 | 108.18 | 105.80 |
| 1 | 1G | 184 | G | C8-N9-C4 | -5.95 | 104.02 | 106.40 |
| 26 | 14 | 805 | G | OP1-P-O3' | 5.95 | 118.29 | 105.20 |
| 26 | 14 | 2732 | G | C5-N7-C8 | -5.95 | 101.33 | 104.30 |
| 26 | 14 | 2789 | C | C5-C6-N1 | -5.95 | 118.02 | 121.00 |
| 1 | 13 | 1432 | G | C5-C6-N1 | -5.95 | 108.53 | 111.50 |
| 26 | 1H | 203 | C | C5-C6-N1 | -5.95 | 118.03 | 121.00 |
| 26 | 1H | 343 | C | C2-N3-C4 | 5.95 | 122.87 | 119.90 |
| 26 | 1H | 673 | C | N3-C2-O2 | 5.95 | 126.06 | 121.90 |
| 26 | 1H | 770 | G | N9-C4-C5 | -5.95 | 103.02 | 105.40 |
| 26 | 1H | 2067 | G | N1-C2-N3 | 5.95 | 127.47 | 123.90 |
| 26 | 1H | 2431 | U | C5-C4-O4 | -5.95 | 122.33 | 125.90 |
| 26 | 1H | 2778 | A | C8-N9-C4 | 5.95 | 108.18 | 105.80 |
| 1 | 1G | 582 | U | O5'-P-OP2 | -5.95 | 100.35 | 105.70 |
| 1 | 1G | 1230 | C | C5-C6-N1 | 5.95 | 123.97 | 121.00 |
| 1 | 1G | 1487 | G | N1-C6-O6 | 5.95 | 123.47 | 119.90 |
| 23 | 2L | 71 | G | OP2-P-O3' | 5.95 | 118.29 | 105.20 |
| 26 | 14 | 504 | U | N3-C4-C5 | 5.95 | 118.17 | 114.60 |
| 26 | 14 | 1333 | C | C2-N1-C1' | 5.95 | 125.34 | 118.80 |
| 26 | 14 | 1839 | G | C8-N9-C1' | -5.95 | 119.27 | 127.00 |
| 1 | 13 | 864 | A | C8-N9-C4 | -5.95 | 103.42 | 105.80 |
| 1 | 13 | 1361 | G | C5-C6-O6 | -5.95 | 125.03 | 128.60 |
| 1 | 13 | 1500 | A | N9-C4-C5 | 5.95 | 108.18 | 105.80 |
| 26 | 1H | 2660 | A | O5'-P-OP1 | 5.95 | 117.84 | 110.70 |
| 1 | 1G | 180 | U | N3-C4-C5 | -5.95 | 111.03 | 114.60 |
| 1 | 1G | 1386 | G | C5-C6-O6 | 5.95 | 132.17 | 128.60 |
| 1 | 1G | 1404 | C | C5-C6-N1 | 5.95 | 123.97 | 121.00 |
| 1 | 1G | 1497 | G | N9-C4-C5 | -5.95 | 103.02 | 105.40 |
| 26 | 14 | 389 | G | C6-N1-C2 | -5.95 | 121.53 | 125.10 |
| 26 | 14 | 603 | A | N7-C8-N9 | 5.95 | 116.77 | 113.80 |
| 26 | 14 | 1465 | G | N3-C4-C5 | 5.95 | 131.57 | 128.60 |
| 26 | 14 | 2824 | C | C5-C6-N1 | -5.95 | 118.03 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 628 | G | C8-N9-C4 | 5.95 | 108.78 | 106.40 |
| 26 | 1H | 640 | C | OP1-P-O3' | 5.95 | 118.28 | 105.20 |
| 26 | 1H | 854 | G | C2-N3-C4 | -5.95 | 108.93 | 111.90 |
| 26 | 1H | 1034 | G | N3-C2-N2 | -5.95 | 115.74 | 119.90 |
| 26 | 1H | 2003 | G | O5'-P-OP1 | -5.95 | 100.35 | 105.70 |
| 26 | 1H | 2376 | A | C6-N1-C2 | -5.95 | 115.03 | 118.60 |
| 1 | 1G | 739 | C | N3-C4-C5 | -5.95 | 119.52 | 121.90 |
| 26 | 14 | 2689 | U | N3-C4-O4 | -5.95 | 115.24 | 119.40 |
| 26 | 14 | 2708 | G | N7-C8-N9 | -5.95 | 110.13 | 113.10 |
| 26 | 14 | 2778 | A | C5-C6-N6 | 5.95 | 128.46 | 123.70 |
| 26 | 1H | 88 | G | N7-C8-N9 | 5.94 | 116.07 | 113.10 |
| 26 | 1H | 1381 | G | C8-N9-C4 | -5.94 | 104.02 | 106.40 |
| 27 | 16 | 7 | G | C6-C5-N7 | -5.94 | 126.83 | 130.40 |
| 26 | 14 | 835 | A | C5-N7-C8 | 5.94 | 106.87 | 103.90 |
| 26 | 14 | 1333 | C | OP1-P-OP2 | -5.94 | 110.68 | 119.60 |
| 26 | 14 | 1334 | G | C5-C6-O6 | -5.94 | 125.03 | 128.60 |
| 26 | 14 | 1395 | A | C2-N3-C4 | -5.94 | 107.63 | 110.60 |
| 26 | 14 | 2612 | C | N3-C4-N4 | -5.94 | 113.84 | 118.00 |
| 1 | 13 | 1089 | G | N3-C2-N2 | -5.94 | 115.74 | 119.90 |
| 26 | 1H | 1231 | G | C2-N3-C4 | -5.94 | 108.93 | 111.90 |
| 26 | 1H | 1318 | C | N1-C2-O2 | -5.94 | 115.33 | 118.90 |
| 26 | 1H | 1566 | A | C6-N1-C2 | 5.94 | 122.17 | 118.60 |
| 26 | 1H | 2525 | G | N3-C4-C5 | 5.94 | 131.57 | 128.60 |
| 48 | I8 | 11 | ARG | NE-CZ-NH1 | 5.94 | 123.27 | 120.30 |
| 26 | 14 | 2398 | U | C2-N3-C4 | -5.94 | 123.44 | 127.00 |
| 1 | 13 | 11 | G | C5-C6-O6 | 5.94 | 132.16 | 128.60 |
| 1 | 13 | 579 | G | C5-C6-O6 | -5.94 | 125.04 | 128.60 |
| 26 | 1H | 1408 | C | N1-C2-N3 | 5.94 | 123.36 | 119.20 |
| 26 | 1H | 2031 | A | C5-C6-N1 | 5.94 | 120.67 | 117.70 |
| 26 | 1H | 2607 | G | C6-C5-N7 | -5.94 | 126.83 | 130.40 |
| 1 | 1G | 224 | C | C6-N1-C2 | 5.94 | 122.68 | 120.30 |
| 1 | 1G | 687 | A | N1-C6-N6 | -5.94 | 115.03 | 118.60 |
| 26 | 14 | 497 | A | N7-C8-N9 | 5.94 | 116.77 | 113.80 |
| 26 | 14 | 790 | C | O5'-P-OP2 | -5.94 | 100.35 | 105.70 |
| 26 | 14 | 1469 | A | C5-N7-C8 | -5.94 | 100.93 | 103.90 |
| 26 | 14 | 1845 | G | N3-C2-N2 | -5.94 | 115.74 | 119.90 |
| 26 | 14 | 2712 | U | N1-C2-O2 | -5.94 | 118.64 | 122.80 |
| 26 | 1H | 209 | C | OP2-P-O3' | 5.94 | 118.27 | 105.20 |
| 26 | 1H | 587 | C | OP1-P-OP2 | -5.94 | 110.69 | 119.60 |
| 26 | 1H | 813 | U | C4-C5-C6 | 5.94 | 123.26 | 119.70 |
| 26 | 1H | 2539 | C | C2-N1-C1' | -5.94 | 112.27 | 118.80 |
| 26 | 1H | 2651 | C | C5-C6-N1 | -5.94 | 118.03 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 889 | A | C8-N9-C4 | -5.94 | 103.42 | 105.80 |
| 26 | 14 | 581 | C | N3-C4-N4 | -5.94 | 113.84 | 118.00 |
| 26 | 14 | 1689 | A | C6-C5-N7 | -5.94 | 128.14 | 132.30 |
| 26 | 14 | 1786 | A | N9-C4-C5 | 5.94 | 108.17 | 105.80 |
| 26 | 14 | 2598 | A | C6-C5-N7 | -5.94 | 128.14 | 132.30 |
| 1 | 13 | 69 | G | N1-C6-O6 | 5.94 | 123.46 | 119.90 |
| 1 | 13 | 247 | G | C2-N3-C4 | 5.94 | 114.87 | 111.90 |
| 1 | 13 | 351 | G | N1-C2-N2 | 5.94 | 121.54 | 116.20 |
| 1 | 13 | 533 | A | C2-N3-C4 | -5.94 | 107.63 | 110.60 |
| 1 | 13 | 636 | U | C6-N1-C2 | -5.94 | 117.44 | 121.00 |
| 1 | 13 | 1514 | C | C2-N3-C4 | -5.94 | 116.93 | 119.90 |
| 26 | 1H | 956 | G | C5-C6-N1 | -5.94 | 108.53 | 111.50 |
| 26 | 1H | 1204 | A | C4-N9-C1' | 5.94 | 136.99 | 126.30 |
| 26 | 1H | 1470 | G | OP2-P-O3' | 5.94 | 118.26 | 105.20 |
| 26 | 1H | 2071 | A | C4-C5-C6 | 5.94 | 119.97 | 117.00 |
| 26 | 1H | 2267 | A | N7-C8-N9 | -5.94 | 110.83 | 113.80 |
| 26 | 1H | 2279 | G | OP1-P-O3' | 5.94 | 118.26 | 105.20 |
| 26 | 14 | 205 | G | OP1-P-OP2 | 5.94 | 128.51 | 119.60 |
| 26 | 14 | 688 | U | O5'-P-OP1 | 5.94 | 117.83 | 110.70 |
| 26 | 14 | 1125 | G | O5'-P-OP1 | -5.94 | 100.36 | 105.70 |
| 26 | 14 | 1933 | G | N3-C2-N2 | 5.94 | 124.06 | 119.90 |
| 26 | 14 | 2267 | A | C2-N3-C4 | 5.94 | 113.57 | 110.60 |
| 27 | 1J | 82 | G | N3-C4-C5 | 5.94 | 131.57 | 128.60 |
| 1 | 13 | 346 | G | C5-C6-O6 | -5.94 | 125.04 | 128.60 |
| 1 | 13 | 900 | A | C5-C6-N1 | 5.94 | 120.67 | 117.70 |
| 26 | 1H | 103 | A | OP1-P-OP2 | -5.94 | 110.70 | 119.60 |
| 26 | 1H | 113 | G | C2-N3-C4 | -5.94 | 108.93 | 111.90 |
| 26 | 1H | 728 | G | OP2-P-O3' | 5.94 | 118.26 | 105.20 |
| 26 | 1H | 2377 | A | C5-C6-N6 | -5.94 | 118.95 | 123.70 |
| 26 | 1H | 2404 | C | C5-C4-N4 | 5.94 | 124.36 | 120.20 |
| 26 | 1H | 2459 | A | N1-C2-N3 | 5.94 | 132.27 | 129.30 |
| 27 | 16 | 75 | G | N3-C4-C5 | 5.94 | 131.57 | 128.60 |
| 1 | 1G | 573 | A | C8-N9-C4 | -5.94 | 103.42 | 105.80 |
| 26 | 14 | 1257 | C | C6-N1-C2 | -5.94 | 117.92 | 120.30 |
| 26 | 14 | 1289 | C | C4-C5-C6 | 5.94 | 120.37 | 117.40 |
| 1 | 13 | 1415 | G | O4'-C1'-N9 | -5.93 | 103.45 | 108.20 |
| 23 | 2K | 17 | C | O5'-P-OP2 | -5.93 | 100.36 | 105.70 |
| 23 | 2K | 43 | G | OP1-P-OP2 | 5.93 | 128.50 | 119.60 |
| 26 | 1H | 319 | C | N1-C2-O2 | 5.93 | 122.46 | 118.90 |
| 26 | 1H | 571 | A | O5'-P-OP1 | -5.93 | 100.36 | 105.70 |
| 26 | 1H | 1889 | A | O5'-P-OP1 | -5.93 | 100.36 | 105.70 |
| 26 | 1H | 2064 | C | OP2-P-O3' | 5.93 | 118.26 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2661 | G | N1-C6-O6 | -5.93 | 116.34 | 119.90 |
| 26 | 1H | 2872 | G | C2-N3-C4 | -5.93 | 108.93 | 111.90 |
| 1 | 1G | 147 | G | N3-C2-N2 | -5.93 | 115.75 | 119.90 |
| 1 | 1G | 1060 | C | C4-C5-C6 | -5.93 | 114.43 | 117.40 |
| 26 | 14 | 807 | U | N3-C4-O4 | 5.93 | 123.55 | 119.40 |
| 26 | 14 | 1725 | G | N3-C4-C5 | -5.93 | 125.63 | 128.60 |
| 1 | 13 | 1471 | G | C5-C6-O6 | -5.93 | 125.04 | 128.60 |
| 23 | 2K | 24 | C | C6-N1-C2 | 5.93 | 122.67 | 120.30 |
| 26 | 1H | 74 | A | N3-C4-C5 | 5.93 | 130.95 | 126.80 |
| 26 | 1H | 426 | C | N3-C4-C5 | 5.93 | 124.27 | 121.90 |
| 26 | 1H | 2006 | C | C2-N1-C1' | -5.93 | 112.27 | 118.80 |
| 26 | 1H | 2710 | C | N1-C2-O2 | -5.93 | 115.34 | 118.90 |
| 26 | 1H | 2886 | G | C2-N3-C4 | 5.93 | 114.87 | 111.90 |
| 27 | 16 | 40 | U | C5-C4-O4 | -5.93 | 122.34 | 125.90 |
| 1 | 1G | 1407 | C | C6-N1-C2 | -5.93 | 117.93 | 120.30 |
| 26 | 14 | 1585 | C | N3-C2-O2 | -5.93 | 117.75 | 121.90 |
| 26 | 14 | 2006 | C | N3-C4-N4 | 5.93 | 122.15 | 118.00 |
| 26 | 1H | 80 | G | C6-C5-N7 | 5.93 | 133.96 | 130.40 |
| 26 | 1H | 496 | G | N7-C8-N9 | -5.93 | 110.13 | 113.10 |
| 26 | 1H | 1878 | G | C8-N9-C4 | -5.93 | 104.03 | 106.40 |
| 26 | 14 | 658 | C | C2-N3-C4 | -5.93 | 116.93 | 119.90 |
| 26 | 14 | 1381 | G | OP1-P-O3' | -5.93 | 92.15 | 105.20 |
| 26 | 14 | 1844 | C | C6-N1-C2 | -5.93 | 117.93 | 120.30 |
| 26 | 14 | 2056 | G | C4-C5-N7 | 5.93 | 113.17 | 110.80 |
| 26 | 14 | 2444 | G | C5-C6-N1 | 5.93 | 114.47 | 111.50 |
| 1 | 13 | 335 | C | O5'-P-OP1 | 5.93 | 117.81 | 110.70 |
| 26 | 1H | 35 | G | N3-C2-N2 | 5.93 | 124.05 | 119.90 |
| 26 | 1H | 262 | A | C5-C6-N6 | -5.93 | 118.96 | 123.70 |
| 26 | 1H | 1337 | G | N7-C8-N9 | 5.93 | 116.06 | 113.10 |
| 1 | 1G | 60 | A | N7-C8-N9 | -5.93 | 110.84 | 113.80 |
| 1 | 1G | 253 | U | N1-C2-O2 | -5.93 | 118.65 | 122.80 |
| 1 | 1G | 911 | U | OP1-P-OP2 | 5.93 | 128.49 | 119.60 |
| 26 | 14 | 1261 | C | N3-C4-C5 | 5.93 | 124.27 | 121.90 |
| 26 | 14 | 1323 | U | O5'-P-OP1 | 5.93 | 117.82 | 110.70 |
| 26 | 14 | 2335 | A | OP1-P-OP2 | 5.93 | 128.49 | 119.60 |
| 26 | 14 | 2625 | G | C6-C5-N7 | -5.93 | 126.84 | 130.40 |
| 26 | 1H | 560 | C | N3-C2-O2 | 5.93 | 126.05 | 121.90 |
| 26 | 1H | 746 | A | N1-C2-N3 | 5.93 | 132.26 | 129.30 |
| 26 | 1H | 803 | U | C2-N1-C1' | -5.93 | 110.59 | 117.70 |
| 26 | 1H | 854 | G | C4-C5-N7 | 5.93 | 113.17 | 110.80 |
| 26 | 14 | 961 | C | O4'-C1'-N1 | 5.93 | 112.94 | 108.20 |
| 26 | 14 | 1554 | A | N9-C4-C5 | 5.93 | 108.17 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 2291 | U | C5-C6-N1 | -5.93 | 119.74 | 122.70 |
| 26 | 14 | 2460 | U | N3-C4-O4 | 5.93 | 123.55 | 119.40 |
| 1 | 13 | 555 | C | N1-C2-O2 | 5.93 | 122.45 | 118.90 |
| 1 | 13 | 623 | C | OP1-P-OP2 | -5.93 | 110.71 | 119.60 |
| 26 | 1H | 593 | G | C6-N1-C2 | -5.93 | 121.54 | 125.10 |
| 26 | 1H | 725 | G | C4-C5-N7 | 5.93 | 113.17 | 110.80 |
| 26 | 1H | 1444(A) | A | O5'-P-OP1 | -5.93 | 100.37 | 105.70 |
| 26 | 1H | 1955 | U | C5-C4-O4 | 5.93 | 129.46 | 125.90 |
| 26 | 1H | 1994 | C | C5-C6-N1 | -5.93 | 118.04 | 121.00 |
| 26 | 1H | 2643 | G | N3-C4-C5 | 5.93 | 131.56 | 128.60 |
| 1 | 1G | 533 | A | OP1-P-OP2 | 5.93 | 128.49 | 119.60 |
| 1 | 1G | 782 | A | O5'-P-OP1 | -5.93 | 100.37 | 105.70 |
| 1 | 1G | 831 | U | OP1-P-OP2 | -5.93 | 110.71 | 119.60 |
| 1 | 1G | 1391 | U | C5-C4-O4 | 5.93 | 129.46 | 125.90 |
| 26 | 14 | 559 | G | N3-C2-N2 | -5.93 | 115.75 | 119.90 |
| 26 | 14 | 1925 | C | N1-C2-N3 | 5.93 | 123.35 | 119.20 |
| 26 | 14 | 2715 | C | N3-C2-O2 | 5.93 | 126.05 | 121.90 |
| 31 | 39 | 123 | LEU | CB-CG-CD1 | -5.93 | 100.92 | 111.00 |
| 1 | 13 | 1093 | A | C8-N9-C4 | -5.92 | 103.43 | 105.80 |
| 23 | 2K | 13 | C | C6-N1-C2 | -5.92 | 117.93 | 120.30 |
| 26 | 1H | 38 | A | OP1-P-O3' | 5.92 | 118.23 | 105.20 |
| 26 | 1H | 334 | C | C5-C6-N1 | -5.92 | 118.04 | 121.00 |
| 26 | 1H | 402 | A | C6-N1-C2 | -5.92 | 115.05 | 118.60 |
| 26 | 1H | 614 | U | N3-C2-O2 | -5.92 | 118.05 | 122.20 |
| 26 | 1H | 790 | C | O4'-C1'-N1 | 5.92 | 112.94 | 108.20 |
| 26 | 1H | 911 | A | C5-C6-N6 | 5.92 | 128.44 | 123.70 |
| 26 | 1H | 1548 | C | C2-N3-C4 | 5.92 | 122.86 | 119.90 |
| 26 | 1H | 1822 | G | C2-N3-C4 | -5.92 | 108.94 | 111.90 |
| 26 | 1H | 2455 | G | N1-C2-N3 | 5.92 | 127.45 | 123.90 |
| 26 | 1H | 2693 | A | N3-C4-N9 | 5.92 | 132.14 | 127.40 |
| 1 | 1G | 183 | G | C5-C6-O6 | -5.92 | 125.05 | 128.60 |
| 26 | 14 | 545 | G | C4-C5-N7 | -5.92 | 108.43 | 110.80 |
| 26 | 14 | 1565 | C | O5'-P-OP1 | -5.92 | 100.37 | 105.70 |
| 26 | 14 | 1617 | C | OP1-P-O3' | 5.92 | 118.23 | 105.20 |
| 26 | 14 | 2401 | U | N3-C4-C5 | 5.92 | 118.16 | 114.60 |
| 26 | 1H | 726 | G | O4'-C1'-N9 | 5.92 | 112.94 | 108.20 |
| 26 | 14 | 719 | C | OP1-P-OP2 | -5.92 | 110.72 | 119.60 |
| 26 | 14 | 1763 | G | C4-N9-C1' | -5.92 | 118.80 | 126.50 |
| 26 | 14 | 2636 | U | O5'-P-OP1 | 5.92 | 117.81 | 110.70 |
| 26 | 14 | 2777 | G | C4-C5-N7 | -5.92 | 108.43 | 110.80 |
| 23 | 2K | 48 | U | C2-N1-C1' | 5.92 | 124.81 | 117.70 |
| 26 | 1H | 828 | U | C2-N3-C4 | 5.92 | 130.55 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1408 | C | C5-C4-N4 | -5.92 | 116.06 | 120.20 |
| 26 | 1H | 1774 | C | OP1-P-OP2 | 5.92 | 128.48 | 119.60 |
| 26 | 1H | 1797 | C | C6-N1-C2 | 5.92 | 122.67 | 120.30 |
| 26 | 1H | 1836 | C | OP1-P-O3' | 5.92 | 118.23 | 105.20 |
| 26 | 1H | 1946 | U | N1-C2-N3 | 5.92 | 118.45 | 114.90 |
| 26 | 1H | 1955 | U | OP1-P-O3' | 5.92 | 118.23 | 105.20 |
| 26 | 1H | 2330 | G | OP1-P-O3' | -5.92 | 92.17 | 105.20 |
| 26 | 1H | 2358 | G | N3-C4-C5 | -5.92 | 125.64 | 128.60 |
| 1 | 1G | 593 | G | N1-C6-O6 | 5.92 | 123.45 | 119.90 |
| 1 | 1G | 1514 | C | N3-C4-N4 | 5.92 | 122.14 | 118.00 |
| 26 | 14 | 212 | G | N1-C2-N3 | 5.92 | 127.45 | 123.90 |
| 26 | 14 | 791 | C | P-O3'-C3' | 5.92 | 126.81 | 119.70 |
| 26 | 14 | 979 | G | N3-C4-N9 | -5.92 | 122.45 | 126.00 |
| 26 | 14 | 1374 | G | C4-C5-N7 | 5.92 | 113.17 | 110.80 |
| 26 | 14 | 2715 | C | C2-N1-C1' | -5.92 | 112.28 | 118.80 |
| 1 | 13 | 790 | A | O5'-P-OP1 | 5.92 | 117.80 | 110.70 |
| 26 | 1H | 117 | G | O5'-P-OP2 | 5.92 | 117.80 | 110.70 |
| 26 | 1H | 1283 | G | N1-C2-N2 | -5.92 | 110.87 | 116.20 |
| 26 | 1H | 1360 | A | O5'-P-OP1 | -5.92 | 100.37 | 105.70 |
| 26 | 1H | 2332 | U | C5-C4-O4 | 5.92 | 129.45 | 125.90 |
| 26 | 14 | 1221 | C | O5'-P-OP2 | -5.92 | 100.37 | 105.70 |
| 26 | 14 | 1998 | G | C8-N9-C4 | -5.92 | 104.03 | 106.40 |
| 1 | 13 | 585 | G | N3-C2-N2 | 5.92 | 124.04 | 119.90 |
| 26 | 1H | 223 | A | N1-C6-N6 | 5.92 | 122.15 | 118.60 |
| 26 | 1H | 623 | G | C8-N9-C4 | 5.92 | 108.77 | 106.40 |
| 26 | 1H | 1814 | G | C4-C5-C6 | 5.92 | 122.35 | 118.80 |
| 26 | 1H | 1900 | A | C5-C6-N1 | 5.92 | 120.66 | 117.70 |
| 26 | 14 | 196 | A | C8-N9-C4 | 5.92 | 108.17 | 105.80 |
| 26 | 14 | 336 | C | O5'-P-OP2 | -5.92 | 100.37 | 105.70 |
| 26 | 14 | 962 | G | O5'-P-OP1 | 5.92 | 117.80 | 110.70 |
| 26 | 14 | 991 | C | OP2-P-O3' | 5.92 | 118.22 | 105.20 |
| 26 | 14 | 1914 | C | O4'-C1'-N1 | 5.92 | 112.94 | 108.20 |
| 26 | 14 | 2391 | G | C8-N9-C1' | 5.92 | 134.69 | 127.00 |
| 1 | 13 | 309 | G | N3-C2-N2 | -5.92 | 115.76 | 119.90 |
| 1 | 13 | 698 | G | C4-C5-N7 | 5.92 | 113.17 | 110.80 |
| 26 | 1H | 73 | A | N1-C6-N6 | -5.92 | 115.05 | 118.60 |
| 26 | 1H | 330 | A | C5-C6-N1 | -5.92 | 114.74 | 117.70 |
| 26 | 1H | 623 | G | C8-N9-C1' | -5.92 | 119.31 | 127.00 |
| 26 | 1H | 634 | C | O4'-C1'-N1 | 5.92 | 112.93 | 108.20 |
| 26 | 1H | 659 | C | C4-C5-C6 | 5.92 | 120.36 | 117.40 |
| 26 | 1H | 1264 | G | N9-C4-C5 | 5.92 | 107.77 | 105.40 |
| 26 | 1H | 1442 | G | N7-C8-N9 | 5.92 | 116.06 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1816 | G | C6-C5-N7 | 5.92 | 133.95 | 130.40 |
| 26 | 1H | 1840 | G | N1-C2-N3 | 5.92 | 127.45 | 123.90 |
| 26 | 1H | 2489 | G | C8-N9-C1' | -5.92 | 119.31 | 127.00 |
| 26 | 1H | 2764 | A | N3-C4-N9 | -5.92 | 122.67 | 127.40 |
| 30 | 2I | 119 | ARG | NE-CZ-NH2 | 5.92 | 123.26 | 120.30 |
| 1 | 1G | 40 | C | C4-C5-C6 | 5.92 | 120.36 | 117.40 |
| 1 | 1G | 763 | G | N3-C2-N2 | -5.92 | 115.76 | 119.90 |
| 1 | 1G | 813 | U | N3-C2-O2 | 5.92 | 126.34 | 122.20 |
| 26 | 14 | 191 | A | C5-C6-N6 | -5.92 | 118.97 | 123.70 |
| 26 | 14 | 196 | A | OP1-P-OP2 | -5.92 | 110.72 | 119.60 |
| 26 | 14 | 216 | A | O5'-P-OP1 | -5.92 | 100.38 | 105.70 |
| 26 | 14 | 494 | G | C4-C5-C6 | 5.92 | 122.35 | 118.80 |
| 26 | 14 | 1645 | G | N3-C2-N2 | 5.92 | 124.04 | 119.90 |
| 26 | 14 | 1816 | G | N1-C2-N3 | -5.92 | 120.35 | 123.90 |
| 1 | 13 | 481 | G | C8-N9-C1' | -5.92 | 119.31 | 127.00 |
| 1 | 13 | 907 | A | C5-C6-N1 | 5.92 | 120.66 | 117.70 |
| 1 | 13 | 919 | A | C5-C6-N1 | 5.92 | 120.66 | 117.70 |
| 26 | 1H | 263 | C | C4-C5-C6 | 5.92 | 120.36 | 117.40 |
| 26 | 1H | 2011 | U | OP1-P-OP2 | -5.92 | 110.73 | 119.60 |
| 26 | 1H | 2595 | G | N3-C2-N2 | 5.92 | 124.04 | 119.90 |
| 26 | 14 | 180 | G | C5-C6-N1 | -5.92 | 108.54 | 111.50 |
| 26 | 14 | 352 | G | C4-N9-C1' | 5.92 | 134.19 | 126.50 |
| 26 | 14 | 2501 | C | C6-N1-C2 | 5.92 | 122.67 | 120.30 |
| 26 | 14 | 2713 | A | C6-C5-N7 | -5.92 | 128.16 | 132.30 |
| 1 | 13 | 239 | U | N3-C4-C5 | -5.91 | 111.05 | 114.60 |
| 1 | 13 | 728 | A | C2-N3-C4 | 5.91 | 113.56 | 110.60 |
| 1 | 13 | 1403 | C | O5'-P-OP2 | -5.91 | 100.38 | 105.70 |
| 22 | 1K | 62 | C | N3-C2-O2 | -5.91 | 117.76 | 121.90 |
| 26 | 1H | 730 | C | O5'-P-OP2 | -5.91 | 100.38 | 105.70 |
| 26 | 1H | 1574 | C | OP1-P-OP2 | 5.91 | 128.47 | 119.60 |
| 26 | 1H | 1575 | C | C6-N1-C2 | -5.91 | 117.93 | 120.30 |
| 26 | 1H | 1685 | C | O5'-P-OP2 | 5.91 | 117.80 | 110.70 |
| 1 | 1G | 121 | C | C6-N1-C1' | -5.91 | 113.70 | 120.80 |
| 1 | 1G | 491 | G | N9-C1'-C2' | -5.91 | 105.50 | 112.00 |
| 26 | 14 | 30 | G | C4-C5-C6 | 5.91 | 122.35 | 118.80 |
| 26 | 14 | 572 | A | C5-C6-N1 | 5.91 | 120.66 | 117.70 |
| 26 | 14 | 573 | G | C4-C5-C6 | 5.91 | 122.35 | 118.80 |
| 26 | 14 | 1496 | A | O4'-C1'-N9 | 5.91 | 112.93 | 108.20 |
| 26 | 14 | 1555 | G | N1-C2-N3 | 5.91 | 127.45 | 123.90 |
| 26 | 14 | 2072 | G | OP1-P-O3' | 5.91 | 118.21 | 105.20 |
| 1 | 13 | 1471 | G | C2-N3-C4 | 5.91 | 114.86 | 111.90 |
| 26 | 1H | 1157 | G | C8-N9-C4 | -5.91 | 104.03 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1910 | G | N1-C2-N3 | 5.91 | 127.45 | 123.90 |
| 26 | 1H | 2519 | U | OP1-P-OP2 | 5.91 | 128.47 | 119.60 |
| 26 | 1H | 2863 | C | N3-C4-N4 | -5.91 | 113.86 | 118.00 |
| 1 | 1G | 508 | C | N1-C2-N3 | -5.91 | 115.06 | 119.20 |
| 1 | 1G | 1215 | G | C8-N9-C4 | -5.91 | 104.03 | 106.40 |
| 26 | 14 | 1959 | G | C5-C6-N1 | 5.91 | 114.46 | 111.50 |
| 1 | 13 | 394 | G | N3-C4-N9 | -5.91 | 122.45 | 126.00 |
| 1 | 13 | 1358 | U | OP1-P-O3' | 5.91 | 118.20 | 105.20 |
| 1 | 13 | 1370 | G | OP1-P-O3' | 5.91 | 118.20 | 105.20 |
| 1 | 13 | 1510 | U | C5-C4-O4 | -5.91 | 122.35 | 125.90 |
| 26 | 1H | 509 | C | OP2-P-O3' | 5.91 | 118.20 | 105.20 |
| 26 | 1H | 1264 | G | C4-C5-N7 | -5.91 | 108.44 | 110.80 |
| 26 | 1H | 1595 | G | N1-C2-N2 | 5.91 | 121.52 | 116.20 |
| 26 | 1H | 1968 | G | OP1-P-O3' | 5.91 | 118.20 | 105.20 |
| 26 | 1H | 2273 | A | C4-C5-C6 | -5.91 | 114.05 | 117.00 |
| 26 | 1H | 2768 | C | C2-N3-C4 | -5.91 | 116.94 | 119.90 |
| 1 | 1G | 1204 | A | C5-C6-N6 | -5.91 | 118.97 | 123.70 |
| 26 | 14 | 97 | C | OP1-P-OP2 | 5.91 | 128.47 | 119.60 |
| 26 | 14 | 861 | A | N1-C6-N6 | -5.91 | 115.05 | 118.60 |
| 26 | 14 | 939 | G | N9-C4-C5 | 5.91 | 107.76 | 105.40 |
| 26 | 14 | 1232 | G | C5-N7-C8 | -5.91 | 101.34 | 104.30 |
| 26 | 14 | 1417 | C | N3-C4-C5 | 5.91 | 124.26 | 121.90 |
| 26 | 14 | 1444 | G | O5'-P-OP2 | -5.91 | 100.38 | 105.70 |
| 26 | 14 | 2286 | A | C6-C5-N7 | -5.91 | 128.16 | 132.30 |
| 26 | 14 | 2583 | G | C5-C6-O6 | -5.91 | 125.05 | 128.60 |
| 27 | 1J | 109 | G | C5-N7-C8 | -5.91 | 101.34 | 104.30 |
| 1 | 13 | 689 | C | OP1-P-O3' | 5.91 | 118.20 | 105.20 |
| 1 | 13 | 873 | A | N3-C4-C5 | -5.91 | 122.66 | 126.80 |
| 1 | 13 | 1429 | C | C4-C5-C6 | 5.91 | 120.35 | 117.40 |
| 26 | 1H | 226 | G | O4'-C1'-N9 | 5.91 | 112.93 | 108.20 |
| 26 | 1H | 566 | U | N3-C2-O2 | 5.91 | 126.33 | 122.20 |
| 26 | 1H | 1161 | C | C5-C4-N4 | -5.91 | 116.06 | 120.20 |
| 26 | 1H | 1221 | C | C5-C4-N4 | 5.91 | 124.33 | 120.20 |
| 26 | 1H | 1335 | U | N3-C2-O2 | -5.91 | 118.06 | 122.20 |
| 26 | 1H | 2456 | C | N3-C4-C5 | -5.91 | 119.54 | 121.90 |
| 26 | 1H | 2549 | G | C4-C5-N7 | -5.91 | 108.44 | 110.80 |
| 1 | 1G | 428 | G | N3-C4-C5 | 5.91 | 131.56 | 128.60 |
| 1 | 1G | 503 | C | N3-C4-C5 | -5.91 | 119.54 | 121.90 |
| 1 | 1G | 721 | G | C4-C5-C6 | 5.91 | 122.34 | 118.80 |
| 26 | 14 | 940 | G | C8-N9-C4 | -5.91 | 104.04 | 106.40 |
| 26 | 14 | 1324 | G | O5'-P-OP1 | -5.91 | 100.38 | 105.70 |
| 26 | 14 | 1352 | U | OP1-P-OP2 | 5.91 | 128.46 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1935 | G | N7-C8-N9 | 5.91 | 116.05 | 113.10 |
| 26 | 14 | 2432 | A | C5-N7-C8 | -5.91 | 100.95 | 103.90 |
| 26 | 14 | 2614 | A | O5'-P-OP2 | -5.91 | 100.38 | 105.70 |
| 26 | 14 | 2647 | U | N1-C2-O2 | 5.91 | 126.94 | 122.80 |
| 31 | 39 | 95 | ARG | NE-CZ-NH2 | 5.91 | 123.25 | 120.30 |
| 1 | 13 | 1526 | G | N1-C6-O6 | -5.91 | 116.36 | 119.90 |
| 26 | 1H | 505 | A | N7-C8-N9 | 5.91 | 116.75 | 113.80 |
| 26 | 1H | 773 | U | N3-C2-O2 | -5.91 | 118.06 | 122.20 |
| 26 | 1H | 2079 | U | O5'-P-OP1 | -5.91 | 100.38 | 105.70 |
| 26 | 1H | 2225 | A | C5-C6-N6 | 5.91 | 128.43 | 123.70 |
| 1 | 1G | 26 | A | C6-N1-C2 | -5.91 | 115.06 | 118.60 |
| 26 | 14 | 843 | G | C6-N1-C2 | 5.91 | 128.64 | 125.10 |
| 1 | 13 | 1227 | A | OP1-P-O3' | 5.91 | 118.19 | 105.20 |
| 22 | 1K | 62 | C | N1-C2-O2 | 5.91 | 122.44 | 118.90 |
| 24 | 3K | 28 | U | N3-C2-O2 | -5.91 | 118.07 | 122.20 |
| 26 | 1H | 603 | A | C5-N7-C8 | 5.91 | 106.85 | 103.90 |
| 26 | 1H | 746 | A | O4'-C1'-N9 | 5.91 | 112.92 | 108.20 |
| 26 | 1H | 750 | A | N1-C6-N6 | 5.91 | 122.14 | 118.60 |
| 26 | 1H | 1510 | A | OP1-P-OP2 | -5.91 | 110.74 | 119.60 |
| 26 | 1H | 2231 | C | C5-C4-N4 | 5.91 | 124.33 | 120.20 |
| 26 | 1H | 2643 | G | N9-C4-C5 | -5.91 | 103.04 | 105.40 |
| 26 | 14 | 451 | C | N3-C4-C5 | -5.91 | 119.54 | 121.90 |
| 26 | 14 | 985 | C | N3-C2-O2 | -5.91 | 117.77 | 121.90 |
| 26 | 14 | 1275 | A | C5-C6-N1 | 5.91 | 120.65 | 117.70 |
| 26 | 14 | 2699 | C | N1-C2-O2 | -5.91 | 115.36 | 118.90 |
| 27 | 1J | 16 | G | C4-C5-N7 | 5.91 | 113.16 | 110.80 |
| 1 | 13 | 908 | A | C8-N9-C4 | -5.90 | 103.44 | 105.80 |
| 1 | 13 | 964 | A | C5-C6-N1 | -5.90 | 114.75 | 117.70 |
| 23 | 2K | 24 | C | N3-C4-N4 | -5.90 | 113.87 | 118.00 |
| 26 | 1H | 1305 | C | C4-C5-C6 | 5.90 | 120.35 | 117.40 |
| 26 | 1H | 1345 | C | N3-C4-N4 | -5.90 | 113.87 | 118.00 |
| 26 | 1H | 1693 | U | N3-C2-O2 | -5.90 | 118.07 | 122.20 |
| 26 | 1H | 2453 | A | C8-N9-C4 | -5.90 | 103.44 | 105.80 |
| 1 | 1G | 898 | G | N1-C2-N3 | 5.90 | 127.44 | 123.90 |
| 26 | 14 | 596 | G | C5-C6-N1 | -5.90 | 108.55 | 111.50 |
| 27 | 1J | 22 | U | C6-N1-C2 | -5.90 | 117.46 | 121.00 |
| 1 | 13 | 606 | G | C8-N9-C4 | -5.90 | 104.04 | 106.40 |
| 23 | 2K | 30 | G | OP1-P-OP2 | -5.90 | 110.75 | 119.60 |
| 26 | 1H | 394 | A | OP2-P-O3' | 5.90 | 118.19 | 105.20 |
| 26 | 1H | 931 | G | C5-C6-N1 | 5.90 | 114.45 | 111.50 |
| 26 | 1H | 1279 | G | O5'-P-OP2 | -5.90 | 100.39 | 105.70 |
| 26 | 1H | 1590 | U | N3-C4-O4 | 5.90 | 123.53 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2227 | A | C5-N7-C8 | -5.90 | 100.95 | 103.90 |
| 26 | 1H | 2434 | A | OP1-P-OP2 | -5.90 | 110.75 | 119.60 |
| 26 | 1H | 2604 | U | N3-C4-C5 | -5.90 | 111.06 | 114.60 |
| 1 | 1G | 554 | C | N1-C2-O2 | 5.90 | 122.44 | 118.90 |
| 26 | 14 | 188 | G | C2-N3-C4 | -5.90 | 108.95 | 111.90 |
| 26 | 14 | 807 | U | C2-N3-C4 | -5.90 | 123.46 | 127.00 |
| 26 | 14 | 1195 | G | C6-C5-N7 | 5.90 | 133.94 | 130.40 |
| 26 | 14 | 1233 | C | N1-C2-O2 | -5.90 | 115.36 | 118.90 |
| 26 | 14 | 1278 | A | C4-N9-C1' | -5.90 | 115.67 | 126.30 |
| 26 | 14 | 1351 | C | C5-C4-N4 | -5.90 | 116.07 | 120.20 |
| 1 | 13 | 543 | C | C2-N3-C4 | -5.90 | 116.95 | 119.90 |
| 1 | 13 | 913 | A | C8-N9-C4 | -5.90 | 103.44 | 105.80 |
| 23 | 2K | 45 | A | N9-C4-C5 | -5.90 | 103.44 | 105.80 |
| 26 | 1H | 141(A) | C | OP2-P-O3' | 5.90 | 118.18 | 105.20 |
| 26 | 1H | 736 | C | O5'-P-OP1 | -5.90 | 100.39 | 105.70 |
| 26 | 1H | 824 | A | N1-C6-N6 | -5.90 | 115.06 | 118.60 |
| 26 | 1H | 1192 | G | C6-N1-C2 | -5.90 | 121.56 | 125.10 |
| 26 | 1H | 1299 | G | N1-C6-O6 | 5.90 | 123.44 | 119.90 |
| 26 | 1H | 1798 | U | N3-C4-C5 | 5.90 | 118.14 | 114.60 |
| 26 | 1H | 1800 | C | N3-C4-C5 | -5.90 | 119.54 | 121.90 |
| 26 | 1H | 1858 | G | N7-C8-N9 | 5.90 | 116.05 | 113.10 |
| 27 | 16 | 25 | A | OP1-P-O3' | 5.90 | 118.18 | 105.20 |
| 1 | 1G | 331 | G | N3-C2-N2 | -5.90 | 115.77 | 119.90 |
| 1 | 1G | 895 | G | C6-C5-N7 | -5.90 | 126.86 | 130.40 |
| 1 | 1G | 1409 | C | N3-C4-C5 | -5.90 | 119.54 | 121.90 |
| 26 | 14 | 37 | C | N3-C4-C5 | -5.90 | 119.54 | 121.90 |
| 26 | 14 | 1619 | G | O5'-P-OP2 | -5.90 | 100.39 | 105.70 |
| 26 | 14 | 1641 | A | OP1-P-O3' | -5.90 | 92.22 | 105.20 |
| 26 | 14 | 1812 | A | C5-N7-C8 | 5.90 | 106.85 | 103.90 |
| 26 | 14 | 2299 | G | N3-C4-C5 | 5.90 | 131.55 | 128.60 |
| 1 | 13 | 312 | C | OP2-P-O3' | 5.90 | 118.18 | 105.20 |
| 1 | 13 | 798 | G | N3-C4-N9 | -5.90 | 122.46 | 126.00 |
| 1 | 13 | 1111 | A | C5-C6-N1 | 5.90 | 120.65 | 117.70 |
| 26 | 1H | 283 | A | N1-C6-N6 | -5.90 | 115.06 | 118.60 |
| 1 | 1G | 1076 | C | N3-C4-N4 | -5.90 | 113.87 | 118.00 |
| 26 | 14 | 1258 | C | OP2-P-O3' | 5.90 | 118.18 | 105.20 |
| 1 | 13 | 818 | G | N3-C2-N2 | 5.90 | 124.03 | 119.90 |
| 23 | 2K | 4 | G | N7-C8-N9 | -5.90 | 110.15 | 113.10 |
| 26 | 1H | 672 | C | O5'-P-OP2 | -5.90 | 100.39 | 105.70 |
| 26 | 1H | 921 | G | C2-N3-C4 | 5.90 | 114.85 | 111.90 |
| 26 | 1H | 1649 | G | N3-C4-C5 | -5.90 | 125.65 | 128.60 |
| 26 | 1H | 2009 | G | OP1-P-OP2 | -5.90 | 110.75 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 448 | U | C4-C5-C6 | 5.90 | 123.24 | 119.70 |
| 26 | 14 | 672 | C | C5-C4-N4 | 5.90 | 124.33 | 120.20 |
| 26 | 14 | 1143 | A | C5-C6-N6 | 5.90 | 128.42 | 123.70 |
| 26 | 14 | 1792 | G | C2-N3-C4 | -5.90 | 108.95 | 111.90 |
| 26 | 14 | 1930 | G | C8-N9-C1' | 5.90 | 134.67 | 127.00 |
| 26 | 14 | 2235 | G | C6-C5-N7 | -5.90 | 126.86 | 130.40 |
| 27 | 1J | 74 | U | C2-N1-C1' | -5.90 | 110.62 | 117.70 |
| 1 | 13 | 881 | G | OP2-P-O3' | 5.90 | 118.17 | 105.20 |
| 26 | 1H | 1177 | A | N1-C6-N6 | -5.90 | 115.06 | 118.60 |
| 26 | 1H | 2560 | C | O5'-P-OP2 | -5.90 | 100.39 | 105.70 |
| 26 | 1H | 2564 | A | C8-N9-C4 | -5.90 | 103.44 | 105.80 |
| 26 | 1H | 2703 | C | OP1-P-OP2 | 5.90 | 128.44 | 119.60 |
| 26 | 14 | 546 | C | C6-N1-C2 | -5.90 | 117.94 | 120.30 |
| 26 | 14 | 1823 | G | C4-C5-N7 | 5.90 | 113.16 | 110.80 |
| 26 | 14 | 2828 | C | N3-C2-O2 | -5.90 | 117.77 | 121.90 |
| 1 | 13 | 355 | C | C2-N3-C4 | -5.89 | 116.95 | 119.90 |
| 1 | 13 | 779 | C | OP1-P-OP2 | -5.89 | 110.76 | 119.60 |
| 1 | 13 | 905 | U | C5-C6-N1 | -5.89 | 119.75 | 122.70 |
| 26 | 1H | 198 | C | C4-C5-C6 | -5.89 | 114.45 | 117.40 |
| 26 | 1H | 273(A) | G | C6-C5-N7 | -5.89 | 126.86 | 130.40 |
| 26 | 1H | 474 | G | C6-C5-N7 | 5.89 | 133.94 | 130.40 |
| 26 | 1H | 664 | C | OP1-P-OP2 | 5.89 | 128.44 | 119.60 |
| 27 | 16 | 3 | C | C6-N1-C2 | 5.89 | 122.66 | 120.30 |
| 1 | 1G | 233 | C | OP2-P-O3' | 5.89 | 118.17 | 105.20 |
| 1 | 1G | 1226 | C | N3-C4-C5 | -5.89 | 119.54 | 121.90 |
| 26 | 14 | 216 | A | C8-N9-C4 | 5.89 | 108.16 | 105.80 |
| 26 | 14 | 914 | C | C2-N3-C4 | 5.89 | 122.85 | 119.90 |
| 26 | 14 | 1525 | G | N1-C2-N3 | 5.89 | 127.44 | 123.90 |
| 26 | 14 | 1945 | G | C5-C6-O6 | 5.89 | 132.14 | 128.60 |
| 26 | 14 | 2454 | G | C6-C5-N7 | -5.89 | 126.86 | 130.40 |
| 26 | 14 | 2823 | A | N9-C4-C5 | -5.89 | 103.44 | 105.80 |
| 1 | 13 | 32 | A | C8-N9-C4 | -5.89 | 103.44 | 105.80 |
| 1 | 13 | 744 | C | N1-C2-O2 | -5.89 | 115.36 | 118.90 |
| 26 | 1H | 14 | A | C5-N7-C8 | 5.89 | 106.85 | 103.90 |
| 26 | 1H | 501 | A | N9-C4-C5 | 5.89 | 108.16 | 105.80 |
| 26 | 1H | 575 | A | C6-N1-C2 | -5.89 | 115.06 | 118.60 |
| 26 | 1H | 1231 | G | N3-C4-C5 | 5.89 | 131.55 | 128.60 |
| 26 | 1H | 1326 | U | OP2-P-O3' | 5.89 | 118.17 | 105.20 |
| 26 | 1H | 1497 | U | OP1-P-OP2 | -5.89 | 110.76 | 119.60 |
| 26 | 1H | 1683 | C | C5-C6-N1 | -5.89 | 118.05 | 121.00 |
| 26 | 1H | 1952 | A | N3-C4-C5 | -5.89 | 122.68 | 126.80 |
| 26 | 1H | 1957 | C | C6-N1-C1' | 5.89 | 127.87 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-------------|-------|-------------|----------|
| 26 | 1H | 2062 | A | N1-C2-N3 | -5.89 | 126.35 | 129.30 |
| 26 | 1H | 2258 | C | N1-C2-N3 | 5.89 | 123.33 | 119.20 |
| 26 | 1H | 2541 | A | O5'-P-OP2 | 5.89 | 117.77 | 110.70 |
| 26 | 1H | 2576 | G | C2-N3-C4 | -5.89 | 108.95 | 111.90 |
| 27 | 16 | 117 | G | C8-N9-C4 | 5.89 | 108.76 | 106.40 |
| 1 | 1G | 174 | C | C6-N1-C2 | -5.89 | 117.94 | 120.30 |
| 26 | 14 | 126 | A | C2-N3-C4 | -5.89 | 107.65 | 110.60 |
| 26 | 14 | 141(A) | C | OP1-P-O3' | -5.89 | 92.24 | 105.20 |
| 26 | 14 | 183 | C | O5'-P-OP2 | -5.89 | 100.40 | 105.70 |
| 26 | 14 | 1232 | G | C2-N3-C4 | -5.89 | 108.95 | 111.90 |
| 26 | 14 | 1291 | C | N3-C4-C5 | -5.89 | 119.54 | 121.90 |
| 26 | 14 | 2609 | U | OP2-P-O3' | 5.89 | 118.16 | 105.20 |
| 1 | 13 | 891 | U | OP2-P-O3' | 5.89 | 118.16 | 105.20 |
| 26 | 1H | 38 | A | C5-N7-C8 | -5.89 | 100.95 | 103.90 |
| 26 | 1H | 1408 | C | C5-C6-N1 | -5.89 | 118.06 | 121.00 |
| 26 | 1H | 2330 | G | O5'-P-OP2 | -5.89 | 100.40 | 105.70 |
| 26 | 1H | 2681 | C | P-O3'-C3' | 5.89 | 126.77 | 119.70 |
| 26 | 14 | 509 | C | C5-C6-N1 | -5.89 | 118.05 | 121.00 |
| 26 | 14 | 1235 | G | N1-C2-N3 | 5.89 | 127.44 | 123.90 |
| 26 | 14 | 1271 | G | C6-C5-N7 | -5.89 | 126.86 | 130.40 |
| 26 | 14 | 1274 | A | C5'-C4'-O4' | 5.89 | 116.17 | 109.10 |
| 26 | 14 | 1821 | A | N1-C2-N3 | 5.89 | 132.25 | 129.30 |
| 26 | 14 | 2369 | A | C8-N9-C4 | -5.89 | 103.44 | 105.80 |
| 1 | 13 | 595 | G | N3-C2-N2 | 5.89 | 124.02 | 119.90 |
| 26 | 1H | 248 | G | N1-C6-O6 | 5.89 | 123.43 | 119.90 |
| 26 | 1H | 378 | C | C4-C5-C6 | 5.89 | 120.34 | 117.40 |
| 26 | 1H | 2289 | G | C6-N1-C2 | 5.89 | 128.63 | 125.10 |
| 26 | 1H | 2347 | C | O5'-P-OP2 | -5.89 | 100.40 | 105.70 |
| 26 | 1H | 2442 | C | OP1-P-OP2 | -5.89 | 110.77 | 119.60 |
| 26 | 1H | 2781 | A | C5-N7-C8 | -5.89 | 100.96 | 103.90 |
| 26 | 14 | 303 | U | C5-C4-O4 | -5.89 | 122.37 | 125.90 |
| 26 | 14 | 800 | A | C2-N3-C4 | 5.89 | 113.55 | 110.60 |
| 26 | 14 | 1230 | C | N1-C2-O2 | 5.89 | 122.43 | 118.90 |
| 26 | 14 | 1383 | C | N3-C2-O2 | 5.89 | 126.02 | 121.90 |
| 26 | 14 | 1763 | G | O5'-P-OP2 | -5.89 | 100.40 | 105.70 |
| 26 | 14 | 1952 | A | C5-C6-N1 | 5.89 | 120.64 | 117.70 |
| 26 | 14 | 2584 | U | C6-N1-C1' | -5.89 | 112.95 | 121.20 |
| 27 | 1J | 43 | C | C6-N1-C2 | -5.89 | 117.94 | 120.30 |
| 1 | 13 | 305 | G | C5-C6-O6 | 5.89 | 132.13 | 128.60 |
| 1 | 13 | 728 | A | C5-N7-C8 | -5.89 | 100.96 | 103.90 |
| 1 | 13 | 880 | C | C4-C5-C6 | -5.89 | 114.46 | 117.40 |
| 1 | 13 | 1103 | C | C6-N1-C2 | -5.89 | 117.94 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 627 | A | N1-C6-N6 | 5.89 | 122.13 | 118.60 |
| 26 | 1H | 2564 | A | OP1-P-O3' | 5.89 | 118.15 | 105.20 |
| 33 | 51 | 57 | ASP | CB-CG-OD1 | 5.89 | 123.60 | 118.30 |
| 1 | 1G | 826 | C | N3-C4-N4 | -5.89 | 113.88 | 118.00 |
| 26 | 14 | 911 | A | OP1-P-OP2 | 5.89 | 128.43 | 119.60 |
| 26 | 14 | 2614 | A | C8-N9-C4 | -5.89 | 103.44 | 105.80 |
| 1 | 13 | 1200 | C | C5-C4-N4 | -5.89 | 116.08 | 120.20 |
| 1 | 13 | 1420 | C | O5'-P-OP1 | -5.89 | 100.40 | 105.70 |
| 1 | 13 | 1424 | C | N1-C2-O2 | 5.89 | 122.43 | 118.90 |
| 26 | 1H | 237 | C | C2-N1-C1' | -5.89 | 112.33 | 118.80 |
| 26 | 1H | 480 | A | C5-N7-C8 | -5.89 | 100.96 | 103.90 |
| 26 | 1H | 566 | U | C2-N3-C4 | -5.89 | 123.47 | 127.00 |
| 26 | 1H | 779 | U | OP1-P-OP2 | -5.89 | 110.77 | 119.60 |
| 26 | 1H | 1639 | U | O5'-P-OP1 | 5.89 | 117.76 | 110.70 |
| 26 | 1H | 2032 | G | O4'-C1'-N9 | -5.89 | 103.49 | 108.20 |
| 26 | 1H | 2250 | G | N1-C6-O6 | -5.89 | 116.37 | 119.90 |
| 26 | 1H | 2697 | G | C4-C5-C6 | 5.89 | 122.33 | 118.80 |
| 1 | 1G | 510 | A | C5-N7-C8 | -5.89 | 100.96 | 103.90 |
| 1 | 1G | 885 | G | C5-C6-O6 | 5.89 | 132.13 | 128.60 |
| 1 | 1G | 952 | U | O5'-P-OP1 | -5.89 | 100.40 | 105.70 |
| 26 | 14 | 391 | G | C2-N3-C4 | -5.89 | 108.96 | 111.90 |
| 26 | 14 | 1020 | A | C8-N9-C4 | 5.89 | 108.16 | 105.80 |
| 26 | 14 | 1412 | A | C5-N7-C8 | -5.89 | 100.96 | 103.90 |
| 26 | 14 | 2551 | C | C6-N1-C2 | -5.89 | 117.94 | 120.30 |
| 26 | 14 | 2637 | U | N3-C4-C5 | -5.89 | 111.07 | 114.60 |
| 1 | 13 | 502 | G | N1-C2-N2 | 5.88 | 121.50 | 116.20 |
| 1 | 13 | 541 | G | N1-C2-N2 | 5.88 | 121.50 | 116.20 |
| 1 | 13 | 788 | U | C5-C4-O4 | -5.88 | 122.37 | 125.90 |
| 1 | 13 | 806 | C | N3-C4-C5 | 5.88 | 124.25 | 121.90 |
| 1 | 13 | 807 | A | N9-C4-C5 | 5.88 | 108.15 | 105.80 |
| 1 | 13 | 827 | U | O4'-C1'-N1 | 5.88 | 112.91 | 108.20 |
| 1 | 13 | 1370 | G | C4-C5-N7 | 5.88 | 113.15 | 110.80 |
| 1 | 13 | 1386 | G | C5-C6-O6 | -5.88 | 125.07 | 128.60 |
| 26 | 1H | 58 | G | N7-C8-N9 | 5.88 | 116.04 | 113.10 |
| 26 | 1H | 1194 | A | N1-C6-N6 | 5.88 | 122.13 | 118.60 |
| 26 | 1H | 1791 | A | N1-C6-N6 | -5.88 | 115.07 | 118.60 |
| 26 | 1H | 2396 | G | OP1-P-OP2 | 5.88 | 128.43 | 119.60 |
| 26 | 1H | 2494 | G | C2-N3-C4 | -5.88 | 108.96 | 111.90 |
| 26 | 1H | 2510 | C | N3-C2-O2 | -5.88 | 117.78 | 121.90 |
| 26 | 14 | 605 | C | C5-C4-N4 | -5.88 | 116.08 | 120.20 |
| 26 | 14 | 1187 | G | OP1-P-O3' | 5.88 | 118.15 | 105.20 |
| 26 | 14 | 1793 | C | O5'-P-OP1 | 5.88 | 117.76 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2442 | C | C5-C6-N1 | -5.88 | 118.06 | 121.00 |
| 26 | 1H | 1902 | C | C5-C4-N4 | 5.88 | 124.32 | 120.20 |
| 26 | 1H | 2199 | A | C2-N3-C4 | 5.88 | 113.54 | 110.60 |
| 26 | 1H | 2605 | U | C6-N1-C2 | -5.88 | 117.47 | 121.00 |
| 1 | 1G | 1497 | G | C4-C5-N7 | 5.88 | 113.15 | 110.80 |
| 26 | 14 | 14 | A | C4-C5-N7 | 5.88 | 113.64 | 110.70 |
| 26 | 14 | 1585 | C | C2-N3-C4 | 5.88 | 122.84 | 119.90 |
| 26 | 14 | 1603 | A | N1-C2-N3 | 5.88 | 132.24 | 129.30 |
| 29 | 19 | 35 | LYS | CD-CE-NZ | 5.88 | 125.23 | 111.70 |
| 1 | 13 | 633 | G | C6-C5-N7 | -5.88 | 126.87 | 130.40 |
| 1 | 13 | 749 | C | C6-N1-C2 | -5.88 | 117.95 | 120.30 |
| 1 | 13 | 827 | U | N3-C4-O4 | -5.88 | 115.28 | 119.40 |
| 1 | 13 | 864 | A | N7-C8-N9 | 5.88 | 116.74 | 113.80 |
| 26 | 1H | 1517 | G | N1-C6-O6 | 5.88 | 123.43 | 119.90 |
| 26 | 1H | 1787 | A | OP1-P-O3' | 5.88 | 118.14 | 105.20 |
| 26 | 1H | 2228 | G | N9-C4-C5 | -5.88 | 103.05 | 105.40 |
| 26 | 1H | 2280 | G | C8-N9-C4 | -5.88 | 104.05 | 106.40 |
| 26 | 1H | 2580 | U | C2-N1-C1' | 5.88 | 124.76 | 117.70 |
| 26 | 1H | 2659 | G | OP1-P-OP2 | 5.88 | 128.42 | 119.60 |
| 27 | 16 | 83 | G | C5-C6-N1 | -5.88 | 108.56 | 111.50 |
| 1 | 1G | 676 | A | C2-N3-C4 | 5.88 | 113.54 | 110.60 |
| 26 | 14 | 64 | A | C5-C6-N1 | 5.88 | 120.64 | 117.70 |
| 26 | 14 | 650 | C | C5-C6-N1 | 5.88 | 123.94 | 121.00 |
| 26 | 14 | 1280 | G | O5'-P-OP1 | 5.88 | 117.76 | 110.70 |
| 26 | 14 | 1534 | G | OP2-P-O3' | 5.88 | 118.14 | 105.20 |
| 26 | 14 | 1602 | U | OP1-P-O3' | 5.88 | 118.14 | 105.20 |
| 26 | 14 | 1705 | G | C6-C5-N7 | 5.88 | 133.93 | 130.40 |
| 26 | 14 | 2627 | G | C5-N7-C8 | -5.88 | 101.36 | 104.30 |
| 26 | 14 | 2847 | U | O5'-P-OP2 | -5.88 | 100.41 | 105.70 |
| 1 | 13 | 1059 | C | N3-C4-C5 | 5.88 | 124.25 | 121.90 |
| 26 | 1H | 1414 | G | C4-C5-C6 | 5.88 | 122.33 | 118.80 |
| 26 | 1H | 1628 | G | C2-N3-C4 | 5.88 | 114.84 | 111.90 |
| 26 | 1H | 1642 | G | N9-C1'-C2' | -5.88 | 105.53 | 112.00 |
| 26 | 1H | 2239 | G | N1-C2-N2 | -5.88 | 110.91 | 116.20 |
| 26 | 1H | 2872 | G | C4-C5-C6 | 5.88 | 122.33 | 118.80 |
| 26 | 14 | 38 | A | C2-N3-C4 | 5.88 | 113.54 | 110.60 |
| 26 | 14 | 772 | C | N3-C4-N4 | 5.88 | 122.12 | 118.00 |
| 26 | 14 | 848 | G | OP1-P-OP2 | 5.88 | 128.42 | 119.60 |
| 26 | 14 | 1766 | U | C2-N3-C4 | -5.88 | 123.47 | 127.00 |
| 26 | 14 | 2552 | U | O5'-P-OP1 | 5.88 | 117.76 | 110.70 |
| 26 | 14 | 2812 | G | N3-C2-N2 | -5.88 | 115.78 | 119.90 |
| 26 | 1H | 1157 | G | N1-C6-O6 | 5.88 | 123.43 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1609 | A | N7-C8-N9 | -5.88 | 110.86 | 113.80 |
| 26 | 1H | 1760 | A | C6-N1-C2 | -5.88 | 115.07 | 118.60 |
| 26 | 1H | 1783 | A | C4-C5-C6 | 5.88 | 119.94 | 117.00 |
| 26 | 1H | 2246 | G | N1-C2-N3 | 5.88 | 127.43 | 123.90 |
| 26 | 1H | 2419 | U | N1-C2-O2 | -5.88 | 118.69 | 122.80 |
| 27 | 16 | 21 | G | N3-C4-N9 | -5.88 | 122.47 | 126.00 |
| 48 | I8 | 46 | LYS | CD-CE-NZ | 5.88 | 125.22 | 111.70 |
| 1 | 1G | 742 | G | C5-C6-O6 | -5.88 | 125.07 | 128.60 |
| 1 | 1G | 770 | C | C4-C5-C6 | 5.88 | 120.34 | 117.40 |
| 26 | 14 | 101 | G | N3-C4-C5 | -5.88 | 125.66 | 128.60 |
| 26 | 14 | 178 | G | C2-N3-C4 | -5.88 | 108.96 | 111.90 |
| 26 | 14 | 264 | C | C6-N1-C1' | -5.88 | 113.75 | 120.80 |
| 26 | 14 | 265 | A | C4-C5-C6 | 5.88 | 119.94 | 117.00 |
| 26 | 14 | 485 | C | N1-C2-N3 | 5.88 | 123.31 | 119.20 |
| 26 | 14 | 964 | C | N3-C4-C5 | 5.88 | 124.25 | 121.90 |
| 26 | 14 | 1248 | G | N3-C4-C5 | 5.88 | 131.54 | 128.60 |
| 26 | 14 | 2336 | A | C5-C6-N6 | 5.88 | 128.40 | 123.70 |
| 26 | 14 | 2570 | G | N3-C2-N2 | -5.88 | 115.78 | 119.90 |
| 26 | 1H | 202 | U | N3-C4-C5 | 5.88 | 118.12 | 114.60 |
| 26 | 1H | 519 | U | OP1-P-OP2 | 5.88 | 128.41 | 119.60 |
| 26 | 1H | 946 | G | N3-C4-C5 | 5.88 | 131.54 | 128.60 |
| 26 | 1H | 988 | A | C4-C5-C6 | 5.88 | 119.94 | 117.00 |
| 26 | 1H | 1699 | G | N7-C8-N9 | 5.88 | 116.04 | 113.10 |
| 26 | 1H | 1757 | U | C6-N1-C2 | 5.88 | 124.53 | 121.00 |
| 26 | 1H | 2537 | U | C2-N3-C4 | -5.88 | 123.47 | 127.00 |
| 35 | 58 | 58 | ASP | CB-CG-OD2 | 5.88 | 123.59 | 118.30 |
| 1 | 1G | 1151 | A | C8-N9-C4 | 5.88 | 108.15 | 105.80 |
| 1 | 1G | 1473 | A | N3-C4-C5 | 5.88 | 130.91 | 126.80 |
| 26 | 14 | 489 | G | N7-C8-N9 | 5.88 | 116.04 | 113.10 |
| 26 | 14 | 1758 | G | C8-N9-C4 | -5.88 | 104.05 | 106.40 |
| 27 | 1J | 73 | A | N7-C8-N9 | 5.88 | 116.74 | 113.80 |
| 1 | 13 | 1470 | G | N3-C2-N2 | -5.88 | 115.79 | 119.90 |
| 26 | 1H | 349 | G | N3-C4-C5 | 5.88 | 131.54 | 128.60 |
| 26 | 1H | 1301 | A | C2-N3-C4 | -5.88 | 107.66 | 110.60 |
| 26 | 1H | 1653 | G | N3-C4-N9 | 5.88 | 129.53 | 126.00 |
| 26 | 1H | 1913 | A | C2-N3-C4 | 5.88 | 113.54 | 110.60 |
| 26 | 1H | 2033 | A | N9-C4-C5 | 5.88 | 108.15 | 105.80 |
| 26 | 14 | 6 | A | N3-C4-C5 | -5.88 | 122.69 | 126.80 |
| 26 | 14 | 770 | G | N7-C8-N9 | -5.88 | 110.16 | 113.10 |
| 26 | 14 | 2359 | C | C5-C4-N4 | 5.88 | 124.31 | 120.20 |
| 1 | 13 | 606 | G | C5-C6-O6 | -5.87 | 125.08 | 128.60 |
| 1 | 13 | 989 | C | C6-N1-C2 | -5.87 | 117.95 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1203 | C | N3-C4-N4 | 5.87 | 122.11 | 118.00 |
| 26 | 1H | 77 | C | N3-C4-N4 | 5.87 | 122.11 | 118.00 |
| 26 | 1H | 663 | G | C6-N1-C2 | -5.87 | 121.58 | 125.10 |
| 26 | 1H | 1409 | C | N1-C2-O2 | 5.87 | 122.42 | 118.90 |
| 26 | 1H | 2045 | C | O5'-P-OP1 | 5.87 | 117.75 | 110.70 |
| 26 | 1H | 2276 | G | OP1-P-OP2 | -5.87 | 110.79 | 119.60 |
| 26 | 1H | 2373 | G | C8-N9-C1' | -5.87 | 119.36 | 127.00 |
| 26 | 1H | 2645 | G | C6-N1-C2 | 5.87 | 128.62 | 125.10 |
| 1 | 1G | 224 | C | OP1-P-OP2 | 5.87 | 128.41 | 119.60 |
| 1 | 1G | 410 | G | N1-C6-O6 | 5.87 | 123.42 | 119.90 |
| 1 | 1G | 872 | A | O5'-P-OP1 | -5.87 | 100.41 | 105.70 |
| 26 | 14 | 72 | U | N1-C2-N3 | 5.87 | 118.42 | 114.90 |
| 26 | 14 | 188 | G | C8-N9-C4 | 5.87 | 108.75 | 106.40 |
| 26 | 14 | 974 | G | N1-C6-O6 | -5.87 | 116.38 | 119.90 |
| 26 | 14 | 1906 | G | N3-C2-N2 | -5.87 | 115.79 | 119.90 |
| 26 | 14 | 2346 | A | N3-C4-C5 | 5.87 | 130.91 | 126.80 |
| 26 | 14 | 2382 | G | C5-C6-N1 | 5.87 | 114.44 | 111.50 |
| 1 | 13 | 748 | C | N3-C4-N4 | 5.87 | 122.11 | 118.00 |
| 26 | 1H | 400 | G | C5-N7-C8 | -5.87 | 101.36 | 104.30 |
| 26 | 1H | 428 | A | C8-N9-C4 | -5.87 | 103.45 | 105.80 |
| 26 | 1H | 446 | G | N1-C6-O6 | 5.87 | 123.42 | 119.90 |
| 26 | 1H | 1023 | U | C5-C6-N1 | -5.87 | 119.76 | 122.70 |
| 26 | 1H | 1437 | C | N3-C2-O2 | -5.87 | 117.79 | 121.90 |
| 26 | 1H | 1999 | C | C2-N3-C4 | -5.87 | 116.96 | 119.90 |
| 1 | 1G | 909 | A | C5-C6-N6 | -5.87 | 119.00 | 123.70 |
| 26 | 14 | 376 | C | C4-C5-C6 | 5.87 | 120.33 | 117.40 |
| 26 | 14 | 1219 | G | N1-C6-O6 | 5.87 | 123.42 | 119.90 |
| 26 | 14 | 2429 | G | N1-C2-N2 | 5.87 | 121.48 | 116.20 |
| 26 | 14 | 2439 | A | N7-C8-N9 | 5.87 | 116.74 | 113.80 |
| 44 | A5 | 19 | LEU | CB-CG-CD1 | -5.87 | 101.02 | 111.00 |
| 1 | 13 | 1403 | C | N3-C2-O2 | 5.87 | 126.01 | 121.90 |
| 26 | 1H | 496 | G | N3-C2-N2 | -5.87 | 115.79 | 119.90 |
| 26 | 1H | 708 | C | C5-C6-N1 | -5.87 | 118.06 | 121.00 |
| 26 | 1H | 1769 | G | C6-C5-N7 | -5.87 | 126.88 | 130.40 |
| 26 | 1H | 2247 | A | C4-C5-N7 | -5.87 | 107.77 | 110.70 |
| 26 | 1H | 2302 | G | N1-C2-N3 | 5.87 | 127.42 | 123.90 |
| 26 | 1H | 2313 | C | N1-C2-N3 | 5.87 | 123.31 | 119.20 |
| 26 | 1H | 2505 | G | O5'-P-OP2 | -5.87 | 100.42 | 105.70 |
| 1 | 1G | 927 | G | N3-C4-C5 | 5.87 | 131.53 | 128.60 |
| 1 | 1G | 1371 | G | OP1-P-OP2 | -5.87 | 110.80 | 119.60 |
| 26 | 14 | 17 | G | C4-C5-N7 | 5.87 | 113.15 | 110.80 |
| 26 | 14 | 23 | G | N3-C4-C5 | 5.87 | 131.53 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1242 | A | O5'-P-OP2 | -5.87 | 100.42 | 105.70 |
| 1 | 13 | 909 | A | N7-C8-N9 | -5.87 | 110.87 | 113.80 |
| 1 | 13 | 1422 | G | N7-C8-N9 | -5.87 | 110.17 | 113.10 |
| 26 | 1H | 196 | A | C6-C5-N7 | -5.87 | 128.19 | 132.30 |
| 26 | 1H | 928 | G | N3-C4-N9 | -5.87 | 122.48 | 126.00 |
| 26 | 1H | 1322 | A | OP2-P-O3' | 5.87 | 118.11 | 105.20 |
| 26 | 1H | 1336 | A | OP1-P-OP2 | -5.87 | 110.80 | 119.60 |
| 26 | 1H | 1441 | G | N1-C2-N3 | -5.87 | 120.38 | 123.90 |
| 26 | 1H | 1447 | G | O5'-P-OP1 | -5.87 | 100.42 | 105.70 |
| 26 | 1H | 1650 | G | N3-C2-N2 | -5.87 | 115.79 | 119.90 |
| 26 | 1H | 1669 | A | C6-C5-N7 | -5.87 | 128.19 | 132.30 |
| 26 | 1H | 1893 | C | C2-N3-C4 | -5.87 | 116.97 | 119.90 |
| 26 | 1H | 2010 | G | N9-C4-C5 | 5.87 | 107.75 | 105.40 |
| 26 | 1H | 2065 | C | N3-C2-O2 | -5.87 | 117.79 | 121.90 |
| 26 | 1H | 2597 | G | C2-N3-C4 | -5.87 | 108.97 | 111.90 |
| 1 | 1G | 117 | G | C8-N9-C1' | -5.87 | 119.37 | 127.00 |
| 26 | 14 | 364 | C | N3-C4-C5 | 5.87 | 124.25 | 121.90 |
| 26 | 14 | 509 | C | C4-C5-C6 | 5.87 | 120.33 | 117.40 |
| 26 | 14 | 1194 | A | C2-N3-C4 | -5.87 | 107.67 | 110.60 |
| 26 | 14 | 2012 | G | C5-C6-O6 | -5.87 | 125.08 | 128.60 |
| 29 | 19 | 48 | ARG | NE-CZ-NH1 | -5.87 | 117.37 | 120.30 |
| 26 | 1H | 161 | U | N3-C4-O4 | 5.87 | 123.51 | 119.40 |
| 26 | 1H | 689 | A | N7-C8-N9 | -5.87 | 110.87 | 113.80 |
| 26 | 1H | 2345 | G | C5-C6-N1 | -5.87 | 108.57 | 111.50 |
| 55 | Q8 | 50 | LEU | CB-CG-CD1 | -5.87 | 101.03 | 111.00 |
| 1 | 1G | 124 | G | C2-N3-C4 | 5.87 | 114.83 | 111.90 |
| 1 | 1G | 1516 | G | C5-C6-N1 | -5.87 | 108.57 | 111.50 |
| 26 | 14 | 1490 | A | N1-C2-N3 | -5.87 | 126.37 | 129.30 |
| 26 | 14 | 1826 | G | C8-N9-C4 | 5.87 | 108.75 | 106.40 |
| 26 | 14 | 2507 | C | C5-C4-N4 | 5.87 | 124.31 | 120.20 |
| 1 | 13 | 1315 | U | N3-C4-O4 | 5.87 | 123.51 | 119.40 |
| 1 | 13 | 1485 | U | C6-N1-C2 | -5.87 | 117.48 | 121.00 |
| 26 | 1H | 817 | C | O5'-P-OP1 | 5.87 | 117.74 | 110.70 |
| 26 | 1H | 1004 | C | C4-C5-C6 | 5.87 | 120.33 | 117.40 |
| 26 | 1H | 1250 | G | N3-C4-N9 | 5.87 | 129.52 | 126.00 |
| 26 | 1H | 1647 | G | C6-N1-C2 | 5.87 | 128.62 | 125.10 |
| 26 | 1H | 1812 | A | OP1-P-O3' | 5.87 | 118.10 | 105.20 |
| 26 | 1H | 2665 | A | N7-C8-N9 | 5.87 | 116.73 | 113.80 |
| 1 | 1G | 319 | G | C2-N3-C4 | -5.87 | 108.97 | 111.90 |
| 26 | 14 | 1284 | A | C5-N7-C8 | -5.87 | 100.97 | 103.90 |
| 26 | 14 | 1760 | A | C6-N1-C2 | -5.87 | 115.08 | 118.60 |
| 1 | 13 | 976 | G | C4-C5-N7 | -5.86 | 108.45 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 24 | 3K | 45 | G | N3-C4-N9 | 5.86 | 129.52 | 126.00 |
| 26 | 1H | 394 | A | C5-C6-N1 | 5.86 | 120.63 | 117.70 |
| 26 | 1H | 621 | A | OP1-P-OP2 | 5.86 | 128.40 | 119.60 |
| 26 | 1H | 833 | U | OP2-P-O3' | 5.86 | 118.10 | 105.20 |
| 26 | 1H | 1375 | C | C6-N1-C2 | -5.86 | 117.95 | 120.30 |
| 26 | 1H | 1443 | G | OP1-P-OP2 | -5.86 | 110.80 | 119.60 |
| 26 | 1H | 1594 | G | N7-C8-N9 | 5.86 | 116.03 | 113.10 |
| 26 | 1H | 1927 | A | OP1-P-OP2 | 5.86 | 128.40 | 119.60 |
| 26 | 1H | 2007 | C | N1-C2-N3 | 5.86 | 123.31 | 119.20 |
| 26 | 1H | 2497 | A | C5-N7-C8 | 5.86 | 106.83 | 103.90 |
| 1 | 1G | 664 | G | C2-N3-C4 | -5.86 | 108.97 | 111.90 |
| 1 | 1G | 689 | C | N3-C4-C5 | -5.86 | 119.55 | 121.90 |
| 1 | 1G | 1440 | C | N3-C2-O2 | 5.86 | 126.00 | 121.90 |
| 26 | 14 | 1236 | G | N1-C2-N3 | 5.86 | 127.42 | 123.90 |
| 26 | 14 | 1860 | G | C4-C5-C6 | -5.86 | 115.28 | 118.80 |
| 26 | 14 | 1907 | G | N3-C4-C5 | 5.86 | 131.53 | 128.60 |
| 26 | 14 | 2465 | C | C5-C6-N1 | -5.86 | 118.07 | 121.00 |
| 27 | 1J | 104 | A | OP2-P-O3' | 5.86 | 118.10 | 105.20 |
| 53 | J5 | 20 | ARG | NE-CZ-NH1 | -5.86 | 117.37 | 120.30 |
| 1 | 13 | 1194 | U | OP2-P-O3' | 5.86 | 118.10 | 105.20 |
| 1 | 13 | 1521 | G | C5-C6-O6 | -5.86 | 125.08 | 128.60 |
| 26 | 1H | 298 | G | C4-C5-C6 | -5.86 | 115.28 | 118.80 |
| 26 | 1H | 1893 | C | C5-C6-N1 | -5.86 | 118.07 | 121.00 |
| 26 | 1H | 2613 | U | C5-C6-N1 | 5.86 | 125.63 | 122.70 |
| 26 | 1H | 2837 | G | C6-C5-N7 | -5.86 | 126.88 | 130.40 |
| 1 | 1G | 1495 | U | N3-C4-C5 | -5.86 | 111.08 | 114.60 |
| 26 | 14 | 654(V) | A | N9-C4-C5 | 5.86 | 108.14 | 105.80 |
| 26 | 14 | 845 | G | C6-N1-C2 | 5.86 | 128.62 | 125.10 |
| 26 | 14 | 2071 | A | N3-C4-C5 | -5.86 | 122.70 | 126.80 |
| 26 | 14 | 2872 | G | C8-N9-C4 | -5.86 | 104.06 | 106.40 |
| 1 | 13 | 573 | A | N1-C6-N6 | -5.86 | 115.08 | 118.60 |
| 1 | 13 | 1115 | C | OP1-P-OP2 | 5.86 | 128.39 | 119.60 |
| 25 | 4K | 14 | A | N1-C2-N3 | -5.86 | 126.37 | 129.30 |
| 26 | 1H | 1162 | G | N3-C4-N9 | -5.86 | 122.48 | 126.00 |
| 26 | 1H | 1817 | G | OP2-P-O3' | 5.86 | 118.09 | 105.20 |
| 26 | 1H | 2747 | G | C5-N7-C8 | -5.86 | 101.37 | 104.30 |
| 40 | A8 | 88 | ASP | CB-CG-OD1 | -5.86 | 113.03 | 118.30 |
| 1 | 1G | 326 | G | C4-N9-C1' | 5.86 | 134.12 | 126.50 |
| 1 | 1G | 769 | G | C6-C5-N7 | -5.86 | 126.88 | 130.40 |
| 1 | 1G | 921 | U | OP1-P-OP2 | -5.86 | 110.81 | 119.60 |
| 26 | 14 | 235 | U | N1-C2-N3 | -5.86 | 111.38 | 114.90 |
| 26 | 14 | 1305 | C | O5'-P-OP2 | 5.86 | 117.73 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1328 | G | N3-C4-N9 | 5.86 | 129.52 | 126.00 |
| 26 | 14 | 1994 | C | N1-C2-O2 | 5.86 | 122.42 | 118.90 |
| 26 | 14 | 2352 | A | C5-C6-N1 | -5.86 | 114.77 | 117.70 |
| 26 | 14 | 2479 | G | N7-C8-N9 | 5.86 | 116.03 | 113.10 |
| 26 | 1H | 452 | G | O5'-P-OP2 | -5.86 | 100.43 | 105.70 |
| 26 | 1H | 865 | C | O5'-P-OP2 | 5.86 | 117.73 | 110.70 |
| 1 | 1G | 897 | C | N3-C2-O2 | 5.86 | 126.00 | 121.90 |
| 1 | 1G | 1403 | C | N1-C2-O2 | -5.86 | 115.39 | 118.90 |
| 26 | 14 | 444 | C | OP2-P-O3' | 5.86 | 118.09 | 105.20 |
| 27 | 1J | 58 | A | C5-C6-N1 | 5.86 | 120.63 | 117.70 |
| 1 | 13 | 663 | A | N1-C2-N3 | 5.86 | 132.23 | 129.30 |
| 1 | 13 | 1306 | A | C5-C6-N1 | -5.86 | 114.77 | 117.70 |
| 26 | 1H | 1224 | G | C5-C6-N1 | 5.86 | 114.43 | 111.50 |
| 26 | 1H | 1492 | G | OP1-P-OP2 | -5.86 | 110.81 | 119.60 |
| 26 | 1H | 1678 | G | C8-N9-C1' | 5.86 | 134.61 | 127.00 |
| 26 | 1H | 1776 | G | N3-C4-N9 | 5.86 | 129.51 | 126.00 |
| 26 | 1H | 1956 | U | N1-C2-N3 | 5.86 | 118.42 | 114.90 |
| 26 | 1H | 2311 | A | O4'-C1'-N9 | 5.86 | 112.89 | 108.20 |
| 26 | 1H | 2468 | G | N9-C4-C5 | -5.86 | 103.06 | 105.40 |
| 26 | 14 | 382 | G | OP1-P-O3' | 5.86 | 118.08 | 105.20 |
| 26 | 14 | 574 | C | C4-C5-C6 | -5.86 | 114.47 | 117.40 |
| 26 | 14 | 628 | G | N1-C6-O6 | -5.86 | 116.39 | 119.90 |
| 26 | 14 | 984 | A | C2-N3-C4 | 5.86 | 113.53 | 110.60 |
| 26 | 14 | 2514 | U | C6-N1-C2 | 5.86 | 124.52 | 121.00 |
| 1 | 13 | 1226 | C | N1-C2-O2 | -5.86 | 115.39 | 118.90 |
| 26 | 1H | 1937 | A | C6-N1-C2 | -5.86 | 115.09 | 118.60 |
| 26 | 1H | 1970 | A | C8-N9-C4 | -5.86 | 103.46 | 105.80 |
| 26 | 1H | 2266 | A | C5-C6-N1 | 5.86 | 120.63 | 117.70 |
| 26 | 1H | 2383 | G | C4-C5-N7 | 5.86 | 113.14 | 110.80 |
| 26 | 1H | 2423 | U | N3-C4-C5 | 5.86 | 118.11 | 114.60 |
| 26 | 14 | 429 | A | O5'-P-OP2 | 5.86 | 117.73 | 110.70 |
| 26 | 14 | 459 | U | N3-C4-O4 | -5.86 | 115.30 | 119.40 |
| 26 | 14 | 578 | A | OP1-P-O3' | -5.86 | 92.32 | 105.20 |
| 26 | 14 | 2649 | U | N1-C2-O2 | -5.86 | 118.70 | 122.80 |
| 1 | 13 | 628 | G | C2-N3-C4 | -5.85 | 108.97 | 111.90 |
| 1 | 13 | 1374 | A | N9-C4-C5 | -5.85 | 103.46 | 105.80 |
| 26 | 1H | 75 | G | OP1-P-O3' | -5.85 | 92.32 | 105.20 |
| 26 | 1H | 737 | C | N1-C2-N3 | 5.85 | 123.30 | 119.20 |
| 26 | 1H | 1034 | G | C5-C6-O6 | -5.85 | 125.09 | 128.60 |
| 26 | 14 | 2784 | C | N3-C4-C5 | 5.85 | 124.24 | 121.90 |
| 1 | 13 | 976 | G | C5-N7-C8 | 5.85 | 107.23 | 104.30 |
| 26 | 1H | 257 | A | N7-C8-N9 | 5.85 | 116.73 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 518 | G | N1-C6-O6 | -5.85 | 116.39 | 119.90 |
| 26 | 1H | 791 | C | P-O3'-C3' | 5.85 | 126.72 | 119.70 |
| 26 | 1H | 851 | U | C2-N1-C1' | -5.85 | 110.68 | 117.70 |
| 26 | 1H | 1892 | C | N1-C2-O2 | -5.85 | 115.39 | 118.90 |
| 26 | 1H | 2032 | G | C5-N7-C8 | -5.85 | 101.37 | 104.30 |
| 26 | 1H | 2046 | G | N1-C6-O6 | -5.85 | 116.39 | 119.90 |
| 26 | 1H | 2454 | G | N9-C4-C5 | 5.85 | 107.74 | 105.40 |
| 26 | 1H | 2539 | C | N3-C4-N4 | -5.85 | 113.90 | 118.00 |
| 26 | 14 | 249 | C | C6-N1-C2 | -5.85 | 117.96 | 120.30 |
| 26 | 14 | 1422 | G | C2-N3-C4 | -5.85 | 108.97 | 111.90 |
| 26 | 14 | 1776 | G | N1-C2-N2 | -5.85 | 110.93 | 116.20 |
| 1 | 13 | 277 | C | C6-N1-C2 | -5.85 | 117.96 | 120.30 |
| 1 | 13 | 1522 | U | C4-C5-C6 | 5.85 | 123.21 | 119.70 |
| 26 | 1H | 596 | G | N3-C2-N2 | -5.85 | 115.80 | 119.90 |
| 26 | 1H | 2300 | G | N1-C6-O6 | 5.85 | 123.41 | 119.90 |
| 1 | 1G | 1261 | A | N7-C8-N9 | 5.85 | 116.72 | 113.80 |
| 26 | 14 | 1279 | G | C6-C5-N7 | 5.85 | 133.91 | 130.40 |
| 26 | 14 | 2510 | C | N1-C2-O2 | -5.85 | 115.39 | 118.90 |
| 1 | 13 | 584 | G | OP1-P-OP2 | 5.85 | 128.37 | 119.60 |
| 24 | 3K | 2 | G | N3-C4-C5 | 5.85 | 131.53 | 128.60 |
| 26 | 1H | 557 | U | OP1-P-OP2 | 5.85 | 128.38 | 119.60 |
| 26 | 1H | 588 | U | N3-C4-C5 | 5.85 | 118.11 | 114.60 |
| 26 | 1H | 808 | G | C6-C5-N7 | -5.85 | 126.89 | 130.40 |
| 26 | 1H | 907 | U | C6-N1-C2 | 5.85 | 124.51 | 121.00 |
| 26 | 1H | 1775 | U | C2-N3-C4 | -5.85 | 123.49 | 127.00 |
| 47 | H8 | 61 | LEU | CA-CB-CG | 5.85 | 128.75 | 115.30 |
| 26 | 14 | 2018 | G | N3-C4-C5 | -5.85 | 125.67 | 128.60 |
| 26 | 14 | 2085 | C | C6-N1-C2 | 5.85 | 122.64 | 120.30 |
| 26 | 14 | 2388 | A | N1-C6-N6 | -5.85 | 115.09 | 118.60 |
| 1 | 13 | 558 | G | OP1-P-O3' | 5.85 | 118.06 | 105.20 |
| 1 | 13 | 816 | A | N3-C4-C5 | -5.85 | 122.71 | 126.80 |
| 1 | 13 | 1340 | A | C4-C5-N7 | 5.85 | 113.62 | 110.70 |
| 26 | 1H | 17 | G | C4-C5-N7 | 5.85 | 113.14 | 110.80 |
| 26 | 1H | 128 | C | N3-C2-O2 | 5.85 | 125.99 | 121.90 |
| 26 | 1H | 307 | G | N3-C2-N2 | 5.85 | 123.99 | 119.90 |
| 26 | 1H | 760 | G | C4-C5-N7 | -5.85 | 108.46 | 110.80 |
| 26 | 1H | 766 | C | C6-N1-C2 | 5.85 | 122.64 | 120.30 |
| 26 | 1H | 1358 | G | N3-C2-N2 | 5.85 | 123.99 | 119.90 |
| 26 | 1H | 1681 | G | C5-C6-O6 | -5.85 | 125.09 | 128.60 |
| 1 | 1G | 18 | C | C5-C4-N4 | -5.85 | 116.11 | 120.20 |
| 1 | 1G | 286 | G | N1-C2-N3 | 5.85 | 127.41 | 123.90 |
| 1 | 1G | 986 | A | N1-C2-N3 | -5.85 | 126.38 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1521 | G | C5-C6-N1 | -5.85 | 108.58 | 111.50 |
| 26 | 14 | 204 | A | C2-N3-C4 | 5.85 | 113.52 | 110.60 |
| 26 | 14 | 1274 | A | C8-N9-C4 | -5.85 | 103.46 | 105.80 |
| 26 | 14 | 1818 | U | N3-C4-C5 | -5.85 | 111.09 | 114.60 |
| 26 | 14 | 1856 | G | C4-N9-C1' | 5.85 | 134.10 | 126.50 |
| 26 | 14 | 2241 | A | O5'-P-OP1 | 5.85 | 117.72 | 110.70 |
| 26 | 1H | 536 | A | C4-C5-N7 | -5.85 | 107.78 | 110.70 |
| 26 | 1H | 836 | G | C5-N7-C8 | 5.85 | 107.22 | 104.30 |
| 26 | 14 | 1319 | G | C5-N7-C8 | -5.85 | 101.38 | 104.30 |
| 26 | 14 | 1950 | G | C5-C6-N1 | 5.85 | 114.42 | 111.50 |
| 26 | 14 | 2607 | G | C4-N9-C1' | 5.85 | 134.10 | 126.50 |
| 26 | 14 | 2622 | C | N1-C2-O2 | -5.85 | 115.39 | 118.90 |
| 1 | 13 | 905 | U | N1-C2-O2 | 5.84 | 126.89 | 122.80 |
| 23 | 2K | 5 | G | N3-C2-N2 | 5.84 | 123.99 | 119.90 |
| 26 | 1H | 717 | G | N7-C8-N9 | 5.84 | 116.02 | 113.10 |
| 26 | 1H | 725 | G | N9-C4-C5 | -5.84 | 103.06 | 105.40 |
| 26 | 1H | 1037 | G | N9-C4-C5 | -5.84 | 103.06 | 105.40 |
| 26 | 1H | 2390 | U | C4-C5-C6 | 5.84 | 123.21 | 119.70 |
| 1 | 1G | 312 | C | N1-C2-N3 | 5.84 | 123.29 | 119.20 |
| 1 | 1G | 581 | G | N1-C6-O6 | 5.84 | 123.41 | 119.90 |
| 26 | 14 | 1021 | A | N7-C8-N9 | 5.84 | 116.72 | 113.80 |
| 26 | 14 | 1296 | G | C8-N9-C4 | 5.84 | 108.74 | 106.40 |
| 26 | 14 | 1407 | C | N3-C4-N4 | 5.84 | 122.09 | 118.00 |
| 26 | 14 | 1560 | G | O5'-P-OP1 | -5.84 | 100.44 | 105.70 |
| 26 | 14 | 2265 | U | N3-C4-O4 | 5.84 | 123.49 | 119.40 |
| 26 | 1H | 220 | G | C6-N1-C2 | -5.84 | 121.59 | 125.10 |
| 26 | 1H | 1980 | G | N3-C4-C5 | -5.84 | 125.68 | 128.60 |
| 49 | J8 | 41 | ARG | NE-CZ-NH2 | -5.84 | 117.38 | 120.30 |
| 26 | 14 | 801 | G | O5'-P-OP1 | 5.84 | 117.71 | 110.70 |
| 26 | 14 | 2428 | G | OP1-P-O3' | 5.84 | 118.06 | 105.20 |
| 1 | 13 | 913 | A | N9-C4-C5 | 5.84 | 108.14 | 105.80 |
| 1 | 13 | 1056 | U | N3-C4-C5 | -5.84 | 111.09 | 114.60 |
| 26 | 1H | 39 | C | C5-C4-N4 | -5.84 | 116.11 | 120.20 |
| 26 | 1H | 759 | G | C8-N9-C4 | -5.84 | 104.06 | 106.40 |
| 26 | 1H | 908 | C | C6-N1-C2 | 5.84 | 122.64 | 120.30 |
| 26 | 1H | 1869 | G | C6-C5-N7 | -5.84 | 126.89 | 130.40 |
| 26 | 1H | 2084 | C | C6-N1-C2 | 5.84 | 122.64 | 120.30 |
| 26 | 1H | 2357 | U | C2-N3-C4 | 5.84 | 130.50 | 127.00 |
| 1 | 1G | 260 | G | C5-C6-N1 | -5.84 | 108.58 | 111.50 |
| 1 | 1G | 300 | A | C2-N3-C4 | -5.84 | 107.68 | 110.60 |
| 26 | 14 | 479 | A | C4-C5-N7 | -5.84 | 107.78 | 110.70 |
| 26 | 14 | 1043 | C | C5-C6-N1 | 5.84 | 123.92 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1238 | G | N1-C6-O6 | 5.84 | 123.41 | 119.90 |
| 26 | 14 | 1819 | A | C4-C5-C6 | 5.84 | 119.92 | 117.00 |
| 1 | 13 | 323 | U | OP2-P-O3' | 5.84 | 118.05 | 105.20 |
| 1 | 13 | 541 | G | OP1-P-O3' | 5.84 | 118.05 | 105.20 |
| 1 | 13 | 1435 | G | N9-C4-C5 | -5.84 | 103.06 | 105.40 |
| 26 | 1H | 746 | A | N9-C4-C5 | 5.84 | 108.14 | 105.80 |
| 26 | 1H | 936 | C | C5-C4-N4 | -5.84 | 116.11 | 120.20 |
| 26 | 1H | 1520 | U | C5-C6-N1 | 5.84 | 125.62 | 122.70 |
| 26 | 1H | 1601 | G | C5-C6-O6 | 5.84 | 132.10 | 128.60 |
| 26 | 1H | 2025 | C | C2-N1-C1' | 5.84 | 125.22 | 118.80 |
| 26 | 1H | 2307 | G | C5-C6-O6 | -5.84 | 125.10 | 128.60 |
| 27 | 16 | 72 | G | C5-C6-O6 | 5.84 | 132.10 | 128.60 |
| 1 | 1G | 175 | C | C6-N1-C2 | 5.84 | 122.64 | 120.30 |
| 1 | 1G | 963 | G | N3-C4-N9 | 5.84 | 129.50 | 126.00 |
| 26 | 14 | 571 | A | N3-C4-N9 | 5.84 | 132.07 | 127.40 |
| 26 | 14 | 1636 | C | C4-C5-C6 | -5.84 | 114.48 | 117.40 |
| 26 | 14 | 1904 | G | N3-C4-C5 | -5.84 | 125.68 | 128.60 |
| 26 | 14 | 2728 | U | N3-C4-O4 | 5.84 | 123.49 | 119.40 |
| 1 | 13 | 5 | U | C5-C4-O4 | -5.84 | 122.40 | 125.90 |
| 1 | 13 | 1189 | C | C6-N1-C2 | 5.84 | 122.64 | 120.30 |
| 1 | 13 | 1252 | A | N9-C4-C5 | 5.84 | 108.14 | 105.80 |
| 10 | 1I | 16 | LEU | CA-CB-CG | 5.84 | 128.73 | 115.30 |
| 26 | 1H | 1571 | A | C5-N7-C8 | 5.84 | 106.82 | 103.90 |
| 26 | 1H | 1779 | U | C5-C4-O4 | -5.84 | 122.40 | 125.90 |
| 1 | 1G | 1523 | G | C2-N3-C4 | -5.84 | 108.98 | 111.90 |
| 26 | 14 | 395 | U | C6-N1-C2 | 5.84 | 124.50 | 121.00 |
| 26 | 14 | 1440 | G | C8-N9-C4 | 5.84 | 108.73 | 106.40 |
| 26 | 14 | 2563 | U | C5-C4-O4 | 5.84 | 129.40 | 125.90 |
| 1 | 13 | 812 | C | C2-N3-C4 | -5.84 | 116.98 | 119.90 |
| 26 | 1H | 289 | A | C2-N3-C4 | -5.84 | 107.68 | 110.60 |
| 26 | 1H | 718 | A | C2-N3-C4 | -5.84 | 107.68 | 110.60 |
| 26 | 1H | 1220 | A | N1-C2-N3 | 5.84 | 132.22 | 129.30 |
| 27 | 16 | 50 | G | N1-C6-O6 | 5.84 | 123.40 | 119.90 |
| 1 | 1G | 403 | C | O5'-P-OP2 | -5.84 | 100.45 | 105.70 |
| 1 | 1G | 1301 | U | OP1-P-O3' | 5.84 | 118.04 | 105.20 |
| 26 | 14 | 211 | A | OP1-P-OP2 | 5.84 | 128.35 | 119.60 |
| 26 | 14 | 428 | A | C5-C6-N1 | 5.84 | 120.62 | 117.70 |
| 26 | 14 | 1326 | U | N1-C2-O2 | -5.84 | 118.72 | 122.80 |
| 26 | 14 | 2062 | A | C4-N9-C1' | -5.84 | 115.80 | 126.30 |
| 27 | 1J | 37 | C | OP1-P-OP2 | -5.84 | 110.85 | 119.60 |
| 1 | 13 | 1305 | G | C8-N9-C4 | -5.83 | 104.07 | 106.40 |
| 26 | 1H | 48 | G | OP1-P-OP2 | 5.83 | 128.35 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 1211 | U | OP1-P-OP2 | -5.83 | 110.85 | 119.60 |
| 1 | 1G | 286 | G | C5-C6-O6 | 5.83 | 132.10 | 128.60 |
| 1 | 1G | 868 | C | C5-C6-N1 | 5.83 | 123.92 | 121.00 |
| 26 | 14 | 789 | A | O5'-P-OP2 | 5.83 | 117.70 | 110.70 |
| 1 | 13 | 108 | G | C5-N7-C8 | -5.83 | 101.38 | 104.30 |
| 1 | 13 | 389 | A | OP1-P-O3' | 5.83 | 118.03 | 105.20 |
| 1 | 13 | 1221 | G | C4-C5-N7 | -5.83 | 108.47 | 110.80 |
| 26 | 1H | 830 | G | N9-C4-C5 | 5.83 | 107.73 | 105.40 |
| 26 | 1H | 921 | G | N3-C4-C5 | -5.83 | 125.68 | 128.60 |
| 26 | 1H | 1028 | A | N1-C6-N6 | -5.83 | 115.10 | 118.60 |
| 26 | 1H | 1125 | G | C2-N3-C4 | -5.83 | 108.98 | 111.90 |
| 26 | 1H | 1200 | C | N1-C2-O2 | -5.83 | 115.40 | 118.90 |
| 26 | 1H | 1640 | C | N1-C2-O2 | 5.83 | 122.40 | 118.90 |
| 26 | 1H | 1993 | U | OP1-P-OP2 | 5.83 | 128.35 | 119.60 |
| 26 | 1H | 2392 | A | C5-C6-N6 | 5.83 | 128.37 | 123.70 |
| 31 | 31 | 162 | LEU | CB-CG-CD1 | 5.83 | 120.92 | 111.00 |
| 1 | 1G | 295 | C | N3-C4-C5 | -5.83 | 119.57 | 121.90 |
| 1 | 1G | 717 | C | N3-C4-C5 | 5.83 | 124.23 | 121.90 |
| 1 | 1G | 736 | C | N3-C4-C5 | -5.83 | 119.57 | 121.90 |
| 26 | 14 | 270(S) | G | C5-C6-N1 | -5.83 | 108.58 | 111.50 |
| 26 | 14 | 439 | G | C5-C6-O6 | -5.83 | 125.10 | 128.60 |
| 26 | 14 | 1267 | U | OP2-P-O3' | 5.83 | 118.03 | 105.20 |
| 26 | 14 | 1273 | U | C5-C6-N1 | -5.83 | 119.78 | 122.70 |
| 26 | 14 | 1703 | G | N1-C6-O6 | 5.83 | 123.40 | 119.90 |
| 1 | 13 | 726 | C | O5'-P-OP2 | 5.83 | 117.70 | 110.70 |
| 1 | 13 | 804 | U | N3-C2-O2 | -5.83 | 118.12 | 122.20 |
| 26 | 1H | 69 | C | N3-C4-N4 | -5.83 | 113.92 | 118.00 |
| 26 | 1H | 114 | U | N3-C2-O2 | 5.83 | 126.28 | 122.20 |
| 26 | 1H | 613 | U | O4'-C1'-N1 | 5.83 | 112.87 | 108.20 |
| 26 | 1H | 996 | A | C6-N1-C2 | -5.83 | 115.10 | 118.60 |
| 26 | 1H | 1635 | G | C6-C5-N7 | -5.83 | 126.90 | 130.40 |
| 45 | F8 | 60 | ARG | NE-CZ-NH2 | 5.83 | 123.22 | 120.30 |
| 1 | 1G | 1277 | C | N3-C4-C5 | -5.83 | 119.57 | 121.90 |
| 26 | 14 | 630 | G | C5-N7-C8 | 5.83 | 107.22 | 104.30 |
| 26 | 14 | 1283 | G | C4-N9-C1' | 5.83 | 134.08 | 126.50 |
| 26 | 14 | 1331 | A | C6-N1-C2 | -5.83 | 115.10 | 118.60 |
| 26 | 14 | 1374 | G | N3-C4-C5 | -5.83 | 125.69 | 128.60 |
| 26 | 14 | 1784 | A | C5-C6-N1 | 5.83 | 120.62 | 117.70 |
| 1 | 13 | 297 | G | N7-C8-N9 | 5.83 | 116.02 | 113.10 |
| 1 | 13 | 1497 | G | C2-N3-C4 | 5.83 | 114.81 | 111.90 |
| 23 | 2K | 9 | G | N1-C2-N2 | 5.83 | 121.45 | 116.20 |
| 26 | 1H | 957 | A | O5'-P-OP1 | -5.83 | 100.45 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2412 | A | O5'-P-OP2 | -5.83 | 100.45 | 105.70 |
| 26 | 1H | 2878 | U | C5-C6-N1 | 5.83 | 125.61 | 122.70 |
| 1 | 1G | 394 | G | N9-C4-C5 | 5.83 | 107.73 | 105.40 |
| 26 | 14 | 831 | G | N1-C6-O6 | -5.83 | 116.40 | 119.90 |
| 26 | 14 | 2762 | G | N7-C8-N9 | 5.83 | 116.02 | 113.10 |
| 26 | 14 | 2784 | C | C5-C4-N4 | -5.83 | 116.12 | 120.20 |
| 1 | 13 | 137 | C | N3-C2-O2 | 5.83 | 125.98 | 121.90 |
| 22 | 1K | 33 | U | O5'-P-OP2 | -5.83 | 100.45 | 105.70 |
| 23 | 2K | 40 | C | C2-N1-C1' | 5.83 | 125.21 | 118.80 |
| 24 | 3K | 31 | A | C8-N9-C4 | -5.83 | 103.47 | 105.80 |
| 26 | 1H | 765 | G | N3-C4-C5 | 5.83 | 131.51 | 128.60 |
| 26 | 1H | 768 | G | O5'-P-OP1 | -5.83 | 100.45 | 105.70 |
| 26 | 1H | 966 | G | N3-C2-N2 | 5.83 | 123.98 | 119.90 |
| 26 | 1H | 1669 | A | C6-N1-C2 | -5.83 | 115.10 | 118.60 |
| 26 | 1H | 2532 | G | C2-N3-C4 | -5.83 | 108.99 | 111.90 |
| 26 | 1H | 2605 | U | N3-C2-O2 | -5.83 | 118.12 | 122.20 |
| 26 | 14 | 1630 | G | N1-C6-O6 | -5.83 | 116.40 | 119.90 |
| 26 | 14 | 1779 | U | N3-C4-C5 | 5.83 | 118.10 | 114.60 |
| 26 | 14 | 2256 | G | N1-C2-N3 | 5.83 | 127.40 | 123.90 |
| 26 | 14 | 2619 | C | OP1-P-O3' | 5.83 | 118.02 | 105.20 |
| 26 | 14 | 2724 | C | N1-C2-O2 | -5.83 | 115.40 | 118.90 |
| 1 | 13 | 223 | U | C6-N1-C2 | -5.83 | 117.50 | 121.00 |
| 1 | 1G | 352 | C | C6-N1-C2 | -5.83 | 117.97 | 120.30 |
| 1 | 1G | 548 | G | N3-C4-C5 | -5.83 | 125.69 | 128.60 |
| 57 | 3L | 70 | C | N3-C2-O2 | -5.83 | 117.82 | 121.90 |
| 26 | 14 | 389 | G | N1-C6-O6 | -5.83 | 116.40 | 119.90 |
| 26 | 14 | 859 | G | OP2-P-O3' | 5.83 | 118.02 | 105.20 |
| 26 | 14 | 1193 | G | OP1-P-O3' | 5.83 | 118.02 | 105.20 |
| 29 | 19 | 49 | ILE | CG1-CB-CG2 | -5.83 | 98.58 | 111.40 |
| 1 | 13 | 395 | C | O5'-P-OP1 | -5.83 | 100.46 | 105.70 |
| 1 | 13 | 721 | G | O5'-P-OP2 | -5.83 | 100.46 | 105.70 |
| 1 | 13 | 1223 | C | OP1-P-OP2 | -5.83 | 110.86 | 119.60 |
| 1 | 13 | 1249 | C | N3-C2-O2 | 5.83 | 125.98 | 121.90 |
| 26 | 1H | 132 | G | C4-N9-C1' | 5.83 | 134.07 | 126.50 |
| 26 | 1H | 239 | U | OP1-P-OP2 | 5.83 | 128.34 | 119.60 |
| 26 | 1H | 611 | C | N3-C4-C5 | 5.83 | 124.23 | 121.90 |
| 26 | 1H | 764 | A | O5'-P-OP1 | 5.83 | 117.69 | 110.70 |
| 26 | 1H | 1264 | G | OP1-P-OP2 | 5.83 | 128.34 | 119.60 |
| 26 | 1H | 2553 | G | C5-C6-N1 | 5.83 | 114.41 | 111.50 |
| 26 | 1H | 2623 | G | C2-N3-C4 | 5.83 | 114.81 | 111.90 |
| 26 | 1H | 2785 | C | N3-C4-C5 | -5.83 | 119.57 | 121.90 |
| 27 | 16 | 78 | A | O5'-P-OP1 | 5.83 | 117.69 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 250 | G | OP1-P-OP2 | 5.83 | 128.34 | 119.60 |
| 26 | 14 | 919 | G | C4-C5-C6 | 5.83 | 122.30 | 118.80 |
| 26 | 14 | 2494 | G | C4-C5-N7 | -5.83 | 108.47 | 110.80 |
| 23 | 2K | 29 | C | OP2-P-O3' | 5.82 | 118.01 | 105.20 |
| 26 | 1H | 139 | G | C2-N3-C4 | 5.82 | 114.81 | 111.90 |
| 26 | 1H | 211 | A | C4-C5-C6 | 5.82 | 119.91 | 117.00 |
| 26 | 1H | 473 | G | OP1-P-OP2 | 5.82 | 128.34 | 119.60 |
| 26 | 1H | 1278 | A | N9-C4-C5 | 5.82 | 108.13 | 105.80 |
| 26 | 1H | 1557 | C | N3-C4-C5 | 5.82 | 124.23 | 121.90 |
| 26 | 1H | 1580 | A | C8-N9-C4 | 5.82 | 108.13 | 105.80 |
| 26 | 1H | 1671 | U | N3-C2-O2 | 5.82 | 126.28 | 122.20 |
| 26 | 1H | 1907 | G | C4-C5-N7 | -5.82 | 108.47 | 110.80 |
| 26 | 1H | 2427 | C | C6-N1-C2 | -5.82 | 117.97 | 120.30 |
| 1 | 1G | 122 | G | N3-C2-N2 | -5.82 | 115.82 | 119.90 |
| 1 | 1G | 191(F) | U | C5-C6-N1 | 5.82 | 125.61 | 122.70 |
| 1 | 1G | 263 | A | C2-N3-C4 | -5.82 | 107.69 | 110.60 |
| 26 | 14 | 570 | G | C6-C5-N7 | -5.82 | 126.91 | 130.40 |
| 26 | 14 | 921 | G | N1-C2-N2 | 5.82 | 121.44 | 116.20 |
| 26 | 14 | 1777 | U | O5'-P-OP1 | -5.82 | 100.46 | 105.70 |
| 26 | 14 | 1780 | A | C4-C5-N7 | -5.82 | 107.79 | 110.70 |
| 26 | 14 | 2238 | G | C6-C5-N7 | 5.82 | 133.89 | 130.40 |
| 1 | 13 | 1367 | C | OP1-P-OP2 | 5.82 | 128.33 | 119.60 |
| 1 | 13 | 1403 | C | C5-C4-N4 | 5.82 | 124.28 | 120.20 |
| 26 | 1H | 989 | G | O5'-P-OP1 | -5.82 | 100.46 | 105.70 |
| 26 | 1H | 1224 | G | C2-N3-C4 | 5.82 | 114.81 | 111.90 |
| 26 | 1H | 1303 | G | OP1-P-OP2 | 5.82 | 128.33 | 119.60 |
| 1 | 1G | 47 | C | N1-C2-N3 | 5.82 | 123.28 | 119.20 |
| 1 | 1G | 333 | G | C5-C6-O6 | 5.82 | 132.09 | 128.60 |
| 26 | 14 | 1645 | G | N1-C2-N2 | -5.82 | 110.96 | 116.20 |
| 26 | 14 | 2081 | C | C5-C4-N4 | 5.82 | 124.28 | 120.20 |
| 1 | 13 | 416 | G | N3-C2-N2 | -5.82 | 115.83 | 119.90 |
| 1 | 13 | 760 | G | C4-C5-C6 | 5.82 | 122.29 | 118.80 |
| 1 | 13 | 774 | G | C4-C5-N7 | 5.82 | 113.13 | 110.80 |
| 1 | 13 | 934 | C | N1-C2-N3 | 5.82 | 123.28 | 119.20 |
| 1 | 13 | 1285 | A | P-O3'-C3' | 5.82 | 126.69 | 119.70 |
| 1 | 13 | 1397 | C | OP2-P-O3' | 5.82 | 118.00 | 105.20 |
| 1 | 13 | 1487 | G | C2-N3-C4 | -5.82 | 108.99 | 111.90 |
| 26 | 1H | 65 | C | N1-C2-O2 | 5.82 | 122.39 | 118.90 |
| 26 | 1H | 776 | G | C4-N9-C1' | 5.82 | 134.07 | 126.50 |
| 26 | 1H | 924 | C | C2-N3-C4 | -5.82 | 116.99 | 119.90 |
| 26 | 1H | 1248 | G | O5'-P-OP2 | 5.82 | 117.68 | 110.70 |
| 26 | 1H | 1253 | A | C4-C5-N7 | 5.82 | 113.61 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1324 | G | C4-C5-C6 | 5.82 | 122.29 | 118.80 |
| 26 | 1H | 1816 | G | N1-C2-N2 | 5.82 | 121.44 | 116.20 |
| 26 | 1H | 2569 | G | C4-N9-C1' | 5.82 | 134.07 | 126.50 |
| 26 | 1H | 2740 | A | C5-C6-N6 | -5.82 | 119.04 | 123.70 |
| 27 | 16 | 99 | A | C5-C6-N1 | 5.82 | 120.61 | 117.70 |
| 1 | 1G | 38 | G | OP1-P-O3' | 5.82 | 118.01 | 105.20 |
| 1 | 1G | 1438 | G | N3-C2-N2 | -5.82 | 115.83 | 119.90 |
| 26 | 14 | 2777 | G | N7-C8-N9 | -5.82 | 110.19 | 113.10 |
| 26 | 1H | 312 | G | OP2-P-O3' | 5.82 | 118.00 | 105.20 |
| 26 | 1H | 1528 | A | C5-C6-N1 | -5.82 | 114.79 | 117.70 |
| 26 | 1H | 1910 | G | C4-C5-N7 | -5.82 | 108.47 | 110.80 |
| 26 | 1H | 2310 | A | C2-N3-C4 | 5.82 | 113.51 | 110.60 |
| 26 | 1H | 2485 | G | N3-C4-N9 | 5.82 | 129.49 | 126.00 |
| 27 | 16 | 72 | G | O5'-P-OP2 | -5.82 | 100.46 | 105.70 |
| 1 | 1G | 184 | G | N7-C8-N9 | 5.82 | 116.01 | 113.10 |
| 23 | 2K | 39 | A | C5-C6-N1 | 5.82 | 120.61 | 117.70 |
| 24 | 3K | 44 | U | C6-N1-C2 | -5.82 | 117.51 | 121.00 |
| 26 | 1H | 228 | A | C4-C5-N7 | 5.82 | 113.61 | 110.70 |
| 26 | 1H | 266 | G | N3-C4-N9 | 5.82 | 129.49 | 126.00 |
| 26 | 1H | 569 | U | N3-C4-C5 | 5.82 | 118.09 | 114.60 |
| 26 | 1H | 1248 | G | C6-N1-C2 | 5.82 | 128.59 | 125.10 |
| 26 | 1H | 1449(A) | G | C5-C6-N1 | -5.82 | 108.59 | 111.50 |
| 26 | 1H | 1637 | A | N3-C4-C5 | -5.82 | 122.73 | 126.80 |
| 26 | 1H | 1938 | A | C6-N1-C2 | -5.82 | 115.11 | 118.60 |
| 26 | 1H | 2712(A) | A | C6-C5-N7 | -5.82 | 128.23 | 132.30 |
| 1 | 1G | 222 | U | O5'-P-OP2 | -5.82 | 100.46 | 105.70 |
| 1 | 1G | 903 | G | C4-C5-N7 | 5.82 | 113.13 | 110.80 |
| 26 | 14 | 292 | C | C5-C6-N1 | -5.82 | 118.09 | 121.00 |
| 26 | 14 | 454 | A | N7-C8-N9 | -5.82 | 110.89 | 113.80 |
| 26 | 14 | 513 | A | OP2-P-O3' | 5.82 | 118.00 | 105.20 |
| 26 | 14 | 756 | C | O5'-P-OP1 | -5.82 | 100.47 | 105.70 |
| 26 | 14 | 1684 | C | N3-C2-O2 | 5.82 | 125.97 | 121.90 |
| 26 | 14 | 1761 | C | N3-C2-O2 | 5.82 | 125.97 | 121.90 |
| 26 | 14 | 1785 | A | C4-C5-C6 | 5.82 | 119.91 | 117.00 |
| 26 | 14 | 2042 | A | N3-C4-C5 | 5.82 | 130.87 | 126.80 |
| 26 | 14 | 2508 | G | N7-C8-N9 | 5.82 | 116.01 | 113.10 |
| 26 | 14 | 2707 | G | N1-C6-O6 | 5.82 | 123.39 | 119.90 |
| 26 | 14 | 2725 | A | C2-N3-C4 | -5.82 | 107.69 | 110.60 |
| 1 | 13 | 1525 | G | N3-C4-C5 | 5.82 | 131.51 | 128.60 |
| 26 | 1H | 25 | U | O5'-P-OP1 | -5.82 | 100.47 | 105.70 |
| 26 | 1H | 282 | A | N9-C4-C5 | 5.82 | 108.13 | 105.80 |
| 26 | 1H | 710 | G | N1-C2-N3 | 5.82 | 127.39 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 739 | G | N3-C4-N9 | -5.82 | 122.51 | 126.00 |
| 26 | 1H | 2326 | C | C6-N1-C2 | -5.82 | 117.97 | 120.30 |
| 26 | 1H | 2372 | G | N1-C2-N3 | 5.82 | 127.39 | 123.90 |
| 26 | 1H | 2561 | A | C4-C5-N7 | -5.82 | 107.79 | 110.70 |
| 1 | 1G | 922 | G | N9-C4-C5 | 5.82 | 107.73 | 105.40 |
| 26 | 14 | 324 | A | C2-N3-C4 | -5.82 | 107.69 | 110.60 |
| 26 | 14 | 802 | A | N1-C2-N3 | 5.82 | 132.21 | 129.30 |
| 26 | 14 | 1295 | C | C2-N1-C1' | -5.82 | 112.40 | 118.80 |
| 26 | 14 | 1368 | G | C5-C6-O6 | 5.82 | 132.09 | 128.60 |
| 26 | 14 | 1610 | A | C5-C6-N6 | -5.82 | 119.05 | 123.70 |
| 26 | 14 | 1786 | A | C4-C5-C6 | 5.82 | 119.91 | 117.00 |
| 26 | 14 | 2365 | G | N1-C2-N2 | -5.82 | 110.97 | 116.20 |
| 1 | 13 | 1297 | C | O5'-P-OP2 | -5.81 | 100.47 | 105.70 |
| 24 | 3K | 35 | U | C6-N1-C2 | -5.81 | 117.51 | 121.00 |
| 26 | 1H | 2692 | C | N1-C2-O2 | 5.81 | 122.39 | 118.90 |
| 26 | 14 | 647 | G | C5-C6-O6 | -5.81 | 125.11 | 128.60 |
| 26 | 14 | 812 | C | C4-C5-C6 | 5.81 | 120.31 | 117.40 |
| 26 | 14 | 1259 | G | O5'-P-OP2 | 5.81 | 117.68 | 110.70 |
| 1 | 13 | 50 | A | O5'-P-OP2 | -5.81 | 100.47 | 105.70 |
| 1 | 13 | 1336 | C | P-O3'-C3' | 5.81 | 126.67 | 119.70 |
| 26 | 1H | 861 | A | C4-C5-C6 | 5.81 | 119.91 | 117.00 |
| 26 | 1H | 1196 | C | OP1-P-O3' | -5.81 | 92.41 | 105.20 |
| 26 | 1H | 1918 | A | C6-C5-N7 | 5.81 | 136.37 | 132.30 |
| 26 | 1H | 2068 | U | N3-C2-O2 | -5.81 | 118.13 | 122.20 |
| 26 | 1H | 2217 | G | C5-C6-N1 | -5.81 | 108.59 | 111.50 |
| 26 | 1H | 2436 | G | N9-C4-C5 | 5.81 | 107.72 | 105.40 |
| 26 | 1H | 2597 | G | C4-C5-N7 | 5.81 | 113.12 | 110.80 |
| 1 | 1G | 690 | G | N3-C2-N2 | -5.81 | 115.83 | 119.90 |
| 1 | 1G | 1508 | G | C4-C5-N7 | -5.81 | 108.47 | 110.80 |
| 26 | 14 | 247 | G | C6-N1-C2 | 5.81 | 128.59 | 125.10 |
| 26 | 14 | 318 | C | N3-C4-C5 | 5.81 | 124.22 | 121.90 |
| 26 | 14 | 531 | C | N3-C4-N4 | 5.81 | 122.07 | 118.00 |
| 26 | 14 | 577 | G | O5'-P-OP2 | 5.81 | 117.67 | 110.70 |
| 26 | 14 | 803 | U | O5'-P-OP1 | 5.81 | 117.67 | 110.70 |
| 26 | 14 | 1005 | C | N1-C2-O2 | 5.81 | 122.39 | 118.90 |
| 26 | 14 | 1165 | U | OP1-P-OP2 | 5.81 | 128.32 | 119.60 |
| 26 | 14 | 1757 | U | C6-N1-C2 | 5.81 | 124.49 | 121.00 |
| 26 | 14 | 2085 | C | C2-N3-C4 | -5.81 | 116.99 | 119.90 |
| 26 | 14 | 2619 | C | O5'-P-OP2 | -5.81 | 100.47 | 105.70 |
| 1 | 13 | 37 | U | OP1-P-O3' | 5.81 | 117.98 | 105.20 |
| 26 | 1H | 80 | G | C5-C6-O6 | 5.81 | 132.09 | 128.60 |
| 26 | 1H | 131 | G | C6-N1-C2 | -5.81 | 121.61 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 468 | G | N9-C1'-C2' | -5.81 | 105.61 | 112.00 |
| 26 | 1H | 530 | G | C4-C5-C6 | -5.81 | 115.31 | 118.80 |
| 26 | 1H | 1203 | G | C8-N9-C4 | -5.81 | 104.08 | 106.40 |
| 26 | 1H | 1698 | A | O4'-C1'-N9 | 5.81 | 112.85 | 108.20 |
| 26 | 14 | 235 | U | OP1-P-OP2 | -5.81 | 110.88 | 119.60 |
| 26 | 14 | 297 | C | C4-C5-C6 | 5.81 | 120.31 | 117.40 |
| 26 | 14 | 646 | A | OP1-P-O3' | 5.81 | 117.98 | 105.20 |
| 26 | 14 | 1344 | G | C5-C6-N1 | -5.81 | 108.59 | 111.50 |
| 26 | 14 | 1933 | G | O5'-P-OP2 | -5.81 | 100.47 | 105.70 |
| 26 | 14 | 2266 | A | C6-N1-C2 | -5.81 | 115.11 | 118.60 |
| 1 | 13 | 243 | A | C6-N1-C2 | -5.81 | 115.11 | 118.60 |
| 1 | 13 | 324 | G | N7-C8-N9 | 5.81 | 116.00 | 113.10 |
| 1 | 13 | 490 | G | C8-N9-C4 | 5.81 | 108.72 | 106.40 |
| 1 | 13 | 520 | A | C8-N9-C4 | 5.81 | 108.12 | 105.80 |
| 1 | 13 | 1408 | A | C5-N7-C8 | -5.81 | 101.00 | 103.90 |
| 26 | 1H | 801 | G | C6-N1-C2 | -5.81 | 121.61 | 125.10 |
| 26 | 1H | 876 | C | C5-C4-N4 | -5.81 | 116.13 | 120.20 |
| 26 | 1H | 1825 | A | N1-C2-N3 | 5.81 | 132.21 | 129.30 |
| 26 | 1H | 2042 | A | C5-C6-N6 | 5.81 | 128.35 | 123.70 |
| 26 | 1H | 2216 | G | N3-C2-N2 | -5.81 | 115.83 | 119.90 |
| 1 | 1G | 425 | G | O5'-P-OP1 | -5.81 | 100.47 | 105.70 |
| 1 | 1G | 808 | C | N3-C4-C5 | -5.81 | 119.58 | 121.90 |
| 26 | 14 | 396 | G | C8-N9-C4 | -5.81 | 104.08 | 106.40 |
| 26 | 14 | 692 | C | N1-C2-O2 | -5.81 | 115.41 | 118.90 |
| 26 | 14 | 793 | A | N3-C4-C5 | 5.81 | 130.87 | 126.80 |
| 26 | 14 | 1165 | U | C5-C4-O4 | 5.81 | 129.38 | 125.90 |
| 26 | 14 | 1280 | G | C6-N1-C2 | 5.81 | 128.59 | 125.10 |
| 26 | 14 | 1323 | U | C5-C4-O4 | -5.81 | 122.41 | 125.90 |
| 26 | 14 | 1633 | G | OP1-P-OP2 | 5.81 | 128.31 | 119.60 |
| 26 | 14 | 2325 | G | C8-N9-C4 | -5.81 | 104.08 | 106.40 |
| 27 | 1J | 11 | C | N1-C2-O2 | 5.81 | 122.39 | 118.90 |
| 32 | 49 | 34 | LEU | CA-CB-CG | 5.81 | 128.66 | 115.30 |
| 26 | 1H | 403 | U | N3-C2-O2 | -5.81 | 118.14 | 122.20 |
| 26 | 1H | 979 | G | N9-C4-C5 | 5.81 | 107.72 | 105.40 |
| 26 | 1H | 1008 | C | N3-C4-C5 | 5.81 | 124.22 | 121.90 |
| 26 | 1H | 1144 | G | N1-C2-N2 | 5.81 | 121.43 | 116.20 |
| 26 | 1H | 1215 | G | C4-C5-N7 | 5.81 | 113.12 | 110.80 |
| 26 | 1H | 1391 | U | C4-C5-C6 | 5.81 | 123.19 | 119.70 |
| 26 | 1H | 1930 | G | N7-C8-N9 | -5.81 | 110.20 | 113.10 |
| 26 | 1H | 2032 | G | N3-C2-N2 | -5.81 | 115.83 | 119.90 |
| 26 | 1H | 2071 | A | C5-C6-N6 | -5.81 | 119.06 | 123.70 |
| 26 | 1H | 2306 | C | OP1-P-OP2 | -5.81 | 110.89 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 518 | G | N1-C2-N2 | -5.81 | 110.97 | 116.20 |
| 26 | 14 | 1697 | G | N3-C4-N9 | -5.81 | 122.52 | 126.00 |
| 26 | 14 | 1770 | G | N1-C2-N2 | 5.81 | 121.43 | 116.20 |
| 26 | 14 | 1771 | C | OP1-P-O3' | 5.81 | 117.98 | 105.20 |
| 26 | 14 | 2264 | C | C5-C6-N1 | 5.81 | 123.90 | 121.00 |
| 26 | 14 | 2581 | G | C8-N9-C4 | -5.81 | 104.08 | 106.40 |
| 1 | 13 | 853 | G | N7-C8-N9 | -5.81 | 110.20 | 113.10 |
| 1 | 13 | 1129 | C | C5-C6-N1 | 5.81 | 123.90 | 121.00 |
| 26 | 1H | 192 | C | O5'-P-OP2 | 5.81 | 117.67 | 110.70 |
| 26 | 1H | 1773 | A | O5'-P-OP2 | -5.81 | 100.47 | 105.70 |
| 26 | 1H | 2239 | G | C8-N9-C4 | 5.81 | 108.72 | 106.40 |
| 26 | 1H | 2469 | A | N9-C4-C5 | -5.81 | 103.48 | 105.80 |
| 26 | 1H | 2651 | C | N1-C2-N3 | 5.81 | 123.26 | 119.20 |
| 1 | 1G | 1347 | G | C4-C5-N7 | 5.81 | 113.12 | 110.80 |
| 26 | 14 | 1321 | A | C5-C6-N6 | -5.81 | 119.06 | 123.70 |
| 1 | 13 | 884 | U | C2-N1-C1' | -5.80 | 110.73 | 117.70 |
| 1 | 13 | 1302 | U | N1-C2-N3 | 5.80 | 118.38 | 114.90 |
| 25 | 4K | 19 | A | C4-C5-C6 | 5.80 | 119.90 | 117.00 |
| 26 | 1H | 134 | C | N3-C2-O2 | -5.80 | 117.84 | 121.90 |
| 26 | 1H | 315 | G | N3-C4-C5 | 5.80 | 131.50 | 128.60 |
| 26 | 1H | 942 | G | C6-C5-N7 | 5.80 | 133.88 | 130.40 |
| 26 | 1H | 1145 | C | C6-N1-C2 | -5.80 | 117.98 | 120.30 |
| 26 | 1H | 1220 | A | N9-C4-C5 | 5.80 | 108.12 | 105.80 |
| 26 | 1H | 1769 | G | C5-C6-O6 | 5.80 | 132.08 | 128.60 |
| 26 | 1H | 2373 | G | C8-N9-C4 | 5.80 | 108.72 | 106.40 |
| 26 | 1H | 2582 | G | C2-N3-C4 | 5.80 | 114.80 | 111.90 |
| 37 | 78 | 26 | GLY | N-CA-C | -5.80 | 98.59 | 113.10 |
| 26 | 14 | 250 | G | OP1-P-O3' | 5.80 | 117.97 | 105.20 |
| 26 | 14 | 598 | G | N3-C2-N2 | -5.80 | 115.84 | 119.90 |
| 26 | 14 | 778 | G | C5-C6-O6 | 5.80 | 132.08 | 128.60 |
| 26 | 14 | 824 | A | OP1-P-O3' | 5.80 | 117.97 | 105.20 |
| 26 | 14 | 1377 | G | C8-N9-C4 | -5.80 | 104.08 | 106.40 |
| 26 | 14 | 2783 | G | N3-C4-C5 | 5.80 | 131.50 | 128.60 |
| 26 | 1H | 1303 | G | C5-N7-C8 | 5.80 | 107.20 | 104.30 |
| 26 | 1H | 2566 | A | C8-N9-C4 | 5.80 | 108.12 | 105.80 |
| 1 | 1G | 522 | C | N3-C4-N4 | -5.80 | 113.94 | 118.00 |
| 1 | 13 | 291 | C | C5-C4-N4 | 5.80 | 124.26 | 120.20 |
| 1 | 13 | 365 | U | N3-C4-C5 | -5.80 | 111.12 | 114.60 |
| 23 | 2K | 75 | C | OP1-P-O3' | 5.80 | 117.96 | 105.20 |
| 25 | 4K | 19 | A | C2-N3-C4 | -5.80 | 107.70 | 110.60 |
| 26 | 1H | 456 | C | OP1-P-O3' | 5.80 | 117.96 | 105.20 |
| 26 | 1H | 776 | G | C5-C6-N1 | -5.80 | 108.60 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1031 | G | C6-N1-C2 | -5.80 | 121.62 | 125.10 |
| 26 | 1H | 1140 | C | N1-C2-O2 | 5.80 | 122.38 | 118.90 |
| 26 | 1H | 1573 | G | C8-N9-C4 | 5.80 | 108.72 | 106.40 |
| 26 | 1H | 1927 | A | C4-C5-N7 | -5.80 | 107.80 | 110.70 |
| 26 | 1H | 1938 | A | N1-C6-N6 | 5.80 | 122.08 | 118.60 |
| 26 | 1H | 1962 | C | O4'-C1'-N1 | -5.80 | 103.56 | 108.20 |
| 26 | 1H | 2069 | G | C6-C5-N7 | -5.80 | 126.92 | 130.40 |
| 27 | 16 | 7 | G | N7-C8-N9 | -5.80 | 110.20 | 113.10 |
| 1 | 1G | 1442 | G | P-O3'-C3' | 5.80 | 126.66 | 119.70 |
| 57 | 3L | 76 | A | C2-N3-C4 | -5.80 | 107.70 | 110.60 |
| 26 | 14 | 379 | G | C4-C5-N7 | -5.80 | 108.48 | 110.80 |
| 26 | 14 | 1410 | G | N1-C2-N2 | -5.80 | 110.98 | 116.20 |
| 26 | 14 | 1786 | A | OP1-P-O3' | 5.80 | 117.96 | 105.20 |
| 26 | 14 | 1803 | A | N1-C2-N3 | -5.80 | 126.40 | 129.30 |
| 1 | 13 | 587 | G | N3-C2-N2 | -5.80 | 115.84 | 119.90 |
| 1 | 13 | 1054 | C | N3-C2-O2 | -5.80 | 117.84 | 121.90 |
| 1 | 13 | 1307 | U | N1-C2-O2 | 5.80 | 126.86 | 122.80 |
| 22 | 1K | 75 | C | C2-N3-C4 | -5.80 | 117.00 | 119.90 |
| 26 | 1H | 435 | C | C2-N3-C4 | 5.80 | 122.80 | 119.90 |
| 26 | 1H | 1230 | C | C5-C6-N1 | -5.80 | 118.10 | 121.00 |
| 26 | 1H | 1327 | C | N3-C4-C5 | -5.80 | 119.58 | 121.90 |
| 26 | 1H | 1372 | U | N1-C2-N3 | 5.80 | 118.38 | 114.90 |
| 26 | 1H | 1985 | G | C6-N1-C2 | -5.80 | 121.62 | 125.10 |
| 1 | 1G | 124 | G | C4-C5-N7 | -5.80 | 108.48 | 110.80 |
| 1 | 1G | 980 | C | N1-C2-O2 | 5.80 | 122.38 | 118.90 |
| 26 | 14 | 201 | C | N3-C4-C5 | 5.80 | 124.22 | 121.90 |
| 26 | 14 | 1816 | G | C5-N7-C8 | 5.80 | 107.20 | 104.30 |
| 26 | 1H | 242 | G | N3-C4-N9 | 5.80 | 129.48 | 126.00 |
| 26 | 1H | 1240 | U | N3-C2-O2 | 5.80 | 126.26 | 122.20 |
| 26 | 1H | 2676 | C | C6-N1-C2 | 5.80 | 122.62 | 120.30 |
| 1 | 1G | 55 | A | N7-C8-N9 | 5.80 | 116.70 | 113.80 |
| 1 | 1G | 1302 | U | N3-C2-O2 | -5.80 | 118.14 | 122.20 |
| 26 | 14 | 639 | U | N3-C4-O4 | -5.80 | 115.34 | 119.40 |
| 26 | 14 | 1197 | G | C8-N9-C4 | -5.80 | 104.08 | 106.40 |
| 26 | 14 | 1298 | C | N3-C4-N4 | 5.80 | 122.06 | 118.00 |
| 26 | 14 | 1500 | G | C6-C5-N7 | -5.80 | 126.92 | 130.40 |
| 26 | 14 | 1662 | C | C2-N3-C4 | -5.80 | 117.00 | 119.90 |
| 1 | 13 | 810 | C | C4-C5-C6 | 5.80 | 120.30 | 117.40 |
| 1 | 13 | 1408 | A | C5-C6-N1 | -5.80 | 114.80 | 117.70 |
| 1 | 13 | 1518 | A | OP2-P-O3' | 5.80 | 117.95 | 105.20 |
| 1 | 13 | 1531 | A | C8-N9-C4 | -5.80 | 103.48 | 105.80 |
| 26 | 1H | 487 | C | OP1-P-OP2 | 5.80 | 128.29 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1752 | C | C5-C4-N4 | -5.80 | 116.14 | 120.20 |
| 26 | 1H | 1781 | C | N1-C2-N3 | -5.80 | 115.14 | 119.20 |
| 26 | 1H | 1787 | A | C6-N1-C2 | 5.80 | 122.08 | 118.60 |
| 26 | 1H | 2379 | G | N1-C2-N2 | -5.80 | 110.98 | 116.20 |
| 26 | 1H | 2592 | G | N1-C2-N3 | 5.80 | 127.38 | 123.90 |
| 26 | 1H | 2706 | G | N1-C6-O6 | 5.80 | 123.38 | 119.90 |
| 26 | 1H | 2777 | G | N9-C4-C5 | 5.80 | 107.72 | 105.40 |
| 27 | 16 | 33 | G | C5-C6-N1 | 5.80 | 114.40 | 111.50 |
| 1 | 1G | 557 | G | C8-N9-C4 | 5.80 | 108.72 | 106.40 |
| 57 | 3L | 41 | A | N1-C6-N6 | -5.80 | 115.12 | 118.60 |
| 26 | 14 | 968 | G | OP1-P-O3' | 5.80 | 117.95 | 105.20 |
| 26 | 14 | 1685 | C | C5-C4-N4 | -5.80 | 116.14 | 120.20 |
| 26 | 14 | 1756 | G | N9-C4-C5 | 5.80 | 107.72 | 105.40 |
| 26 | 14 | 1831 | G | C6-N1-C2 | -5.80 | 121.62 | 125.10 |
| 26 | 14 | 1838 | C | C2-N3-C4 | 5.80 | 122.80 | 119.90 |
| 26 | 14 | 2463 | C | N1-C2-O2 | -5.80 | 115.42 | 118.90 |
| 27 | 1J | 56 | G | N1-C6-O6 | 5.80 | 123.38 | 119.90 |
| 1 | 13 | 722 | A | O5'-P-OP2 | 5.79 | 117.65 | 110.70 |
| 22 | 1K | 27 | G | N1-C6-O6 | -5.79 | 116.42 | 119.90 |
| 26 | 1H | 263 | C | C6-N1-C1' | -5.79 | 113.84 | 120.80 |
| 26 | 1H | 1122 | G | N3-C4-C5 | 5.79 | 131.50 | 128.60 |
| 26 | 1H | 1124 | C | C5-C6-N1 | -5.79 | 118.10 | 121.00 |
| 26 | 14 | 1470 | G | OP2-P-O3' | 5.79 | 117.95 | 105.20 |
| 1 | 13 | 266 | G | N7-C8-N9 | 5.79 | 116.00 | 113.10 |
| 26 | 1H | 942 | G | C2-N3-C4 | 5.79 | 114.80 | 111.90 |
| 26 | 1H | 1272 | A | C8-N9-C4 | -5.79 | 103.48 | 105.80 |
| 26 | 1H | 1808 | U | N3-C2-O2 | 5.79 | 126.26 | 122.20 |
| 1 | 1G | 866 | C | C5-C6-N1 | 5.79 | 123.90 | 121.00 |
| 1 | 1G | 890 | G | C6-C5-N7 | 5.79 | 133.88 | 130.40 |
| 26 | 14 | 934 | G | C5-N7-C8 | 5.79 | 107.20 | 104.30 |
| 26 | 14 | 938 | G | C8-N9-C4 | 5.79 | 108.72 | 106.40 |
| 26 | 14 | 2163 | C | N1-C2-O2 | 5.79 | 122.38 | 118.90 |
| 26 | 14 | 2610 | C | C6-N1-C1' | -5.79 | 113.85 | 120.80 |
| 1 | 13 | 411 | A | O5'-P-OP2 | -5.79 | 100.49 | 105.70 |
| 26 | 1H | 194 | G | OP1-P-OP2 | -5.79 | 110.91 | 119.60 |
| 26 | 1H | 583 | G | C8-N9-C4 | -5.79 | 104.08 | 106.40 |
| 26 | 1H | 956 | G | O4'-C1'-N9 | 5.79 | 112.83 | 108.20 |
| 26 | 1H | 1835 | G | N1-C6-O6 | -5.79 | 116.42 | 119.90 |
| 26 | 1H | 1895 | C | N3-C2-O2 | 5.79 | 125.95 | 121.90 |
| 27 | 16 | 19 | G | C2-N3-C4 | -5.79 | 109.00 | 111.90 |
| 1 | 1G | 617 | G | N3-C2-N2 | -5.79 | 115.85 | 119.90 |
| 1 | 1G | 809 | G | N3-C4-C5 | 5.79 | 131.50 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 23 | 2L | 27 | G | N9-C4-C5 | -5.79 | 103.08 | 105.40 |
| 26 | 14 | 1834 | U | OP2-P-O3' | 5.79 | 117.94 | 105.20 |
| 26 | 14 | 2218 | G | N9-C4-C5 | 5.79 | 107.72 | 105.40 |
| 26 | 14 | 2363 | C | C5-C4-N4 | -5.79 | 116.14 | 120.20 |
| 26 | 14 | 2478 | A | C8-N9-C4 | 5.79 | 108.12 | 105.80 |
| 1 | 13 | 108 | G | C5-C6-O6 | -5.79 | 125.13 | 128.60 |
| 1 | 13 | 804 | U | C5-C6-N1 | -5.79 | 119.81 | 122.70 |
| 26 | 1H | 412 | A | N7-C8-N9 | -5.79 | 110.91 | 113.80 |
| 26 | 1H | 1332 | G | C4-N9-C1' | 5.79 | 134.03 | 126.50 |
| 26 | 1H | 1651 | G | C5-C6-N1 | -5.79 | 108.61 | 111.50 |
| 26 | 1H | 2487 | G | N1-C2-N2 | 5.79 | 121.41 | 116.20 |
| 26 | 1H | 2719 | G | OP1-P-OP2 | -5.79 | 110.92 | 119.60 |
| 26 | 14 | 868 | U | N3-C4-C5 | -5.79 | 111.13 | 114.60 |
| 26 | 14 | 2238 | G | C4-C5-C6 | -5.79 | 115.33 | 118.80 |
| 1 | 13 | 698 | G | C6-C5-N7 | -5.79 | 126.93 | 130.40 |
| 1 | 13 | 802 | A | N9-C4-C5 | -5.79 | 103.48 | 105.80 |
| 26 | 1H | 1384 | A | C5-C6-N1 | 5.79 | 120.59 | 117.70 |
| 26 | 1H | 1579 | A | N1-C2-N3 | 5.79 | 132.19 | 129.30 |
| 26 | 1H | 1902 | C | N3-C2-O2 | 5.79 | 125.95 | 121.90 |
| 26 | 1H | 2065 | C | OP1-P-O3' | 5.79 | 117.94 | 105.20 |
| 26 | 1H | 2308 | G | N1-C6-O6 | 5.79 | 123.37 | 119.90 |
| 26 | 1H | 2321 | G | OP2-P-O3' | 5.79 | 117.94 | 105.20 |
| 26 | 1H | 2404 | C | N3-C4-N4 | -5.79 | 113.95 | 118.00 |
| 26 | 1H | 2598 | A | N7-C8-N9 | -5.79 | 110.91 | 113.80 |
| 26 | 1H | 2696 | U | O5'-P-OP1 | -5.79 | 100.49 | 105.70 |
| 1 | 1G | 109 | A | C5-C6-N6 | -5.79 | 119.07 | 123.70 |
| 1 | 1G | 630 | G | N3-C4-N9 | 5.79 | 129.47 | 126.00 |
| 26 | 14 | 606 | U | N3-C2-O2 | -5.79 | 118.15 | 122.20 |
| 26 | 14 | 662 | G | C4-C5-N7 | -5.79 | 108.48 | 110.80 |
| 26 | 14 | 748 | G | OP1-P-OP2 | 5.79 | 128.28 | 119.60 |
| 26 | 14 | 988 | A | N7-C8-N9 | 5.79 | 116.69 | 113.80 |
| 26 | 14 | 1831 | G | C4-C5-C6 | 5.79 | 122.27 | 118.80 |
| 26 | 14 | 2015 | A | O5'-P-OP1 | -5.79 | 100.49 | 105.70 |
| 26 | 14 | 2276 | G | C2-N3-C4 | -5.79 | 109.00 | 111.90 |
| 26 | 14 | 2746 | U | N3-C4-O4 | -5.79 | 115.35 | 119.40 |
| 27 | 1J | 52 | A | C4-C5-C6 | -5.79 | 114.11 | 117.00 |
| 1 | 13 | 228 | A | C8-N9-C4 | 5.79 | 108.11 | 105.80 |
| 1 | 13 | 464 | G | N7-C8-N9 | 5.79 | 115.99 | 113.10 |
| 1 | 13 | 538 | G | C5-C6-N1 | 5.79 | 114.39 | 111.50 |
| 26 | 1H | 741 | G | N3-C4-C5 | -5.79 | 125.71 | 128.60 |
| 26 | 1H | 1265 | A | O5'-P-OP1 | -5.79 | 100.49 | 105.70 |
| 26 | 1H | 2674 | G | C5-N7-C8 | 5.79 | 107.19 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 1G | 970 | C | C5-C4-N4 | -5.79 | 116.15 | 120.20 |
| 26 | 14 | 752 | A | C8-N9-C4 | -5.79 | 103.48 | 105.80 |
| 26 | 14 | 756 | C | C4-C5-C6 | 5.79 | 120.29 | 117.40 |
| 26 | 14 | 830 | G | N9-C4-C5 | -5.79 | 103.08 | 105.40 |
| 26 | 14 | 852 | G | O5'-P-OP2 | -5.79 | 100.49 | 105.70 |
| 26 | 14 | 1019 | U | C5-C6-N1 | -5.79 | 119.81 | 122.70 |
| 26 | 14 | 1754 | C | N3-C4-C5 | 5.79 | 124.22 | 121.90 |
| 26 | 14 | 2003 | G | N7-C8-N9 | 5.79 | 115.99 | 113.10 |
| 1 | 13 | 1343 | G | C2-N3-C4 | -5.79 | 109.01 | 111.90 |
| 1 | 13 | 1408 | A | C4-C5-C6 | 5.79 | 119.89 | 117.00 |
| 26 | 1H | 978 | G | C2-N3-C4 | -5.79 | 109.01 | 111.90 |
| 26 | 1H | 984 | A | C5-C6-N1 | 5.79 | 120.59 | 117.70 |
| 26 | 1H | 1559 | G | N3-C4-N9 | -5.79 | 122.53 | 126.00 |
| 26 | 1H | 2028 | U | N1-C2-O2 | -5.79 | 118.75 | 122.80 |
| 26 | 1H | 2039 | C | N3-C4-N4 | 5.79 | 122.05 | 118.00 |
| 26 | 1H | 2183 | C | C6-N1-C2 | -5.79 | 117.99 | 120.30 |
| 26 | 1H | 2215 | G | C5-C6-O6 | 5.79 | 132.07 | 128.60 |
| 26 | 1H | 2228 | G | C4-C5-C6 | 5.79 | 122.27 | 118.80 |
| 26 | 1H | 2655 | G | C6-C5-N7 | 5.79 | 133.87 | 130.40 |
| 27 | 16 | 109 | G | OP2-P-O3' | 5.79 | 117.93 | 105.20 |
| 26 | 14 | 83 | G | N1-C6-O6 | 5.79 | 123.37 | 119.90 |
| 26 | 14 | 414 | C | N3-C4-C5 | 5.79 | 124.21 | 121.90 |
| 26 | 14 | 1596 | A | N1-C2-N3 | 5.79 | 132.19 | 129.30 |
| 26 | 14 | 2196 | C | N3-C4-C5 | -5.79 | 119.59 | 121.90 |
| 26 | 14 | 2839 | G | OP1-P-OP2 | 5.79 | 128.28 | 119.60 |
| 27 | 1J | 54 | G | O5'-P-OP2 | 5.79 | 117.64 | 110.70 |
| 27 | 1J | 98 | G | N3-C4-C5 | 5.79 | 131.49 | 128.60 |
| 1 | 13 | 713 | G | C6-C5-N7 | 5.78 | 133.87 | 130.40 |
| 1 | 13 | 769 | G | N3-C2-N2 | 5.78 | 123.95 | 119.90 |
| 1 | 13 | 1011 | G | C8-N9-C4 | 5.78 | 108.71 | 106.40 |
| 23 | 2K | 66 | C | C5-C4-N4 | 5.78 | 124.25 | 120.20 |
| 26 | 1H | 270(Y) | G | N1-C6-O6 | 5.78 | 123.37 | 119.90 |
| 26 | 1H | 670 | A | C4-C5-N7 | 5.78 | 113.59 | 110.70 |
| 26 | 1H | 994 | C | OP1-P-O3' | 5.78 | 117.92 | 105.20 |
| 26 | 1H | 1330 | C | N1-C2-O2 | -5.78 | 115.43 | 118.90 |
| 44 | E8 | 77 | ASP | CB-CG-OD2 | 5.78 | 123.50 | 118.30 |
| 1 | 1G | 919 | A | N7-C8-N9 | -5.78 | 110.91 | 113.80 |
| 1 | 1G | 1285 | A | P-O3'-C3' | 5.78 | 126.64 | 119.70 |
| 26 | 14 | 543 | C | C6-N1-C1' | -5.78 | 113.86 | 120.80 |
| 26 | 14 | 948 | G | O5'-P-OP1 | -5.78 | 100.50 | 105.70 |
| 26 | 14 | 1125 | G | N3-C2-N2 | -5.78 | 115.85 | 119.90 |
| 26 | 14 | 1342 | A | C5-C6-N6 | -5.78 | 119.07 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 14 | 2248 | C | N3-C2-O2 | -5.78 | 117.85 | 121.90 |
| 26 | 14 | 2494 | G | C5-C6-N1 | -5.78 | 108.61 | 111.50 |
| 26 | 14 | 2718 | G | N1-C6-O6 | 5.78 | 123.37 | 119.90 |
| 26 | 1H | 113 | G | N3-C4-C5 | 5.78 | 131.49 | 128.60 |
| 26 | 1H | 1248 | G | N3-C4-N9 | -5.78 | 122.53 | 126.00 |
| 26 | 1H | 1920 | C | N3-C4-N4 | -5.78 | 113.95 | 118.00 |
| 1 | 1G | 67 | C | O5'-P-OP2 | -5.78 | 100.50 | 105.70 |
| 26 | 14 | 2238 | G | C5'-C4'-O4' | 5.78 | 116.04 | 109.10 |
| 26 | 14 | 2597 | G | O5'-P-OP1 | 5.78 | 117.64 | 110.70 |
| 1 | 13 | 568 | G | C2-N3-C4 | 5.78 | 114.79 | 111.90 |
| 1 | 13 | 718 | G | O5'-P-OP2 | 5.78 | 117.64 | 110.70 |
| 1 | 13 | 802 | A | C2-N3-C4 | -5.78 | 107.71 | 110.60 |
| 1 | 13 | 1426 | C | N1-C2-O2 | -5.78 | 115.43 | 118.90 |
| 26 | 1H | 469 | G | OP2-P-O3' | 5.78 | 117.92 | 105.20 |
| 26 | 1H | 845 | G | N1-C2-N2 | -5.78 | 111.00 | 116.20 |
| 26 | 1H | 846 | C | O5'-P-OP1 | -5.78 | 100.50 | 105.70 |
| 26 | 1H | 902 | C | N3-C4-N4 | -5.78 | 113.95 | 118.00 |
| 26 | 1H | 1698 | A | N9-C4-C5 | -5.78 | 103.49 | 105.80 |
| 26 | 1H | 2266 | A | C5-C6-N6 | -5.78 | 119.08 | 123.70 |
| 26 | 1H | 2275 | C | O4'-C1'-N1 | -5.78 | 103.58 | 108.20 |
| 26 | 1H | 2638 | G | O5'-P-OP2 | 5.78 | 117.64 | 110.70 |
| 1 | 1G | 111 | G | C5-N7-C8 | -5.78 | 101.41 | 104.30 |
| 1 | 1G | 486 | U | C6-N1-C2 | -5.78 | 117.53 | 121.00 |
| 26 | 14 | 834 | C | C2-N1-C1' | -5.78 | 112.44 | 118.80 |
| 26 | 14 | 1809 | A | C2-N3-C4 | -5.78 | 107.71 | 110.60 |
| 26 | 14 | 2393 | A | C2-N3-C4 | -5.78 | 107.71 | 110.60 |
| 26 | 14 | 2717 | G | C5-C6-O6 | -5.78 | 125.13 | 128.60 |
| 26 | 14 | 2844 | G | C8-N9-C4 | 5.78 | 108.71 | 106.40 |
| 26 | 14 | 2868 | A | C5-C6-N6 | -5.78 | 119.08 | 123.70 |
| 26 | 14 | 2876 | G | C2-N3-C4 | -5.78 | 109.01 | 111.90 |
| 1 | 13 | 1199 | U | C6-N1-C2 | -5.78 | 117.53 | 121.00 |
| 26 | 1H | 785 | G | N9-C4-C5 | 5.78 | 107.71 | 105.40 |
| 26 | 1H | 1336 | A | C8-N9-C4 | -5.78 | 103.49 | 105.80 |
| 26 | 1H | 1549 | C | C6-N1-C2 | 5.78 | 122.61 | 120.30 |
| 26 | 1H | 2252 | G | C2-N3-C4 | -5.78 | 109.01 | 111.90 |
| 26 | 1H | 2302 | G | N1-C6-O6 | -5.78 | 116.43 | 119.90 |
| 26 | 1H | 2442 | C | C5-C6-N1 | -5.78 | 118.11 | 121.00 |
| 1 | 1G | 816 | A | C5-C6-N1 | 5.78 | 120.59 | 117.70 |
| 23 | 2L | 10 | G | OP1-P-OP2 | -5.78 | 110.93 | 119.60 |
| 26 | 14 | 399 | G | N3-C2-N2 | 5.78 | 123.95 | 119.90 |
| 26 | 14 | 694 | U | O5'-P-OP1 | 5.78 | 117.64 | 110.70 |
| 26 | 14 | 839 | U | C2-N3-C4 | -5.78 | 123.53 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 907 | U | C5-C4-O4 | -5.78 | 122.43 | 125.90 |
| 26 | 14 | 1167 | U | N3-C2-O2 | 5.78 | 126.25 | 122.20 |
| 1 | 13 | 402 | G | N7-C8-N9 | -5.78 | 110.21 | 113.10 |
| 1 | 13 | 633 | G | C5-C6-O6 | -5.78 | 125.13 | 128.60 |
| 1 | 13 | 721 | G | C6-C5-N7 | -5.78 | 126.93 | 130.40 |
| 1 | 13 | 1502 | A | N9-C1'-C2' | 5.78 | 121.51 | 114.00 |
| 26 | 1H | 470 | A | C5-C6-N6 | -5.78 | 119.08 | 123.70 |
| 26 | 1H | 470 | A | N9-C4-C5 | -5.78 | 103.49 | 105.80 |
| 26 | 1H | 739 | G | N1-C6-O6 | 5.78 | 123.37 | 119.90 |
| 26 | 1H | 1399 | C | OP2-P-O3' | 5.78 | 117.91 | 105.20 |
| 26 | 1H | 1627 | G | C5-C6-N1 | -5.78 | 108.61 | 111.50 |
| 26 | 1H | 1630(A) | C | C5-C6-N1 | -5.78 | 118.11 | 121.00 |
| 26 | 1H | 2495 | G | N3-C4-N9 | -5.78 | 122.53 | 126.00 |
| 26 | 1H | 2776 | A | OP1-P-O3' | 5.78 | 117.91 | 105.20 |
| 1 | 1G | 108 | G | C5-N7-C8 | -5.78 | 101.41 | 104.30 |
| 1 | 1G | 680 | C | OP2-P-O3' | 5.78 | 117.91 | 105.20 |
| 1 | 1G | 855 | G | C5-C6-N1 | 5.78 | 114.39 | 111.50 |
| 1 | 1G | 1077 | G | N9-C4-C5 | -5.78 | 103.09 | 105.40 |
| 26 | 14 | 447 | A | OP1-P-OP2 | -5.78 | 110.94 | 119.60 |
| 26 | 14 | 917 | A | O5'-P-OP2 | 5.78 | 117.63 | 110.70 |
| 26 | 14 | 2287 | A | C5-N7-C8 | -5.78 | 101.01 | 103.90 |
| 26 | 14 | 2330 | G | OP1-P-OP2 | -5.78 | 110.93 | 119.60 |
| 26 | 14 | 2644 | G | C8-N9-C4 | -5.78 | 104.09 | 106.40 |
| 1 | 13 | 585 | G | N1-C2-N2 | -5.78 | 111.00 | 116.20 |
| 1 | 13 | 668 | G | N3-C4-C5 | -5.78 | 125.71 | 128.60 |
| 1 | 13 | 875 | C | OP1-P-O3' | 5.78 | 117.91 | 105.20 |
| 1 | 13 | 908 | A | N1-C6-N6 | -5.78 | 115.13 | 118.60 |
| 1 | 13 | 1144 | G | N3-C2-N2 | -5.78 | 115.86 | 119.90 |
| 26 | 1H | 211 | A | C4-C5-N7 | 5.78 | 113.59 | 110.70 |
| 26 | 1H | 550 | G | OP2-P-O3' | 5.78 | 117.91 | 105.20 |
| 26 | 1H | 560 | C | N1-C2-O2 | -5.78 | 115.44 | 118.90 |
| 26 | 1H | 784 | A | C5-C6-N6 | 5.78 | 128.32 | 123.70 |
| 26 | 1H | 1621 | U | N3-C2-O2 | 5.78 | 126.24 | 122.20 |
| 26 | 1H | 1918 | A | C5-C6-N6 | 5.78 | 128.32 | 123.70 |
| 26 | 1H | 1937 | A | C5-N7-C8 | 5.78 | 106.79 | 103.90 |
| 26 | 1H | 2075 | U | N1-C2-N3 | 5.78 | 118.36 | 114.90 |
| 26 | 1H | 2084 | C | N1-C2-O2 | -5.78 | 115.44 | 118.90 |
| 26 | 1H | 2600 | A | C6-C5-N7 | 5.78 | 136.34 | 132.30 |
| 27 | 16 | 26 | A | C5-C6-N6 | 5.78 | 128.32 | 123.70 |
| 26 | 14 | 375 | C | N1-C2-O2 | -5.78 | 115.44 | 118.90 |
| 26 | 14 | 1811 | G | O5'-P-OP1 | 5.78 | 117.63 | 110.70 |
| 26 | 14 | 2617 | C | C5-C6-N1 | -5.78 | 118.11 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 1 | 13 | 138 | G | C2-N3-C4 | -5.77 | 109.01 | 111.90 |
| 1 | 13 | 925 | G | C5-N7-C8 | 5.77 | 107.19 | 104.30 |
| 26 | 1H | 352 | G | OP1-P-OP2 | 5.77 | 128.26 | 119.60 |
| 26 | 1H | 699 | A | C5-C6-N1 | 5.77 | 120.59 | 117.70 |
| 26 | 1H | 1268 | A | N1-C2-N3 | 5.77 | 132.19 | 129.30 |
| 26 | 1H | 1612 | C | N3-C4-N4 | 5.77 | 122.04 | 118.00 |
| 26 | 1H | 2273 | A | C5-C6-N6 | 5.77 | 128.32 | 123.70 |
| 26 | 1H | 2712(A) | A | N7-C8-N9 | 5.77 | 116.69 | 113.80 |
| 1 | 1G | 1441 | G | O5'-P-OP1 | -5.77 | 100.50 | 105.70 |
| 26 | 14 | 767 | U | N3-C4-O4 | -5.77 | 115.36 | 119.40 |
| 26 | 14 | 910 | A | OP2-P-O3' | 5.77 | 117.90 | 105.20 |
| 1 | 13 | 186(B) | C | N1-C2-O2 | 5.77 | 122.36 | 118.90 |
| 1 | 13 | 897 | C | N3-C4-N4 | 5.77 | 122.04 | 118.00 |
| 1 | 13 | 1389 | C | N1-C2-O2 | -5.77 | 115.44 | 118.90 |
| 26 | 1H | 1003 | G | C4-C5-C6 | 5.77 | 122.26 | 118.80 |
| 26 | 1H | 1248 | G | N3-C4-C5 | 5.77 | 131.49 | 128.60 |
| 26 | 1H | 1543 | A | C2-N3-C4 | -5.77 | 107.71 | 110.60 |
| 26 | 1H | 2062 | A | C8-N9-C4 | 5.77 | 108.11 | 105.80 |
| 26 | 1H | 2284 | C | C5-C6-N1 | -5.77 | 118.11 | 121.00 |
| 26 | 1H | 2381 | C | OP2-P-O3' | 5.77 | 117.90 | 105.20 |
| 1 | 1G | 1188 | A | C8-N9-C4 | 5.77 | 108.11 | 105.80 |
| 26 | 14 | 246 | C | N3-C4-N4 | 5.77 | 122.04 | 118.00 |
| 26 | 14 | 678 | C | C5-C4-N4 | -5.77 | 116.16 | 120.20 |
| 26 | 14 | 691 | C | N3-C2-O2 | 5.77 | 125.94 | 121.90 |
| 26 | 14 | 2070 | G | N1-C6-O6 | -5.77 | 116.44 | 119.90 |
| 26 | 14 | 2247 | A | C4-C5-N7 | -5.77 | 107.81 | 110.70 |
| 1 | 13 | 628 | G | N1-C6-O6 | 5.77 | 123.36 | 119.90 |
| 1 | 13 | 1408 | A | N1-C6-N6 | 5.77 | 122.06 | 118.60 |
| 26 | 1H | 768 | G | C4-C5-C6 | 5.77 | 122.26 | 118.80 |
| 26 | 1H | 906 | G | N3-C2-N2 | -5.77 | 115.86 | 119.90 |
| 26 | 1H | 1622 | G | C4-C5-C6 | 5.77 | 122.26 | 118.80 |
| 26 | 1H | 1888 | G | C4-N9-C1' | 5.77 | 134.00 | 126.50 |
| 26 | 1H | 1894 | C | C5-C4-N4 | -5.77 | 116.16 | 120.20 |
| 26 | 1H | 2072 | G | O5'-P-OP2 | -5.77 | 100.51 | 105.70 |
| 27 | 16 | 29 | A | O5'-P-OP1 | 5.77 | 117.62 | 110.70 |
| 1 | 1G | 280 | C | OP1-P-O3' | 5.77 | 117.90 | 105.20 |
| 1 | 1G | 362 | G | N3-C2-N2 | -5.77 | 115.86 | 119.90 |
| 1 | 1G | 573 | A | N3-C4-C5 | -5.77 | 122.76 | 126.80 |
| 1 | 13 | 254 | G | O5'-P-OP1 | -5.77 | 100.51 | 105.70 |
| 1 | 13 | 1323 | G | C5-C6-O6 | -5.77 | 125.14 | 128.60 |
| 1 | 13 | 1405 | G | C4-C5-N7 | -5.77 | 108.49 | 110.80 |
| 26 | 1H | 585 | G | N1-C2-N2 | -5.77 | 111.01 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1300 | U | C6-N1-C2 | -5.77 | 117.54 | 121.00 |
| 26 | 1H | 1426 | G | C5-N7-C8 | -5.77 | 101.42 | 104.30 |
| 26 | 1H | 1854 | A | C2-N3-C4 | 5.77 | 113.48 | 110.60 |
| 26 | 1H | 2046 | G | O5'-P-OP2 | -5.77 | 100.51 | 105.70 |
| 26 | 1H | 2333 | A | N3-C4-N9 | 5.77 | 132.02 | 127.40 |
| 26 | 1H | 2359 | C | N1-C2-N3 | 5.77 | 123.24 | 119.20 |
| 26 | 1H | 2867 | G | C5-C6-O6 | 5.77 | 132.06 | 128.60 |
| 27 | 16 | 87 | G | C4-N9-C1' | -5.77 | 119.00 | 126.50 |
| 1 | 1G | 780 | A | C8-N9-C4 | -5.77 | 103.49 | 105.80 |
| 1 | 1G | 896 | C | C6-N1-C2 | 5.77 | 122.61 | 120.30 |
| 1 | 1G | 1157 | A | P-O3'-C3' | 5.77 | 126.62 | 119.70 |
| 26 | 14 | 256 | A | C5-C6-N1 | -5.77 | 114.82 | 117.70 |
| 26 | 14 | 1319 | G | C2-N3-C4 | -5.77 | 109.02 | 111.90 |
| 26 | 14 | 1598 | C | OP1-P-OP2 | -5.77 | 110.95 | 119.60 |
| 26 | 14 | 1814 | G | OP2-P-O3' | 5.77 | 117.89 | 105.20 |
| 26 | 14 | 2279 | G | N1-C2-N2 | -5.77 | 111.01 | 116.20 |
| 26 | 14 | 2331 | G | N3-C4-N9 | 5.77 | 129.46 | 126.00 |
| 26 | 14 | 2385 | C | N3-C4-N4 | 5.77 | 122.04 | 118.00 |
| 26 | 14 | 2817 | G | C8-N9-C4 | 5.77 | 108.71 | 106.40 |
| 26 | 14 | 2868 | A | C6-C5-N7 | -5.77 | 128.26 | 132.30 |
| 1 | 13 | 107 | G | N1-C6-O6 | -5.77 | 116.44 | 119.90 |
| 1 | 13 | 617 | G | C6-N1-C2 | 5.77 | 128.56 | 125.10 |
| 26 | 1H | 139 | G | N3-C4-C5 | -5.77 | 125.72 | 128.60 |
| 26 | 1H | 182 | A | C4-C5-N7 | 5.77 | 113.58 | 110.70 |
| 26 | 1H | 1107 | G | N3-C4-C5 | -5.77 | 125.72 | 128.60 |
| 26 | 1H | 2022 | U | C6-N1-C2 | 5.77 | 124.46 | 121.00 |
| 26 | 1H | 2093 | G | C2-N3-C4 | -5.77 | 109.02 | 111.90 |
| 26 | 1H | 2235 | G | N3-C2-N2 | 5.77 | 123.94 | 119.90 |
| 26 | 1H | 2426 | A | O5'-P-OP1 | 5.77 | 117.62 | 110.70 |
| 26 | 1H | 2787 | C | C2-N1-C1' | 5.77 | 125.14 | 118.80 |
| 26 | 14 | 45 | G | C8-N9-C4 | -5.77 | 104.09 | 106.40 |
| 26 | 14 | 380 | U | N3-C4-C5 | -5.77 | 111.14 | 114.60 |
| 26 | 14 | 431 | U | N1-C2-O2 | -5.77 | 118.76 | 122.80 |
| 26 | 14 | 442 | G | N3-C2-N2 | -5.77 | 115.86 | 119.90 |
| 26 | 14 | 656 | G | C5-C6-N1 | -5.77 | 108.62 | 111.50 |
| 26 | 14 | 711 | G | C5-C6-N1 | -5.77 | 108.62 | 111.50 |
| 26 | 14 | 1916 | A | C6-N1-C2 | -5.77 | 115.14 | 118.60 |
| 1 | 13 | 574 | A | O5'-P-OP1 | -5.77 | 100.51 | 105.70 |
| 23 | 2K | 11 | A | OP2-P-O3' | 5.77 | 117.89 | 105.20 |
| 26 | 1H | 283 | A | C4-C5-N7 | -5.77 | 107.82 | 110.70 |
| 26 | 1H | 466 | A | N3-C4-N9 | 5.77 | 132.01 | 127.40 |
| 26 | 1H | 734 | A | N3-C4-C5 | 5.77 | 130.84 | 126.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1811 | G | OP2-P-O3' | 5.77 | 117.88 | 105.20 |
| 26 | 1H | 2052 | G | C5-C6-O6 | -5.77 | 125.14 | 128.60 |
| 1 | 1G | 863 | U | O4'-C1'-N1 | 5.77 | 112.81 | 108.20 |
| 27 | 1J | 20 | C | N3-C4-N4 | 5.77 | 122.04 | 118.00 |
| 27 | 1J | 42 | C | O5'-P-OP1 | -5.77 | 100.51 | 105.70 |
| 1 | 13 | 318 | G | N1-C2-N3 | 5.76 | 127.36 | 123.90 |
| 1 | 13 | 402 | G | C8-N9-C4 | 5.76 | 108.71 | 106.40 |
| 1 | 13 | 1222 | G | O5'-P-OP2 | -5.76 | 100.51 | 105.70 |
| 1 | 13 | 1285 | A | O4'-C1'-N9 | -5.76 | 103.59 | 108.20 |
| 1 | 13 | 1337 | G | N3-C4-N9 | -5.76 | 122.54 | 126.00 |
| 1 | 13 | 1474 | G | OP1-P-OP2 | -5.76 | 110.95 | 119.60 |
| 26 | 1H | 767 | U | C4-C5-C6 | 5.76 | 123.16 | 119.70 |
| 26 | 1H | 1718 | G | C4-C5-N7 | -5.76 | 108.49 | 110.80 |
| 26 | 1H | 2536 | G | O5'-P-OP2 | 5.76 | 117.62 | 110.70 |
| 27 | 16 | 88 | C | O5'-P-OP2 | -5.76 | 100.51 | 105.70 |
| 29 | 11 | 244 | ARG | NE-CZ-NH2 | -5.76 | 117.42 | 120.30 |
| 25 | 4L | 10 | G | C4-C5-N7 | 5.76 | 113.11 | 110.80 |
| 26 | 14 | 567 | A | C4-C5-N7 | 5.76 | 113.58 | 110.70 |
| 26 | 14 | 1274 | A | C6-N1-C2 | -5.76 | 115.14 | 118.60 |
| 26 | 14 | 1513 | C | C5-C4-N4 | -5.76 | 116.17 | 120.20 |
| 26 | 14 | 1556 | C | N3-C4-N4 | -5.76 | 113.97 | 118.00 |
| 26 | 14 | 2079 | U | N1-C2-N3 | 5.76 | 118.36 | 114.90 |
| 26 | 14 | 2712 | U | C6-N1-C2 | 5.76 | 124.46 | 121.00 |
| 1 | 13 | 824 | C | N3-C2-O2 | 5.76 | 125.93 | 121.90 |
| 1 | 13 | 1267 | C | O5'-P-OP2 | -5.76 | 100.51 | 105.70 |
| 26 | 1H | 262 | A | C8-N9-C4 | 5.76 | 108.11 | 105.80 |
| 26 | 1H | 569 | U | N1-C2-O2 | -5.76 | 118.77 | 122.80 |
| 26 | 1H | 794 | G | N3-C2-N2 | 5.76 | 123.93 | 119.90 |
| 26 | 1H | 1228 | G | C6-C5-N7 | -5.76 | 126.94 | 130.40 |
| 26 | 1H | 1580 | A | N9-C4-C5 | -5.76 | 103.50 | 105.80 |
| 26 | 14 | 951 | C | O5'-P-OP2 | 5.76 | 117.61 | 110.70 |
| 26 | 14 | 2861 | G | OP1-P-OP2 | 5.76 | 128.25 | 119.60 |
| 1 | 13 | 41 | G | O5'-P-OP1 | 5.76 | 117.61 | 110.70 |
| 1 | 13 | 905 | U | N3-C4-C5 | 5.76 | 118.06 | 114.60 |
| 1 | 13 | 1506 | U | O5'-P-OP2 | -5.76 | 100.52 | 105.70 |
| 26 | 1H | 486 | C | OP2-P-O3' | 5.76 | 117.88 | 105.20 |
| 26 | 1H | 539 | G | N3-C4-N9 | -5.76 | 122.54 | 126.00 |
| 26 | 1H | 974 | G | OP2-P-O3' | 5.76 | 117.88 | 105.20 |
| 26 | 1H | 1974 | C | N3-C4-N4 | -5.76 | 113.97 | 118.00 |
| 1 | 1G | 403 | C | OP2-P-O3' | 5.76 | 117.88 | 105.20 |
| 23 | 2L | 71 | G | C8-N9-C4 | 5.76 | 108.70 | 106.40 |
| 26 | 14 | 298 | G | N3-C4-C5 | 5.76 | 131.48 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 604 | G | C5-C6-N1 | 5.76 | 114.38 | 111.50 |
| 26 | 14 | 799 | G | C8-N9-C4 | 5.76 | 108.70 | 106.40 |
| 26 | 14 | 809 | G | C4-C5-N7 | -5.76 | 108.50 | 110.80 |
| 26 | 14 | 1253 | A | C4-C5-C6 | -5.76 | 114.12 | 117.00 |
| 26 | 14 | 1608 | A | C5-C6-N1 | 5.76 | 120.58 | 117.70 |
| 26 | 14 | 2254 | C | C6-N1-C2 | 5.76 | 122.60 | 120.30 |
| 26 | 14 | 2572 | A | C4-C5-N7 | 5.76 | 113.58 | 110.70 |
| 1 | 13 | 868 | C | O5'-P-OP1 | 5.76 | 117.61 | 110.70 |
| 22 | 1K | 22 | G | C2-N3-C4 | 5.76 | 114.78 | 111.90 |
| 26 | 1H | 2076 | U | C4-C5-C6 | 5.76 | 123.16 | 119.70 |
| 26 | 1H | 2324 | C | N3-C4-C5 | 5.76 | 124.20 | 121.90 |
| 26 | 1H | 2711 | A | C4-N9-C1' | -5.76 | 115.93 | 126.30 |
| 31 | 31 | 72 | ARG | NE-CZ-NH1 | -5.76 | 117.42 | 120.30 |
| 26 | 14 | 333 | G | C6-C5-N7 | -5.76 | 126.94 | 130.40 |
| 26 | 14 | 597 | U | N1-C2-O2 | -5.76 | 118.77 | 122.80 |
| 26 | 14 | 1378 | A | OP1-P-OP2 | 5.76 | 128.24 | 119.60 |
| 26 | 14 | 1792 | G | N1-C2-N3 | 5.76 | 127.36 | 123.90 |
| 26 | 14 | 2409 | G | C8-N9-C4 | -5.76 | 104.10 | 106.40 |
| 26 | 14 | 2677 | G | OP2-P-O3' | 5.76 | 117.87 | 105.20 |
| 26 | 14 | 2870 | C | N3-C2-O2 | -5.76 | 117.87 | 121.90 |
| 26 | 1H | 2335 | A | P-O3'-C3' | 5.76 | 126.61 | 119.70 |
| 27 | 16 | 18 | G | C5-C6-O6 | -5.76 | 125.14 | 128.60 |
| 1 | 1G | 1501 | C | C5-C6-N1 | -5.76 | 118.12 | 121.00 |
| 23 | 2L | 40 | C | N3-C4-C5 | -5.76 | 119.60 | 121.90 |
| 26 | 14 | 528 | A | N1-C6-N6 | 5.76 | 122.06 | 118.60 |
| 26 | 14 | 1603 | A | C4-C5-C6 | 5.76 | 119.88 | 117.00 |
| 27 | 1J | 81 | G | C5-C6-O6 | -5.76 | 125.14 | 128.60 |
| 1 | 13 | 1418 | A | C8-N9-C4 | 5.76 | 108.10 | 105.80 |
| 23 | 2K | 71 | G | C2-N3-C4 | -5.76 | 109.02 | 111.90 |
| 26 | 1H | 145 | G | C8-N9-C4 | 5.76 | 108.70 | 106.40 |
| 26 | 1H | 306 | U | C2-N3-C4 | -5.76 | 123.55 | 127.00 |
| 26 | 1H | 554 | U | N1-C2-O2 | -5.76 | 118.77 | 122.80 |
| 26 | 1H | 626 | U | C6-N1-C2 | -5.76 | 117.55 | 121.00 |
| 26 | 1H | 844 | C | N1-C2-N3 | 5.76 | 123.23 | 119.20 |
| 26 | 1H | 864 | G | N3-C4-C5 | -5.76 | 125.72 | 128.60 |
| 26 | 1H | 898 | C | C2-N1-C1' | 5.76 | 125.13 | 118.80 |
| 26 | 1H | 1497 | U | C5-C6-N1 | 5.76 | 125.58 | 122.70 |
| 26 | 1H | 1799 | G | N1-C2-N3 | -5.76 | 120.45 | 123.90 |
| 26 | 1H | 2612 | C | N1-C2-O2 | 5.76 | 122.35 | 118.90 |
| 26 | 1H | 2637 | U | C6-N1-C2 | 5.76 | 124.45 | 121.00 |
| 1 | 1G | 323 | U | C5-C6-N1 | 5.76 | 125.58 | 122.70 |
| 26 | 14 | 983 | A | O5'-P-OP2 | 5.76 | 117.61 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 250 | G | N3-C4-N9 | -5.75 | 122.55 | 126.00 |
| 26 | 1H | 2010 | G | OP1-P-O3' | 5.75 | 117.86 | 105.20 |
| 26 | 1H | 2848 | G | C6-N1-C2 | -5.75 | 121.65 | 125.10 |
| 1 | 1G | 576 | G | C8-N9-C1' | -5.75 | 119.52 | 127.00 |
| 26 | 14 | 2644 | G | N7-C8-N9 | 5.75 | 115.98 | 113.10 |
| 1 | 13 | 703 | G | C4-N9-C1' | 5.75 | 133.98 | 126.50 |
| 26 | 1H | 36 | G | C6-C5-N7 | 5.75 | 133.85 | 130.40 |
| 26 | 1H | 175 | G | C5-N7-C8 | -5.75 | 101.42 | 104.30 |
| 26 | 1H | 422 | A | C6-C5-N7 | -5.75 | 128.27 | 132.30 |
| 26 | 1H | 606 | U | O5'-P-OP1 | 5.75 | 117.60 | 110.70 |
| 26 | 1H | 651 | G | C5-N7-C8 | -5.75 | 101.42 | 104.30 |
| 26 | 1H | 1800 | C | C5-C4-N4 | 5.75 | 124.23 | 120.20 |
| 26 | 1H | 1822 | G | N1-C2-N2 | 5.75 | 121.38 | 116.20 |
| 26 | 1H | 1826 | G | C6-N1-C2 | 5.75 | 128.55 | 125.10 |
| 26 | 1H | 2061 | G | C6-N1-C2 | -5.75 | 121.65 | 125.10 |
| 26 | 1H | 2647 | U | C2-N3-C4 | -5.75 | 123.55 | 127.00 |
| 1 | 1G | 915 | A | C5-C6-N1 | 5.75 | 120.58 | 117.70 |
| 26 | 14 | 143 | C | N1-C2-O2 | 5.75 | 122.35 | 118.90 |
| 26 | 14 | 964 | C | P-O3'-C3' | -5.75 | 112.80 | 119.70 |
| 26 | 14 | 1548 | C | OP1-P-OP2 | -5.75 | 110.97 | 119.60 |
| 26 | 14 | 2570 | G | C4-C5-N7 | 5.75 | 113.10 | 110.80 |
| 26 | 14 | 2643 | G | N1-C2-N3 | 5.75 | 127.35 | 123.90 |
| 1 | 13 | 741 | G | N1-C2-N3 | 5.75 | 127.35 | 123.90 |
| 1 | 13 | 809 | G | OP1-P-OP2 | 5.75 | 128.23 | 119.60 |
| 26 | 1H | 205 | G | N1-C2-N3 | -5.75 | 120.45 | 123.90 |
| 26 | 1H | 245 | G | C4-C5-C6 | 5.75 | 122.25 | 118.80 |
| 26 | 1H | 274 | G | N7-C8-N9 | 5.75 | 115.98 | 113.10 |
| 26 | 1H | 397 | G | C4-C5-N7 | 5.75 | 113.10 | 110.80 |
| 26 | 1H | 480 | A | C4-C5-N7 | 5.75 | 113.58 | 110.70 |
| 26 | 1H | 592 | G | OP2-P-O3' | 5.75 | 117.86 | 105.20 |
| 26 | 1H | 725 | G | C5-C6-O6 | -5.75 | 125.15 | 128.60 |
| 26 | 1H | 2228 | G | N1-C2-N2 | -5.75 | 111.02 | 116.20 |
| 26 | 1H | 2326 | C | C5-C6-N1 | 5.75 | 123.88 | 121.00 |
| 26 | 1H | 2333 | A | C4-C5-N7 | -5.75 | 107.82 | 110.70 |
| 26 | 1H | 2576 | G | N3-C4-C5 | 5.75 | 131.48 | 128.60 |
| 26 | 1H | 2723 | C | C5-C4-N4 | 5.75 | 124.22 | 120.20 |
| 1 | 1G | 550 | G | N3-C2-N2 | -5.75 | 115.87 | 119.90 |
| 1 | 1G | 620 | C | N3-C2-O2 | -5.75 | 117.87 | 121.90 |
| 1 | 1G | 975 | A | C5-C6-N1 | -5.75 | 114.82 | 117.70 |
| 1 | 1G | 1482 | G | N1-C2-N2 | -5.75 | 111.02 | 116.20 |
| 26 | 14 | 1311 | G | N1-C2-N2 | -5.75 | 111.02 | 116.20 |
| 26 | 14 | 1393 | A | C4-C5-C6 | -5.75 | 114.12 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1819 | A | C5-C6-N6 | -5.75 | 119.10 | 123.70 |
| 26 | 14 | 1825 | A | N1-C6-N6 | -5.75 | 115.15 | 118.60 |
| 26 | 14 | 1945 | G | OP1-P-OP2 | 5.75 | 128.23 | 119.60 |
| 1 | 13 | 340 | U | N1-C2-N3 | 5.75 | 118.35 | 114.90 |
| 1 | 13 | 581 | G | N1-C6-O6 | 5.75 | 123.35 | 119.90 |
| 1 | 13 | 1306 | A | OP1-P-OP2 | 5.75 | 128.22 | 119.60 |
| 26 | 1H | 1572 | A | C6-N1-C2 | -5.75 | 115.15 | 118.60 |
| 26 | 1H | 1973 | G | N1-C2-N2 | -5.75 | 111.03 | 116.20 |
| 26 | 1H | 2571 | C | C4-C5-C6 | 5.75 | 120.28 | 117.40 |
| 29 | 11 | 242 | ARG | NE-CZ-NH2 | 5.75 | 123.17 | 120.30 |
| 1 | 1G | 331 | G | C8-N9-C4 | -5.75 | 104.10 | 106.40 |
| 26 | 14 | 197 | A | OP1-P-O3' | -5.75 | 92.55 | 105.20 |
| 26 | 14 | 632 | A | C6-C5-N7 | -5.75 | 128.28 | 132.30 |
| 1 | 13 | 582 | U | C5-C4-O4 | 5.75 | 129.35 | 125.90 |
| 1 | 13 | 651 | C | N3-C2-O2 | -5.75 | 117.88 | 121.90 |
| 26 | 1H | 429 | A | O5'-P-OP1 | -5.75 | 100.53 | 105.70 |
| 26 | 1H | 473 | G | C8-N9-C4 | 5.75 | 108.70 | 106.40 |
| 26 | 1H | 859 | G | C8-N9-C1' | 5.75 | 134.47 | 127.00 |
| 26 | 1H | 1142 | U | OP1-P-O3' | 5.75 | 117.85 | 105.20 |
| 26 | 1H | 2290 | G | C8-N9-C4 | 5.75 | 108.70 | 106.40 |
| 26 | 1H | 2595 | G | N9-C4-C5 | -5.75 | 103.10 | 105.40 |
| 1 | 1G | 304 | U | N1-C2-O2 | -5.75 | 118.78 | 122.80 |
| 1 | 1G | 509 | A | N1-C6-N6 | 5.75 | 122.05 | 118.60 |
| 26 | 14 | 207 | A | OP1-P-OP2 | 5.75 | 128.22 | 119.60 |
| 26 | 14 | 558 | G | N1-C6-O6 | 5.75 | 123.35 | 119.90 |
| 26 | 14 | 1370 | C | N3-C4-C5 | 5.75 | 124.20 | 121.90 |
| 26 | 14 | 1803 | A | C4-C5-C6 | -5.75 | 114.13 | 117.00 |
| 26 | 14 | 2383 | G | C8-N9-C1' | -5.75 | 119.53 | 127.00 |
| 26 | 14 | 2528 | U | N1-C2-N3 | 5.75 | 118.35 | 114.90 |
| 1 | 13 | 492 | G | C4-C5-N7 | 5.75 | 113.10 | 110.80 |
| 1 | 13 | 688 | G | C8-N9-C4 | 5.75 | 108.70 | 106.40 |
| 1 | 13 | 1417 | G | N9-C4-C5 | 5.75 | 107.70 | 105.40 |
| 26 | 1H | 258 | G | N3-C2-N2 | 5.75 | 123.92 | 119.90 |
| 26 | 1H | 975 | G | C4-C5-C6 | -5.75 | 115.35 | 118.80 |
| 26 | 1H | 1272 | A | OP1-P-O3' | 5.75 | 117.84 | 105.20 |
| 1 | 1G | 481 | G | C4-N9-C1' | 5.75 | 133.97 | 126.50 |
| 1 | 1G | 1200 | C | C2-N1-C1' | 5.75 | 125.12 | 118.80 |
| 1 | 1G | 1474 | G | C4-C5-N7 | 5.75 | 113.10 | 110.80 |
| 26 | 14 | 480 | A | C5-C6-N6 | 5.75 | 128.30 | 123.70 |
| 26 | 14 | 1296 | G | C5-C6-O6 | -5.75 | 125.15 | 128.60 |
| 26 | 14 | 1666 | G | C5-C6-O6 | 5.75 | 132.05 | 128.60 |
| 26 | 14 | 1943 | U | N1-C2-O2 | -5.75 | 118.78 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2070 | G | C2-N3-C4 | -5.75 | 109.03 | 111.90 |
| 26 | 14 | 2136 | C | C6-N1-C2 | -5.75 | 118.00 | 120.30 |
| 1 | 13 | 509 | A | P-O3'-C3' | 5.75 | 126.59 | 119.70 |
| 1 | 13 | 1304 | G | C4-C5-N7 | -5.75 | 108.50 | 110.80 |
| 26 | 1H | 815 | C | N3-C2-O2 | 5.75 | 125.92 | 121.90 |
| 26 | 1H | 1849 | G | C5-C6-N1 | -5.75 | 108.63 | 111.50 |
| 26 | 1H | 1944 | U | C5-C6-N1 | -5.75 | 119.83 | 122.70 |
| 26 | 1H | 2352 | A | N1-C6-N6 | -5.75 | 115.15 | 118.60 |
| 26 | 14 | 834 | C | OP2-P-O3' | 5.75 | 117.84 | 105.20 |
| 1 | 13 | 63 | C | C5-C6-N1 | 5.74 | 123.87 | 121.00 |
| 1 | 13 | 219 | C | C5-C6-N1 | 5.74 | 123.87 | 121.00 |
| 1 | 13 | 439 | A | C4-C5-C6 | 5.74 | 119.87 | 117.00 |
| 26 | 1H | 182 | A | N3-C4-C5 | 5.74 | 130.82 | 126.80 |
| 26 | 1H | 265 | A | C4-C5-N7 | 5.74 | 113.57 | 110.70 |
| 26 | 1H | 372 | G | C6-C5-N7 | 5.74 | 133.85 | 130.40 |
| 26 | 1H | 919 | G | N9-C4-C5 | 5.74 | 107.70 | 105.40 |
| 26 | 1H | 940 | G | N1-C2-N3 | 5.74 | 127.35 | 123.90 |
| 26 | 1H | 973 | A | C5-C6-N1 | -5.74 | 114.83 | 117.70 |
| 26 | 1H | 1367 | A | N1-C6-N6 | 5.74 | 122.05 | 118.60 |
| 26 | 1H | 1601 | G | C5-C6-N1 | -5.74 | 108.63 | 111.50 |
| 26 | 1H | 1849 | G | O5'-P-OP1 | -5.74 | 100.53 | 105.70 |
| 26 | 1H | 2739 | U | C4-C5-C6 | 5.74 | 123.15 | 119.70 |
| 1 | 1G | 482 | A | N1-C2-N3 | 5.74 | 132.17 | 129.30 |
| 1 | 1G | 863 | U | C6-N1-C2 | -5.74 | 117.55 | 121.00 |
| 1 | 1G | 1511 | G | C4-C5-C6 | 5.74 | 122.25 | 118.80 |
| 26 | 14 | 1333 | C | O5'-P-OP1 | 5.74 | 117.59 | 110.70 |
| 26 | 14 | 1357 | U | C5-C6-N1 | -5.74 | 119.83 | 122.70 |
| 26 | 14 | 1405 | U | N1-C2-N3 | 5.74 | 118.35 | 114.90 |
| 26 | 14 | 1567 | A | C4-C5-C6 | 5.74 | 119.87 | 117.00 |
| 26 | 14 | 1767 | C | C5-C6-N1 | -5.74 | 118.13 | 121.00 |
| 26 | 14 | 1861 | G | C6-C5-N7 | -5.74 | 126.95 | 130.40 |
| 26 | 14 | 2262 | U | N3-C4-O4 | -5.74 | 115.38 | 119.40 |
| 1 | 13 | 319 | G | OP2-P-O3' | 5.74 | 117.83 | 105.20 |
| 1 | 13 | 828 | A | N9-C4-C5 | 5.74 | 108.10 | 105.80 |
| 26 | 1H | 457 | A | O4'-C1'-N9 | -5.74 | 103.61 | 108.20 |
| 1 | 1G | 134 | A | C5-N7-C8 | -5.74 | 101.03 | 103.90 |
| 1 | 1G | 428 | G | OP1-P-OP2 | 5.74 | 128.21 | 119.60 |
| 1 | 1G | 932 | C | N1-C2-O2 | 5.74 | 122.34 | 118.90 |
| 26 | 14 | 771 | G | OP1-P-O3' | 5.74 | 117.83 | 105.20 |
| 26 | 14 | 1777 | U | C4-C5-C6 | 5.74 | 123.14 | 119.70 |
| 26 | 14 | 1826 | G | O4'-C1'-N9 | 5.74 | 112.79 | 108.20 |
| 26 | 14 | 1908 | C | C4-C5-C6 | 5.74 | 120.27 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 984 | C | C2-N1-C1' | -5.74 | 112.48 | 118.80 |
| 1 | 13 | 1378 | C | C4-C5-C6 | -5.74 | 114.53 | 117.40 |
| 23 | 2K | 9 | G | N1-C2-N3 | -5.74 | 120.46 | 123.90 |
| 26 | 1H | 138 | G | OP1-P-O3' | 5.74 | 117.83 | 105.20 |
| 26 | 1H | 428 | A | N9-C4-C5 | 5.74 | 108.10 | 105.80 |
| 26 | 1H | 830 | G | N7-C8-N9 | 5.74 | 115.97 | 113.10 |
| 26 | 1H | 947 | G | N1-C2-N2 | 5.74 | 121.37 | 116.20 |
| 26 | 1H | 1403 | C | C2-N3-C4 | 5.74 | 122.77 | 119.90 |
| 26 | 1H | 1665 | A | OP1-P-O3' | 5.74 | 117.83 | 105.20 |
| 26 | 1H | 2056 | G | N3-C4-C5 | -5.74 | 125.73 | 128.60 |
| 26 | 1H | 2880 | C | C6-N1-C2 | -5.74 | 118.00 | 120.30 |
| 26 | 14 | 879 | G | N7-C8-N9 | 5.74 | 115.97 | 113.10 |
| 26 | 14 | 1236 | G | C5-C6-N1 | -5.74 | 108.63 | 111.50 |
| 26 | 14 | 1757 | U | N1-C2-N3 | -5.74 | 111.45 | 114.90 |
| 26 | 14 | 1896 | G | N9-C4-C5 | 5.74 | 107.70 | 105.40 |
| 27 | 1J | 98 | G | C5-C6-N1 | -5.74 | 108.63 | 111.50 |
| 1 | 13 | 1190 | G | OP2-P-O3' | 5.74 | 117.83 | 105.20 |
| 1 | 13 | 1333 | A | C2-N3-C4 | 5.74 | 113.47 | 110.60 |
| 26 | 1H | 95 | G | N3-C4-C5 | -5.74 | 125.73 | 128.60 |
| 26 | 1H | 1440 | G | N1-C2-N3 | 5.74 | 127.34 | 123.90 |
| 26 | 1H | 2079 | U | OP1-P-OP2 | 5.74 | 128.21 | 119.60 |
| 26 | 1H | 2276 | G | N1-C2-N3 | 5.74 | 127.34 | 123.90 |
| 26 | 1H | 2286 | A | OP1-P-O3' | 5.74 | 117.83 | 105.20 |
| 1 | 1G | 522 | C | C6-N1-C2 | 5.74 | 122.59 | 120.30 |
| 1 | 1G | 633 | G | C5-C6-N1 | -5.74 | 108.63 | 111.50 |
| 1 | 1G | 718 | G | C4-C5-N7 | 5.74 | 113.09 | 110.80 |
| 26 | 14 | 831 | G | OP1-P-OP2 | -5.74 | 110.99 | 119.60 |
| 26 | 14 | 914 | C | N3-C4-C5 | -5.74 | 119.61 | 121.90 |
| 26 | 14 | 1982 | C | N3-C4-C5 | -5.74 | 119.60 | 121.90 |
| 26 | 14 | 2707 | G | C4-C5-N7 | 5.74 | 113.09 | 110.80 |
| 1 | 13 | 129 | U | C6-N1-C2 | -5.74 | 117.56 | 121.00 |
| 26 | 1H | 1552 | G | O5'-P-OP1 | -5.74 | 100.54 | 105.70 |
| 26 | 1H | 2048 | G | N1-C2-N2 | 5.74 | 121.36 | 116.20 |
| 1 | 1G | 553 | A | O5'-P-OP2 | -5.74 | 100.54 | 105.70 |
| 26 | 14 | 782 | A | N3-C4-C5 | -5.74 | 122.78 | 126.80 |
| 26 | 14 | 1688 | U | N3-C4-C5 | -5.74 | 111.16 | 114.60 |
| 1 | 13 | 409 | G | C4-C5-N7 | -5.74 | 108.51 | 110.80 |
| 1 | 13 | 560 | U | OP1-P-OP2 | 5.74 | 128.20 | 119.60 |
| 1 | 13 | 670 | G | OP1-P-OP2 | 5.74 | 128.20 | 119.60 |
| 1 | 13 | 1309 | G | N9-C4-C5 | -5.74 | 103.11 | 105.40 |
| 26 | 1H | 71 | A | N3-C4-C5 | 5.74 | 130.81 | 126.80 |
| 26 | 1H | 125 | G | N3-C4-N9 | 5.74 | 129.44 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 611 | C | C2-N3-C4 | -5.74 | 117.03 | 119.90 |
| 26 | 1H | 1652 | A | N1-C6-N6 | 5.74 | 122.04 | 118.60 |
| 26 | 1H | 2237 | G | C5-C6-N1 | -5.74 | 108.63 | 111.50 |
| 26 | 1H | 2483 | C | C4-C5-C6 | -5.74 | 114.53 | 117.40 |
| 26 | 1H | 2509 | G | N3-C4-N9 | 5.74 | 129.44 | 126.00 |
| 1 | 1G | 29 | G | C5-C6-O6 | 5.74 | 132.04 | 128.60 |
| 1 | 1G | 144 | G | N3-C4-C5 | -5.74 | 125.73 | 128.60 |
| 1 | 1G | 513 | C | N3-C4-N4 | 5.74 | 122.02 | 118.00 |
| 1 | 1G | 800 | G | C6-C5-N7 | -5.74 | 126.96 | 130.40 |
| 1 | 1G | 938 | A | C5-N7-C8 | -5.74 | 101.03 | 103.90 |
| 26 | 14 | 116 | C | C4-C5-C6 | 5.74 | 120.27 | 117.40 |
| 26 | 14 | 260 | G | N1-C6-O6 | -5.74 | 116.46 | 119.90 |
| 26 | 14 | 740 | U | C2-N3-C4 | 5.74 | 130.44 | 127.00 |
| 26 | 14 | 741 | G | O5'-P-OP1 | -5.74 | 100.54 | 105.70 |
| 26 | 14 | 1252 | G | O4'-C1'-N9 | -5.74 | 103.61 | 108.20 |
| 26 | 14 | 1377 | G | O5'-P-OP2 | -5.74 | 100.54 | 105.70 |
| 26 | 14 | 1407 | C | C5-C6-N1 | 5.74 | 123.87 | 121.00 |
| 26 | 14 | 1757 | U | N3-C2-O2 | 5.74 | 126.22 | 122.20 |
| 27 | 1J | 84 | C | C6-N1-C2 | 5.74 | 122.59 | 120.30 |
| 1 | 13 | 1381 | U | N1-C2-N3 | 5.73 | 118.34 | 114.90 |
| 26 | 1H | 2332 | U | C2-N3-C4 | 5.73 | 130.44 | 127.00 |
| 1 | 1G | 324 | G | C6-N1-C2 | 5.73 | 128.54 | 125.10 |
| 26 | 14 | 621 | A | O5'-P-OP1 | -5.73 | 100.54 | 105.70 |
| 26 | 14 | 965 | C | C2-N3-C4 | -5.73 | 117.03 | 119.90 |
| 26 | 14 | 1519 | G | C5-C6-O6 | 5.73 | 132.04 | 128.60 |
| 26 | 14 | 1858 | G | O5'-P-OP1 | 5.73 | 117.58 | 110.70 |
| 26 | 14 | 1979 | C | O5'-P-OP2 | -5.73 | 100.54 | 105.70 |
| 26 | 14 | 2502 | G | C5-N7-C8 | -5.73 | 101.43 | 104.30 |
| 1 | 13 | 436 | C | N3-C4-C5 | -5.73 | 119.61 | 121.90 |
| 1 | 13 | 1375 | A | C5-C6-N1 | 5.73 | 120.57 | 117.70 |
| 23 | 2K | 67 | C | C4-C5-C6 | 5.73 | 120.27 | 117.40 |
| 26 | 1H | 1430 | C | N1-C2-N3 | 5.73 | 123.21 | 119.20 |
| 26 | 1H | 2774 | C | N3-C2-O2 | -5.73 | 117.89 | 121.90 |
| 27 | 16 | 7 | G | OP2-P-O3' | 5.73 | 117.81 | 105.20 |
| 1 | 1G | 32 | A | N7-C8-N9 | 5.73 | 116.67 | 113.80 |
| 1 | 1G | 1390 | U | C5-C4-O4 | 5.73 | 129.34 | 125.90 |
| 56 | 1L | 69 | A | P-O3'-C3' | 5.73 | 126.58 | 119.70 |
| 26 | 14 | 117 | G | N3-C4-N9 | 5.73 | 129.44 | 126.00 |
| 26 | 14 | 130 | C | O5'-P-OP2 | 5.73 | 117.58 | 110.70 |
| 26 | 14 | 1471 | A | C8-N9-C4 | -5.73 | 103.51 | 105.80 |
| 26 | 14 | 2444 | G | N9-C4-C5 | 5.73 | 107.69 | 105.40 |
| 26 | 14 | 2740 | A | OP1-P-OP2 | 5.73 | 128.20 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 27 | 1J | 100 | G | C5-N7-C8 | 5.73 | 107.17 | 104.30 |
| 1 | 13 | 542 | G | C5-N7-C8 | -5.73 | 101.43 | 104.30 |
| 1 | 13 | 989 | C | O5'-P-OP1 | 5.73 | 117.58 | 110.70 |
| 24 | 3K | 35 | U | O5'-P-OP2 | 5.73 | 117.58 | 110.70 |
| 26 | 1H | 501 | A | C2-N3-C4 | -5.73 | 107.73 | 110.60 |
| 26 | 1H | 662 | G | N3-C4-N9 | 5.73 | 129.44 | 126.00 |
| 26 | 1H | 663 | G | C2-N3-C4 | -5.73 | 109.03 | 111.90 |
| 26 | 1H | 698 | C | N1-C2-N3 | -5.73 | 115.19 | 119.20 |
| 26 | 1H | 1561 | G | N9-C4-C5 | 5.73 | 107.69 | 105.40 |
| 26 | 1H | 1606 | G | N1-C6-O6 | 5.73 | 123.34 | 119.90 |
| 26 | 1H | 1613 | G | OP1-P-O3' | 5.73 | 117.81 | 105.20 |
| 26 | 1H | 2261 | C | OP1-P-OP2 | -5.73 | 111.00 | 119.60 |
| 26 | 1H | 2301 | C | N1-C2-O2 | -5.73 | 115.46 | 118.90 |
| 26 | 1H | 2332 | U | C2-N1-C1' | -5.73 | 110.82 | 117.70 |
| 26 | 1H | 2376 | A | C5-C6-N6 | -5.73 | 119.12 | 123.70 |
| 26 | 1H | 2672 | G | C6-N1-C2 | -5.73 | 121.66 | 125.10 |
| 1 | 1G | 328 | C | C6-N1-C2 | -5.73 | 118.01 | 120.30 |
| 26 | 14 | 697 | C | OP1-P-OP2 | 5.73 | 128.20 | 119.60 |
| 26 | 14 | 773 | U | C5-C6-N1 | -5.73 | 119.83 | 122.70 |
| 26 | 14 | 1856 | G | C8-N9-C1' | -5.73 | 119.55 | 127.00 |
| 1 | 13 | 57 | G | N1-C6-O6 | -5.73 | 116.46 | 119.90 |
| 1 | 13 | 148 | G | N7-C8-N9 | 5.73 | 115.97 | 113.10 |
| 1 | 13 | 511 | C | C2-N3-C4 | -5.73 | 117.04 | 119.90 |
| 1 | 13 | 578 | C | O5'-P-OP1 | 5.73 | 117.58 | 110.70 |
| 26 | 1H | 952 | G | OP2-P-O3' | 5.73 | 117.80 | 105.20 |
| 26 | 1H | 1390 | U | C2-N3-C4 | 5.73 | 130.44 | 127.00 |
| 26 | 1H | 1553 | A | N7-C8-N9 | -5.73 | 110.94 | 113.80 |
| 26 | 1H | 1932 | A | O5'-P-OP1 | -5.73 | 100.54 | 105.70 |
| 26 | 1H | 2367 | G | C2-N3-C4 | -5.73 | 109.03 | 111.90 |
| 26 | 1H | 2645 | G | N3-C4-C5 | 5.73 | 131.46 | 128.60 |
| 1 | 1G | 53 | A | N7-C8-N9 | 5.73 | 116.67 | 113.80 |
| 26 | 14 | 1138 | G | N1-C6-O6 | 5.73 | 123.34 | 119.90 |
| 26 | 14 | 1392 | A | C4-C5-N7 | -5.73 | 107.83 | 110.70 |
| 1 | 13 | 244 | U | N3-C4-O4 | 5.73 | 123.41 | 119.40 |
| 1 | 13 | 362 | G | C4-C5-N7 | 5.73 | 113.09 | 110.80 |
| 26 | 1H | 717 | G | C4-C5-C6 | 5.73 | 122.24 | 118.80 |
| 26 | 1H | 1000 | A | C5-N7-C8 | -5.73 | 101.04 | 103.90 |
| 26 | 1H | 2228 | G | N1-C2-N3 | 5.73 | 127.34 | 123.90 |
| 26 | 1H | 2314 | C | N1-C2-N3 | 5.73 | 123.21 | 119.20 |
| 26 | 1H | 2418 | A | N9-C4-C5 | 5.73 | 108.09 | 105.80 |
| 26 | 1H | 2494 | G | OP1-P-OP2 | 5.73 | 128.19 | 119.60 |
| 50 | K8 | 17 | SER | N-CA-C | 5.73 | 126.47 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 1G | 617 | G | C5-C6-N1 | -5.73 | 108.64 | 111.50 |
| 1 | 1G | 885 | G | N1-C6-O6 | -5.73 | 116.46 | 119.90 |
| 23 | 2L | 25 | U | OP1-P-OP2 | 5.73 | 128.19 | 119.60 |
| 26 | 14 | 83 | G | C4-C5-C6 | 5.73 | 122.24 | 118.80 |
| 26 | 14 | 363(D) | G | C8-N9-C4 | 5.73 | 108.69 | 106.40 |
| 26 | 14 | 481 | G | C5-N7-C8 | 5.73 | 107.16 | 104.30 |
| 26 | 14 | 979 | G | N7-C8-N9 | 5.73 | 115.96 | 113.10 |
| 26 | 14 | 1209 | G | C5-C6-O6 | 5.73 | 132.04 | 128.60 |
| 26 | 14 | 2000 | G | N1-C2-N3 | 5.73 | 127.34 | 123.90 |
| 26 | 14 | 2377 | A | N3-C4-C5 | 5.73 | 130.81 | 126.80 |
| 1 | 13 | 52 | G | N9-C4-C5 | -5.73 | 103.11 | 105.40 |
| 1 | 13 | 56 | U | N3-C2-O2 | -5.73 | 118.19 | 122.20 |
| 1 | 13 | 250 | A | C8-N9-C4 | 5.73 | 108.09 | 105.80 |
| 26 | 1H | 282 | A | C5-C6-N6 | 5.73 | 128.28 | 123.70 |
| 26 | 1H | 2303 | G | O4'-C1'-N9 | 5.73 | 112.78 | 108.20 |
| 26 | 1H | 2592 | G | C4-C5-C6 | 5.73 | 122.23 | 118.80 |
| 26 | 1H | 2641 | G | N1-C6-O6 | -5.73 | 116.46 | 119.90 |
| 1 | 1G | 1206 | G | C5-C6-O6 | -5.73 | 125.17 | 128.60 |
| 26 | 14 | 1674 | G | N9-C4-C5 | -5.73 | 103.11 | 105.40 |
| 1 | 13 | 556 | C | C5-C6-N1 | 5.72 | 123.86 | 121.00 |
| 1 | 13 | 1223 | C | N1-C2-O2 | 5.72 | 122.33 | 118.90 |
| 26 | 1H | 269 | U | N3-C4-O4 | 5.72 | 123.41 | 119.40 |
| 26 | 1H | 792 | G | OP2-P-O3' | 5.72 | 117.80 | 105.20 |
| 26 | 1H | 1932 | A | C2-N3-C4 | -5.72 | 107.74 | 110.60 |
| 26 | 1H | 2280 | G | C4-N9-C1' | 5.72 | 133.94 | 126.50 |
| 1 | 1G | 4 | U | C5-C4-O4 | 5.72 | 129.34 | 125.90 |
| 1 | 1G | 732 | C | N1-C2-O2 | 5.72 | 122.33 | 118.90 |
| 26 | 14 | 983 | A | C8-N9-C4 | -5.72 | 103.51 | 105.80 |
| 26 | 14 | 1903 | G | C6-C5-N7 | 5.72 | 133.84 | 130.40 |
| 26 | 14 | 2240 | C | C2-N3-C4 | 5.72 | 122.76 | 119.90 |
| 37 | 35 | 41 | ARG | NE-CZ-NH1 | -5.72 | 117.44 | 120.30 |
| 1 | 13 | 106 | C | N1-C2-O2 | -5.72 | 115.47 | 118.90 |
| 24 | 3K | 72 | C | N3-C2-O2 | -5.72 | 117.89 | 121.90 |
| 26 | 1H | 475 | U | O5'-P-OP2 | -5.72 | 100.55 | 105.70 |
| 26 | 1H | 691 | C | C2-N3-C4 | -5.72 | 117.04 | 119.90 |
| 26 | 1H | 874 | G | O5'-P-OP1 | 5.72 | 117.57 | 110.70 |
| 26 | 1H | 1162 | G | C5-C6-O6 | 5.72 | 132.03 | 128.60 |
| 26 | 1H | 1512 | G | C5-N7-C8 | 5.72 | 107.16 | 104.30 |
| 26 | 1H | 1785 | A | C6-N1-C2 | -5.72 | 115.17 | 118.60 |
| 26 | 1H | 2074 | U | C5-C6-N1 | -5.72 | 119.84 | 122.70 |
| 26 | 1H | 2076 | U | C2-N3-C4 | -5.72 | 123.57 | 127.00 |
| 26 | 1H | 2498 | C | O5'-P-OP1 | 5.72 | 117.57 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 1G | 42 | G | C4-C5-N7 | -5.72 | 108.51 | 110.80 |
| 1 | 1G | 347 | G | C4-C5-C6 | -5.72 | 115.37 | 118.80 |
| 1 | 1G | 601 | C | O5'-P-OP2 | -5.72 | 100.55 | 105.70 |
| 26 | 14 | 115 | C | O5'-P-OP2 | -5.72 | 100.55 | 105.70 |
| 26 | 14 | 971 | C | C6-N1-C2 | -5.72 | 118.01 | 120.30 |
| 26 | 14 | 1020 | A | C2-N3-C4 | -5.72 | 107.74 | 110.60 |
| 26 | 14 | 1443 | G | N9-C4-C5 | 5.72 | 107.69 | 105.40 |
| 26 | 14 | 1612 | C | C5-C4-N4 | -5.72 | 116.19 | 120.20 |
| 26 | 14 | 1957 | C | N1-C2-O2 | -5.72 | 115.47 | 118.90 |
| 27 | 1J | 98 | G | C6-C5-N7 | -5.72 | 126.97 | 130.40 |
| 1 | 13 | 176 | C | C5-C6-N1 | 5.72 | 123.86 | 121.00 |
| 1 | 13 | 1255 | G | O5'-P-OP1 | -5.72 | 100.55 | 105.70 |
| 1 | 13 | 1265 | G | C5-C6-O6 | -5.72 | 125.17 | 128.60 |
| 26 | 14 | 392 | C | OP2-P-O3' | 5.72 | 117.79 | 105.20 |
| 26 | 14 | 1616 | A | N3-C4-N9 | -5.72 | 122.82 | 127.40 |
| 26 | 14 | 1690 | A | C5-C6-N6 | -5.72 | 119.12 | 123.70 |
| 26 | 14 | 2070 | G | C5-C6-O6 | 5.72 | 132.03 | 128.60 |
| 26 | 14 | 2230 | G | C8-N9-C4 | -5.72 | 104.11 | 106.40 |
| 1 | 13 | 423 | G | OP1-P-O3' | 5.72 | 117.78 | 105.20 |
| 1 | 13 | 535 | A | N1-C6-N6 | -5.72 | 115.17 | 118.60 |
| 1 | 13 | 615 | C | C6-N1-C2 | 5.72 | 122.59 | 120.30 |
| 1 | 13 | 864 | A | O5'-P-OP1 | 5.72 | 117.56 | 110.70 |
| 26 | 1H | 70 | G | C8-N9-C4 | -5.72 | 104.11 | 106.40 |
| 26 | 1H | 310 | A | C8-N9-C4 | 5.72 | 108.09 | 105.80 |
| 26 | 1H | 1215 | G | C6-N1-C2 | -5.72 | 121.67 | 125.10 |
| 26 | 1H | 1603 | A | C5-N7-C8 | -5.72 | 101.04 | 103.90 |
| 1 | 1G | 28 | G | C5-N7-C8 | -5.72 | 101.44 | 104.30 |
| 26 | 14 | 1280 | G | C5-C6-N1 | -5.72 | 108.64 | 111.50 |
| 26 | 14 | 1816 | G | C8-N9-C1' | 5.72 | 134.43 | 127.00 |
| 26 | 14 | 2047 | U | N3-C4-O4 | -5.72 | 115.40 | 119.40 |
| 26 | 14 | 2263 | C | OP1-P-O3' | 5.72 | 117.78 | 105.20 |
| 26 | 14 | 2572 | A | C2-N3-C4 | -5.72 | 107.74 | 110.60 |
| 1 | 13 | 570 | G | C2-N3-C4 | -5.72 | 109.04 | 111.90 |
| 1 | 13 | 605 | U | C5-C4-O4 | 5.72 | 129.33 | 125.90 |
| 26 | 1H | 271(B) | G | N3-C4-C5 | -5.72 | 125.74 | 128.60 |
| 26 | 1H | 1833 | U | C5-C6-N1 | -5.72 | 119.84 | 122.70 |
| 26 | 1H | 2319 | G | C6-C5-N7 | -5.72 | 126.97 | 130.40 |
| 26 | 1H | 2343 | C | C5-C6-N1 | -5.72 | 118.14 | 121.00 |
| 27 | 16 | 108 | C | C4-C5-C6 | 5.72 | 120.26 | 117.40 |
| 1 | 1G | 65 | U | C6-N1-C2 | 5.72 | 124.43 | 121.00 |
| 1 | 1G | 406 | G | O5'-P-OP1 | -5.72 | 100.55 | 105.70 |
| 26 | 14 | 52 | A | C6-N1-C2 | 5.72 | 122.03 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 1194 | U | C6-N1-C2 | -5.72 | 117.57 | 121.00 |
| 1 | 13 | 1315 | U | N3-C4-C5 | -5.72 | 111.17 | 114.60 |
| 26 | 1H | 432 | A | OP1-P-OP2 | -5.72 | 111.03 | 119.60 |
| 26 | 1H | 467 | G | N9-C1'-C2' | -5.72 | 105.71 | 112.00 |
| 26 | 1H | 617 | G | N3-C2-N2 | 5.72 | 123.90 | 119.90 |
| 26 | 1H | 665 | C | C5-C6-N1 | -5.72 | 118.14 | 121.00 |
| 26 | 1H | 913 | U | N3-C4-O4 | -5.72 | 115.40 | 119.40 |
| 26 | 1H | 1571 | A | C4-C5-N7 | -5.72 | 107.84 | 110.70 |
| 26 | 1H | 2385 | C | N1-C2-O2 | -5.72 | 115.47 | 118.90 |
| 26 | 1H | 2787 | C | C6-N1-C1' | -5.72 | 113.94 | 120.80 |
| 27 | 16 | 66 | A | N3-C4-C5 | -5.72 | 122.80 | 126.80 |
| 1 | 1G | 311 | C | OP1-P-O3' | -5.72 | 92.62 | 105.20 |
| 26 | 14 | 315 | G | N1-C6-O6 | -5.72 | 116.47 | 119.90 |
| 26 | 14 | 425 | G | C8-N9-C4 | 5.72 | 108.69 | 106.40 |
| 26 | 14 | 578 | A | C5-N7-C8 | -5.72 | 101.04 | 103.90 |
| 26 | 14 | 1660 | C | N1-C2-O2 | 5.72 | 122.33 | 118.90 |
| 26 | 14 | 2391 | G | N9-C4-C5 | 5.72 | 107.69 | 105.40 |
| 1 | 13 | 13 | U | N3-C2-O2 | -5.71 | 118.20 | 122.20 |
| 1 | 13 | 296 | U | O5'-P-OP1 | 5.71 | 117.56 | 110.70 |
| 1 | 13 | 783 | C | N3-C2-O2 | 5.71 | 125.90 | 121.90 |
| 26 | 1H | 656 | G | N1-C6-O6 | -5.71 | 116.47 | 119.90 |
| 26 | 1H | 813 | U | C2-N3-C4 | -5.71 | 123.57 | 127.00 |
| 26 | 1H | 1272 | A | C5-C6-N1 | 5.71 | 120.56 | 117.70 |
| 26 | 1H | 1350 | C | O5'-P-OP1 | -5.71 | 100.56 | 105.70 |
| 26 | 1H | 2323 | G | C2-N3-C4 | -5.71 | 109.04 | 111.90 |
| 26 | 1H | 2413 | G | OP1-P-OP2 | 5.71 | 128.17 | 119.60 |
| 26 | 1H | 2427 | C | N1-C2-O2 | -5.71 | 115.47 | 118.90 |
| 26 | 1H | 2818 | G | N3-C4-N9 | -5.71 | 122.57 | 126.00 |
| 26 | 1H | 2867 | G | C5-C6-N1 | -5.71 | 108.64 | 111.50 |
| 1 | 1G | 184 | G | OP2-P-O3' | 5.71 | 117.77 | 105.20 |
| 1 | 1G | 1529 | G | N3-C4-N9 | 5.71 | 129.43 | 126.00 |
| 26 | 14 | 133 | C | N3-C4-N4 | -5.71 | 114.00 | 118.00 |
| 26 | 14 | 183 | C | OP2-P-O3' | 5.71 | 117.77 | 105.20 |
| 26 | 14 | 1621 | U | N3-C2-O2 | 5.71 | 126.20 | 122.20 |
| 26 | 14 | 2513 | G | N7-C8-N9 | -5.71 | 110.24 | 113.10 |
| 26 | 1H | 705 | A | C6-C5-N7 | -5.71 | 128.30 | 132.30 |
| 26 | 1H | 752 | A | C2-N3-C4 | -5.71 | 107.74 | 110.60 |
| 26 | 1H | 1155 | A | C6-N1-C2 | -5.71 | 115.17 | 118.60 |
| 26 | 1H | 1429 | G | OP2-P-O3' | 5.71 | 117.77 | 105.20 |
| 26 | 1H | 2688 | U | C4-C5-C6 | 5.71 | 123.13 | 119.70 |
| 39 | 98 | 105 | ARG | NE-CZ-NH1 | -5.71 | 117.44 | 120.30 |
| 50 | K8 | 61 | LEU | CB-CG-CD2 | -5.71 | 101.29 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 610 | G | C5-C6-N1 | -5.71 | 108.64 | 111.50 |
| 1 | 1G | 1369 | C | C6-N1-C2 | 5.71 | 122.58 | 120.30 |
| 1 | 13 | 31 | G | N1-C2-N2 | 5.71 | 121.34 | 116.20 |
| 1 | 13 | 312 | C | C2-N3-C4 | 5.71 | 122.75 | 119.90 |
| 1 | 13 | 517 | G | C4-C5-N7 | 5.71 | 113.08 | 110.80 |
| 1 | 13 | 542 | G | N9-C4-C5 | -5.71 | 103.11 | 105.40 |
| 1 | 13 | 656 | C | N3-C4-C5 | -5.71 | 119.61 | 121.90 |
| 1 | 13 | 790 | A | N3-C4-C5 | -5.71 | 122.80 | 126.80 |
| 26 | 1H | 214 | G | N3-C4-C5 | -5.71 | 125.74 | 128.60 |
| 26 | 1H | 245 | G | N3-C4-N9 | 5.71 | 129.43 | 126.00 |
| 26 | 1H | 502 | A | C4-C5-C6 | 5.71 | 119.86 | 117.00 |
| 26 | 1H | 751 | A | O5'-P-OP2 | 5.71 | 117.56 | 110.70 |
| 26 | 1H | 811 | U | C2-N3-C4 | -5.71 | 123.57 | 127.00 |
| 26 | 1H | 933 | A | C5-C6-N1 | 5.71 | 120.56 | 117.70 |
| 26 | 1H | 990 | A | N3-C4-N9 | -5.71 | 122.83 | 127.40 |
| 26 | 1H | 2303 | G | C5-C6-N1 | -5.71 | 108.64 | 111.50 |
| 26 | 1H | 2344 | U | N3-C2-O2 | -5.71 | 118.20 | 122.20 |
| 26 | 1H | 2367 | G | C5-C6-N1 | -5.71 | 108.64 | 111.50 |
| 26 | 1H | 2446 | G | O4'-C1'-N9 | 5.71 | 112.77 | 108.20 |
| 26 | 1H | 2486 | G | OP1-P-O3' | 5.71 | 117.76 | 105.20 |
| 26 | 1H | 2628 | C | N1-C2-N3 | -5.71 | 115.20 | 119.20 |
| 1 | 1G | 912 | C | C4-C5-C6 | 5.71 | 120.25 | 117.40 |
| 1 | 1G | 1236 | A | OP1-P-OP2 | -5.71 | 111.03 | 119.60 |
| 26 | 14 | 481 | G | O5'-P-OP1 | 5.71 | 117.55 | 110.70 |
| 26 | 14 | 992 | C | OP1-P-O3' | 5.71 | 117.76 | 105.20 |
| 26 | 14 | 1468 | C | N3-C4-N4 | 5.71 | 122.00 | 118.00 |
| 26 | 14 | 1950 | G | N1-C2-N3 | -5.71 | 120.47 | 123.90 |
| 26 | 14 | 1997 | G | N1-C6-O6 | -5.71 | 116.47 | 119.90 |
| 1 | 13 | 593 | G | C8-N9-C4 | -5.71 | 104.12 | 106.40 |
| 26 | 1H | 1596 | A | C5-C6-N6 | -5.71 | 119.13 | 123.70 |
| 26 | 1H | 2244 | U | OP1-P-OP2 | -5.71 | 111.03 | 119.60 |
| 1 | 1G | 535 | A | N1-C2-N3 | 5.71 | 132.16 | 129.30 |
| 26 | 14 | 577 | G | N1-C2-N3 | 5.71 | 127.33 | 123.90 |
| 26 | 14 | 1049 | C | N1-C2-O2 | 5.71 | 122.33 | 118.90 |
| 26 | 14 | 1629 | U | C5-C4-O4 | 5.71 | 129.33 | 125.90 |
| 26 | 14 | 1808 | U | N3-C4-C5 | 5.71 | 118.03 | 114.60 |
| 1 | 13 | 633 | G | C2-N3-C4 | -5.71 | 109.05 | 111.90 |
| 1 | 13 | 1435 | G | C5-N7-C8 | -5.71 | 101.45 | 104.30 |
| 26 | 1H | 466 | A | C6-N1-C2 | -5.71 | 115.17 | 118.60 |
| 26 | 1H | 627 | A | C5-N7-C8 | 5.71 | 106.75 | 103.90 |
| 26 | 1H | 669 | G | C5-N7-C8 | -5.71 | 101.45 | 104.30 |
| 26 | 1H | 2035 | G | C4-C5-N7 | -5.71 | 108.52 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 1G | 1072 | G | O5'-P-OP2 | -5.71 | 100.56 | 105.70 |
| 1 | 1G | 1435 | G | N1-C2-N3 | 5.71 | 127.33 | 123.90 |
| 26 | 14 | 1641 | A | OP2-P-O3' | 5.71 | 117.76 | 105.20 |
| 26 | 14 | 1857 | G | C5-C6-O6 | 5.71 | 132.03 | 128.60 |
| 26 | 14 | 2061 | G | C8-N9-C4 | 5.71 | 108.68 | 106.40 |
| 27 | 1J | 16 | G | C8-N9-C4 | -5.71 | 104.12 | 106.40 |
| 55 | M5 | 50 | LEU | CB-CG-CD1 | 5.71 | 120.70 | 111.00 |
| 1 | 13 | 302 | G | OP1-P-OP2 | 5.71 | 128.16 | 119.60 |
| 26 | 1H | 39 | C | C6-N1-C2 | 5.71 | 122.58 | 120.30 |
| 26 | 1H | 508 | G | C6-C5-N7 | -5.71 | 126.98 | 130.40 |
| 26 | 1H | 670 | A | C2-N3-C4 | 5.71 | 113.45 | 110.60 |
| 26 | 1H | 1106 | G | N3-C4-C5 | -5.71 | 125.75 | 128.60 |
| 26 | 1H | 1757 | U | OP1-P-O3' | 5.71 | 117.75 | 105.20 |
| 26 | 1H | 1801 | G | N1-C6-O6 | 5.71 | 123.32 | 119.90 |
| 26 | 1H | 2081 | C | OP2-P-O3' | 5.71 | 117.75 | 105.20 |
| 26 | 1H | 2762 | G | N3-C4-C5 | -5.71 | 125.75 | 128.60 |
| 26 | 1H | 2896 | C | C5-C6-N1 | 5.71 | 123.85 | 121.00 |
| 1 | 1G | 273 | A | N7-C8-N9 | 5.71 | 116.65 | 113.80 |
| 1 | 1G | 402 | G | OP2-P-O3' | 5.71 | 117.75 | 105.20 |
| 26 | 14 | 44 | A | N1-C2-N3 | 5.71 | 132.15 | 129.30 |
| 26 | 14 | 211 | A | OP2-P-O3' | 5.71 | 117.75 | 105.20 |
| 26 | 14 | 530 | G | C4-N9-C1' | 5.71 | 133.92 | 126.50 |
| 26 | 14 | 1049 | C | C5-C6-N1 | 5.71 | 123.85 | 121.00 |
| 26 | 14 | 1346 | G | N7-C8-N9 | -5.71 | 110.25 | 113.10 |
| 26 | 14 | 1807 | G | N9-C1'-C2' | -5.71 | 105.72 | 112.00 |
| 26 | 14 | 2689 | U | C5-C6-N1 | -5.71 | 119.85 | 122.70 |
| 26 | 14 | 2727 | G | C2-N3-C4 | -5.71 | 109.05 | 111.90 |
| 1 | 13 | 1311 | G | N1-C2-N2 | -5.71 | 111.06 | 116.20 |
| 1 | 13 | 1511 | G | C5-N7-C8 | -5.71 | 101.45 | 104.30 |
| 26 | 1H | 51 | G | C4-C5-N7 | -5.71 | 108.52 | 110.80 |
| 26 | 1H | 185 | U | N1-C2-N3 | 5.71 | 118.32 | 114.90 |
| 26 | 1H | 358 | U | N1-C2-O2 | 5.71 | 126.79 | 122.80 |
| 26 | 1H | 618(A) | C | N3-C2-O2 | 5.71 | 125.89 | 121.90 |
| 26 | 1H | 2360 | A | N3-C4-C5 | 5.71 | 130.79 | 126.80 |
| 27 | 16 | 97 | G | N7-C8-N9 | -5.71 | 110.25 | 113.10 |
| 1 | 1G | 1188 | A | C2-N3-C4 | 5.71 | 113.45 | 110.60 |
| 1 | 1G | 1325 | C | O4'-C1'-N1 | 5.71 | 112.76 | 108.20 |
| 1 | 13 | 516 | U | C5-C6-N1 | 5.70 | 125.55 | 122.70 |
| 1 | 13 | 1196 | U | N3-C4-O4 | 5.70 | 123.39 | 119.40 |
| 26 | 1H | 248 | G | C2-N3-C4 | -5.70 | 109.05 | 111.90 |
| 26 | 1H | 431 | U | OP1-P-O3' | 5.70 | 117.75 | 105.20 |
| 26 | 1H | 1316 | U | O5'-P-OP2 | -5.70 | 100.57 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2262 | U | N3-C2-O2 | -5.70 | 118.21 | 122.20 |
| 26 | 1H | 2522 | U | N3-C4-O4 | 5.70 | 123.39 | 119.40 |
| 26 | 1H | 2862 | G | OP1-P-O3' | 5.70 | 117.75 | 105.20 |
| 1 | 1G | 292 | G | N1-C2-N2 | -5.70 | 111.07 | 116.20 |
| 1 | 1G | 515 | G | C8-N9-C4 | 5.70 | 108.68 | 106.40 |
| 1 | 1G | 778 | G | OP1-P-O3' | 5.70 | 117.75 | 105.20 |
| 26 | 14 | 71 | A | P-O3'-C3' | 5.70 | 126.54 | 119.70 |
| 26 | 14 | 138 | G | O5'-P-OP2 | -5.70 | 100.57 | 105.70 |
| 26 | 14 | 352 | G | C6-C5-N7 | -5.70 | 126.98 | 130.40 |
| 26 | 14 | 518 | G | C4-N9-C1' | 5.70 | 133.91 | 126.50 |
| 26 | 14 | 843 | G | OP2-P-O3' | 5.70 | 117.75 | 105.20 |
| 26 | 14 | 1624 | G | OP2-P-O3' | 5.70 | 117.75 | 105.20 |
| 26 | 14 | 2264 | C | C2-N3-C4 | 5.70 | 122.75 | 119.90 |
| 26 | 14 | 2444 | G | N1-C6-O6 | -5.70 | 116.48 | 119.90 |
| 1 | 13 | 141 | A | N1-C6-N6 | 5.70 | 122.02 | 118.60 |
| 26 | 1H | 956 | G | O5'-P-OP1 | 5.70 | 117.54 | 110.70 |
| 26 | 1H | 1862 | G | C8-N9-C4 | 5.70 | 108.68 | 106.40 |
| 26 | 1H | 2400 | G | N1-C6-O6 | -5.70 | 116.48 | 119.90 |
| 26 | 1H | 2599 | G | N1-C6-O6 | -5.70 | 116.48 | 119.90 |
| 1 | 1G | 764 | C | N3-C4-C5 | 5.70 | 124.18 | 121.90 |
| 26 | 14 | 383 | U | O5'-P-OP1 | -5.70 | 100.57 | 105.70 |
| 26 | 14 | 1811 | G | C8-N9-C4 | 5.70 | 108.68 | 106.40 |
| 1 | 13 | 484 | G | O4'-C1'-N9 | -5.70 | 103.64 | 108.20 |
| 1 | 13 | 800 | G | O5'-P-OP2 | -5.70 | 100.57 | 105.70 |
| 1 | 13 | 1251 | A | N1-C6-N6 | -5.70 | 115.18 | 118.60 |
| 1 | 13 | 1279 | A | C8-N9-C4 | -5.70 | 103.52 | 105.80 |
| 22 | 1K | 27 | G | C6-C5-N7 | 5.70 | 133.82 | 130.40 |
| 26 | 1H | 131 | G | N3-C2-N2 | -5.70 | 115.91 | 119.90 |
| 26 | 1H | 575 | A | C5-C6-N1 | 5.70 | 120.55 | 117.70 |
| 26 | 1H | 846 | C | C5-C4-N4 | -5.70 | 116.21 | 120.20 |
| 26 | 1H | 1126 | A | C2-N3-C4 | -5.70 | 107.75 | 110.60 |
| 1 | 1G | 1535 | C | C6-N1-C2 | -5.70 | 118.02 | 120.30 |
| 26 | 14 | 443 | A | O4'-C1'-N9 | 5.70 | 112.76 | 108.20 |
| 26 | 14 | 932 | G | N3-C4-N9 | -5.70 | 122.58 | 126.00 |
| 26 | 14 | 1342 | A | O5'-P-OP2 | 5.70 | 117.54 | 110.70 |
| 26 | 14 | 1657 | C | N3-C4-C5 | 5.70 | 124.18 | 121.90 |
| 29 | 19 | 177 | LEU | CA-CB-CG | -5.70 | 102.19 | 115.30 |
| 1 | 13 | 420 | U | N3-C4-O4 | 5.70 | 123.39 | 119.40 |
| 1 | 13 | 1279 | A | C4-C5-N7 | 5.70 | 113.55 | 110.70 |
| 1 | 13 | 1522 | U | N3-C2-O2 | -5.70 | 118.21 | 122.20 |
| 23 | 2K | 23 | G | N3-C4-C5 | 5.70 | 131.45 | 128.60 |
| 24 | 3K | 21 | A | N1-C6-N6 | -5.70 | 115.18 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 24 | 3K | 35 | U | N1-C2-O2 | 5.70 | 126.79 | 122.80 |
| 26 | 1H | 442 | G | N1-C2-N2 | -5.70 | 111.07 | 116.20 |
| 26 | 1H | 791 | C | OP1-P-O3' | -5.70 | 92.67 | 105.20 |
| 26 | 1H | 1186 | G | C5-N7-C8 | 5.70 | 107.15 | 104.30 |
| 26 | 1H | 1214 | A | N7-C8-N9 | -5.70 | 110.95 | 113.80 |
| 26 | 1H | 1284 | A | C4-C5-N7 | 5.70 | 113.55 | 110.70 |
| 26 | 1H | 1561 | G | N3-C4-N9 | -5.70 | 122.58 | 126.00 |
| 26 | 1H | 1578 | U | N3-C4-C5 | -5.70 | 111.18 | 114.60 |
| 26 | 1H | 2330 | G | N3-C4-C5 | 5.70 | 131.45 | 128.60 |
| 26 | 1H | 2376 | A | N1-C2-N3 | 5.70 | 132.15 | 129.30 |
| 27 | 16 | 96 | G | C8-N9-C4 | 5.70 | 108.68 | 106.40 |
| 1 | 1G | 721 | G | C2-N3-C4 | -5.70 | 109.05 | 111.90 |
| 1 | 1G | 1442 | G | N3-C4-C5 | 5.70 | 131.45 | 128.60 |
| 26 | 14 | 271(B) | G | O5'-P-OP1 | -5.70 | 100.57 | 105.70 |
| 26 | 14 | 324 | A | O5'-P-OP1 | -5.70 | 100.57 | 105.70 |
| 26 | 14 | 337 | C | C4-C5-C6 | 5.70 | 120.25 | 117.40 |
| 26 | 14 | 1256 | G | N1-C2-N2 | 5.70 | 121.33 | 116.20 |
| 26 | 14 | 2060 | A | N7-C8-N9 | 5.70 | 116.65 | 113.80 |
| 26 | 14 | 2686 | G | N3-C2-N2 | 5.70 | 123.89 | 119.90 |
| 1 | 13 | 765 | G | C6-C5-N7 | -5.70 | 126.98 | 130.40 |
| 1 | 13 | 803 | G | N1-C2-N2 | -5.70 | 111.07 | 116.20 |
| 26 | 1H | 833 | U | O5'-P-OP1 | -5.70 | 100.57 | 105.70 |
| 26 | 1H | 1834 | U | O5'-P-OP2 | 5.70 | 117.54 | 110.70 |
| 1 | 1G | 20 | U | OP1-P-OP2 | 5.70 | 128.15 | 119.60 |
| 1 | 1G | 292 | G | N3-C2-N2 | 5.70 | 123.89 | 119.90 |
| 1 | 1G | 691 | G | C6-C5-N7 | -5.70 | 126.98 | 130.40 |
| 26 | 14 | 611 | C | C5-C4-N4 | -5.70 | 116.21 | 120.20 |
| 26 | 14 | 1987 | G | C5-C6-O6 | -5.70 | 125.18 | 128.60 |
| 26 | 14 | 2385 | C | N3-C4-C5 | 5.70 | 124.18 | 121.90 |
| 26 | 14 | 2737 | G | C5-C6-N1 | -5.70 | 108.65 | 111.50 |
| 1 | 13 | 976 | G | C2-N3-C4 | -5.70 | 109.05 | 111.90 |
| 1 | 13 | 1521 | G | OP1-P-OP2 | 5.70 | 128.15 | 119.60 |
| 26 | 1H | 536 | A | C5-C6-N1 | 5.70 | 120.55 | 117.70 |
| 26 | 1H | 551 | G | N1-C6-O6 | 5.70 | 123.32 | 119.90 |
| 26 | 1H | 639 | U | N1-C2-O2 | 5.70 | 126.79 | 122.80 |
| 26 | 1H | 651 | G | N3-C2-N2 | -5.70 | 115.91 | 119.90 |
| 26 | 1H | 721 | C | C6-N1-C2 | 5.70 | 122.58 | 120.30 |
| 26 | 1H | 782 | A | N1-C6-N6 | -5.70 | 115.18 | 118.60 |
| 1 | 1G | 425 | G | C5-N7-C8 | -5.70 | 101.45 | 104.30 |
| 1 | 1G | 1370 | G | C8-N9-C4 | -5.70 | 104.12 | 106.40 |
| 26 | 14 | 333 | G | N3-C2-N2 | -5.70 | 115.91 | 119.90 |
| 26 | 14 | 570 | G | C4-C5-C6 | 5.70 | 122.22 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1245 | G | C6-C5-N7 | -5.70 | 126.98 | 130.40 |
| 26 | 14 | 1992 | G | N3-C4-C5 | -5.70 | 125.75 | 128.60 |
| 26 | 1H | 13 | A | C6-C5-N7 | -5.69 | 128.31 | 132.30 |
| 26 | 1H | 260 | G | N1-C6-O6 | -5.69 | 116.48 | 119.90 |
| 26 | 1H | 397 | G | N1-C2-N3 | 5.69 | 127.32 | 123.90 |
| 26 | 1H | 1184 | G | N3-C4-N9 | -5.69 | 122.58 | 126.00 |
| 26 | 1H | 1763 | G | C5-C6-O6 | 5.69 | 132.02 | 128.60 |
| 1 | 1G | 331 | G | N7-C8-N9 | 5.69 | 115.95 | 113.10 |
| 1 | 1G | 404 | U | OP1-P-OP2 | -5.69 | 111.06 | 119.60 |
| 1 | 1G | 1229 | A | C8-N9-C4 | -5.69 | 103.52 | 105.80 |
| 26 | 14 | 450 | G | OP1-P-OP2 | -5.69 | 111.06 | 119.60 |
| 26 | 14 | 795 | C | OP1-P-OP2 | 5.69 | 128.14 | 119.60 |
| 26 | 14 | 857 | C | N3-C2-O2 | -5.69 | 117.91 | 121.90 |
| 26 | 14 | 2069 | G | OP1-P-OP2 | 5.69 | 128.14 | 119.60 |
| 1 | 13 | 304 | U | C5-C4-O4 | 5.69 | 129.31 | 125.90 |
| 22 | 1K | 38 | A | C5-N7-C8 | -5.69 | 101.05 | 103.90 |
| 26 | 1H | 333 | G | C2-N3-C4 | 5.69 | 114.75 | 111.90 |
| 26 | 1H | 991 | C | C6-N1-C1' | 5.69 | 127.63 | 120.80 |
| 26 | 1H | 1672 | C | N3-C4-N4 | 5.69 | 121.98 | 118.00 |
| 26 | 1H | 1820 | U | O5'-P-OP2 | -5.69 | 100.58 | 105.70 |
| 26 | 1H | 2509 | G | C4-C5-N7 | 5.69 | 113.08 | 110.80 |
| 46 | G8 | 84 | ARG | CA-CB-CG | 5.69 | 125.92 | 113.40 |
| 1 | 1G | 530 | G | N3-C4-C5 | 5.69 | 131.45 | 128.60 |
| 1 | 1G | 579 | G | C5-C6-N1 | -5.69 | 108.65 | 111.50 |
| 1 | 1G | 645 | C | C6-N1-C2 | -5.69 | 118.02 | 120.30 |
| 26 | 14 | 260 | G | N9-C4-C5 | 5.69 | 107.68 | 105.40 |
| 26 | 14 | 398 | G | N1-C6-O6 | 5.69 | 123.31 | 119.90 |
| 26 | 14 | 1465 | G | C4-C5-N7 | 5.69 | 113.08 | 110.80 |
| 26 | 14 | 1690 | A | N1-C6-N6 | 5.69 | 122.02 | 118.60 |
| 26 | 14 | 1969 | A | O5'-P-OP2 | 5.69 | 117.53 | 110.70 |
| 26 | 14 | 2383 | G | C4-N9-C1' | 5.69 | 133.90 | 126.50 |
| 1 | 13 | 112 | G | OP2-P-O3' | 5.69 | 117.72 | 105.20 |
| 1 | 13 | 582 | U | C6-N1-C2 | 5.69 | 124.41 | 121.00 |
| 1 | 13 | 1045 | C | N3-C4-C5 | -5.69 | 119.62 | 121.90 |
| 26 | 1H | 1220 | A | C4-C5-C6 | 5.69 | 119.84 | 117.00 |
| 26 | 1H | 1358 | G | N1-C6-O6 | -5.69 | 116.49 | 119.90 |
| 26 | 1H | 2080 | G | C4-C5-N7 | -5.69 | 108.52 | 110.80 |
| 26 | 1H | 2332 | U | N3-C2-O2 | 5.69 | 126.18 | 122.20 |
| 26 | 1H | 2550 | G | N3-C4-C5 | -5.69 | 125.75 | 128.60 |
| 27 | 16 | 21 | G | N3-C4-C5 | 5.69 | 131.45 | 128.60 |
| 26 | 14 | 639 | U | C4-C5-C6 | 5.69 | 123.11 | 119.70 |
| 26 | 14 | 651 | G | O5'-P-OP2 | 5.69 | 117.53 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1232 | G | N1-C6-O6 | 5.69 | 123.31 | 119.90 |
| 26 | 14 | 1702 | G | C5-C6-N1 | -5.69 | 108.66 | 111.50 |
| 26 | 14 | 2028 | U | N3-C4-O4 | 5.69 | 123.38 | 119.40 |
| 29 | 19 | 37 | LEU | CA-CB-CG | -5.69 | 102.21 | 115.30 |
| 26 | 1H | 38 | A | C6-N1-C2 | -5.69 | 115.19 | 118.60 |
| 26 | 1H | 189 | G | C6-N1-C2 | -5.69 | 121.69 | 125.10 |
| 26 | 1H | 207 | A | N1-C2-N3 | 5.69 | 132.14 | 129.30 |
| 26 | 1H | 1398 | C | N1-C2-O2 | -5.69 | 115.49 | 118.90 |
| 26 | 1H | 1623 | G | N7-C8-N9 | -5.69 | 110.26 | 113.10 |
| 26 | 1H | 1783 | A | N7-C8-N9 | 5.69 | 116.64 | 113.80 |
| 26 | 1H | 2734 | A | C8-N9-C4 | 5.69 | 108.08 | 105.80 |
| 26 | 1H | 2875 | C | C6-N1-C2 | 5.69 | 122.58 | 120.30 |
| 26 | 14 | 729 | G | N1-C2-N3 | -5.69 | 120.49 | 123.90 |
| 26 | 14 | 809 | G | N1-C2-N2 | -5.69 | 111.08 | 116.20 |
| 26 | 14 | 2640 | G | N1-C2-N3 | 5.69 | 127.31 | 123.90 |
| 1 | 13 | 1281 | U | N1-C2-O2 | 5.69 | 126.78 | 122.80 |
| 1 | 13 | 1353 | G | OP1-P-OP2 | -5.69 | 111.07 | 119.60 |
| 26 | 1H | 17 | G | N3-C4-N9 | 5.69 | 129.41 | 126.00 |
| 26 | 1H | 1016 | G | O5'-P-OP2 | 5.69 | 117.53 | 110.70 |
| 26 | 1H | 1760 | A | C5-N7-C8 | -5.69 | 101.06 | 103.90 |
| 26 | 1H | 2198 | A | OP1-P-OP2 | 5.69 | 128.13 | 119.60 |
| 26 | 1H | 2300 | G | OP2-P-O3' | 5.69 | 117.71 | 105.20 |
| 1 | 1G | 449 | C | C6-N1-C2 | -5.69 | 118.03 | 120.30 |
| 1 | 1G | 489 | C | C6-N1-C2 | 5.69 | 122.58 | 120.30 |
| 26 | 14 | 1479 | G | C6-C5-N7 | -5.69 | 126.99 | 130.40 |
| 26 | 14 | 1568 | G | N1-C2-N2 | 5.69 | 121.32 | 116.20 |
| 1 | 13 | 364 | A | C6-N1-C2 | -5.69 | 115.19 | 118.60 |
| 12 | 3I | 52 | LEU | CB-CG-CD1 | -5.69 | 101.33 | 111.00 |
| 26 | 1H | 480 | A | N1-C6-N6 | 5.69 | 122.01 | 118.60 |
| 26 | 1H | 711 | G | N7-C8-N9 | 5.69 | 115.94 | 113.10 |
| 26 | 1H | 741 | G | N1-C2-N3 | 5.69 | 127.31 | 123.90 |
| 26 | 1H | 969 | U | N1-C2-O2 | -5.69 | 118.82 | 122.80 |
| 26 | 1H | 1602 | U | C6-N1-C2 | -5.69 | 117.59 | 121.00 |
| 26 | 1H | 1839 | G | N3-C2-N2 | 5.69 | 123.88 | 119.90 |
| 26 | 1H | 2291 | U | N3-C2-O2 | -5.69 | 118.22 | 122.20 |
| 26 | 1H | 2387 | U | C2-N1-C1' | -5.69 | 110.88 | 117.70 |
| 26 | 1H | 2524 | G | C4-C5-N7 | -5.69 | 108.53 | 110.80 |
| 26 | 1H | 2585 | U | C4-C5-C6 | -5.69 | 116.29 | 119.70 |
| 26 | 1H | 2695 | C | C2-N3-C4 | -5.69 | 117.06 | 119.90 |
| 26 | 1H | 2761 | G | N1-C2-N2 | -5.69 | 111.08 | 116.20 |
| 26 | 14 | 1340 | U | C5-C4-O4 | -5.69 | 122.49 | 125.90 |
| 26 | 14 | 1948 | G | C5-N7-C8 | -5.69 | 101.46 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2325 | G | N9-C4-C5 | 5.69 | 107.67 | 105.40 |
| 1 | 13 | 180 | U | N3-C4-O4 | 5.68 | 123.38 | 119.40 |
| 1 | 13 | 660 | G | OP1-P-OP2 | -5.68 | 111.08 | 119.60 |
| 23 | 2K | 61 | U | OP2-P-O3' | 5.68 | 117.71 | 105.20 |
| 26 | 1H | 211 | A | N3-C4-C5 | 5.68 | 130.78 | 126.80 |
| 26 | 1H | 315 | G | C2-N3-C4 | -5.68 | 109.06 | 111.90 |
| 26 | 1H | 580 | C | N3-C4-C5 | -5.68 | 119.63 | 121.90 |
| 26 | 1H | 632 | A | C5-N7-C8 | -5.68 | 101.06 | 103.90 |
| 26 | 1H | 811 | U | N3-C2-O2 | -5.68 | 118.22 | 122.20 |
| 26 | 1H | 2061 | G | OP1-P-O3' | 5.68 | 117.71 | 105.20 |
| 31 | 31 | 33 | LEU | CA-CB-CG | 5.68 | 128.38 | 115.30 |
| 1 | 1G | 326 | G | C4-C5-N7 | -5.68 | 108.53 | 110.80 |
| 1 | 1G | 1084 | G | O5'-P-OP2 | -5.68 | 100.58 | 105.70 |
| 1 | 1G | 1146 | A | C2-N3-C4 | -5.68 | 107.76 | 110.60 |
| 26 | 14 | 189 | G | N7-C8-N9 | -5.68 | 110.26 | 113.10 |
| 26 | 14 | 774 | A | O5'-P-OP2 | -5.68 | 100.58 | 105.70 |
| 26 | 14 | 812 | C | C2-N3-C4 | -5.68 | 117.06 | 119.90 |
| 26 | 14 | 1301 | A | C5-N7-C8 | 5.68 | 106.74 | 103.90 |
| 26 | 14 | 1556 | C | C5-C4-N4 | 5.68 | 124.18 | 120.20 |
| 26 | 14 | 1634 | A | C5-C6-N6 | 5.68 | 128.25 | 123.70 |
| 26 | 14 | 1806 | C | C6-N1-C2 | 5.68 | 122.57 | 120.30 |
| 26 | 14 | 1912 | A | O5'-P-OP2 | 5.68 | 117.52 | 110.70 |
| 27 | 1J | 40 | U | C6-N1-C1' | 5.68 | 129.16 | 121.20 |
| 39 | 55 | 107 | ASP | CB-CG-OD1 | 5.68 | 123.42 | 118.30 |
| 1 | 13 | 746 | A | N9-C4-C5 | 5.68 | 108.07 | 105.80 |
| 26 | 1H | 448 | U | C4-C5-C6 | 5.68 | 123.11 | 119.70 |
| 26 | 1H | 577 | G | N1-C2-N2 | -5.68 | 111.09 | 116.20 |
| 26 | 1H | 1345 | C | OP2-P-O3' | 5.68 | 117.70 | 105.20 |
| 26 | 1H | 1537 | C | C5-C6-N1 | 5.68 | 123.84 | 121.00 |
| 26 | 1H | 1586 | A | C5-C6-N1 | -5.68 | 114.86 | 117.70 |
| 1 | 1G | 22 | G | N3-C2-N2 | -5.68 | 115.92 | 119.90 |
| 1 | 1G | 730 | G | C5-N7-C8 | 5.68 | 107.14 | 104.30 |
| 1 | 1G | 750 | G | N1-C2-N2 | -5.68 | 111.09 | 116.20 |
| 26 | 14 | 186 | G | C5-C6-N1 | 5.68 | 114.34 | 111.50 |
| 26 | 14 | 195 | A | N7-C8-N9 | 5.68 | 116.64 | 113.80 |
| 26 | 14 | 377 | C | OP2-P-O3' | 5.68 | 117.70 | 105.20 |
| 26 | 14 | 608 | A | C6-N1-C2 | -5.68 | 115.19 | 118.60 |
| 26 | 14 | 676 | A | C5-C6-N6 | -5.68 | 119.15 | 123.70 |
| 26 | 14 | 1813 | G | N3-C2-N2 | -5.68 | 115.92 | 119.90 |
| 26 | 14 | 1969 | A | C6-N1-C2 | -5.68 | 115.19 | 118.60 |
| 26 | 14 | 2551 | C | C5-C4-N4 | 5.68 | 124.18 | 120.20 |
| 27 | 1J | 76 | G | O5'-P-OP2 | -5.68 | 100.59 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 6 | G | N3-C4-C5 | -5.68 | 125.76 | 128.60 |
| 1 | 13 | 243 | A | C8-N9-C4 | -5.68 | 103.53 | 105.80 |
| 26 | 1H | 134 | C | N3-C4-N4 | -5.68 | 114.02 | 118.00 |
| 26 | 1H | 199 | A | N7-C8-N9 | -5.68 | 110.96 | 113.80 |
| 26 | 1H | 578 | A | N1-C6-N6 | 5.68 | 122.01 | 118.60 |
| 26 | 1H | 1845 | G | C6-N1-C2 | -5.68 | 121.69 | 125.10 |
| 26 | 14 | 229 | A | O5'-P-OP1 | -5.68 | 100.59 | 105.70 |
| 26 | 14 | 842 | G | C8-N9-C4 | 5.68 | 108.67 | 106.40 |
| 26 | 14 | 1425 | G | OP1-P-O3' | 5.68 | 117.70 | 105.20 |
| 26 | 14 | 1992 | G | O4'-C1'-N9 | -5.68 | 103.66 | 108.20 |
| 1 | 13 | 110 | C | N3-C4-N4 | -5.68 | 114.02 | 118.00 |
| 1 | 13 | 321 | A | O5'-P-OP2 | -5.68 | 100.59 | 105.70 |
| 1 | 13 | 843 | U | C6-N1-C1' | -5.68 | 113.25 | 121.20 |
| 1 | 13 | 1524 | C | C5-C6-N1 | -5.68 | 118.16 | 121.00 |
| 26 | 1H | 697 | C | N1-C2-N3 | -5.68 | 115.22 | 119.20 |
| 26 | 1H | 1196 | C | O5'-P-OP2 | 5.68 | 117.52 | 110.70 |
| 26 | 1H | 1211 | U | N1-C2-O2 | 5.68 | 126.78 | 122.80 |
| 26 | 1H | 1409 | C | C5-C6-N1 | -5.68 | 118.16 | 121.00 |
| 26 | 1H | 1633 | G | C4-C5-C6 | 5.68 | 122.21 | 118.80 |
| 26 | 1H | 2272 | U | C2-N1-C1' | -5.68 | 110.88 | 117.70 |
| 26 | 1H | 2325 | G | N7-C8-N9 | 5.68 | 115.94 | 113.10 |
| 26 | 1H | 2711 | A | N9-C4-C5 | -5.68 | 103.53 | 105.80 |
| 27 | 16 | 92 | G | OP2-P-O3' | 5.68 | 117.70 | 105.20 |
| 1 | 1G | 924 | C | N1-C2-N3 | 5.68 | 123.17 | 119.20 |
| 26 | 14 | 121 | G | N7-C8-N9 | 5.68 | 115.94 | 113.10 |
| 26 | 14 | 204 | A | C4-C5-N7 | 5.68 | 113.54 | 110.70 |
| 26 | 14 | 866 | A | O4'-C1'-N9 | -5.68 | 103.66 | 108.20 |
| 26 | 14 | 947 | G | C6-N1-C2 | 5.68 | 128.51 | 125.10 |
| 26 | 14 | 953 | A | OP1-P-O3' | 5.68 | 117.70 | 105.20 |
| 26 | 14 | 1266 | G | C4-C5-C6 | -5.68 | 115.39 | 118.80 |
| 26 | 14 | 1807 | G | N7-C8-N9 | -5.68 | 110.26 | 113.10 |
| 23 | 2K | 10 | G | C6-N1-C2 | -5.68 | 121.69 | 125.10 |
| 26 | 1H | 2047 | U | C2-N1-C1' | 5.68 | 124.51 | 117.70 |
| 26 | 1H | 2050 | C | OP2-P-O3' | 5.68 | 117.69 | 105.20 |
| 26 | 14 | 497 | A | C8-N9-C4 | -5.68 | 103.53 | 105.80 |
| 26 | 14 | 1802 | A | N1-C6-N6 | -5.68 | 115.19 | 118.60 |
| 26 | 14 | 2635 | C | C4-C5-C6 | 5.68 | 120.24 | 117.40 |
| 1 | 13 | 758 | G | C2-N3-C4 | -5.68 | 109.06 | 111.90 |
| 1 | 13 | 776 | G | C5-N7-C8 | -5.68 | 101.46 | 104.30 |
| 1 | 13 | 1108 | G | C5-C6-O6 | 5.68 | 132.01 | 128.60 |
| 1 | 13 | 1503 | A | C4-C5-N7 | -5.68 | 107.86 | 110.70 |
| 26 | 1H | 387 | U | N1-C2-N3 | 5.68 | 118.31 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 789 | A | C5-C6-N6 | -5.68 | 119.16 | 123.70 |
| 26 | 1H | 1906 | G | C8-N9-C4 | -5.68 | 104.13 | 106.40 |
| 26 | 1H | 2040 | C | C5-C4-N4 | -5.68 | 116.23 | 120.20 |
| 27 | 16 | 14 | U | OP2-P-O3' | 5.68 | 117.69 | 105.20 |
| 26 | 14 | 650 | C | N3-C4-N4 | 5.68 | 121.97 | 118.00 |
| 26 | 14 | 1935 | G | N1-C6-O6 | -5.68 | 116.49 | 119.90 |
| 26 | 14 | 2304 | G | C4-C5-C6 | 5.68 | 122.21 | 118.80 |
| 1 | 13 | 391 | G | C6-C5-N7 | 5.67 | 133.81 | 130.40 |
| 1 | 13 | 592 | G | C8-N9-C4 | -5.67 | 104.13 | 106.40 |
| 26 | 1H | 186 | G | OP1-P-O3' | -5.67 | 92.72 | 105.20 |
| 26 | 1H | 238 | C | OP1-P-OP2 | 5.67 | 128.11 | 119.60 |
| 26 | 1H | 1120 | G | N1-C2-N2 | 5.67 | 121.31 | 116.20 |
| 26 | 1H | 2234 | G | N7-C8-N9 | -5.67 | 110.26 | 113.10 |
| 1 | 1G | 1523 | G | N3-C2-N2 | -5.67 | 115.93 | 119.90 |
| 26 | 14 | 76 | C | N3-C4-N4 | -5.67 | 114.03 | 118.00 |
| 26 | 14 | 504 | U | OP2-P-O3' | 5.67 | 117.68 | 105.20 |
| 26 | 14 | 578 | A | C6-N1-C2 | -5.67 | 115.19 | 118.60 |
| 26 | 14 | 781 | A | C2-N3-C4 | 5.67 | 113.44 | 110.60 |
| 26 | 14 | 1008 | C | C5-C6-N1 | 5.67 | 123.84 | 121.00 |
| 26 | 14 | 1642 | G | N7-C8-N9 | 5.67 | 115.94 | 113.10 |
| 26 | 14 | 1946 | U | C2-N3-C4 | -5.67 | 123.59 | 127.00 |
| 26 | 14 | 1963 | U | C2-N3-C4 | 5.67 | 130.40 | 127.00 |
| 26 | 14 | 2636 | U | OP1-P-OP2 | -5.67 | 111.09 | 119.60 |
| 26 | 14 | 2782 | G | C4-N9-C1' | 5.67 | 133.88 | 126.50 |
| 1 | 13 | 247 | G | C8-N9-C4 | -5.67 | 104.13 | 106.40 |
| 1 | 13 | 715 | A | C2-N3-C4 | -5.67 | 107.76 | 110.60 |
| 26 | 1H | 996 | A | N7-C8-N9 | -5.67 | 110.96 | 113.80 |
| 26 | 1H | 1227 | A | C4-C5-C6 | -5.67 | 114.16 | 117.00 |
| 26 | 1H | 1904 | G | C4-C5-C6 | -5.67 | 115.40 | 118.80 |
| 26 | 14 | 243 | U | N1-C2-N3 | 5.67 | 118.30 | 114.90 |
| 26 | 14 | 754 | C | N1-C2-O2 | 5.67 | 122.30 | 118.90 |
| 26 | 14 | 1013 | C | N1-C2-O2 | -5.67 | 115.50 | 118.90 |
| 23 | 2K | 42 | C | OP1-P-OP2 | 5.67 | 128.11 | 119.60 |
| 26 | 1H | 223 | A | OP1-P-OP2 | 5.67 | 128.11 | 119.60 |
| 26 | 1H | 447 | A | C5-C6-N1 | 5.67 | 120.54 | 117.70 |
| 26 | 1H | 676 | A | C6-C5-N7 | -5.67 | 128.33 | 132.30 |
| 26 | 1H | 748 | G | N1-C2-N2 | 5.67 | 121.31 | 116.20 |
| 26 | 1H | 1701 | A | N3-C4-C5 | 5.67 | 130.77 | 126.80 |
| 26 | 1H | 1789 | A | C5-C6-N1 | 5.67 | 120.54 | 117.70 |
| 26 | 1H | 1801 | G | OP1-P-O3' | 5.67 | 117.68 | 105.20 |
| 26 | 1H | 2268 | A | N1-C6-N6 | 5.67 | 122.00 | 118.60 |
| 26 | 1H | 2351 | G | C2-N3-C4 | 5.67 | 114.74 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2370 | G | C2-N3-C4 | 5.67 | 114.73 | 111.90 |
| 27 | 16 | 115 | G | C8-N9-C4 | 5.67 | 108.67 | 106.40 |
| 1 | 1G | 38 | G | OP1-P-OP2 | -5.67 | 111.09 | 119.60 |
| 8 | 72 | 72 | PRO | C-N-CA | 5.67 | 135.88 | 121.70 |
| 23 | 2L | 75 | C | OP1-P-O3' | 5.67 | 117.68 | 105.20 |
| 26 | 14 | 329 | G | O5'-P-OP2 | -5.67 | 100.59 | 105.70 |
| 26 | 14 | 382 | G | C5-C6-N1 | -5.67 | 108.66 | 111.50 |
| 26 | 14 | 669 | G | N1-C2-N2 | 5.67 | 121.31 | 116.20 |
| 26 | 14 | 1248 | G | N1-C6-O6 | 5.67 | 123.30 | 119.90 |
| 26 | 14 | 1292 | U | N3-C2-O2 | 5.67 | 126.17 | 122.20 |
| 26 | 14 | 1460 | A | N1-C2-N3 | -5.67 | 126.46 | 129.30 |
| 26 | 14 | 1702 | G | C6-C5-N7 | -5.67 | 127.00 | 130.40 |
| 26 | 14 | 1993 | U | O5'-P-OP1 | -5.67 | 100.59 | 105.70 |
| 26 | 14 | 2779 | U | N3-C4-O4 | 5.67 | 123.37 | 119.40 |
| 1 | 13 | 529 | G | C6-C5-N7 | -5.67 | 127.00 | 130.40 |
| 1 | 13 | 542 | G | C2-N3-C4 | -5.67 | 109.06 | 111.90 |
| 26 | 1H | 1380 | G | OP2-P-O3' | 5.67 | 117.67 | 105.20 |
| 26 | 1H | 1395 | A | N1-C6-N6 | -5.67 | 115.20 | 118.60 |
| 50 | K8 | 69 | ARG | NE-CZ-NH2 | -5.67 | 117.47 | 120.30 |
| 1 | 1G | 63 | C | N1-C2-O2 | 5.67 | 122.30 | 118.90 |
| 26 | 14 | 2303 | G | N7-C8-N9 | 5.67 | 115.94 | 113.10 |
| 1 | 13 | 783 | C | O5'-P-OP2 | -5.67 | 100.60 | 105.70 |
| 26 | 1H | 57 | C | C6-N1-C1' | 5.67 | 127.60 | 120.80 |
| 26 | 1H | 380 | U | OP1-P-O3' | 5.67 | 117.67 | 105.20 |
| 26 | 1H | 666 | G | C5-C6-N1 | -5.67 | 108.67 | 111.50 |
| 26 | 1H | 813 | U | O5'-P-OP2 | -5.67 | 100.60 | 105.70 |
| 26 | 1H | 1632 | A | C4-C5-N7 | 5.67 | 113.53 | 110.70 |
| 26 | 1H | 2761 | G | N9-C4-C5 | 5.67 | 107.67 | 105.40 |
| 1 | 1G | 722 | A | C6-C5-N7 | -5.67 | 128.33 | 132.30 |
| 1 | 1G | 898 | G | N1-C6-O6 | 5.67 | 123.30 | 119.90 |
| 26 | 14 | 306 | U | N3-C4-O4 | -5.67 | 115.43 | 119.40 |
| 26 | 14 | 391 | G | N1-C2-N3 | 5.67 | 127.30 | 123.90 |
| 26 | 14 | 808 | G | OP1-P-OP2 | 5.67 | 128.10 | 119.60 |
| 26 | 14 | 876 | C | O5'-P-OP1 | -5.67 | 100.60 | 105.70 |
| 26 | 14 | 1298 | C | O5'-P-OP1 | 5.67 | 117.50 | 110.70 |
| 26 | 14 | 1385 | G | C4-N9-C1' | -5.67 | 119.13 | 126.50 |
| 26 | 14 | 2451 | A | C4-C5-C6 | 5.67 | 119.83 | 117.00 |
| 1 | 13 | 539 | A | C5-N7-C8 | 5.67 | 106.73 | 103.90 |
| 1 | 13 | 1095 | U | N3-C4-C5 | -5.67 | 111.20 | 114.60 |
| 1 | 13 | 1530 | G | N3-C4-C5 | 5.67 | 131.43 | 128.60 |
| 23 | 2K | 25 | U | C6-N1-C2 | 5.67 | 124.40 | 121.00 |
| 26 | 1H | 206 | U | C5-C6-N1 | -5.67 | 119.87 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1324 | G | O4'-C1'-N9 | 5.67 | 112.73 | 108.20 |
| 26 | 1H | 1416 | G | P-O3'-C3' | 5.67 | 126.50 | 119.70 |
| 26 | 1H | 1565 | C | OP2-P-O3' | 5.67 | 117.67 | 105.20 |
| 26 | 1H | 1565 | C | N1-C2-N3 | -5.67 | 115.23 | 119.20 |
| 26 | 1H | 2207 | C | C6-N1-C2 | -5.67 | 118.03 | 120.30 |
| 26 | 1H | 2494 | G | N7-C8-N9 | 5.67 | 115.93 | 113.10 |
| 26 | 1H | 2652 | C | C6-N1-C2 | -5.67 | 118.03 | 120.30 |
| 26 | 1H | 2710 | C | OP2-P-O3' | 5.67 | 117.67 | 105.20 |
| 1 | 1G | 530 | G | C5-C6-N1 | -5.67 | 108.67 | 111.50 |
| 1 | 1G | 785 | G | C2-N3-C4 | -5.67 | 109.07 | 111.90 |
| 26 | 14 | 175 | G | N1-C2-N3 | 5.67 | 127.30 | 123.90 |
| 26 | 14 | 348 | G | N9-C4-C5 | -5.67 | 103.13 | 105.40 |
| 26 | 14 | 1813 | G | N1-C2-N2 | 5.67 | 121.30 | 116.20 |
| 26 | 14 | 2255 | G | N7-C8-N9 | -5.67 | 110.27 | 113.10 |
| 26 | 14 | 2444 | G | N3-C4-C5 | -5.67 | 125.77 | 128.60 |
| 1 | 13 | 320 | C | O5'-P-OP1 | 5.67 | 117.50 | 110.70 |
| 1 | 13 | 331 | G | N1-C6-O6 | 5.67 | 123.30 | 119.90 |
| 26 | 1H | 188 | G | C6-N1-C2 | -5.67 | 121.70 | 125.10 |
| 26 | 1H | 1007 | C | C4-C5-C6 | 5.67 | 120.23 | 117.40 |
| 1 | 1G | 286 | G | C4-C5-N7 | -5.67 | 108.53 | 110.80 |
| 1 | 1G | 853 | G | N9-C4-C5 | 5.67 | 107.67 | 105.40 |
| 26 | 14 | 148 | C | N3-C2-O2 | 5.67 | 125.86 | 121.90 |
| 26 | 14 | 265 | A | O4'-C1'-N9 | 5.67 | 112.73 | 108.20 |
| 26 | 14 | 751 | A | C2-N3-C4 | -5.67 | 107.77 | 110.60 |
| 26 | 14 | 774 | A | OP1-P-OP2 | 5.67 | 128.10 | 119.60 |
| 26 | 14 | 1340 | U | N3-C2-O2 | 5.67 | 126.17 | 122.20 |
| 26 | 14 | 1658 | C | N3-C4-N4 | 5.67 | 121.97 | 118.00 |
| 1 | 13 | 538 | G | O5'-P-OP2 | -5.66 | 100.60 | 105.70 |
| 1 | 13 | 541 | G | N7-C8-N9 | 5.66 | 115.93 | 113.10 |
| 1 | 13 | 817 | C | N3-C4-N4 | 5.66 | 121.96 | 118.00 |
| 1 | 13 | 852 | G | N7-C8-N9 | -5.66 | 110.27 | 113.10 |
| 1 | 13 | 1432 | G | C2-N3-C4 | -5.66 | 109.07 | 111.90 |
| 1 | 13 | 1502 | A | N9-C4-C5 | -5.66 | 103.53 | 105.80 |
| 23 | 2K | 41 | C | O5'-P-OP2 | -5.66 | 100.60 | 105.70 |
| 26 | 1H | 565 | C | O5'-P-OP1 | -5.66 | 100.60 | 105.70 |
| 26 | 1H | 794 | G | C5-N7-C8 | 5.66 | 107.13 | 104.30 |
| 26 | 1H | 977 | G | C4-C5-N7 | -5.66 | 108.53 | 110.80 |
| 26 | 1H | 1017 | G | C6-C5-N7 | 5.66 | 133.80 | 130.40 |
| 26 | 1H | 1398 | C | C2-N3-C4 | -5.66 | 117.07 | 119.90 |
| 26 | 1H | 1569 | A | OP1-P-O3' | 5.66 | 117.66 | 105.20 |
| 26 | 1H | 1608 | A | O5'-P-OP1 | -5.66 | 100.60 | 105.70 |
| 27 | 16 | 13 | A | C5-C6-N6 | 5.66 | 128.23 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 666 | G | C2-N3-C4 | -5.66 | 109.07 | 111.90 |
| 1 | 1G | 806 | C | C2-N3-C4 | 5.66 | 122.73 | 119.90 |
| 1 | 1G | 1452 | C | N3-C4-N4 | 5.66 | 121.96 | 118.00 |
| 26 | 14 | 200 | U | C4-C5-C6 | 5.66 | 123.10 | 119.70 |
| 26 | 14 | 666 | G | N1-C2-N3 | 5.66 | 127.30 | 123.90 |
| 26 | 14 | 846 | C | O5'-P-OP2 | 5.66 | 117.50 | 110.70 |
| 26 | 14 | 1918 | A | C4-C5-C6 | -5.66 | 114.17 | 117.00 |
| 26 | 14 | 2593 | U | OP2-P-O3' | 5.66 | 117.66 | 105.20 |
| 22 | 1K | 61 | C | N3-C4-C5 | -5.66 | 119.64 | 121.90 |
| 26 | 1H | 133 | C | N3-C2-O2 | 5.66 | 125.86 | 121.90 |
| 26 | 1H | 2484 | G | C2-N3-C4 | -5.66 | 109.07 | 111.90 |
| 26 | 1H | 2555 | U | N1-C2-N3 | 5.66 | 118.30 | 114.90 |
| 26 | 14 | 290 | G | C8-N9-C4 | 5.66 | 108.67 | 106.40 |
| 26 | 14 | 1135 | C | N3-C4-C5 | 5.66 | 124.17 | 121.90 |
| 26 | 14 | 1629 | U | C4-C5-C6 | 5.66 | 123.10 | 119.70 |
| 26 | 14 | 1900 | A | N9-C4-C5 | 5.66 | 108.06 | 105.80 |
| 26 | 1H | 662 | G | C6-N1-C2 | -5.66 | 121.70 | 125.10 |
| 26 | 1H | 959 | A | C4-C5-C6 | -5.66 | 114.17 | 117.00 |
| 26 | 1H | 2305 | A | OP1-P-O3' | 5.66 | 117.65 | 105.20 |
| 26 | 1H | 2325 | G | C4-N9-C1' | 5.66 | 133.86 | 126.50 |
| 26 | 1H | 2464 | C | OP1-P-OP2 | 5.66 | 128.09 | 119.60 |
| 26 | 1H | 2664 | G | N1-C6-O6 | 5.66 | 123.30 | 119.90 |
| 26 | 1H | 2723 | C | N1-C2-N3 | 5.66 | 123.16 | 119.20 |
| 29 | 11 | 95 | LEU | CA-CB-CG | 5.66 | 128.32 | 115.30 |
| 1 | 1G | 697 | U | C2-N3-C4 | -5.66 | 123.60 | 127.00 |
| 26 | 14 | 135 | G | C2-N3-C4 | -5.66 | 109.07 | 111.90 |
| 26 | 14 | 1385 | G | N1-C2-N2 | 5.66 | 121.30 | 116.20 |
| 26 | 14 | 1478 | G | C8-N9-C4 | -5.66 | 104.14 | 106.40 |
| 26 | 14 | 1934 | C | N3-C4-N4 | -5.66 | 114.04 | 118.00 |
| 26 | 14 | 2592 | G | C2-N3-C4 | 5.66 | 114.73 | 111.90 |
| 27 | 1J | 104 | A | O5'-P-OP1 | 5.66 | 117.49 | 110.70 |
| 23 | 2K | 57 | C | OP1-P-O3' | 5.66 | 117.65 | 105.20 |
| 26 | 1H | 91 | A | N1-C6-N6 | 5.66 | 122.00 | 118.60 |
| 26 | 1H | 113 | G | OP1-P-OP2 | -5.66 | 111.11 | 119.60 |
| 26 | 1H | 1368 | G | N3-C4-N9 | 5.66 | 129.40 | 126.00 |
| 26 | 1H | 1600 | C | N3-C2-O2 | -5.66 | 117.94 | 121.90 |
| 26 | 1H | 1947 | C | N1-C2-N3 | -5.66 | 115.24 | 119.20 |
| 26 | 1H | 2183 | C | C5-C6-N1 | 5.66 | 123.83 | 121.00 |
| 26 | 1H | 2286 | A | N1-C6-N6 | 5.66 | 122.00 | 118.60 |
| 26 | 1H | 2841 | C | N3-C4-C5 | 5.66 | 124.16 | 121.90 |
| 44 | E8 | 1 | MET | CA-CB-CG | 5.66 | 122.92 | 113.30 |
| 1 | 1G | 923 | A | N7-C8-N9 | 5.66 | 116.63 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 998 | C | OP1-P-OP2 | -5.66 | 111.11 | 119.60 |
| 26 | 14 | 1228 | G | N9-C4-C5 | 5.66 | 107.66 | 105.40 |
| 26 | 14 | 1494 | A | N9-C4-C5 | 5.66 | 108.06 | 105.80 |
| 26 | 14 | 1617 | C | N3-C2-O2 | -5.66 | 117.94 | 121.90 |
| 26 | 14 | 2508 | G | C8-N9-C4 | -5.66 | 104.14 | 106.40 |
| 26 | 14 | 2591 | C | N1-C2-N3 | 5.66 | 123.16 | 119.20 |
| 26 | 14 | 2789 | C | C4-C5-C6 | 5.66 | 120.23 | 117.40 |
| 26 | 14 | 2869 | G | N1-C2-N2 | 5.66 | 121.29 | 116.20 |
| 1 | 13 | 1410 | G | C2-N3-C4 | -5.66 | 109.07 | 111.90 |
| 26 | 1H | 833 | U | C5-C6-N1 | -5.66 | 119.87 | 122.70 |
| 26 | 1H | 1534 | G | N3-C4-N9 | 5.66 | 129.39 | 126.00 |
| 26 | 1H | 2695 | C | C4-C5-C6 | 5.66 | 120.23 | 117.40 |
| 1 | 1G | 39 | G | C8-N9-C4 | 5.66 | 108.66 | 106.40 |
| 26 | 14 | 339 | U | OP1-P-OP2 | -5.66 | 111.11 | 119.60 |
| 26 | 14 | 1651 | G | C5-C6-O6 | 5.66 | 131.99 | 128.60 |
| 1 | 13 | 5 | U | O4'-C1'-N1 | 5.66 | 112.72 | 108.20 |
| 1 | 13 | 509 | A | C2-N3-C4 | 5.66 | 113.43 | 110.60 |
| 1 | 13 | 792 | A | N1-C2-N3 | 5.66 | 132.13 | 129.30 |
| 1 | 13 | 975 | A | C5-N7-C8 | -5.66 | 101.07 | 103.90 |
| 26 | 1H | 120 | U | OP2-P-O3' | -5.66 | 92.76 | 105.20 |
| 26 | 1H | 258 | G | C5-N7-C8 | 5.66 | 107.13 | 104.30 |
| 26 | 1H | 482 | A | N9-C4-C5 | 5.66 | 108.06 | 105.80 |
| 26 | 1H | 819 | A | OP2-P-O3' | 5.66 | 117.64 | 105.20 |
| 26 | 1H | 1284 | A | C8-N9-C4 | -5.66 | 103.54 | 105.80 |
| 26 | 1H | 1407 | C | OP1-P-O3' | 5.66 | 117.64 | 105.20 |
| 26 | 1H | 1806 | C | C2-N1-C1' | -5.66 | 112.58 | 118.80 |
| 1 | 1G | 667 | G | C4-C5-N7 | 5.66 | 113.06 | 110.80 |
| 26 | 14 | 626 | U | C5-C6-N1 | -5.66 | 119.87 | 122.70 |
| 26 | 14 | 1039 | G | N3-C4-C5 | 5.66 | 131.43 | 128.60 |
| 1 | 13 | 1381 | U | N1-C2-O2 | 5.65 | 126.76 | 122.80 |
| 26 | 1H | 242 | G | N9-C4-C5 | -5.65 | 103.14 | 105.40 |
| 26 | 1H | 270(S) | G | N1-C6-O6 | 5.65 | 123.29 | 119.90 |
| 26 | 1H | 2470 | G | C8-N9-C4 | 5.65 | 108.66 | 106.40 |
| 26 | 14 | 189 | G | N3-C4-C5 | 5.65 | 131.43 | 128.60 |
| 26 | 14 | 1482 | U | OP1-P-OP2 | 5.65 | 128.08 | 119.60 |
| 26 | 14 | 2661 | G | N1-C6-O6 | 5.65 | 123.29 | 119.90 |
| 1 | 13 | 533 | A | C6-C5-N7 | -5.65 | 128.34 | 132.30 |
| 1 | 13 | 1266 | G | N3-C4-N9 | -5.65 | 122.61 | 126.00 |
| 1 | 13 | 1347 | G | C5-C6-O6 | 5.65 | 131.99 | 128.60 |
| 1 | 13 | 1355 | G | C5-C6-O6 | -5.65 | 125.21 | 128.60 |
| 1 | 13 | 1519 | A | C5-C6-N1 | -5.65 | 114.87 | 117.70 |
| 26 | 1H | 288 | C | C5-C6-N1 | 5.65 | 123.83 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 552 | G | N3-C4-C5 | 5.65 | 131.43 | 128.60 |
| 26 | 1H | 668 | G | OP1-P-O3' | 5.65 | 117.63 | 105.20 |
| 26 | 1H | 1516 | U | O5'-P-OP1 | 5.65 | 117.48 | 110.70 |
| 26 | 1H | 1838 | C | C5-C6-N1 | -5.65 | 118.17 | 121.00 |
| 27 | 16 | 72 | G | N1-C2-N3 | 5.65 | 127.29 | 123.90 |
| 27 | 16 | 117 | G | N9-C4-C5 | -5.65 | 103.14 | 105.40 |
| 38 | 88 | 29 | PHE | C-N-CA | -5.65 | 110.43 | 122.30 |
| 1 | 1G | 340 | U | C6-N1-C2 | 5.65 | 124.39 | 121.00 |
| 1 | 1G | 967 | C | C5-C6-N1 | -5.65 | 118.17 | 121.00 |
| 26 | 14 | 1598 | C | O5'-P-OP1 | 5.65 | 117.48 | 110.70 |
| 26 | 14 | 1626 | G | N1-C2-N3 | 5.65 | 127.29 | 123.90 |
| 26 | 14 | 1825 | A | C2-N3-C4 | 5.65 | 113.43 | 110.60 |
| 26 | 14 | 1946 | U | O5'-P-OP1 | 5.65 | 117.48 | 110.70 |
| 26 | 14 | 2374 | C | N1-C2-O2 | -5.65 | 115.51 | 118.90 |
| 26 | 14 | 2566 | A | C8-N9-C4 | -5.65 | 103.54 | 105.80 |
| 26 | 14 | 2685 | G | C5-C6-N1 | -5.65 | 108.67 | 111.50 |
| 26 | 14 | 2735 | G | N1-C2-N3 | 5.65 | 127.29 | 123.90 |
| 1 | 13 | 195 | A | N1-C6-N6 | -5.65 | 115.21 | 118.60 |
| 1 | 13 | 568 | G | C5-C6-N1 | 5.65 | 114.33 | 111.50 |
| 1 | 13 | 811 | C | OP1-P-OP2 | 5.65 | 128.07 | 119.60 |
| 1 | 13 | 1372 | U | O5'-P-OP1 | -5.65 | 100.61 | 105.70 |
| 1 | 13 | 1491 | G | N1-C2-N3 | 5.65 | 127.29 | 123.90 |
| 23 | 2K | 37 | U | C5-C6-N1 | -5.65 | 119.87 | 122.70 |
| 26 | 1H | 341 | G | C5-N7-C8 | 5.65 | 107.12 | 104.30 |
| 26 | 1H | 593 | G | C5-N7-C8 | -5.65 | 101.47 | 104.30 |
| 26 | 1H | 972 | G | OP1-P-O3' | 5.65 | 117.63 | 105.20 |
| 26 | 1H | 1202 | C | OP1-P-O3' | -5.65 | 92.77 | 105.20 |
| 26 | 1H | 2052 | G | N3-C4-N9 | 5.65 | 129.39 | 126.00 |
| 26 | 1H | 2264 | C | C6-N1-C1' | 5.65 | 127.58 | 120.80 |
| 26 | 1H | 2839 | G | N9-C4-C5 | 5.65 | 107.66 | 105.40 |
| 1 | 1G | 41 | G | N7-C8-N9 | -5.65 | 110.28 | 113.10 |
| 1 | 1G | 730 | G | C6-C5-N7 | 5.65 | 133.79 | 130.40 |
| 1 | 1G | 880 | C | C5-C4-N4 | -5.65 | 116.25 | 120.20 |
| 26 | 14 | 308 | G | C2-N3-C4 | -5.65 | 109.08 | 111.90 |
| 26 | 14 | 1917 | U | C5-C6-N1 | 5.65 | 125.53 | 122.70 |
| 26 | 14 | 2250 | G | OP1-P-O3' | 5.65 | 117.63 | 105.20 |
| 26 | 14 | 2284 | C | OP1-P-OP2 | 5.65 | 128.07 | 119.60 |
| 1 | 13 | 359 | U | N3-C4-O4 | -5.65 | 115.45 | 119.40 |
| 1 | 13 | 966 | G | N1-C6-O6 | 5.65 | 123.29 | 119.90 |
| 26 | 1H | 255 | A | OP1-P-O3' | -5.65 | 92.77 | 105.20 |
| 26 | 1H | 465 | G | C4-C5-N7 | -5.65 | 108.54 | 110.80 |
| 26 | 1H | 668 | G | C5-C6-N1 | -5.65 | 108.68 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2242 | G | N1-C6-O6 | 5.65 | 123.29 | 119.90 |
| 1 | 1G | 314 | C | C4-C5-C6 | 5.65 | 120.22 | 117.40 |
| 26 | 14 | 623 | G | N1-C2-N3 | -5.65 | 120.51 | 123.90 |
| 26 | 14 | 1406 | U | N3-C2-O2 | 5.65 | 126.15 | 122.20 |
| 26 | 14 | 2708 | G | N1-C6-O6 | 5.65 | 123.29 | 119.90 |
| 26 | 1H | 196 | A | OP2-P-O3' | 5.65 | 117.62 | 105.20 |
| 26 | 1H | 246 | C | N1-C2-O2 | -5.65 | 115.51 | 118.90 |
| 26 | 1H | 459 | U | OP2-P-O3' | 5.65 | 117.62 | 105.20 |
| 26 | 1H | 772 | C | OP1-P-OP2 | 5.65 | 128.07 | 119.60 |
| 26 | 1H | 1952 | A | OP1-P-OP2 | -5.65 | 111.13 | 119.60 |
| 27 | 16 | 19 | G | C8-N9-C4 | 5.65 | 108.66 | 106.40 |
| 1 | 1G | 155 | C | N3-C2-O2 | -5.65 | 117.95 | 121.90 |
| 1 | 1G | 911 | U | O4'-C1'-N1 | 5.65 | 112.72 | 108.20 |
| 1 | 1G | 1503 | A | C2-N3-C4 | 5.65 | 113.42 | 110.60 |
| 56 | 1L | 19 | G | C4-N9-C1' | 5.65 | 133.84 | 126.50 |
| 26 | 14 | 307 | G | C4-C5-N7 | 5.65 | 113.06 | 110.80 |
| 26 | 14 | 405 | U | C6-N1-C1' | -5.65 | 113.29 | 121.20 |
| 26 | 14 | 1135 | C | C6-N1-C1' | -5.65 | 114.02 | 120.80 |
| 26 | 14 | 1275 | A | OP1-P-OP2 | -5.65 | 111.13 | 119.60 |
| 26 | 14 | 1689 | A | C4-C5-N7 | 5.65 | 113.52 | 110.70 |
| 26 | 14 | 2007 | C | C5-C6-N1 | -5.65 | 118.18 | 121.00 |
| 27 | 1J | 54 | G | N1-C6-O6 | 5.65 | 123.29 | 119.90 |
| 46 | C5 | 90 | LEU | CA-CB-CG | 5.65 | 128.29 | 115.30 |
| 1 | 13 | 1317 | C | N1-C2-O2 | 5.65 | 122.29 | 118.90 |
| 26 | 1H | 673 | C | C5-C6-N1 | -5.65 | 118.18 | 121.00 |
| 26 | 1H | 1274 | A | C2-N3-C4 | -5.65 | 107.78 | 110.60 |
| 26 | 1H | 1579 | A | OP1-P-OP2 | 5.65 | 128.07 | 119.60 |
| 26 | 14 | 640 | C | O5'-P-OP2 | -5.65 | 100.62 | 105.70 |
| 26 | 14 | 698 | C | N3-C4-N4 | 5.65 | 121.95 | 118.00 |
| 1 | 13 | 253 | U | OP1-P-OP2 | -5.64 | 111.13 | 119.60 |
| 1 | 13 | 518 | C | C6-N1-C1' | -5.64 | 114.03 | 120.80 |
| 1 | 13 | 635 | G | C5-C6-N1 | -5.64 | 108.68 | 111.50 |
| 1 | 13 | 1086 | U | OP1-P-OP2 | -5.64 | 111.13 | 119.60 |
| 26 | 1H | 49 | A | C8-N9-C4 | 5.64 | 108.06 | 105.80 |
| 26 | 1H | 213 | A | N7-C8-N9 | -5.64 | 110.98 | 113.80 |
| 26 | 1H | 636 | G | C2-N3-C4 | 5.64 | 114.72 | 111.90 |
| 26 | 1H | 857 | C | N1-C2-N3 | 5.64 | 123.15 | 119.20 |
| 26 | 1H | 938 | G | C6-C5-N7 | 5.64 | 133.79 | 130.40 |
| 26 | 1H | 1238 | G | C5-N7-C8 | 5.64 | 107.12 | 104.30 |
| 26 | 1H | 1258 | C | O5'-P-OP2 | -5.64 | 100.62 | 105.70 |
| 26 | 1H | 2249 | U | C5-C6-N1 | 5.64 | 125.52 | 122.70 |
| 26 | 1H | 2355 | C | C6-N1-C1' | -5.64 | 114.03 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 31 | 31 | 62 | ARG | NE-CZ-NH1 | -5.64 | 117.48 | 120.30 |
| 1 | 1G | 24 | U | C5-C6-N1 | 5.64 | 125.52 | 122.70 |
| 1 | 1G | 1073 | U | N3-C4-C5 | -5.64 | 111.21 | 114.60 |
| 26 | 14 | 215 | G | C5-N7-C8 | 5.64 | 107.12 | 104.30 |
| 26 | 14 | 946 | G | C5-C6-O6 | 5.64 | 131.99 | 128.60 |
| 26 | 14 | 1343 | G | C5-C6-N1 | -5.64 | 108.68 | 111.50 |
| 26 | 14 | 1524 | G | O5'-P-OP2 | 5.64 | 117.47 | 110.70 |
| 26 | 14 | 1559 | G | C6-N1-C2 | 5.64 | 128.49 | 125.10 |
| 26 | 14 | 1973 | G | C4-C5-N7 | -5.64 | 108.54 | 110.80 |
| 26 | 14 | 1974 | C | C5-C6-N1 | 5.64 | 123.82 | 121.00 |
| 26 | 14 | 2255 | G | C5-C6-O6 | 5.64 | 131.99 | 128.60 |
| 26 | 14 | 2515 | C | N1-C2-N3 | 5.64 | 123.15 | 119.20 |
| 1 | 13 | 781 | A | C5-C6-N1 | 5.64 | 120.52 | 117.70 |
| 26 | 1H | 227 | A | C6-N1-C2 | -5.64 | 115.21 | 118.60 |
| 26 | 1H | 450 | G | N3-C2-N2 | -5.64 | 115.95 | 119.90 |
| 26 | 1H | 626 | U | C5-C4-O4 | 5.64 | 129.29 | 125.90 |
| 26 | 1H | 2488 | A | N7-C8-N9 | -5.64 | 110.98 | 113.80 |
| 1 | 1G | 209 | U | C5-C6-N1 | 5.64 | 125.52 | 122.70 |
| 1 | 1G | 760 | G | O5'-P-OP1 | 5.64 | 117.47 | 110.70 |
| 1 | 1G | 1186 | G | N1-C6-O6 | 5.64 | 123.29 | 119.90 |
| 26 | 14 | 512 | G | C5-N7-C8 | -5.64 | 101.48 | 104.30 |
| 26 | 14 | 752 | A | C5-N7-C8 | -5.64 | 101.08 | 103.90 |
| 26 | 14 | 844 | C | OP1-P-OP2 | -5.64 | 111.14 | 119.60 |
| 26 | 14 | 1279 | G | O5'-P-OP1 | 5.64 | 117.47 | 110.70 |
| 26 | 14 | 1283 | G | C5-N7-C8 | 5.64 | 107.12 | 104.30 |
| 26 | 14 | 1301 | A | O5'-P-OP2 | -5.64 | 100.62 | 105.70 |
| 26 | 14 | 1352 | U | N3-C4-C5 | 5.64 | 117.98 | 114.60 |
| 26 | 14 | 1926 | U | C4-C5-C6 | 5.64 | 123.08 | 119.70 |
| 26 | 14 | 2183 | C | C6-N1-C2 | -5.64 | 118.04 | 120.30 |
| 29 | 19 | 271 | ILE | C-N-CA | -5.64 | 107.59 | 121.70 |
| 1 | 13 | 731 | G | N1-C2-N3 | -5.64 | 120.52 | 123.90 |
| 1 | 13 | 1113 | C | C2-N1-C1' | 5.64 | 125.01 | 118.80 |
| 1 | 13 | 1433 | A | C5-N7-C8 | 5.64 | 106.72 | 103.90 |
| 26 | 1H | 247 | G | N7-C8-N9 | -5.64 | 110.28 | 113.10 |
| 26 | 1H | 484 | C | O5'-P-OP1 | 5.64 | 117.47 | 110.70 |
| 26 | 1H | 1282 | U | C2-N3-C4 | -5.64 | 123.61 | 127.00 |
| 26 | 1H | 1470 | G | C8-N9-C4 | -5.64 | 104.14 | 106.40 |
| 33 | 51 | 12 | PRO | C-N-CA | 5.64 | 135.80 | 121.70 |
| 1 | 1G | 1267 | C | C2-N1-C1' | 5.64 | 125.00 | 118.80 |
| 26 | 14 | 863 | A | C6-N1-C2 | -5.64 | 115.22 | 118.60 |
| 26 | 14 | 2585 | U | O5'-P-OP1 | -5.64 | 100.62 | 105.70 |
| 1 | 13 | 1478 | C | OP1-P-OP2 | -5.64 | 111.14 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 22 | 1K | 42 | A | C5-C6-N6 | -5.64 | 119.19 | 123.70 |
| 26 | 1H | 78 | A | N9-C4-C5 | -5.64 | 103.54 | 105.80 |
| 26 | 1H | 1125 | G | N3-C4-N9 | -5.64 | 122.62 | 126.00 |
| 26 | 1H | 1382 | G | N1-C6-O6 | 5.64 | 123.28 | 119.90 |
| 26 | 1H | 1778 | U | C2-N1-C1' | -5.64 | 110.93 | 117.70 |
| 26 | 1H | 1784 | A | C2-N3-C4 | -5.64 | 107.78 | 110.60 |
| 26 | 1H | 1798 | U | N1-C2-O2 | -5.64 | 118.85 | 122.80 |
| 31 | 31 | 12 | LEU | CB-CG-CD1 | -5.64 | 101.41 | 111.00 |
| 44 | E8 | 42 | ARG | C-N-CA | -5.64 | 110.45 | 122.30 |
| 1 | 1G | 761 | G | C5-C6-O6 | -5.64 | 125.22 | 128.60 |
| 26 | 14 | 563 | G | C6-C5-N7 | -5.64 | 127.02 | 130.40 |
| 26 | 14 | 2004 | G | N1-C2-N2 | 5.64 | 121.28 | 116.20 |
| 26 | 14 | 2067 | G | C6-N1-C2 | -5.64 | 121.72 | 125.10 |
| 1 | 13 | 31 | G | OP1-P-OP2 | -5.64 | 111.14 | 119.60 |
| 1 | 13 | 535 | A | C5-C6-N6 | 5.64 | 128.21 | 123.70 |
| 26 | 1H | 956 | G | N1-C2-N2 | -5.64 | 111.13 | 116.20 |
| 26 | 1H | 1763 | G | OP2-P-O3' | 5.64 | 117.60 | 105.20 |
| 26 | 1H | 1888 | G | C5-C6-N1 | 5.64 | 114.32 | 111.50 |
| 26 | 1H | 2343 | C | O5'-P-OP1 | -5.64 | 100.63 | 105.70 |
| 26 | 1H | 2430 | A | O5'-P-OP1 | -5.64 | 100.63 | 105.70 |
| 26 | 1H | 2737 | G | C5-N7-C8 | -5.64 | 101.48 | 104.30 |
| 26 | 14 | 503 | A | N1-C6-N6 | -5.64 | 115.22 | 118.60 |
| 26 | 14 | 1387 | C | O5'-P-OP1 | -5.64 | 100.62 | 105.70 |
| 26 | 14 | 1438 | U | C4-C5-C6 | 5.64 | 123.08 | 119.70 |
| 26 | 14 | 1487 | G | C8-N9-C4 | -5.64 | 104.14 | 106.40 |
| 26 | 14 | 1691 | C | C6-N1-C2 | -5.64 | 118.05 | 120.30 |
| 26 | 14 | 2396 | G | N9-C4-C5 | -5.64 | 103.14 | 105.40 |
| 1 | 13 | 242 | C | C4-C5-C6 | -5.64 | 114.58 | 117.40 |
| 1 | 13 | 266 | G | C4-C5-N7 | 5.64 | 113.06 | 110.80 |
| 1 | 13 | 763 | G | C5-C6-O6 | -5.64 | 125.22 | 128.60 |
| 26 | 1H | 315 | G | C6-C5-N7 | -5.64 | 127.02 | 130.40 |
| 26 | 1H | 729 | G | C4-N9-C1' | 5.64 | 133.83 | 126.50 |
| 26 | 1H | 1203 | G | C5-N7-C8 | 5.64 | 107.12 | 104.30 |
| 26 | 1H | 1674 | G | N7-C8-N9 | 5.64 | 115.92 | 113.10 |
| 26 | 1H | 2078 | C | C2-N3-C4 | -5.64 | 117.08 | 119.90 |
| 26 | 1H | 2620 | C | C5-C6-N1 | -5.64 | 118.18 | 121.00 |
| 26 | 1H | 2844 | G | N9-C4-C5 | 5.64 | 107.66 | 105.40 |
| 1 | 1G | 803 | G | C5-C6-N1 | -5.64 | 108.68 | 111.50 |
| 1 | 1G | 1334 | G | N7-C8-N9 | 5.64 | 115.92 | 113.10 |
| 26 | 14 | 456 | C | O5'-P-OP2 | -5.64 | 100.63 | 105.70 |
| 26 | 14 | 1273 | U | C2-N1-C1' | -5.64 | 110.94 | 117.70 |
| 26 | 14 | 1300 | U | C6-N1-C2 | -5.64 | 117.62 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2323 | G | N1-C6-O6 | 5.64 | 123.28 | 119.90 |
| 26 | 14 | 2768 | C | C6-N1-C2 | -5.64 | 118.05 | 120.30 |
| 26 | 14 | 2818 | G | C5-N7-C8 | -5.64 | 101.48 | 104.30 |
| 1 | 13 | 365 | U | N3-C4-O4 | 5.63 | 123.34 | 119.40 |
| 1 | 13 | 1497 | G | C5-C6-O6 | 5.63 | 131.98 | 128.60 |
| 1 | 13 | 1530 | G | O5'-P-OP1 | 5.63 | 117.46 | 110.70 |
| 26 | 1H | 1214 | A | OP2-P-O3' | 5.63 | 117.60 | 105.20 |
| 26 | 1H | 1742 | C | N1-C2-O2 | -5.63 | 115.52 | 118.90 |
| 26 | 1H | 1795 | C | C2-N3-C4 | 5.63 | 122.72 | 119.90 |
| 26 | 1H | 2467 | C | C5-C6-N1 | -5.63 | 118.18 | 121.00 |
| 26 | 14 | 408 | G | C5-C6-N1 | -5.63 | 108.68 | 111.50 |
| 26 | 14 | 1330 | C | C6-N1-C1' | -5.63 | 114.04 | 120.80 |
| 26 | 14 | 2072 | G | N3-C4-N9 | 5.63 | 129.38 | 126.00 |
| 26 | 14 | 2388 | A | N9-C4-C5 | 5.63 | 108.05 | 105.80 |
| 26 | 1H | 834 | C | N1-C2-N3 | 5.63 | 123.14 | 119.20 |
| 1 | 1G | 698 | G | C8-N9-C4 | -5.63 | 104.15 | 106.40 |
| 26 | 14 | 1618 | A | N1-C6-N6 | -5.63 | 115.22 | 118.60 |
| 26 | 14 | 2549 | G | N3-C4-N9 | -5.63 | 122.62 | 126.00 |
| 26 | 14 | 2778 | A | OP1-P-OP2 | 5.63 | 128.05 | 119.60 |
| 1 | 13 | 1312 | G | N1-C2-N3 | -5.63 | 120.52 | 123.90 |
| 26 | 1H | 214 | G | OP2-P-O3' | 5.63 | 117.59 | 105.20 |
| 26 | 1H | 473 | G | N3-C2-N2 | 5.63 | 123.84 | 119.90 |
| 26 | 1H | 692 | C | OP1-P-O3' | -5.63 | 92.81 | 105.20 |
| 26 | 1H | 2353 | G | N1-C6-O6 | -5.63 | 116.52 | 119.90 |
| 1 | 1G | 521 | G | OP1-P-OP2 | 5.63 | 128.05 | 119.60 |
| 1 | 1G | 700 | G | N3-C2-N2 | -5.63 | 115.96 | 119.90 |
| 26 | 14 | 79 | G | C5-C6-N1 | 5.63 | 114.32 | 111.50 |
| 26 | 14 | 1586 | A | N1-C6-N6 | 5.63 | 121.98 | 118.60 |
| 26 | 14 | 1939 | U | OP2-P-O3' | 5.63 | 117.59 | 105.20 |
| 26 | 14 | 2601 | C | C2-N3-C4 | -5.63 | 117.08 | 119.90 |
| 1 | 13 | 713 | G | C5-C6-O6 | 5.63 | 131.98 | 128.60 |
| 1 | 13 | 889 | A | C5-C6-N1 | -5.63 | 114.89 | 117.70 |
| 25 | 4K | 14 | A | O5'-P-OP2 | -5.63 | 100.63 | 105.70 |
| 26 | 1H | 469 | G | C5-C6-N1 | 5.63 | 114.31 | 111.50 |
| 1 | 1G | 131 | C | N1-C2-O2 | -5.63 | 115.52 | 118.90 |
| 1 | 1G | 209 | U | C2-N1-C1' | 5.63 | 124.46 | 117.70 |
| 26 | 14 | 332 | A | C5-C6-N6 | 5.63 | 128.20 | 123.70 |
| 1 | 13 | 315 | A | C5-C6-N1 | 5.63 | 120.51 | 117.70 |
| 1 | 13 | 695 | A | C5-C6-N1 | -5.63 | 114.89 | 117.70 |
| 1 | 13 | 758 | G | N1-C2-N2 | 5.63 | 121.27 | 116.20 |
| 1 | 13 | 1214 | C | C2-N1-C1' | -5.63 | 112.61 | 118.80 |
| 1 | 13 | 1438 | G | N1-C2-N3 | 5.63 | 127.28 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 486 | C | O5'-P-OP2 | 5.63 | 117.45 | 110.70 |
| 26 | 1H | 782 | A | C4-C5-C6 | 5.63 | 119.81 | 117.00 |
| 26 | 1H | 1153 | C | C6-N1-C1' | 5.63 | 127.55 | 120.80 |
| 26 | 1H | 1161 | C | C2-N3-C4 | 5.63 | 122.71 | 119.90 |
| 26 | 1H | 1526 | G | C5-C6-O6 | 5.63 | 131.98 | 128.60 |
| 26 | 1H | 1827 | C | OP1-P-OP2 | -5.63 | 111.16 | 119.60 |
| 26 | 1H | 2101 | G | N1-C6-O6 | 5.63 | 123.28 | 119.90 |
| 26 | 1H | 2287 | A | C4-C5-N7 | 5.63 | 113.51 | 110.70 |
| 26 | 1H | 2531 | A | O5'-P-OP1 | -5.63 | 100.64 | 105.70 |
| 26 | 1H | 2606 | C | C2-N3-C4 | -5.63 | 117.09 | 119.90 |
| 26 | 1H | 2708 | G | N3-C2-N2 | -5.63 | 115.96 | 119.90 |
| 27 | 16 | 8 | U | C5-C6-N1 | -5.63 | 119.89 | 122.70 |
| 27 | 16 | 52 | A | C2-N3-C4 | 5.63 | 113.42 | 110.60 |
| 1 | 1G | 324 | G | N3-C4-N9 | -5.63 | 122.62 | 126.00 |
| 1 | 1G | 702 | A | N1-C6-N6 | -5.63 | 115.22 | 118.60 |
| 1 | 1G | 1432 | G | N1-C6-O6 | 5.63 | 123.28 | 119.90 |
| 1 | 1G | 1452 | C | O5'-P-OP2 | -5.63 | 100.64 | 105.70 |
| 23 | 2L | 1 | C | N1-C2-O2 | 5.63 | 122.28 | 118.90 |
| 26 | 14 | 230 | U | C5-C6-N1 | -5.63 | 119.89 | 122.70 |
| 26 | 14 | 788 | A | OP2-P-O3' | 5.63 | 117.58 | 105.20 |
| 26 | 14 | 864 | G | N3-C4-C5 | -5.63 | 125.79 | 128.60 |
| 26 | 14 | 2522 | U | N3-C2-O2 | -5.63 | 118.26 | 122.20 |
| 26 | 14 | 2737 | G | C8-N9-C4 | -5.63 | 104.15 | 106.40 |
| 49 | F5 | 36 | GLY | N-CA-C | 5.63 | 127.17 | 113.10 |
| 1 | 13 | 112 | G | C2-N3-C4 | 5.63 | 114.71 | 111.90 |
| 1 | 13 | 1184 | G | C5-C6-N1 | -5.63 | 108.69 | 111.50 |
| 22 | 1K | 64 | G | N3-C4-N9 | 5.63 | 129.38 | 126.00 |
| 26 | 1H | 290 | G | N1-C2-N2 | -5.63 | 111.14 | 116.20 |
| 26 | 1H | 386 | G | O5'-P-OP1 | -5.63 | 100.64 | 105.70 |
| 26 | 1H | 481 | G | OP1-P-OP2 | -5.63 | 111.16 | 119.60 |
| 26 | 1H | 787 | U | O4'-C1'-N1 | 5.63 | 112.70 | 108.20 |
| 26 | 1H | 1997 | G | N3-C4-C5 | 5.63 | 131.41 | 128.60 |
| 26 | 1H | 2375 | G | N3-C4-N9 | -5.63 | 122.62 | 126.00 |
| 30 | 21 | 49 | LEU | CA-CB-CG | -5.63 | 102.36 | 115.30 |
| 1 | 1G | 390 | C | N3-C4-C5 | 5.63 | 124.15 | 121.90 |
| 1 | 1G | 558 | G | N9-C4-C5 | 5.63 | 107.65 | 105.40 |
| 1 | 1G | 1205 | U | C2-N3-C4 | 5.63 | 130.38 | 127.00 |
| 56 | 1L | 19 | G | N3-C4-C5 | -5.63 | 125.79 | 128.60 |
| 23 | 2L | 21 | U | C6-N1-C2 | -5.63 | 117.62 | 121.00 |
| 26 | 14 | 775 | G | N3-C4-N9 | 5.63 | 129.38 | 126.00 |
| 26 | 14 | 1350 | C | N3-C4-C5 | 5.63 | 124.15 | 121.90 |
| 26 | 14 | 2008 | C | N3-C4-N4 | 5.63 | 121.94 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2374 | C | N3-C4-C5 | 5.63 | 124.15 | 121.90 |
| 26 | 14 | 2508 | G | C5-C6-N1 | 5.63 | 114.31 | 111.50 |
| 26 | 14 | 2621 | A | C5-C6-N1 | 5.63 | 120.51 | 117.70 |
| 26 | 14 | 2821 | A | N3-C4-C5 | 5.63 | 130.74 | 126.80 |
| 1 | 13 | 1067 | A | O5'-P-OP2 | 5.62 | 117.45 | 110.70 |
| 23 | 2K | 71 | G | N7-C8-N9 | -5.62 | 110.29 | 113.10 |
| 26 | 1H | 325 | G | C5-N7-C8 | 5.62 | 107.11 | 104.30 |
| 26 | 1H | 816 | C | C2-N3-C4 | 5.62 | 122.71 | 119.90 |
| 26 | 1H | 1510 | A | C8-N9-C4 | -5.62 | 103.55 | 105.80 |
| 26 | 1H | 2682 | U | O5'-P-OP2 | -5.62 | 100.64 | 105.70 |
| 1 | 1G | 242 | C | C4-C5-C6 | -5.62 | 114.59 | 117.40 |
| 1 | 1G | 1315 | U | C5-C6-N1 | 5.62 | 125.51 | 122.70 |
| 26 | 14 | 223 | A | C4-C5-C6 | 5.62 | 119.81 | 117.00 |
| 26 | 14 | 1271 | G | C8-N9-C4 | 5.62 | 108.65 | 106.40 |
| 26 | 14 | 1754 | C | N3-C2-O2 | -5.62 | 117.96 | 121.90 |
| 1 | 13 | 510 | A | C5-N7-C8 | -5.62 | 101.09 | 103.90 |
| 1 | 13 | 622 | A | OP2-P-O3' | 5.62 | 117.57 | 105.20 |
| 1 | 13 | 1155 | G | N1-C6-O6 | 5.62 | 123.28 | 119.90 |
| 1 | 13 | 1401 | G | N1-C2-N3 | 5.62 | 127.27 | 123.90 |
| 26 | 1H | 283 | A | N7-C8-N9 | -5.62 | 110.99 | 113.80 |
| 26 | 1H | 2305 | A | C8-N9-C4 | -5.62 | 103.55 | 105.80 |
| 26 | 1H | 2318 | G | C8-N9-C4 | -5.62 | 104.15 | 106.40 |
| 26 | 1H | 2709 | G | N3-C4-N9 | -5.62 | 122.63 | 126.00 |
| 1 | 1G | 664 | G | C5-C6-N1 | -5.62 | 108.69 | 111.50 |
| 1 | 1G | 800 | G | N1-C6-O6 | 5.62 | 123.27 | 119.90 |
| 26 | 14 | 715 | G | C5-N7-C8 | -5.62 | 101.49 | 104.30 |
| 26 | 14 | 788 | A | OP1-P-O3' | -5.62 | 92.83 | 105.20 |
| 1 | 13 | 298 | A | N1-C2-N3 | 5.62 | 132.11 | 129.30 |
| 1 | 13 | 740 | U | C4-C5-C6 | 5.62 | 123.07 | 119.70 |
| 1 | 13 | 906 | G | C6-C5-N7 | -5.62 | 127.03 | 130.40 |
| 1 | 13 | 1058 | G | N3-C4-N9 | 5.62 | 129.37 | 126.00 |
| 1 | 13 | 1227 | A | O5'-P-OP2 | -5.62 | 100.64 | 105.70 |
| 1 | 13 | 1533 | C | C6-N1-C1' | -5.62 | 114.05 | 120.80 |
| 26 | 1H | 530 | G | C4-C5-N7 | 5.62 | 113.05 | 110.80 |
| 26 | 1H | 1257 | C | OP2-P-O3' | 5.62 | 117.57 | 105.20 |
| 26 | 1H | 1269 | A | C4-C5-C6 | -5.62 | 114.19 | 117.00 |
| 26 | 1H | 1325 | G | N7-C8-N9 | 5.62 | 115.91 | 113.10 |
| 26 | 1H | 1368 | G | N1-C2-N3 | 5.62 | 127.27 | 123.90 |
| 26 | 1H | 1558 | A | N3-C4-C5 | 5.62 | 130.74 | 126.80 |
| 26 | 1H | 1683 | C | N3-C4-N4 | -5.62 | 114.06 | 118.00 |
| 26 | 1H | 2312 | U | N3-C4-C5 | -5.62 | 111.23 | 114.60 |
| 26 | 1H | 2835 | A | C8-N9-C4 | -5.62 | 103.55 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 1G | 1070 | U | C6-N1-C2 | -5.62 | 117.63 | 121.00 |
| 26 | 14 | 71 | A | N3-C4-N9 | -5.62 | 122.90 | 127.40 |
| 26 | 14 | 242 | G | N9-C4-C5 | -5.62 | 103.15 | 105.40 |
| 26 | 14 | 622 | G | N7-C8-N9 | -5.62 | 110.29 | 113.10 |
| 26 | 14 | 737 | C | C5-C4-N4 | -5.62 | 116.27 | 120.20 |
| 26 | 14 | 950 | G | C5-C6-O6 | 5.62 | 131.97 | 128.60 |
| 26 | 14 | 2417 | C | O5'-P-OP1 | 5.62 | 117.45 | 110.70 |
| 23 | 2K | 73 | A | N9-C4-C5 | -5.62 | 103.55 | 105.80 |
| 26 | 1H | 118 | A | N9-C4-C5 | -5.62 | 103.55 | 105.80 |
| 26 | 1H | 532 | A | O5'-P-OP1 | -5.62 | 100.64 | 105.70 |
| 26 | 1H | 580 | C | OP2-P-O3' | 5.62 | 117.56 | 105.20 |
| 26 | 1H | 1802 | A | C4-C5-C6 | 5.62 | 119.81 | 117.00 |
| 26 | 1H | 2058 | A | N9-C4-C5 | -5.62 | 103.55 | 105.80 |
| 1 | 1G | 385 | C | C5-C4-N4 | 5.62 | 124.13 | 120.20 |
| 26 | 14 | 1202 | C | OP1-P-OP2 | 5.62 | 128.03 | 119.60 |
| 26 | 14 | 2089 | U | N1-C2-O2 | -5.62 | 118.87 | 122.80 |
| 26 | 14 | 2459 | A | N7-C8-N9 | 5.62 | 116.61 | 113.80 |
| 1 | 13 | 375 | U | N1-C2-O2 | 5.62 | 126.73 | 122.80 |
| 1 | 13 | 388 | G | C8-N9-C4 | 5.62 | 108.65 | 106.40 |
| 1 | 13 | 1156 | G | C2-N3-C4 | -5.62 | 109.09 | 111.90 |
| 1 | 13 | 1359 | C | C4-C5-C6 | -5.62 | 114.59 | 117.40 |
| 26 | 1H | 310 | A | C6-N1-C2 | -5.62 | 115.23 | 118.60 |
| 26 | 1H | 415 | A | N1-C2-N3 | 5.62 | 132.11 | 129.30 |
| 26 | 1H | 1475 | G | N3-C4-N9 | -5.62 | 122.63 | 126.00 |
| 26 | 1H | 1510 | A | N7-C8-N9 | 5.62 | 116.61 | 113.80 |
| 26 | 1H | 1757 | U | C2-N3-C4 | -5.62 | 123.63 | 127.00 |
| 26 | 1H | 2729 | G | C2-N3-C4 | -5.62 | 109.09 | 111.90 |
| 26 | 1H | 2872 | G | O4'-C1'-N9 | -5.62 | 103.71 | 108.20 |
| 1 | 1G | 503 | C | C5-C4-N4 | -5.62 | 116.27 | 120.20 |
| 23 | 2L | 24 | C | O5'-P-OP2 | -5.62 | 100.64 | 105.70 |
| 26 | 14 | 691 | C | C2-N3-C4 | -5.62 | 117.09 | 119.90 |
| 26 | 14 | 1596 | A | OP1-P-OP2 | 5.62 | 128.03 | 119.60 |
| 26 | 14 | 1668 | A | OP2-P-O3' | 5.62 | 117.56 | 105.20 |
| 26 | 14 | 1774 | C | N3-C4-C5 | 5.62 | 124.15 | 121.90 |
| 1 | 13 | 40 | C | C5-C4-N4 | 5.62 | 124.13 | 120.20 |
| 26 | 1H | 270(Y) | G | C5-C6-N1 | -5.62 | 108.69 | 111.50 |
| 26 | 1H | 654(V) | A | N1-C6-N6 | -5.62 | 115.23 | 118.60 |
| 26 | 1H | 1338 | G | N9-C4-C5 | -5.62 | 103.15 | 105.40 |
| 26 | 1H | 1622 | G | C4-C5-N7 | -5.62 | 108.55 | 110.80 |
| 26 | 1H | 2666 | C | N3-C4-N4 | 5.62 | 121.93 | 118.00 |
| 26 | 14 | 70 | G | C5-C6-O6 | 5.62 | 131.97 | 128.60 |
| 26 | 14 | 225 | A | C2-N3-C4 | -5.62 | 107.79 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 752 | A | C6-N1-C2 | -5.62 | 115.23 | 118.60 |
| 26 | 14 | 2430 | A | C5-N7-C8 | -5.62 | 101.09 | 103.90 |
| 1 | 13 | 31 | G | C4-C5-N7 | 5.62 | 113.05 | 110.80 |
| 1 | 13 | 977 | A | C4-C5-N7 | -5.62 | 107.89 | 110.70 |
| 1 | 13 | 1428 | A | O5'-P-OP1 | 5.62 | 117.44 | 110.70 |
| 26 | 1H | 142 | G | OP2-P-O3' | 5.62 | 117.55 | 105.20 |
| 26 | 1H | 183 | C | C2-N3-C4 | -5.62 | 117.09 | 119.90 |
| 26 | 1H | 594 | U | C5-C4-O4 | 5.62 | 129.27 | 125.90 |
| 26 | 1H | 922 | U | N3-C4-C5 | -5.62 | 111.23 | 114.60 |
| 26 | 1H | 1109 | C | N3-C2-O2 | -5.62 | 117.97 | 121.90 |
| 26 | 1H | 1236 | G | OP1-P-O3' | 5.62 | 117.56 | 105.20 |
| 26 | 1H | 1246 | A | O5'-P-OP2 | -5.62 | 100.65 | 105.70 |
| 26 | 1H | 2530 | A | C5-N7-C8 | -5.62 | 101.09 | 103.90 |
| 51 | L8 | 31 | LEU | CB-CA-C | -5.62 | 99.53 | 110.20 |
| 1 | 1G | 619 | U | N1-C2-N3 | 5.62 | 118.27 | 114.90 |
| 26 | 14 | 463 | G | OP1-P-O3' | 5.62 | 117.55 | 105.20 |
| 26 | 14 | 993 | G | C8-N9-C4 | -5.62 | 104.15 | 106.40 |
| 26 | 14 | 2093 | G | C8-N9-C4 | -5.62 | 104.15 | 106.40 |
| 26 | 14 | 2595 | G | N7-C8-N9 | 5.62 | 115.91 | 113.10 |
| 26 | 14 | 2607 | G | OP1-P-OP2 | -5.62 | 111.18 | 119.60 |
| 26 | 14 | 2609 | U | C6-N1-C2 | 5.62 | 124.37 | 121.00 |
| 1 | 13 | 513 | C | N1-C2-N3 | -5.61 | 115.27 | 119.20 |
| 23 | 2K | 5 | G | N7-C8-N9 | -5.61 | 110.29 | 113.10 |
| 25 | 4K | 25 | A | C5-C6-N1 | -5.61 | 114.89 | 117.70 |
| 26 | 1H | 71 | A | C6-N1-C2 | -5.61 | 115.23 | 118.60 |
| 26 | 1H | 755 | C | OP2-P-O3' | 5.61 | 117.55 | 105.20 |
| 26 | 1H | 1046 | A | C2-N3-C4 | 5.61 | 113.41 | 110.60 |
| 26 | 1H | 1377 | G | O4'-C1'-N9 | -5.61 | 103.71 | 108.20 |
| 26 | 1H | 1473 | G | N7-C8-N9 | -5.61 | 110.29 | 113.10 |
| 26 | 1H | 1872 | A | C8-N9-C4 | 5.61 | 108.05 | 105.80 |
| 26 | 1H | 2068 | U | O5'-P-OP1 | -5.61 | 100.65 | 105.70 |
| 1 | 1G | 715 | A | N1-C2-N3 | 5.61 | 132.11 | 129.30 |
| 1 | 1G | 1408 | A | C4-C5-N7 | -5.61 | 107.89 | 110.70 |
| 26 | 14 | 851 | U | OP1-P-OP2 | 5.61 | 128.02 | 119.60 |
| 26 | 14 | 1630(A) | C | O5'-P-OP1 | -5.61 | 100.65 | 105.70 |
| 1 | 13 | 694 | A | C5-N7-C8 | -5.61 | 101.09 | 103.90 |
| 1 | 13 | 894 | G | N9-C4-C5 | -5.61 | 103.16 | 105.40 |
| 26 | 14 | 858 | U | N3-C2-O2 | -5.61 | 118.27 | 122.20 |
| 26 | 14 | 1351 | C | C2-N3-C4 | -5.61 | 117.09 | 119.90 |
| 26 | 14 | 1972 | A | N3-C4-C5 | -5.61 | 122.87 | 126.80 |
| 26 | 14 | 2381 | C | N1-C2-O2 | -5.61 | 115.53 | 118.90 |
| 26 | 14 | 2506 | U | O5'-P-OP2 | -5.61 | 100.65 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2641 | G | OP1-P-OP2 | 5.61 | 128.02 | 119.60 |
| 26 | 14 | 2644 | G | N3-C2-N2 | -5.61 | 115.97 | 119.90 |
| 27 | 1J | 90 | C | C4-C5-C6 | -5.61 | 114.59 | 117.40 |
| 26 | 1H | 998 | C | N1-C2-O2 | 5.61 | 122.27 | 118.90 |
| 26 | 1H | 1115 | G | C8-N9-C4 | 5.61 | 108.64 | 106.40 |
| 26 | 1H | 1288 | U | OP1-P-O3' | 5.61 | 117.54 | 105.20 |
| 26 | 1H | 1726 | G | N3-C4-N9 | -5.61 | 122.63 | 126.00 |
| 26 | 1H | 2439 | A | OP2-P-O3' | -5.61 | 92.86 | 105.20 |
| 1 | 1G | 12 | U | N3-C2-O2 | -5.61 | 118.27 | 122.20 |
| 1 | 1G | 773 | G | N3-C2-N2 | -5.61 | 115.97 | 119.90 |
| 1 | 1G | 1391 | U | C4-C5-C6 | 5.61 | 123.07 | 119.70 |
| 26 | 14 | 259 | G | C6-N1-C2 | 5.61 | 128.47 | 125.10 |
| 26 | 14 | 776 | G | OP1-P-OP2 | 5.61 | 128.02 | 119.60 |
| 26 | 14 | 914 | C | N3-C2-O2 | -5.61 | 117.97 | 121.90 |
| 26 | 14 | 1287 | A | C6-N1-C2 | -5.61 | 115.23 | 118.60 |
| 26 | 14 | 1489 | U | N3-C4-C5 | -5.61 | 111.23 | 114.60 |
| 26 | 14 | 1500 | G | N7-C8-N9 | 5.61 | 115.91 | 113.10 |
| 26 | 14 | 1784 | A | C5-N7-C8 | -5.61 | 101.09 | 103.90 |
| 26 | 14 | 1789 | A | N9-C4-C5 | 5.61 | 108.04 | 105.80 |
| 26 | 14 | 1823 | G | C8-N9-C4 | 5.61 | 108.64 | 106.40 |
| 26 | 1H | 591 | C | C2-N3-C4 | -5.61 | 117.09 | 119.90 |
| 26 | 1H | 843 | G | N1-C6-O6 | 5.61 | 123.27 | 119.90 |
| 26 | 1H | 846 | C | OP1-P-OP2 | 5.61 | 128.01 | 119.60 |
| 26 | 1H | 992 | C | C4-C5-C6 | 5.61 | 120.20 | 117.40 |
| 26 | 1H | 2358 | G | OP1-P-O3' | 5.61 | 117.54 | 105.20 |
| 26 | 14 | 567 | A | C4-C5-C6 | -5.61 | 114.20 | 117.00 |
| 26 | 14 | 1221 | C | N3-C4-C5 | 5.61 | 124.14 | 121.90 |
| 1 | 13 | 35 | G | N1-C6-O6 | 5.61 | 123.27 | 119.90 |
| 1 | 13 | 977 | A | C8-N9-C4 | -5.61 | 103.56 | 105.80 |
| 1 | 13 | 1415 | G | C8-N9-C4 | 5.61 | 108.64 | 106.40 |
| 1 | 13 | 1502 | A | OP1-P-OP2 | 5.61 | 128.01 | 119.60 |
| 26 | 1H | 87 | C | N1-C2-N3 | 5.61 | 123.13 | 119.20 |
| 26 | 1H | 1791 | A | O5'-P-OP1 | -5.61 | 100.65 | 105.70 |
| 26 | 1H | 2608 | G | N9-C4-C5 | 5.61 | 107.64 | 105.40 |
| 26 | 1H | 2646 | C | N3-C4-C5 | 5.61 | 124.14 | 121.90 |
| 1 | 1G | 291 | C | C6-N1-C2 | 5.61 | 122.54 | 120.30 |
| 1 | 1G | 603 | U | C6-N1-C2 | -5.61 | 117.64 | 121.00 |
| 1 | 1G | 917 | G | N1-C6-O6 | 5.61 | 123.26 | 119.90 |
| 1 | 1G | 1519 | A | C5-C6-N6 | 5.61 | 128.19 | 123.70 |
| 26 | 14 | 34 | C | N3-C2-O2 | -5.61 | 117.97 | 121.90 |
| 26 | 14 | 547 | A | N3-C4-C5 | -5.61 | 122.88 | 126.80 |
| 26 | 14 | 979 | G | C8-N9-C4 | -5.61 | 104.16 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1135 | C | O5'-P-OP2 | -5.61 | 100.65 | 105.70 |
| 26 | 14 | 1606 | G | N3-C4-C5 | -5.61 | 125.80 | 128.60 |
| 26 | 14 | 1831 | G | N1-C2-N3 | 5.61 | 127.26 | 123.90 |
| 26 | 14 | 2332 | U | O5'-P-OP1 | 5.61 | 117.43 | 110.70 |
| 26 | 14 | 2337 | G | C4-N9-C1' | 5.61 | 133.79 | 126.50 |
| 26 | 14 | 2425 | A | C4-C5-C6 | 5.61 | 119.80 | 117.00 |
| 27 | 1J | 62 | C | OP1-P-OP2 | 5.61 | 128.01 | 119.60 |
| 1 | 13 | 808 | C | N1-C2-O2 | -5.61 | 115.54 | 118.90 |
| 1 | 13 | 903 | G | OP2-P-O3' | 5.61 | 117.53 | 105.20 |
| 1 | 13 | 1199 | U | C6-N1-C1' | 5.61 | 129.05 | 121.20 |
| 1 | 13 | 1494 | G | C4-C5-C6 | -5.61 | 115.44 | 118.80 |
| 26 | 1H | 303 | U | N1-C2-N3 | 5.61 | 118.26 | 114.90 |
| 26 | 1H | 387 | U | N1-C2-O2 | -5.61 | 118.88 | 122.80 |
| 26 | 1H | 489 | G | C8-N9-C4 | -5.61 | 104.16 | 106.40 |
| 26 | 1H | 678 | C | N1-C2-O2 | -5.61 | 115.54 | 118.90 |
| 26 | 1H | 1366 | A | C4-C5-C6 | 5.61 | 119.80 | 117.00 |
| 26 | 1H | 1904 | G | N3-C2-N2 | 5.61 | 123.82 | 119.90 |
| 26 | 1H | 1948 | G | C6-C5-N7 | 5.61 | 133.76 | 130.40 |
| 26 | 1H | 1950 | G | OP1-P-OP2 | 5.61 | 128.01 | 119.60 |
| 26 | 1H | 1988 | C | N3-C4-C5 | 5.61 | 124.14 | 121.90 |
| 26 | 1H | 2426 | A | OP1-P-O3' | 5.61 | 117.53 | 105.20 |
| 27 | 16 | 116 | G | N1-C6-O6 | 5.61 | 123.26 | 119.90 |
| 1 | 1G | 610 | G | N1-C2-N2 | -5.61 | 111.15 | 116.20 |
| 26 | 14 | 1431 | U | C4-C5-C6 | -5.61 | 116.34 | 119.70 |
| 26 | 14 | 1559 | G | C8-N9-C4 | 5.61 | 108.64 | 106.40 |
| 26 | 14 | 1755 | A | O5'-P-OP1 | -5.61 | 100.65 | 105.70 |
| 26 | 14 | 1903 | G | C5-C6-O6 | 5.61 | 131.96 | 128.60 |
| 26 | 14 | 2477 | C | C6-N1-C1' | -5.61 | 114.07 | 120.80 |
| 26 | 14 | 2614 | A | OP2-P-O3' | 5.61 | 117.53 | 105.20 |
| 30 | 29 | 136 | ARG | NE-CZ-NH1 | -5.61 | 117.50 | 120.30 |
| 26 | 1H | 763 | G | OP1-P-O3' | 5.60 | 117.53 | 105.20 |
| 26 | 1H | 1201 | C | C6-N1-C2 | 5.60 | 122.54 | 120.30 |
| 26 | 1H | 1858 | G | C6-C5-N7 | -5.60 | 127.04 | 130.40 |
| 26 | 1H | 2241 | A | C2-N3-C4 | -5.60 | 107.80 | 110.60 |
| 37 | 78 | 18 | ARG | NE-CZ-NH2 | 5.60 | 123.10 | 120.30 |
| 57 | 3L | 34 | U | N3-C2-O2 | -5.60 | 118.28 | 122.20 |
| 26 | 14 | 37 | C | N1-C2-O2 | -5.60 | 115.54 | 118.90 |
| 26 | 14 | 670 | A | C8-N9-C4 | 5.60 | 108.04 | 105.80 |
| 26 | 14 | 1237 | A | N9-C4-C5 | 5.60 | 108.04 | 105.80 |
| 44 | A5 | 96 | ILE | CG1-CB-CG2 | -5.60 | 99.07 | 111.40 |
| 26 | 1H | 107 | C | C2-N1-C1' | -5.60 | 112.64 | 118.80 |
| 26 | 1H | 491 | G | N3-C4-C5 | 5.60 | 131.40 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 744 | G | N7-C8-N9 | 5.60 | 115.90 | 113.10 |
| 26 | 1H | 1338 | G | C5-N7-C8 | 5.60 | 107.10 | 104.30 |
| 26 | 1H | 1599 | C | C5-C6-N1 | -5.60 | 118.20 | 121.00 |
| 26 | 1H | 1770 | G | OP1-P-O3' | 5.60 | 117.52 | 105.20 |
| 26 | 1H | 2362 | G | N1-C2-N2 | -5.60 | 111.16 | 116.20 |
| 27 | 16 | 49 | C | O5'-P-OP1 | 5.60 | 117.42 | 110.70 |
| 1 | 1G | 1335 | C | OP1-P-OP2 | 5.60 | 128.00 | 119.60 |
| 1 | 1G | 1435 | G | C5-C6-N1 | -5.60 | 108.70 | 111.50 |
| 26 | 14 | 299 | A | C8-N9-C4 | 5.60 | 108.04 | 105.80 |
| 26 | 14 | 534 | U | N1-C2-N3 | 5.60 | 118.26 | 114.90 |
| 26 | 14 | 816 | C | C2-N3-C4 | 5.60 | 122.70 | 119.90 |
| 26 | 14 | 1386 | C | N1-C2-O2 | -5.60 | 115.54 | 118.90 |
| 26 | 1H | 1364 | G | P-O3'-C3' | 5.60 | 126.42 | 119.70 |
| 26 | 1H | 1831 | G | OP1-P-OP2 | -5.60 | 111.20 | 119.60 |
| 26 | 1H | 2669 | G | C5-C6-O6 | -5.60 | 125.24 | 128.60 |
| 26 | 1H | 2694 | G | N3-C2-N2 | 5.60 | 123.82 | 119.90 |
| 1 | 1G | 1518 | A | C5-C6-N6 | 5.60 | 128.18 | 123.70 |
| 26 | 14 | 1568 | G | C5-N7-C8 | -5.60 | 101.50 | 104.30 |
| 26 | 14 | 1858 | G | C6-N1-C2 | 5.60 | 128.46 | 125.10 |
| 26 | 14 | 2239 | G | N9-C4-C5 | -5.60 | 103.16 | 105.40 |
| 1 | 13 | 1514 | C | C5-C6-N1 | -5.60 | 118.20 | 121.00 |
| 26 | 1H | 299 | A | N9-C4-C5 | 5.60 | 108.04 | 105.80 |
| 26 | 1H | 685 | A | O5'-P-OP1 | -5.60 | 100.66 | 105.70 |
| 26 | 1H | 930 | U | OP1-P-OP2 | 5.60 | 128.00 | 119.60 |
| 26 | 1H | 1225 | C | OP1-P-OP2 | 5.60 | 128.00 | 119.60 |
| 26 | 1H | 1339 | G | N3-C4-N9 | 5.60 | 129.36 | 126.00 |
| 26 | 1H | 2547 | U | C2-N3-C4 | -5.60 | 123.64 | 127.00 |
| 26 | 1H | 2640 | G | N1-C2-N3 | 5.60 | 127.26 | 123.90 |
| 26 | 1H | 2642 | G | N9-C4-C5 | -5.60 | 103.16 | 105.40 |
| 26 | 1H | 2651 | C | C5-C4-N4 | -5.60 | 116.28 | 120.20 |
| 1 | 1G | 924 | C | N3-C2-O2 | -5.60 | 117.98 | 121.90 |
| 26 | 14 | 759 | G | N3-C4-N9 | -5.60 | 122.64 | 126.00 |
| 26 | 14 | 1301 | A | C5-C6-N1 | -5.60 | 114.90 | 117.70 |
| 26 | 14 | 1787 | A | N9-C4-C5 | -5.60 | 103.56 | 105.80 |
| 26 | 14 | 2558 | C | C2-N3-C4 | -5.60 | 117.10 | 119.90 |
| 1 | 13 | 492 | G | C5-C6-O6 | -5.60 | 125.24 | 128.60 |
| 1 | 13 | 1485 | U | N1-C2-O2 | -5.60 | 118.88 | 122.80 |
| 1 | 13 | 1495 | U | C2-N3-C4 | 5.60 | 130.36 | 127.00 |
| 26 | 1H | 85 | G | C6-N1-C2 | -5.60 | 121.74 | 125.10 |
| 26 | 1H | 684 | G | C4-C5-N7 | -5.60 | 108.56 | 110.80 |
| 26 | 1H | 860 | U | N1-C2-N3 | 5.60 | 118.26 | 114.90 |
| 26 | 1H | 875 | G | C8-N9-C4 | 5.60 | 108.64 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2825 | C | OP2-P-O3' | 5.60 | 117.52 | 105.20 |
| 1 | 1G | 1096 | C | N1-C2-O2 | 5.60 | 122.26 | 118.90 |
| 26 | 14 | 202 | U | OP1-P-OP2 | 5.60 | 128.00 | 119.60 |
| 26 | 14 | 946 | G | C5-C6-N1 | -5.60 | 108.70 | 111.50 |
| 26 | 14 | 1270 | C | OP2-P-O3' | 5.60 | 117.51 | 105.20 |
| 26 | 14 | 1346 | G | C8-N9-C4 | 5.60 | 108.64 | 106.40 |
| 26 | 14 | 1550 | C | N1-C2-O2 | -5.60 | 115.54 | 118.90 |
| 26 | 14 | 1814 | G | N1-C2-N2 | 5.60 | 121.24 | 116.20 |
| 26 | 14 | 2258 | C | O5'-P-OP2 | 5.60 | 117.42 | 110.70 |
| 26 | 14 | 2470 | G | O4'-C1'-N9 | -5.60 | 103.72 | 108.20 |
| 1 | 13 | 272 | C | C6-N1-C2 | -5.60 | 118.06 | 120.30 |
| 1 | 13 | 726 | C | N3-C2-O2 | -5.60 | 117.98 | 121.90 |
| 26 | 1H | 13 | A | C5-C6-N6 | -5.60 | 119.22 | 123.70 |
| 26 | 1H | 293 | U | N3-C2-O2 | -5.60 | 118.28 | 122.20 |
| 26 | 1H | 1324 | G | C4-C5-N7 | -5.60 | 108.56 | 110.80 |
| 26 | 1H | 1471 | A | N7-C8-N9 | 5.60 | 116.60 | 113.80 |
| 26 | 14 | 207 | A | C2-N3-C4 | -5.60 | 107.80 | 110.60 |
| 26 | 14 | 1034 | G | C8-N9-C4 | 5.60 | 108.64 | 106.40 |
| 26 | 14 | 1281 | G | C5-C6-N1 | 5.60 | 114.30 | 111.50 |
| 26 | 14 | 1465 | G | OP1-P-OP2 | 5.60 | 127.99 | 119.60 |
| 26 | 14 | 1870 | C | N3-C4-C5 | 5.60 | 124.14 | 121.90 |
| 1 | 13 | 125 | U | C4-C5-C6 | 5.59 | 123.06 | 119.70 |
| 1 | 13 | 1083 | U | N3-C4-C5 | -5.59 | 111.24 | 114.60 |
| 26 | 1H | 308 | G | C4-C5-N7 | 5.59 | 113.04 | 110.80 |
| 26 | 1H | 439 | G | C2-N3-C4 | -5.59 | 109.10 | 111.90 |
| 26 | 1H | 615 | G | N1-C2-N3 | -5.59 | 120.54 | 123.90 |
| 26 | 1H | 1031 | G | C8-N9-C4 | -5.59 | 104.16 | 106.40 |
| 26 | 1H | 1405 | U | N3-C2-O2 | -5.59 | 118.28 | 122.20 |
| 26 | 1H | 2555 | U | N1-C2-O2 | -5.59 | 118.88 | 122.80 |
| 1 | 1G | 292 | G | C8-N9-C4 | 5.59 | 108.64 | 106.40 |
| 1 | 1G | 1274 | G | C5-N7-C8 | -5.59 | 101.50 | 104.30 |
| 23 | 2L | 76 | C | OP1-P-OP2 | -5.59 | 111.21 | 119.60 |
| 26 | 14 | 16 | G | N7-C8-N9 | 5.59 | 115.90 | 113.10 |
| 26 | 14 | 244 | A | O4'-C1'-N9 | 5.59 | 112.67 | 108.20 |
| 26 | 14 | 1612 | C | C4-C5-C6 | 5.59 | 120.20 | 117.40 |
| 26 | 14 | 1770 | G | N3-C2-N2 | -5.59 | 115.98 | 119.90 |
| 26 | 14 | 1909 | C | C4-C5-C6 | 5.59 | 120.20 | 117.40 |
| 26 | 14 | 2294 | C | C5-C6-N1 | 5.59 | 123.80 | 121.00 |
| 1 | 13 | 998 | G | C4-C5-N7 | -5.59 | 108.56 | 110.80 |
| 26 | 1H | 622 | G | C4-C5-N7 | -5.59 | 108.56 | 110.80 |
| 26 | 1H | 635 | C | O5'-P-OP1 | 5.59 | 117.41 | 110.70 |
| 26 | 1H | 945 | A | C8-N9-C1' | -5.59 | 117.63 | 127.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2356 | C | OP2-P-O3' | 5.59 | 117.50 | 105.20 |
| 26 | 1H | 2558 | C | OP2-P-O3' | 5.59 | 117.50 | 105.20 |
| 26 | 1H | 2744 | G | N1-C2-N3 | 5.59 | 127.26 | 123.90 |
| 1 | 1G | 838 | G | N3-C4-C5 | 5.59 | 131.40 | 128.60 |
| 26 | 14 | 477 | A | C5-C6-N6 | 5.59 | 128.17 | 123.70 |
| 26 | 14 | 1840 | G | C6-N1-C2 | -5.59 | 121.74 | 125.10 |
| 26 | 14 | 1898 | U | C2-N1-C1' | -5.59 | 110.99 | 117.70 |
| 27 | 1J | 88 | C | N1-C2-O2 | 5.59 | 122.26 | 118.90 |
| 1 | 13 | 697 | U | C2-N1-C1' | -5.59 | 110.99 | 117.70 |
| 1 | 13 | 1332 | A | C5-C6-N1 | -5.59 | 114.90 | 117.70 |
| 26 | 1H | 692 | C | OP2-P-O3' | 5.59 | 117.50 | 105.20 |
| 26 | 1H | 955 | C | OP1-P-O3' | 5.59 | 117.50 | 105.20 |
| 26 | 1H | 1183 | G | C4-C5-N7 | 5.59 | 113.04 | 110.80 |
| 26 | 1H | 1184 | G | N1-C6-O6 | 5.59 | 123.25 | 119.90 |
| 26 | 1H | 2713 | A | C6-N1-C2 | 5.59 | 121.95 | 118.60 |
| 26 | 1H | 2818 | G | N7-C8-N9 | -5.59 | 110.30 | 113.10 |
| 27 | 16 | 116 | G | C5-C6-N1 | -5.59 | 108.70 | 111.50 |
| 1 | 1G | 818 | G | N3-C2-N2 | -5.59 | 115.99 | 119.90 |
| 1 | 1G | 1095 | U | C4-C5-C6 | 5.59 | 123.05 | 119.70 |
| 1 | 1G | 1273 | G | C8-N9-C4 | -5.59 | 104.16 | 106.40 |
| 1 | 1G | 1421 | G | O5'-P-OP2 | -5.59 | 100.67 | 105.70 |
| 26 | 14 | 62 | C | OP1-P-OP2 | 5.59 | 127.99 | 119.60 |
| 26 | 14 | 714 | U | N1-C2-N3 | 5.59 | 118.25 | 114.90 |
| 1 | 13 | 623 | C | C5-C4-N4 | -5.59 | 116.29 | 120.20 |
| 24 | 3K | 61 | C | C5-C6-N1 | 5.59 | 123.80 | 121.00 |
| 26 | 1H | 571 | A | C8-N9-C4 | 5.59 | 108.03 | 105.80 |
| 26 | 1H | 704 | G | C4-C5-C6 | 5.59 | 122.15 | 118.80 |
| 26 | 1H | 1182 | A | OP1-P-OP2 | -5.59 | 111.22 | 119.60 |
| 26 | 1H | 1395 | A | O5'-P-OP1 | -5.59 | 100.67 | 105.70 |
| 26 | 1H | 2545 | G | C2-N3-C4 | 5.59 | 114.69 | 111.90 |
| 1 | 1G | 1113 | C | C2-N3-C4 | 5.59 | 122.69 | 119.90 |
| 1 | 1G | 1356 | G | C5-C6-N1 | -5.59 | 108.70 | 111.50 |
| 1 | 1G | 1474 | G | N3-C2-N2 | -5.59 | 115.99 | 119.90 |
| 56 | 1L | 37 | A | C2-N3-C4 | 5.59 | 113.39 | 110.60 |
| 26 | 14 | 469 | G | C5-C6-O6 | -5.59 | 125.25 | 128.60 |
| 26 | 14 | 1138 | G | C2-N3-C4 | -5.59 | 109.11 | 111.90 |
| 26 | 14 | 1334 | G | N1-C2-N2 | 5.59 | 121.23 | 116.20 |
| 26 | 14 | 1381 | G | N3-C4-C5 | 5.59 | 131.40 | 128.60 |
| 26 | 14 | 1698 | A | OP1-P-OP2 | -5.59 | 111.22 | 119.60 |
| 26 | 14 | 1904 | G | O5'-P-OP1 | -5.59 | 100.67 | 105.70 |
| 26 | 14 | 2352 | A | C4-C5-C6 | 5.59 | 119.80 | 117.00 |
| 26 | 14 | 2519 | U | C5-C6-N1 | -5.59 | 119.91 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 870 | U | O4'-C1'-N1 | -5.59 | 103.73 | 108.20 |
| 22 | 1K | 36 | U | C5-C4-O4 | 5.59 | 129.25 | 125.90 |
| 26 | 1H | 60 | G | C5-C6-N1 | 5.59 | 114.29 | 111.50 |
| 26 | 1H | 431 | U | C6-N1-C2 | -5.59 | 117.65 | 121.00 |
| 26 | 1H | 728 | G | C5-N7-C8 | 5.59 | 107.09 | 104.30 |
| 26 | 1H | 736 | C | C4-C5-C6 | -5.59 | 114.61 | 117.40 |
| 26 | 1H | 802 | A | OP1-P-O3' | -5.59 | 92.91 | 105.20 |
| 26 | 1H | 1813 | G | O5'-P-OP2 | 5.59 | 117.41 | 110.70 |
| 26 | 1H | 2234 | G | O5'-P-OP2 | -5.59 | 100.67 | 105.70 |
| 26 | 14 | 630 | G | C4-C5-N7 | -5.59 | 108.56 | 110.80 |
| 26 | 14 | 1397 | U | N1-C2-O2 | 5.59 | 126.71 | 122.80 |
| 26 | 14 | 2049 | G | OP1-P-OP2 | 5.59 | 127.98 | 119.60 |
| 26 | 14 | 2431 | U | N1-C2-O2 | -5.59 | 118.89 | 122.80 |
| 1 | 13 | 392 | G | C6-C5-N7 | -5.59 | 127.05 | 130.40 |
| 1 | 13 | 646 | U | C6-N1-C2 | -5.59 | 117.65 | 121.00 |
| 1 | 13 | 681 | C | N3-C4-C5 | 5.59 | 124.14 | 121.90 |
| 1 | 13 | 806 | C | O5'-P-OP2 | -5.59 | 100.67 | 105.70 |
| 1 | 13 | 861 | G | N3-C4-C5 | -5.59 | 125.81 | 128.60 |
| 1 | 13 | 965 | A | C2-N3-C4 | -5.59 | 107.81 | 110.60 |
| 1 | 13 | 1392 | G | C5-C6-O6 | 5.59 | 131.95 | 128.60 |
| 3 | 2E | 140 | ARG | NE-CZ-NH1 | 5.59 | 123.09 | 120.30 |
| 23 | 2K | 24 | C | OP2-P-O3' | 5.59 | 117.49 | 105.20 |
| 26 | 1H | 147 | U | C2-N3-C4 | -5.59 | 123.65 | 127.00 |
| 26 | 1H | 1556 | C | N3-C4-N4 | -5.59 | 114.09 | 118.00 |
| 26 | 1H | 1797 | C | N3-C4-C5 | 5.59 | 124.14 | 121.90 |
| 26 | 1H | 1823 | G | C4-C5-C6 | 5.59 | 122.15 | 118.80 |
| 26 | 1H | 1891 | G | OP2-P-O3' | 5.59 | 117.49 | 105.20 |
| 26 | 1H | 2052 | G | C4-C5-N7 | -5.59 | 108.56 | 110.80 |
| 26 | 1H | 2094 | G | O5'-P-OP1 | 5.59 | 117.40 | 110.70 |
| 26 | 1H | 2464 | C | C5-C6-N1 | -5.59 | 118.21 | 121.00 |
| 26 | 1H | 2615 | U | N3-C4-C5 | 5.59 | 117.95 | 114.60 |
| 1 | 1G | 774 | G | N3-C4-C5 | 5.59 | 131.39 | 128.60 |
| 1 | 1G | 1314 | C | N1-C2-O2 | -5.59 | 115.55 | 118.90 |
| 26 | 14 | 210 | C | O5'-P-OP2 | -5.59 | 100.67 | 105.70 |
| 26 | 14 | 501 | A | O5'-P-OP2 | -5.59 | 100.67 | 105.70 |
| 26 | 14 | 699 | A | C6-C5-N7 | 5.59 | 136.21 | 132.30 |
| 26 | 14 | 761 | A | C5-C6-N6 | 5.59 | 128.17 | 123.70 |
| 26 | 14 | 1207 | C | C5-C6-N1 | 5.59 | 123.79 | 121.00 |
| 26 | 14 | 1598 | C | C6-N1-C1' | -5.59 | 114.09 | 120.80 |
| 26 | 14 | 2286 | A | N9-C4-C5 | -5.59 | 103.56 | 105.80 |
| 1 | 13 | 374 | A | O5'-P-OP2 | 5.58 | 117.40 | 110.70 |
| 1 | 13 | 1107 | C | C4-C5-C6 | 5.58 | 120.19 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 22 | 1K | 27 | G | N3-C4-C5 | -5.58 | 125.81 | 128.60 |
| 26 | 1H | 911 | A | C8-N9-C4 | -5.58 | 103.57 | 105.80 |
| 26 | 1H | 2277 | G | OP2-P-O3' | 5.58 | 117.49 | 105.20 |
| 26 | 1H | 2706 | G | C6-C5-N7 | -5.58 | 127.05 | 130.40 |
| 26 | 1H | 2830 | G | C6-C5-N7 | -5.58 | 127.05 | 130.40 |
| 1 | 1G | 663 | A | C2-N3-C4 | -5.58 | 107.81 | 110.60 |
| 1 | 1G | 894 | G | C5-N7-C8 | -5.58 | 101.51 | 104.30 |
| 1 | 1G | 933 | G | C5-C6-O6 | -5.58 | 125.25 | 128.60 |
| 1 | 1G | 1518 | A | C5-C6-N1 | -5.58 | 114.91 | 117.70 |
| 26 | 14 | 2277 | G | N7-C8-N9 | -5.58 | 110.31 | 113.10 |
| 26 | 14 | 2722 | G | OP1-P-OP2 | -5.58 | 111.22 | 119.60 |
| 1 | 13 | 110 | C | C5-C4-N4 | 5.58 | 124.11 | 120.20 |
| 1 | 13 | 503 | C | C2-N1-C1' | 5.58 | 124.94 | 118.80 |
| 1 | 13 | 800 | G | N1-C6-O6 | 5.58 | 123.25 | 119.90 |
| 1 | 13 | 866 | C | N3-C2-O2 | 5.58 | 125.81 | 121.90 |
| 26 | 1H | 151 | C | O5'-P-OP1 | 5.58 | 117.40 | 110.70 |
| 26 | 1H | 396 | G | C6-N1-C2 | -5.58 | 121.75 | 125.10 |
| 26 | 1H | 716 | A | OP1-P-OP2 | -5.58 | 111.22 | 119.60 |
| 26 | 1H | 723 | G | C5-N7-C8 | 5.58 | 107.09 | 104.30 |
| 26 | 1H | 1003 | G | C2-N3-C4 | -5.58 | 109.11 | 111.90 |
| 26 | 1H | 1970 | A | N1-C2-N3 | -5.58 | 126.51 | 129.30 |
| 26 | 1H | 2767 | C | C6-N1-C1' | -5.58 | 114.10 | 120.80 |
| 1 | 1G | 293 | G | C2-N3-C4 | -5.58 | 109.11 | 111.90 |
| 1 | 1G | 907 | A | C5-C6-N6 | -5.58 | 119.23 | 123.70 |
| 26 | 14 | 749 | C | O5'-P-OP1 | -5.58 | 100.67 | 105.70 |
| 26 | 14 | 750 | A | N9-C4-C5 | 5.58 | 108.03 | 105.80 |
| 26 | 14 | 1200 | C | C5-C4-N4 | 5.58 | 124.11 | 120.20 |
| 26 | 14 | 2243 | U | C5-C6-N1 | -5.58 | 119.91 | 122.70 |
| 26 | 14 | 2631 | G | N3-C4-N9 | -5.58 | 122.65 | 126.00 |
| 1 | 13 | 42 | G | C2-N3-C4 | 5.58 | 114.69 | 111.90 |
| 1 | 13 | 108 | G | N3-C2-N2 | 5.58 | 123.81 | 119.90 |
| 1 | 13 | 539 | A | N7-C8-N9 | -5.58 | 111.01 | 113.80 |
| 1 | 13 | 709 | G | OP1-P-OP2 | -5.58 | 111.23 | 119.60 |
| 1 | 13 | 1019 | C | C5-C6-N1 | 5.58 | 123.79 | 121.00 |
| 23 | 2K | 7 | G | N3-C4-C5 | 5.58 | 131.39 | 128.60 |
| 26 | 1H | 50 | U | C4-C5-C6 | 5.58 | 123.05 | 119.70 |
| 26 | 1H | 407 | G | C5-C6-O6 | 5.58 | 131.95 | 128.60 |
| 26 | 1H | 646 | A | C5-N7-C8 | -5.58 | 101.11 | 103.90 |
| 26 | 1H | 1001 | A | N7-C8-N9 | 5.58 | 116.59 | 113.80 |
| 26 | 1H | 1332 | G | N3-C2-N2 | 5.58 | 123.81 | 119.90 |
| 26 | 1H | 1554 | A | N9-C4-C5 | 5.58 | 108.03 | 105.80 |
| 26 | 1H | 1817 | G | C6-N1-C2 | 5.58 | 128.45 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2001 | A | N1-C6-N6 | -5.58 | 115.25 | 118.60 |
| 26 | 1H | 2189 | U | C6-N1-C2 | -5.58 | 117.65 | 121.00 |
| 26 | 14 | 1026 | U | O4'-C1'-N1 | 5.58 | 112.67 | 108.20 |
| 26 | 14 | 1303 | G | N1-C2-N2 | -5.58 | 111.18 | 116.20 |
| 26 | 14 | 1985 | G | N7-C8-N9 | -5.58 | 110.31 | 113.10 |
| 26 | 14 | 2259 | G | C4-C5-N7 | 5.58 | 113.03 | 110.80 |
| 26 | 14 | 2527 | C | N1-C2-O2 | 5.58 | 122.25 | 118.90 |
| 1 | 13 | 1503 | A | C5-N7-C8 | 5.58 | 106.69 | 103.90 |
| 26 | 1H | 1884 | A | N1-C2-N3 | 5.58 | 132.09 | 129.30 |
| 1 | 1G | 903 | G | N1-C2-N2 | -5.58 | 111.18 | 116.20 |
| 26 | 14 | 1487 | G | OP1-P-OP2 | -5.58 | 111.23 | 119.60 |
| 26 | 14 | 2217 | G | N3-C2-N2 | -5.58 | 115.99 | 119.90 |
| 26 | 14 | 2590 | A | C2-N3-C4 | -5.58 | 107.81 | 110.60 |
| 1 | 13 | 571 | U | OP2-P-O3' | 5.58 | 117.47 | 105.20 |
| 1 | 13 | 1488 | G | N1-C2-N2 | -5.58 | 111.18 | 116.20 |
| 26 | 1H | 920 | G | N7-C8-N9 | -5.58 | 110.31 | 113.10 |
| 26 | 1H | 1579 | A | C5-N7-C8 | -5.58 | 101.11 | 103.90 |
| 26 | 1H | 1691 | C | OP1-P-O3' | 5.58 | 117.47 | 105.20 |
| 1 | 1G | 52 | G | OP1-P-OP2 | 5.58 | 127.97 | 119.60 |
| 1 | 1G | 278 | G | C5-C6-O6 | -5.58 | 125.25 | 128.60 |
| 1 | 1G | 592 | G | N1-C6-O6 | 5.58 | 123.25 | 119.90 |
| 26 | 14 | 1395 | A | N1-C6-N6 | 5.58 | 121.95 | 118.60 |
| 26 | 14 | 1402 | C | N3-C4-N4 | 5.58 | 121.91 | 118.00 |
| 26 | 14 | 2031 | A | C5-C6-N6 | -5.58 | 119.24 | 123.70 |
| 26 | 14 | 2639 | A | N7-C8-N9 | -5.58 | 111.01 | 113.80 |
| 1 | 13 | 429 | U | O5'-P-OP2 | 5.58 | 117.39 | 110.70 |
| 23 | 2K | 40 | C | OP2-P-O3' | 5.58 | 117.47 | 105.20 |
| 26 | 1H | 1644 | C | C2-N1-C1' | 5.58 | 124.94 | 118.80 |
| 26 | 1H | 1860 | G | C2-N3-C4 | -5.58 | 109.11 | 111.90 |
| 1 | 1G | 231 | G | C4-C5-N7 | -5.58 | 108.57 | 110.80 |
| 1 | 1G | 442 | C | N3-C4-C5 | -5.58 | 119.67 | 121.90 |
| 57 | 3L | 42 | A | C5-C6-N1 | 5.58 | 120.49 | 117.70 |
| 26 | 14 | 582 | G | C5-C6-O6 | -5.58 | 125.25 | 128.60 |
| 26 | 14 | 1243 | G | C4-C5-N7 | 5.58 | 113.03 | 110.80 |
| 26 | 14 | 2645 | G | C4-C5-N7 | -5.58 | 108.57 | 110.80 |
| 22 | 1K | 74 | C | N1-C2-N3 | -5.58 | 115.30 | 119.20 |
| 26 | 1H | 268 | C | C4-C5-C6 | 5.58 | 120.19 | 117.40 |
| 26 | 1H | 480 | A | OP1-P-O3' | 5.58 | 117.47 | 105.20 |
| 26 | 1H | 630 | G | C5-C6-N1 | -5.58 | 108.71 | 111.50 |
| 26 | 1H | 1203 | G | N1-C2-N2 | -5.58 | 111.18 | 116.20 |
| 26 | 1H | 1364 | G | C6-C5-N7 | -5.58 | 127.06 | 130.40 |
| 26 | 1H | 1641 | A | OP1-P-OP2 | -5.58 | 111.24 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 2000 | G | C8-N9-C4 | 5.58 | 108.63 | 106.40 |
| 1 | 1G | 105 | G | C6-C5-N7 | -5.58 | 127.06 | 130.40 |
| 1 | 1G | 161 | A | C8-N9-C4 | -5.58 | 103.57 | 105.80 |
| 1 | 1G | 585 | G | OP2-P-O3' | 5.58 | 117.47 | 105.20 |
| 1 | 1G | 700 | G | N1-C6-O6 | 5.58 | 123.25 | 119.90 |
| 1 | 1G | 735 | C | C5-C4-N4 | -5.58 | 116.30 | 120.20 |
| 26 | 14 | 399 | G | C5-C6-N1 | 5.58 | 114.29 | 111.50 |
| 26 | 14 | 443 | A | N7-C8-N9 | 5.58 | 116.59 | 113.80 |
| 26 | 14 | 714 | U | N1-C2-O2 | -5.58 | 118.90 | 122.80 |
| 26 | 14 | 1563 | G | C5-C6-O6 | -5.58 | 125.25 | 128.60 |
| 26 | 14 | 2313 | C | O5'-P-OP2 | -5.58 | 100.68 | 105.70 |
| 26 | 14 | 2568 | C | C5-C4-N4 | -5.58 | 116.30 | 120.20 |
| 26 | 14 | 2587 | A | N1-C2-N3 | 5.58 | 132.09 | 129.30 |
| 1 | 13 | 232 | G | C4-C5-C6 | 5.57 | 122.14 | 118.80 |
| 1 | 13 | 395 | C | C5-C4-N4 | 5.57 | 124.10 | 120.20 |
| 1 | 13 | 455 | C | C5-C6-N1 | 5.57 | 123.79 | 121.00 |
| 1 | 13 | 1382 | C | OP1-P-OP2 | -5.57 | 111.24 | 119.60 |
| 1 | 13 | 1411 | C | C4-C5-C6 | -5.57 | 114.61 | 117.40 |
| 26 | 1H | 15 | G | O5'-P-OP1 | -5.57 | 100.68 | 105.70 |
| 26 | 1H | 814 | C | OP2-P-O3' | 5.57 | 117.46 | 105.20 |
| 26 | 1H | 997 | G | N7-C8-N9 | -5.57 | 110.31 | 113.10 |
| 26 | 1H | 1425 | G | OP1-P-O3' | 5.57 | 117.46 | 105.20 |
| 26 | 1H | 1797 | C | C2-N3-C4 | -5.57 | 117.11 | 119.90 |
| 26 | 1H | 1899 | G | N9-C4-C5 | 5.57 | 107.63 | 105.40 |
| 26 | 1H | 1959 | G | C4-C5-N7 | -5.57 | 108.57 | 110.80 |
| 26 | 1H | 2208 | U | N3-C4-O4 | 5.57 | 123.30 | 119.40 |
| 26 | 1H | 2280 | G | N3-C2-N2 | -5.57 | 116.00 | 119.90 |
| 26 | 1H | 2485 | G | N7-C8-N9 | -5.57 | 110.31 | 113.10 |
| 26 | 1H | 2848 | G | C4-C5-N7 | -5.57 | 108.57 | 110.80 |
| 26 | 14 | 473 | G | N1-C2-N3 | 5.57 | 127.24 | 123.90 |
| 26 | 14 | 1815 | A | C6-N1-C2 | -5.57 | 115.26 | 118.60 |
| 26 | 14 | 1820 | U | O5'-P-OP1 | -5.57 | 100.68 | 105.70 |
| 26 | 14 | 1996 | C | O5'-P-OP1 | -5.57 | 100.68 | 105.70 |
| 26 | 14 | 2026 | C | C6-N1-C2 | 5.57 | 122.53 | 120.30 |
| 26 | 14 | 2446 | G | P-O3'-C3' | 5.57 | 126.39 | 119.70 |
| 1 | 13 | 1222 | G | C5-C6-O6 | 5.57 | 131.94 | 128.60 |
| 1 | 13 | 1411 | C | N3-C4-C5 | 5.57 | 124.13 | 121.90 |
| 26 | 1H | 511 | U | N3-C4-C5 | -5.57 | 111.26 | 114.60 |
| 26 | 1H | 974(A) | C | N3-C2-O2 | -5.57 | 118.00 | 121.90 |
| 26 | 1H | 1193 | G | C6-C5-N7 | 5.57 | 133.74 | 130.40 |
| 26 | 14 | 1925 | C | OP1-P-OP2 | 5.57 | 127.96 | 119.60 |
| 26 | 14 | 2712 | U | O4'-C1'-N1 | 5.57 | 112.66 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 357 | G | OP1-P-OP2 | -5.57 | 111.25 | 119.60 |
| 1 | 13 | 523 | A | C6-N1-C2 | 5.57 | 121.94 | 118.60 |
| 1 | 13 | 1512 | U | N3-C4-C5 | -5.57 | 111.26 | 114.60 |
| 26 | 1H | 505 | A | C4-C5-C6 | -5.57 | 114.22 | 117.00 |
| 26 | 1H | 619 | G | C6-C5-N7 | 5.57 | 133.74 | 130.40 |
| 26 | 1H | 865 | C | OP1-P-OP2 | -5.57 | 111.25 | 119.60 |
| 26 | 1H | 1181 | C | OP1-P-O3' | 5.57 | 117.45 | 105.20 |
| 26 | 1H | 1192 | G | C5-C6-O6 | -5.57 | 125.26 | 128.60 |
| 26 | 1H | 2290 | G | N3-C4-C5 | 5.57 | 131.38 | 128.60 |
| 26 | 1H | 2370 | G | OP1-P-OP2 | 5.57 | 127.95 | 119.60 |
| 27 | 16 | 23 | G | N1-C2-N2 | 5.57 | 121.21 | 116.20 |
| 1 | 1G | 747 | C | C6-N1-C2 | 5.57 | 122.53 | 120.30 |
| 1 | 1G | 1522 | U | C4-C5-C6 | 5.57 | 123.04 | 119.70 |
| 26 | 14 | 282 | A | N1-C2-N3 | 5.57 | 132.09 | 129.30 |
| 26 | 14 | 449 | A | N3-C4-C5 | 5.57 | 130.70 | 126.80 |
| 26 | 14 | 1224 | G | N3-C2-N2 | -5.57 | 116.00 | 119.90 |
| 26 | 14 | 1413 | G | OP1-P-OP2 | -5.57 | 111.25 | 119.60 |
| 26 | 14 | 1777 | U | C2-N1-C1' | 5.57 | 124.38 | 117.70 |
| 26 | 14 | 2038 | G | C8-N9-C4 | 5.57 | 108.63 | 106.40 |
| 26 | 14 | 2376 | A | C6-N1-C2 | 5.57 | 121.94 | 118.60 |
| 26 | 14 | 2549 | G | C6-N1-C2 | 5.57 | 128.44 | 125.10 |
| 26 | 1H | 126 | A | OP2-P-O3' | 5.57 | 117.45 | 105.20 |
| 26 | 1H | 558 | G | N1-C2-N3 | 5.57 | 127.24 | 123.90 |
| 26 | 1H | 1491 | G | OP1-P-O3' | 5.57 | 117.45 | 105.20 |
| 26 | 1H | 2051 | A | OP2-P-O3' | 5.57 | 117.45 | 105.20 |
| 26 | 1H | 2054 | A | C5-C6-N6 | -5.57 | 119.25 | 123.70 |
| 26 | 14 | 248 | G | O5'-P-OP1 | 5.57 | 117.38 | 110.70 |
| 26 | 14 | 372 | G | O4'-C1'-N9 | 5.57 | 112.66 | 108.20 |
| 26 | 14 | 2009 | G | OP2-P-O3' | 5.57 | 117.45 | 105.20 |
| 26 | 14 | 2385 | C | O5'-P-OP2 | -5.57 | 100.69 | 105.70 |
| 1 | 13 | 731 | G | N9-C4-C5 | 5.57 | 107.63 | 105.40 |
| 1 | 13 | 903 | G | C8-N9-C4 | 5.57 | 108.63 | 106.40 |
| 26 | 1H | 142 | G | N1-C6-O6 | 5.57 | 123.24 | 119.90 |
| 26 | 1H | 511 | U | C4-C5-C6 | 5.57 | 123.04 | 119.70 |
| 26 | 1H | 1386 | C | OP1-P-OP2 | -5.57 | 111.25 | 119.60 |
| 26 | 1H | 2023 | G | O5'-P-OP2 | 5.57 | 117.38 | 110.70 |
| 26 | 1H | 2680 | C | N3-C4-C5 | -5.57 | 119.67 | 121.90 |
| 1 | 1G | 286 | G | C5-N7-C8 | 5.57 | 107.08 | 104.30 |
| 1 | 1G | 305 | G | N1-C2-N2 | -5.57 | 111.19 | 116.20 |
| 1 | 1G | 739 | C | C4-C5-C6 | 5.57 | 120.18 | 117.40 |
| 26 | 14 | 485 | C | C2-N3-C4 | -5.57 | 117.12 | 119.90 |
| 26 | 14 | 1462 | C | C5-C6-N1 | 5.57 | 123.78 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1664 | A | O4'-C1'-N9 | -5.57 | 103.75 | 108.20 |
| 26 | 14 | 1733 | G | C6-C5-N7 | -5.57 | 127.06 | 130.40 |
| 26 | 14 | 2208 | U | N3-C4-O4 | -5.57 | 115.50 | 119.40 |
| 26 | 14 | 2259 | G | N3-C4-C5 | 5.57 | 131.38 | 128.60 |
| 27 | 1J | 56 | G | C2-N3-C4 | 5.57 | 114.68 | 111.90 |
| 1 | 13 | 551 | U | C4-C5-C6 | 5.57 | 123.04 | 119.70 |
| 1 | 13 | 1281 | U | N3-C2-O2 | -5.57 | 118.30 | 122.20 |
| 26 | 1H | 260 | G | C6-C5-N7 | 5.57 | 133.74 | 130.40 |
| 26 | 1H | 1131 | G | O5'-P-OP2 | -5.57 | 100.69 | 105.70 |
| 26 | 1H | 1392 | A | OP1-P-OP2 | 5.57 | 127.95 | 119.60 |
| 26 | 1H | 1661 | G | C5-N7-C8 | 5.57 | 107.08 | 104.30 |
| 26 | 1H | 2440 | C | O5'-P-OP2 | -5.57 | 100.69 | 105.70 |
| 1 | 1G | 1305 | G | C4-N9-C1' | -5.57 | 119.26 | 126.50 |
| 1 | 1G | 1392 | G | N1-C6-O6 | -5.57 | 116.56 | 119.90 |
| 26 | 14 | 381 | G | C5-C6-O6 | 5.57 | 131.94 | 128.60 |
| 26 | 14 | 465 | G | N7-C8-N9 | 5.57 | 115.88 | 113.10 |
| 26 | 14 | 760 | G | C4-N9-C1' | 5.57 | 133.73 | 126.50 |
| 26 | 14 | 962 | G | OP1-P-OP2 | -5.57 | 111.25 | 119.60 |
| 26 | 14 | 1003 | G | N1-C6-O6 | 5.57 | 123.24 | 119.90 |
| 26 | 14 | 1007 | C | C5-C4-N4 | -5.57 | 116.30 | 120.20 |
| 26 | 14 | 1361 | G | C2-N3-C4 | -5.57 | 109.12 | 111.90 |
| 26 | 14 | 2012 | G | OP1-P-O3' | 5.57 | 117.44 | 105.20 |
| 26 | 14 | 2298 | A | OP1-P-O3' | 5.57 | 117.44 | 105.20 |
| 26 | 14 | 2597 | G | C5-C6-N1 | -5.57 | 108.72 | 111.50 |
| 26 | 14 | 2615 | U | O5'-P-OP1 | -5.57 | 100.69 | 105.70 |
| 26 | 14 | 2844 | G | OP1-P-O3' | -5.57 | 92.96 | 105.20 |
| 26 | 1H | 2370 | G | O5'-P-OP1 | -5.56 | 100.69 | 105.70 |
| 1 | 1G | 1514 | C | N3-C4-C5 | -5.56 | 119.67 | 121.90 |
| 26 | 14 | 705 | A | O5'-P-OP2 | -5.56 | 100.69 | 105.70 |
| 1 | 13 | 974 | A | C6-N1-C2 | 5.56 | 121.94 | 118.60 |
| 1 | 13 | 1057 | G | C2-N3-C4 | -5.56 | 109.12 | 111.90 |
| 1 | 13 | 1221 | G | OP2-P-O3' | 5.56 | 117.44 | 105.20 |
| 1 | 13 | 1327 | C | N3-C4-N4 | -5.56 | 114.11 | 118.00 |
| 1 | 13 | 1394 | A | C2-N3-C4 | 5.56 | 113.38 | 110.60 |
| 1 | 13 | 1401 | G | N1-C2-N2 | 5.56 | 121.21 | 116.20 |
| 1 | 13 | 1414 | U | OP2-P-O3' | 5.56 | 117.44 | 105.20 |
| 26 | 1H | 942 | G | C8-N9-C1' | 5.56 | 134.23 | 127.00 |
| 26 | 1H | 1153 | C | OP2-P-O3' | 5.56 | 117.44 | 105.20 |
| 26 | 1H | 1232 | G | C5-C6-O6 | -5.56 | 125.26 | 128.60 |
| 26 | 1H | 1363 | C | C6-N1-C1' | 5.56 | 127.47 | 120.80 |
| 26 | 1H | 1772 | G | N7-C8-N9 | 5.56 | 115.88 | 113.10 |
| 26 | 1H | 1896 | G | C6-C5-N7 | 5.56 | 133.74 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 1H | 1954 | G | O5'-P-OP2 | 5.56 | 117.38 | 110.70 |
| 41 | B8 | 91 | ARG | NE-CZ-NH2 | -5.56 | 117.52 | 120.30 |
| 1 | 1G | 562 | C | OP1-P-OP2 | -5.56 | 111.26 | 119.60 |
| 1 | 1G | 738 | C | C4-C5-C6 | 5.56 | 120.18 | 117.40 |
| 26 | 14 | 745 | G | C5-N7-C8 | 5.56 | 107.08 | 104.30 |
| 26 | 14 | 939 | G | OP1-P-O3' | -5.56 | 92.96 | 105.20 |
| 26 | 14 | 1125 | G | C5-C6-O6 | 5.56 | 131.94 | 128.60 |
| 26 | 14 | 1350 | C | N1-C2-O2 | -5.56 | 115.56 | 118.90 |
| 26 | 14 | 2028 | U | C4-C5-C6 | 5.56 | 123.04 | 119.70 |
| 26 | 14 | 2534 | A | C4-C5-N7 | 5.56 | 113.48 | 110.70 |
| 26 | 14 | 2657 | A | C8-N9-C4 | -5.56 | 103.58 | 105.80 |
| 27 | 1J | 60 | C | N3-C2-O2 | -5.56 | 118.01 | 121.90 |
| 1 | 13 | 997 | U | C5-C6-N1 | 5.56 | 125.48 | 122.70 |
| 26 | 1H | 304 | G | C6-N1-C2 | 5.56 | 128.44 | 125.10 |
| 26 | 1H | 752 | A | C5'-C4'-O4' | -5.56 | 102.43 | 109.10 |
| 26 | 1H | 1836 | C | N1-C2-O2 | 5.56 | 122.24 | 118.90 |
| 1 | 1G | 1074 | G | C5-C6-N1 | -5.56 | 108.72 | 111.50 |
| 26 | 14 | 377 | C | OP1-P-OP2 | -5.56 | 111.26 | 119.60 |
| 26 | 14 | 2602 | A | OP1-P-O3' | 5.56 | 117.43 | 105.20 |
| 1 | 13 | 631 | G | OP1-P-OP2 | -5.56 | 111.26 | 119.60 |
| 1 | 13 | 940 | C | C5-C6-N1 | 5.56 | 123.78 | 121.00 |
| 26 | 1H | 439 | G | N9-C4-C5 | 5.56 | 107.62 | 105.40 |
| 26 | 1H | 764 | A | C8-N9-C4 | 5.56 | 108.02 | 105.80 |
| 26 | 1H | 2018 | G | C5-C6-O6 | 5.56 | 131.94 | 128.60 |
| 27 | 16 | 79 | C | C6-N1-C2 | -5.56 | 118.08 | 120.30 |
| 26 | 14 | 440 | G | C6-C5-N7 | -5.56 | 127.06 | 130.40 |
| 26 | 14 | 856 | C | N1-C2-O2 | 5.56 | 122.23 | 118.90 |
| 26 | 14 | 911 | A | C5-C6-N1 | 5.56 | 120.48 | 117.70 |
| 26 | 14 | 1187 | G | N1-C6-O6 | 5.56 | 123.23 | 119.90 |
| 26 | 14 | 1496 | A | OP1-P-O3' | 5.56 | 117.43 | 105.20 |
| 26 | 14 | 1925 | C | C6-N1-C1' | 5.56 | 127.47 | 120.80 |
| 26 | 14 | 2275 | C | OP1-P-O3' | 5.56 | 117.43 | 105.20 |
| 26 | 14 | 2424 | C | N3-C4-N4 | -5.56 | 114.11 | 118.00 |
| 26 | 14 | 2457 | U | N1-C2-O2 | 5.56 | 126.69 | 122.80 |
| 26 | 14 | 2826 | A | C4-C5-C6 | 5.56 | 119.78 | 117.00 |
| 26 | 1H | 24 | G | N1-C2-N3 | 5.56 | 127.23 | 123.90 |
| 26 | 1H | 56 | A | N1-C6-N6 | -5.56 | 115.27 | 118.60 |
| 26 | 1H | 210 | C | N3-C2-O2 | 5.56 | 125.79 | 121.90 |
| 26 | 1H | 301 | G | N7-C8-N9 | -5.56 | 110.32 | 113.10 |
| 26 | 1H | 531 | C | C6-N1-C2 | 5.56 | 122.52 | 120.30 |
| 26 | 1H | 629 | G | N9-C4-C5 | -5.56 | 103.18 | 105.40 |
| 26 | 1H | 929 | G | N1-C6-O6 | 5.56 | 123.23 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1003 | G | C5-N7-C8 | 5.56 | 107.08 | 104.30 |
| 26 | 1H | 1197 | G | C8-N9-C4 | 5.56 | 108.62 | 106.40 |
| 26 | 1H | 1222 | C | C6-N1-C1' | -5.56 | 114.13 | 120.80 |
| 26 | 1H | 1480 | G | C5-C6-N1 | -5.56 | 108.72 | 111.50 |
| 26 | 1H | 2308 | G | N1-C2-N3 | -5.56 | 120.57 | 123.90 |
| 26 | 1H | 2372 | G | C2-N3-C4 | -5.56 | 109.12 | 111.90 |
| 26 | 1H | 2488 | A | OP2-P-O3' | 5.56 | 117.43 | 105.20 |
| 26 | 1H | 2675 | A | N7-C8-N9 | 5.56 | 116.58 | 113.80 |
| 27 | 16 | 58 | A | C5-N7-C8 | -5.56 | 101.12 | 103.90 |
| 27 | 16 | 73 | A | O5'-P-OP2 | -5.56 | 100.70 | 105.70 |
| 27 | 16 | 78 | A | C8-N9-C4 | -5.56 | 103.58 | 105.80 |
| 1 | 1G | 955 | U | N3-C2-O2 | 5.56 | 126.09 | 122.20 |
| 1 | 1G | 1393 | U | C2-N3-C4 | 5.56 | 130.33 | 127.00 |
| 26 | 14 | 1600 | C | N1-C2-O2 | -5.56 | 115.56 | 118.90 |
| 26 | 14 | 2248 | C | OP1-P-O3' | 5.56 | 117.43 | 105.20 |
| 26 | 14 | 2689 | U | C2-N1-C1' | -5.56 | 111.03 | 117.70 |
| 1 | 13 | 102 | G | N3-C4-C5 | -5.56 | 125.82 | 128.60 |
| 1 | 13 | 605 | U | N3-C2-O2 | 5.56 | 126.09 | 122.20 |
| 1 | 13 | 795 | C | OP1-P-O3' | 5.56 | 117.42 | 105.20 |
| 1 | 13 | 1127 | G | C5-C6-O6 | -5.56 | 125.27 | 128.60 |
| 26 | 1H | 179 | G | C6-C5-N7 | -5.56 | 127.07 | 130.40 |
| 26 | 1H | 425 | G | C6-C5-N7 | 5.56 | 133.73 | 130.40 |
| 26 | 1H | 844 | C | N3-C4-C5 | -5.56 | 119.68 | 121.90 |
| 26 | 1H | 2383 | G | N7-C8-N9 | 5.56 | 115.88 | 113.10 |
| 48 | I8 | 23 | VAL | CG1-CB-CG2 | 5.56 | 119.79 | 110.90 |
| 1 | 1G | 197 | A | N7-C8-N9 | 5.56 | 116.58 | 113.80 |
| 26 | 14 | 1186 | G | C4-C5-C6 | 5.56 | 122.13 | 118.80 |
| 26 | 14 | 2040 | C | C5-C6-N1 | -5.56 | 118.22 | 121.00 |
| 26 | 14 | 2389 | G | O5'-P-OP2 | 5.56 | 117.37 | 110.70 |
| 1 | 13 | 265 | G | N9-C4-C5 | 5.55 | 107.62 | 105.40 |
| 1 | 13 | 275 | G | C8-N9-C4 | -5.55 | 104.18 | 106.40 |
| 1 | 13 | 1230 | C | C5-C4-N4 | -5.55 | 116.31 | 120.20 |
| 26 | 1H | 343 | C | N3-C4-C5 | -5.55 | 119.68 | 121.90 |
| 26 | 1H | 476 | G | N1-C2-N2 | 5.55 | 121.20 | 116.20 |
| 26 | 1H | 1138 | G | N3-C2-N2 | -5.55 | 116.01 | 119.90 |
| 26 | 1H | 1288 | U | OP1-P-OP2 | 5.55 | 127.93 | 119.60 |
| 26 | 1H | 1413 | G | N1-C2-N3 | 5.55 | 127.23 | 123.90 |
| 26 | 1H | 2723 | C | C2-N3-C4 | -5.55 | 117.12 | 119.90 |
| 26 | 1H | 2730 | C | N3-C4-C5 | 5.55 | 124.12 | 121.90 |
| 1 | 1G | 585 | G | N9-C4-C5 | 5.55 | 107.62 | 105.40 |
| 1 | 1G | 1372 | U | N3-C4-O4 | 5.55 | 123.29 | 119.40 |
| 14 | 5A | 44 | LEU | CA-CB-CG | 5.55 | 128.07 | 115.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 270(Q) | C | C5-C6-N1 | 5.55 | 123.78 | 121.00 |
| 26 | 14 | 786 | C | C2-N1-C1' | -5.55 | 112.69 | 118.80 |
| 26 | 14 | 1303 | G | N3-C4-C5 | -5.55 | 125.82 | 128.60 |
| 26 | 14 | 1557 | C | C5-C6-N1 | -5.55 | 118.22 | 121.00 |
| 26 | 14 | 2263 | C | N3-C4-C5 | -5.55 | 119.68 | 121.90 |
| 23 | 2K | 30 | G | C2-N3-C4 | -5.55 | 109.12 | 111.90 |
| 26 | 1H | 629 | G | N3-C4-C5 | 5.55 | 131.38 | 128.60 |
| 26 | 1H | 1902 | C | N3-C4-N4 | -5.55 | 114.11 | 118.00 |
| 1 | 1G | 355 | C | C6-N1-C2 | 5.55 | 122.52 | 120.30 |
| 1 | 1G | 553 | A | N9-C4-C5 | 5.55 | 108.02 | 105.80 |
| 1 | 1G | 652 | U | C6-N1-C2 | -5.55 | 117.67 | 121.00 |
| 1 | 1G | 1443 | G | C5-C6-N1 | -5.55 | 108.72 | 111.50 |
| 26 | 14 | 270(T) | G | C2-N3-C4 | -5.55 | 109.12 | 111.90 |
| 26 | 14 | 1187 | G | N1-C2-N2 | 5.55 | 121.20 | 116.20 |
| 26 | 14 | 2873 | A | O4'-C1'-N9 | 5.55 | 112.64 | 108.20 |
| 1 | 13 | 794 | A | C8-N9-C4 | -5.55 | 103.58 | 105.80 |
| 1 | 13 | 913 | A | O5'-P-OP2 | 5.55 | 117.36 | 110.70 |
| 1 | 13 | 926 | G | N3-C2-N2 | -5.55 | 116.01 | 119.90 |
| 1 | 13 | 952 | U | N3-C4-C5 | -5.55 | 111.27 | 114.60 |
| 1 | 13 | 1410 | G | OP1-P-OP2 | 5.55 | 127.93 | 119.60 |
| 1 | 13 | 1466 | C | N3-C4-C5 | -5.55 | 119.68 | 121.90 |
| 23 | 2K | 77 | A | O5'-P-OP2 | 5.55 | 117.36 | 110.70 |
| 26 | 1H | 567 | A | C5-C6-N1 | 5.55 | 120.48 | 117.70 |
| 26 | 1H | 736 | C | C2-N1-C1' | -5.55 | 112.69 | 118.80 |
| 26 | 1H | 995 | C | O5'-P-OP1 | -5.55 | 100.70 | 105.70 |
| 26 | 1H | 1401 | G | N7-C8-N9 | 5.55 | 115.88 | 113.10 |
| 26 | 1H | 1949 | G | N9-C4-C5 | 5.55 | 107.62 | 105.40 |
| 26 | 1H | 1959 | G | C2-N3-C4 | 5.55 | 114.68 | 111.90 |
| 26 | 1H | 1990 | C | C6-N1-C2 | -5.55 | 118.08 | 120.30 |
| 26 | 1H | 2270 | G | C6-N1-C2 | -5.55 | 121.77 | 125.10 |
| 26 | 1H | 2314 | C | C4-C5-C6 | 5.55 | 120.18 | 117.40 |
| 26 | 1H | 2869 | G | N3-C4-N9 | -5.55 | 122.67 | 126.00 |
| 27 | 16 | 43 | C | OP2-P-O3' | 5.55 | 117.41 | 105.20 |
| 1 | 1G | 529 | G | C8-N9-C4 | -5.55 | 104.18 | 106.40 |
| 26 | 14 | 1334 | G | C5-N7-C8 | -5.55 | 101.52 | 104.30 |
| 26 | 14 | 1342 | A | C5-N7-C8 | -5.55 | 101.12 | 103.90 |
| 26 | 14 | 1543 | A | C5-C6-N1 | -5.55 | 114.92 | 117.70 |
| 26 | 14 | 1554 | A | O4'-C1'-N9 | 5.55 | 112.64 | 108.20 |
| 26 | 14 | 2238 | G | N1-C2-N3 | -5.55 | 120.57 | 123.90 |
| 26 | 14 | 2394 | C | OP1-P-OP2 | 5.55 | 127.93 | 119.60 |
| 26 | 14 | 2581 | G | OP1-P-OP2 | 5.55 | 127.93 | 119.60 |
| 26 | 14 | 2585 | U | N3-C2-O2 | -5.55 | 118.31 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1240 | U | C6-N1-C2 | 5.55 | 124.33 | 121.00 |
| 26 | 1H | 148 | C | N3-C4-C5 | 5.55 | 124.12 | 121.90 |
| 26 | 1H | 520 | G | C8-N9-C4 | 5.55 | 108.62 | 106.40 |
| 26 | 1H | 702 | G | C8-N9-C4 | 5.55 | 108.62 | 106.40 |
| 26 | 1H | 965 | C | N1-C2-O2 | 5.55 | 122.23 | 118.90 |
| 26 | 1H | 1781 | C | N3-C2-O2 | 5.55 | 125.78 | 121.90 |
| 26 | 1H | 2033 | A | C2-N3-C4 | 5.55 | 113.38 | 110.60 |
| 26 | 1H | 2384 | G | C6-C5-N7 | 5.55 | 133.73 | 130.40 |
| 26 | 1H | 2739 | U | N1-C2-N3 | 5.55 | 118.23 | 114.90 |
| 1 | 1G | 247 | G | C8-N9-C4 | 5.55 | 108.62 | 106.40 |
| 1 | 1G | 887 | G | N1-C6-O6 | 5.55 | 123.23 | 119.90 |
| 1 | 1G | 1057 | G | C5-C6-N1 | -5.55 | 108.72 | 111.50 |
| 26 | 14 | 250 | G | C8-N9-C4 | -5.55 | 104.18 | 106.40 |
| 26 | 14 | 484 | C | N3-C4-C5 | -5.55 | 119.68 | 121.90 |
| 26 | 14 | 1663 | C | C4-C5-C6 | -5.55 | 114.62 | 117.40 |
| 26 | 14 | 1845 | G | C2-N3-C4 | -5.55 | 109.13 | 111.90 |
| 26 | 14 | 2259 | G | N1-C2-N2 | 5.55 | 121.19 | 116.20 |
| 26 | 14 | 2352 | A | O5'-P-OP1 | -5.55 | 100.70 | 105.70 |
| 26 | 1H | 858 | U | OP1-P-O3' | -5.55 | 92.99 | 105.20 |
| 26 | 1H | 1167 | U | N3-C4-O4 | 5.55 | 123.28 | 119.40 |
| 26 | 1H | 1205 | U | O5'-P-OP1 | 5.55 | 117.36 | 110.70 |
| 26 | 1H | 1278 | A | C5-C6-N1 | 5.55 | 120.47 | 117.70 |
| 26 | 1H | 1512 | G | C5-C6-O6 | 5.55 | 131.93 | 128.60 |
| 1 | 1G | 932 | C | C6-N1-C2 | -5.55 | 118.08 | 120.30 |
| 26 | 14 | 190 | A | N3-C4-C5 | 5.55 | 130.68 | 126.80 |
| 26 | 14 | 375 | C | C5-C6-N1 | -5.55 | 118.23 | 121.00 |
| 1 | 13 | 526 | C | C5-C6-N1 | -5.55 | 118.23 | 121.00 |
| 1 | 13 | 747 | C | N3-C4-C5 | 5.55 | 124.12 | 121.90 |
| 26 | 1H | 306 | U | C5-C4-O4 | 5.55 | 129.23 | 125.90 |
| 26 | 1H | 800 | A | C4-C5-C6 | 5.55 | 119.77 | 117.00 |
| 26 | 1H | 805 | G | OP1-P-OP2 | 5.55 | 127.92 | 119.60 |
| 26 | 1H | 1021 | A | N9-C4-C5 | -5.55 | 103.58 | 105.80 |
| 26 | 1H | 1466 | G | C2-N3-C4 | 5.55 | 114.67 | 111.90 |
| 26 | 1H | 1466 | G | N3-C4-C5 | -5.55 | 125.83 | 128.60 |
| 26 | 1H | 1848 | A | N1-C6-N6 | 5.55 | 121.93 | 118.60 |
| 26 | 1H | 1938 | A | C4-C5-C6 | 5.55 | 119.77 | 117.00 |
| 1 | 1G | 1463 | C | C5-C6-N1 | -5.55 | 118.23 | 121.00 |
| 23 | 2L | 38 | A | C4-C5-C6 | -5.55 | 114.23 | 117.00 |
| 25 | 4L | 6 | G | C4-C5-N7 | -5.55 | 108.58 | 110.80 |
| 26 | 14 | 44 | A | C5-C6-N1 | -5.55 | 114.93 | 117.70 |
| 26 | 14 | 176 | G | C6-N1-C2 | -5.55 | 121.77 | 125.10 |
| 26 | 14 | 224 | G | C5-C6-O6 | 5.55 | 131.93 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 386 | G | C6-C5-N7 | -5.55 | 127.07 | 130.40 |
| 26 | 14 | 631 | A | C4-C5-C6 | 5.55 | 119.77 | 117.00 |
| 26 | 14 | 1247 | A | N1-C6-N6 | -5.55 | 115.27 | 118.60 |
| 26 | 14 | 1249 | U | O5'-P-OP2 | -5.55 | 100.71 | 105.70 |
| 26 | 14 | 1685 | C | C6-N1-C2 | 5.55 | 122.52 | 120.30 |
| 1 | 13 | 569 | C | OP1-P-O3' | -5.54 | 93.00 | 105.20 |
| 26 | 1H | 572 | A | C4-C5-C6 | 5.54 | 119.77 | 117.00 |
| 26 | 1H | 723 | G | C5-C6-N1 | -5.54 | 108.73 | 111.50 |
| 26 | 1H | 1158 | C | N1-C2-N3 | 5.54 | 123.08 | 119.20 |
| 26 | 1H | 1421 | G | C8-N9-C4 | -5.54 | 104.18 | 106.40 |
| 26 | 1H | 1883 | G | N9-C4-C5 | -5.54 | 103.18 | 105.40 |
| 26 | 1H | 2650 | U | C5-C6-N1 | -5.54 | 119.93 | 122.70 |
| 26 | 1H | 2853 | C | O5'-P-OP1 | 5.54 | 117.35 | 110.70 |
| 1 | 1G | 897 | C | N3-C4-N4 | 5.54 | 121.88 | 118.00 |
| 1 | 1G | 1313 | U | OP1-P-OP2 | -5.54 | 111.28 | 119.60 |
| 26 | 14 | 194 | G | N7-C8-N9 | -5.54 | 110.33 | 113.10 |
| 26 | 14 | 370 | G | C8-N9-C4 | 5.54 | 108.62 | 106.40 |
| 26 | 14 | 1395 | A | C5-C6-N1 | -5.54 | 114.93 | 117.70 |
| 26 | 14 | 2026 | C | N3-C4-C5 | 5.54 | 124.12 | 121.90 |
| 26 | 14 | 2543 | G | N3-C2-N2 | 5.54 | 123.78 | 119.90 |
| 1 | 13 | 584 | G | N3-C4-C5 | -5.54 | 125.83 | 128.60 |
| 1 | 13 | 811 | C | N3-C4-C5 | 5.54 | 124.12 | 121.90 |
| 1 | 13 | 1067 | A | OP2-P-O3' | 5.54 | 117.39 | 105.20 |
| 1 | 13 | 1111 | A | N9-C4-C5 | 5.54 | 108.02 | 105.80 |
| 1 | 13 | 1394 | A | C5-C6-N1 | 5.54 | 120.47 | 117.70 |
| 26 | 1H | 676 | A | N1-C6-N6 | 5.54 | 121.93 | 118.60 |
| 26 | 1H | 771 | G | N1-C6-O6 | 5.54 | 123.23 | 119.90 |
| 26 | 1H | 826 | U | N1-C2-N3 | 5.54 | 118.23 | 114.90 |
| 26 | 1H | 1235 | G | C6-N1-C2 | 5.54 | 128.43 | 125.10 |
| 26 | 1H | 1368 | G | C4-C5-N7 | -5.54 | 108.58 | 110.80 |
| 26 | 1H | 1748 | G | N3-C4-C5 | 5.54 | 131.37 | 128.60 |
| 27 | 16 | 18 | G | C2-N3-C4 | -5.54 | 109.13 | 111.90 |
| 1 | 1G | 859 | A | N7-C8-N9 | 5.54 | 116.57 | 113.80 |
| 1 | 1G | 1242 | C | N1-C2-N3 | -5.54 | 115.32 | 119.20 |
| 1 | 1G | 1301 | U | C5-C6-N1 | 5.54 | 125.47 | 122.70 |
| 1 | 1G | 1482 | G | C6-C5-N7 | -5.54 | 127.07 | 130.40 |
| 23 | 2L | 72 | C | N3-C4-N4 | -5.54 | 114.12 | 118.00 |
| 26 | 14 | 223 | A | N9-C4-C5 | 5.54 | 108.02 | 105.80 |
| 26 | 14 | 478 | A | N9-C4-C5 | -5.54 | 103.58 | 105.80 |
| 26 | 14 | 731 | C | C2-N1-C1' | -5.54 | 112.70 | 118.80 |
| 26 | 14 | 1901 | A | N1-C2-N3 | 5.54 | 132.07 | 129.30 |
| 26 | 14 | 1999 | C | N3-C2-O2 | -5.54 | 118.02 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 2253 | G | O4'-C1'-N9 | 5.54 | 112.64 | 108.20 |
| 26 | 14 | 2586 | C | N1-C1'-C2' | -5.54 | 105.90 | 112.00 |
| 27 | 1J | 80 | U | C5-C4-O4 | 5.54 | 129.23 | 125.90 |
| 1 | 13 | 777 | A | N9-C4-C5 | 5.54 | 108.02 | 105.80 |
| 1 | 13 | 1226 | C | N3-C4-C5 | -5.54 | 119.68 | 121.90 |
| 1 | 13 | 1533 | C | C5-C6-N1 | 5.54 | 123.77 | 121.00 |
| 23 | 2K | 27 | G | C5-C6-N1 | 5.54 | 114.27 | 111.50 |
| 26 | 1H | 861 | A | OP1-P-OP2 | -5.54 | 111.29 | 119.60 |
| 26 | 1H | 957 | A | C2-N3-C4 | 5.54 | 113.37 | 110.60 |
| 26 | 1H | 1243 | G | N3-C4-N9 | -5.54 | 122.67 | 126.00 |
| 26 | 1H | 1463 | C | N3-C4-N4 | 5.54 | 121.88 | 118.00 |
| 26 | 1H | 2504 | U | C6-N1-C2 | -5.54 | 117.67 | 121.00 |
| 26 | 1H | 2549 | G | O5'-P-OP1 | 5.54 | 117.35 | 110.70 |
| 1 | 1G | 111 | G | C2-N3-C4 | -5.54 | 109.13 | 111.90 |
| 1 | 1G | 773 | G | N7-C8-N9 | 5.54 | 115.87 | 113.10 |
| 1 | 1G | 1059 | C | OP1-P-OP2 | -5.54 | 111.29 | 119.60 |
| 20 | BA | 13 | LEU | CA-CB-CG | 5.54 | 128.05 | 115.30 |
| 57 | 3L | 3 | G | N1-C2-N3 | -5.54 | 120.58 | 123.90 |
| 26 | 14 | 57 | C | O5'-P-OP2 | -5.54 | 100.71 | 105.70 |
| 26 | 14 | 327 | G | C4-C5-C6 | 5.54 | 122.12 | 118.80 |
| 26 | 14 | 756 | C | N3-C4-C5 | -5.54 | 119.68 | 121.90 |
| 26 | 14 | 1607 | C | C2-N3-C4 | -5.54 | 117.13 | 119.90 |
| 26 | 14 | 2051 | A | C5-C6-N6 | 5.54 | 128.13 | 123.70 |
| 27 | 1J | 39 | A | N7-C8-N9 | 5.54 | 116.57 | 113.80 |
| 1 | 13 | 401 | C | N1-C2-N3 | 5.54 | 123.08 | 119.20 |
| 26 | 1H | 1630(A) | C | C2-N3-C4 | -5.54 | 117.13 | 119.90 |
| 26 | 1H | 2724 | C | N1-C2-N3 | 5.54 | 123.08 | 119.20 |
| 29 | 11 | 255 | LYS | CD-CE-NZ | 5.54 | 124.44 | 111.70 |
| 1 | 1G | 555 | C | C6-N1-C2 | -5.54 | 118.08 | 120.30 |
| 26 | 14 | 1687 | G | C8-N9-C4 | 5.54 | 108.62 | 106.40 |
| 1 | 13 | 602 | A | C8-N9-C4 | -5.54 | 103.58 | 105.80 |
| 1 | 13 | 666 | G | N3-C4-C5 | 5.54 | 131.37 | 128.60 |
| 1 | 13 | 753 | A | C5-C6-N1 | -5.54 | 114.93 | 117.70 |
| 1 | 13 | 1196 | U | C6-N1-C2 | -5.54 | 117.68 | 121.00 |
| 26 | 1H | 676 | A | O5'-P-OP1 | -5.54 | 100.72 | 105.70 |
| 26 | 1H | 726 | G | OP1-P-O3' | 5.54 | 117.39 | 105.20 |
| 26 | 1H | 1188 | U | OP2-P-O3' | 5.54 | 117.38 | 105.20 |
| 26 | 1H | 1507 | A | N7-C8-N9 | 5.54 | 116.57 | 113.80 |
| 26 | 1H | 1611 | C | O5'-P-OP2 | 5.54 | 117.35 | 110.70 |
| 26 | 1H | 2317 | C | N3-C2-O2 | 5.54 | 125.78 | 121.90 |
| 26 | 1H | 2419 | U | O5'-P-OP2 | 5.54 | 117.34 | 110.70 |
| 26 | 1H | 2669 | G | N1-C6-O6 | 5.54 | 123.22 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2840 | C | N3-C4-N4 | -5.54 | 114.12 | 118.00 |
| 27 | 16 | 21 | G | N1-C6-O6 | 5.54 | 123.22 | 119.90 |
| 27 | 16 | 115 | G | N3-C4-C5 | 5.54 | 131.37 | 128.60 |
| 1 | 1G | 785 | G | C5-C6-N1 | -5.54 | 108.73 | 111.50 |
| 1 | 1G | 1251 | A | N3-C4-C5 | -5.54 | 122.92 | 126.80 |
| 5 | 42 | 31 | LEU | CA-CB-CG | 5.54 | 128.04 | 115.30 |
| 26 | 14 | 28 | A | C4-C5-N7 | 5.54 | 113.47 | 110.70 |
| 26 | 14 | 1842 | G | OP2-P-O3' | 5.54 | 117.38 | 105.20 |
| 26 | 14 | 2206 | C | C5-C4-N4 | -5.54 | 116.32 | 120.20 |
| 1 | 13 | 836 | G | N1-C6-O6 | 5.54 | 123.22 | 119.90 |
| 1 | 13 | 1199 | U | O4'-C1'-N1 | 5.54 | 112.63 | 108.20 |
| 26 | 1H | 879 | G | N1-C6-O6 | 5.54 | 123.22 | 119.90 |
| 1 | 1G | 711 | G | N1-C2-N3 | 5.54 | 127.22 | 123.90 |
| 26 | 14 | 1546 | C | N3-C4-C5 | -5.54 | 119.69 | 121.90 |
| 26 | 14 | 1823 | G | C6-N1-C2 | 5.54 | 128.42 | 125.10 |
| 1 | 13 | 176 | C | C2-N3-C4 | 5.54 | 122.67 | 119.90 |
| 1 | 13 | 264 | U | N3-C2-O2 | 5.54 | 126.07 | 122.20 |
| 1 | 13 | 419 | C | N3-C2-O2 | 5.54 | 125.78 | 121.90 |
| 1 | 13 | 861 | G | O5'-P-OP1 | -5.54 | 100.72 | 105.70 |
| 1 | 13 | 1216 | G | N3-C2-N2 | -5.54 | 116.03 | 119.90 |
| 1 | 13 | 1290 | G | N3-C2-N2 | -5.54 | 116.03 | 119.90 |
| 26 | 1H | 546 | C | C2-N1-C1' | 5.54 | 124.89 | 118.80 |
| 26 | 1H | 603 | A | C4-C5-N7 | -5.54 | 107.93 | 110.70 |
| 26 | 1H | 979 | G | O5'-P-OP2 | -5.54 | 100.72 | 105.70 |
| 26 | 1H | 1049 | C | N3-C2-O2 | -5.54 | 118.03 | 121.90 |
| 26 | 1H | 1422 | G | N1-C6-O6 | 5.54 | 123.22 | 119.90 |
| 26 | 1H | 1677 | A | OP1-P-O3' | -5.54 | 93.02 | 105.20 |
| 26 | 1H | 1762 | A | C4-C5-C6 | -5.54 | 114.23 | 117.00 |
| 26 | 1H | 2253 | G | N3-C4-C5 | 5.54 | 131.37 | 128.60 |
| 26 | 1H | 2385 | C | C2-N3-C4 | -5.54 | 117.13 | 119.90 |
| 26 | 1H | 2603 | G | N1-C6-O6 | 5.54 | 123.22 | 119.90 |
| 1 | 1G | 274 | A | C5-N7-C8 | 5.54 | 106.67 | 103.90 |
| 1 | 1G | 826 | C | C6-N1-C2 | 5.54 | 122.51 | 120.30 |
| 1 | 1G | 1508 | G | C5-N7-C8 | 5.54 | 107.07 | 104.30 |
| 1 | 13 | 1417 | G | O5'-P-OP1 | -5.53 | 100.72 | 105.70 |
| 1 | 13 | 1480 | G | OP2-P-O3' | 5.53 | 117.37 | 105.20 |
| 26 | 1H | 454 | A | OP2-P-O3' | 5.53 | 117.37 | 105.20 |
| 26 | 1H | 477 | A | C4-C5-C6 | 5.53 | 119.77 | 117.00 |
| 26 | 1H | 594 | U | C6-N1-C2 | 5.53 | 124.32 | 121.00 |
| 26 | 1H | 768 | G | N7-C8-N9 | -5.53 | 110.33 | 113.10 |
| 26 | 1H | 1552 | G | C8-N9-C4 | -5.53 | 104.19 | 106.40 |
| 26 | 1H | 1731 | G | C5-C6-O6 | 5.53 | 131.92 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2342 | C | O5'-P-OP1 | -5.53 | 100.72 | 105.70 |
| 1 | 1G | 680 | C | OP1-P-OP2 | -5.53 | 111.30 | 119.60 |
| 1 | 1G | 1188 | A | C5-N7-C8 | 5.53 | 106.67 | 103.90 |
| 1 | 1G | 1261 | A | O5'-P-OP1 | -5.53 | 100.72 | 105.70 |
| 56 | 1L | 36 | U | N3-C2-O2 | -5.53 | 118.33 | 122.20 |
| 26 | 14 | 472 | A | N1-C2-N3 | 5.53 | 132.07 | 129.30 |
| 26 | 14 | 1248 | G | C5-N7-C8 | -5.53 | 101.53 | 104.30 |
| 26 | 14 | 1364 | G | N7-C8-N9 | -5.53 | 110.33 | 113.10 |
| 26 | 14 | 1857 | G | C4-C5-N7 | -5.53 | 108.59 | 110.80 |
| 26 | 14 | 2506 | U | N3-C4-O4 | 5.53 | 123.27 | 119.40 |
| 26 | 14 | 2521 | C | C2-N3-C4 | -5.53 | 117.13 | 119.90 |
| 39 | 55 | 12 | ARG | NE-CZ-NH2 | 5.53 | 123.07 | 120.30 |
| 1 | 13 | 129 | U | N3-C4-C5 | -5.53 | 111.28 | 114.60 |
| 1 | 13 | 266 | G | C6-C5-N7 | -5.53 | 127.08 | 130.40 |
| 1 | 13 | 973 | G | C5-C6-N1 | -5.53 | 108.73 | 111.50 |
| 22 | 1K | 56 | C | O5'-P-OP2 | -5.53 | 100.72 | 105.70 |
| 26 | 1H | 1136 | G | N3-C2-N2 | -5.53 | 116.03 | 119.90 |
| 26 | 1H | 1189 | A | C5-C6-N1 | 5.53 | 120.47 | 117.70 |
| 26 | 14 | 715 | G | C5-C6-N1 | 5.53 | 114.27 | 111.50 |
| 26 | 14 | 1022 | G | N3-C4-C5 | -5.53 | 125.83 | 128.60 |
| 26 | 14 | 1624 | G | C5-C6-N1 | 5.53 | 114.27 | 111.50 |
| 26 | 14 | 1808 | U | C6-N1-C2 | 5.53 | 124.32 | 121.00 |
| 26 | 14 | 2679 | A | OP2-P-O3' | 5.53 | 117.37 | 105.20 |
| 1 | 13 | 297 | G | C8-N9-C4 | -5.53 | 104.19 | 106.40 |
| 1 | 13 | 500 | G | N3-C4-N9 | 5.53 | 129.32 | 126.00 |
| 1 | 13 | 1214 | C | O5'-P-OP1 | 5.53 | 117.34 | 110.70 |
| 1 | 13 | 1327 | C | N3-C4-C5 | 5.53 | 124.11 | 121.90 |
| 26 | 1H | 1486 | A | C5-N7-C8 | -5.53 | 101.14 | 103.90 |
| 26 | 1H | 1764 | G | C2-N3-C4 | -5.53 | 109.14 | 111.90 |
| 26 | 1H | 2762 | G | C4-N9-C1' | 5.53 | 133.69 | 126.50 |
| 1 | 1G | 1323 | G | C8-N9-C4 | -5.53 | 104.19 | 106.40 |
| 26 | 14 | 337 | C | C5-C6-N1 | -5.53 | 118.23 | 121.00 |
| 26 | 14 | 723 | G | N3-C4-C5 | 5.53 | 131.37 | 128.60 |
| 26 | 14 | 1251 | C | N3-C4-N4 | 5.53 | 121.87 | 118.00 |
| 26 | 14 | 1582 | C | N3-C4-C5 | 5.53 | 124.11 | 121.90 |
| 26 | 14 | 2322 | A | O5'-P-OP1 | -5.53 | 100.72 | 105.70 |
| 26 | 14 | 2711 | A | OP2-P-O3' | -5.53 | 93.03 | 105.20 |
| 26 | 1H | 235 | U | N1-C2-O2 | 5.53 | 126.67 | 122.80 |
| 26 | 1H | 321 | G | N1-C6-O6 | 5.53 | 123.22 | 119.90 |
| 26 | 1H | 417 | C | C6-N1-C2 | 5.53 | 122.51 | 120.30 |
| 26 | 1H | 445 | C | N1-C2-N3 | 5.53 | 123.07 | 119.20 |
| 26 | 1H | 1130 | U | N1-C2-N3 | 5.53 | 118.22 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2092 | U | N3-C2-O2 | -5.53 | 118.33 | 122.20 |
| 26 | 14 | 911 | A | OP1-P-O3' | 5.53 | 117.36 | 105.20 |
| 26 | 14 | 1671 | U | O5'-P-OP1 | -5.53 | 100.72 | 105.70 |
| 26 | 14 | 1673 | U | C6-N1-C1' | 5.53 | 128.94 | 121.20 |
| 1 | 13 | 299 | G | C6-N1-C2 | 5.53 | 128.42 | 125.10 |
| 1 | 13 | 733 | A | C6-N1-C2 | -5.53 | 115.28 | 118.60 |
| 1 | 13 | 877 | C | C4-C5-C6 | 5.53 | 120.16 | 117.40 |
| 1 | 13 | 919 | A | C8-N9-C4 | -5.53 | 103.59 | 105.80 |
| 22 | 1K | 56 | C | C6-N1-C2 | -5.53 | 118.09 | 120.30 |
| 26 | 1H | 739 | G | OP1-P-O3' | 5.53 | 117.36 | 105.20 |
| 26 | 1H | 764 | A | OP1-P-OP2 | -5.53 | 111.31 | 119.60 |
| 26 | 1H | 909 | A | C4-C5-N7 | -5.53 | 107.94 | 110.70 |
| 26 | 1H | 1763 | G | N3-C4-C5 | 5.53 | 131.36 | 128.60 |
| 26 | 1H | 2348 | U | OP2-P-O3' | 5.53 | 117.36 | 105.20 |
| 26 | 1H | 2574 | G | N3-C4-C5 | -5.53 | 125.84 | 128.60 |
| 26 | 14 | 122 | G | N1-C6-O6 | 5.53 | 123.22 | 119.90 |
| 26 | 14 | 432 | A | C6-N1-C2 | 5.53 | 121.92 | 118.60 |
| 26 | 14 | 640 | C | OP1-P-O3' | 5.53 | 117.36 | 105.20 |
| 26 | 14 | 782 | A | N1-C2-N3 | 5.53 | 132.06 | 129.30 |
| 26 | 14 | 1290 | C | OP1-P-OP2 | 5.53 | 127.89 | 119.60 |
| 26 | 14 | 1633 | G | N1-C2-N3 | 5.53 | 127.22 | 123.90 |
| 26 | 14 | 2422 | A | C6-N1-C2 | 5.53 | 121.92 | 118.60 |
| 27 | 1J | 96 | G | N1-C2-N2 | 5.53 | 121.17 | 116.20 |
| 1 | 13 | 293 | G | OP1-P-OP2 | -5.53 | 111.31 | 119.60 |
| 1 | 13 | 587 | G | N1-C6-O6 | 5.53 | 123.22 | 119.90 |
| 26 | 1H | 101 | G | N3-C2-N2 | 5.53 | 123.77 | 119.90 |
| 26 | 1H | 110 | G | C2-N3-C4 | -5.53 | 109.14 | 111.90 |
| 26 | 1H | 657 | U | OP1-P-O3' | -5.53 | 93.04 | 105.20 |
| 26 | 1H | 1579 | A | C6-C5-N7 | -5.53 | 128.43 | 132.30 |
| 26 | 1H | 2006 | C | N3-C4-N4 | -5.53 | 114.13 | 118.00 |
| 26 | 1H | 2058 | A | C5-C6-N6 | -5.53 | 119.28 | 123.70 |
| 26 | 1H | 2063 | C | OP2-P-O3' | 5.53 | 117.36 | 105.20 |
| 26 | 1H | 2870 | C | N3-C4-N4 | 5.53 | 121.87 | 118.00 |
| 27 | 16 | 103 | U | C6-N1-C2 | 5.53 | 124.31 | 121.00 |
| 1 | 1G | 718 | G | C5-N7-C8 | -5.53 | 101.54 | 104.30 |
| 1 | 1G | 1338 | G | N3-C4-C5 | -5.53 | 125.84 | 128.60 |
| 26 | 14 | 179 | G | N3-C4-C5 | 5.53 | 131.36 | 128.60 |
| 26 | 14 | 492 | A | N1-C6-N6 | 5.53 | 121.92 | 118.60 |
| 26 | 14 | 805 | G | C5-C6-N1 | 5.53 | 114.26 | 111.50 |
| 26 | 14 | 1093 | G | C8-N9-C4 | -5.53 | 104.19 | 106.40 |
| 26 | 14 | 1364 | G | C8-N9-C4 | 5.53 | 108.61 | 106.40 |
| 26 | 14 | 1688 | U | C5-C4-O4 | 5.53 | 129.22 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2280 | G | C6-N1-C2 | 5.53 | 128.42 | 125.10 |
| 26 | 14 | 2291 | U | N3-C2-O2 | -5.53 | 118.33 | 122.20 |
| 1 | 13 | 581 | G | N1-C2-N3 | 5.52 | 127.22 | 123.90 |
| 1 | 13 | 761 | G | C6-C5-N7 | -5.52 | 127.08 | 130.40 |
| 1 | 13 | 1527 | C | N1-C2-O2 | -5.52 | 115.59 | 118.90 |
| 26 | 1H | 386 | G | N3-C4-N9 | 5.52 | 129.31 | 126.00 |
| 26 | 1H | 596 | G | C5-C6-O6 | -5.52 | 125.29 | 128.60 |
| 26 | 1H | 1235 | G | N1-C6-O6 | 5.52 | 123.21 | 119.90 |
| 26 | 1H | 1560 | G | N1-C2-N2 | 5.52 | 121.17 | 116.20 |
| 26 | 1H | 2790 | A | N3-C4-C5 | -5.52 | 122.93 | 126.80 |
| 26 | 14 | 312 | G | N9-C4-C5 | -5.52 | 103.19 | 105.40 |
| 26 | 14 | 737 | C | OP2-P-O3' | 5.52 | 117.35 | 105.20 |
| 26 | 14 | 1283 | G | O5'-P-OP1 | -5.52 | 100.73 | 105.70 |
| 26 | 14 | 1818 | U | C6-N1-C2 | -5.52 | 117.69 | 121.00 |
| 26 | 14 | 2442 | C | N3-C2-O2 | -5.52 | 118.03 | 121.90 |
| 1 | 13 | 878 | G | C8-N9-C1' | -5.52 | 119.82 | 127.00 |
| 1 | 13 | 956 | U | C5-C6-N1 | 5.52 | 125.46 | 122.70 |
| 26 | 1H | 123 | G | C8-N9-C4 | 5.52 | 108.61 | 106.40 |
| 26 | 1H | 738 | G | OP2-P-O3' | 5.52 | 117.35 | 105.20 |
| 26 | 1H | 769 | G | OP1-P-OP2 | 5.52 | 127.88 | 119.60 |
| 26 | 1H | 788 | A | N1-C2-N3 | -5.52 | 126.54 | 129.30 |
| 26 | 1H | 818 | G | C4-C5-N7 | -5.52 | 108.59 | 110.80 |
| 26 | 1H | 2224 | G | N7-C8-N9 | 5.52 | 115.86 | 113.10 |
| 27 | 16 | 110 | G | C5-C6-N1 | -5.52 | 108.74 | 111.50 |
| 1 | 1G | 115 | G | N1-C6-O6 | -5.52 | 116.59 | 119.90 |
| 1 | 1G | 363 | A | OP1-P-O3' | 5.52 | 117.35 | 105.20 |
| 1 | 1G | 615 | C | C5-C4-N4 | -5.52 | 116.33 | 120.20 |
| 1 | 1G | 770 | C | C6-N1-C2 | 5.52 | 122.51 | 120.30 |
| 1 | 1G | 881 | G | C4-C5-N7 | 5.52 | 113.01 | 110.80 |
| 1 | 1G | 1224 | G | O5'-P-OP1 | 5.52 | 117.33 | 110.70 |
| 26 | 14 | 794 | G | C8-N9-C4 | 5.52 | 108.61 | 106.40 |
| 26 | 14 | 919 | G | C4-N9-C1' | 5.52 | 133.68 | 126.50 |
| 26 | 14 | 1242 | A | OP1-P-OP2 | 5.52 | 127.88 | 119.60 |
| 26 | 14 | 2357 | U | C5-C6-N1 | 5.52 | 125.46 | 122.70 |
| 26 | 1H | 833 | U | OP1-P-O3' | -5.52 | 93.05 | 105.20 |
| 26 | 1H | 1238 | G | C4-N9-C1' | -5.52 | 119.32 | 126.50 |
| 26 | 1H | 1267 | U | C6-N1-C2 | 5.52 | 124.31 | 121.00 |
| 26 | 14 | 229 | A | O4'-C1'-N9 | 5.52 | 112.62 | 108.20 |
| 26 | 14 | 2594 | C | N3-C2-O2 | 5.52 | 125.77 | 121.90 |
| 27 | 1J | 101 | A | C5-C6-N1 | -5.52 | 114.94 | 117.70 |
| 1 | 13 | 822 | C | OP1-P-O3' | 5.52 | 117.34 | 105.20 |
| 12 | 3I | 124 | LYS | CD-CE-NZ | 5.52 | 124.39 | 111.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 383 | U | O5'-P-OP2 | 5.52 | 117.32 | 110.70 |
| 26 | 1H | 2426 | A | C5-C6-N6 | 5.52 | 128.12 | 123.70 |
| 26 | 1H | 2492 | U | N3-C4-C5 | -5.52 | 111.29 | 114.60 |
| 26 | 1H | 2863 | C | C2-N3-C4 | -5.52 | 117.14 | 119.90 |
| 1 | 1G | 402 | G | C2-N3-C4 | -5.52 | 109.14 | 111.90 |
| 1 | 1G | 884 | U | N1-C2-N3 | 5.52 | 118.21 | 114.90 |
| 26 | 14 | 620 | G | N1-C2-N3 | 5.52 | 127.21 | 123.90 |
| 26 | 14 | 753 | C | N3-C2-O2 | -5.52 | 118.04 | 121.90 |
| 26 | 14 | 1643 | G | N1-C2-N2 | 5.52 | 121.17 | 116.20 |
| 26 | 14 | 1681 | G | N9-C4-C5 | -5.52 | 103.19 | 105.40 |
| 26 | 14 | 2077 | A | OP1-P-OP2 | 5.52 | 127.88 | 119.60 |
| 26 | 14 | 2155 | G | N3-C4-C5 | -5.52 | 125.84 | 128.60 |
| 26 | 14 | 2199 | A | N7-C8-N9 | 5.52 | 116.56 | 113.80 |
| 26 | 14 | 2331 | G | C6-N1-C2 | -5.52 | 121.79 | 125.10 |
| 26 | 14 | 2386 | C | OP1-P-OP2 | 5.52 | 127.88 | 119.60 |
| 26 | 14 | 2824 | C | C6-N1-C2 | 5.52 | 122.51 | 120.30 |
| 23 | 2K | 15 | G | N1-C2-N3 | 5.52 | 127.21 | 123.90 |
| 26 | 1H | 113 | G | OP2-P-O3' | -5.52 | 93.06 | 105.20 |
| 26 | 1H | 361 | G | N7-C8-N9 | -5.52 | 110.34 | 113.10 |
| 26 | 1H | 540 | G | OP2-P-O3' | 5.52 | 117.34 | 105.20 |
| 26 | 1H | 1409 | C | C6-N1-C2 | 5.52 | 122.51 | 120.30 |
| 26 | 1H | 1594 | G | OP1-P-OP2 | -5.52 | 111.32 | 119.60 |
| 26 | 1H | 1630 | G | N3-C4-C5 | -5.52 | 125.84 | 128.60 |
| 26 | 1H | 1700 | A | N1-C6-N6 | 5.52 | 121.91 | 118.60 |
| 26 | 1H | 1778 | U | C5-C4-O4 | 5.52 | 129.21 | 125.90 |
| 1 | 1G | 10 | A | OP1-P-OP2 | -5.52 | 111.33 | 119.60 |
| 1 | 1G | 584 | G | C2-N3-C4 | -5.52 | 109.14 | 111.90 |
| 26 | 14 | 449 | A | C4-C5-C6 | -5.52 | 114.24 | 117.00 |
| 26 | 14 | 491 | G | N3-C4-N9 | -5.52 | 122.69 | 126.00 |
| 26 | 14 | 766 | C | N1-C2-N3 | 5.52 | 123.06 | 119.20 |
| 26 | 14 | 1285 | G | N3-C2-N2 | -5.52 | 116.04 | 119.90 |
| 26 | 14 | 1658 | C | OP2-P-O3' | 5.52 | 117.34 | 105.20 |
| 26 | 14 | 1673 | U | C5-C4-O4 | 5.52 | 129.21 | 125.90 |
| 26 | 14 | 2414 | G | C4-C5-N7 | -5.52 | 108.59 | 110.80 |
| 27 | 1J | 79 | C | N3-C4-N4 | 5.52 | 121.86 | 118.00 |
| 1 | 13 | 947 | G | C5-C6-O6 | 5.52 | 131.91 | 128.60 |
| 1 | 13 | 954 | G | O5'-P-OP1 | 5.52 | 117.32 | 110.70 |
| 26 | 1H | 509 | C | C2-N3-C4 | -5.52 | 117.14 | 119.90 |
| 26 | 1H | 2299 | G | C8-N9-C4 | -5.52 | 104.19 | 106.40 |
| 1 | 1G | 4 | U | N3-C4-C5 | -5.52 | 111.29 | 114.60 |
| 26 | 14 | 44 | A | C4-C5-C6 | 5.52 | 119.76 | 117.00 |
| 26 | 14 | 809 | G | C4-N9-C1' | 5.52 | 133.67 | 126.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 2057 | A | N7-C8-N9 | -5.52 | 111.04 | 113.80 |
| 1 | 13 | 727 | G | N9-C4-C5 | 5.51 | 107.61 | 105.40 |
| 1 | 13 | 911 | U | C5-C6-N1 | -5.51 | 119.94 | 122.70 |
| 1 | 13 | 955 | U | C5-C4-O4 | -5.51 | 122.59 | 125.90 |
| 1 | 13 | 1162 | C | C5-C6-N1 | 5.51 | 123.76 | 121.00 |
| 1 | 13 | 1202 | G | O5'-P-OP1 | -5.51 | 100.74 | 105.70 |
| 1 | 13 | 1261 | A | OP1-P-OP2 | -5.51 | 111.33 | 119.60 |
| 26 | 1H | 205 | G | O5'-P-OP1 | 5.51 | 117.32 | 110.70 |
| 26 | 1H | 380 | U | C5-C4-O4 | 5.51 | 129.21 | 125.90 |
| 26 | 1H | 385 | C | OP2-P-O3' | 5.51 | 117.33 | 105.20 |
| 26 | 1H | 1037 | G | C8-N9-C4 | 5.51 | 108.61 | 106.40 |
| 26 | 1H | 1301 | A | C6-N1-C2 | 5.51 | 121.91 | 118.60 |
| 26 | 1H | 1693 | U | C2-N1-C1' | 5.51 | 124.32 | 117.70 |
| 26 | 1H | 2071 | A | OP2-P-O3' | 5.51 | 117.33 | 105.20 |
| 26 | 1H | 2073 | C | C5-C4-N4 | -5.51 | 116.34 | 120.20 |
| 26 | 1H | 2421 | G | C5-C6-N1 | 5.51 | 114.26 | 111.50 |
| 26 | 1H | 2533 | A | N1-C6-N6 | -5.51 | 115.29 | 118.60 |
| 26 | 1H | 2558 | C | C2-N3-C4 | -5.51 | 117.14 | 119.90 |
| 31 | 31 | 164 | ARG | NE-CZ-NH1 | 5.51 | 123.06 | 120.30 |
| 1 | 1G | 347 | G | N3-C4-C5 | 5.51 | 131.36 | 128.60 |
| 1 | 1G | 676 | A | OP1-P-OP2 | 5.51 | 127.87 | 119.60 |
| 1 | 1G | 851 | G | C5-N7-C8 | -5.51 | 101.54 | 104.30 |
| 1 | 1G | 1322 | C | C5-C6-N1 | 5.51 | 123.76 | 121.00 |
| 26 | 14 | 450 | G | C4-C5-N7 | -5.51 | 108.59 | 110.80 |
| 26 | 14 | 596 | G | N3-C2-N2 | -5.51 | 116.04 | 119.90 |
| 26 | 14 | 1807 | G | N1-C2-N2 | 5.51 | 121.16 | 116.20 |
| 26 | 14 | 2438 | U | C2-N3-C4 | -5.51 | 123.69 | 127.00 |
| 27 | 1J | 65 | C | OP1-P-OP2 | -5.51 | 111.33 | 119.60 |
| 27 | 1J | 105 | G | N9-C4-C5 | -5.51 | 103.19 | 105.40 |
| 1 | 13 | 120 | A | O5'-P-OP2 | 5.51 | 117.32 | 110.70 |
| 1 | 13 | 635 | G | C2-N3-C4 | -5.51 | 109.14 | 111.90 |
| 23 | 2K | 12 | G | C2-N3-C4 | 5.51 | 114.66 | 111.90 |
| 26 | 1H | 270(A) | A | C5-C6-N1 | 5.51 | 120.46 | 117.70 |
| 26 | 1H | 651 | G | C5-C6-O6 | -5.51 | 125.29 | 128.60 |
| 26 | 1H | 684 | G | C8-N9-C4 | -5.51 | 104.19 | 106.40 |
| 26 | 1H | 1157 | G | N3-C4-N9 | 5.51 | 129.31 | 126.00 |
| 26 | 1H | 1229(A) | G | N3-C4-C5 | 5.51 | 131.36 | 128.60 |
| 26 | 1H | 1296 | G | C4-C5-N7 | -5.51 | 108.59 | 110.80 |
| 26 | 1H | 1661 | G | C5-C6-N1 | 5.51 | 114.26 | 111.50 |
| 26 | 1H | 1688 | U | OP1-P-OP2 | 5.51 | 127.87 | 119.60 |
| 26 | 1H | 2055 | C | O4'-C1'-N1 | 5.51 | 112.61 | 108.20 |
| 26 | 1H | 2632 | A | C8-N9-C4 | 5.51 | 108.00 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 758 | G | C8-N9-C4 | 5.51 | 108.61 | 106.40 |
| 1 | 1G | 1199 | U | N3-C4-C5 | -5.51 | 111.29 | 114.60 |
| 26 | 14 | 103 | A | OP2-P-O3' | 5.51 | 117.33 | 105.20 |
| 26 | 14 | 2586 | C | N1-C2-N3 | -5.51 | 115.34 | 119.20 |
| 1 | 13 | 428 | G | C4-C5-N7 | 5.51 | 113.00 | 110.80 |
| 1 | 13 | 798 | G | N9-C4-C5 | 5.51 | 107.61 | 105.40 |
| 26 | 1H | 232 | G | C8-N9-C4 | 5.51 | 108.61 | 106.40 |
| 26 | 1H | 728 | G | C2-N3-C4 | -5.51 | 109.14 | 111.90 |
| 26 | 1H | 1031 | G | N3-C2-N2 | 5.51 | 123.76 | 119.90 |
| 26 | 1H | 1197 | G | O5'-P-OP2 | -5.51 | 100.74 | 105.70 |
| 26 | 1H | 1295 | C | N1-C2-N3 | 5.51 | 123.06 | 119.20 |
| 26 | 1H | 1762 | A | N7-C8-N9 | -5.51 | 111.04 | 113.80 |
| 26 | 1H | 2297 | C | C4-C5-C6 | 5.51 | 120.16 | 117.40 |
| 26 | 1H | 2300 | G | N7-C8-N9 | 5.51 | 115.86 | 113.10 |
| 26 | 1H | 2334 | G | N3-C4-C5 | 5.51 | 131.36 | 128.60 |
| 50 | K8 | 5 | GLU | CG-CD-OE1 | -5.51 | 107.28 | 118.30 |
| 1 | 1G | 1261 | A | C4-C5-C6 | 5.51 | 119.76 | 117.00 |
| 57 | 3L | 3 | G | C6-C5-N7 | 5.51 | 133.71 | 130.40 |
| 26 | 14 | 35 | G | C8-N9-C1' | 5.51 | 134.16 | 127.00 |
| 26 | 14 | 797 | C | N3-C4-C5 | -5.51 | 119.70 | 121.90 |
| 26 | 14 | 1216 | G | N3-C4-C5 | -5.51 | 125.84 | 128.60 |
| 26 | 14 | 2035 | G | O4'-C1'-N9 | 5.51 | 112.61 | 108.20 |
| 1 | 13 | 396 | G | C4-C5-C6 | 5.51 | 122.11 | 118.80 |
| 1 | 13 | 1415 | G | C5-C6-N1 | -5.51 | 108.75 | 111.50 |
| 26 | 1H | 105 | C | N1-C2-N3 | 5.51 | 123.06 | 119.20 |
| 26 | 1H | 215 | G | C8-N9-C4 | 5.51 | 108.60 | 106.40 |
| 26 | 1H | 698 | C | C6-N1-C1' | -5.51 | 114.19 | 120.80 |
| 26 | 1H | 1324 | G | C8-N9-C4 | -5.51 | 104.20 | 106.40 |
| 1 | 1G | 284 | G | N3-C4-C5 | 5.51 | 131.35 | 128.60 |
| 1 | 1G | 691 | G | N3-C4-N9 | 5.51 | 129.31 | 126.00 |
| 1 | 1G | 724 | G | N1-C2-N2 | 5.51 | 121.16 | 116.20 |
| 25 | 4L | 12 | A | N9-C4-C5 | -5.51 | 103.60 | 105.80 |
| 26 | 14 | 316 | C | C5-C6-N1 | -5.51 | 118.25 | 121.00 |
| 26 | 14 | 826 | U | C5-C4-O4 | 5.51 | 129.21 | 125.90 |
| 26 | 14 | 987 | G | C8-N9-C4 | -5.51 | 104.20 | 106.40 |
| 26 | 14 | 2236 | C | N1-C2-O2 | -5.51 | 115.59 | 118.90 |
| 26 | 14 | 2414 | G | C2-N3-C4 | -5.51 | 109.14 | 111.90 |
| 26 | 14 | 2557 | G | C5-C6-O6 | 5.51 | 131.91 | 128.60 |
| 26 | 14 | 2871 | C | N3-C2-O2 | -5.51 | 118.04 | 121.90 |
| 1 | 13 | 1432 | G | O5'-P-OP2 | -5.51 | 100.74 | 105.70 |
| 26 | 1H | 580 | C | N1-C2-O2 | -5.51 | 115.59 | 118.90 |
| 26 | 1H | 1699 | G | C5-N7-C8 | -5.51 | 101.55 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 1 | 1G | 44 | G | C4-C5-N7 | -5.51 | 108.60 | 110.80 |
| 26 | 14 | 111 | A | O5'-P-OP2 | -5.51 | 100.74 | 105.70 |
| 26 | 14 | 1396 | U | C6-N1-C1' | -5.51 | 113.49 | 121.20 |
| 26 | 14 | 1823 | G | N9-C4-C5 | -5.51 | 103.20 | 105.40 |
| 26 | 14 | 2250 | G | N9-C4-C5 | 5.51 | 107.60 | 105.40 |
| 1 | 13 | 24 | U | N1-C2-N3 | -5.51 | 111.60 | 114.90 |
| 1 | 13 | 1253 | G | N3-C4-N9 | 5.51 | 129.30 | 126.00 |
| 26 | 1H | 115 | C | O5'-P-OP1 | -5.51 | 100.74 | 105.70 |
| 26 | 1H | 189 | G | C4-C5-C6 | 5.51 | 122.10 | 118.80 |
| 26 | 1H | 2208 | U | C5-C6-N1 | -5.51 | 119.95 | 122.70 |
| 26 | 1H | 2294 | C | C4-C5-C6 | -5.51 | 114.65 | 117.40 |
| 26 | 1H | 2712(A) | A | C5-N7-C8 | -5.51 | 101.15 | 103.90 |
| 26 | 1H | 2735 | G | C6-N1-C2 | -5.51 | 121.80 | 125.10 |
| 26 | 1H | 2830 | G | N9-C4-C5 | 5.51 | 107.60 | 105.40 |
| 1 | 1G | 608 | A | N1-C2-N3 | -5.51 | 126.55 | 129.30 |
| 1 | 1G | 950 | U | N1-C2-O2 | 5.51 | 126.65 | 122.80 |
| 1 | 1G | 1230 | C | N1-C2-O2 | 5.51 | 122.20 | 118.90 |
| 26 | 14 | 684 | G | N1-C6-O6 | -5.51 | 116.60 | 119.90 |
| 26 | 14 | 992 | C | O5'-P-OP2 | -5.51 | 100.75 | 105.70 |
| 26 | 1H | 932 | G | O4'-C1'-N9 | 5.50 | 112.60 | 108.20 |
| 26 | 1H | 1630(A) | C | N3-C2-O2 | -5.50 | 118.05 | 121.90 |
| 26 | 1H | 1784 | A | C6-C5-N7 | 5.50 | 136.15 | 132.30 |
| 26 | 1H | 2068 | U | OP1-P-O3' | 5.50 | 117.31 | 105.20 |
| 27 | 16 | 47 | C | N1-C2-N3 | -5.50 | 115.35 | 119.20 |
| 1 | 1G | 1322 | C | C6-N1-C2 | -5.50 | 118.10 | 120.30 |
| 26 | 14 | 824 | A | O5'-P-OP1 | 5.50 | 117.31 | 110.70 |
| 26 | 14 | 1186 | G | O5'-P-OP1 | -5.50 | 100.75 | 105.70 |
| 26 | 14 | 1755 | A | C5-C6-N6 | 5.50 | 128.10 | 123.70 |
| 26 | 14 | 2509 | G | N3-C2-N2 | -5.50 | 116.05 | 119.90 |
| 1 | 13 | 236 | G | C5-C6-N1 | -5.50 | 108.75 | 111.50 |
| 1 | 13 | 611 | A | N3-C4-C5 | 5.50 | 130.65 | 126.80 |
| 1 | 13 | 725 | G | N3-C2-N2 | 5.50 | 123.75 | 119.90 |
| 23 | 2K | 3 | C | OP1-P-OP2 | 5.50 | 127.86 | 119.60 |
| 26 | 1H | 309 | G | O5'-P-OP2 | 5.50 | 117.30 | 110.70 |
| 26 | 1H | 591 | C | N1-C2-N3 | 5.50 | 123.05 | 119.20 |
| 26 | 1H | 645 | C | P-O3'-C3' | 5.50 | 126.30 | 119.70 |
| 26 | 1H | 1031 | G | N1-C2-N3 | 5.50 | 127.20 | 123.90 |
| 26 | 1H | 1614 | A | C5-C6-N6 | -5.50 | 119.30 | 123.70 |
| 26 | 1H | 1682 | G | C2-N3-C4 | -5.50 | 109.15 | 111.90 |
| 26 | 1H | 2658 | C | N3-C2-O2 | 5.50 | 125.75 | 121.90 |
| 26 | 1H | 2664 | G | C6-C5-N7 | -5.50 | 127.10 | 130.40 |
| 26 | 1H | 2692 | C | N3-C2-O2 | -5.50 | 118.05 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 1 | 1G | 15 | G | N3-C4-N9 | 5.50 | 129.30 | 126.00 |
| 1 | 1G | 183 | G | C5-N7-C8 | -5.50 | 101.55 | 104.30 |
| 1 | 1G | 1068 | G | C6-C5-N7 | -5.50 | 127.10 | 130.40 |
| 26 | 14 | 57 | C | N1-C2-O2 | -5.50 | 115.60 | 118.90 |
| 26 | 14 | 82 | G | N1-C2-N3 | 5.50 | 127.20 | 123.90 |
| 26 | 14 | 360 | G | C8-N9-C4 | -5.50 | 104.20 | 106.40 |
| 26 | 14 | 2041 | U | C5-C6-N1 | -5.50 | 119.95 | 122.70 |
| 26 | 14 | 2295 | C | N3-C4-N4 | 5.50 | 121.85 | 118.00 |
| 42 | 85 | 95 | LEU | CA-CB-CG | -5.50 | 102.64 | 115.30 |
| 1 | 13 | 803 | G | C4-C5-N7 | -5.50 | 108.60 | 110.80 |
| 1 | 13 | 1245 | A | C5-N7-C8 | 5.50 | 106.65 | 103.90 |
| 1 | 13 | 1350 | A | OP1-P-OP2 | -5.50 | 111.35 | 119.60 |
| 1 | 13 | 1356 | G | C6-C5-N7 | -5.50 | 127.10 | 130.40 |
| 1 | 13 | 1453 | G | O5'-P-OP2 | 5.50 | 117.30 | 110.70 |
| 26 | 1H | 181 | A | OP2-P-O3' | 5.50 | 117.30 | 105.20 |
| 26 | 1H | 508 | G | C4-N9-C1' | 5.50 | 133.65 | 126.50 |
| 26 | 1H | 776 | G | C8-N9-C4 | -5.50 | 104.20 | 106.40 |
| 26 | 1H | 946 | G | N3-C2-N2 | -5.50 | 116.05 | 119.90 |
| 26 | 1H | 950 | G | N7-C8-N9 | -5.50 | 110.35 | 113.10 |
| 26 | 1H | 962 | G | N9-C4-C5 | -5.50 | 103.20 | 105.40 |
| 26 | 1H | 1377 | G | C4-C5-N7 | -5.50 | 108.60 | 110.80 |
| 26 | 1H | 1449(A) | G | OP1-P-OP2 | 5.50 | 127.85 | 119.60 |
| 26 | 1H | 1689 | A | O5'-P-OP2 | -5.50 | 100.75 | 105.70 |
| 26 | 1H | 2229 | C | C6-N1-C2 | 5.50 | 122.50 | 120.30 |
| 26 | 1H | 2270 | G | C2-N3-C4 | -5.50 | 109.15 | 111.90 |
| 26 | 1H | 2330 | G | C6-N1-C2 | -5.50 | 121.80 | 125.10 |
| 26 | 1H | 2563 | U | C4-C5-C6 | -5.50 | 116.40 | 119.70 |
| 26 | 1H | 2745 | C | N3-C4-N4 | 5.50 | 121.85 | 118.00 |
| 26 | 14 | 332 | A | N1-C6-N6 | -5.50 | 115.30 | 118.60 |
| 26 | 14 | 494 | G | N3-C4-C5 | 5.50 | 131.35 | 128.60 |
| 26 | 14 | 770 | G | N9-C4-C5 | -5.50 | 103.20 | 105.40 |
| 26 | 14 | 1348 | G | OP1-P-O3' | 5.50 | 117.30 | 105.20 |
| 26 | 14 | 1575 | C | OP1-P-OP2 | -5.50 | 111.35 | 119.60 |
| 26 | 14 | 2433 | A | N1-C2-N3 | 5.50 | 132.05 | 129.30 |
| 26 | 14 | 2545 | G | C2-N3-C4 | -5.50 | 109.15 | 111.90 |
| 26 | 14 | 2580 | U | OP2-P-O3' | 5.50 | 117.30 | 105.20 |
| 26 | 14 | 2667 | C | C6-N1-C2 | -5.50 | 118.10 | 120.30 |
| 1 | 13 | 132 | C | C5-C4-N4 | -5.50 | 116.35 | 120.20 |
| 26 | 1H | 598 | G | OP1-P-OP2 | 5.50 | 127.85 | 119.60 |
| 26 | 1H | 1489 | U | C5-C6-N1 | -5.50 | 119.95 | 122.70 |
| 26 | 1H | 1871 | A | N7-C8-N9 | -5.50 | 111.05 | 113.80 |
| 29 | 11 | 157 | ARG | NE-CZ-NH1 | -5.50 | 117.55 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1481 | U | O5'-P-OP1 | -5.50 | 100.75 | 105.70 |
| 1 | 1G | 1499 | A | OP1-P-OP2 | -5.50 | 111.35 | 119.60 |
| 27 | 1J | 97 | G | N1-C2-N3 | 5.50 | 127.20 | 123.90 |
| 1 | 13 | 197 | A | C8-N9-C4 | -5.50 | 103.60 | 105.80 |
| 1 | 13 | 228 | A | C5-C6-N1 | 5.50 | 120.45 | 117.70 |
| 1 | 13 | 501 | C | N3-C2-O2 | -5.50 | 118.05 | 121.90 |
| 1 | 13 | 578 | C | N1-C2-O2 | -5.50 | 115.60 | 118.90 |
| 1 | 13 | 1223 | C | C5-C6-N1 | 5.50 | 123.75 | 121.00 |
| 1 | 13 | 1289 | A | C4-C5-N7 | -5.50 | 107.95 | 110.70 |
| 1 | 13 | 1333 | A | N3-C4-C5 | -5.50 | 122.95 | 126.80 |
| 1 | 13 | 1409 | C | C5-C6-N1 | -5.50 | 118.25 | 121.00 |
| 1 | 13 | 1482 | G | C5-C6-N1 | -5.50 | 108.75 | 111.50 |
| 26 | 1H | 977 | G | C8-N9-C4 | -5.50 | 104.20 | 106.40 |
| 26 | 1H | 980 | A | OP1-P-O3' | 5.50 | 117.30 | 105.20 |
| 26 | 1H | 1342 | A | C6-C5-N7 | -5.50 | 128.45 | 132.30 |
| 26 | 1H | 1552 | G | OP1-P-O3' | 5.50 | 117.30 | 105.20 |
| 26 | 1H | 2064 | C | N3-C4-N4 | -5.50 | 114.15 | 118.00 |
| 26 | 1H | 2533 | A | C5-C6-N6 | 5.50 | 128.10 | 123.70 |
| 26 | 1H | 2706 | G | OP2-P-O3' | 5.50 | 117.30 | 105.20 |
| 26 | 14 | 2432 | A | N9-C4-C5 | -5.50 | 103.60 | 105.80 |
| 26 | 14 | 2830 | G | N3-C4-C5 | 5.50 | 131.35 | 128.60 |
| 32 | 49 | 106 | LEU | CB-CG-CD1 | 5.50 | 120.35 | 111.00 |
| 1 | 13 | 1440 | C | N3-C2-O2 | 5.50 | 125.75 | 121.90 |
| 26 | 1H | 681 | G | N9-C4-C5 | -5.50 | 103.20 | 105.40 |
| 26 | 1H | 1255 | U | C4-C5-C6 | 5.50 | 123.00 | 119.70 |
| 26 | 1H | 1313 | U | C6-N1-C1' | -5.50 | 113.51 | 121.20 |
| 26 | 1H | 1337 | G | N3-C2-N2 | 5.50 | 123.75 | 119.90 |
| 26 | 1H | 1459 | G | O5'-P-OP2 | -5.50 | 100.75 | 105.70 |
| 26 | 1H | 1609 | A | C5-N7-C8 | 5.50 | 106.65 | 103.90 |
| 26 | 1H | 1931 | U | OP1-P-OP2 | -5.50 | 111.35 | 119.60 |
| 26 | 1H | 2688 | U | N3-C4-C5 | 5.50 | 117.90 | 114.60 |
| 26 | 1H | 2786 | U | N3-C2-O2 | 5.50 | 126.05 | 122.20 |
| 1 | 1G | 102 | G | N7-C8-N9 | 5.50 | 115.85 | 113.10 |
| 1 | 1G | 612 | C | C6-N1-C2 | 5.50 | 122.50 | 120.30 |
| 1 | 1G | 1424 | C | C5-C6-N1 | 5.50 | 123.75 | 121.00 |
| 26 | 14 | 14 | A | OP2-P-O3' | 5.50 | 117.29 | 105.20 |
| 26 | 14 | 1318 | C | O5'-P-OP1 | -5.50 | 100.75 | 105.70 |
| 26 | 14 | 1333 | C | C6-N1-C2 | -5.50 | 118.10 | 120.30 |
| 26 | 14 | 1484 | G | C8-N9-C4 | 5.50 | 108.60 | 106.40 |
| 26 | 14 | 1776 | G | C2-N3-C4 | -5.50 | 109.15 | 111.90 |
| 26 | 14 | 2449 | U | C6-N1-C2 | 5.50 | 124.30 | 121.00 |
| 26 | 14 | 2502 | G | OP1-P-O3' | 5.50 | 117.29 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 2695 | C | C5-C6-N1 | -5.50 | 118.25 | 121.00 |
| 26 | 14 | 2844 | G | N9-C4-C5 | -5.50 | 103.20 | 105.40 |
| 1 | 13 | 776 | G | C4-C5-N7 | 5.50 | 113.00 | 110.80 |
| 1 | 13 | 1076 | C | N1-C2-O2 | -5.50 | 115.60 | 118.90 |
| 26 | 1H | 654(U) | A | N1-C6-N6 | 5.50 | 121.90 | 118.60 |
| 26 | 1H | 914 | C | C6-N1-C2 | 5.50 | 122.50 | 120.30 |
| 26 | 1H | 985 | C | OP2-P-O3' | 5.50 | 117.29 | 105.20 |
| 26 | 1H | 2538 | C | C2-N3-C4 | -5.50 | 117.15 | 119.90 |
| 1 | 1G | 1466 | C | O4'-C1'-N1 | 5.50 | 112.60 | 108.20 |
| 26 | 14 | 1324 | G | OP1-P-O3' | 5.50 | 117.29 | 105.20 |
| 53 | J5 | 51 | TYR | CA-CB-CG | 5.50 | 123.84 | 113.40 |
| 1 | 13 | 231 | G | C4-C5-N7 | -5.49 | 108.60 | 110.80 |
| 1 | 13 | 608 | A | C4-C5-N7 | 5.49 | 113.45 | 110.70 |
| 1 | 13 | 1055 | A | N1-C2-N3 | 5.49 | 132.05 | 129.30 |
| 1 | 13 | 1346 | A | C2-N3-C4 | -5.49 | 107.85 | 110.60 |
| 24 | 3K | 75 | C | OP1-P-OP2 | 5.49 | 127.84 | 119.60 |
| 26 | 1H | 114 | U | OP1-P-O3' | 5.49 | 117.29 | 105.20 |
| 26 | 1H | 322 | A | OP2-P-O3' | 5.49 | 117.28 | 105.20 |
| 26 | 1H | 326 | G | C5-N7-C8 | -5.49 | 101.55 | 104.30 |
| 26 | 1H | 990 | A | N3-C4-C5 | 5.49 | 130.65 | 126.80 |
| 26 | 1H | 1294 | U | OP2-P-O3' | 5.49 | 117.29 | 105.20 |
| 26 | 1H | 2064 | C | C2-N1-C1' | -5.49 | 112.76 | 118.80 |
| 1 | 1G | 874 | G | C8-N9-C4 | 5.49 | 108.60 | 106.40 |
| 1 | 1G | 1473 | A | N9-C4-C5 | -5.49 | 103.60 | 105.80 |
| 26 | 14 | 60 | G | C5-C6-O6 | -5.49 | 125.30 | 128.60 |
| 26 | 14 | 579 | G | C4-C5-C6 | 5.49 | 122.10 | 118.80 |
| 26 | 14 | 686 | G | N1-C2-N2 | -5.49 | 111.25 | 116.20 |
| 26 | 14 | 1373 | A | C5-C6-N1 | 5.49 | 120.45 | 117.70 |
| 26 | 14 | 1966 | A | C5-C6-N1 | 5.49 | 120.45 | 117.70 |
| 26 | 14 | 2074 | U | C6-N1-C2 | -5.49 | 117.70 | 121.00 |
| 26 | 14 | 2512 | C | C5-C4-N4 | -5.49 | 116.36 | 120.20 |
| 26 | 14 | 2516 | G | C5-C6-O6 | -5.49 | 125.30 | 128.60 |
| 26 | 14 | 2686 | G | C2-N3-C4 | 5.49 | 114.65 | 111.90 |
| 27 | 1J | 2 | C | C6-N1-C2 | -5.49 | 118.10 | 120.30 |
| 1 | 13 | 859 | A | C6-N1-C2 | -5.49 | 115.31 | 118.60 |
| 26 | 1H | 132 | G | C8-N9-C1' | -5.49 | 119.86 | 127.00 |
| 26 | 1H | 413 | C | C5-C6-N1 | 5.49 | 123.75 | 121.00 |
| 26 | 1H | 810 | U | O5'-P-OP1 | 5.49 | 117.29 | 110.70 |
| 26 | 1H | 1294 | U | N1-C2-N3 | 5.49 | 118.19 | 114.90 |
| 26 | 1H | 1652 | A | OP1-P-OP2 | 5.49 | 127.84 | 119.60 |
| 26 | 1H | 2281 | C | C2-N3-C4 | -5.49 | 117.15 | 119.90 |
| 26 | 1H | 2512 | C | C5-C6-N1 | -5.49 | 118.25 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 906 | G | N3-C2-N2 | -5.49 | 116.06 | 119.90 |
| 26 | 14 | 52 | A | N7-C8-N9 | 5.49 | 116.55 | 113.80 |
| 26 | 14 | 56 | A | C5-C6-N1 | -5.49 | 114.95 | 117.70 |
| 26 | 14 | 146 | G | C4-C5-N7 | 5.49 | 113.00 | 110.80 |
| 26 | 14 | 956 | G | N1-C6-O6 | 5.49 | 123.19 | 119.90 |
| 26 | 14 | 2313 | C | C2-N1-C1' | 5.49 | 124.84 | 118.80 |
| 1 | 13 | 276 | G | O5'-P-OP1 | -5.49 | 100.76 | 105.70 |
| 1 | 13 | 1268 | A | C4-C5-N7 | -5.49 | 107.95 | 110.70 |
| 1 | 13 | 1433 | A | O5'-P-OP2 | 5.49 | 117.29 | 110.70 |
| 26 | 1H | 46 | C | C4-C5-C6 | 5.49 | 120.14 | 117.40 |
| 26 | 1H | 65 | C | N3-C4-C5 | -5.49 | 119.70 | 121.90 |
| 26 | 1H | 501 | A | OP1-P-O3' | 5.49 | 117.28 | 105.20 |
| 26 | 1H | 1970 | A | C5-C6-N1 | 5.49 | 120.44 | 117.70 |
| 26 | 1H | 2078 | C | N1-C2-O2 | 5.49 | 122.19 | 118.90 |
| 1 | 1G | 105 | G | C6-N1-C2 | -5.49 | 121.81 | 125.10 |
| 1 | 1G | 772 | U | O5'-P-OP2 | -5.49 | 100.76 | 105.70 |
| 1 | 1G | 915 | A | O5'-P-OP2 | -5.49 | 100.76 | 105.70 |
| 1 | 1G | 1433 | A | N1-C6-N6 | -5.49 | 115.31 | 118.60 |
| 26 | 14 | 382 | G | C4-C5-C6 | 5.49 | 122.09 | 118.80 |
| 26 | 14 | 1410 | G | C5-C6-N1 | 5.49 | 114.25 | 111.50 |
| 26 | 14 | 1473 | G | N1-C2-N2 | -5.49 | 111.26 | 116.20 |
| 26 | 14 | 1703 | G | C4-C5-N7 | 5.49 | 113.00 | 110.80 |
| 26 | 14 | 1718 | G | N1-C6-O6 | 5.49 | 123.19 | 119.90 |
| 26 | 14 | 2373 | G | C2-N3-C4 | -5.49 | 109.16 | 111.90 |
| 26 | 14 | 2629 | A | C2-N3-C4 | 5.49 | 113.34 | 110.60 |
| 26 | 14 | 2735 | G | C5-C6-N1 | -5.49 | 108.75 | 111.50 |
| 1 | 13 | 541 | G | C8-N9-C4 | -5.49 | 104.20 | 106.40 |
| 1 | 13 | 1064 | G | C8-N9-C4 | 5.49 | 108.59 | 106.40 |
| 1 | 13 | 1336 | C | N1-C2-O2 | 5.49 | 122.19 | 118.90 |
| 26 | 1H | 244 | A | C2-N3-C4 | -5.49 | 107.86 | 110.60 |
| 26 | 1H | 383 | U | N3-C2-O2 | -5.49 | 118.36 | 122.20 |
| 26 | 1H | 718 | A | C6-C5-N7 | -5.49 | 128.46 | 132.30 |
| 26 | 1H | 1011 | G | C8-N9-C4 | -5.49 | 104.20 | 106.40 |
| 26 | 1H | 1125 | G | N9-C4-C5 | 5.49 | 107.59 | 105.40 |
| 26 | 1H | 1148 | A | C5-N7-C8 | 5.49 | 106.64 | 103.90 |
| 26 | 1H | 2507 | C | O5'-P-OP2 | -5.49 | 100.76 | 105.70 |
| 26 | 1H | 2557 | G | OP1-P-O3' | -5.49 | 93.13 | 105.20 |
| 26 | 1H | 2706 | G | C2-N3-C4 | -5.49 | 109.16 | 111.90 |
| 1 | 1G | 772 | U | N1-C2-N3 | 5.49 | 118.19 | 114.90 |
| 1 | 1G | 1275 | A | N7-C8-N9 | 5.49 | 116.54 | 113.80 |
| 26 | 14 | 198 | C | C6-N1-C2 | -5.49 | 118.10 | 120.30 |
| 26 | 14 | 1127 | A | C2-N3-C4 | 5.49 | 113.34 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 27 | 1J | 13 | A | N1-C6-N6 | -5.49 | 115.31 | 118.60 |
| 27 | 1J | 80 | U | N3-C4-C5 | -5.49 | 111.31 | 114.60 |
| 1 | 13 | 973 | G | C4-N9-C1' | 5.49 | 133.63 | 126.50 |
| 1 | 13 | 1157 | A | N1-C2-N3 | 5.49 | 132.04 | 129.30 |
| 26 | 1H | 621 | A | C5-C6-N6 | -5.49 | 119.31 | 123.70 |
| 26 | 1H | 1372 | U | OP2-P-O3' | 5.49 | 117.27 | 105.20 |
| 26 | 1H | 2299 | G | N3-C2-N2 | -5.49 | 116.06 | 119.90 |
| 1 | 1G | 1490 | C | N3-C4-N4 | -5.49 | 114.16 | 118.00 |
| 57 | 3L | 72 | C | C5-C6-N1 | 5.49 | 123.74 | 121.00 |
| 26 | 14 | 1031 | G | C2-N3-C4 | -5.49 | 109.16 | 111.90 |
| 26 | 14 | 1313 | U | O4'-C1'-N1 | 5.49 | 112.59 | 108.20 |
| 26 | 14 | 1608 | A | C5-C6-N6 | 5.49 | 128.09 | 123.70 |
| 26 | 14 | 2261 | C | N3-C4-N4 | -5.49 | 114.16 | 118.00 |
| 27 | 1J | 63 | G | N9-C4-C5 | -5.49 | 103.20 | 105.40 |
| 1 | 13 | 755 | G | N7-C8-N9 | -5.49 | 110.36 | 113.10 |
| 1 | 13 | 1203 | C | C2-N1-C1' | 5.49 | 124.83 | 118.80 |
| 26 | 1H | 359 | A | N1-C2-N3 | 5.49 | 132.04 | 129.30 |
| 26 | 1H | 513 | A | N7-C8-N9 | 5.49 | 116.54 | 113.80 |
| 26 | 1H | 997 | G | OP1-P-OP2 | -5.49 | 111.37 | 119.60 |
| 26 | 1H | 1120 | G | C8-N9-C4 | 5.49 | 108.59 | 106.40 |
| 26 | 1H | 1918 | A | N3-C4-C5 | 5.49 | 130.64 | 126.80 |
| 26 | 1H | 2504 | U | N1-C2-N3 | 5.49 | 118.19 | 114.90 |
| 1 | 1G | 1306 | A | N1-C6-N6 | -5.49 | 115.31 | 118.60 |
| 26 | 14 | 17 | G | O4'-C1'-N9 | 5.49 | 112.59 | 108.20 |
| 26 | 14 | 200 | U | OP2-P-O3' | 5.49 | 117.27 | 105.20 |
| 26 | 14 | 757 | U | O5'-P-OP2 | -5.49 | 100.76 | 105.70 |
| 26 | 14 | 803 | U | N3-C4-O4 | -5.49 | 115.56 | 119.40 |
| 26 | 14 | 1143 | A | O5'-P-OP2 | -5.49 | 100.76 | 105.70 |
| 26 | 14 | 1959 | G | C4-C5-C6 | -5.49 | 115.51 | 118.80 |
| 26 | 14 | 2007 | C | N3-C4-C5 | -5.49 | 119.70 | 121.90 |
| 1 | 13 | 246 | A | C2-N3-C4 | -5.48 | 107.86 | 110.60 |
| 1 | 13 | 727 | G | C5-C6-N1 | -5.48 | 108.76 | 111.50 |
| 26 | 1H | 26 | G | C4-N9-C1' | 5.48 | 133.63 | 126.50 |
| 26 | 1H | 468 | G | C2-N3-C4 | -5.48 | 109.16 | 111.90 |
| 26 | 1H | 1555 | G | N1-C6-O6 | 5.48 | 123.19 | 119.90 |
| 1 | 1G | 666 | G | C5-C6-O6 | -5.48 | 125.31 | 128.60 |
| 1 | 1G | 826 | C | N3-C4-C5 | 5.48 | 124.09 | 121.90 |
| 1 | 13 | 508 | C | C6-N1-C2 | 5.48 | 122.49 | 120.30 |
| 1 | 13 | 980 | C | N1-C2-O2 | 5.48 | 122.19 | 118.90 |
| 1 | 13 | 1209 | C | C4-C5-C6 | -5.48 | 114.66 | 117.40 |
| 23 | 2K | 7 | G | C5-C6-O6 | -5.48 | 125.31 | 128.60 |
| 23 | 2K | 61 | U | O5'-P-OP2 | -5.48 | 100.77 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 508 | G | N9-C1'-C2' | 5.48 | 121.13 | 114.00 |
| 26 | 1H | 795 | C | C2-N1-C1' | -5.48 | 112.77 | 118.80 |
| 26 | 1H | 1494 | A | C5-C6-N6 | 5.48 | 128.09 | 123.70 |
| 26 | 1H | 1621 | U | OP1-P-OP2 | 5.48 | 127.82 | 119.60 |
| 26 | 1H | 1624 | G | O5'-P-OP2 | -5.48 | 100.77 | 105.70 |
| 26 | 1H | 1699 | G | C8-N9-C4 | -5.48 | 104.21 | 106.40 |
| 26 | 1H | 1940 | U | C5-C4-O4 | -5.48 | 122.61 | 125.90 |
| 26 | 1H | 2460 | U | N3-C2-O2 | 5.48 | 126.04 | 122.20 |
| 26 | 1H | 2886 | G | C8-N9-C4 | -5.48 | 104.21 | 106.40 |
| 27 | 16 | 73 | A | C8-N9-C4 | 5.48 | 107.99 | 105.80 |
| 1 | 1G | 159 | G | C5-C6-O6 | 5.48 | 131.89 | 128.60 |
| 1 | 1G | 219 | C | C5-C6-N1 | 5.48 | 123.74 | 121.00 |
| 26 | 14 | 205 | G | C4-C5-N7 | 5.48 | 112.99 | 110.80 |
| 26 | 14 | 456 | C | OP2-P-O3' | 5.48 | 117.26 | 105.20 |
| 26 | 14 | 576 | U | O5'-P-OP2 | -5.48 | 100.77 | 105.70 |
| 26 | 14 | 2083 | G | C6-C5-N7 | -5.48 | 127.11 | 130.40 |
| 26 | 14 | 2539 | C | C5-C6-N1 | -5.48 | 118.26 | 121.00 |
| 29 | 19 | 44 | ASN | N-CA-C | 5.48 | 125.81 | 111.00 |
| 1 | 13 | 1503 | A | C5-C6-N6 | 5.48 | 128.08 | 123.70 |
| 26 | 1H | 1000 | A | C4-C5-N7 | 5.48 | 113.44 | 110.70 |
| 26 | 1H | 1361 | G | N1-C6-O6 | -5.48 | 116.61 | 119.90 |
| 26 | 1H | 1463 | C | N3-C2-O2 | 5.48 | 125.74 | 121.90 |
| 26 | 1H | 1952 | A | C4-C5-C6 | 5.48 | 119.74 | 117.00 |
| 26 | 1H | 2026 | C | N1-C2-O2 | 5.48 | 122.19 | 118.90 |
| 26 | 1H | 2491 | U | N1-C2-O2 | 5.48 | 126.64 | 122.80 |
| 26 | 1H | 2610 | C | N3-C4-C5 | 5.48 | 124.09 | 121.90 |
| 1 | 1G | 1160 | G | C8-N9-C4 | -5.48 | 104.21 | 106.40 |
| 26 | 14 | 53 | A | C5-C6-N6 | 5.48 | 128.08 | 123.70 |
| 26 | 14 | 545 | G | C5-C6-O6 | 5.48 | 131.89 | 128.60 |
| 26 | 14 | 699 | A | C2-N3-C4 | 5.48 | 113.34 | 110.60 |
| 26 | 14 | 744 | G | C8-N9-C4 | 5.48 | 108.59 | 106.40 |
| 26 | 14 | 1385 | G | C6-C5-N7 | 5.48 | 133.69 | 130.40 |
| 26 | 14 | 2620 | C | C4-C5-C6 | 5.48 | 120.14 | 117.40 |
| 26 | 1H | 514 | A | N7-C8-N9 | -5.48 | 111.06 | 113.80 |
| 26 | 1H | 975 | G | C2-N3-C4 | 5.48 | 114.64 | 111.90 |
| 26 | 1H | 1212 | G | N1-C6-O6 | 5.48 | 123.19 | 119.90 |
| 26 | 1H | 1346 | G | N1-C2-N2 | -5.48 | 111.27 | 116.20 |
| 26 | 1H | 1471 | A | O5'-P-OP1 | 5.48 | 117.28 | 110.70 |
| 26 | 1H | 2345 | G | N1-C2-N2 | -5.48 | 111.27 | 116.20 |
| 1 | 1G | 1469 | G | C6-C5-N7 | -5.48 | 127.11 | 130.40 |
| 26 | 14 | 396 | G | C4-C5-C6 | 5.48 | 122.09 | 118.80 |
| 26 | 14 | 1883 | G | N7-C8-N9 | -5.48 | 110.36 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2017 | U | N1-C2-N3 | 5.48 | 118.19 | 114.90 |
| 38 | 45 | 79 | LEU | CA-CB-CG | 5.48 | 127.90 | 115.30 |
| 1 | 13 | 1470 | G | N1-C2-N3 | 5.48 | 127.19 | 123.90 |
| 24 | 3K | 76 | A | OP1-P-OP2 | 5.48 | 127.82 | 119.60 |
| 26 | 1H | 151 | C | C6-N1-C2 | 5.48 | 122.49 | 120.30 |
| 26 | 1H | 431 | U | C5-C6-N1 | 5.48 | 125.44 | 122.70 |
| 26 | 1H | 525 | U | C4-C5-C6 | 5.48 | 122.99 | 119.70 |
| 26 | 1H | 560 | C | N3-C4-C5 | -5.48 | 119.71 | 121.90 |
| 26 | 1H | 585 | G | C6-N1-C2 | -5.48 | 121.81 | 125.10 |
| 26 | 1H | 608 | A | OP1-P-O3' | -5.48 | 93.15 | 105.20 |
| 26 | 1H | 703 | U | C2-N3-C4 | -5.48 | 123.71 | 127.00 |
| 26 | 1H | 1376 | C | C5-C6-N1 | 5.48 | 123.74 | 121.00 |
| 26 | 1H | 1488 | G | C5-C6-N1 | -5.48 | 108.76 | 111.50 |
| 26 | 1H | 1911 | U | C5-C6-N1 | 5.48 | 125.44 | 122.70 |
| 26 | 1H | 1994 | C | C5-C4-N4 | 5.48 | 124.03 | 120.20 |
| 1 | 1G | 158 | G | C5-C6-O6 | -5.48 | 125.31 | 128.60 |
| 1 | 1G | 1467 | G | C4-C5-C6 | 5.48 | 122.09 | 118.80 |
| 18 | 9A | 30 | ASP | CB-CG-OD1 | -5.48 | 113.37 | 118.30 |
| 26 | 14 | 241 | A | C5-C6-N1 | -5.48 | 114.96 | 117.70 |
| 26 | 14 | 1142 | U | C5-C6-N1 | 5.48 | 125.44 | 122.70 |
| 26 | 14 | 1392 | A | C5-N7-C8 | 5.48 | 106.64 | 103.90 |
| 26 | 14 | 1561 | G | N3-C2-N2 | -5.48 | 116.07 | 119.90 |
| 1 | 13 | 778 | G | C4-C5-C6 | 5.48 | 122.08 | 118.80 |
| 1 | 13 | 894 | G | N3-C4-C5 | 5.48 | 131.34 | 128.60 |
| 1 | 13 | 1058 | G | N1-C6-O6 | 5.48 | 123.19 | 119.90 |
| 26 | 1H | 662 | G | C5-C6-N1 | 5.48 | 114.24 | 111.50 |
| 26 | 1H | 785 | G | C8-N9-C4 | -5.48 | 104.21 | 106.40 |
| 26 | 1H | 1226 | G | C6-N1-C2 | 5.48 | 128.39 | 125.10 |
| 26 | 1H | 1653 | G | O5'-P-OP2 | -5.48 | 100.77 | 105.70 |
| 26 | 1H | 2472 | G | C6-C5-N7 | -5.48 | 127.11 | 130.40 |
| 12 | 3A | 92 | ASP | CB-CG-OD2 | -5.48 | 113.37 | 118.30 |
| 26 | 14 | 74 | A | OP1-P-OP2 | -5.48 | 111.39 | 119.60 |
| 26 | 14 | 137(A) | G | C5-C6-O6 | -5.48 | 125.31 | 128.60 |
| 26 | 14 | 810 | U | N1-C2-O2 | -5.48 | 118.97 | 122.80 |
| 26 | 14 | 1825 | A | N7-C8-N9 | 5.48 | 116.54 | 113.80 |
| 26 | 14 | 2626 | C | N1-C2-O2 | -5.48 | 115.61 | 118.90 |
| 1 | 13 | 393 | A | O5'-P-OP1 | 5.47 | 117.27 | 110.70 |
| 1 | 13 | 1503 | A | C6-C5-N7 | 5.47 | 136.13 | 132.30 |
| 26 | 1H | 55 | G | N3-C4-C5 | -5.47 | 125.86 | 128.60 |
| 26 | 1H | 520 | G | C6-N1-C2 | -5.47 | 121.82 | 125.10 |
| 26 | 1H | 599 | G | C5-C6-O6 | 5.47 | 131.88 | 128.60 |
| 26 | 1H | 703 | U | N3-C4-O4 | -5.47 | 115.57 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 879 | G | C5-N7-C8 | -5.47 | 101.56 | 104.30 |
| 26 | 1H | 910 | A | C6-N1-C2 | 5.47 | 121.88 | 118.60 |
| 26 | 1H | 2291 | U | O5'-P-OP1 | -5.47 | 100.77 | 105.70 |
| 26 | 1H | 2435 | A | N7-C8-N9 | 5.47 | 116.54 | 113.80 |
| 37 | 78 | 2 | LYS | CD-CE-NZ | 5.47 | 124.29 | 111.70 |
| 1 | 1G | 580 | U | OP1-P-OP2 | 5.47 | 127.81 | 119.60 |
| 1 | 1G | 978 | A | N7-C8-N9 | 5.47 | 116.54 | 113.80 |
| 26 | 14 | 1774 | C | C2-N3-C4 | -5.47 | 117.16 | 119.90 |
| 26 | 14 | 1807 | G | OP1-P-O3' | 5.47 | 117.25 | 105.20 |
| 26 | 14 | 2422 | A | C4-C5-N7 | 5.47 | 113.44 | 110.70 |
| 26 | 14 | 2521 | C | C4-C5-C6 | 5.47 | 120.14 | 117.40 |
| 26 | 14 | 2735 | G | N1-C6-O6 | 5.47 | 123.19 | 119.90 |
| 1 | 13 | 564 | C | C4-C5-C6 | 5.47 | 120.14 | 117.40 |
| 1 | 13 | 570 | G | N1-C2-N2 | 5.47 | 121.13 | 116.20 |
| 1 | 13 | 788 | U | C5-C6-N1 | -5.47 | 119.96 | 122.70 |
| 22 | 1K | 76 | A | C4-C5-C6 | 5.47 | 119.74 | 117.00 |
| 26 | 1H | 327 | G | C8-N9-C4 | -5.47 | 104.21 | 106.40 |
| 26 | 1H | 624 | C | C4-C5-C6 | -5.47 | 114.66 | 117.40 |
| 26 | 1H | 1187 | G | N1-C6-O6 | 5.47 | 123.18 | 119.90 |
| 26 | 1H | 1448 | G | N1-C6-O6 | 5.47 | 123.18 | 119.90 |
| 26 | 1H | 1792 | G | C4-C5-N7 | -5.47 | 108.61 | 110.80 |
| 26 | 1H | 1884 | A | C5-C6-N6 | 5.47 | 128.08 | 123.70 |
| 26 | 1H | 2281 | C | N1-C2-O2 | -5.47 | 115.62 | 118.90 |
| 27 | 16 | 58 | A | O5'-P-OP1 | 5.47 | 117.27 | 110.70 |
| 1 | 1G | 419 | C | N1-C2-N3 | -5.47 | 115.37 | 119.20 |
| 1 | 1G | 580 | U | N3-C4-O4 | -5.47 | 115.57 | 119.40 |
| 1 | 1G | 604 | G | O5'-P-OP1 | -5.47 | 100.77 | 105.70 |
| 1 | 1G | 735 | C | N3-C4-N4 | 5.47 | 121.83 | 118.00 |
| 1 | 1G | 1080 | A | C5-C6-N6 | 5.47 | 128.08 | 123.70 |
| 26 | 14 | 80 | G | N1-C2-N2 | -5.47 | 111.28 | 116.20 |
| 26 | 14 | 549 | G | N1-C2-N3 | -5.47 | 120.62 | 123.90 |
| 26 | 14 | 562 | U | C5-C4-O4 | 5.47 | 129.18 | 125.90 |
| 26 | 14 | 785 | G | C6-C5-N7 | 5.47 | 133.68 | 130.40 |
| 26 | 14 | 831 | G | C5-C6-O6 | 5.47 | 131.88 | 128.60 |
| 26 | 14 | 1189 | A | O5'-P-OP2 | 5.47 | 117.27 | 110.70 |
| 26 | 14 | 1990 | C | C6-N1-C2 | 5.47 | 122.49 | 120.30 |
| 26 | 14 | 2402 | C | C5-C6-N1 | 5.47 | 123.74 | 121.00 |
| 26 | 14 | 2783 | G | N1-C6-O6 | 5.47 | 123.18 | 119.90 |
| 1 | 13 | 510 | A | N7-C8-N9 | 5.47 | 116.53 | 113.80 |
| 1 | 13 | 1064 | G | N1-C2-N3 | 5.47 | 127.18 | 123.90 |
| 23 | 2K | 11 | A | C6-N1-C2 | -5.47 | 115.32 | 118.60 |
| 24 | 3K | 71 | C | N1-C2-N3 | -5.47 | 115.37 | 119.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 453 | C | N3-C4-N4 | 5.47 | 121.83 | 118.00 |
| 26 | 1H | 765 | G | C5-C6-N1 | -5.47 | 108.76 | 111.50 |
| 26 | 1H | 910 | A | C6-C5-N7 | -5.47 | 128.47 | 132.30 |
| 26 | 1H | 2458 | G | C2-N3-C4 | -5.47 | 109.17 | 111.90 |
| 47 | H8 | 61 | LEU | CB-CG-CD1 | -5.47 | 101.70 | 111.00 |
| 1 | 1G | 234 | C | C5-C6-N1 | 5.47 | 123.73 | 121.00 |
| 23 | 2L | 27 | G | N7-C8-N9 | -5.47 | 110.36 | 113.10 |
| 26 | 14 | 1292 | U | C5-C4-O4 | -5.47 | 122.62 | 125.90 |
| 26 | 14 | 1423 | G | N3-C4-C5 | 5.47 | 131.34 | 128.60 |
| 26 | 14 | 2001 | A | C5-N7-C8 | -5.47 | 101.16 | 103.90 |
| 1 | 13 | 694 | A | OP1-P-OP2 | -5.47 | 111.39 | 119.60 |
| 26 | 1H | 273(B) | C | N1-C2-O2 | -5.47 | 115.62 | 118.90 |
| 26 | 1H | 1613 | G | N1-C2-N3 | 5.47 | 127.18 | 123.90 |
| 26 | 1H | 1676 | A | N1-C2-N3 | 5.47 | 132.03 | 129.30 |
| 26 | 1H | 1857 | G | C2-N3-C4 | -5.47 | 109.17 | 111.90 |
| 26 | 1H | 2408 | U | N3-C4-O4 | -5.47 | 115.57 | 119.40 |
| 29 | 11 | 272 | ALA | C-N-CA | 5.47 | 135.37 | 121.70 |
| 1 | 1G | 260 | G | N1-C2-N3 | 5.47 | 127.18 | 123.90 |
| 1 | 1G | 482 | A | C2-N3-C4 | -5.47 | 107.87 | 110.60 |
| 1 | 1G | 770 | C | C2-N3-C4 | -5.47 | 117.17 | 119.90 |
| 1 | 1G | 1459 | C | OP1-P-OP2 | -5.47 | 111.39 | 119.60 |
| 23 | 2L | 34 | U | OP1-P-O3' | 5.47 | 117.23 | 105.20 |
| 57 | 3L | 42 | A | C2-N3-C4 | 5.47 | 113.33 | 110.60 |
| 26 | 14 | 222 | A | C5-C6-N1 | -5.47 | 114.97 | 117.70 |
| 26 | 14 | 704 | G | N3-C4-N9 | -5.47 | 122.72 | 126.00 |
| 26 | 14 | 1415 | U | C2-N3-C4 | -5.47 | 123.72 | 127.00 |
| 26 | 14 | 2321 | G | N3-C4-C5 | -5.47 | 125.86 | 128.60 |
| 26 | 14 | 2345 | G | C4-C5-C6 | 5.47 | 122.08 | 118.80 |
| 26 | 14 | 2592 | G | C8-N9-C4 | -5.47 | 104.21 | 106.40 |
| 26 | 14 | 2729 | G | N1-C6-O6 | 5.47 | 123.18 | 119.90 |
| 1 | 13 | 873 | A | C6-N1-C2 | -5.47 | 115.32 | 118.60 |
| 26 | 1H | 937 | U | C6-N1-C2 | 5.47 | 124.28 | 121.00 |
| 26 | 1H | 1155 | A | C5-C6-N1 | 5.47 | 120.43 | 117.70 |
| 26 | 1H | 1296 | G | OP1-P-OP2 | 5.47 | 127.80 | 119.60 |
| 26 | 1H | 2482 | G | C2-N3-C4 | -5.47 | 109.17 | 111.90 |
| 29 | 11 | 222 | ARG | NE-CZ-NH1 | -5.47 | 117.57 | 120.30 |
| 1 | 1G | 443 | C | N1-C2-O2 | 5.47 | 122.18 | 118.90 |
| 26 | 14 | 1374 | G | O5'-P-OP2 | 5.47 | 117.26 | 110.70 |
| 26 | 14 | 2242 | G | O5'-P-OP2 | 5.47 | 117.26 | 110.70 |
| 26 | 14 | 2266 | A | N7-C8-N9 | -5.47 | 111.07 | 113.80 |
| 26 | 14 | 2331 | G | OP1-P-O3' | -5.47 | 93.17 | 105.20 |
| 26 | 14 | 2868 | A | O5'-P-OP2 | 5.47 | 117.26 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 138 | G | OP2-P-O3' | 5.47 | 117.23 | 105.20 |
| 22 | 1K | 35 | U | N1-C2-N3 | 5.47 | 118.18 | 114.90 |
| 26 | 1H | 408 | G | C6-N1-C2 | 5.47 | 128.38 | 125.10 |
| 26 | 1H | 524 | U | O5'-P-OP2 | -5.47 | 100.78 | 105.70 |
| 26 | 1H | 559 | G | C4-C5-C6 | 5.47 | 122.08 | 118.80 |
| 26 | 1H | 734 | A | C4-C5-N7 | 5.47 | 113.43 | 110.70 |
| 26 | 1H | 859 | G | OP2-P-O3' | 5.47 | 117.22 | 105.20 |
| 26 | 1H | 1304 | C | N3-C4-N4 | -5.47 | 114.17 | 118.00 |
| 26 | 1H | 1333 | C | N3-C4-N4 | 5.47 | 121.83 | 118.00 |
| 26 | 1H | 1498 | C | N1-C2-O2 | -5.47 | 115.62 | 118.90 |
| 1 | 1G | 1274 | G | C6-C5-N7 | -5.47 | 127.12 | 130.40 |
| 1 | 1G | 1484 | C | C6-N1-C2 | 5.47 | 122.49 | 120.30 |
| 23 | 2L | 4 | G | OP1-P-OP2 | 5.47 | 127.80 | 119.60 |
| 23 | 2L | 15 | G | C5-C6-O6 | 5.47 | 131.88 | 128.60 |
| 26 | 14 | 301 | G | N1-C2-N3 | 5.47 | 127.18 | 123.90 |
| 26 | 14 | 318 | C | C5-C4-N4 | -5.47 | 116.37 | 120.20 |
| 26 | 14 | 467 | G | OP2-P-O3' | 5.47 | 117.23 | 105.20 |
| 1 | 13 | 230 | G | OP2-P-O3' | 5.46 | 117.22 | 105.20 |
| 1 | 13 | 506 | G | O5'-P-OP2 | 5.46 | 117.26 | 110.70 |
| 1 | 13 | 728 | A | C5-C6-N6 | -5.46 | 119.33 | 123.70 |
| 1 | 13 | 1198 | G | O5'-P-OP1 | -5.46 | 100.78 | 105.70 |
| 26 | 1H | 187 | G | OP1-P-OP2 | 5.46 | 127.80 | 119.60 |
| 26 | 1H | 409 | C | N1-C2-O2 | 5.46 | 122.18 | 118.90 |
| 26 | 1H | 569 | U | C2-N1-C1' | -5.46 | 111.14 | 117.70 |
| 26 | 1H | 592 | G | C5-C6-N1 | -5.46 | 108.77 | 111.50 |
| 26 | 1H | 777 | A | C2-N3-C4 | -5.46 | 107.87 | 110.60 |
| 26 | 1H | 1288 | U | O5'-P-OP1 | -5.46 | 100.78 | 105.70 |
| 26 | 1H | 1546 | C | N3-C4-C5 | -5.46 | 119.71 | 121.90 |
| 26 | 1H | 2046 | G | C2-N3-C4 | 5.46 | 114.63 | 111.90 |
| 26 | 14 | 56 | A | OP2-P-O3' | 5.46 | 117.22 | 105.20 |
| 26 | 14 | 196 | A | C5-C6-N6 | 5.46 | 128.07 | 123.70 |
| 26 | 14 | 389 | G | C4-C5-N7 | 5.46 | 112.99 | 110.80 |
| 26 | 14 | 683 | C | N1-C2-O2 | -5.46 | 115.62 | 118.90 |
| 26 | 14 | 686 | G | C5-C6-N1 | 5.46 | 114.23 | 111.50 |
| 26 | 14 | 774 | A | N7-C8-N9 | 5.46 | 116.53 | 113.80 |
| 26 | 14 | 1952 | A | N1-C6-N6 | -5.46 | 115.32 | 118.60 |
| 26 | 14 | 2290 | G | O5'-P-OP2 | 5.46 | 117.26 | 110.70 |
| 26 | 14 | 2409 | G | N7-C8-N9 | 5.46 | 115.83 | 113.10 |
| 1 | 13 | 128 | G | N3-C4-N9 | -5.46 | 122.72 | 126.00 |
| 1 | 13 | 1222 | G | C2-N3-C4 | -5.46 | 109.17 | 111.90 |
| 1 | 13 | 1286 | A | O4'-C1'-N9 | 5.46 | 112.57 | 108.20 |
| 25 | 4K | 19 | A | C5-C6-N6 | -5.46 | 119.33 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1473 | G | N9-C4-C5 | -5.46 | 103.22 | 105.40 |
| 26 | 14 | 177 | G | C5-C6-N1 | -5.46 | 108.77 | 111.50 |
| 26 | 14 | 1677 | A | O5'-P-OP2 | 5.46 | 117.26 | 110.70 |
| 26 | 14 | 2485 | G | C5-C6-N1 | -5.46 | 108.77 | 111.50 |
| 1 | 13 | 1342 | C | C2-N1-C1' | -5.46 | 112.79 | 118.80 |
| 26 | 1H | 504 | U | N1-C2-O2 | 5.46 | 126.62 | 122.80 |
| 26 | 1H | 553 | U | OP2-P-O3' | 5.46 | 117.22 | 105.20 |
| 26 | 1H | 592 | G | C4-C5-C6 | 5.46 | 122.08 | 118.80 |
| 26 | 1H | 744 | G | N9-C4-C5 | 5.46 | 107.58 | 105.40 |
| 26 | 1H | 949 | C | C5-C6-N1 | -5.46 | 118.27 | 121.00 |
| 26 | 1H | 950 | G | OP1-P-OP2 | -5.46 | 111.41 | 119.60 |
| 26 | 1H | 2230 | G | C4-C5-N7 | 5.46 | 112.98 | 110.80 |
| 26 | 1H | 2250 | G | C6-C5-N7 | 5.46 | 133.68 | 130.40 |
| 26 | 1H | 2307 | G | OP1-P-OP2 | 5.46 | 127.79 | 119.60 |
| 26 | 1H | 2697 | G | P-O3'-C3' | -5.46 | 113.15 | 119.70 |
| 26 | 1H | 2731 | G | C4-C5-N7 | 5.46 | 112.98 | 110.80 |
| 1 | 1G | 99 | C | C6-N1-C2 | -5.46 | 118.11 | 120.30 |
| 1 | 1G | 358 | U | C4-C5-C6 | 5.46 | 122.98 | 119.70 |
| 26 | 14 | 590 | A | C5-N7-C8 | -5.46 | 101.17 | 103.90 |
| 26 | 14 | 998 | C | C4-C5-C6 | -5.46 | 114.67 | 117.40 |
| 26 | 14 | 2046 | G | C8-N9-C1' | -5.46 | 119.90 | 127.00 |
| 26 | 14 | 2077 | A | C2-N3-C4 | 5.46 | 113.33 | 110.60 |
| 26 | 14 | 2088 | G | C5-C6-N1 | -5.46 | 108.77 | 111.50 |
| 26 | 14 | 2272 | U | P-O3'-C3' | 5.46 | 126.25 | 119.70 |
| 26 | 14 | 2844 | G | OP2-P-O3' | 5.46 | 117.22 | 105.20 |
| 37 | 35 | 62 | LEU | CB-CG-CD2 | -5.46 | 101.72 | 111.00 |
| 1 | 13 | 952 | U | O5'-P-OP1 | -5.46 | 100.79 | 105.70 |
| 26 | 1H | 183 | C | C5-C6-N1 | -5.46 | 118.27 | 121.00 |
| 26 | 1H | 741 | G | N9-C4-C5 | 5.46 | 107.58 | 105.40 |
| 26 | 1H | 1271 | G | O5'-P-OP2 | -5.46 | 100.79 | 105.70 |
| 26 | 1H | 1364 | G | N3-C4-C5 | -5.46 | 125.87 | 128.60 |
| 26 | 1H | 1731 | G | O5'-P-OP1 | -5.46 | 100.79 | 105.70 |
| 26 | 1H | 2063 | C | N3-C2-O2 | 5.46 | 125.72 | 121.90 |
| 26 | 1H | 2438 | U | O5'-P-OP2 | -5.46 | 100.79 | 105.70 |
| 26 | 1H | 2877 | G | O5'-P-OP2 | -5.46 | 100.79 | 105.70 |
| 26 | 14 | 2528 | U | C6-N1-C2 | -5.46 | 117.72 | 121.00 |
| 26 | 14 | 2576 | G | N9-C4-C5 | -5.46 | 103.22 | 105.40 |
| 34 | 69 | 131 | LYS | C-N-CA | 5.46 | 144.93 | 122.00 |
| 1 | 13 | 685 | G | C8-N9-C4 | -5.46 | 104.22 | 106.40 |
| 1 | 13 | 1365 | G | OP1-P-OP2 | -5.46 | 111.41 | 119.60 |
| 26 | 1H | 107 | C | N1-C2-N3 | -5.46 | 115.38 | 119.20 |
| 26 | 1H | 583 | G | C5-C6-N1 | 5.46 | 114.23 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 806 | C | N1-C2-O2 | 5.46 | 122.17 | 118.90 |
| 26 | 1H | 870 | A | OP2-P-O3' | -5.46 | 93.19 | 105.20 |
| 26 | 1H | 975 | G | C6-C5-N7 | 5.46 | 133.68 | 130.40 |
| 26 | 1H | 2016 | U | C6-N1-C2 | 5.46 | 124.28 | 121.00 |
| 26 | 1H | 2354 | G | OP1-P-O3' | 5.46 | 117.21 | 105.20 |
| 26 | 1H | 2544 | G | N3-C2-N2 | -5.46 | 116.08 | 119.90 |
| 26 | 1H | 2550 | G | C6-N1-C2 | -5.46 | 121.83 | 125.10 |
| 26 | 1H | 2727 | G | C8-N9-C4 | -5.46 | 104.22 | 106.40 |
| 1 | 1G | 231 | G | C4-C5-C6 | 5.46 | 122.08 | 118.80 |
| 1 | 1G | 294 | U | OP1-P-OP2 | 5.46 | 127.79 | 119.60 |
| 1 | 1G | 314 | C | C5-C6-N1 | -5.46 | 118.27 | 121.00 |
| 1 | 1G | 363 | A | C4-C5-N7 | -5.46 | 107.97 | 110.70 |
| 1 | 1G | 547 | A | C5-C6-N1 | -5.46 | 114.97 | 117.70 |
| 1 | 1G | 548 | G | OP1-P-OP2 | 5.46 | 127.79 | 119.60 |
| 1 | 1G | 1187 | G | O5'-P-OP2 | 5.46 | 117.25 | 110.70 |
| 1 | 1G | 1467 | G | N1-C6-O6 | 5.46 | 123.18 | 119.90 |
| 1 | 1G | 1483 | A | C4-C5-N7 | 5.46 | 113.43 | 110.70 |
| 23 | 2L | 68 | C | N3-C4-C5 | 5.46 | 124.08 | 121.90 |
| 26 | 14 | 246 | C | OP1-P-OP2 | 5.46 | 127.79 | 119.60 |
| 26 | 14 | 475 | U | C6-N1-C2 | -5.46 | 117.72 | 121.00 |
| 26 | 14 | 777 | A | N1-C2-N3 | 5.46 | 132.03 | 129.30 |
| 26 | 14 | 1348 | G | OP1-P-OP2 | -5.46 | 111.41 | 119.60 |
| 26 | 14 | 1461 | G | C2-N3-C4 | -5.46 | 109.17 | 111.90 |
| 26 | 14 | 1586 | A | OP2-P-O3' | 5.46 | 117.21 | 105.20 |
| 26 | 14 | 2713 | A | C2-N3-C4 | -5.46 | 107.87 | 110.60 |
| 26 | 14 | 2762 | G | C4-C5-N7 | 5.46 | 112.98 | 110.80 |
| 26 | 14 | 2771 | C | O5'-P-OP2 | 5.46 | 117.25 | 110.70 |
| 47 | D5 | 163 | LEU | CA-CB-CG | 5.46 | 127.86 | 115.30 |
| 1 | 13 | 540 | G | OP2-P-O3' | 5.46 | 117.20 | 105.20 |
| 1 | 13 | 570 | G | N1-C2-N3 | 5.46 | 127.17 | 123.90 |
| 1 | 13 | 668 | G | C2-N3-C4 | 5.46 | 114.63 | 111.90 |
| 22 | 1K | 63 | U | C5-C6-N1 | 5.46 | 125.43 | 122.70 |
| 26 | 1H | 273(A) | G | C5-C6-N1 | -5.46 | 108.77 | 111.50 |
| 26 | 1H | 648 | G | N1-C2-N3 | 5.46 | 127.17 | 123.90 |
| 26 | 1H | 1258 | C | OP1-P-OP2 | 5.46 | 127.78 | 119.60 |
| 26 | 1H | 1681 | G | C8-N9-C4 | 5.46 | 108.58 | 106.40 |
| 26 | 1H | 2349 | G | N3-C4-C5 | -5.46 | 125.87 | 128.60 |
| 1 | 1G | 894 | G | C8-N9-C4 | -5.46 | 104.22 | 106.40 |
| 26 | 14 | 1558 | A | O5'-P-OP2 | 5.46 | 117.25 | 110.70 |
| 26 | 14 | 1786 | A | OP2-P-O3' | 5.46 | 117.20 | 105.20 |
| 26 | 14 | 1973 | G | N1-C2-N2 | -5.46 | 111.29 | 116.20 |
| 26 | 14 | 2407 | G | C5-N7-C8 | -5.46 | 101.57 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2437 | U | N1-C2-N3 | 5.46 | 118.17 | 114.90 |
| 26 | 14 | 2525 | G | N1-C6-O6 | 5.46 | 123.17 | 119.90 |
| 26 | 14 | 2835 | A | C8-N9-C4 | 5.46 | 107.98 | 105.80 |
| 1 | 13 | 476 | G | C8-N9-C4 | -5.46 | 104.22 | 106.40 |
| 1 | 13 | 629 | G | C8-N9-C4 | -5.46 | 104.22 | 106.40 |
| 1 | 13 | 942 | G | C5-C6-O6 | -5.46 | 125.33 | 128.60 |
| 26 | 1H | 1249 | U | N3-C4-C5 | 5.46 | 117.87 | 114.60 |
| 26 | 1H | 1690 | A | C4-C5-C6 | 5.46 | 119.73 | 117.00 |
| 23 | 2L | 4 | G | N7-C8-N9 | -5.46 | 110.37 | 113.10 |
| 26 | 14 | 684 | G | C5-C6-N1 | 5.46 | 114.23 | 111.50 |
| 26 | 14 | 795 | C | N3-C4-N4 | -5.46 | 114.18 | 118.00 |
| 26 | 14 | 1521 | G | C6-C5-N7 | -5.46 | 127.13 | 130.40 |
| 26 | 14 | 2002 | G | N3-C4-C5 | 5.46 | 131.33 | 128.60 |
| 26 | 14 | 2572 | A | N9-C4-C5 | -5.46 | 103.62 | 105.80 |
| 35 | 15 | 48 | MET | CB-CG-SD | 5.46 | 128.76 | 112.40 |
| 1 | 13 | 238 | G | C5-C6-O6 | 5.45 | 131.87 | 128.60 |
| 1 | 13 | 905 | U | N3-C2-O2 | -5.45 | 118.38 | 122.20 |
| 1 | 13 | 1183 | A | OP1-P-O3' | 5.45 | 117.20 | 105.20 |
| 1 | 13 | 1268 | A | C5-N7-C8 | 5.45 | 106.63 | 103.90 |
| 26 | 1H | 751 | A | N7-C8-N9 | -5.45 | 111.07 | 113.80 |
| 26 | 1H | 1321 | A | O4'-C1'-N9 | -5.45 | 103.84 | 108.20 |
| 26 | 1H | 1360 | A | O5'-P-OP2 | 5.45 | 117.25 | 110.70 |
| 26 | 1H | 1377 | G | O5'-P-OP2 | -5.45 | 100.79 | 105.70 |
| 26 | 1H | 1974 | C | N1-C2-N3 | -5.45 | 115.38 | 119.20 |
| 26 | 1H | 2627 | G | C4-C5-N7 | 5.45 | 112.98 | 110.80 |
| 1 | 1G | 260 | G | C2-N3-C4 | -5.45 | 109.17 | 111.90 |
| 1 | 1G | 353 | A | N1-C2-N3 | -5.45 | 126.57 | 129.30 |
| 23 | 2L | 28 | U | N3-C2-O2 | -5.45 | 118.38 | 122.20 |
| 26 | 14 | 623 | G | C2-N3-C4 | 5.45 | 114.63 | 111.90 |
| 26 | 14 | 846 | C | C6-N1-C2 | -5.45 | 118.12 | 120.30 |
| 26 | 14 | 940 | G | O5'-P-OP2 | -5.45 | 100.79 | 105.70 |
| 26 | 14 | 1198 | U | OP1-P-OP2 | -5.45 | 111.42 | 119.60 |
| 26 | 14 | 2001 | A | C6-C5-N7 | -5.45 | 128.48 | 132.30 |
| 26 | 14 | 2266 | A | C8-N9-C4 | 5.45 | 107.98 | 105.80 |
| 26 | 14 | 2406 | U | OP1-P-OP2 | 5.45 | 127.78 | 119.60 |
| 31 | 39 | 45 | ARG | NE-CZ-NH1 | -5.45 | 117.57 | 120.30 |
| 1 | 13 | 656 | C | C2-N3-C4 | 5.45 | 122.63 | 119.90 |
| 1 | 13 | 792 | A | N7-C8-N9 | -5.45 | 111.07 | 113.80 |
| 1 | 13 | 895 | G | C6-N1-C2 | -5.45 | 121.83 | 125.10 |
| 26 | 1H | 1332 | G | C8-N9-C4 | -5.45 | 104.22 | 106.40 |
| 26 | 1H | 1412 | A | N7-C8-N9 | 5.45 | 116.53 | 113.80 |
| 26 | 1H | 2167 | U | O4'-C1'-N1 | 5.45 | 112.56 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2600 | A | OP1-P-O3' | 5.45 | 117.19 | 105.20 |
| 27 | 16 | 78 | A | OP2-P-O3' | 5.45 | 117.19 | 105.20 |
| 1 | 1G | 585 | G | N3-C4-N9 | 5.45 | 129.27 | 126.00 |
| 26 | 14 | 1017 | G | N1-C6-O6 | 5.45 | 123.17 | 119.90 |
| 26 | 14 | 1427 | A | C4-C5-N7 | -5.45 | 107.97 | 110.70 |
| 26 | 14 | 1476 | C | C2-N1-C1' | -5.45 | 112.80 | 118.80 |
| 26 | 14 | 1685 | C | C2-N3-C4 | -5.45 | 117.17 | 119.90 |
| 26 | 14 | 2035 | G | OP1-P-OP2 | 5.45 | 127.78 | 119.60 |
| 1 | 13 | 392 | G | C2-N3-C4 | -5.45 | 109.17 | 111.90 |
| 1 | 13 | 416 | G | C8-N9-C4 | -5.45 | 104.22 | 106.40 |
| 1 | 13 | 422 | C | O5'-P-OP2 | -5.45 | 100.79 | 105.70 |
| 1 | 13 | 519 | C | O5'-P-OP2 | -5.45 | 100.79 | 105.70 |
| 1 | 13 | 998 | G | C5-C6-O6 | 5.45 | 131.87 | 128.60 |
| 1 | 13 | 1413 | A | C6-N1-C2 | -5.45 | 115.33 | 118.60 |
| 23 | 2K | 74 | A | N9-C4-C5 | -5.45 | 103.62 | 105.80 |
| 26 | 1H | 121 | G | C2-N3-C4 | 5.45 | 114.62 | 111.90 |
| 26 | 1H | 241 | A | C5-C6-N6 | -5.45 | 119.34 | 123.70 |
| 26 | 1H | 442 | G | C5-C6-O6 | 5.45 | 131.87 | 128.60 |
| 26 | 1H | 682 | G | N1-C6-O6 | -5.45 | 116.63 | 119.90 |
| 26 | 1H | 693 | C | C2-N3-C4 | -5.45 | 117.17 | 119.90 |
| 26 | 1H | 802 | A | OP2-P-O3' | 5.45 | 117.19 | 105.20 |
| 26 | 1H | 989 | G | C4-C5-C6 | 5.45 | 122.07 | 118.80 |
| 26 | 1H | 1354 | A | C5-C6-N1 | 5.45 | 120.42 | 117.70 |
| 26 | 1H | 1419 | A | OP2-P-O3' | 5.45 | 117.19 | 105.20 |
| 26 | 1H | 2014 | A | C4-C5-N7 | 5.45 | 113.42 | 110.70 |
| 26 | 1H | 2554 | U | N3-C4-C5 | 5.45 | 117.87 | 114.60 |
| 48 | I8 | 25 | ARG | NE-CZ-NH1 | 5.45 | 123.03 | 120.30 |
| 1 | 1G | 509 | A | N9-C1'-C2' | -5.45 | 106.00 | 112.00 |
| 1 | 1G | 673 | G | C8-N9-C4 | 5.45 | 108.58 | 106.40 |
| 26 | 14 | 123 | G | C8-N9-C4 | 5.45 | 108.58 | 106.40 |
| 26 | 14 | 222 | A | O5'-P-OP1 | 5.45 | 117.24 | 110.70 |
| 26 | 14 | 243 | U | C6-N1-C2 | -5.45 | 117.73 | 121.00 |
| 26 | 14 | 577 | G | N3-C4-C5 | -5.45 | 125.88 | 128.60 |
| 26 | 14 | 1646 | C | C2-N3-C4 | -5.45 | 117.17 | 119.90 |
| 1 | 13 | 136 | C | C6-N1-C2 | 5.45 | 122.48 | 120.30 |
| 1 | 13 | 629 | G | N9-C4-C5 | 5.45 | 107.58 | 105.40 |
| 1 | 13 | 1520 | G | N1-C2-N2 | -5.45 | 111.30 | 116.20 |
| 26 | 1H | 59 | U | C5-C4-O4 | 5.45 | 129.17 | 125.90 |
| 26 | 1H | 488 | G | C2-N3-C4 | -5.45 | 109.18 | 111.90 |
| 26 | 1H | 1133 | U | C2-N3-C4 | -5.45 | 123.73 | 127.00 |
| 26 | 1H | 1683 | C | N1-C2-N3 | 5.45 | 123.01 | 119.20 |
| 26 | 1H | 1823 | G | C8-N9-C4 | -5.45 | 104.22 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1830 | C | N1-C2-O2 | -5.45 | 115.63 | 118.90 |
| 26 | 1H | 1956 | U | C4-C5-C6 | 5.45 | 122.97 | 119.70 |
| 26 | 1H | 2405 | G | O5'-P-OP2 | -5.45 | 100.80 | 105.70 |
| 26 | 1H | 2711 | A | N3-C4-C5 | 5.45 | 130.61 | 126.80 |
| 26 | 1H | 2741 | A | N7-C8-N9 | -5.45 | 111.08 | 113.80 |
| 1 | 1G | 1087 | G | N1-C6-O6 | 5.45 | 123.17 | 119.90 |
| 1 | 1G | 1349 | A | C5-C6-N1 | 5.45 | 120.42 | 117.70 |
| 26 | 14 | 1424 | G | C2-N3-C4 | -5.45 | 109.17 | 111.90 |
| 26 | 14 | 2644 | G | C5-N7-C8 | -5.45 | 101.58 | 104.30 |
| 1 | 13 | 242 | C | OP2-P-O3' | -5.45 | 93.22 | 105.20 |
| 26 | 1H | 30 | G | OP1-P-OP2 | -5.45 | 111.43 | 119.60 |
| 26 | 1H | 500 | G | O5'-P-OP1 | -5.45 | 100.80 | 105.70 |
| 26 | 1H | 869 | G | C2-N3-C4 | -5.45 | 109.18 | 111.90 |
| 26 | 1H | 1591 | G | N3-C4-C5 | 5.45 | 131.32 | 128.60 |
| 26 | 1H | 2362 | G | C2-N3-C4 | -5.45 | 109.18 | 111.90 |
| 26 | 14 | 1354 | A | C5-C6-N1 | 5.45 | 120.42 | 117.70 |
| 26 | 14 | 1497 | U | O5'-P-OP1 | -5.45 | 100.80 | 105.70 |
| 26 | 14 | 1712 | C | O5'-P-OP2 | 5.45 | 117.24 | 110.70 |
| 26 | 14 | 1996 | C | N3-C4-C5 | -5.45 | 119.72 | 121.90 |
| 1 | 13 | 523 | A | C5-C6-N1 | -5.45 | 114.98 | 117.70 |
| 1 | 13 | 543 | C | N1-C2-O2 | -5.45 | 115.63 | 118.90 |
| 26 | 1H | 217 | G | N3-C4-N9 | -5.45 | 122.73 | 126.00 |
| 26 | 1H | 246 | C | O5'-P-OP2 | -5.45 | 100.80 | 105.70 |
| 26 | 1H | 270(K) | C | N3-C2-O2 | -5.45 | 118.09 | 121.90 |
| 26 | 1H | 610 | C | C2-N1-C1' | -5.45 | 112.81 | 118.80 |
| 26 | 1H | 765 | G | N3-C4-N9 | -5.45 | 122.73 | 126.00 |
| 26 | 1H | 1256 | G | C5-C6-O6 | 5.45 | 131.87 | 128.60 |
| 26 | 1H | 2297 | C | N1-C2-O2 | -5.45 | 115.63 | 118.90 |
| 26 | 1H | 2454 | G | N1-C6-O6 | -5.45 | 116.63 | 119.90 |
| 1 | 1G | 779 | C | C6-N1-C2 | -5.45 | 118.12 | 120.30 |
| 1 | 1G | 1420 | C | O5'-P-OP1 | -5.45 | 100.80 | 105.70 |
| 26 | 14 | 102 | G | C8-N9-C1' | 5.45 | 134.08 | 127.00 |
| 26 | 14 | 834 | C | N1-C2-N3 | 5.45 | 123.01 | 119.20 |
| 26 | 14 | 1440 | G | N7-C8-N9 | -5.45 | 110.38 | 113.10 |
| 26 | 14 | 1597 | A | OP1-P-OP2 | 5.45 | 127.77 | 119.60 |
| 26 | 14 | 1768 | U | C4-C5-C6 | -5.45 | 116.43 | 119.70 |
| 26 | 14 | 1935 | G | C5-N7-C8 | -5.45 | 101.58 | 104.30 |
| 26 | 14 | 2413 | G | C6-C5-N7 | -5.45 | 127.13 | 130.40 |
| 26 | 14 | 2607 | G | OP1-P-O3' | 5.45 | 117.18 | 105.20 |
| 26 | 14 | 2736 | G | C2-N3-C4 | -5.45 | 109.18 | 111.90 |
| 1 | 13 | 1048 | G | C5-N7-C8 | -5.44 | 101.58 | 104.30 |
| 26 | 1H | 610 | C | C5-C4-N4 | 5.44 | 124.01 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1569 | A | O5'-P-OP2 | -5.44 | 100.80 | 105.70 |
| 26 | 1H | 2545 | G | OP1-P-OP2 | 5.44 | 127.77 | 119.60 |
| 1 | 1G | 1204 | A | C8-N9-C4 | -5.44 | 103.62 | 105.80 |
| 26 | 14 | 1590 | U | N3-C4-C5 | -5.44 | 111.33 | 114.60 |
| 26 | 14 | 2589 | A | C6-C5-N7 | -5.44 | 128.49 | 132.30 |
| 1 | 13 | 571 | U | C5-C4-O4 | -5.44 | 122.63 | 125.90 |
| 1 | 13 | 608 | A | C5-N7-C8 | -5.44 | 101.18 | 103.90 |
| 1 | 13 | 767 | A | C8-N9-C4 | 5.44 | 107.98 | 105.80 |
| 1 | 13 | 800 | G | C4-C5-C6 | 5.44 | 122.06 | 118.80 |
| 1 | 13 | 824 | C | OP1-P-OP2 | -5.44 | 111.44 | 119.60 |
| 1 | 13 | 1059 | C | C5-C6-N1 | 5.44 | 123.72 | 121.00 |
| 26 | 1H | 1426 | G | C2-N3-C4 | -5.44 | 109.18 | 111.90 |
| 26 | 1H | 2082 | A | N1-C6-N6 | -5.44 | 115.33 | 118.60 |
| 1 | 1G | 678 | U | N1-C2-N3 | 5.44 | 118.17 | 114.90 |
| 1 | 1G | 742 | G | C5-N7-C8 | -5.44 | 101.58 | 104.30 |
| 1 | 1G | 881 | G | C2-N3-C4 | -5.44 | 109.18 | 111.90 |
| 1 | 1G | 1473 | A | C5-N7-C8 | -5.44 | 101.18 | 103.90 |
| 57 | 3L | 48 | C | C5-C4-N4 | -5.44 | 116.39 | 120.20 |
| 26 | 14 | 55 | G | C6-N1-C2 | -5.44 | 121.83 | 125.10 |
| 26 | 14 | 242 | G | C5-C6-N1 | 5.44 | 114.22 | 111.50 |
| 26 | 14 | 472 | A | C8-N9-C4 | -5.44 | 103.62 | 105.80 |
| 26 | 14 | 980 | A | C8-N9-C4 | 5.44 | 107.98 | 105.80 |
| 26 | 14 | 1485 | G | C2-N3-C4 | -5.44 | 109.18 | 111.90 |
| 26 | 14 | 1514 | U | N1-C2-N3 | 5.44 | 118.17 | 114.90 |
| 26 | 14 | 1682 | G | OP1-P-O3' | 5.44 | 117.17 | 105.20 |
| 26 | 14 | 1904 | G | C2-N3-C4 | 5.44 | 114.62 | 111.90 |
| 26 | 14 | 2264 | C | N1-C2-O2 | -5.44 | 115.63 | 118.90 |
| 26 | 14 | 2337 | G | C4-C5-N7 | 5.44 | 112.98 | 110.80 |
| 26 | 14 | 2777 | G | C4-C5-C6 | 5.44 | 122.06 | 118.80 |
| 26 | 14 | 2866 | U | OP1-P-O3' | 5.44 | 117.17 | 105.20 |
| 1 | 13 | 994 | A | C2-N3-C4 | 5.44 | 113.32 | 110.60 |
| 23 | 2K | 41 | C | N3-C2-O2 | -5.44 | 118.09 | 121.90 |
| 23 | 2K | 70 | C | O5'-P-OP1 | 5.44 | 117.23 | 110.70 |
| 26 | 1H | 126 | A | OP1-P-OP2 | 5.44 | 127.76 | 119.60 |
| 26 | 1H | 363(E) | U | N3-C4-O4 | 5.44 | 123.21 | 119.40 |
| 26 | 1H | 371 | A | C6-N1-C2 | -5.44 | 115.34 | 118.60 |
| 26 | 1H | 1323 | U | C4-C5-C6 | 5.44 | 122.96 | 119.70 |
| 26 | 1H | 2215 | G | C5-C6-N1 | -5.44 | 108.78 | 111.50 |
| 26 | 1H | 2376 | A | N1-C6-N6 | 5.44 | 121.86 | 118.60 |
| 26 | 1H | 2605 | U | C2-N3-C4 | 5.44 | 130.26 | 127.00 |
| 1 | 1G | 337 | C | N3-C4-N4 | 5.44 | 121.81 | 118.00 |
| 1 | 1G | 917 | G | C8-N9-C4 | 5.44 | 108.58 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 14 | 609 | A | OP2-P-O3' | 5.44 | 117.17 | 105.20 |
| 26 | 14 | 668 | G | N3-C2-N2 | -5.44 | 116.09 | 119.90 |
| 26 | 14 | 2560 | C | N1-C2-O2 | -5.44 | 115.64 | 118.90 |
| 26 | 14 | 2708 | G | N1-C2-N3 | 5.44 | 127.16 | 123.90 |
| 1 | 13 | 5 | U | C4'-C3'-C2' | -5.44 | 97.16 | 102.60 |
| 1 | 13 | 606 | G | N3-C4-N9 | 5.44 | 129.26 | 126.00 |
| 26 | 1H | 631 | A | OP2-P-O3' | -5.44 | 93.23 | 105.20 |
| 26 | 1H | 1512 | G | C4-C5-C6 | 5.44 | 122.06 | 118.80 |
| 1 | 1G | 442 | C | C5-C6-N1 | 5.44 | 123.72 | 121.00 |
| 1 | 1G | 1139 | G | N3-C4-N9 | -5.44 | 122.74 | 126.00 |
| 1 | 1G | 1529 | G | C8-N9-C4 | -5.44 | 104.22 | 106.40 |
| 26 | 14 | 762 | U | N1-C2-N3 | -5.44 | 111.64 | 114.90 |
| 26 | 14 | 2058 | A | N1-C2-N3 | 5.44 | 132.02 | 129.30 |
| 1 | 13 | 68 | G | N3-C4-C5 | -5.44 | 125.88 | 128.60 |
| 1 | 13 | 1523 | G | C6-N1-C2 | -5.44 | 121.84 | 125.10 |
| 26 | 1H | 176 | G | C2-N3-C4 | -5.44 | 109.18 | 111.90 |
| 26 | 1H | 754 | C | OP2-P-O3' | 5.44 | 117.16 | 105.20 |
| 26 | 1H | 941 | A | N1-C2-N3 | -5.44 | 126.58 | 129.30 |
| 26 | 1H | 1355 | G | C8-N9-C4 | -5.44 | 104.22 | 106.40 |
| 26 | 1H | 1741 | C | O5'-P-OP1 | 5.44 | 117.22 | 110.70 |
| 26 | 1H | 1815 | A | N7-C8-N9 | -5.44 | 111.08 | 113.80 |
| 26 | 1H | 1839 | G | C8-N9-C4 | 5.44 | 108.58 | 106.40 |
| 26 | 1H | 1940 | U | N1-C2-O2 | -5.44 | 118.99 | 122.80 |
| 26 | 1H | 2410 | G | C4-C5-N7 | 5.44 | 112.97 | 110.80 |
| 26 | 1H | 2624 | G | N1-C2-N2 | -5.44 | 111.31 | 116.20 |
| 37 | 78 | 50 | ARG | NE-CZ-NH2 | 5.44 | 123.02 | 120.30 |
| 1 | 1G | 922 | G | C8-N9-C4 | -5.44 | 104.22 | 106.40 |
| 26 | 14 | 459 | U | N3-C2-O2 | -5.44 | 118.39 | 122.20 |
| 26 | 14 | 536 | A | N9-C4-C5 | 5.44 | 107.97 | 105.80 |
| 26 | 14 | 1394 | U | C5-C6-N1 | 5.44 | 125.42 | 122.70 |
| 26 | 14 | 1453 | A | C5-C6-N6 | -5.44 | 119.35 | 123.70 |
| 26 | 14 | 1892 | C | N1-C2-O2 | -5.44 | 115.64 | 118.90 |
| 26 | 14 | 1950 | G | N9-C1'-C2' | 5.44 | 121.07 | 114.00 |
| 26 | 14 | 1995 | U | N1-C2-N3 | 5.44 | 118.16 | 114.90 |
| 26 | 14 | 2237 | G | C5-N7-C8 | -5.44 | 101.58 | 104.30 |
| 1 | 13 | 1523 | G | C8-N9-C4 | 5.44 | 108.58 | 106.40 |
| 23 | 2K | 24 | C | C5-C6-N1 | -5.44 | 118.28 | 121.00 |
| 26 | 1H | 954 | G | N3-C4-N9 | 5.44 | 129.26 | 126.00 |
| 26 | 1H | 2458 | G | C4-C5-C6 | 5.44 | 122.06 | 118.80 |
| 1 | 1G | 1190 | G | O5'-P-OP2 | 5.44 | 117.22 | 110.70 |
| 26 | 14 | 2242 | G | C2-N3-C4 | 5.44 | 114.62 | 111.90 |
| 26 | 14 | 2504 | U | C5-C6-N1 | 5.44 | 125.42 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 37 | 35 | 19 | VAL | CG1-CB-CG2 | 5.44 | 119.60 | 110.90 |
| 1 | 13 | 37 | U | O5'-P-OP1 | 5.43 | 117.22 | 110.70 |
| 1 | 13 | 354 | G | C8-N9-C4 | -5.43 | 104.23 | 106.40 |
| 1 | 13 | 1371 | G | O5'-P-OP1 | -5.43 | 100.81 | 105.70 |
| 26 | 1H | 831 | G | C8-N9-C1' | -5.43 | 119.94 | 127.00 |
| 26 | 1H | 1999 | C | OP2-P-O3' | 5.43 | 117.15 | 105.20 |
| 1 | 1G | 906 | G | OP1-P-OP2 | 5.43 | 127.75 | 119.60 |
| 1 | 1G | 1427 | U | C5-C6-N1 | -5.43 | 119.98 | 122.70 |
| 26 | 14 | 530 | G | C5-C6-N1 | -5.43 | 108.78 | 111.50 |
| 26 | 14 | 935 | C | N3-C4-C5 | 5.43 | 124.07 | 121.90 |
| 26 | 14 | 1197 | G | OP2-P-O3' | 5.43 | 117.15 | 105.20 |
| 26 | 14 | 2039 | C | OP1-P-OP2 | -5.43 | 111.45 | 119.60 |
| 26 | 14 | 2703 | C | O5'-P-OP2 | -5.43 | 100.81 | 105.70 |
| 26 | 14 | 2763 | G | N1-C6-O6 | -5.43 | 116.64 | 119.90 |
| 27 | 1J | 89 | G | N3-C2-N2 | 5.43 | 123.70 | 119.90 |
| 1 | 13 | 323 | U | N3-C2-O2 | -5.43 | 118.40 | 122.20 |
| 1 | 13 | 704 | A | O5'-P-OP1 | -5.43 | 100.81 | 105.70 |
| 1 | 13 | 965 | A | C5-C6-N6 | -5.43 | 119.35 | 123.70 |
| 26 | 1H | 270(E) | G | C2-N3-C4 | -5.43 | 109.18 | 111.90 |
| 26 | 1H | 333 | G | N3-C4-C5 | -5.43 | 125.88 | 128.60 |
| 26 | 1H | 408 | G | N7-C8-N9 | -5.43 | 110.38 | 113.10 |
| 26 | 1H | 645 | C | C2-N3-C4 | 5.43 | 122.62 | 119.90 |
| 26 | 1H | 918 | A | N7-C8-N9 | 5.43 | 116.52 | 113.80 |
| 26 | 1H | 1616 | A | C6-N1-C2 | -5.43 | 115.34 | 118.60 |
| 26 | 1H | 1889 | A | C4-C5-N7 | 5.43 | 113.42 | 110.70 |
| 26 | 1H | 1994 | C | C4-C5-C6 | 5.43 | 120.12 | 117.40 |
| 1 | 1G | 761 | G | N9-C4-C5 | -5.43 | 103.23 | 105.40 |
| 1 | 1G | 927 | G | C6-N1-C2 | 5.43 | 128.36 | 125.10 |
| 1 | 1G | 1420 | C | C5-C6-N1 | 5.43 | 123.72 | 121.00 |
| 26 | 14 | 137(A) | G | N1-C2-N2 | 5.43 | 121.09 | 116.20 |
| 26 | 14 | 270(B) | A | C5-C6-N6 | -5.43 | 119.35 | 123.70 |
| 26 | 14 | 413 | C | C4-C5-C6 | -5.43 | 114.68 | 117.40 |
| 26 | 14 | 700 | G | N1-C6-O6 | -5.43 | 116.64 | 119.90 |
| 26 | 14 | 995 | C | C2-N3-C4 | 5.43 | 122.62 | 119.90 |
| 26 | 14 | 2262 | U | O4'-C1'-N1 | 5.43 | 112.55 | 108.20 |
| 22 | 1K | 35 | U | O5'-P-OP1 | -5.43 | 100.81 | 105.70 |
| 26 | 1H | 520 | G | OP1-P-OP2 | -5.43 | 111.45 | 119.60 |
| 26 | 1H | 1123 | C | C4-C5-C6 | 5.43 | 120.12 | 117.40 |
| 26 | 1H | 1438 | U | C2-N3-C4 | 5.43 | 130.26 | 127.00 |
| 26 | 1H | 1780 | A | C2-N3-C4 | -5.43 | 107.89 | 110.60 |
| 26 | 1H | 2863 | C | N3-C4-C5 | 5.43 | 124.07 | 121.90 |
| 1 | 1G | 251 | G | O4'-C1'-N9 | -5.43 | 103.86 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 678 | U | N1-C2-O2 | -5.43 | 119.00 | 122.80 |
| 26 | 14 | 327 | G | N1-C2-N3 | 5.43 | 127.16 | 123.90 |
| 26 | 14 | 1589 | C | OP1-P-OP2 | -5.43 | 111.45 | 119.60 |
| 1 | 13 | 523 | A | C4-C5-N7 | 5.43 | 113.42 | 110.70 |
| 1 | 13 | 761 | G | N3-C2-N2 | 5.43 | 123.70 | 119.90 |
| 1 | 13 | 878 | G | N1-C2-N3 | -5.43 | 120.64 | 123.90 |
| 26 | 1H | 197 | A | N3-C4-N9 | -5.43 | 123.06 | 127.40 |
| 26 | 1H | 866 | A | C8-N9-C1' | -5.43 | 117.93 | 127.70 |
| 26 | 1H | 1109 | C | P-O3'-C3' | 5.43 | 126.22 | 119.70 |
| 26 | 1H | 1122 | G | C5-C6-O6 | -5.43 | 125.34 | 128.60 |
| 26 | 1H | 1336 | A | OP1-P-O3' | 5.43 | 117.14 | 105.20 |
| 26 | 1H | 1451 | C | C4-C5-C6 | 5.43 | 120.11 | 117.40 |
| 26 | 1H | 1727 | U | C5-C4-O4 | 5.43 | 129.16 | 125.90 |
| 26 | 1H | 1729 | A | O4'-C1'-N9 | 5.43 | 112.54 | 108.20 |
| 26 | 1H | 2384 | G | N1-C6-O6 | -5.43 | 116.64 | 119.90 |
| 26 | 1H | 2585 | U | OP2-P-O3' | 5.43 | 117.14 | 105.20 |
| 27 | 16 | 32 | C | C5-C6-N1 | -5.43 | 118.28 | 121.00 |
| 1 | 1G | 231 | G | O5'-P-OP2 | -5.43 | 100.81 | 105.70 |
| 1 | 1G | 292 | G | N1-C6-O6 | -5.43 | 116.64 | 119.90 |
| 1 | 1G | 451 | A | N7-C8-N9 | -5.43 | 111.08 | 113.80 |
| 1 | 1G | 513 | C | OP1-P-O3' | 5.43 | 117.14 | 105.20 |
| 1 | 1G | 558 | G | OP2-P-O3' | 5.43 | 117.15 | 105.20 |
| 1 | 1G | 562 | C | N3-C2-O2 | -5.43 | 118.10 | 121.90 |
| 1 | 1G | 1226 | C | C5-C4-N4 | 5.43 | 124.00 | 120.20 |
| 26 | 14 | 11 | G | C5-C6-N1 | -5.43 | 108.78 | 111.50 |
| 26 | 14 | 333 | G | N1-C2-N2 | 5.43 | 121.09 | 116.20 |
| 26 | 14 | 466 | A | N1-C6-N6 | 5.43 | 121.86 | 118.60 |
| 26 | 14 | 609 | A | C5-N7-C8 | -5.43 | 101.19 | 103.90 |
| 26 | 14 | 718 | A | C8-N9-C4 | 5.43 | 107.97 | 105.80 |
| 26 | 14 | 1271 | G | N1-C6-O6 | 5.43 | 123.16 | 119.90 |
| 26 | 14 | 2042 | A | C2-N3-C4 | -5.43 | 107.89 | 110.60 |
| 26 | 14 | 2669 | G | C8-N9-C4 | 5.43 | 108.57 | 106.40 |
| 26 | 14 | 2706 | G | N3-C4-C5 | 5.43 | 131.31 | 128.60 |
| 26 | 14 | 2736 | G | N1-C6-O6 | 5.43 | 123.16 | 119.90 |
| 1 | 13 | 804 | U | OP2-P-O3' | 5.43 | 117.14 | 105.20 |
| 1 | 13 | 876 | G | C8-N9-C4 | 5.43 | 108.57 | 106.40 |
| 1 | 13 | 1072 | G | N1-C2-N3 | 5.43 | 127.16 | 123.90 |
| 1 | 13 | 1322 | C | N3-C2-O2 | 5.43 | 125.70 | 121.90 |
| 26 | 1H | 562 | U | N3-C2-O2 | -5.43 | 118.40 | 122.20 |
| 26 | 1H | 1229 | G | C2-N3-C4 | -5.43 | 109.19 | 111.90 |
| 26 | 1H | 1986 | A | OP1-P-O3' | 5.43 | 117.14 | 105.20 |
| 1 | 1G | 1507 | A | N9-C4-C5 | 5.43 | 107.97 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 447 | A | N1-C2-N3 | 5.43 | 132.01 | 129.30 |
| 26 | 14 | 596 | G | N1-C6-O6 | 5.43 | 123.16 | 119.90 |
| 26 | 14 | 1953 | A | C5-C6-N1 | 5.43 | 120.41 | 117.70 |
| 26 | 14 | 2075 | U | OP2-P-O3' | 5.43 | 117.14 | 105.20 |
| 1 | 13 | 30 | U | OP1-P-OP2 | 5.43 | 127.74 | 119.60 |
| 1 | 13 | 337 | C | OP2-P-O3' | 5.43 | 117.14 | 105.20 |
| 1 | 13 | 1452 | C | P-O3'-C3' | 5.43 | 126.21 | 119.70 |
| 1 | 13 | 1529 | G | C5-C6-O6 | -5.43 | 125.34 | 128.60 |
| 26 | 1H | 29 | U | O5'-P-OP1 | 5.43 | 117.21 | 110.70 |
| 26 | 1H | 957 | A | N9-C4-C5 | 5.43 | 107.97 | 105.80 |
| 26 | 1H | 1214 | A | N1-C6-N6 | 5.43 | 121.86 | 118.60 |
| 26 | 1H | 1859 | A | N1-C6-N6 | -5.43 | 115.34 | 118.60 |
| 26 | 1H | 2418 | A | C5-C6-N1 | 5.43 | 120.41 | 117.70 |
| 1 | 1G | 528 | C | C4-C5-C6 | -5.43 | 114.69 | 117.40 |
| 1 | 1G | 1405 | G | O5'-P-OP2 | -5.43 | 100.82 | 105.70 |
| 26 | 14 | 238 | C | N3-C4-N4 | -5.43 | 114.20 | 118.00 |
| 26 | 14 | 2073 | C | N3-C4-C5 | 5.43 | 124.07 | 121.90 |
| 1 | 13 | 1277 | C | O5'-P-OP1 | -5.42 | 100.82 | 105.70 |
| 26 | 1H | 254 | G | N1-C6-O6 | 5.42 | 123.16 | 119.90 |
| 26 | 1H | 848 | G | C6-N1-C2 | -5.42 | 121.85 | 125.10 |
| 26 | 1H | 1036 | G | N3-C2-N2 | 5.42 | 123.70 | 119.90 |
| 1 | 1G | 515 | G | N3-C4-C5 | 5.42 | 131.31 | 128.60 |
| 1 | 1G | 554 | C | C6-N1-C2 | -5.42 | 118.13 | 120.30 |
| 1 | 1G | 759 | A | C5-N7-C8 | -5.42 | 101.19 | 103.90 |
| 1 | 1G | 819 | A | OP2-P-O3' | 5.42 | 117.14 | 105.20 |
| 57 | 3L | 3 | G | C4-N9-C1' | -5.42 | 119.45 | 126.50 |
| 26 | 14 | 623 | G | N9-C4-C5 | -5.42 | 103.23 | 105.40 |
| 26 | 14 | 1383 | C | O5'-P-OP2 | -5.42 | 100.82 | 105.70 |
| 26 | 14 | 2299 | G | N1-C2-N2 | 5.42 | 121.08 | 116.20 |
| 26 | 14 | 2498 | C | N3-C4-C5 | -5.42 | 119.73 | 121.90 |
| 26 | 14 | 2577 | A | N1-C6-N6 | 5.42 | 121.86 | 118.60 |
| 26 | 1H | 109 | G | C8-N9-C4 | -5.42 | 104.23 | 106.40 |
| 26 | 1H | 2260 | C | O5'-P-OP1 | 5.42 | 117.21 | 110.70 |
| 26 | 1H | 2566 | A | N1-C6-N6 | 5.42 | 121.85 | 118.60 |
| 26 | 1H | 2726 | U | N3-C2-O2 | -5.42 | 118.40 | 122.20 |
| 1 | 1G | 1139 | G | N1-C6-O6 | 5.42 | 123.15 | 119.90 |
| 23 | 2L | 17 | C | N1-C2-O2 | 5.42 | 122.15 | 118.90 |
| 26 | 14 | 461 | C | C4-C5-C6 | 5.42 | 120.11 | 117.40 |
| 26 | 14 | 921 | G | N1-C6-O6 | 5.42 | 123.15 | 119.90 |
| 26 | 14 | 1514 | U | C6-N1-C2 | -5.42 | 117.75 | 121.00 |
| 26 | 14 | 1565 | C | C5-C4-N4 | -5.42 | 116.40 | 120.20 |
| 26 | 14 | 1807 | G | N3-C4-C5 | 5.42 | 131.31 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2291 | U | C4-C5-C6 | 5.42 | 122.95 | 119.70 |
| 37 | 35 | 52 | GLU | C-N-CA | -5.42 | 110.91 | 122.30 |
| 1 | 13 | 866 | C | C6-N1-C1' | 5.42 | 127.31 | 120.80 |
| 24 | 3K | 58 | A | P-O3'-C3' | 5.42 | 126.21 | 119.70 |
| 26 | 1H | 1140 | C | O5'-P-OP1 | 5.42 | 117.20 | 110.70 |
| 26 | 1H | 1186 | G | N9-C4-C5 | 5.42 | 107.57 | 105.40 |
| 26 | 1H | 1601 | G | N3-C4-C5 | 5.42 | 131.31 | 128.60 |
| 26 | 1H | 1620 | G | N9-C4-C5 | -5.42 | 103.23 | 105.40 |
| 26 | 1H | 2415 | G | C5-N7-C8 | -5.42 | 101.59 | 104.30 |
| 26 | 1H | 2456 | C | C5-C6-N1 | -5.42 | 118.29 | 121.00 |
| 26 | 1H | 2621 | A | N1-C6-N6 | -5.42 | 115.35 | 118.60 |
| 1 | 1G | 267 | C | N3-C4-C5 | 5.42 | 124.07 | 121.90 |
| 1 | 1G | 512 | U | C4-C5-C6 | 5.42 | 122.95 | 119.70 |
| 1 | 1G | 1058 | G | OP1-P-O3' | 5.42 | 117.13 | 105.20 |
| 26 | 14 | 198 | C | N3-C4-N4 | 5.42 | 121.80 | 118.00 |
| 26 | 14 | 217 | G | C2-N3-C4 | -5.42 | 109.19 | 111.90 |
| 26 | 14 | 1329 | U | C5-C4-O4 | 5.42 | 129.15 | 125.90 |
| 26 | 14 | 1771 | C | N1-C2-N3 | 5.42 | 123.00 | 119.20 |
| 26 | 14 | 2420 | C | N3-C4-C5 | -5.42 | 119.73 | 121.90 |
| 26 | 14 | 2515 | C | OP1-P-OP2 | -5.42 | 111.47 | 119.60 |
| 26 | 14 | 2863 | C | OP1-P-OP2 | 5.42 | 127.73 | 119.60 |
| 1 | 13 | 1486 | G | C5-N7-C8 | -5.42 | 101.59 | 104.30 |
| 1 | 13 | 1486 | G | OP1-P-OP2 | 5.42 | 127.73 | 119.60 |
| 26 | 1H | 154 | G | C4-C5-N7 | 5.42 | 112.97 | 110.80 |
| 26 | 1H | 713 | G | C5-C6-N1 | -5.42 | 108.79 | 111.50 |
| 1 | 1G | 386 | C | N3-C4-C5 | 5.42 | 124.07 | 121.90 |
| 26 | 14 | 126 | A | O5'-P-OP2 | -5.42 | 100.82 | 105.70 |
| 26 | 14 | 1154 | G | C4-C5-N7 | 5.42 | 112.97 | 110.80 |
| 26 | 14 | 1189 | A | OP2-P-O3' | 5.42 | 117.12 | 105.20 |
| 26 | 14 | 1404 | C | O5'-P-OP1 | -5.42 | 100.82 | 105.70 |
| 26 | 14 | 2378 | A | C8-N9-C4 | 5.42 | 107.97 | 105.80 |
| 27 | 1J | 103 | U | N3-C4-O4 | -5.42 | 115.61 | 119.40 |
| 1 | 13 | 1144 | G | N9-C4-C5 | 5.42 | 107.57 | 105.40 |
| 23 | 2K | 57 | C | N1-C2-N3 | -5.42 | 115.41 | 119.20 |
| 26 | 1H | 454 | A | OP1-P-O3' | -5.42 | 93.28 | 105.20 |
| 26 | 1H | 983 | A | OP2-P-O3' | 5.42 | 117.12 | 105.20 |
| 26 | 1H | 2363 | C | OP2-P-O3' | 5.42 | 117.12 | 105.20 |
| 26 | 1H | 2400 | G | C2-N3-C4 | 5.42 | 114.61 | 111.90 |
| 27 | 16 | 107 | U | OP1-P-OP2 | 5.42 | 127.73 | 119.60 |
| 1 | 1G | 222 | U | C6-N1-C2 | -5.42 | 117.75 | 121.00 |
| 1 | 1G | 276 | G | N7-C8-N9 | -5.42 | 110.39 | 113.10 |
| 26 | 14 | 46 | C | OP2-P-O3' | 5.42 | 117.12 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 636 | G | OP2-P-O3' | 5.42 | 117.12 | 105.20 |
| 26 | 14 | 1265 | A | OP1-P-O3' | 5.42 | 117.12 | 105.20 |
| 26 | 14 | 2001 | A | C4-C5-N7 | 5.42 | 113.41 | 110.70 |
| 26 | 14 | 2336 | A | O5'-P-OP2 | -5.42 | 100.82 | 105.70 |
| 27 | 1J | 52 | A | C6-C5-N7 | 5.42 | 136.09 | 132.30 |
| 1 | 13 | 577 | G | OP2-P-O3' | 5.42 | 117.12 | 105.20 |
| 1 | 13 | 595 | G | C5-C6-O6 | 5.42 | 131.85 | 128.60 |
| 1 | 13 | 1371 | G | N1-C6-O6 | -5.42 | 116.65 | 119.90 |
| 8 | 7E | 26 | VAL | CG1-CB-CG2 | -5.42 | 102.23 | 110.90 |
| 26 | 1H | 195 | A | OP2-P-O3' | 5.42 | 117.12 | 105.20 |
| 26 | 1H | 271(B) | G | P-O3'-C3' | 5.42 | 126.20 | 119.70 |
| 26 | 1H | 680 | G | N1-C2-N3 | 5.42 | 127.15 | 123.90 |
| 26 | 1H | 1002 | G | C5-C6-N1 | -5.42 | 108.79 | 111.50 |
| 26 | 1H | 1545(A) | A | O4'-C1'-N9 | 5.42 | 112.53 | 108.20 |
| 26 | 1H | 1772 | G | C5-N7-C8 | -5.42 | 101.59 | 104.30 |
| 26 | 1H | 1893 | C | N3-C4-N4 | -5.42 | 114.21 | 118.00 |
| 26 | 1H | 2451 | A | C8-N9-C4 | -5.42 | 103.63 | 105.80 |
| 26 | 14 | 742 | G | C4-C5-N7 | -5.42 | 108.63 | 110.80 |
| 26 | 14 | 1293 | C | O5'-P-OP2 | 5.42 | 117.20 | 110.70 |
| 26 | 14 | 1338 | G | N3-C2-N2 | 5.42 | 123.69 | 119.90 |
| 26 | 14 | 1858 | G | P-O3'-C3' | 5.42 | 126.20 | 119.70 |
| 26 | 14 | 2231 | C | C5-C4-N4 | 5.42 | 123.99 | 120.20 |
| 26 | 14 | 2248 | C | C4-C5-C6 | 5.42 | 120.11 | 117.40 |
| 24 | 3K | 36 | U | OP1-P-OP2 | 5.42 | 127.72 | 119.60 |
| 26 | 1H | 360 | G | N9-C4-C5 | -5.42 | 103.23 | 105.40 |
| 26 | 1H | 729 | G | N1-C6-O6 | 5.42 | 123.15 | 119.90 |
| 26 | 1H | 1236 | G | C5-N7-C8 | 5.42 | 107.01 | 104.30 |
| 26 | 1H | 1566 | A | OP1-P-O3' | 5.42 | 117.11 | 105.20 |
| 26 | 1H | 2466 | C | C4-C5-C6 | -5.42 | 114.69 | 117.40 |
| 1 | 1G | 1397 | C | N1-C2-O2 | 5.42 | 122.15 | 118.90 |
| 26 | 14 | 629 | G | OP1-P-OP2 | 5.42 | 127.72 | 119.60 |
| 26 | 14 | 703 | U | C5-C6-N1 | 5.42 | 125.41 | 122.70 |
| 26 | 14 | 960 | A | O5'-P-OP2 | -5.42 | 100.83 | 105.70 |
| 1 | 13 | 767 | A | C4-C5-C6 | 5.41 | 119.71 | 117.00 |
| 1 | 13 | 1509 | C | N3-C4-N4 | -5.41 | 114.21 | 118.00 |
| 26 | 1H | 381 | G | C2-N3-C4 | -5.41 | 109.19 | 111.90 |
| 26 | 1H | 1148 | A | C6-C5-N7 | 5.41 | 136.09 | 132.30 |
| 26 | 1H | 1237 | A | O5'-P-OP1 | -5.41 | 100.83 | 105.70 |
| 26 | 1H | 1423 | G | O5'-P-OP2 | -5.41 | 100.83 | 105.70 |
| 26 | 1H | 1494 | A | C2-N3-C4 | -5.41 | 107.89 | 110.60 |
| 26 | 1H | 1521 | G | C8-N9-C4 | -5.41 | 104.23 | 106.40 |
| 26 | 1H | 2207 | C | N3-C4-C5 | -5.41 | 119.73 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2447 | G | C8-N9-C1' | 5.41 | 134.04 | 127.00 |
| 26 | 1H | 2486 | G | C5-C6-N1 | 5.41 | 114.21 | 111.50 |
| 26 | 1H | 2592 | G | C5-C6-O6 | 5.41 | 131.85 | 128.60 |
| 1 | 1G | 349 | A | C4-C5-N7 | -5.41 | 107.99 | 110.70 |
| 1 | 1G | 1340 | A | C8-N9-C4 | -5.41 | 103.64 | 105.80 |
| 1 | 1G | 1467 | G | N7-C8-N9 | 5.41 | 115.81 | 113.10 |
| 26 | 14 | 32 | C | N3-C2-O2 | 5.41 | 125.69 | 121.90 |
| 26 | 14 | 547 | A | N7-C8-N9 | 5.41 | 116.51 | 113.80 |
| 26 | 14 | 1131 | G | C2-N3-C4 | -5.41 | 109.19 | 111.90 |
| 26 | 14 | 1260 | G | OP2-P-O3' | 5.41 | 117.11 | 105.20 |
| 26 | 14 | 2581 | G | N1-C2-N2 | -5.41 | 111.33 | 116.20 |
| 26 | 14 | 2714 | G | OP1-P-OP2 | -5.41 | 111.48 | 119.60 |
| 24 | 3K | 61 | C | N1-C2-O2 | 5.41 | 122.15 | 118.90 |
| 26 | 1H | 1036 | G | N9-C4-C5 | -5.41 | 103.23 | 105.40 |
| 26 | 1H | 1389 | G | OP1-P-O3' | 5.41 | 117.11 | 105.20 |
| 1 | 1G | 804 | U | N1-C2-N3 | 5.41 | 118.15 | 114.90 |
| 26 | 14 | 522 | G | OP1-P-OP2 | -5.41 | 111.48 | 119.60 |
| 26 | 14 | 1276 | A | O5'-P-OP1 | -5.41 | 100.83 | 105.70 |
| 1 | 13 | 52 | G | C2-N3-C4 | -5.41 | 109.19 | 111.90 |
| 1 | 13 | 529 | G | C5-N7-C8 | -5.41 | 101.59 | 104.30 |
| 1 | 13 | 562 | C | N3-C2-O2 | -5.41 | 118.11 | 121.90 |
| 1 | 13 | 917 | G | N1-C2-N3 | -5.41 | 120.65 | 123.90 |
| 26 | 1H | 17 | G | N3-C2-N2 | 5.41 | 123.69 | 119.90 |
| 26 | 1H | 906 | G | N7-C8-N9 | 5.41 | 115.81 | 113.10 |
| 26 | 1H | 1021 | A | C8-N9-C4 | -5.41 | 103.64 | 105.80 |
| 26 | 1H | 1701 | A | N9-C1'-C2' | -5.41 | 106.05 | 112.00 |
| 26 | 1H | 1899 | G | C8-N9-C4 | -5.41 | 104.23 | 106.40 |
| 26 | 1H | 2051 | A | C6-C5-N7 | -5.41 | 128.51 | 132.30 |
| 26 | 1H | 2649 | U | C4-C5-C6 | 5.41 | 122.95 | 119.70 |
| 1 | 1G | 388 | G | C5-C6-O6 | 5.41 | 131.85 | 128.60 |
| 1 | 1G | 630 | G | C4-C5-N7 | -5.41 | 108.64 | 110.80 |
| 1 | 1G | 1260 | C | C5-C6-N1 | 5.41 | 123.71 | 121.00 |
| 26 | 14 | 604 | G | C2-N3-C4 | 5.41 | 114.61 | 111.90 |
| 26 | 14 | 681 | G | N1-C6-O6 | -5.41 | 116.65 | 119.90 |
| 26 | 14 | 785 | G | C8-N9-C4 | -5.41 | 104.24 | 106.40 |
| 26 | 14 | 1212 | G | N1-C2-N2 | 5.41 | 121.07 | 116.20 |
| 26 | 14 | 2216 | G | O4'-C1'-N9 | -5.41 | 103.87 | 108.20 |
| 26 | 14 | 2460 | U | C5-C4-O4 | -5.41 | 122.65 | 125.90 |
| 26 | 14 | 2873 | A | N3-C4-C5 | 5.41 | 130.59 | 126.80 |
| 1 | 13 | 62 | U | N1-C2-O2 | 5.41 | 126.59 | 122.80 |
| 1 | 13 | 1208 | C | OP1-P-OP2 | 5.41 | 127.71 | 119.60 |
| 26 | 1H | 28 | A | N1-C2-N3 | -5.41 | 126.60 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 1H | 28 | A | O5'-P-OP2 | -5.41 | 100.83 | 105.70 |
| 26 | 1H | 640 | C | N1-C2-O2 | -5.41 | 115.66 | 118.90 |
| 26 | 1H | 1137 | G | C5-C6-O6 | -5.41 | 125.36 | 128.60 |
| 26 | 1H | 1142(A) | A | C4-C5-N7 | 5.41 | 113.40 | 110.70 |
| 26 | 1H | 1281 | G | C5-C6-O6 | -5.41 | 125.35 | 128.60 |
| 26 | 1H | 2075 | U | C2-N1-C1' | -5.41 | 111.21 | 117.70 |
| 26 | 1H | 2089 | U | N3-C2-O2 | 5.41 | 125.99 | 122.20 |
| 26 | 1H | 2099 | U | C5-C6-N1 | 5.41 | 125.40 | 122.70 |
| 26 | 1H | 2262 | U | N3-C4-C5 | -5.41 | 111.36 | 114.60 |
| 26 | 1H | 2783 | G | C6-C5-N7 | -5.41 | 127.16 | 130.40 |
| 1 | 1G | 46 | G | O5'-P-OP2 | -5.41 | 100.83 | 105.70 |
| 1 | 1G | 305 | G | N9-C4-C5 | 5.41 | 107.56 | 105.40 |
| 26 | 14 | 270(T) | G | C6-C5-N7 | -5.41 | 127.16 | 130.40 |
| 26 | 14 | 1206 | G | C5-C6-N1 | -5.41 | 108.80 | 111.50 |
| 26 | 14 | 1477 | A | C5-N7-C8 | 5.41 | 106.60 | 103.90 |
| 26 | 14 | 1637 | A | N1-C6-N6 | -5.41 | 115.36 | 118.60 |
| 26 | 14 | 1852 | C | C6-N1-C2 | -5.41 | 118.14 | 120.30 |
| 26 | 14 | 2284 | C | C5-C4-N4 | 5.41 | 123.98 | 120.20 |
| 1 | 13 | 1468 | A | C4-C5-N7 | 5.41 | 113.40 | 110.70 |
| 26 | 1H | 182 | A | OP1-P-OP2 | -5.41 | 111.49 | 119.60 |
| 26 | 1H | 243 | U | C4-C5-C6 | -5.41 | 116.46 | 119.70 |
| 26 | 1H | 780 | G | OP2-P-O3' | 5.41 | 117.09 | 105.20 |
| 26 | 1H | 1937 | A | OP2-P-O3' | 5.41 | 117.10 | 105.20 |
| 26 | 1H | 2291 | U | C2-N3-C4 | 5.41 | 130.24 | 127.00 |
| 26 | 1H | 2655 | G | O4'-C1'-N9 | 5.41 | 112.53 | 108.20 |
| 1 | 1G | 346 | G | O5'-P-OP2 | 5.41 | 117.19 | 110.70 |
| 26 | 14 | 806 | C | C5-C4-N4 | -5.41 | 116.42 | 120.20 |
| 26 | 14 | 1215 | G | C4-C5-N7 | 5.41 | 112.96 | 110.80 |
| 26 | 14 | 1547 | C | OP1-P-O3' | 5.41 | 117.09 | 105.20 |
| 26 | 14 | 1585 | C | C2-N1-C1' | 5.41 | 124.75 | 118.80 |
| 26 | 14 | 2729 | G | C8-N9-C4 | 5.41 | 108.56 | 106.40 |
| 1 | 13 | 762 | C | N3-C4-N4 | -5.41 | 114.22 | 118.00 |
| 1 | 13 | 890 | G | C6-C5-N7 | 5.41 | 133.64 | 130.40 |
| 23 | 2K | 21 | U | N3-C4-O4 | -5.41 | 115.62 | 119.40 |
| 26 | 1H | 449 | A | C8-N9-C4 | 5.41 | 107.96 | 105.80 |
| 26 | 1H | 1830 | C | O5'-P-OP2 | 5.41 | 117.19 | 110.70 |
| 26 | 1H | 2019 | A | C6-N1-C2 | -5.41 | 115.36 | 118.60 |
| 26 | 1H | 2060 | A | C5-N7-C8 | -5.41 | 101.20 | 103.90 |
| 26 | 1H | 2370 | G | C5-C6-N1 | 5.41 | 114.20 | 111.50 |
| 26 | 1H | 2563 | U | O5'-P-OP1 | -5.41 | 100.83 | 105.70 |
| 26 | 1H | 2686 | G | N3-C2-N2 | -5.41 | 116.12 | 119.90 |
| 1 | 1G | 386 | C | C2-N1-C1' | -5.41 | 112.85 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 137(A) | G | C5-C6-N1 | -5.41 | 108.80 | 111.50 |
| 26 | 14 | 255 | A | C5-C6-N6 | -5.41 | 119.38 | 123.70 |
| 26 | 14 | 656 | G | N7-C8-N9 | 5.41 | 115.80 | 113.10 |
| 26 | 14 | 1600 | C | C5-C6-N1 | -5.41 | 118.30 | 121.00 |
| 26 | 14 | 1955 | U | C5-C4-O4 | 5.41 | 129.14 | 125.90 |
| 26 | 14 | 1962 | C | OP2-P-O3' | 5.41 | 117.09 | 105.20 |
| 26 | 14 | 2046 | G | O5'-P-OP2 | -5.41 | 100.83 | 105.70 |
| 26 | 14 | 2368 | C | O5'-P-OP2 | 5.41 | 117.19 | 110.70 |
| 26 | 14 | 2597 | G | C5-C6-O6 | 5.41 | 131.84 | 128.60 |
| 26 | 14 | 2686 | G | C5-C6-N1 | 5.41 | 114.20 | 111.50 |
| 1 | 13 | 698 | G | N1-C6-O6 | 5.40 | 123.14 | 119.90 |
| 1 | 13 | 1182 | G | N7-C8-N9 | 5.40 | 115.80 | 113.10 |
| 26 | 1H | 459 | U | N3-C4-C5 | 5.40 | 117.84 | 114.60 |
| 26 | 1H | 929 | G | C5-C6-O6 | -5.40 | 125.36 | 128.60 |
| 50 | K8 | 17 | SER | N-CA-CB | -5.40 | 102.39 | 110.50 |
| 26 | 14 | 62 | C | N3-C2-O2 | 5.40 | 125.68 | 121.90 |
| 26 | 14 | 69 | C | N1-C2-O2 | -5.40 | 115.66 | 118.90 |
| 26 | 14 | 1006 | C | N1-C2-O2 | -5.40 | 115.66 | 118.90 |
| 26 | 14 | 2034 | U | OP2-P-O3' | 5.40 | 117.09 | 105.20 |
| 29 | 19 | 230 | ASP | CB-CG-OD1 | -5.40 | 113.44 | 118.30 |
| 23 | 2K | 71 | G | C5-C6-O6 | 5.40 | 131.84 | 128.60 |
| 26 | 1H | 145 | G | N3-C4-C5 | 5.40 | 131.30 | 128.60 |
| 26 | 1H | 489 | G | N3-C4-N9 | -5.40 | 122.76 | 126.00 |
| 26 | 1H | 716 | A | N7-C8-N9 | 5.40 | 116.50 | 113.80 |
| 26 | 1H | 947 | G | N3-C4-N9 | -5.40 | 122.76 | 126.00 |
| 26 | 1H | 1229 | G | N1-C2-N3 | 5.40 | 127.14 | 123.90 |
| 26 | 1H | 1309 | G | N9-C1'-C2' | -5.40 | 106.06 | 112.00 |
| 26 | 1H | 1937 | A | C2-N3-C4 | -5.40 | 107.90 | 110.60 |
| 26 | 1H | 1942 | C | N3-C4-N4 | -5.40 | 114.22 | 118.00 |
| 26 | 1H | 2083 | G | N7-C8-N9 | 5.40 | 115.80 | 113.10 |
| 27 | 16 | 28 | C | N3-C4-N4 | 5.40 | 121.78 | 118.00 |
| 1 | 1G | 52 | G | N1-C2-N3 | 5.40 | 127.14 | 123.90 |
| 1 | 1G | 959 | A | C8-N9-C4 | -5.40 | 103.64 | 105.80 |
| 1 | 1G | 1200 | C | N3-C2-O2 | -5.40 | 118.12 | 121.90 |
| 1 | 1G | 1336 | C | N3-C4-N4 | 5.40 | 121.78 | 118.00 |
| 1 | 1G | 1432 | G | C2-N3-C4 | -5.40 | 109.20 | 111.90 |
| 1 | 1G | 1502 | A | N1-C2-N3 | 5.40 | 132.00 | 129.30 |
| 26 | 14 | 202 | U | OP2-P-O3' | 5.40 | 117.09 | 105.20 |
| 26 | 14 | 256 | A | C6-C5-N7 | -5.40 | 128.52 | 132.30 |
| 26 | 14 | 771 | G | OP2-P-O3' | -5.40 | 93.31 | 105.20 |
| 26 | 14 | 855 | G | C4-C5-C6 | 5.40 | 122.04 | 118.80 |
| 26 | 14 | 862 | G | N1-C6-O6 | -5.40 | 116.66 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1319 | G | OP1-P-OP2 | 5.40 | 127.70 | 119.60 |
| 26 | 14 | 1351 | C | N3-C2-O2 | 5.40 | 125.68 | 121.90 |
| 26 | 14 | 1728 | G | N3-C4-N9 | 5.40 | 129.24 | 126.00 |
| 26 | 14 | 2026 | C | O5'-P-OP1 | 5.40 | 117.18 | 110.70 |
| 26 | 14 | 2244 | U | C2-N3-C4 | -5.40 | 123.76 | 127.00 |
| 26 | 14 | 2397 | G | OP1-P-OP2 | -5.40 | 111.50 | 119.60 |
| 26 | 14 | 2418 | A | C5-C6-N6 | -5.40 | 119.38 | 123.70 |
| 26 | 14 | 2775 | A | C5-C6-N1 | -5.40 | 115.00 | 117.70 |
| 1 | 13 | 52 | G | N1-C6-O6 | 5.40 | 123.14 | 119.90 |
| 1 | 13 | 580 | U | C2-N3-C4 | -5.40 | 123.76 | 127.00 |
| 1 | 13 | 1525 | G | N9-C1'-C2' | -5.40 | 106.06 | 112.00 |
| 23 | 2K | 10 | G | C8-N9-C1' | -5.40 | 119.98 | 127.00 |
| 26 | 1H | 125 | G | C5-C6-O6 | -5.40 | 125.36 | 128.60 |
| 26 | 1H | 596 | G | N3-C4-C5 | 5.40 | 131.30 | 128.60 |
| 26 | 1H | 1346 | G | N3-C2-N2 | 5.40 | 123.68 | 119.90 |
| 26 | 1H | 1831 | G | O5'-P-OP2 | 5.40 | 117.18 | 110.70 |
| 26 | 1H | 2089 | U | C6-N1-C2 | 5.40 | 124.24 | 121.00 |
| 26 | 1H | 2500 | U | C6-N1-C2 | 5.40 | 124.24 | 121.00 |
| 26 | 1H | 2600 | A | N3-C4-C5 | -5.40 | 123.02 | 126.80 |
| 1 | 1G | 273 | A | C8-N9-C4 | -5.40 | 103.64 | 105.80 |
| 1 | 1G | 305 | G | N1-C2-N3 | 5.40 | 127.14 | 123.90 |
| 1 | 1G | 1052 | U | C5-C6-N1 | 5.40 | 125.40 | 122.70 |
| 1 | 1G | 1467 | G | N9-C4-C5 | 5.40 | 107.56 | 105.40 |
| 26 | 14 | 698 | C | O5'-P-OP1 | -5.40 | 100.84 | 105.70 |
| 26 | 14 | 731 | C | OP1-P-OP2 | -5.40 | 111.50 | 119.60 |
| 26 | 14 | 2048 | G | N3-C4-C5 | -5.40 | 125.90 | 128.60 |
| 1 | 13 | 260 | G | N9-C4-C5 | 5.40 | 107.56 | 105.40 |
| 1 | 13 | 753 | A | N1-C2-N3 | 5.40 | 132.00 | 129.30 |
| 1 | 13 | 1413 | A | N7-C8-N9 | 5.40 | 116.50 | 113.80 |
| 5 | 4E | 91 | LEU | CA-CB-CG | 5.40 | 127.72 | 115.30 |
| 26 | 1H | 972 | G | C5-C6-N1 | 5.40 | 114.20 | 111.50 |
| 26 | 1H | 1282 | U | OP2-P-O3' | 5.40 | 117.08 | 105.20 |
| 26 | 14 | 868 | U | C2-N3-C4 | 5.40 | 130.24 | 127.00 |
| 26 | 14 | 1313 | U | C5-C4-O4 | -5.40 | 122.66 | 125.90 |
| 26 | 14 | 1420 | U | OP1-P-OP2 | 5.40 | 127.70 | 119.60 |
| 26 | 14 | 2840 | C | C6-N1-C2 | 5.40 | 122.46 | 120.30 |
| 1 | 13 | 621 | A | C5-C6-N1 | 5.40 | 120.40 | 117.70 |
| 1 | 13 | 1139 | G | C6-C5-N7 | 5.40 | 133.64 | 130.40 |
| 23 | 2K | 61 | U | C5-C4-O4 | -5.40 | 122.66 | 125.90 |
| 26 | 1H | 867 | C | N3-C2-O2 | 5.40 | 125.68 | 121.90 |
| 26 | 1H | 908 | C | OP2-P-O3' | 5.40 | 117.07 | 105.20 |
| 26 | 1H | 1031 | G | C5-C6-O6 | 5.40 | 131.84 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 1H | 1278 | A | N7-C8-N9 | -5.40 | 111.10 | 113.80 |
| 26 | 1H | 1395 | A | OP1-P-OP2 | 5.40 | 127.70 | 119.60 |
| 26 | 1H | 1923 | U | O5'-P-OP2 | -5.40 | 100.84 | 105.70 |
| 26 | 1H | 2446 | G | N3-C4-N9 | 5.40 | 129.24 | 126.00 |
| 26 | 1H | 2532 | G | C8-N9-C1' | -5.40 | 119.98 | 127.00 |
| 26 | 14 | 15 | G | O5'-P-OP1 | -5.40 | 100.84 | 105.70 |
| 26 | 14 | 396 | G | N3-C2-N2 | -5.40 | 116.12 | 119.90 |
| 26 | 14 | 823 | G | N1-C6-O6 | -5.40 | 116.66 | 119.90 |
| 26 | 14 | 826 | U | C6-N1-C2 | -5.40 | 117.76 | 121.00 |
| 26 | 14 | 1127 | A | C5-C6-N6 | -5.40 | 119.38 | 123.70 |
| 26 | 14 | 1642 | G | C5-C6-N1 | 5.40 | 114.20 | 111.50 |
| 26 | 14 | 1827 | C | N3-C4-N4 | -5.40 | 114.22 | 118.00 |
| 26 | 14 | 1882 | C | N1-C2-O2 | 5.40 | 122.14 | 118.90 |
| 26 | 14 | 1990 | C | C5-C6-N1 | -5.40 | 118.30 | 121.00 |
| 26 | 14 | 2027 | G | C4-C5-N7 | 5.40 | 112.96 | 110.80 |
| 26 | 14 | 2381 | C | O5'-P-OP1 | 5.40 | 117.18 | 110.70 |
| 1 | 13 | 449 | C | C6-N1-C2 | -5.40 | 118.14 | 120.30 |
| 26 | 1H | 1826 | G | N9-C4-C5 | -5.40 | 103.24 | 105.40 |
| 26 | 1H | 2264 | C | C5'-C4'-O4' | 5.40 | 115.58 | 109.10 |
| 27 | 16 | 37 | C | OP2-P-O3' | 5.40 | 117.07 | 105.20 |
| 1 | 1G | 740 | U | N3-C4-C5 | -5.40 | 111.36 | 114.60 |
| 1 | 1G | 1509 | C | OP2-P-O3' | 5.40 | 117.07 | 105.20 |
| 12 | 3A | 27 | LEU | CB-CG-CD2 | 5.40 | 120.17 | 111.00 |
| 26 | 14 | 225 | A | C5-C6-N1 | -5.40 | 115.00 | 117.70 |
| 26 | 14 | 1695 | G | C2-N3-C4 | -5.40 | 109.20 | 111.90 |
| 1 | 13 | 231 | G | C4-C5-C6 | 5.39 | 122.04 | 118.80 |
| 1 | 13 | 1083 | U | OP1-P-OP2 | -5.39 | 111.51 | 119.60 |
| 1 | 13 | 1386 | G | C6-N1-C2 | 5.39 | 128.34 | 125.10 |
| 25 | 4K | 13 | A | N9-C4-C5 | 5.39 | 107.96 | 105.80 |
| 26 | 1H | 745 | G | OP1-P-O3' | 5.39 | 117.07 | 105.20 |
| 26 | 1H | 817 | C | O5'-P-OP2 | 5.39 | 117.17 | 110.70 |
| 26 | 1H | 1141 | U | O5'-P-OP1 | 5.39 | 117.17 | 110.70 |
| 26 | 1H | 2646 | C | OP2-P-O3' | 5.39 | 117.07 | 105.20 |
| 26 | 1H | 2675 | A | OP1-P-OP2 | -5.39 | 111.51 | 119.60 |
| 26 | 1H | 2747 | G | OP2-P-O3' | 5.39 | 117.07 | 105.20 |
| 1 | 1G | 402 | G | O5'-P-OP1 | 5.39 | 117.17 | 110.70 |
| 26 | 14 | 332 | A | N7-C8-N9 | -5.39 | 111.10 | 113.80 |
| 26 | 14 | 920 | G | C4-C5-N7 | -5.39 | 108.64 | 110.80 |
| 26 | 14 | 1163 | G | O5'-P-OP1 | -5.39 | 100.84 | 105.70 |
| 26 | 14 | 1949 | G | N7-C8-N9 | -5.39 | 110.40 | 113.10 |
| 26 | 14 | 2436 | G | N1-C6-O6 | 5.39 | 123.14 | 119.90 |
| 26 | 14 | 2881 | C | O5'-P-OP2 | 5.39 | 117.17 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 27 | 1J | 78 | A | N1-C2-N3 | 5.39 | 132.00 | 129.30 |
| 1 | 13 | 331 | G | N1-C2-N2 | 5.39 | 121.05 | 116.20 |
| 1 | 13 | 510 | A | C8-N9-C4 | -5.39 | 103.64 | 105.80 |
| 1 | 13 | 1228 | C | OP1-P-O3' | 5.39 | 117.06 | 105.20 |
| 26 | 1H | 121 | G | OP1-P-OP2 | 5.39 | 127.69 | 119.60 |
| 26 | 1H | 214 | G | N1-C6-O6 | 5.39 | 123.14 | 119.90 |
| 26 | 1H | 226 | G | C4-C5-C6 | 5.39 | 122.03 | 118.80 |
| 26 | 1H | 550 | G | C8-N9-C4 | 5.39 | 108.56 | 106.40 |
| 26 | 1H | 1568 | G | C4-N9-C1' | -5.39 | 119.49 | 126.50 |
| 26 | 1H | 1625 | C | N3-C2-O2 | -5.39 | 118.12 | 121.90 |
| 27 | 16 | 95 | U | N1-C2-O2 | -5.39 | 119.03 | 122.80 |
| 1 | 1G | 1374 | A | O4'-C1'-N9 | 5.39 | 112.51 | 108.20 |
| 26 | 14 | 45 | G | N7-C8-N9 | 5.39 | 115.80 | 113.10 |
| 26 | 14 | 391 | G | C5-C6-N1 | -5.39 | 108.80 | 111.50 |
| 26 | 14 | 570 | G | C8-N9-C1' | -5.39 | 119.99 | 127.00 |
| 26 | 14 | 600 | G | O5'-P-OP1 | -5.39 | 100.85 | 105.70 |
| 26 | 14 | 619 | G | C5-C6-N1 | 5.39 | 114.20 | 111.50 |
| 26 | 14 | 944 | G | N1-C2-N2 | 5.39 | 121.05 | 116.20 |
| 26 | 14 | 1388 | G | C4-C5-C6 | 5.39 | 122.03 | 118.80 |
| 26 | 14 | 1808 | U | N1-C2-N3 | -5.39 | 111.66 | 114.90 |
| 26 | 14 | 1988 | C | C5-C6-N1 | 5.39 | 123.70 | 121.00 |
| 26 | 14 | 2210 | G | N1-C6-O6 | -5.39 | 116.66 | 119.90 |
| 26 | 14 | 2289 | G | C4-C5-C6 | -5.39 | 115.56 | 118.80 |
| 26 | 14 | 2529 | G | C2-N3-C4 | -5.39 | 109.20 | 111.90 |
| 1 | 13 | 416 | G | N7-C8-N9 | 5.39 | 115.80 | 113.10 |
| 1 | 13 | 655 | A | N7-C8-N9 | 5.39 | 116.50 | 113.80 |
| 1 | 13 | 1301 | U | N1-C2-O2 | 5.39 | 126.57 | 122.80 |
| 26 | 1H | 442 | G | N7-C8-N9 | 5.39 | 115.80 | 113.10 |
| 26 | 1H | 1020 | A | O5'-P-OP1 | 5.39 | 117.17 | 110.70 |
| 26 | 1H | 1697 | G | N1-C6-O6 | -5.39 | 116.67 | 119.90 |
| 27 | 16 | 89 | G | N9-C4-C5 | -5.39 | 103.24 | 105.40 |
| 1 | 1G | 1204 | A | N1-C6-N6 | 5.39 | 121.83 | 118.60 |
| 26 | 14 | 112 | U | N1-C2-O2 | -5.39 | 119.03 | 122.80 |
| 26 | 14 | 1428 | C | C2-N3-C4 | -5.39 | 117.20 | 119.90 |
| 27 | 1J | 74 | U | C2-N3-C4 | -5.39 | 123.77 | 127.00 |
| 1 | 13 | 863 | U | C5-C6-N1 | -5.39 | 120.00 | 122.70 |
| 1 | 13 | 977 | A | N9-C4-C5 | 5.39 | 107.95 | 105.80 |
| 1 | 13 | 1203 | C | C2-N3-C4 | 5.39 | 122.59 | 119.90 |
| 26 | 1H | 68 | G | N1-C2-N2 | 5.39 | 121.05 | 116.20 |
| 26 | 1H | 681 | G | N1-C2-N3 | 5.39 | 127.13 | 123.90 |
| 26 | 1H | 763 | G | C5-C6-N1 | -5.39 | 108.81 | 111.50 |
| 26 | 1H | 1519 | G | C5-C6-O6 | 5.39 | 131.83 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1647 | G | OP1-P-O3' | 5.39 | 117.06 | 105.20 |
| 26 | 1H | 2410 | G | C8-N9-C4 | -5.39 | 104.25 | 106.40 |
| 26 | 1H | 2525 | G | N7-C8-N9 | -5.39 | 110.41 | 113.10 |
| 26 | 1H | 2721 | A | OP1-P-OP2 | 5.39 | 127.69 | 119.60 |
| 1 | 1G | 1216 | G | C5-C6-O6 | 5.39 | 131.83 | 128.60 |
| 57 | 3L | 76 | A | O4'-C1'-N9 | 5.39 | 112.51 | 108.20 |
| 26 | 14 | 559 | G | N3-C4-C5 | 5.39 | 131.29 | 128.60 |
| 26 | 14 | 726 | G | N9-C4-C5 | 5.39 | 107.56 | 105.40 |
| 26 | 14 | 819 | A | C4-C5-C6 | 5.39 | 119.69 | 117.00 |
| 26 | 14 | 1155 | A | OP1-P-O3' | 5.39 | 117.06 | 105.20 |
| 26 | 14 | 1289 | C | C6-N1-C2 | -5.39 | 118.14 | 120.30 |
| 26 | 14 | 1648 | C | N1-C2-N3 | 5.39 | 122.97 | 119.20 |
| 26 | 14 | 1790 | C | C5-C6-N1 | -5.39 | 118.31 | 121.00 |
| 27 | 1J | 22 | U | C5-C6-N1 | 5.39 | 125.39 | 122.70 |
| 1 | 13 | 506 | G | N3-C2-N2 | -5.39 | 116.13 | 119.90 |
| 1 | 13 | 717 | C | N3-C2-O2 | 5.39 | 125.67 | 121.90 |
| 1 | 13 | 1413 | A | OP2-P-O3' | 5.39 | 117.05 | 105.20 |
| 26 | 1H | 1220 | A | C4-C5-N7 | -5.39 | 108.01 | 110.70 |
| 26 | 1H | 2023 | G | C2-N3-C4 | -5.39 | 109.21 | 111.90 |
| 1 | 1G | 1449 | C | C2-N3-C4 | 5.39 | 122.59 | 119.90 |
| 26 | 14 | 1269 | A | O5'-P-OP1 | -5.39 | 100.85 | 105.70 |
| 26 | 14 | 2505 | G | OP1-P-OP2 | -5.39 | 111.52 | 119.60 |
| 1 | 13 | 742 | G | C2-N3-C4 | -5.39 | 109.21 | 111.90 |
| 1 | 13 | 1116 | C | OP1-P-OP2 | 5.39 | 127.68 | 119.60 |
| 1 | 13 | 1240 | U | O5'-P-OP1 | -5.39 | 100.85 | 105.70 |
| 25 | 4K | 7 | G | N1-C6-O6 | 5.39 | 123.13 | 119.90 |
| 26 | 1H | 830 | G | N3-C2-N2 | -5.39 | 116.13 | 119.90 |
| 26 | 1H | 1370 | C | C2-N1-C1' | -5.39 | 112.88 | 118.80 |
| 26 | 1H | 1446 | C | N3-C2-O2 | -5.39 | 118.13 | 121.90 |
| 26 | 1H | 1469 | A | N1-C2-N3 | 5.39 | 131.99 | 129.30 |
| 26 | 1H | 1490 | A | C8-N9-C4 | 5.39 | 107.95 | 105.80 |
| 26 | 1H | 1566 | A | C2-N3-C4 | -5.39 | 107.91 | 110.60 |
| 26 | 1H | 2513 | G | OP1-P-OP2 | 5.39 | 127.68 | 119.60 |
| 26 | 1H | 2818 | G | C5-C6-N1 | -5.39 | 108.81 | 111.50 |
| 27 | 16 | 97 | G | OP1-P-O3' | -5.39 | 93.35 | 105.20 |
| 1 | 1G | 125 | U | N3-C4-C5 | -5.39 | 111.37 | 114.60 |
| 1 | 1G | 138 | G | C2-N3-C4 | -5.39 | 109.21 | 111.90 |
| 1 | 1G | 143 | A | N1-C6-N6 | 5.39 | 121.83 | 118.60 |
| 23 | 2L | 44 | A | C8-N9-C4 | 5.39 | 107.95 | 105.80 |
| 26 | 14 | 624 | C | C2-N1-C1' | -5.39 | 112.88 | 118.80 |
| 26 | 14 | 708 | C | OP1-P-OP2 | -5.39 | 111.52 | 119.60 |
| 26 | 14 | 758 | C | O5'-P-OP1 | 5.39 | 117.16 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1493 | C | N3-C4-C5 | -5.39 | 119.75 | 121.90 |
| 26 | 14 | 1734 | C | OP2-P-O3' | 5.39 | 117.05 | 105.20 |
| 26 | 14 | 1838 | C | C5-C6-N1 | 5.39 | 123.69 | 121.00 |
| 26 | 14 | 2846 | G | N7-C8-N9 | 5.39 | 115.79 | 113.10 |
| 29 | 19 | 273 | ARG | N-CA-C | 5.39 | 125.54 | 111.00 |
| 39 | 55 | 79 | LEU | CA-CB-CG | 5.39 | 127.69 | 115.30 |
| 1 | 13 | 236 | G | C4-C5-N7 | -5.38 | 108.65 | 110.80 |
| 1 | 13 | 262 | A | N1-C6-N6 | -5.38 | 115.37 | 118.60 |
| 1 | 13 | 268 | C | O5'-P-OP2 | 5.38 | 117.16 | 110.70 |
| 1 | 13 | 357 | G | N9-C4-C5 | 5.38 | 107.55 | 105.40 |
| 1 | 13 | 788 | U | OP2-P-O3' | 5.38 | 117.05 | 105.20 |
| 1 | 13 | 1190 | G | N3-C2-N2 | -5.38 | 116.13 | 119.90 |
| 1 | 13 | 1199 | U | C2-N3-C4 | 5.38 | 130.23 | 127.00 |
| 26 | 1H | 346 | A | O5'-P-OP2 | -5.38 | 100.86 | 105.70 |
| 26 | 1H | 388 | G | OP1-P-OP2 | 5.38 | 127.68 | 119.60 |
| 26 | 1H | 389 | G | N3-C4-C5 | 5.38 | 131.29 | 128.60 |
| 26 | 1H | 663 | G | N3-C4-C5 | -5.38 | 125.91 | 128.60 |
| 26 | 1H | 878 | A | C2-N3-C4 | 5.38 | 113.29 | 110.60 |
| 26 | 1H | 1121 | C | C4-C5-C6 | 5.38 | 120.09 | 117.40 |
| 26 | 1H | 1652 | A | C2-N3-C4 | -5.38 | 107.91 | 110.60 |
| 26 | 1H | 1698 | A | N3-C4-N9 | -5.38 | 123.09 | 127.40 |
| 26 | 1H | 1980 | G | N9-C4-C5 | 5.38 | 107.55 | 105.40 |
| 26 | 1H | 2450 | A | O5'-P-OP1 | 5.38 | 117.16 | 110.70 |
| 26 | 1H | 2876 | G | C4-C5-N7 | 5.38 | 112.95 | 110.80 |
| 27 | 16 | 74 | U | C2-N1-C1' | -5.38 | 111.24 | 117.70 |
| 26 | 14 | 617 | G | C8-N9-C4 | 5.38 | 108.55 | 106.40 |
| 26 | 14 | 2231 | C | N1-C2-O2 | -5.38 | 115.67 | 118.90 |
| 26 | 14 | 2873 | A | C4-N9-C1' | 5.38 | 135.99 | 126.30 |
| 1 | 13 | 64 | G | N9-C4-C5 | -5.38 | 103.25 | 105.40 |
| 1 | 13 | 108 | G | O4'-C1'-N9 | 5.38 | 112.51 | 108.20 |
| 1 | 13 | 464 | G | C4-C5-N7 | 5.38 | 112.95 | 110.80 |
| 26 | 1H | 153 | C | C5-C6-N1 | 5.38 | 123.69 | 121.00 |
| 26 | 14 | 359 | A | C8-N9-C4 | -5.38 | 103.65 | 105.80 |
| 1 | 13 | 1370 | G | N7-C8-N9 | 5.38 | 115.79 | 113.10 |
| 26 | 1H | 67 | U | OP1-P-O3' | 5.38 | 117.04 | 105.20 |
| 26 | 1H | 2071 | A | OP1-P-OP2 | -5.38 | 111.53 | 119.60 |
| 26 | 1H | 2509 | G | O5'-P-OP1 | -5.38 | 100.86 | 105.70 |
| 26 | 1H | 2668 | G | C5-C6-N1 | -5.38 | 108.81 | 111.50 |
| 26 | 1H | 2709 | G | O5'-P-OP1 | 5.38 | 117.16 | 110.70 |
| 1 | 1G | 1535 | C | C5-C6-N1 | 5.38 | 123.69 | 121.00 |
| 25 | 4L | 22 | A | C2-N3-C4 | 5.38 | 113.29 | 110.60 |
| 26 | 14 | 689 | A | N1-C2-N3 | -5.38 | 126.61 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 769 | G | N7-C8-N9 | -5.38 | 110.41 | 113.10 |
| 26 | 14 | 944 | G | O5'-P-OP2 | 5.38 | 117.16 | 110.70 |
| 26 | 14 | 1489 | U | N3-C4-O4 | 5.38 | 123.17 | 119.40 |
| 26 | 14 | 1604 | C | N3-C4-C5 | 5.38 | 124.05 | 121.90 |
| 26 | 14 | 1618 | A | O5'-P-OP2 | 5.38 | 117.16 | 110.70 |
| 26 | 14 | 2470 | G | C4-N9-C1' | 5.38 | 133.50 | 126.50 |
| 27 | 1J | 70 | C | C2-N3-C4 | 5.38 | 122.59 | 119.90 |
| 1 | 13 | 140 | A | C8-N9-C4 | -5.38 | 103.65 | 105.80 |
| 26 | 1H | 397 | G | C8-N9-C4 | 5.38 | 108.55 | 106.40 |
| 26 | 14 | 1293 | C | C6-N1-C1' | -5.38 | 114.34 | 120.80 |
| 26 | 14 | 1696 | G | N3-C2-N2 | 5.38 | 123.67 | 119.90 |
| 26 | 14 | 2018 | G | C2-N3-C4 | 5.38 | 114.59 | 111.90 |
| 27 | 1J | 89 | G | OP1-P-OP2 | 5.38 | 127.67 | 119.60 |
| 1 | 13 | 893 | C | C6-N1-C1' | -5.38 | 114.35 | 120.80 |
| 1 | 13 | 970 | C | O5'-P-OP1 | -5.38 | 100.86 | 105.70 |
| 25 | 4K | 18 | G | P-O3'-C3' | 5.38 | 126.15 | 119.70 |
| 26 | 1H | 25 | U | N3-C2-O2 | 5.38 | 125.97 | 122.20 |
| 26 | 1H | 161 | U | C5-C6-N1 | 5.38 | 125.39 | 122.70 |
| 26 | 1H | 1108 | U | C4-C5-C6 | -5.38 | 116.47 | 119.70 |
| 26 | 1H | 1207 | C | N3-C2-O2 | 5.38 | 125.67 | 121.90 |
| 26 | 1H | 1333 | C | N1-C2-O2 | -5.38 | 115.67 | 118.90 |
| 26 | 1H | 2278 | A | C5-N7-C8 | -5.38 | 101.21 | 103.90 |
| 26 | 1H | 2585 | U | N1-C2-N3 | -5.38 | 111.67 | 114.90 |
| 26 | 1H | 2766 | G | C5-C6-O6 | -5.38 | 125.37 | 128.60 |
| 44 | E8 | 86 | LEU | CB-CG-CD2 | -5.38 | 101.86 | 111.00 |
| 1 | 1G | 133 | U | OP1-P-OP2 | 5.38 | 127.67 | 119.60 |
| 26 | 14 | 264 | C | C5-C4-N4 | -5.38 | 116.44 | 120.20 |
| 26 | 14 | 611 | C | N3-C4-N4 | 5.38 | 121.76 | 118.00 |
| 26 | 14 | 790 | C | C5-C6-N1 | -5.38 | 118.31 | 121.00 |
| 26 | 14 | 1811 | G | OP1-P-O3' | -5.38 | 93.37 | 105.20 |
| 27 | 1J | 98 | G | C5-C6-O6 | -5.38 | 125.37 | 128.60 |
| 1 | 13 | 1045 | C | O5'-P-OP1 | -5.38 | 100.86 | 105.70 |
| 24 | 3K | 40 | C | O5'-P-OP2 | -5.38 | 100.86 | 105.70 |
| 26 | 1H | 314 | A | N7-C8-N9 | 5.38 | 116.49 | 113.80 |
| 26 | 1H | 959 | A | C6-N1-C2 | 5.38 | 121.83 | 118.60 |
| 26 | 1H | 1231 | G | C4-C5-N7 | 5.38 | 112.95 | 110.80 |
| 26 | 1H | 1625 | C | C5-C4-N4 | 5.38 | 123.96 | 120.20 |
| 26 | 1H | 1681 | G | C4-N9-C1' | -5.38 | 119.51 | 126.50 |
| 26 | 1H | 2333 | A | C6-N1-C2 | -5.38 | 115.37 | 118.60 |
| 27 | 16 | 17 | C | C4-C5-C6 | 5.38 | 120.09 | 117.40 |
| 45 | F8 | 3 | THR | N-CA-C | -5.38 | 96.49 | 111.00 |
| 1 | 1G | 1522 | U | N3-C2-O2 | -5.38 | 118.44 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 14 | 1477 | A | C5-C6-N6 | 5.38 | 128.00 | 123.70 |
| 26 | 14 | 1592 | C | N3-C4-N4 | 5.38 | 121.76 | 118.00 |
| 26 | 14 | 1647 | G | N7-C8-N9 | 5.38 | 115.79 | 113.10 |
| 26 | 14 | 1768 | U | O4'-C1'-N1 | 5.38 | 112.50 | 108.20 |
| 26 | 14 | 2258 | C | C5-C4-N4 | -5.38 | 116.44 | 120.20 |
| 26 | 14 | 2700 | C | C6-N1-C1' | -5.38 | 114.35 | 120.80 |
| 1 | 13 | 404 | U | C6-N1-C2 | -5.38 | 117.78 | 121.00 |
| 1 | 13 | 558 | G | N3-C2-N2 | 5.38 | 123.66 | 119.90 |
| 26 | 1H | 478 | A | N9-C4-C5 | 5.38 | 107.95 | 105.80 |
| 26 | 1H | 1129 | A | C2-N3-C4 | -5.38 | 107.91 | 110.60 |
| 26 | 1H | 1158 | C | N1-C2-O2 | 5.38 | 122.12 | 118.90 |
| 26 | 1H | 1616 | A | C4-N9-C1' | 5.38 | 135.97 | 126.30 |
| 26 | 1H | 2538 | C | C5-C6-N1 | -5.38 | 118.31 | 121.00 |
| 1 | 1G | 264 | U | N1-C2-N3 | -5.38 | 111.67 | 114.90 |
| 26 | 14 | 221 | A | C5'-C4'-C3' | -5.38 | 107.40 | 116.00 |
| 26 | 14 | 2400 | G | C5-C6-O6 | -5.38 | 125.38 | 128.60 |
| 27 | 1J | 7 | G | N1-C6-O6 | 5.38 | 123.12 | 119.90 |
| 1 | 13 | 51 | A | O5'-P-OP2 | 5.37 | 117.15 | 110.70 |
| 23 | 2K | 60 | A | C6-N1-C2 | -5.37 | 115.38 | 118.60 |
| 26 | 1H | 146 | G | C8-N9-C4 | 5.37 | 108.55 | 106.40 |
| 26 | 1H | 243 | U | O5'-P-OP1 | 5.37 | 117.15 | 110.70 |
| 26 | 1H | 1255 | U | N3-C4-C5 | -5.37 | 111.38 | 114.60 |
| 26 | 1H | 1353 | A | OP1-P-OP2 | 5.37 | 127.66 | 119.60 |
| 26 | 1H | 1728 | G | N1-C2-N3 | -5.37 | 120.68 | 123.90 |
| 26 | 1H | 2030 | A | OP1-P-OP2 | 5.37 | 127.66 | 119.60 |
| 26 | 1H | 2224 | G | N3-C4-C5 | 5.37 | 131.29 | 128.60 |
| 26 | 1H | 2449 | U | OP2-P-O3' | 5.37 | 117.02 | 105.20 |
| 1 | 1G | 321 | A | C4-C5-N7 | 5.37 | 113.39 | 110.70 |
| 26 | 14 | 429 | A | N7-C8-N9 | 5.37 | 116.49 | 113.80 |
| 26 | 14 | 592 | G | N1-C2-N2 | 5.37 | 121.04 | 116.20 |
| 26 | 14 | 919 | G | C8-N9-C4 | -5.37 | 104.25 | 106.40 |
| 26 | 14 | 1182 | A | C8-N9-C4 | 5.37 | 107.95 | 105.80 |
| 26 | 14 | 1601 | G | N1-C2-N2 | -5.37 | 111.36 | 116.20 |
| 26 | 14 | 2408 | U | OP1-P-OP2 | 5.37 | 127.66 | 119.60 |
| 1 | 13 | 335 | C | N3-C4-C5 | -5.37 | 119.75 | 121.90 |
| 1 | 13 | 717 | C | N3-C4-C5 | 5.37 | 124.05 | 121.90 |
| 26 | 1H | 18 | C | C6-N1-C2 | 5.37 | 122.45 | 120.30 |
| 26 | 1H | 128 | C | C5-C6-N1 | -5.37 | 118.31 | 121.00 |
| 26 | 1H | 455 | C | N3-C4-N4 | -5.37 | 114.24 | 118.00 |
| 26 | 1H | 679 | C | N1-C2-O2 | -5.37 | 115.68 | 118.90 |
| 26 | 1H | 807 | U | O5'-P-OP1 | -5.37 | 100.87 | 105.70 |
| 26 | 1H | 1107 | G | O4'-C1'-N9 | -5.37 | 103.90 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1347 | G | C5-C6-N1 | 5.37 | 114.19 | 111.50 |
| 26 | 1H | 1983 | C | C2-N1-C1' | -5.37 | 112.89 | 118.80 |
| 26 | 1H | 2661 | G | C8-N9-C4 | -5.37 | 104.25 | 106.40 |
| 26 | 1H | 2744 | G | C5-N7-C8 | 5.37 | 106.99 | 104.30 |
| 1 | 1G | 1480 | G | C4-C5-N7 | 5.37 | 112.95 | 110.80 |
| 26 | 14 | 669 | G | N3-C4-C5 | -5.37 | 125.92 | 128.60 |
| 26 | 14 | 765 | G | N1-C2-N2 | -5.37 | 111.37 | 116.20 |
| 26 | 14 | 984 | A | OP1-P-O3' | 5.37 | 117.02 | 105.20 |
| 26 | 14 | 2608 | G | OP1-P-OP2 | -5.37 | 111.54 | 119.60 |
| 1 | 13 | 945 | G | OP1-P-O3' | 5.37 | 117.02 | 105.20 |
| 1 | 13 | 1346 | A | C8-N9-C4 | 5.37 | 107.95 | 105.80 |
| 26 | 1H | 241 | A | O5'-P-OP1 | 5.37 | 117.14 | 110.70 |
| 26 | 1H | 328 | U | C4-C5-C6 | 5.37 | 122.92 | 119.70 |
| 26 | 1H | 1320 | C | C2-N3-C4 | -5.37 | 117.22 | 119.90 |
| 26 | 1H | 1806 | C | O5'-P-OP1 | -5.37 | 100.87 | 105.70 |
| 26 | 14 | 423 | A | OP1-P-O3' | 5.37 | 117.01 | 105.20 |
| 26 | 14 | 521 | G | C5-N7-C8 | -5.37 | 101.61 | 104.30 |
| 26 | 14 | 1594 | G | O5'-P-OP1 | -5.37 | 100.87 | 105.70 |
| 27 | 1J | 81 | G | O4'-C1'-N9 | 5.37 | 112.50 | 108.20 |
| 1 | 13 | 57 | G | C5-C6-O6 | 5.37 | 131.82 | 128.60 |
| 1 | 13 | 771 | G | C5-C6-O6 | 5.37 | 131.82 | 128.60 |
| 1 | 13 | 1357 | A | C5-N7-C8 | -5.37 | 101.22 | 103.90 |
| 26 | 1H | 603 | A | O5'-P-OP2 | 5.37 | 117.14 | 110.70 |
| 26 | 1H | 738 | G | N1-C2-N3 | 5.37 | 127.12 | 123.90 |
| 26 | 1H | 960 | A | C6-N1-C2 | 5.37 | 121.82 | 118.60 |
| 26 | 1H | 1206 | G | C6-N1-C2 | -5.37 | 121.88 | 125.10 |
| 26 | 1H | 1261 | C | C5-C4-N4 | -5.37 | 116.44 | 120.20 |
| 26 | 1H | 1339 | G | N3-C2-N2 | 5.37 | 123.66 | 119.90 |
| 26 | 1H | 1704 | G | N1-C6-O6 | 5.37 | 123.12 | 119.90 |
| 26 | 1H | 1929 | G | OP1-P-OP2 | 5.37 | 127.65 | 119.60 |
| 26 | 1H | 2339 | G | N7-C8-N9 | -5.37 | 110.42 | 113.10 |
| 26 | 14 | 181 | A | C2-N3-C4 | -5.37 | 107.92 | 110.60 |
| 26 | 14 | 609 | A | N7-C8-N9 | 5.37 | 116.48 | 113.80 |
| 26 | 14 | 1267 | U | C6-N1-C1' | -5.37 | 113.68 | 121.20 |
| 26 | 14 | 1479 | G | C4-C5-C6 | 5.37 | 122.02 | 118.80 |
| 26 | 14 | 1633 | G | C6-N1-C2 | -5.37 | 121.88 | 125.10 |
| 26 | 14 | 2005 | A | OP1-P-OP2 | 5.37 | 127.65 | 119.60 |
| 26 | 14 | 2038 | G | C5-C6-O6 | 5.37 | 131.82 | 128.60 |
| 44 | A5 | 23 | LEU | CB-CG-CD2 | -5.37 | 101.87 | 111.00 |
| 1 | 13 | 951 | G | C5-N7-C8 | 5.37 | 106.98 | 104.30 |
| 23 | 2K | 53 | G | N7-C8-N9 | 5.37 | 115.78 | 113.10 |
| 24 | 3K | 70 | C | N1-C2-O2 | 5.37 | 122.12 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 551 | G | N3-C4-N9 | -5.37 | 122.78 | 126.00 |
| 26 | 1H | 584 | C | C5-C6-N1 | 5.37 | 123.68 | 121.00 |
| 26 | 1H | 1294 | U | C4-C5-C6 | 5.37 | 122.92 | 119.70 |
| 26 | 1H | 1325 | G | N1-C6-O6 | 5.37 | 123.12 | 119.90 |
| 26 | 1H | 1429 | G | N7-C8-N9 | 5.37 | 115.78 | 113.10 |
| 26 | 1H | 1568 | G | C6-C5-N7 | 5.37 | 133.62 | 130.40 |
| 26 | 1H | 1932 | A | N1-C6-N6 | 5.37 | 121.82 | 118.60 |
| 26 | 1H | 2508 | G | O4'-C1'-N9 | 5.37 | 112.49 | 108.20 |
| 1 | 1G | 97 | U | C6-N1-C2 | -5.37 | 117.78 | 121.00 |
| 26 | 14 | 439 | G | N1-C2-N3 | 5.37 | 127.12 | 123.90 |
| 1 | 13 | 9 | G | N1-C6-O6 | 5.37 | 123.12 | 119.90 |
| 1 | 13 | 231 | G | C5-C6-N1 | -5.37 | 108.82 | 111.50 |
| 1 | 13 | 235 | C | N3-C2-O2 | 5.37 | 125.66 | 121.90 |
| 1 | 13 | 771 | G | OP1-P-O3' | 5.37 | 117.00 | 105.20 |
| 1 | 13 | 1245 | A | N7-C8-N9 | -5.37 | 111.12 | 113.80 |
| 26 | 1H | 112 | U | N1-C2-O2 | -5.37 | 119.04 | 122.80 |
| 26 | 1H | 898 | C | N1-C2-O2 | 5.37 | 122.12 | 118.90 |
| 26 | 1H | 1162 | G | O5'-P-OP1 | -5.37 | 100.87 | 105.70 |
| 26 | 1H | 1239 | G | N1-C6-O6 | -5.37 | 116.68 | 119.90 |
| 26 | 1H | 1301 | A | O4'-C1'-N9 | 5.37 | 112.49 | 108.20 |
| 26 | 1H | 1351 | C | N1-C2-O2 | -5.37 | 115.68 | 118.90 |
| 26 | 1H | 1638 | C | O5'-P-OP2 | -5.37 | 100.87 | 105.70 |
| 26 | 1H | 1677 | A | C5-N7-C8 | 5.37 | 106.58 | 103.90 |
| 26 | 1H | 2454 | G | OP1-P-OP2 | 5.37 | 127.65 | 119.60 |
| 26 | 1H | 2828 | C | C2-N3-C4 | -5.37 | 117.22 | 119.90 |
| 1 | 1G | 1305 | G | N3-C4-N9 | -5.37 | 122.78 | 126.00 |
| 1 | 1G | 1310 | G | N1-C6-O6 | -5.37 | 116.68 | 119.90 |
| 1 | 1G | 1438 | G | N7-C8-N9 | -5.37 | 110.42 | 113.10 |
| 56 | 1L | 34 | U | C5-C4-O4 | -5.37 | 122.68 | 125.90 |
| 23 | 2L | 12 | G | N9-C4-C5 | 5.37 | 107.55 | 105.40 |
| 23 | 2L | 77 | A | N3-C4-C5 | 5.37 | 130.56 | 126.80 |
| 26 | 14 | 868 | U | O5'-P-OP1 | -5.37 | 100.87 | 105.70 |
| 26 | 14 | 1249 | U | C5-C6-N1 | -5.37 | 120.02 | 122.70 |
| 26 | 14 | 1816 | G | N3-C4-C5 | -5.37 | 125.92 | 128.60 |
| 26 | 14 | 2254 | C | C5-C6-N1 | -5.37 | 118.32 | 121.00 |
| 26 | 14 | 2510 | C | OP1-P-OP2 | 5.37 | 127.65 | 119.60 |
| 26 | 14 | 2770 | G | C5-C6-O6 | -5.37 | 125.38 | 128.60 |
| 26 | 14 | 2787 | C | N3-C4-N4 | 5.37 | 121.76 | 118.00 |
| 26 | 14 | 2854 | G | N3-C4-N9 | -5.37 | 122.78 | 126.00 |
| 1 | 13 | 1008 | C | N1-C2-O2 | 5.36 | 122.12 | 118.90 |
| 1 | 13 | 1236 | A | C8-N9-C4 | 5.36 | 107.95 | 105.80 |
| 1 | 13 | 1404 | C | N1-C2-O2 | 5.36 | 122.12 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1520 | G | C6-C5-N7 | -5.36 | 127.18 | 130.40 |
| 26 | 1H | 630 | G | N1-C2-N3 | 5.36 | 127.12 | 123.90 |
| 26 | 1H | 907 | U | OP1-P-OP2 | 5.36 | 127.65 | 119.60 |
| 26 | 1H | 1660 | C | N3-C2-O2 | -5.36 | 118.15 | 121.90 |
| 26 | 1H | 2024 | G | N9-C4-C5 | 5.36 | 107.55 | 105.40 |
| 26 | 1H | 2496 | C | C5-C6-N1 | -5.36 | 118.32 | 121.00 |
| 1 | 1G | 346 | G | N9-C4-C5 | -5.36 | 103.25 | 105.40 |
| 1 | 1G | 908 | A | OP2-P-O3' | 5.36 | 117.00 | 105.20 |
| 26 | 14 | 702 | G | N1-C2-N3 | 5.36 | 127.12 | 123.90 |
| 26 | 14 | 828 | U | O5'-P-OP2 | -5.36 | 100.87 | 105.70 |
| 26 | 14 | 847 | U | C2-N3-C4 | -5.36 | 123.78 | 127.00 |
| 26 | 14 | 2328 | A | C6-N1-C2 | -5.36 | 115.38 | 118.60 |
| 26 | 14 | 2356 | C | C2-N3-C4 | -5.36 | 117.22 | 119.90 |
| 26 | 14 | 2400 | G | C2-N3-C4 | 5.36 | 114.58 | 111.90 |
| 27 | 1J | 103 | U | C2-N1-C1' | -5.36 | 111.26 | 117.70 |
| 1 | 13 | 432 | A | O5'-P-OP2 | 5.36 | 117.14 | 110.70 |
| 1 | 13 | 503 | C | C5-C6-N1 | 5.36 | 123.68 | 121.00 |
| 1 | 13 | 1494 | G | N1-C2-N3 | -5.36 | 120.68 | 123.90 |
| 26 | 1H | 15 | G | OP1-P-OP2 | 5.36 | 127.64 | 119.60 |
| 26 | 1H | 1670 | C | N1-C2-O2 | -5.36 | 115.68 | 118.90 |
| 26 | 1H | 2597 | G | C8-N9-C4 | 5.36 | 108.55 | 106.40 |
| 1 | 1G | 385 | C | N3-C4-C5 | -5.36 | 119.75 | 121.90 |
| 26 | 14 | 128 | C | N3-C4-C5 | 5.36 | 124.05 | 121.90 |
| 26 | 14 | 618 | G | C8-N9-C4 | 5.36 | 108.55 | 106.40 |
| 26 | 14 | 853 | G | O5'-P-OP2 | -5.36 | 100.87 | 105.70 |
| 26 | 14 | 1429 | G | N1-C2-N3 | 5.36 | 127.12 | 123.90 |
| 26 | 14 | 1435 | G | C5-C6-O6 | -5.36 | 125.38 | 128.60 |
| 26 | 14 | 1606 | G | N1-C6-O6 | -5.36 | 116.68 | 119.90 |
| 1 | 13 | 31 | G | N7-C8-N9 | 5.36 | 115.78 | 113.10 |
| 1 | 13 | 107 | G | C4-C5-N7 | -5.36 | 108.66 | 110.80 |
| 1 | 13 | 828 | A | C8-N9-C4 | -5.36 | 103.66 | 105.80 |
| 1 | 13 | 893 | C | OP2-P-O3' | 5.36 | 116.99 | 105.20 |
| 1 | 13 | 1305 | G | C5-N7-C8 | -5.36 | 101.62 | 104.30 |
| 26 | 1H | 212 | G | OP1-P-O3' | -5.36 | 93.41 | 105.20 |
| 26 | 1H | 266 | G | C6-N1-C2 | -5.36 | 121.88 | 125.10 |
| 26 | 1H | 815 | C | C6-N1-C1' | -5.36 | 114.37 | 120.80 |
| 26 | 1H | 1566 | A | C5-C6-N6 | 5.36 | 127.99 | 123.70 |
| 26 | 1H | 1769 | G | O5'-P-OP1 | 5.36 | 117.13 | 110.70 |
| 26 | 1H | 1773 | A | C2-N3-C4 | -5.36 | 107.92 | 110.60 |
| 26 | 1H | 2277 | G | C8-N9-C4 | -5.36 | 104.26 | 106.40 |
| 1 | 1G | 293 | G | C5-N7-C8 | -5.36 | 101.62 | 104.30 |
| 1 | 1G | 558 | G | C4-C5-C6 | 5.36 | 122.02 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 1129 | A | P-O3'-C3' | 5.36 | 126.13 | 119.70 |
| 26 | 14 | 1848 | A | N9-C4-C5 | -5.36 | 103.66 | 105.80 |
| 26 | 14 | 1951 | U | N1-C2-N3 | 5.36 | 118.12 | 114.90 |
| 26 | 14 | 2077 | A | C8-N9-C4 | -5.36 | 103.66 | 105.80 |
| 26 | 14 | 2320 | A | O5'-P-OP1 | -5.36 | 100.88 | 105.70 |
| 26 | 14 | 2491 | U | OP1-P-O3' | 5.36 | 116.99 | 105.20 |
| 26 | 14 | 2514 | U | C2-N3-C4 | -5.36 | 123.78 | 127.00 |
| 46 | C5 | 76 | CYS | CA-CB-SG | 5.36 | 123.65 | 114.00 |
| 1 | 13 | 802 | A | C4-C5-N7 | 5.36 | 113.38 | 110.70 |
| 26 | 1H | 261 | G | N1-C6-O6 | 5.36 | 123.11 | 119.90 |
| 26 | 1H | 428 | A | C4-C5-C6 | 5.36 | 119.68 | 117.00 |
| 26 | 1H | 761 | A | C5-C6-N1 | -5.36 | 115.02 | 117.70 |
| 26 | 1H | 775 | G | OP1-P-OP2 | 5.36 | 127.64 | 119.60 |
| 26 | 1H | 833 | U | C4-C5-C6 | 5.36 | 122.92 | 119.70 |
| 26 | 1H | 1940 | U | N1-C2-N3 | 5.36 | 118.12 | 114.90 |
| 1 | 1G | 1414 | U | OP1-P-OP2 | 5.36 | 127.64 | 119.60 |
| 26 | 14 | 602 | G | N3-C4-N9 | 5.36 | 129.22 | 126.00 |
| 26 | 14 | 2228 | G | C4-C5-C6 | 5.36 | 122.02 | 118.80 |
| 1 | 13 | 352 | C | C2-N3-C4 | 5.36 | 122.58 | 119.90 |
| 1 | 13 | 586 | C | C4-C5-C6 | 5.36 | 120.08 | 117.40 |
| 1 | 13 | 827 | U | C6-N1-C2 | -5.36 | 117.79 | 121.00 |
| 26 | 1H | 121 | G | OP1-P-O3' | -5.36 | 93.41 | 105.20 |
| 26 | 1H | 133 | C | C2-N3-C4 | -5.36 | 117.22 | 119.90 |
| 26 | 1H | 782 | A | C5-N7-C8 | 5.36 | 106.58 | 103.90 |
| 26 | 1H | 1414 | G | C6-C5-N7 | -5.36 | 127.19 | 130.40 |
| 26 | 1H | 1434 | A | N1-C2-N3 | 5.36 | 131.98 | 129.30 |
| 26 | 1H | 1522 | G | C2-N3-C4 | 5.36 | 114.58 | 111.90 |
| 26 | 1H | 1656 | C | N3-C4-N4 | 5.36 | 121.75 | 118.00 |
| 26 | 1H | 1836 | C | N3-C2-O2 | -5.36 | 118.15 | 121.90 |
| 26 | 1H | 2329 | G | N3-C2-N2 | 5.36 | 123.65 | 119.90 |
| 26 | 1H | 2745 | C | C5-C6-N1 | 5.36 | 123.68 | 121.00 |
| 27 | 16 | 45 | A | C5-C6-N1 | -5.36 | 115.02 | 117.70 |
| 1 | 1G | 394 | G | N3-C2-N2 | -5.36 | 116.15 | 119.90 |
| 1 | 1G | 1442 | G | N3-C4-N9 | -5.36 | 122.79 | 126.00 |
| 1 | 1G | 1486 | G | N1-C2-N3 | -5.36 | 120.69 | 123.90 |
| 26 | 14 | 187 | G | C5-N7-C8 | -5.36 | 101.62 | 104.30 |
| 26 | 14 | 270(T) | G | C4-C5-C6 | 5.36 | 122.02 | 118.80 |
| 26 | 14 | 430 | G | C5-C6-O6 | -5.36 | 125.39 | 128.60 |
| 26 | 14 | 854 | G | C8-N9-C4 | -5.36 | 104.26 | 106.40 |
| 26 | 14 | 1261 | C | C5-C6-N1 | -5.36 | 118.32 | 121.00 |
| 26 | 14 | 1633 | G | N1-C2-N2 | -5.36 | 111.38 | 116.20 |
| 26 | 14 | 1934 | C | N1-C1'-C2' | -5.36 | 106.11 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 2199 | A | C2-N3-C4 | -5.36 | 107.92 | 110.60 |
| 26 | 14 | 2488 | A | N1-C2-N3 | 5.36 | 131.98 | 129.30 |
| 1 | 13 | 779 | C | N3-C2-O2 | -5.36 | 118.15 | 121.90 |
| 1 | 13 | 1305 | G | N1-C2-N3 | 5.36 | 127.11 | 123.90 |
| 1 | 13 | 1407 | C | N1-C2-O2 | 5.36 | 122.11 | 118.90 |
| 23 | 2K | 12 | G | N3-C4-C5 | -5.36 | 125.92 | 128.60 |
| 26 | 1H | 6 | A | C5-N7-C8 | -5.36 | 101.22 | 103.90 |
| 26 | 1H | 23 | G | N1-C2-N2 | -5.36 | 111.38 | 116.20 |
| 26 | 1H | 402 | A | OP1-P-OP2 | -5.36 | 111.57 | 119.60 |
| 26 | 1H | 871 | U | O4'-C1'-N1 | -5.36 | 103.92 | 108.20 |
| 26 | 1H | 1142(A) | A | OP1-P-OP2 | -5.36 | 111.57 | 119.60 |
| 26 | 1H | 2545 | G | C4-C5-N7 | -5.36 | 108.66 | 110.80 |
| 1 | 1G | 316 | G | OP1-P-O3' | 5.36 | 116.98 | 105.20 |
| 1 | 1G | 1316 | G | N1-C6-O6 | -5.36 | 116.69 | 119.90 |
| 1 | 1G | 1403 | C | N3-C4-C5 | 5.36 | 124.04 | 121.90 |
| 1 | 1G | 1437 | C | N3-C2-O2 | 5.36 | 125.65 | 121.90 |
| 1 | 1G | 1516 | G | C6-N1-C2 | 5.36 | 128.31 | 125.10 |
| 9 | 82 | 79 | LEU | CA-CB-CG | 5.36 | 127.62 | 115.30 |
| 26 | 14 | 1372 | U | N1-C2-N3 | 5.36 | 118.11 | 114.90 |
| 26 | 14 | 1575 | C | N3-C2-O2 | -5.36 | 118.15 | 121.90 |
| 26 | 14 | 1819 | A | C2-N3-C4 | -5.36 | 107.92 | 110.60 |
| 26 | 14 | 2323 | G | N9-C4-C5 | -5.36 | 103.26 | 105.40 |
| 27 | 1J | 72 | G | OP1-P-OP2 | 5.36 | 127.63 | 119.60 |
| 27 | 1J | 118 | G | C8-N9-C1' | -5.36 | 120.04 | 127.00 |
| 1 | 13 | 57 | G | N1-C2-N2 | -5.35 | 111.38 | 116.20 |
| 1 | 13 | 396 | G | C5-C6-N1 | -5.35 | 108.82 | 111.50 |
| 6 | 5E | 86 | ARG | NE-CZ-NH2 | -5.35 | 117.62 | 120.30 |
| 26 | 1H | 1125 | G | C6-C5-N7 | 5.35 | 133.61 | 130.40 |
| 26 | 1H | 2217 | G | C6-C5-N7 | -5.35 | 127.19 | 130.40 |
| 26 | 1H | 2424 | C | OP2-P-O3' | 5.35 | 116.98 | 105.20 |
| 1 | 1G | 1422 | G | C6-C5-N7 | 5.35 | 133.61 | 130.40 |
| 26 | 14 | 661 | C | C6-N1-C2 | -5.35 | 118.16 | 120.30 |
| 26 | 14 | 1581 | G | N1-C6-O6 | 5.35 | 123.11 | 119.90 |
| 26 | 14 | 2587 | A | C4-C5-C6 | 5.35 | 119.68 | 117.00 |
| 26 | 14 | 2594 | C | C2-N1-C1' | -5.35 | 112.91 | 118.80 |
| 1 | 13 | 1441 | G | N3-C4-N9 | -5.35 | 122.79 | 126.00 |
| 1 | 13 | 1483 | A | C5-N7-C8 | -5.35 | 101.22 | 103.90 |
| 24 | 3K | 36 | U | N3-C2-O2 | -5.35 | 118.45 | 122.20 |
| 26 | 1H | 177 | G | O4'-C1'-N9 | 5.35 | 112.48 | 108.20 |
| 26 | 1H | 273 | G | C5-N7-C8 | 5.35 | 106.98 | 104.30 |
| 26 | 1H | 408 | G | N1-C2-N3 | -5.35 | 120.69 | 123.90 |
| 26 | 1H | 500 | G | N1-C6-O6 | -5.35 | 116.69 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 793 | A | N3-C4-N9 | 5.35 | 131.68 | 127.40 |
| 26 | 1H | 1006 | C | C2-N1-C1' | -5.35 | 112.91 | 118.80 |
| 26 | 1H | 1977 | A | N9-C1'-C2' | -5.35 | 106.11 | 112.00 |
| 26 | 1H | 2836 | U | C5-C6-N1 | 5.35 | 125.38 | 122.70 |
| 1 | 1G | 483 | C | N3-C2-O2 | 5.35 | 125.65 | 121.90 |
| 23 | 2L | 26 | C | N3-C4-C5 | -5.35 | 119.76 | 121.90 |
| 26 | 14 | 775 | G | N7-C8-N9 | 5.35 | 115.78 | 113.10 |
| 26 | 14 | 915 | C | C5-C4-N4 | 5.35 | 123.95 | 120.20 |
| 26 | 14 | 1445 | C | N3-C4-N4 | 5.35 | 121.75 | 118.00 |
| 26 | 14 | 1704 | G | OP1-P-OP2 | -5.35 | 111.57 | 119.60 |
| 26 | 14 | 1913 | A | OP1-P-OP2 | -5.35 | 111.57 | 119.60 |
| 26 | 14 | 2709 | G | N3-C4-C5 | 5.35 | 131.28 | 128.60 |
| 26 | 14 | 2721 | A | N1-C6-N6 | -5.35 | 115.39 | 118.60 |
| 1 | 13 | 238 | G | C8-N9-C4 | 5.35 | 108.54 | 106.40 |
| 26 | 1H | 132 | G | OP1-P-OP2 | 5.35 | 127.63 | 119.60 |
| 26 | 1H | 380 | U | N1-C2-N3 | 5.35 | 118.11 | 114.90 |
| 26 | 1H | 2071 | A | C5-N7-C8 | -5.35 | 101.22 | 103.90 |
| 1 | 1G | 195 | A | C8-N9-C4 | -5.35 | 103.66 | 105.80 |
| 1 | 1G | 913 | A | C2-N3-C4 | 5.35 | 113.28 | 110.60 |
| 1 | 1G | 1342 | C | C6-N1-C2 | -5.35 | 118.16 | 120.30 |
| 26 | 14 | 1790 | C | OP1-P-O3' | 5.35 | 116.97 | 105.20 |
| 26 | 14 | 2595 | G | C5-C6-N1 | 5.35 | 114.18 | 111.50 |
| 1 | 13 | 330 | C | N3-C2-O2 | -5.35 | 118.16 | 121.90 |
| 1 | 13 | 1407 | C | OP1-P-OP2 | -5.35 | 111.57 | 119.60 |
| 23 | 2K | 60 | A | O5'-P-OP2 | -5.35 | 100.89 | 105.70 |
| 26 | 1H | 893 | C | C5-C6-N1 | 5.35 | 123.67 | 121.00 |
| 26 | 1H | 1036 | G | OP2-P-O3' | 5.35 | 116.97 | 105.20 |
| 26 | 1H | 1375 | C | OP1-P-O3' | 5.35 | 116.97 | 105.20 |
| 26 | 1H | 1655 | A | C5-C6-N1 | 5.35 | 120.37 | 117.70 |
| 26 | 1H | 2429 | G | C5-C6-N1 | -5.35 | 108.83 | 111.50 |
| 26 | 1H | 2773 | C | N3-C4-N4 | 5.35 | 121.74 | 118.00 |
| 27 | 16 | 75 | G | N1-C6-O6 | 5.35 | 123.11 | 119.90 |
| 26 | 14 | 556 | G | N1-C6-O6 | -5.35 | 116.69 | 119.90 |
| 26 | 14 | 626 | U | N1-C2-O2 | -5.35 | 119.06 | 122.80 |
| 26 | 14 | 668 | G | C2-N3-C4 | -5.35 | 109.22 | 111.90 |
| 26 | 14 | 1154 | G | OP1-P-OP2 | -5.35 | 111.58 | 119.60 |
| 26 | 14 | 1303 | G | N1-C2-N3 | 5.35 | 127.11 | 123.90 |
| 26 | 14 | 2011 | U | N3-C2-O2 | 5.35 | 125.94 | 122.20 |
| 26 | 14 | 2255 | G | C5-C6-N1 | 5.35 | 114.17 | 111.50 |
| 30 | 29 | 50 | GLY | N-CA-C | 5.35 | 126.48 | 113.10 |
| 1 | 13 | 748 | C | C5-C4-N4 | -5.35 | 116.46 | 120.20 |
| 1 | 13 | 810 | C | O5'-P-OP2 | -5.35 | 100.89 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1075 | C | C5-C6-N1 | 5.35 | 123.67 | 121.00 |
| 1 | 13 | 1110 | A | N1-C6-N6 | 5.35 | 121.81 | 118.60 |
| 25 | 4K | 16 | A | N9-C4-C5 | -5.35 | 103.66 | 105.80 |
| 26 | 1H | 273(D) | C | N1-C2-O2 | 5.35 | 122.11 | 118.90 |
| 26 | 1H | 718 | A | C4-C5-N7 | 5.35 | 113.37 | 110.70 |
| 26 | 1H | 1187 | G | N7-C8-N9 | -5.35 | 110.43 | 113.10 |
| 26 | 1H | 1238 | G | C6-C5-N7 | 5.35 | 133.61 | 130.40 |
| 1 | 1G | 255 | G | N1-C6-O6 | -5.35 | 116.69 | 119.90 |
| 1 | 1G | 419 | C | C6-N1-C2 | 5.35 | 122.44 | 120.30 |
| 1 | 1G | 495 | A | C4-C5-C6 | -5.35 | 114.33 | 117.00 |
| 1 | 1G | 875 | C | C5-C6-N1 | -5.35 | 118.33 | 121.00 |
| 57 | 3L | 4 | U | C5-C6-N1 | 5.35 | 125.37 | 122.70 |
| 26 | 14 | 469 | G | C6-N1-C2 | -5.35 | 121.89 | 125.10 |
| 26 | 14 | 819 | A | OP2-P-O3' | 5.35 | 116.96 | 105.20 |
| 26 | 14 | 1860 | G | C5-N7-C8 | -5.35 | 101.63 | 104.30 |
| 27 | 1J | 105 | G | O5'-P-OP2 | 5.35 | 117.12 | 110.70 |
| 4 | 3E | 53 | ASP | CB-CG-OD2 | -5.35 | 113.49 | 118.30 |
| 26 | 1H | 180 | G | N3-C4-C5 | 5.35 | 131.27 | 128.60 |
| 26 | 1H | 685 | A | N1-C6-N6 | 5.35 | 121.81 | 118.60 |
| 26 | 1H | 836 | G | C4-C5-N7 | -5.35 | 108.66 | 110.80 |
| 26 | 1H | 2076 | U | N1-C2-N3 | 5.35 | 118.11 | 114.90 |
| 26 | 1H | 2709 | G | N1-C2-N2 | -5.35 | 111.39 | 116.20 |
| 29 | 11 | 109 | ASP | CB-CG-OD1 | -5.35 | 113.49 | 118.30 |
| 41 | B8 | 6 | LEU | CA-CB-CG | 5.35 | 127.59 | 115.30 |
| 1 | 1G | 915 | A | N3-C4-C5 | -5.35 | 123.06 | 126.80 |
| 26 | 14 | 125 | G | C4-C5-C6 | -5.35 | 115.59 | 118.80 |
| 26 | 14 | 559 | G | C4-C5-N7 | -5.35 | 108.66 | 110.80 |
| 26 | 14 | 1799 | G | C4-C5-N7 | -5.35 | 108.66 | 110.80 |
| 26 | 14 | 1938 | A | C5-N7-C8 | -5.35 | 101.23 | 103.90 |
| 26 | 14 | 2044 | C | C6-N1-C1' | -5.35 | 114.39 | 120.80 |
| 1 | 13 | 37 | U | C2-N3-C4 | 5.34 | 130.21 | 127.00 |
| 1 | 13 | 428 | G | N1-C6-O6 | 5.34 | 123.11 | 119.90 |
| 1 | 13 | 1133 | G | N3-C2-N2 | -5.34 | 116.16 | 119.90 |
| 26 | 1H | 49 | A | OP1-P-OP2 | 5.34 | 127.62 | 119.60 |
| 26 | 1H | 382 | G | C8-N9-C4 | 5.34 | 108.54 | 106.40 |
| 26 | 1H | 482 | A | O5'-P-OP1 | 5.34 | 117.11 | 110.70 |
| 26 | 1H | 869 | G | N1-C6-O6 | -5.34 | 116.69 | 119.90 |
| 26 | 1H | 1814 | G | C6-N1-C2 | -5.34 | 121.89 | 125.10 |
| 26 | 1H | 1979 | C | N3-C2-O2 | -5.34 | 118.16 | 121.90 |
| 26 | 1H | 2012 | G | N7-C8-N9 | -5.34 | 110.43 | 113.10 |
| 26 | 1H | 2612 | C | O5'-P-OP1 | -5.34 | 100.89 | 105.70 |
| 27 | 16 | 56 | G | N3-C4-C5 | -5.34 | 125.93 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 27 | 16 | 104 | A | C5-C6-N1 | 5.34 | 120.37 | 117.70 |
| 1 | 1G | 963 | G | N3-C4-C5 | -5.34 | 125.93 | 128.60 |
| 1 | 1G | 964 | A | N1-C6-N6 | 5.34 | 121.81 | 118.60 |
| 1 | 1G | 968 | A | N1-C6-N6 | 5.34 | 121.81 | 118.60 |
| 26 | 14 | 459 | U | N1-C2-N3 | 5.34 | 118.11 | 114.90 |
| 26 | 14 | 1252 | G | OP1-P-O3' | 5.34 | 116.96 | 105.20 |
| 26 | 14 | 1445 | C | N3-C4-C5 | -5.34 | 119.76 | 121.90 |
| 26 | 14 | 1783 | A | C4-C5-C6 | 5.34 | 119.67 | 117.00 |
| 26 | 14 | 2003 | G | N3-C4-C5 | -5.34 | 125.93 | 128.60 |
| 26 | 14 | 2295 | C | C5-C4-N4 | -5.34 | 116.46 | 120.20 |
| 26 | 14 | 2596 | U | N3-C4-C5 | 5.34 | 117.81 | 114.60 |
| 26 | 14 | 2673 | G | O5'-P-OP2 | -5.34 | 100.89 | 105.70 |
| 26 | 14 | 2686 | G | N1-C2-N3 | -5.34 | 120.69 | 123.90 |
| 27 | 1J | 12 | C | C5-C4-N4 | -5.34 | 116.46 | 120.20 |
| 44 | A5 | 90 | ARG | NE-CZ-NH1 | -5.34 | 117.63 | 120.30 |
| 1 | 13 | 42 | G | N3-C4-N9 | 5.34 | 129.21 | 126.00 |
| 23 | 2K | 17 | C | C2-N3-C4 | 5.34 | 122.57 | 119.90 |
| 26 | 1H | 735 | A | O5'-P-OP2 | -5.34 | 100.89 | 105.70 |
| 26 | 1H | 1978 | A | C6-C5-N7 | 5.34 | 136.04 | 132.30 |
| 1 | 1G | 1246 | C | C6-N1-C2 | -5.34 | 118.16 | 120.30 |
| 26 | 14 | 1319 | G | N7-C8-N9 | 5.34 | 115.77 | 113.10 |
| 26 | 14 | 1412 | A | C4-C5-N7 | 5.34 | 113.37 | 110.70 |
| 26 | 14 | 1646 | C | N3-C4-N4 | 5.34 | 121.74 | 118.00 |
| 26 | 14 | 2067 | G | C6-C5-N7 | -5.34 | 127.19 | 130.40 |
| 1 | 13 | 714 | G | O5'-P-OP1 | -5.34 | 100.89 | 105.70 |
| 1 | 13 | 1239 | A | N3-C4-C5 | 5.34 | 130.54 | 126.80 |
| 26 | 1H | 127 | A | C2-N3-C4 | -5.34 | 107.93 | 110.60 |
| 26 | 1H | 223 | A | O5'-P-OP1 | -5.34 | 100.89 | 105.70 |
| 26 | 1H | 273(B) | C | OP2-P-O3' | 5.34 | 116.95 | 105.20 |
| 26 | 1H | 280 | C | C6-N1-C2 | -5.34 | 118.16 | 120.30 |
| 26 | 1H | 578 | A | O5'-P-OP1 | 5.34 | 117.11 | 110.70 |
| 26 | 1H | 2279 | G | O4'-C1'-N9 | 5.34 | 112.47 | 108.20 |
| 26 | 1H | 2483 | C | C5-C6-N1 | 5.34 | 123.67 | 121.00 |
| 26 | 1H | 2819 | G | O5'-P-OP1 | 5.34 | 117.11 | 110.70 |
| 1 | 1G | 326 | G | C2-N3-C4 | -5.34 | 109.23 | 111.90 |
| 1 | 1G | 580 | U | O5'-P-OP1 | -5.34 | 100.89 | 105.70 |
| 1 | 1G | 1525 | G | C5-C6-O6 | 5.34 | 131.81 | 128.60 |
| 26 | 14 | 178 | G | C4-C5-N7 | 5.34 | 112.94 | 110.80 |
| 26 | 14 | 642 | G | N9-C4-C5 | 5.34 | 107.54 | 105.40 |
| 26 | 14 | 740 | U | C5-C6-N1 | 5.34 | 125.37 | 122.70 |
| 26 | 14 | 962 | G | N3-C4-N9 | -5.34 | 122.80 | 126.00 |
| 26 | 14 | 1309 | G | N3-C4-N9 | -5.34 | 122.80 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 1449(A) | G | C2-N3-C4 | -5.34 | 109.23 | 111.90 |
| 26 | 14 | 1815 | A | C5-C6-N1 | 5.34 | 120.37 | 117.70 |
| 26 | 14 | 2384 | G | C2-N3-C4 | 5.34 | 114.57 | 111.90 |
| 1 | 13 | 253 | U | N3-C2-O2 | 5.34 | 125.94 | 122.20 |
| 1 | 13 | 592 | G | N7-C8-N9 | 5.34 | 115.77 | 113.10 |
| 1 | 13 | 1068 | G | C8-N9-C4 | -5.34 | 104.26 | 106.40 |
| 1 | 13 | 1222 | G | N3-C4-C5 | 5.34 | 131.27 | 128.60 |
| 1 | 13 | 1391 | U | N1-C2-O2 | 5.34 | 126.54 | 122.80 |
| 1 | 13 | 1411 | C | P-O3'-C3' | -5.34 | 113.29 | 119.70 |
| 26 | 1H | 1488 | G | N1-C6-O6 | 5.34 | 123.10 | 119.90 |
| 26 | 1H | 1635 | G | N9-C4-C5 | -5.34 | 103.26 | 105.40 |
| 26 | 1H | 1648 | C | C5-C4-N4 | 5.34 | 123.94 | 120.20 |
| 26 | 1H | 1758 | G | C6-N1-C2 | -5.34 | 121.90 | 125.10 |
| 50 | K8 | 49 | LYS | CD-CE-NZ | 5.34 | 123.98 | 111.70 |
| 1 | 1G | 604 | G | C8-N9-C4 | -5.34 | 104.26 | 106.40 |
| 1 | 1G | 1359 | C | O5'-P-OP1 | -5.34 | 100.89 | 105.70 |
| 26 | 14 | 619 | G | C2-N3-C4 | 5.34 | 114.57 | 111.90 |
| 26 | 14 | 1235 | G | C5-C6-O6 | 5.34 | 131.80 | 128.60 |
| 26 | 14 | 1390 | U | C2-N3-C4 | 5.34 | 130.20 | 127.00 |
| 26 | 14 | 1919 | A | OP1-P-OP2 | 5.34 | 127.61 | 119.60 |
| 26 | 14 | 1948 | G | N1-C6-O6 | 5.34 | 123.10 | 119.90 |
| 26 | 14 | 1992 | G | N3-C4-N9 | 5.34 | 129.20 | 126.00 |
| 26 | 14 | 2260 | C | N3-C4-C5 | -5.34 | 119.76 | 121.90 |
| 1 | 13 | 382 | A | N7-C8-N9 | -5.34 | 111.13 | 113.80 |
| 1 | 13 | 1480 | G | N9-C4-C5 | 5.34 | 107.53 | 105.40 |
| 26 | 1H | 14 | A | N7-C8-N9 | -5.34 | 111.13 | 113.80 |
| 26 | 1H | 280 | C | C2-N1-C1' | 5.34 | 124.67 | 118.80 |
| 26 | 1H | 921 | G | N9-C4-C5 | 5.34 | 107.53 | 105.40 |
| 26 | 1H | 944 | G | C5-C6-O6 | 5.34 | 131.80 | 128.60 |
| 26 | 1H | 1608 | A | N1-C2-N3 | 5.34 | 131.97 | 129.30 |
| 26 | 1H | 1784 | A | N1-C2-N3 | 5.34 | 131.97 | 129.30 |
| 1 | 1G | 332 | G | N7-C8-N9 | -5.34 | 110.43 | 113.10 |
| 1 | 1G | 510 | A | N3-C4-C5 | 5.34 | 130.54 | 126.80 |
| 26 | 14 | 80 | G | C5-C6-O6 | 5.34 | 131.80 | 128.60 |
| 26 | 14 | 1254 | A | C5-C6-N6 | -5.34 | 119.43 | 123.70 |
| 26 | 14 | 2043 | C | N3-C4-N4 | 5.34 | 121.74 | 118.00 |
| 26 | 14 | 2280 | G | N9-C1'-C2' | -5.34 | 106.13 | 112.00 |
| 26 | 14 | 2296 | U | N3-C2-O2 | -5.34 | 118.46 | 122.20 |
| 26 | 14 | 2416 | C | C5-C6-N1 | -5.34 | 118.33 | 121.00 |
| 32 | 49 | 5 | VAL | N-CA-C | -5.34 | 96.59 | 111.00 |
| 1 | 13 | 266 | G | P-O3'-C3' | 5.34 | 126.10 | 119.70 |
| 26 | 1H | 416 | C | N3-C4-N4 | -5.34 | 114.27 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 794 | G | C8-N9-C1' | -5.34 | 120.06 | 127.00 |
| 26 | 1H | 1347 | G | C5-C6-O6 | -5.34 | 125.40 | 128.60 |
| 26 | 1H | 1554 | A | C5-N7-C8 | 5.34 | 106.57 | 103.90 |
| 26 | 1H | 1618 | A | C8-N9-C4 | -5.34 | 103.67 | 105.80 |
| 26 | 1H | 1644 | C | C6-N1-C2 | -5.34 | 118.17 | 120.30 |
| 26 | 1H | 2243 | U | C6-N1-C2 | -5.34 | 117.80 | 121.00 |
| 26 | 1H | 2420 | C | N3-C2-O2 | 5.34 | 125.64 | 121.90 |
| 27 | 16 | 8 | U | C5-C4-O4 | 5.34 | 129.10 | 125.90 |
| 1 | 1G | 458 | C | C6-N1-C2 | -5.34 | 118.17 | 120.30 |
| 1 | 1G | 818 | G | N9-C4-C5 | 5.34 | 107.53 | 105.40 |
| 23 | 2L | 54 | G | C6-C5-N7 | -5.34 | 127.20 | 130.40 |
| 26 | 14 | 209 | C | N3-C2-O2 | -5.34 | 118.16 | 121.90 |
| 26 | 14 | 618(A) | C | C5-C4-N4 | -5.34 | 116.47 | 120.20 |
| 26 | 14 | 2395 | C | N1-C2-N3 | -5.34 | 115.46 | 119.20 |
| 26 | 14 | 2535 | G | O5'-P-OP2 | -5.34 | 100.90 | 105.70 |
| 26 | 14 | 2648 | C | N3-C4-N4 | 5.34 | 121.73 | 118.00 |
| 1 | 13 | 413 | G | C5-C6-O6 | 5.33 | 131.80 | 128.60 |
| 1 | 13 | 673 | G | N7-C8-N9 | 5.33 | 115.77 | 113.10 |
| 26 | 1H | 612 | G | N7-C8-N9 | -5.33 | 110.43 | 113.10 |
| 26 | 1H | 686 | G | O5'-P-OP1 | 5.33 | 117.10 | 110.70 |
| 26 | 1H | 2092 | U | N3-C4-O4 | 5.33 | 123.13 | 119.40 |
| 26 | 1H | 2287 | A | C6-N1-C2 | 5.33 | 121.80 | 118.60 |
| 1 | 1G | 354 | G | N1-C6-O6 | 5.33 | 123.10 | 119.90 |
| 1 | 1G | 615 | C | C5-C6-N1 | 5.33 | 123.67 | 121.00 |
| 1 | 1G | 1406 | U | C4-C5-C6 | 5.33 | 122.90 | 119.70 |
| 26 | 14 | 1901 | A | C6-N1-C2 | -5.33 | 115.40 | 118.60 |
| 26 | 14 | 2776 | A | N7-C8-N9 | 5.33 | 116.47 | 113.80 |
| 1 | 13 | 415 | A | N1-C6-N6 | -5.33 | 115.40 | 118.60 |
| 1 | 13 | 1069 | C | C4-C5-C6 | -5.33 | 114.73 | 117.40 |
| 1 | 13 | 1479 | C | C6-N1-C2 | 5.33 | 122.43 | 120.30 |
| 26 | 1H | 212 | G | C5-C6-O6 | 5.33 | 131.80 | 128.60 |
| 26 | 1H | 270(A) | A | OP1-P-OP2 | 5.33 | 127.60 | 119.60 |
| 26 | 1H | 298 | G | C4-N9-C1' | -5.33 | 119.57 | 126.50 |
| 26 | 1H | 1151 | G | N1-C2-N3 | -5.33 | 120.70 | 123.90 |
| 26 | 1H | 1670 | C | N1-C2-N3 | 5.33 | 122.93 | 119.20 |
| 26 | 1H | 1751 | C | C5-C6-N1 | -5.33 | 118.33 | 121.00 |
| 26 | 1H | 2047 | U | N3-C4-O4 | 5.33 | 123.13 | 119.40 |
| 26 | 1H | 2066 | C | OP2-P-O3' | 5.33 | 116.94 | 105.20 |
| 26 | 1H | 2094 | G | C2-N3-C4 | -5.33 | 109.23 | 111.90 |
| 26 | 1H | 2256 | G | C4-C5-C6 | -5.33 | 115.60 | 118.80 |
| 27 | 16 | 72 | G | N1-C6-O6 | -5.33 | 116.70 | 119.90 |
| 1 | 1G | 105 | G | N1-C2-N2 | -5.33 | 111.40 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 318 | C | N1-C2-O2 | -5.33 | 115.70 | 118.90 |
| 26 | 14 | 671 | C | C5-C6-N1 | -5.33 | 118.33 | 121.00 |
| 26 | 14 | 1500 | G | N3-C2-N2 | -5.33 | 116.17 | 119.90 |
| 1 | 13 | 28 | G | N3-C2-N2 | -5.33 | 116.17 | 119.90 |
| 1 | 13 | 1300 | G | N1-C6-O6 | -5.33 | 116.70 | 119.90 |
| 1 | 13 | 1318 | A | N7-C8-N9 | -5.33 | 111.13 | 113.80 |
| 26 | 1H | 366 | C | N1-C2-O2 | -5.33 | 115.70 | 118.90 |
| 26 | 1H | 673 | C | C5-C4-N4 | -5.33 | 116.47 | 120.20 |
| 26 | 1H | 1571 | A | N1-C6-N6 | -5.33 | 115.40 | 118.60 |
| 26 | 1H | 1706 | U | C2-N3-C4 | 5.33 | 130.20 | 127.00 |
| 26 | 1H | 1955 | U | N3-C4-O4 | -5.33 | 115.67 | 119.40 |
| 26 | 1H | 2315 | G | C8-N9-C4 | -5.33 | 104.27 | 106.40 |
| 26 | 1H | 2328 | A | N9-C1'-C2' | 5.33 | 120.93 | 114.00 |
| 27 | 16 | 13 | A | N9-C4-C5 | 5.33 | 107.93 | 105.80 |
| 1 | 1G | 266 | G | C8-N9-C1' | -5.33 | 120.07 | 127.00 |
| 1 | 1G | 612 | C | N3-C4-C5 | 5.33 | 124.03 | 121.90 |
| 4 | 32 | 191 | ARG | NH1-CZ-NH2 | 5.33 | 125.27 | 119.40 |
| 23 | 2L | 39 | A | C4-C5-N7 | 5.33 | 113.37 | 110.70 |
| 26 | 14 | 1518 | C | C4-C5-C6 | 5.33 | 120.07 | 117.40 |
| 26 | 14 | 1842 | G | N7-C8-N9 | -5.33 | 110.43 | 113.10 |
| 26 | 14 | 2416 | C | N1-C2-O2 | -5.33 | 115.70 | 118.90 |
| 26 | 14 | 2553 | G | N7-C8-N9 | -5.33 | 110.43 | 113.10 |
| 27 | 1J | 16 | G | C6-C5-N7 | -5.33 | 127.20 | 130.40 |
| 1 | 13 | 425 | G | O5'-P-OP1 | -5.33 | 100.90 | 105.70 |
| 1 | 13 | 728 | A | C5-C6-N1 | 5.33 | 120.36 | 117.70 |
| 26 | 1H | 80 | G | N3-C4-C5 | -5.33 | 125.94 | 128.60 |
| 26 | 1H | 245 | G | C6-C5-N7 | -5.33 | 127.20 | 130.40 |
| 26 | 1H | 594 | U | OP2-P-O3' | 5.33 | 116.93 | 105.20 |
| 26 | 1H | 1283 | G | C4-N9-C1' | 5.33 | 133.43 | 126.50 |
| 1 | 1G | 621 | A | C8-N9-C4 | 5.33 | 107.93 | 105.80 |
| 26 | 14 | 191 | A | C6-C5-N7 | -5.33 | 128.57 | 132.30 |
| 1 | 13 | 497 | U | C2-N1-C1' | 5.33 | 124.09 | 117.70 |
| 1 | 13 | 802 | A | C6-N1-C2 | 5.33 | 121.80 | 118.60 |
| 1 | 13 | 1210 | C | N3-C4-C5 | 5.33 | 124.03 | 121.90 |
| 1 | 13 | 1523 | G | OP2-P-O3' | 5.33 | 116.92 | 105.20 |
| 26 | 1H | 715 | G | N1-C6-O6 | -5.33 | 116.70 | 119.90 |
| 26 | 1H | 867 | C | N1-C2-O2 | -5.33 | 115.70 | 118.90 |
| 26 | 1H | 916 | G | OP2-P-O3' | 5.33 | 116.92 | 105.20 |
| 26 | 1H | 1384 | A | O5'-P-OP2 | -5.33 | 100.90 | 105.70 |
| 26 | 1H | 1708 | C | C5-C4-N4 | -5.33 | 116.47 | 120.20 |
| 26 | 1H | 1862 | G | C2-N3-C4 | -5.33 | 109.24 | 111.90 |
| 26 | 1H | 2260 | C | OP1-P-OP2 | -5.33 | 111.61 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2429 | G | C4-C5-N7 | -5.33 | 108.67 | 110.80 |
| 26 | 1H | 2478 | A | OP2-P-O3' | 5.33 | 116.92 | 105.20 |
| 1 | 1G | 392 | G | C5-N7-C8 | 5.33 | 106.96 | 104.30 |
| 1 | 1G | 829 | G | C8-N9-C4 | -5.33 | 104.27 | 106.40 |
| 23 | 2L | 35 | C | C2-N3-C4 | 5.33 | 122.56 | 119.90 |
| 26 | 14 | 450 | G | N3-C2-N2 | -5.33 | 116.17 | 119.90 |
| 26 | 14 | 789 | A | C2-N3-C4 | -5.33 | 107.94 | 110.60 |
| 26 | 14 | 1299 | G | O5'-P-OP1 | -5.33 | 100.90 | 105.70 |
| 26 | 14 | 2070 | G | C4-C5-N7 | -5.33 | 108.67 | 110.80 |
| 26 | 14 | 2237 | G | C5-C6-O6 | 5.33 | 131.80 | 128.60 |
| 22 | 1K | 52 | G | N3-C4-C5 | 5.33 | 131.26 | 128.60 |
| 26 | 1H | 1619 | G | C6-C5-N7 | 5.33 | 133.60 | 130.40 |
| 26 | 1H | 1690 | A | O5'-P-OP1 | -5.33 | 100.91 | 105.70 |
| 26 | 1H | 1841 | U | OP1-P-OP2 | -5.33 | 111.61 | 119.60 |
| 26 | 14 | 62 | C | N3-C4-C5 | 5.33 | 124.03 | 121.90 |
| 1 | 13 | 776 | G | N3-C2-N2 | -5.33 | 116.17 | 119.90 |
| 1 | 13 | 1101 | A | C5-C6-N1 | 5.33 | 120.36 | 117.70 |
| 1 | 13 | 1266 | G | N1-C6-O6 | 5.33 | 123.09 | 119.90 |
| 26 | 1H | 196 | A | N7-C8-N9 | 5.33 | 116.46 | 113.80 |
| 26 | 1H | 570 | G | C5-C6-N1 | -5.33 | 108.84 | 111.50 |
| 26 | 1H | 1291 | C | C5-C6-N1 | -5.33 | 118.34 | 121.00 |
| 26 | 1H | 1312 | U | OP1-P-O3' | 5.33 | 116.92 | 105.20 |
| 26 | 1H | 1619 | G | OP1-P-OP2 | 5.33 | 127.59 | 119.60 |
| 26 | 1H | 2707 | G | C6-N1-C2 | -5.33 | 121.91 | 125.10 |
| 1 | 1G | 823 | G | N3-C4-N9 | -5.33 | 122.81 | 126.00 |
| 1 | 1G | 1528 | U | C2-N3-C4 | -5.33 | 123.81 | 127.00 |
| 1 | 1G | 1534 | A | N1-C2-N3 | -5.33 | 126.64 | 129.30 |
| 26 | 14 | 70 | G | C5-C6-N1 | 5.33 | 114.16 | 111.50 |
| 26 | 14 | 76 | C | C2-N3-C4 | 5.33 | 122.56 | 119.90 |
| 26 | 14 | 606 | U | C2-N3-C4 | -5.33 | 123.80 | 127.00 |
| 26 | 14 | 1133 | U | C5-C4-O4 | -5.33 | 122.70 | 125.90 |
| 26 | 14 | 1257 | C | N3-C4-C5 | -5.33 | 119.77 | 121.90 |
| 26 | 14 | 1337 | G | OP1-P-O3' | 5.33 | 116.92 | 105.20 |
| 26 | 14 | 2078 | C | N1-C2-N3 | 5.33 | 122.93 | 119.20 |
| 26 | 14 | 2441 | C | C4-C5-C6 | 5.33 | 120.06 | 117.40 |
| 26 | 14 | 2534 | A | C6-C5-N7 | -5.33 | 128.57 | 132.30 |
| 26 | 14 | 2818 | G | N1-C6-O6 | 5.33 | 123.10 | 119.90 |
| 39 | 55 | 90 | ARG | NE-CZ-NH1 | 5.33 | 122.96 | 120.30 |
| 1 | 13 | 569 | C | C5-C6-N1 | 5.32 | 123.66 | 121.00 |
| 1 | 13 | 680 | C | N3-C2-O2 | -5.32 | 118.17 | 121.90 |
| 1 | 13 | 1236 | A | C6-C5-N7 | -5.32 | 128.57 | 132.30 |
| 1 | 13 | 1301 | U | C5-C4-O4 | -5.32 | 122.71 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1357 | A | C8-N9-C4 | -5.32 | 103.67 | 105.80 |
| 26 | 1H | 212 | G | C4-C5-N7 | -5.32 | 108.67 | 110.80 |
| 26 | 1H | 272 | G | N1-C2-N3 | 5.32 | 127.09 | 123.90 |
| 26 | 1H | 415 | A | C5-C6-N6 | -5.32 | 119.44 | 123.70 |
| 26 | 1H | 1120 | G | N9-C4-C5 | -5.32 | 103.27 | 105.40 |
| 26 | 1H | 1358 | G | N1-C2-N2 | -5.32 | 111.41 | 116.20 |
| 26 | 1H | 1362 | C | N3-C4-C5 | -5.32 | 119.77 | 121.90 |
| 26 | 1H | 1850 | G | C5-C6-N1 | -5.32 | 108.84 | 111.50 |
| 26 | 1H | 2197 | U | C4-C5-C6 | 5.32 | 122.89 | 119.70 |
| 26 | 1H | 2234 | G | O5'-P-OP1 | 5.32 | 117.09 | 110.70 |
| 26 | 1H | 2408 | U | N1-C2-N3 | 5.32 | 118.09 | 114.90 |
| 26 | 1H | 2486 | G | N1-C2-N3 | 5.32 | 127.09 | 123.90 |
| 26 | 1H | 2495 | G | C6-N1-C2 | 5.32 | 128.29 | 125.10 |
| 1 | 1G | 305 | G | O5'-P-OP1 | -5.32 | 100.91 | 105.70 |
| 1 | 1G | 328 | C | N3-C4-N4 | -5.32 | 114.27 | 118.00 |
| 1 | 1G | 525 | C | C2-N3-C4 | 5.32 | 122.56 | 119.90 |
| 26 | 14 | 669 | G | C4-C5-N7 | -5.32 | 108.67 | 110.80 |
| 26 | 14 | 1241 | A | OP1-P-OP2 | 5.32 | 127.58 | 119.60 |
| 26 | 14 | 1725 | G | C8-N9-C1' | -5.32 | 120.08 | 127.00 |
| 26 | 14 | 2267 | A | N7-C8-N9 | -5.32 | 111.14 | 113.80 |
| 26 | 14 | 2817 | G | N9-C4-C5 | -5.32 | 103.27 | 105.40 |
| 1 | 13 | 1283 | G | C5-C6-N1 | 5.32 | 114.16 | 111.50 |
| 1 | 13 | 1408 | A | N7-C8-N9 | 5.32 | 116.46 | 113.80 |
| 24 | 3K | 35 | U | C2-N3-C4 | 5.32 | 130.19 | 127.00 |
| 26 | 1H | 1345 | C | N1-C2-O2 | 5.32 | 122.09 | 118.90 |
| 26 | 1H | 2452 | C | C5-C4-N4 | -5.32 | 116.47 | 120.20 |
| 26 | 1H | 2627 | G | N1-C2-N3 | 5.32 | 127.09 | 123.90 |
| 26 | 1H | 2743 | C | C4-C5-C6 | 5.32 | 120.06 | 117.40 |
| 1 | 1G | 1286 | A | C8-N9-C4 | -5.32 | 103.67 | 105.80 |
| 26 | 14 | 1560 | G | OP1-P-O3' | 5.32 | 116.91 | 105.20 |
| 26 | 14 | 1818 | U | N1-C2-N3 | 5.32 | 118.09 | 114.90 |
| 1 | 13 | 705 | U | N1-C2-O2 | -5.32 | 119.08 | 122.80 |
| 1 | 13 | 1376 | U | N3-C4-C5 | 5.32 | 117.79 | 114.60 |
| 26 | 1H | 210 | C | OP1-P-O3' | -5.32 | 93.50 | 105.20 |
| 26 | 1H | 475 | U | OP1-P-OP2 | 5.32 | 127.58 | 119.60 |
| 26 | 1H | 619 | G | C4-C5-N7 | -5.32 | 108.67 | 110.80 |
| 26 | 1H | 676 | A | C5-C6-N6 | 5.32 | 127.96 | 123.70 |
| 26 | 1H | 1347 | G | C6-N1-C2 | -5.32 | 121.91 | 125.10 |
| 26 | 1H | 1607 | C | O5'-P-OP1 | -5.32 | 100.91 | 105.70 |
| 26 | 1H | 1830 | C | C6-N1-C1' | 5.32 | 127.18 | 120.80 |
| 26 | 1H | 2518 | A | C2-N3-C4 | -5.32 | 107.94 | 110.60 |
| 26 | 1H | 2702 | U | O5'-P-OP2 | -5.32 | 100.91 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 2848 | G | OP1-P-O3' | 5.32 | 116.91 | 105.20 |
| 1 | 1G | 722 | A | N9-C4-C5 | -5.32 | 103.67 | 105.80 |
| 1 | 1G | 940 | C | N3-C4-C5 | 5.32 | 124.03 | 121.90 |
| 1 | 1G | 1470 | G | C5-N7-C8 | -5.32 | 101.64 | 104.30 |
| 26 | 14 | 340 | A | C5-C6-N6 | 5.32 | 127.96 | 123.70 |
| 26 | 14 | 550 | G | C4-C5-N7 | 5.32 | 112.93 | 110.80 |
| 26 | 14 | 743 | G | O5'-P-OP1 | -5.32 | 100.91 | 105.70 |
| 26 | 14 | 939 | G | N1-C2-N3 | 5.32 | 127.09 | 123.90 |
| 26 | 14 | 1385 | G | O4'-C1'-N9 | 5.32 | 112.46 | 108.20 |
| 26 | 14 | 2439 | A | O5'-P-OP1 | -5.32 | 100.91 | 105.70 |
| 26 | 14 | 2708 | G | C2-N3-C4 | -5.32 | 109.24 | 111.90 |
| 1 | 13 | 1340 | A | N9-C4-C5 | -5.32 | 103.67 | 105.80 |
| 23 | 2K | 75 | C | N3-C2-O2 | -5.32 | 118.18 | 121.90 |
| 26 | 1H | 251 | A | C2-N3-C4 | 5.32 | 113.26 | 110.60 |
| 26 | 1H | 596 | G | N1-C6-O6 | 5.32 | 123.09 | 119.90 |
| 26 | 1H | 831 | G | N3-C2-N2 | 5.32 | 123.62 | 119.90 |
| 26 | 1H | 1304 | C | N1-C2-N3 | -5.32 | 115.48 | 119.20 |
| 26 | 1H | 1338 | G | N3-C4-N9 | 5.32 | 129.19 | 126.00 |
| 26 | 1H | 1569 | A | C4-C5-C6 | 5.32 | 119.66 | 117.00 |
| 26 | 1H | 1925 | C | C4-C5-C6 | 5.32 | 120.06 | 117.40 |
| 26 | 1H | 2087 | G | N3-C4-N9 | 5.32 | 129.19 | 126.00 |
| 26 | 1H | 2240 | C | N1-C2-N3 | -5.32 | 115.48 | 119.20 |
| 1 | 1G | 323 | U | C5-C4-O4 | -5.32 | 122.71 | 125.90 |
| 26 | 14 | 41 | C | N1-C2-O2 | -5.32 | 115.71 | 118.90 |
| 26 | 14 | 187 | G | C8-N9-C4 | 5.32 | 108.53 | 106.40 |
| 26 | 14 | 564 | C | C5-C6-N1 | 5.32 | 123.66 | 121.00 |
| 26 | 14 | 1245 | G | OP1-P-O3' | 5.32 | 116.90 | 105.20 |
| 1 | 13 | 405 | U | N3-C4-C5 | -5.32 | 111.41 | 114.60 |
| 1 | 13 | 963 | G | N3-C4-N9 | 5.32 | 129.19 | 126.00 |
| 26 | 1H | 341 | G | O5'-P-OP1 | -5.32 | 100.91 | 105.70 |
| 26 | 1H | 1042 | G | C8-N9-C4 | -5.32 | 104.27 | 106.40 |
| 26 | 1H | 1117 | G | C5-C6-O6 | -5.32 | 125.41 | 128.60 |
| 26 | 1H | 1223 | C | N3-C2-O2 | 5.32 | 125.62 | 121.90 |
| 26 | 1H | 1947 | C | N3-C4-C5 | 5.32 | 124.03 | 121.90 |
| 26 | 1H | 2241 | A | C4-C5-N7 | -5.32 | 108.04 | 110.70 |
| 26 | 1H | 2487 | G | N3-C4-N9 | -5.32 | 122.81 | 126.00 |
| 48 | I8 | 62 | LEU | CB-CG-CD2 | -5.32 | 101.96 | 111.00 |
| 1 | 1G | 722 | A | C2-N3-C4 | -5.32 | 107.94 | 110.60 |
| 1 | 1G | 1134 | G | C8-N9-C4 | -5.32 | 104.27 | 106.40 |
| 1 | 1G | 1200 | C | N1-C2-O2 | 5.32 | 122.09 | 118.90 |
| 26 | 14 | 408 | G | O5'-P-OP1 | 5.32 | 117.08 | 110.70 |
| 26 | 14 | 441 | U | O5'-P-OP1 | -5.32 | 100.91 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-------------|-------|-------------|----------|
| 26 | 14 | 792 | G | N1-C2-N3 | 5.32 | 127.09 | 123.90 |
| 26 | 14 | 1907 | G | C4-N9-C1' | -5.32 | 119.59 | 126.50 |
| 26 | 14 | 2269 | A | OP1-P-OP2 | -5.32 | 111.62 | 119.60 |
| 26 | 14 | 2852 | G | C5-C6-N1 | -5.32 | 108.84 | 111.50 |
| 36 | 25 | 117 | LEU | CB-CG-CD2 | -5.32 | 101.96 | 111.00 |
| 26 | 1H | 116 | C | C5-C6-N1 | -5.32 | 118.34 | 121.00 |
| 26 | 1H | 413 | C | C2-N3-C4 | 5.32 | 122.56 | 119.90 |
| 26 | 1H | 687 | C | N1-C2-O2 | -5.32 | 115.71 | 118.90 |
| 26 | 1H | 798 | G | C8-N9-C4 | 5.32 | 108.53 | 106.40 |
| 26 | 1H | 1268 | A | N7-C8-N9 | -5.32 | 111.14 | 113.80 |
| 26 | 1H | 1351 | C | OP2-P-O3' | 5.32 | 116.89 | 105.20 |
| 26 | 1H | 1465 | G | N7-C8-N9 | -5.32 | 110.44 | 113.10 |
| 26 | 1H | 2451 | A | C6-C5-N7 | 5.32 | 136.02 | 132.30 |
| 26 | 1H | 2497 | A | N3-C4-C5 | -5.32 | 123.08 | 126.80 |
| 26 | 1H | 2565 | A | N7-C8-N9 | -5.32 | 111.14 | 113.80 |
| 1 | 1G | 311 | C | C2-N3-C4 | 5.32 | 122.56 | 119.90 |
| 1 | 1G | 352 | C | C5'-C4'-O4' | 5.32 | 115.48 | 109.10 |
| 26 | 14 | 495 | G | N3-C2-N2 | -5.32 | 116.18 | 119.90 |
| 26 | 14 | 654(R) | C | C6-N1-C2 | -5.32 | 118.17 | 120.30 |
| 26 | 14 | 802 | A | N1-C6-N6 | -5.32 | 115.41 | 118.60 |
| 26 | 14 | 988 | A | N9-C4-C5 | -5.32 | 103.67 | 105.80 |
| 26 | 14 | 2033 | A | C5-C6-N6 | -5.32 | 119.45 | 123.70 |
| 26 | 14 | 2068 | U | N3-C4-O4 | 5.32 | 123.12 | 119.40 |
| 26 | 14 | 2559 | C | N3-C4-C5 | -5.32 | 119.77 | 121.90 |
| 26 | 14 | 2699 | C | N3-C4-C5 | 5.32 | 124.03 | 121.90 |
| 26 | 14 | 2867 | G | N3-C2-N2 | -5.32 | 116.18 | 119.90 |
| 1 | 13 | 562 | C | C5-C6-N1 | 5.31 | 123.66 | 121.00 |
| 1 | 13 | 758 | G | C6-C5-N7 | -5.31 | 127.21 | 130.40 |
| 1 | 13 | 1229 | A | C5-C6-N1 | -5.31 | 115.04 | 117.70 |
| 26 | 1H | 1009 | A | C8-N9-C4 | 5.31 | 107.92 | 105.80 |
| 1 | 1G | 11 | G | O5'-P-OP1 | -5.31 | 100.92 | 105.70 |
| 1 | 1G | 584 | G | N7-C8-N9 | 5.31 | 115.76 | 113.10 |
| 26 | 14 | 2231 | C | C2-N1-C1' | -5.31 | 112.95 | 118.80 |
| 26 | 14 | 2768 | C | N3-C2-O2 | 5.31 | 125.62 | 121.90 |
| 27 | 1J | 28 | C | N1-C1'-C2' | -5.31 | 106.16 | 112.00 |
| 1 | 13 | 1400 | C | C5-C6-N1 | 5.31 | 123.66 | 121.00 |
| 26 | 1H | 17 | G | N9-C4-C5 | -5.31 | 103.28 | 105.40 |
| 26 | 1H | 270(B) | A | C5-C6-N6 | 5.31 | 127.95 | 123.70 |
| 26 | 1H | 1229 | G | C4-C5-N7 | -5.31 | 108.67 | 110.80 |
| 26 | 1H | 2583 | G | N3-C4-N9 | 5.31 | 129.19 | 126.00 |
| 26 | 1H | 2674 | G | C6-N1-C2 | -5.31 | 121.91 | 125.10 |
| 26 | 1H | 2877 | G | C2-N3-C4 | -5.31 | 109.24 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 229 | U | N3-C4-C5 | -5.31 | 111.41 | 114.60 |
| 1 | 1G | 632 | A | N1-C6-N6 | 5.31 | 121.79 | 118.60 |
| 1 | 1G | 738 | C | C5-C4-N4 | 5.31 | 123.92 | 120.20 |
| 26 | 14 | 536 | A | OP1-P-OP2 | -5.31 | 111.63 | 119.60 |
| 26 | 14 | 848 | G | N1-C2-N3 | 5.31 | 127.09 | 123.90 |
| 26 | 14 | 963 | U | OP1-P-OP2 | -5.31 | 111.63 | 119.60 |
| 26 | 14 | 1125 | G | N9-C4-C5 | 5.31 | 107.53 | 105.40 |
| 26 | 14 | 1159 | U | C6-N1-C2 | 5.31 | 124.19 | 121.00 |
| 1 | 13 | 18 | C | OP1-P-OP2 | -5.31 | 111.63 | 119.60 |
| 26 | 1H | 129 | C | C2-N1-C1' | 5.31 | 124.64 | 118.80 |
| 26 | 1H | 911 | A | N9-C4-C5 | 5.31 | 107.92 | 105.80 |
| 26 | 1H | 983 | A | N9-C4-C5 | -5.31 | 103.68 | 105.80 |
| 26 | 1H | 2070 | G | N7-C8-N9 | -5.31 | 110.44 | 113.10 |
| 1 | 1G | 759 | A | C4-C5-N7 | 5.31 | 113.36 | 110.70 |
| 26 | 14 | 803 | U | C5-C6-N1 | -5.31 | 120.04 | 122.70 |
| 26 | 14 | 1525 | G | N3-C4-C5 | -5.31 | 125.94 | 128.60 |
| 26 | 14 | 1768 | U | N3-C4-O4 | -5.31 | 115.68 | 119.40 |
| 26 | 14 | 1930 | G | N7-C8-N9 | -5.31 | 110.44 | 113.10 |
| 26 | 14 | 2711 | A | P-O3'-C3' | 5.31 | 126.07 | 119.70 |
| 26 | 14 | 2770 | G | N3-C4-C5 | 5.31 | 131.25 | 128.60 |
| 1 | 13 | 427 | U | C2-N1-C1' | 5.31 | 124.07 | 117.70 |
| 1 | 13 | 482 | A | N1-C2-N3 | 5.31 | 131.96 | 129.30 |
| 1 | 13 | 1337 | G | C8-N9-C4 | -5.31 | 104.28 | 106.40 |
| 1 | 13 | 1420 | C | N3-C4-N4 | -5.31 | 114.28 | 118.00 |
| 26 | 1H | 186 | G | C6-C5-N7 | -5.31 | 127.21 | 130.40 |
| 26 | 1H | 214 | G | O5'-P-OP1 | 5.31 | 117.07 | 110.70 |
| 26 | 1H | 300 | A | C6-C5-N7 | -5.31 | 128.58 | 132.30 |
| 26 | 1H | 332 | A | C6-C5-N7 | 5.31 | 136.02 | 132.30 |
| 26 | 1H | 470 | A | C5-N7-C8 | -5.31 | 101.25 | 103.90 |
| 26 | 1H | 1365 | A | C5-C6-N1 | -5.31 | 115.05 | 117.70 |
| 26 | 1H | 1465 | G | C5-N7-C8 | 5.31 | 106.95 | 104.30 |
| 26 | 1H | 1487 | G | N7-C8-N9 | 5.31 | 115.75 | 113.10 |
| 27 | 16 | 98 | G | N3-C2-N2 | 5.31 | 123.62 | 119.90 |
| 26 | 14 | 1031 | G | C5-C6-N1 | -5.31 | 108.84 | 111.50 |
| 26 | 14 | 1336 | A | C4-C5-N7 | -5.31 | 108.05 | 110.70 |
| 26 | 14 | 2832 | U | C5-C4-O4 | -5.31 | 122.71 | 125.90 |
| 1 | 13 | 1158 | C | C6-N1-C2 | -5.31 | 118.18 | 120.30 |
| 1 | 13 | 1240 | U | C5-C6-N1 | 5.31 | 125.35 | 122.70 |
| 26 | 1H | 184 | C | C5-C4-N4 | 5.31 | 123.92 | 120.20 |
| 26 | 1H | 779 | U | C6-N1-C1' | -5.31 | 113.77 | 121.20 |
| 26 | 1H | 823 | G | N1-C2-N3 | 5.31 | 127.08 | 123.90 |
| 26 | 1H | 2258 | C | C5-C4-N4 | -5.31 | 116.48 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 56 | 1L | 27 | G | N1-C6-O6 | -5.31 | 116.72 | 119.90 |
| 26 | 14 | 584 | C | N3-C4-C5 | 5.31 | 124.02 | 121.90 |
| 26 | 14 | 1272 | A | N1-C2-N3 | -5.31 | 126.65 | 129.30 |
| 26 | 14 | 1366 | A | C6-N1-C2 | 5.31 | 121.78 | 118.60 |
| 27 | 1J | 36 | C | C5-C6-N1 | 5.31 | 123.65 | 121.00 |
| 27 | 1J | 115 | G | N9-C4-C5 | -5.31 | 103.28 | 105.40 |
| 55 | M5 | 48 | PHE | C-N-CA | 5.31 | 134.97 | 121.70 |
| 1 | 13 | 335 | C | C6-N1-C1' | 5.31 | 127.17 | 120.80 |
| 1 | 13 | 947 | G | N1-C6-O6 | -5.31 | 116.72 | 119.90 |
| 1 | 13 | 1441 | G | C5-C6-N1 | -5.31 | 108.85 | 111.50 |
| 1 | 13 | 1505 | G | N9-C4-C5 | 5.31 | 107.52 | 105.40 |
| 26 | 1H | 131 | G | OP1-P-O3' | -5.31 | 93.53 | 105.20 |
| 26 | 1H | 2291 | U | C6-N1-C1' | 5.31 | 128.63 | 121.20 |
| 1 | 1G | 517 | G | C5-C6-O6 | -5.31 | 125.42 | 128.60 |
| 1 | 1G | 913 | A | C5-C6-N6 | -5.31 | 119.45 | 123.70 |
| 26 | 14 | 453 | C | OP2-P-O3' | 5.31 | 116.87 | 105.20 |
| 26 | 14 | 952 | G | C4-C5-N7 | 5.31 | 112.92 | 110.80 |
| 26 | 14 | 2391 | G | C6-N1-C2 | -5.31 | 121.92 | 125.10 |
| 26 | 14 | 2763 | G | C5-C6-N1 | 5.31 | 114.15 | 111.50 |
| 1 | 13 | 1497 | G | N3-C4-C5 | -5.30 | 125.95 | 128.60 |
| 22 | 1K | 22 | G | N3-C4-N9 | 5.30 | 129.18 | 126.00 |
| 26 | 1H | 208 | C | C4-C5-C6 | 5.30 | 120.05 | 117.40 |
| 26 | 1H | 1973 | G | O5'-P-OP2 | -5.30 | 100.92 | 105.70 |
| 26 | 1H | 2558 | C | N1-C2-N3 | 5.30 | 122.91 | 119.20 |
| 27 | 16 | 23 | G | N3-C4-N9 | -5.30 | 122.82 | 126.00 |
| 1 | 1G | 773 | G | C8-N9-C4 | -5.30 | 104.28 | 106.40 |
| 1 | 1G | 1429 | C | O5'-P-OP1 | 5.30 | 117.06 | 110.70 |
| 26 | 14 | 270(S) | G | C8-N9-C4 | -5.30 | 104.28 | 106.40 |
| 26 | 14 | 596 | G | C2-N3-C4 | -5.30 | 109.25 | 111.90 |
| 26 | 14 | 778 | G | N1-C2-N2 | -5.30 | 111.43 | 116.20 |
| 26 | 14 | 1425 | G | N9-C4-C5 | -5.30 | 103.28 | 105.40 |
| 26 | 14 | 1497 | U | C5-C4-O4 | 5.30 | 129.08 | 125.90 |
| 26 | 14 | 1527 | G | C8-N9-C4 | 5.30 | 108.52 | 106.40 |
| 26 | 14 | 1528 | A | C6-C5-N7 | -5.30 | 128.59 | 132.30 |
| 26 | 14 | 1678 | G | C6-N1-C2 | 5.30 | 128.28 | 125.10 |
| 26 | 14 | 1839 | G | O4'-C1'-N9 | -5.30 | 103.96 | 108.20 |
| 26 | 14 | 2037 | G | N7-C8-N9 | -5.30 | 110.45 | 113.10 |
| 27 | 1J | 81 | G | N1-C2-N2 | -5.30 | 111.43 | 116.20 |
| 27 | 1J | 103 | U | OP2-P-O3' | 5.30 | 116.87 | 105.20 |
| 26 | 1H | 312 | G | C5-C6-O6 | 5.30 | 131.78 | 128.60 |
| 26 | 1H | 577 | G | C2-N3-C4 | -5.30 | 109.25 | 111.90 |
| 26 | 1H | 804 | A | C2-N3-C4 | -5.30 | 107.95 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 823 | G | C5-C6-O6 | -5.30 | 125.42 | 128.60 |
| 26 | 1H | 1339 | G | N1-C6-O6 | -5.30 | 116.72 | 119.90 |
| 26 | 14 | 146 | G | C2-N3-C4 | -5.30 | 109.25 | 111.90 |
| 26 | 14 | 508 | G | OP1-P-OP2 | 5.30 | 127.55 | 119.60 |
| 26 | 14 | 829 | A | N9-C4-C5 | -5.30 | 103.68 | 105.80 |
| 26 | 14 | 1904 | G | C4-C5-N7 | -5.30 | 108.68 | 110.80 |
| 26 | 14 | 2035 | G | C4-C5-N7 | -5.30 | 108.68 | 110.80 |
| 26 | 14 | 2584 | U | N3-C2-O2 | -5.30 | 118.49 | 122.20 |
| 1 | 13 | 113 | G | C8-N9-C4 | -5.30 | 104.28 | 106.40 |
| 1 | 13 | 523 | A | N3-C4-C5 | 5.30 | 130.51 | 126.80 |
| 1 | 13 | 561 | U | N3-C2-O2 | 5.30 | 125.91 | 122.20 |
| 1 | 13 | 1318 | A | N1-C6-N6 | -5.30 | 115.42 | 118.60 |
| 26 | 1H | 282 | A | C5-N7-C8 | 5.30 | 106.55 | 103.90 |
| 26 | 1H | 536 | A | N3-C4-C5 | -5.30 | 123.09 | 126.80 |
| 26 | 1H | 740 | U | C2-N3-C4 | -5.30 | 123.82 | 127.00 |
| 26 | 1H | 912 | C | C5-C6-N1 | 5.30 | 123.65 | 121.00 |
| 26 | 1H | 1365 | A | C2-N3-C4 | -5.30 | 107.95 | 110.60 |
| 26 | 1H | 1587 | A | C6-N1-C2 | -5.30 | 115.42 | 118.60 |
| 26 | 1H | 1759 | A | OP2-P-O3' | 5.30 | 116.86 | 105.20 |
| 26 | 1H | 1819 | A | C2-N3-C4 | -5.30 | 107.95 | 110.60 |
| 26 | 1H | 2577 | A | C4-C5-N7 | -5.30 | 108.05 | 110.70 |
| 29 | 11 | 244 | ARG | NE-CZ-NH1 | 5.30 | 122.95 | 120.30 |
| 1 | 1G | 372 | C | C6-N1-C2 | 5.30 | 122.42 | 120.30 |
| 1 | 1G | 887 | G | C6-C5-N7 | -5.30 | 127.22 | 130.40 |
| 7 | 62 | 89 | MET | CG-SD-CE | 5.30 | 108.68 | 100.20 |
| 26 | 14 | 241 | A | C2-N3-C4 | -5.30 | 107.95 | 110.60 |
| 26 | 14 | 632 | A | C4-C5-N7 | 5.30 | 113.35 | 110.70 |
| 26 | 14 | 649 | G | O5'-P-OP2 | -5.30 | 100.93 | 105.70 |
| 26 | 14 | 835 | A | N3-C4-N9 | 5.30 | 131.64 | 127.40 |
| 26 | 14 | 1626 | G | N3-C2-N2 | -5.30 | 116.19 | 119.90 |
| 26 | 14 | 1921 | G | O5'-P-OP2 | -5.30 | 100.93 | 105.70 |
| 26 | 14 | 2227 | A | C5-C6-N6 | 5.30 | 127.94 | 123.70 |
| 26 | 14 | 2425 | A | OP2-P-O3' | 5.30 | 116.86 | 105.20 |
| 26 | 14 | 2722 | G | C4-C5-N7 | 5.30 | 112.92 | 110.80 |
| 1 | 13 | 5 | U | O5'-P-OP1 | 5.30 | 117.06 | 110.70 |
| 1 | 13 | 543 | C | N1-C2-N3 | 5.30 | 122.91 | 119.20 |
| 1 | 13 | 548 | G | C6-N1-C2 | -5.30 | 121.92 | 125.10 |
| 1 | 13 | 1070 | U | N3-C2-O2 | 5.30 | 125.91 | 122.20 |
| 26 | 1H | 1256 | G | C5-N7-C8 | 5.30 | 106.95 | 104.30 |
| 26 | 1H | 1470 | G | N3-C2-N2 | -5.30 | 116.19 | 119.90 |
| 26 | 1H | 1768 | U | C6-N1-C1' | 5.30 | 128.62 | 121.20 |
| 26 | 1H | 1964 | G | O5'-P-OP1 | 5.30 | 117.06 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2072 | G | OP1-P-O3' | 5.30 | 116.86 | 105.20 |
| 26 | 1H | 2448 | A | C4-C5-N7 | 5.30 | 113.35 | 110.70 |
| 27 | 16 | 49 | C | N3-C4-C5 | -5.30 | 119.78 | 121.90 |
| 1 | 1G | 171 | A | C4-C5-N7 | -5.30 | 108.05 | 110.70 |
| 1 | 1G | 284 | G | C6-C5-N7 | -5.30 | 127.22 | 130.40 |
| 26 | 14 | 1132 | A | N9-C4-C5 | 5.30 | 107.92 | 105.80 |
| 26 | 14 | 1595 | G | OP1-P-OP2 | -5.30 | 111.65 | 119.60 |
| 26 | 14 | 1998 | G | C5-C6-N1 | -5.30 | 108.85 | 111.50 |
| 26 | 14 | 2326 | C | O5'-P-OP2 | 5.30 | 117.06 | 110.70 |
| 26 | 14 | 2435 | A | C2-N3-C4 | 5.30 | 113.25 | 110.60 |
| 26 | 14 | 2502 | G | C4-N9-C1' | 5.30 | 133.39 | 126.50 |
| 1 | 13 | 61 | G | C5-N7-C8 | 5.30 | 106.95 | 104.30 |
| 1 | 13 | 324 | G | C4-C5-N7 | 5.30 | 112.92 | 110.80 |
| 1 | 13 | 1083 | U | C6-N1-C2 | -5.30 | 117.82 | 121.00 |
| 1 | 13 | 1320 | C | O5'-P-OP2 | -5.30 | 100.93 | 105.70 |
| 1 | 13 | 1485 | U | OP2-P-O3' | 5.30 | 116.86 | 105.20 |
| 26 | 1H | 35 | G | OP1-P-OP2 | -5.30 | 111.65 | 119.60 |
| 26 | 1H | 522 | G | OP2-P-O3' | 5.30 | 116.86 | 105.20 |
| 26 | 1H | 967 | C | C5-C4-N4 | 5.30 | 123.91 | 120.20 |
| 26 | 1H | 1705 | G | C5-C6-O6 | 5.30 | 131.78 | 128.60 |
| 26 | 1H | 1934 | C | OP1-P-O3' | 5.30 | 116.86 | 105.20 |
| 26 | 1H | 2425 | A | C8-N9-C4 | -5.30 | 103.68 | 105.80 |
| 26 | 1H | 2703 | C | C2-N3-C4 | -5.30 | 117.25 | 119.90 |
| 26 | 1H | 2858 | C | OP1-P-OP2 | 5.30 | 127.55 | 119.60 |
| 55 | Q8 | 46 | ARG | C-N-CA | 5.30 | 134.95 | 121.70 |
| 1 | 1G | 336 | C | N3-C2-O2 | 5.30 | 125.61 | 121.90 |
| 26 | 14 | 79 | G | C6-N1-C2 | -5.30 | 121.92 | 125.10 |
| 26 | 14 | 1255 | U | C4-C5-C6 | 5.30 | 122.88 | 119.70 |
| 26 | 14 | 1321 | A | N1-C2-N3 | 5.30 | 131.95 | 129.30 |
| 26 | 14 | 1896 | G | C5-C6-N1 | 5.30 | 114.15 | 111.50 |
| 26 | 14 | 1944 | U | C4-C5-C6 | 5.30 | 122.88 | 119.70 |
| 26 | 14 | 2087 | G | C5-C6-O6 | 5.30 | 131.78 | 128.60 |
| 26 | 14 | 2600 | A | N9-C4-C5 | 5.30 | 107.92 | 105.80 |
| 1 | 13 | 505 | G | N1-C6-O6 | 5.30 | 123.08 | 119.90 |
| 1 | 13 | 741 | G | N1-C2-N2 | -5.30 | 111.43 | 116.20 |
| 1 | 13 | 830 | G | C8-N9-C4 | -5.30 | 104.28 | 106.40 |
| 1 | 13 | 971 | G | C8-N9-C4 | 5.30 | 108.52 | 106.40 |
| 1 | 13 | 977 | A | C6-C5-N7 | 5.30 | 136.01 | 132.30 |
| 26 | 1H | 116 | C | N1-C2-O2 | -5.30 | 115.72 | 118.90 |
| 26 | 1H | 179 | G | C5-C6-N1 | -5.30 | 108.85 | 111.50 |
| 26 | 1H | 514 | A | OP1-P-OP2 | 5.30 | 127.54 | 119.60 |
| 26 | 1H | 518 | G | C8-N9-C4 | 5.30 | 108.52 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 526 | A | C2-N3-C4 | 5.30 | 113.25 | 110.60 |
| 26 | 1H | 878 | A | C8-N9-C4 | -5.30 | 103.68 | 105.80 |
| 26 | 1H | 1121 | C | C6-N1-C2 | -5.30 | 118.18 | 120.30 |
| 26 | 1H | 1662 | C | C5-C4-N4 | -5.30 | 116.49 | 120.20 |
| 26 | 1H | 1795 | C | C5-C4-N4 | 5.30 | 123.91 | 120.20 |
| 26 | 1H | 2096 | U | O5'-P-OP2 | -5.30 | 100.93 | 105.70 |
| 26 | 1H | 2235 | G | OP2-P-O3' | 5.30 | 116.85 | 105.20 |
| 26 | 1H | 2797 | U | P-O3'-C3' | 5.30 | 126.06 | 119.70 |
| 26 | 14 | 491 | G | N1-C2-N3 | 5.30 | 127.08 | 123.90 |
| 26 | 14 | 1262 | A | O5'-P-OP1 | -5.30 | 100.93 | 105.70 |
| 26 | 14 | 2242 | G | N9-C4-C5 | 5.30 | 107.52 | 105.40 |
| 26 | 14 | 2258 | C | OP1-P-O3' | 5.30 | 116.85 | 105.20 |
| 1 | 13 | 34 | C | C6-N1-C2 | -5.29 | 118.18 | 120.30 |
| 1 | 13 | 115 | G | N7-C8-N9 | 5.29 | 115.75 | 113.10 |
| 1 | 13 | 1345 | U | OP1-P-OP2 | -5.29 | 111.66 | 119.60 |
| 26 | 1H | 1470 | G | C5-C6-N1 | -5.29 | 108.85 | 111.50 |
| 26 | 1H | 1884 | A | C4-C5-N7 | -5.29 | 108.05 | 110.70 |
| 27 | 16 | 77 | U | N3-C2-O2 | 5.29 | 125.91 | 122.20 |
| 27 | 16 | 87 | G | C4-C5-C6 | -5.29 | 115.62 | 118.80 |
| 1 | 1G | 1422 | G | OP1-P-OP2 | 5.29 | 127.54 | 119.60 |
| 26 | 14 | 1762 | A | N1-C2-N3 | -5.29 | 126.65 | 129.30 |
| 26 | 14 | 2273 | A | C4-C5-C6 | -5.29 | 114.35 | 117.00 |
| 1 | 13 | 409 | G | C5-C6-O6 | 5.29 | 131.78 | 128.60 |
| 1 | 13 | 505 | G | N3-C4-N9 | 5.29 | 129.18 | 126.00 |
| 1 | 13 | 826 | C | OP1-P-OP2 | -5.29 | 111.66 | 119.60 |
| 26 | 1H | 287 | C | C4-C5-C6 | -5.29 | 114.75 | 117.40 |
| 26 | 1H | 680 | G | C4-C5-C6 | 5.29 | 121.98 | 118.80 |
| 26 | 1H | 930 | U | O5'-P-OP2 | -5.29 | 100.94 | 105.70 |
| 26 | 1H | 968 | G | N1-C6-O6 | -5.29 | 116.72 | 119.90 |
| 26 | 1H | 1006 | C | N1-C2-O2 | -5.29 | 115.72 | 118.90 |
| 26 | 1H | 1444 | G | N1-C2-N2 | -5.29 | 111.44 | 116.20 |
| 26 | 1H | 1459 | G | N1-C2-N2 | -5.29 | 111.44 | 116.20 |
| 26 | 1H | 1522 | G | C4-C5-C6 | -5.29 | 115.62 | 118.80 |
| 27 | 16 | 58 | A | N9-C4-C5 | 5.29 | 107.92 | 105.80 |
| 1 | 1G | 425 | G | N1-C6-O6 | 5.29 | 123.08 | 119.90 |
| 1 | 1G | 484 | G | C8-N9-C4 | 5.29 | 108.52 | 106.40 |
| 1 | 1G | 1530 | G | N1-C6-O6 | 5.29 | 123.08 | 119.90 |
| 26 | 14 | 529 | A | N1-C6-N6 | 5.29 | 121.78 | 118.60 |
| 26 | 14 | 978 | G | C5-C6-O6 | 5.29 | 131.78 | 128.60 |
| 26 | 14 | 1365 | A | OP2-P-O3' | 5.29 | 116.84 | 105.20 |
| 26 | 14 | 2686 | G | N3-C4-N9 | 5.29 | 129.18 | 126.00 |
| 27 | 1J | 52 | A | OP2-P-O3' | 5.29 | 116.84 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 13 | 181 | G | N3-C4-C5 | -5.29 | 125.95 | 128.60 |
| 1 | 13 | 248 | C | O5'-P-OP1 | -5.29 | 100.94 | 105.70 |
| 1 | 13 | 266 | G | N1-C6-O6 | 5.29 | 123.08 | 119.90 |
| 1 | 13 | 505 | G | N3-C4-C5 | -5.29 | 125.95 | 128.60 |
| 26 | 1H | 180 | G | O4'-C1'-N9 | -5.29 | 103.97 | 108.20 |
| 26 | 1H | 643 | A | C8-N9-C4 | 5.29 | 107.92 | 105.80 |
| 26 | 1H | 1299 | G | O5'-P-OP1 | -5.29 | 100.94 | 105.70 |
| 26 | 1H | 1568 | G | N9-C4-C5 | -5.29 | 103.28 | 105.40 |
| 26 | 1H | 1879 | C | C5-C6-N1 | 5.29 | 123.64 | 121.00 |
| 1 | 1G | 692 | U | C6-N1-C2 | -5.29 | 117.83 | 121.00 |
| 1 | 1G | 1511 | G | N7-C8-N9 | 5.29 | 115.75 | 113.10 |
| 26 | 14 | 262 | A | C5-C6-N1 | 5.29 | 120.35 | 117.70 |
| 26 | 14 | 291 | C | N3-C4-C5 | -5.29 | 119.78 | 121.90 |
| 26 | 14 | 405 | U | C5-C6-N1 | 5.29 | 125.35 | 122.70 |
| 26 | 14 | 772 | C | OP2-P-O3' | 5.29 | 116.84 | 105.20 |
| 26 | 14 | 782 | A | C5-C6-N1 | 5.29 | 120.35 | 117.70 |
| 26 | 14 | 967 | C | N1-C2-O2 | 5.29 | 122.08 | 118.90 |
| 26 | 14 | 1621 | U | O5'-P-OP1 | -5.29 | 100.94 | 105.70 |
| 26 | 14 | 1696 | G | O5'-P-OP1 | 5.29 | 117.05 | 110.70 |
| 26 | 14 | 1842 | G | C6-N1-C2 | -5.29 | 121.92 | 125.10 |
| 26 | 14 | 2434 | A | N1-C6-N6 | -5.29 | 115.42 | 118.60 |
| 1 | 13 | 531 | U | OP1-P-O3' | 5.29 | 116.84 | 105.20 |
| 1 | 13 | 706 | A | OP1-P-OP2 | -5.29 | 111.67 | 119.60 |
| 1 | 13 | 721 | G | C8-N9-C4 | -5.29 | 104.28 | 106.40 |
| 26 | 1H | 592 | G | C4-C5-N7 | -5.29 | 108.68 | 110.80 |
| 26 | 1H | 689 | A | OP1-P-O3' | -5.29 | 93.56 | 105.20 |
| 26 | 1H | 775 | G | OP2-P-O3' | -5.29 | 93.56 | 105.20 |
| 26 | 1H | 972 | G | C6-N1-C2 | -5.29 | 121.93 | 125.10 |
| 26 | 1H | 1343 | G | C4-N9-C1' | 5.29 | 133.38 | 126.50 |
| 26 | 1H | 1978 | A | C5-C6-N1 | 5.29 | 120.34 | 117.70 |
| 26 | 1H | 2403 | C | C6-N1-C1' | 5.29 | 127.15 | 120.80 |
| 1 | 1G | 199 | G | C5-C6-N1 | -5.29 | 108.86 | 111.50 |
| 1 | 1G | 576 | G | C8-N9-C4 | -5.29 | 104.28 | 106.40 |
| 26 | 14 | 2672 | G | N1-C2-N3 | 5.29 | 127.07 | 123.90 |
| 26 | 14 | 2769 | C | C4-C5-C6 | 5.29 | 120.05 | 117.40 |
| 1 | 13 | 899 | C | C4-C5-C6 | -5.29 | 114.76 | 117.40 |
| 26 | 1H | 101 | G | OP1-P-OP2 | 5.29 | 127.53 | 119.60 |
| 26 | 1H | 259 | G | C6-C5-N7 | -5.29 | 127.23 | 130.40 |
| 26 | 1H | 271(A) | C | N1-C2-N3 | -5.29 | 115.50 | 119.20 |
| 26 | 1H | 727 | A | C6-C5-N7 | -5.29 | 128.60 | 132.30 |
| 26 | 1H | 1266 | G | C5-C6-O6 | -5.29 | 125.43 | 128.60 |
| 26 | 1H | 1655 | A | N1-C2-N3 | 5.29 | 131.94 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1769 | G | C6-N1-C2 | 5.29 | 128.27 | 125.10 |
| 26 | 1H | 1780 | A | C5-C6-N1 | -5.29 | 115.06 | 117.70 |
| 26 | 1H | 2239 | G | O5'-P-OP2 | 5.29 | 117.05 | 110.70 |
| 26 | 1H | 2676 | C | C2-N3-C4 | -5.29 | 117.25 | 119.90 |
| 41 | B8 | 42 | ILE | CB-CG1-CD1 | 5.29 | 128.71 | 113.90 |
| 26 | 14 | 458 | G | O5'-P-OP2 | -5.29 | 100.94 | 105.70 |
| 26 | 14 | 602 | G | C8-N9-C1' | -5.29 | 120.12 | 127.00 |
| 26 | 14 | 702 | G | OP2-P-O3' | 5.29 | 116.84 | 105.20 |
| 26 | 14 | 2016 | U | N3-C4-C5 | -5.29 | 111.43 | 114.60 |
| 26 | 14 | 2761 | G | O4'-C1'-N9 | -5.29 | 103.97 | 108.20 |
| 1 | 13 | 777 | A | C5-N7-C8 | -5.29 | 101.26 | 103.90 |
| 1 | 13 | 871 | U | C5-C4-O4 | 5.29 | 129.07 | 125.90 |
| 1 | 13 | 1475 | G | N1-C6-O6 | 5.29 | 123.07 | 119.90 |
| 26 | 1H | 826 | U | N3-C2-O2 | 5.29 | 125.90 | 122.20 |
| 26 | 1H | 1348 | G | N1-C2-N3 | -5.29 | 120.73 | 123.90 |
| 26 | 1H | 1459 | G | C5-N7-C8 | 5.29 | 106.94 | 104.30 |
| 1 | 1G | 124 | G | OP1-P-OP2 | -5.29 | 111.67 | 119.60 |
| 1 | 1G | 886 | G | N7-C8-N9 | -5.29 | 110.46 | 113.10 |
| 26 | 14 | 119 | A | N1-C2-N3 | 5.29 | 131.94 | 129.30 |
| 26 | 14 | 963 | U | OP1-P-O3' | 5.29 | 116.83 | 105.20 |
| 26 | 14 | 1275 | A | O5'-P-OP2 | 5.29 | 117.04 | 110.70 |
| 27 | 1J | 44 | G | OP1-P-O3' | 5.29 | 116.83 | 105.20 |
| 1 | 13 | 260 | G | C4-C5-C6 | 5.29 | 121.97 | 118.80 |
| 1 | 13 | 263 | A | OP1-P-OP2 | -5.29 | 111.67 | 119.60 |
| 1 | 13 | 632 | A | C8-N9-C4 | 5.29 | 107.91 | 105.80 |
| 1 | 13 | 925 | G | N1-C2-N3 | 5.29 | 127.07 | 123.90 |
| 1 | 13 | 1203 | C | N1-C2-O2 | 5.29 | 122.07 | 118.90 |
| 24 | 3K | 62 | C | C6-N1-C2 | -5.29 | 118.19 | 120.30 |
| 26 | 1H | 1501 | C | C6-N1-C2 | -5.29 | 118.19 | 120.30 |
| 26 | 1H | 1543 | A | C6-C5-N7 | -5.29 | 128.60 | 132.30 |
| 26 | 1H | 1700 | A | N9-C4-C5 | -5.29 | 103.69 | 105.80 |
| 26 | 1H | 2783 | G | C2-N3-C4 | -5.29 | 109.26 | 111.90 |
| 1 | 1G | 504 | C | N1-C2-O2 | -5.29 | 115.73 | 118.90 |
| 26 | 14 | 529 | A | C5-C6-N1 | -5.29 | 115.06 | 117.70 |
| 26 | 14 | 821 | A | C4-C5-C6 | 5.29 | 119.64 | 117.00 |
| 26 | 14 | 948 | G | N7-C8-N9 | 5.29 | 115.74 | 113.10 |
| 26 | 14 | 956 | G | C2-N3-C4 | -5.29 | 109.26 | 111.90 |
| 26 | 14 | 1197 | G | N9-C4-C5 | 5.29 | 107.51 | 105.40 |
| 26 | 14 | 1841 | U | N3-C4-C5 | -5.29 | 111.43 | 114.60 |
| 26 | 14 | 2339 | G | OP1-P-OP2 | 5.29 | 127.53 | 119.60 |
| 26 | 14 | 2442 | C | C4-C5-C6 | 5.29 | 120.04 | 117.40 |
| 26 | 14 | 2589 | A | C5-N7-C8 | -5.29 | 101.26 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2607 | G | C6-N1-C2 | 5.29 | 128.27 | 125.10 |
| 26 | 14 | 2782 | G | C8-N9-C4 | -5.29 | 104.29 | 106.40 |
| 27 | 1J | 98 | G | C4-C5-N7 | 5.29 | 112.91 | 110.80 |
| 1 | 13 | 397 | A | C4-C5-N7 | -5.28 | 108.06 | 110.70 |
| 1 | 13 | 606 | G | N1-C6-O6 | 5.28 | 123.07 | 119.90 |
| 1 | 13 | 1216 | G | C5-C6-N1 | -5.28 | 108.86 | 111.50 |
| 25 | 4K | 9 | G | C8-N9-C1' | -5.28 | 120.13 | 127.00 |
| 26 | 1H | 82 | G | OP1-P-O3' | 5.28 | 116.82 | 105.20 |
| 26 | 1H | 1307 | A | C6-N1-C2 | -5.28 | 115.43 | 118.60 |
| 26 | 1H | 1492 | G | C5-C6-N1 | -5.28 | 108.86 | 111.50 |
| 26 | 1H | 1514 | U | OP2-P-O3' | 5.28 | 116.82 | 105.20 |
| 26 | 1H | 1588 | C | O5'-P-OP1 | 5.28 | 117.04 | 110.70 |
| 26 | 1H | 2083 | G | O5'-P-OP2 | 5.28 | 117.04 | 110.70 |
| 26 | 1H | 2716 | U | OP1-P-OP2 | 5.28 | 127.52 | 119.60 |
| 1 | 1G | 329 | A | C6-N1-C2 | -5.28 | 115.43 | 118.60 |
| 56 | 1L | 19 | G | C8-N9-C4 | -5.28 | 104.29 | 106.40 |
| 26 | 14 | 1239 | G | C4-C5-C6 | 5.28 | 121.97 | 118.80 |
| 26 | 14 | 1651 | G | C5-N7-C8 | -5.28 | 101.66 | 104.30 |
| 26 | 14 | 1688 | U | C6-N1-C2 | -5.28 | 117.83 | 121.00 |
| 26 | 14 | 1804 | C | OP1-P-OP2 | -5.28 | 111.67 | 119.60 |
| 26 | 14 | 2278 | A | C6-N1-C2 | -5.28 | 115.43 | 118.60 |
| 26 | 14 | 2426 | A | C5-C6-N1 | -5.28 | 115.06 | 117.70 |
| 26 | 14 | 2722 | G | N1-C2-N2 | 5.28 | 120.95 | 116.20 |
| 27 | 1J | 54 | G | OP1-P-OP2 | -5.28 | 111.67 | 119.60 |
| 1 | 13 | 8 | A | O5'-P-OP2 | 5.28 | 117.04 | 110.70 |
| 1 | 13 | 843 | U | N1-C2-O2 | 5.28 | 126.50 | 122.80 |
| 24 | 3K | 24 | G | N1-C6-O6 | 5.28 | 123.07 | 119.90 |
| 26 | 1H | 59 | U | C4-C5-C6 | 5.28 | 122.87 | 119.70 |
| 26 | 1H | 565 | C | N1-C2-O2 | 5.28 | 122.07 | 118.90 |
| 26 | 1H | 781 | A | N9-C4-C5 | -5.28 | 103.69 | 105.80 |
| 26 | 1H | 2308 | G | O5'-P-OP2 | -5.28 | 100.95 | 105.70 |
| 26 | 1H | 2489 | G | C4-N9-C1' | 5.28 | 133.37 | 126.50 |
| 1 | 1G | 1188 | A | N1-C6-N6 | -5.28 | 115.43 | 118.60 |
| 26 | 14 | 705 | A | C5-C6-N1 | 5.28 | 120.34 | 117.70 |
| 26 | 14 | 801 | G | C5-C6-O6 | 5.28 | 131.77 | 128.60 |
| 26 | 14 | 2139 | C | C5-C6-N1 | 5.28 | 123.64 | 121.00 |
| 26 | 14 | 2459 | A | OP1-P-OP2 | 5.28 | 127.52 | 119.60 |
| 27 | 1J | 14 | U | OP2-P-O3' | 5.28 | 116.82 | 105.20 |
| 1 | 13 | 409 | G | N1-C6-O6 | -5.28 | 116.73 | 119.90 |
| 1 | 13 | 1332 | A | OP2-P-O3' | 5.28 | 116.82 | 105.20 |
| 1 | 13 | 1511 | G | N1-C2-N3 | 5.28 | 127.07 | 123.90 |
| 26 | 1H | 1184 | G | N3-C4-C5 | 5.28 | 131.24 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-------------|-------|-------------|----------|
| 26 | 1H | 1202 | C | OP1-P-OP2 | 5.28 | 127.52 | 119.60 |
| 26 | 1H | 1586 | A | C4-C5-N7 | 5.28 | 113.34 | 110.70 |
| 26 | 1H | 1661 | G | N9-C4-C5 | -5.28 | 103.29 | 105.40 |
| 26 | 1H | 2256 | G | N1-C2-N2 | -5.28 | 111.45 | 116.20 |
| 26 | 1H | 2508 | G | N7-C8-N9 | 5.28 | 115.74 | 113.10 |
| 26 | 1H | 2513 | G | N1-C6-O6 | 5.28 | 123.07 | 119.90 |
| 26 | 1H | 2554 | U | C5-C6-N1 | 5.28 | 125.34 | 122.70 |
| 26 | 1H | 2705 | A | N9-C4-C5 | -5.28 | 103.69 | 105.80 |
| 27 | 16 | 17 | C | N3-C2-O2 | -5.28 | 118.20 | 121.90 |
| 1 | 1G | 567 | G | C6-C5-N7 | 5.28 | 133.57 | 130.40 |
| 1 | 1G | 741 | G | C4-C5-C6 | 5.28 | 121.97 | 118.80 |
| 23 | 2L | 72 | C | OP2-P-O3' | 5.28 | 116.82 | 105.20 |
| 26 | 14 | 52 | A | N1-C6-N6 | -5.28 | 115.43 | 118.60 |
| 26 | 14 | 233 | A | C8-N9-C4 | 5.28 | 107.91 | 105.80 |
| 26 | 14 | 595 | C | N1-C2-O2 | -5.28 | 115.73 | 118.90 |
| 26 | 14 | 656 | G | C6-C5-N7 | -5.28 | 127.23 | 130.40 |
| 26 | 14 | 764 | A | C6-N1-C2 | 5.28 | 121.77 | 118.60 |
| 26 | 14 | 990 | A | C2-N3-C4 | -5.28 | 107.96 | 110.60 |
| 26 | 14 | 1354 | A | N9-C1'-C2' | -5.28 | 106.19 | 112.00 |
| 26 | 14 | 1516 | U | N1-C2-O2 | 5.28 | 126.50 | 122.80 |
| 26 | 14 | 1798 | U | OP1-P-OP2 | 5.28 | 127.52 | 119.60 |
| 26 | 14 | 1900 | A | OP2-P-O3' | -5.28 | 93.58 | 105.20 |
| 26 | 14 | 1905 | C | OP1-P-O3' | 5.28 | 116.82 | 105.20 |
| 26 | 14 | 2084 | C | N3-C4-C5 | 5.28 | 124.01 | 121.90 |
| 26 | 14 | 2497 | A | C5-C6-N1 | 5.28 | 120.34 | 117.70 |
| 26 | 14 | 2558 | C | C5-C6-N1 | -5.28 | 118.36 | 121.00 |
| 39 | 55 | 111 | LEU | CA-CB-CG | -5.28 | 103.15 | 115.30 |
| 26 | 1H | 556 | G | OP1-P-OP2 | 5.28 | 127.52 | 119.60 |
| 26 | 1H | 2761 | G | C6-N1-C2 | -5.28 | 121.93 | 125.10 |
| 1 | 1G | 1057 | G | N7-C8-N9 | -5.28 | 110.46 | 113.10 |
| 1 | 1G | 1476 | G | N7-C8-N9 | -5.28 | 110.46 | 113.10 |
| 26 | 14 | 941 | A | N3-C4-C5 | -5.28 | 123.11 | 126.80 |
| 26 | 14 | 1310 | G | N1-C2-N2 | 5.28 | 120.95 | 116.20 |
| 26 | 14 | 1953 | A | C8-N9-C4 | 5.28 | 107.91 | 105.80 |
| 26 | 14 | 2056 | G | C8-N9-C4 | 5.28 | 108.51 | 106.40 |
| 26 | 14 | 2257 | U | OP1-P-O3' | 5.28 | 116.81 | 105.20 |
| 1 | 13 | 509 | A | C2'-C3'-O3' | 5.28 | 122.14 | 113.70 |
| 26 | 1H | 273(B) | C | N3-C2-O2 | 5.28 | 125.59 | 121.90 |
| 26 | 1H | 333 | G | O4'-C1'-N9 | -5.28 | 103.98 | 108.20 |
| 26 | 1H | 488 | G | O5'-P-OP2 | -5.28 | 100.95 | 105.70 |
| 26 | 1H | 533 | G | C5-N7-C8 | 5.28 | 106.94 | 104.30 |
| 26 | 1H | 1550 | C | OP2-P-O3' | 5.28 | 116.81 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 1H | 1681 | G | C5-C6-N1 | 5.28 | 114.14 | 111.50 |
| 26 | 1H | 1821 | A | N1-C6-N6 | -5.28 | 115.43 | 118.60 |
| 26 | 1H | 2639 | A | N1-C6-N6 | 5.28 | 121.77 | 118.60 |
| 27 | 16 | 16 | G | C6-C5-N7 | -5.28 | 127.23 | 130.40 |
| 52 | M8 | 1 | MET | CG-SD-CE | 5.28 | 108.64 | 100.20 |
| 1 | 1G | 15 | G | C8-N9-C4 | 5.28 | 108.51 | 106.40 |
| 1 | 1G | 483 | C | C5-C6-N1 | -5.28 | 118.36 | 121.00 |
| 1 | 1G | 517 | G | C4-C5-N7 | 5.28 | 112.91 | 110.80 |
| 1 | 1G | 567 | G | C4-N9-C1' | -5.28 | 119.64 | 126.50 |
| 1 | 1G | 1502 | A | C8-N9-C4 | -5.28 | 103.69 | 105.80 |
| 26 | 14 | 191 | A | C8-N9-C4 | 5.28 | 107.91 | 105.80 |
| 26 | 14 | 222 | A | C5'-C4'-O4' | 5.28 | 115.43 | 109.10 |
| 26 | 14 | 377 | C | O5'-P-OP1 | 5.28 | 117.03 | 110.70 |
| 26 | 14 | 737 | C | C5-C6-N1 | -5.28 | 118.36 | 121.00 |
| 26 | 14 | 738 | G | C6-C5-N7 | -5.28 | 127.23 | 130.40 |
| 26 | 14 | 971 | C | C4-C5-C6 | 5.28 | 120.04 | 117.40 |
| 26 | 14 | 1490 | A | O5'-P-OP1 | -5.28 | 100.95 | 105.70 |
| 26 | 14 | 1661 | G | C2-N3-C4 | -5.28 | 109.26 | 111.90 |
| 26 | 14 | 1885 | A | C8-N9-C4 | 5.28 | 107.91 | 105.80 |
| 26 | 14 | 2462 | U | N1-C2-N3 | 5.28 | 118.07 | 114.90 |
| 26 | 14 | 2500 | U | C5-C6-N1 | -5.28 | 120.06 | 122.70 |
| 26 | 14 | 2636 | U | OP2-P-O3' | 5.28 | 116.81 | 105.20 |
| 26 | 1H | 31 | C | C2-N3-C4 | -5.28 | 117.26 | 119.90 |
| 26 | 1H | 524 | U | C4-C5-C6 | 5.28 | 122.87 | 119.70 |
| 26 | 1H | 1466 | G | N1-C2-N2 | 5.28 | 120.95 | 116.20 |
| 26 | 1H | 1559 | G | C6-N1-C2 | 5.28 | 128.27 | 125.10 |
| 26 | 1H | 2290 | G | N7-C8-N9 | -5.28 | 110.46 | 113.10 |
| 26 | 1H | 2339 | G | N1-C2-N3 | 5.28 | 127.07 | 123.90 |
| 26 | 1H | 2427 | C | C5-C4-N4 | -5.28 | 116.51 | 120.20 |
| 26 | 1H | 2651 | C | N3-C4-N4 | 5.28 | 121.69 | 118.00 |
| 26 | 14 | 534 | U | OP2-P-O3' | 5.28 | 116.81 | 105.20 |
| 26 | 14 | 706 | A | O5'-P-OP1 | 5.28 | 117.03 | 110.70 |
| 26 | 14 | 859 | G | N1-C6-O6 | 5.28 | 123.06 | 119.90 |
| 26 | 14 | 952 | G | OP1-P-O3' | 5.28 | 116.81 | 105.20 |
| 26 | 14 | 2001 | A | O4'-C1'-N9 | -5.28 | 103.98 | 108.20 |
| 1 | 13 | 405 | U | N3-C4-O4 | 5.27 | 123.09 | 119.40 |
| 26 | 1H | 940 | G | O5'-P-OP1 | 5.27 | 117.03 | 110.70 |
| 26 | 1H | 1642 | G | C2-N3-C4 | 5.27 | 114.54 | 111.90 |
| 26 | 1H | 2369 | A | C5-C6-N1 | 5.27 | 120.34 | 117.70 |
| 27 | 16 | 97 | G | C5-N7-C8 | 5.27 | 106.94 | 104.30 |
| 1 | 1G | 510 | A | C6-N1-C2 | 5.27 | 121.76 | 118.60 |
| 1 | 1G | 1426 | C | N3-C2-O2 | 5.27 | 125.59 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 243 | U | OP1-P-OP2 | -5.27 | 111.69 | 119.60 |
| 26 | 14 | 632 | A | C5-N7-C8 | -5.27 | 101.26 | 103.90 |
| 26 | 14 | 1290 | C | C2-N3-C4 | 5.27 | 122.54 | 119.90 |
| 26 | 14 | 1479 | G | O5'-P-OP2 | -5.27 | 100.95 | 105.70 |
| 1 | 13 | 798 | G | N1-C2-N3 | 5.27 | 127.06 | 123.90 |
| 23 | 2K | 6 | G | C4-C5-N7 | 5.27 | 112.91 | 110.80 |
| 26 | 1H | 132 | G | C6-N1-C2 | 5.27 | 128.26 | 125.10 |
| 26 | 1H | 338 | G | OP1-P-O3' | 5.27 | 116.80 | 105.20 |
| 26 | 1H | 492 | A | C5-C6-N6 | 5.27 | 127.92 | 123.70 |
| 26 | 1H | 666 | G | N1-C2-N3 | 5.27 | 127.06 | 123.90 |
| 26 | 1H | 1385 | G | N3-C4-N9 | -5.27 | 122.84 | 126.00 |
| 26 | 1H | 1757 | U | N3-C4-C5 | 5.27 | 117.76 | 114.60 |
| 26 | 1H | 1954 | G | C2-N3-C4 | -5.27 | 109.26 | 111.90 |
| 26 | 1H | 1985 | G | OP1-P-O3' | 5.27 | 116.80 | 105.20 |
| 26 | 1H | 2061 | G | C4-C5-N7 | -5.27 | 108.69 | 110.80 |
| 26 | 1H | 2253 | G | C5-C6-O6 | -5.27 | 125.44 | 128.60 |
| 26 | 14 | 125 | G | P-O3'-C3' | -5.27 | 113.37 | 119.70 |
| 26 | 14 | 335 | C | N3-C4-C5 | -5.27 | 119.79 | 121.90 |
| 26 | 14 | 1475 | G | C6-C5-N7 | -5.27 | 127.24 | 130.40 |
| 26 | 14 | 1949 | G | O5'-P-OP1 | -5.27 | 100.95 | 105.70 |
| 26 | 14 | 1979 | C | C5-C4-N4 | -5.27 | 116.51 | 120.20 |
| 26 | 14 | 2503 | A | C2-N3-C4 | 5.27 | 113.24 | 110.60 |
| 26 | 14 | 2838 | G | N1-C2-N2 | 5.27 | 120.94 | 116.20 |
| 27 | 1J | 60 | C | C5-C6-N1 | 5.27 | 123.64 | 121.00 |
| 26 | 1H | 952 | G | C2-N3-C4 | 5.27 | 114.54 | 111.90 |
| 1 | 1G | 645 | C | OP1-P-OP2 | -5.27 | 111.69 | 119.60 |
| 1 | 1G | 1334 | G | C8-N9-C4 | -5.27 | 104.29 | 106.40 |
| 25 | 4L | 12 | A | O4'-C1'-N9 | 5.27 | 112.42 | 108.20 |
| 26 | 14 | 530 | G | N7-C8-N9 | 5.27 | 115.74 | 113.10 |
| 26 | 14 | 744 | G | N1-C6-O6 | 5.27 | 123.06 | 119.90 |
| 1 | 13 | 1239 | A | OP1-P-OP2 | 5.27 | 127.51 | 119.60 |
| 1 | 13 | 1337 | G | OP2-P-O3' | 5.27 | 116.80 | 105.20 |
| 26 | 1H | 533 | G | C4-C5-N7 | -5.27 | 108.69 | 110.80 |
| 26 | 1H | 615 | G | C5-N7-C8 | 5.27 | 106.94 | 104.30 |
| 26 | 1H | 790 | C | N3-C2-O2 | 5.27 | 125.59 | 121.90 |
| 26 | 1H | 1311 | G | C8-N9-C4 | 5.27 | 108.51 | 106.40 |
| 26 | 1H | 1379 | A | C6-N1-C2 | 5.27 | 121.76 | 118.60 |
| 26 | 1H | 1530 | G | OP1-P-OP2 | 5.27 | 127.50 | 119.60 |
| 26 | 1H | 1945 | G | N1-C2-N3 | 5.27 | 127.06 | 123.90 |
| 26 | 1H | 2030 | A | C2-N3-C4 | 5.27 | 113.23 | 110.60 |
| 26 | 1H | 2252 | G | N9-C4-C5 | 5.27 | 107.51 | 105.40 |
| 26 | 1H | 2701 | C | P-O3'-C3' | 5.27 | 126.02 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 29 | 11 | 122 | ASP | CB-CG-OD2 | 5.27 | 123.04 | 118.30 |
| 1 | 1G | 250 | A | N9-C4-C5 | -5.27 | 103.69 | 105.80 |
| 1 | 1G | 813 | U | N1-C2-O2 | -5.27 | 119.11 | 122.80 |
| 1 | 1G | 1413 | A | N7-C8-N9 | 5.27 | 116.44 | 113.80 |
| 1 | 1G | 1473 | A | C8-N9-C4 | 5.27 | 107.91 | 105.80 |
| 26 | 14 | 848 | G | N3-C4-C5 | -5.27 | 125.97 | 128.60 |
| 26 | 14 | 969 | U | OP1-P-O3' | 5.27 | 116.79 | 105.20 |
| 26 | 14 | 1130 | U | N3-C4-C5 | -5.27 | 111.44 | 114.60 |
| 26 | 14 | 1236 | G | OP1-P-OP2 | -5.27 | 111.70 | 119.60 |
| 26 | 14 | 1399 | C | OP1-P-O3' | -5.27 | 93.61 | 105.20 |
| 26 | 14 | 1544 | C | O4'-C1'-N1 | 5.27 | 112.42 | 108.20 |
| 1 | 13 | 42 | G | C8-N9-C4 | 5.27 | 108.51 | 106.40 |
| 1 | 13 | 57 | G | N7-C8-N9 | -5.27 | 110.47 | 113.10 |
| 1 | 13 | 858 | G | OP1-P-O3' | 5.27 | 116.79 | 105.20 |
| 1 | 13 | 896 | C | C2-N3-C4 | 5.27 | 122.53 | 119.90 |
| 1 | 13 | 1453 | G | C4-C5-N7 | -5.27 | 108.69 | 110.80 |
| 1 | 13 | 1463 | C | N3-C4-C5 | -5.27 | 119.79 | 121.90 |
| 26 | 1H | 34 | C | OP2-P-O3' | 5.27 | 116.79 | 105.20 |
| 26 | 1H | 1395 | A | C8-N9-C4 | 5.27 | 107.91 | 105.80 |
| 26 | 1H | 2265 | U | C2-N1-C1' | 5.27 | 124.02 | 117.70 |
| 27 | 16 | 55 | U | N1-C2-O2 | -5.27 | 119.11 | 122.80 |
| 27 | 16 | 70 | C | N3-C2-O2 | -5.27 | 118.21 | 121.90 |
| 1 | 1G | 418 | C | OP1-P-O3' | 5.27 | 116.79 | 105.20 |
| 1 | 1G | 529 | G | N3-C4-N9 | 5.27 | 129.16 | 126.00 |
| 1 | 1G | 1477 | C | C4-C5-C6 | 5.27 | 120.03 | 117.40 |
| 56 | 1L | 69 | A | O4'-C1'-N9 | 5.27 | 112.42 | 108.20 |
| 26 | 14 | 663 | G | N1-C6-O6 | 5.27 | 123.06 | 119.90 |
| 26 | 14 | 981 | A | N1-C2-N3 | 5.27 | 131.93 | 129.30 |
| 26 | 14 | 1235 | G | N3-C4-C5 | -5.27 | 125.97 | 128.60 |
| 26 | 14 | 1292 | U | N3-C4-C5 | 5.27 | 117.76 | 114.60 |
| 26 | 14 | 1596 | A | C4-C5-N7 | -5.27 | 108.07 | 110.70 |
| 26 | 14 | 1767 | C | C4-C5-C6 | 5.27 | 120.03 | 117.40 |
| 26 | 14 | 2439 | A | C5-N7-C8 | -5.27 | 101.27 | 103.90 |
| 26 | 14 | 2514 | U | C4-C5-C6 | 5.27 | 122.86 | 119.70 |
| 27 | 1J | 17 | C | N3-C4-C5 | 5.27 | 124.01 | 121.90 |
| 27 | 1J | 106 | G | N3-C2-N2 | -5.27 | 116.21 | 119.90 |
| 1 | 13 | 67 | C | N1-C2-O2 | 5.27 | 122.06 | 118.90 |
| 1 | 13 | 874 | G | N3-C2-N2 | 5.27 | 123.59 | 119.90 |
| 1 | 13 | 1337 | G | N3-C2-N2 | -5.27 | 116.21 | 119.90 |
| 26 | 1H | 2325 | G | C5-C6-N1 | 5.27 | 114.13 | 111.50 |
| 26 | 1H | 2712(A) | A | OP1-P-O3' | -5.27 | 93.61 | 105.20 |
| 27 | 16 | 88 | C | O5'-P-OP1 | 5.27 | 117.02 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 122 | G | O5'-P-OP1 | -5.27 | 100.96 | 105.70 |
| 1 | 13 | 106 | C | C4-C5-C6 | 5.26 | 120.03 | 117.40 |
| 1 | 13 | 721 | G | OP1-P-O3' | 5.26 | 116.78 | 105.20 |
| 1 | 13 | 800 | G | C5-C6-N1 | -5.26 | 108.87 | 111.50 |
| 1 | 13 | 1526 | G | C4-C5-N7 | -5.26 | 108.69 | 110.80 |
| 26 | 1H | 134 | C | N1-C2-O2 | 5.26 | 122.06 | 118.90 |
| 26 | 1H | 308 | G | N3-C4-C5 | -5.26 | 125.97 | 128.60 |
| 26 | 1H | 323 | G | OP1-P-O3' | 5.26 | 116.78 | 105.20 |
| 26 | 1H | 639 | U | C2-N3-C4 | 5.26 | 130.16 | 127.00 |
| 26 | 1H | 803 | U | C6-N1-C2 | 5.26 | 124.16 | 121.00 |
| 26 | 1H | 1043 | C | N3-C2-O2 | -5.26 | 118.22 | 121.90 |
| 26 | 1H | 1327 | C | N3-C2-O2 | 5.26 | 125.58 | 121.90 |
| 26 | 1H | 1394 | U | OP1-P-OP2 | -5.26 | 111.70 | 119.60 |
| 26 | 1H | 1525 | G | C5-N7-C8 | 5.26 | 106.93 | 104.30 |
| 1 | 1G | 82 | U | N1-C2-O2 | 5.26 | 126.48 | 122.80 |
| 1 | 1G | 541 | G | N1-C2-N3 | -5.26 | 120.74 | 123.90 |
| 1 | 1G | 880 | C | C4-C5-C6 | -5.26 | 114.77 | 117.40 |
| 1 | 1G | 956 | U | C5-C6-N1 | 5.26 | 125.33 | 122.70 |
| 1 | 1G | 1186 | G | C5-C6-N1 | -5.26 | 108.87 | 111.50 |
| 26 | 14 | 110 | G | C2-N3-C4 | -5.26 | 109.27 | 111.90 |
| 26 | 14 | 940 | G | N7-C8-N9 | 5.26 | 115.73 | 113.10 |
| 26 | 14 | 951 | C | N3-C2-O2 | -5.26 | 118.22 | 121.90 |
| 26 | 14 | 1953 | A | N7-C8-N9 | -5.26 | 111.17 | 113.80 |
| 26 | 14 | 2390 | U | N1-C2-N3 | 5.26 | 118.06 | 114.90 |
| 26 | 14 | 2394 | C | N3-C4-C5 | 5.26 | 124.01 | 121.90 |
| 1 | 13 | 1416 | G | N1-C2-N2 | -5.26 | 111.46 | 116.20 |
| 26 | 1H | 561 | G | C4-C5-N7 | -5.26 | 108.69 | 110.80 |
| 26 | 1H | 785 | G | N3-C4-C5 | -5.26 | 125.97 | 128.60 |
| 26 | 1H | 2239 | G | C2-N3-C4 | -5.26 | 109.27 | 111.90 |
| 26 | 1H | 2848 | G | N3-C4-C5 | -5.26 | 125.97 | 128.60 |
| 30 | 21 | 144 | ARG | CG-CD-NE | 5.26 | 122.85 | 111.80 |
| 1 | 1G | 234 | C | C5-C4-N4 | -5.26 | 116.52 | 120.20 |
| 1 | 1G | 1301 | U | C6-N1-C1' | -5.26 | 113.83 | 121.20 |
| 1 | 1G | 1500 | A | OP1-P-O3' | 5.26 | 116.78 | 105.20 |
| 26 | 14 | 175 | G | C8-N9-C4 | -5.26 | 104.30 | 106.40 |
| 26 | 14 | 782 | A | OP1-P-OP2 | 5.26 | 127.49 | 119.60 |
| 26 | 14 | 965 | C | N1-C2-O2 | -5.26 | 115.74 | 118.90 |
| 26 | 14 | 2032 | G | N1-C2-N2 | -5.26 | 111.46 | 116.20 |
| 26 | 14 | 2049 | G | C8-N9-C4 | -5.26 | 104.30 | 106.40 |
| 26 | 14 | 2584 | U | N3-C4-C5 | 5.26 | 117.76 | 114.60 |
| 1 | 13 | 18 | C | O5'-P-OP2 | 5.26 | 117.01 | 110.70 |
| 1 | 13 | 272 | C | C2-N3-C4 | 5.26 | 122.53 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 749 | C | C5-C6-N1 | 5.26 | 123.63 | 121.00 |
| 1 | 13 | 889 | A | C5-C6-N6 | 5.26 | 127.91 | 123.70 |
| 1 | 13 | 925 | G | C2-N3-C4 | -5.26 | 109.27 | 111.90 |
| 1 | 13 | 1183 | A | N7-C8-N9 | -5.26 | 111.17 | 113.80 |
| 1 | 13 | 1289 | A | N9-C4-C5 | 5.26 | 107.91 | 105.80 |
| 26 | 1H | 966 | G | C5-N7-C8 | 5.26 | 106.93 | 104.30 |
| 26 | 1H | 1597 | A | O5'-P-OP2 | -5.26 | 100.96 | 105.70 |
| 26 | 1H | 1672 | C | C5-C6-N1 | -5.26 | 118.37 | 121.00 |
| 26 | 1H | 1860 | G | C5-C6-N1 | -5.26 | 108.87 | 111.50 |
| 26 | 1H | 2057 | A | C8-N9-C4 | -5.26 | 103.69 | 105.80 |
| 26 | 1H | 2607 | G | OP1-P-OP2 | -5.26 | 111.71 | 119.60 |
| 26 | 1H | 2849 | U | N3-C2-O2 | 5.26 | 125.88 | 122.20 |
| 1 | 1G | 851 | G | C5-C6-O6 | -5.26 | 125.44 | 128.60 |
| 1 | 1G | 892 | A | N1-C6-N6 | 5.26 | 121.76 | 118.60 |
| 57 | 3L | 58 | A | P-O3'-C3' | 5.26 | 126.01 | 119.70 |
| 26 | 14 | 446 | G | O5'-P-OP1 | -5.26 | 100.97 | 105.70 |
| 26 | 14 | 584 | C | C5-C6-N1 | -5.26 | 118.37 | 121.00 |
| 26 | 14 | 1857 | G | C2-N3-C4 | -5.26 | 109.27 | 111.90 |
| 26 | 14 | 2060 | A | O5'-P-OP1 | 5.26 | 117.02 | 110.70 |
| 26 | 14 | 2650 | U | C5-C6-N1 | -5.26 | 120.07 | 122.70 |
| 1 | 13 | 191 | G | N3-C4-C5 | -5.26 | 125.97 | 128.60 |
| 1 | 13 | 752 | G | C8-N9-C1' | -5.26 | 120.16 | 127.00 |
| 1 | 13 | 815 | A | N7-C8-N9 | -5.26 | 111.17 | 113.80 |
| 23 | 2K | 57 | C | O5'-P-OP1 | 5.26 | 117.01 | 110.70 |
| 26 | 1H | 628 | G | C4-C5-C6 | -5.26 | 115.64 | 118.80 |
| 26 | 1H | 668 | G | N7-C8-N9 | 5.26 | 115.73 | 113.10 |
| 26 | 1H | 1815 | A | C6-N1-C2 | -5.26 | 115.44 | 118.60 |
| 26 | 1H | 2592 | G | C6-C5-N7 | -5.26 | 127.24 | 130.40 |
| 1 | 1G | 691 | G | N1-C6-O6 | 5.26 | 123.06 | 119.90 |
| 1 | 1G | 982 | U | C6-N1-C1' | -5.26 | 113.84 | 121.20 |
| 1 | 1G | 1068 | G | N1-C6-O6 | 5.26 | 123.06 | 119.90 |
| 1 | 1G | 1414 | U | C6-N1-C2 | -5.26 | 117.84 | 121.00 |
| 56 | 1L | 32 | C | N3-C2-O2 | -5.26 | 118.22 | 121.90 |
| 26 | 14 | 448 | U | O5'-P-OP2 | 5.26 | 117.01 | 110.70 |
| 26 | 14 | 1393 | A | O5'-P-OP1 | 5.26 | 117.01 | 110.70 |
| 26 | 14 | 1427 | A | C2-N3-C4 | -5.26 | 107.97 | 110.60 |
| 26 | 14 | 1922 | G | C8-N9-C4 | 5.26 | 108.50 | 106.40 |
| 26 | 14 | 2305 | A | N1-C6-N6 | -5.26 | 115.44 | 118.60 |
| 26 | 14 | 2307 | G | O4'-C1'-N9 | 5.26 | 112.41 | 108.20 |
| 1 | 13 | 115 | G | C8-N9-C4 | -5.26 | 104.30 | 106.40 |
| 1 | 13 | 438 | G | N9-C4-C5 | 5.26 | 107.50 | 105.40 |
| 1 | 13 | 913 | A | C6-N1-C2 | -5.26 | 115.44 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 664 | C | N1-C2-O2 | -5.26 | 115.75 | 118.90 |
| 26 | 1H | 804 | A | C4-C5-N7 | -5.26 | 108.07 | 110.70 |
| 27 | 16 | 35 | U | OP1-P-O3' | -5.26 | 93.63 | 105.20 |
| 27 | 16 | 54 | G | N3-C4-C5 | 5.26 | 131.23 | 128.60 |
| 30 | 21 | 21 | VAL | CG1-CB-CG2 | 5.26 | 119.31 | 110.90 |
| 35 | 58 | 120 | LEU | CA-CB-CG | 5.26 | 127.39 | 115.30 |
| 26 | 14 | 1341 | U | N3-C2-O2 | 5.26 | 125.88 | 122.20 |
| 1 | 13 | 319 | G | C6-N1-C2 | 5.26 | 128.25 | 125.10 |
| 1 | 13 | 324 | G | C8-N9-C4 | -5.26 | 104.30 | 106.40 |
| 1 | 13 | 878 | G | N3-C4-N9 | 5.26 | 129.15 | 126.00 |
| 1 | 13 | 1374 | A | C2-N3-C4 | -5.26 | 107.97 | 110.60 |
| 26 | 1H | 195 | A | P-O3'-C3' | 5.26 | 126.01 | 119.70 |
| 26 | 1H | 270(H) | C | C5-C6-N1 | 5.26 | 123.63 | 121.00 |
| 26 | 1H | 428 | A | C4-C5-N7 | -5.26 | 108.07 | 110.70 |
| 26 | 1H | 691 | C | O4'-C1'-N1 | -5.26 | 104.00 | 108.20 |
| 26 | 1H | 731 | C | N3-C4-N4 | -5.26 | 114.32 | 118.00 |
| 26 | 1H | 959 | A | OP1-P-OP2 | 5.26 | 127.49 | 119.60 |
| 26 | 1H | 1204 | A | C4-C5-C6 | 5.26 | 119.63 | 117.00 |
| 26 | 1H | 1606 | G | OP1-P-O3' | 5.26 | 116.77 | 105.20 |
| 26 | 1H | 2848 | G | C5-C6-O6 | 5.26 | 131.75 | 128.60 |
| 27 | 16 | 63 | G | C2-N3-C4 | -5.26 | 109.27 | 111.90 |
| 1 | 1G | 884 | U | OP1-P-O3' | 5.26 | 116.76 | 105.20 |
| 1 | 1G | 1461 | G | N1-C2-N2 | -5.26 | 111.47 | 116.20 |
| 26 | 14 | 403 | U | C4-C5-C6 | 5.26 | 122.85 | 119.70 |
| 26 | 14 | 551 | G | C2-N3-C4 | -5.26 | 109.27 | 111.90 |
| 26 | 14 | 595 | C | O5'-P-OP1 | 5.26 | 117.01 | 110.70 |
| 26 | 14 | 962 | G | N1-C2-N2 | 5.26 | 120.93 | 116.20 |
| 26 | 14 | 1108 | U | C5-C6-N1 | 5.26 | 125.33 | 122.70 |
| 26 | 14 | 2021 | C | N3-C4-N4 | 5.26 | 121.68 | 118.00 |
| 26 | 14 | 2364 | C | OP2-P-O3' | 5.26 | 116.76 | 105.20 |
| 27 | 1J | 67 | G | OP2-P-O3' | 5.26 | 116.77 | 105.20 |
| 1 | 13 | 1417 | G | C8-N9-C4 | -5.25 | 104.30 | 106.40 |
| 26 | 1H | 98 | G | C4-C5-C6 | 5.25 | 121.95 | 118.80 |
| 26 | 1H | 338 | G | C2-N3-C4 | 5.25 | 114.53 | 111.90 |
| 26 | 1H | 950 | G | C5-C6-N1 | 5.25 | 114.13 | 111.50 |
| 26 | 1H | 2000 | G | N3-C4-N9 | 5.25 | 129.15 | 126.00 |
| 1 | 1G | 1294 | G | N3-C4-C5 | 5.25 | 131.23 | 128.60 |
| 26 | 14 | 64 | A | C6-N1-C2 | -5.25 | 115.45 | 118.60 |
| 26 | 14 | 464 | U | C4-C5-C6 | 5.25 | 122.85 | 119.70 |
| 26 | 14 | 1271 | G | N9-C4-C5 | -5.25 | 103.30 | 105.40 |
| 26 | 14 | 1560 | G | N9-C4-C5 | -5.25 | 103.30 | 105.40 |
| 26 | 14 | 2415 | G | N1-C6-O6 | 5.25 | 123.05 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 765 | G | OP1-P-OP2 | 5.25 | 127.48 | 119.60 |
| 1 | 13 | 882 | C | N1-C2-O2 | -5.25 | 115.75 | 118.90 |
| 1 | 13 | 956 | U | C2-N3-C4 | 5.25 | 130.15 | 127.00 |
| 1 | 13 | 1259 | C | C5-C6-N1 | 5.25 | 123.63 | 121.00 |
| 26 | 1H | 1008 | C | O5'-P-OP1 | -5.25 | 100.97 | 105.70 |
| 26 | 1H | 1051 | G | N3-C4-N9 | 5.25 | 129.15 | 126.00 |
| 26 | 1H | 1144 | G | N1-C2-N3 | -5.25 | 120.75 | 123.90 |
| 26 | 1H | 1300 | U | N3-C2-O2 | -5.25 | 118.52 | 122.20 |
| 26 | 1H | 1755 | A | N1-C6-N6 | -5.25 | 115.45 | 118.60 |
| 26 | 1H | 2023 | G | C4-C5-C6 | 5.25 | 121.95 | 118.80 |
| 26 | 1H | 2708 | G | C2-N3-C4 | -5.25 | 109.27 | 111.90 |
| 1 | 1G | 730 | G | C5-C6-N1 | -5.25 | 108.87 | 111.50 |
| 1 | 1G | 1487 | G | C6-C5-N7 | -5.25 | 127.25 | 130.40 |
| 6 | 52 | 21 | LEU | CB-CG-CD2 | -5.25 | 102.07 | 111.00 |
| 26 | 14 | 266 | G | C6-C5-N7 | -5.25 | 127.25 | 130.40 |
| 26 | 14 | 1661 | G | C4-C5-N7 | 5.25 | 112.90 | 110.80 |
| 26 | 14 | 1661 | G | O5'-P-OP1 | 5.25 | 117.00 | 110.70 |
| 26 | 14 | 1666 | G | O4'-C1'-N9 | 5.25 | 112.40 | 108.20 |
| 26 | 14 | 1711 | C | C2-N3-C4 | -5.25 | 117.27 | 119.90 |
| 26 | 14 | 1788 | C | OP2-P-O3' | 5.25 | 116.76 | 105.20 |
| 26 | 14 | 1800 | C | N3-C4-N4 | 5.25 | 121.68 | 118.00 |
| 26 | 14 | 1824 | G | O5'-P-OP2 | -5.25 | 100.97 | 105.70 |
| 26 | 14 | 2446 | G | N1-C2-N2 | -5.25 | 111.47 | 116.20 |
| 26 | 14 | 2454 | G | C8-N9-C4 | 5.25 | 108.50 | 106.40 |
| 1 | 13 | 526 | C | C2-N3-C4 | -5.25 | 117.28 | 119.90 |
| 1 | 13 | 727 | G | C8-N9-C4 | -5.25 | 104.30 | 106.40 |
| 1 | 13 | 979 | C | N3-C2-O2 | 5.25 | 125.58 | 121.90 |
| 1 | 13 | 1049 | U | OP1-P-O3' | 5.25 | 116.75 | 105.20 |
| 1 | 13 | 1482 | G | N3-C4-N9 | -5.25 | 122.85 | 126.00 |
| 26 | 1H | 26 | G | C4-C5-N7 | 5.25 | 112.90 | 110.80 |
| 26 | 1H | 348 | G | C5-C6-N1 | 5.25 | 114.13 | 111.50 |
| 26 | 1H | 777 | A | N9-C4-C5 | 5.25 | 107.90 | 105.80 |
| 26 | 1H | 1136 | G | C8-N9-C4 | 5.25 | 108.50 | 106.40 |
| 26 | 1H | 1659 | U | N1-C2-O2 | -5.25 | 119.12 | 122.80 |
| 26 | 1H | 1857 | G | C4-C5-C6 | 5.25 | 121.95 | 118.80 |
| 26 | 1H | 2032 | G | C5-C6-O6 | -5.25 | 125.45 | 128.60 |
| 26 | 1H | 2563 | U | N3-C4-C5 | 5.25 | 117.75 | 114.60 |
| 26 | 1H | 2574 | G | N9-C4-C5 | 5.25 | 107.50 | 105.40 |
| 38 | 88 | 82 | ARG | NE-CZ-NH2 | -5.25 | 117.67 | 120.30 |
| 1 | 1G | 244 | U | C6-N1-C1' | -5.25 | 113.85 | 121.20 |
| 1 | 1G | 663 | A | C6-C5-N7 | -5.25 | 128.62 | 132.30 |
| 1 | 1G | 729 | A | N7-C8-N9 | 5.25 | 116.43 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 113 | G | C2-N3-C4 | 5.25 | 114.53 | 111.90 |
| 26 | 14 | 249 | C | OP1-P-OP2 | -5.25 | 111.72 | 119.60 |
| 26 | 14 | 525 | U | N1-C2-N3 | 5.25 | 118.05 | 114.90 |
| 26 | 14 | 987 | G | C6-N1-C2 | -5.25 | 121.95 | 125.10 |
| 26 | 14 | 1380 | G | N3-C4-C5 | 5.25 | 131.23 | 128.60 |
| 26 | 14 | 1495 | A | C5-C6-N1 | 5.25 | 120.33 | 117.70 |
| 26 | 14 | 1627 | G | N1-C2-N2 | -5.25 | 111.47 | 116.20 |
| 26 | 14 | 2080 | G | C4-C5-N7 | -5.25 | 108.70 | 110.80 |
| 26 | 14 | 2500 | U | N3-C2-O2 | -5.25 | 118.52 | 122.20 |
| 26 | 14 | 2606 | C | C6-N1-C2 | -5.25 | 118.20 | 120.30 |
| 27 | 1J | 81 | G | N3-C4-C5 | 5.25 | 131.23 | 128.60 |
| 1 | 13 | 42 | G | N3-C2-N2 | 5.25 | 123.58 | 119.90 |
| 1 | 13 | 53 | A | N9-C4-C5 | -5.25 | 103.70 | 105.80 |
| 1 | 13 | 539 | A | O5'-P-OP1 | 5.25 | 117.00 | 110.70 |
| 1 | 13 | 809 | G | N1-C6-O6 | -5.25 | 116.75 | 119.90 |
| 1 | 13 | 891 | U | OP1-P-OP2 | 5.25 | 127.47 | 119.60 |
| 1 | 13 | 1462 | G | N1-C6-O6 | -5.25 | 116.75 | 119.90 |
| 26 | 1H | 356 | G | OP1-P-O3' | 5.25 | 116.75 | 105.20 |
| 26 | 1H | 1129 | A | OP1-P-O3' | 5.25 | 116.75 | 105.20 |
| 26 | 1H | 1157 | G | C4-N9-C1' | 5.25 | 133.32 | 126.50 |
| 26 | 1H | 1772 | G | N9-C1'-C2' | -5.25 | 106.22 | 112.00 |
| 26 | 1H | 2327 | A | C6-C5-N7 | 5.25 | 135.97 | 132.30 |
| 26 | 1H | 2537 | U | C5-C6-N1 | -5.25 | 120.08 | 122.70 |
| 26 | 1H | 2583 | G | N9-C4-C5 | -5.25 | 103.30 | 105.40 |
| 1 | 1G | 853 | G | N7-C8-N9 | 5.25 | 115.72 | 113.10 |
| 26 | 14 | 1930 | G | C4-N9-C1' | -5.25 | 119.68 | 126.50 |
| 1 | 13 | 25 | C | N3-C2-O2 | 5.25 | 125.57 | 121.90 |
| 1 | 13 | 947 | G | N3-C4-C5 | -5.25 | 125.97 | 128.60 |
| 1 | 13 | 1187 | G | O5'-P-OP1 | -5.25 | 100.98 | 105.70 |
| 1 | 13 | 1477 | C | C6-N1-C2 | -5.25 | 118.20 | 120.30 |
| 26 | 1H | 265 | A | N3-C4-N9 | -5.25 | 123.20 | 127.40 |
| 26 | 1H | 352 | G | C5-C6-N1 | -5.25 | 108.88 | 111.50 |
| 26 | 1H | 1021 | A | O4'-C1'-N9 | -5.25 | 104.00 | 108.20 |
| 26 | 1H | 1341 | U | N3-C4-C5 | -5.25 | 111.45 | 114.60 |
| 26 | 1H | 1443 | G | N1-C2-N3 | 5.25 | 127.05 | 123.90 |
| 26 | 1H | 1446 | C | C2-N3-C4 | 5.25 | 122.52 | 119.90 |
| 26 | 1H | 1670 | C | C5-C4-N4 | -5.25 | 116.53 | 120.20 |
| 26 | 1H | 2019 | A | C8-N9-C4 | -5.25 | 103.70 | 105.80 |
| 26 | 1H | 2035 | G | O5'-P-OP1 | -5.25 | 100.98 | 105.70 |
| 26 | 1H | 2414 | G | N1-C2-N3 | 5.25 | 127.05 | 123.90 |
| 1 | 1G | 150 | C | N3-C4-N4 | 5.25 | 121.67 | 118.00 |
| 1 | 1G | 522 | C | C5-C4-N4 | 5.25 | 123.87 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 1G | 750 | G | N1-C6-O6 | -5.25 | 116.75 | 119.90 |
| 26 | 14 | 470 | A | C4-C5-N7 | 5.25 | 113.33 | 110.70 |
| 26 | 14 | 1408 | C | N3-C4-N4 | 5.25 | 121.67 | 118.00 |
| 26 | 14 | 1635 | G | C6-N1-C2 | -5.25 | 121.95 | 125.10 |
| 26 | 14 | 2044 | C | C2-N1-C1' | 5.25 | 124.57 | 118.80 |
| 26 | 14 | 2047 | U | C2-N3-C4 | -5.25 | 123.85 | 127.00 |
| 26 | 14 | 2292 | C | C6-N1-C2 | 5.25 | 122.40 | 120.30 |
| 26 | 14 | 2548 | G | C5-C6-O6 | -5.25 | 125.45 | 128.60 |
| 26 | 14 | 2627 | G | N1-C6-O6 | 5.25 | 123.05 | 119.90 |
| 26 | 14 | 2847 | U | C5-C4-O4 | -5.25 | 122.75 | 125.90 |
| 27 | 1J | 55 | U | C2-N3-C4 | 5.25 | 130.15 | 127.00 |
| 48 | E5 | 20 | ARG | NE-CZ-NH1 | -5.25 | 117.68 | 120.30 |
| 1 | 13 | 240 | C | C5-C6-N1 | -5.25 | 118.38 | 121.00 |
| 1 | 13 | 875 | C | N3-C4-C5 | -5.25 | 119.80 | 121.90 |
| 26 | 1H | 80 | G | N9-C4-C5 | 5.25 | 107.50 | 105.40 |
| 26 | 1H | 211 | A | C5-N7-C8 | -5.25 | 101.28 | 103.90 |
| 26 | 1H | 1397 | U | OP1-P-OP2 | -5.25 | 111.73 | 119.60 |
| 26 | 1H | 2029 | G | C2-N3-C4 | -5.25 | 109.28 | 111.90 |
| 26 | 1H | 2282 | G | OP1-P-OP2 | -5.25 | 111.73 | 119.60 |
| 26 | 1H | 2506 | U | C2-N3-C4 | 5.25 | 130.15 | 127.00 |
| 26 | 1H | 2721 | A | O5'-P-OP1 | -5.25 | 100.98 | 105.70 |
| 26 | 1H | 2871 | C | C6-N1-C1' | 5.25 | 127.09 | 120.80 |
| 26 | 14 | 270(R) | G | N3-C4-N9 | -5.25 | 122.85 | 126.00 |
| 26 | 14 | 557 | U | C6-N1-C2 | 5.25 | 124.15 | 121.00 |
| 26 | 14 | 1385 | G | C5-C6-O6 | -5.25 | 125.45 | 128.60 |
| 26 | 14 | 1938 | A | O4'-C1'-N9 | 5.25 | 112.40 | 108.20 |
| 26 | 14 | 1975 | G | N1-C2-N2 | 5.25 | 120.92 | 116.20 |
| 26 | 14 | 2367 | G | N7-C8-N9 | 5.25 | 115.72 | 113.10 |
| 26 | 14 | 2554 | U | O5'-P-OP2 | 5.25 | 117.00 | 110.70 |
| 1 | 13 | 1333 | A | OP2-P-O3' | 5.25 | 116.74 | 105.20 |
| 1 | 13 | 1515 | C | N1-C2-N3 | -5.25 | 115.53 | 119.20 |
| 23 | 2K | 36 | A | C8-N9-C4 | 5.25 | 107.90 | 105.80 |
| 26 | 1H | 270(B) | A | N1-C6-N6 | -5.25 | 115.45 | 118.60 |
| 26 | 1H | 288 | C | N3-C4-C5 | -5.25 | 119.80 | 121.90 |
| 26 | 1H | 868 | U | N3-C4-C5 | -5.25 | 111.45 | 114.60 |
| 26 | 1H | 1248 | G | OP2-P-O3' | 5.25 | 116.74 | 105.20 |
| 26 | 1H | 1906 | G | OP2-P-O3' | 5.25 | 116.74 | 105.20 |
| 26 | 1H | 2506 | U | C5-C4-O4 | 5.25 | 129.05 | 125.90 |
| 55 | Q8 | 30 | ARG | NE-CZ-NH1 | 5.25 | 122.92 | 120.30 |
| 1 | 1G | 180 | U | C2-N3-C4 | 5.25 | 130.15 | 127.00 |
| 1 | 1G | 500 | G | N1-C6-O6 | -5.25 | 116.75 | 119.90 |
| 1 | 1G | 831 | U | N3-C4-C5 | -5.25 | 111.45 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1231 | G | OP1-P-OP2 | 5.25 | 127.47 | 119.60 |
| 26 | 14 | 543 | C | C2-N1-C1' | 5.25 | 124.57 | 118.80 |
| 26 | 14 | 1945 | G | C5-C6-N1 | 5.25 | 114.12 | 111.50 |
| 26 | 14 | 2242 | G | N1-C2-N2 | 5.25 | 120.92 | 116.20 |
| 26 | 14 | 2578 | G | C5-N7-C8 | 5.25 | 106.92 | 104.30 |
| 27 | 1J | 7 | G | N7-C8-N9 | -5.25 | 110.48 | 113.10 |
| 1 | 13 | 190 | G | C2-N3-C4 | 5.24 | 114.52 | 111.90 |
| 1 | 13 | 493 | G | C5-C6-N1 | -5.24 | 108.88 | 111.50 |
| 1 | 13 | 617 | G | N3-C4-C5 | 5.24 | 131.22 | 128.60 |
| 1 | 13 | 1111 | A | N3-C4-C5 | -5.24 | 123.13 | 126.80 |
| 1 | 13 | 1174 | G | N3-C4-C5 | 5.24 | 131.22 | 128.60 |
| 1 | 13 | 1239 | A | N1-C6-N6 | 5.24 | 121.75 | 118.60 |
| 1 | 13 | 1338 | G | C6-C5-N7 | 5.24 | 133.55 | 130.40 |
| 1 | 13 | 1525 | G | C5-N7-C8 | 5.24 | 106.92 | 104.30 |
| 24 | 3K | 43 | U | C5-C4-O4 | -5.24 | 122.75 | 125.90 |
| 26 | 1H | 20 | C | OP2-P-O3' | 5.24 | 116.73 | 105.20 |
| 26 | 1H | 706 | A | C6-C5-N7 | -5.24 | 128.63 | 132.30 |
| 26 | 1H | 809 | G | N1-C6-O6 | 5.24 | 123.05 | 119.90 |
| 26 | 1H | 1126 | A | C4-C5-N7 | -5.24 | 108.08 | 110.70 |
| 26 | 1H | 1640 | C | N1-C2-N3 | -5.24 | 115.53 | 119.20 |
| 26 | 1H | 2054 | A | N9-C4-C5 | 5.24 | 107.90 | 105.80 |
| 26 | 1H | 2281 | C | O5'-P-OP2 | -5.24 | 100.98 | 105.70 |
| 26 | 1H | 2396 | G | C4-C5-C6 | -5.24 | 115.65 | 118.80 |
| 26 | 1H | 2582 | G | OP1-P-OP2 | -5.24 | 111.74 | 119.60 |
| 26 | 14 | 248 | G | C6-N1-C2 | -5.24 | 121.95 | 125.10 |
| 26 | 14 | 614 | U | P-O3'-C3' | 5.24 | 125.99 | 119.70 |
| 26 | 14 | 827 | U | O5'-P-OP1 | 5.24 | 116.99 | 110.70 |
| 26 | 14 | 1256 | G | N1-C6-O6 | 5.24 | 123.05 | 119.90 |
| 26 | 14 | 1330 | C | C5-C6-N1 | -5.24 | 118.38 | 121.00 |
| 26 | 14 | 1579 | A | C6-C5-N7 | -5.24 | 128.63 | 132.30 |
| 26 | 14 | 1951 | U | N1-C2-O2 | -5.24 | 119.13 | 122.80 |
| 26 | 14 | 2228 | G | C4-N9-C1' | 5.24 | 133.32 | 126.50 |
| 26 | 14 | 2359 | C | C5-C6-N1 | -5.24 | 118.38 | 121.00 |
| 35 | 15 | 82 | LEU | CA-CB-CG | -5.24 | 103.24 | 115.30 |
| 26 | 1H | 143 | C | N1-C2-N3 | -5.24 | 115.53 | 119.20 |
| 26 | 1H | 1238 | G | N1-C2-N3 | 5.24 | 127.05 | 123.90 |
| 26 | 1H | 1313 | U | OP1-P-OP2 | -5.24 | 111.74 | 119.60 |
| 26 | 1H | 2557 | G | N1-C2-N2 | 5.24 | 120.92 | 116.20 |
| 27 | 16 | 31 | C | N3-C2-O2 | -5.24 | 118.23 | 121.90 |
| 1 | 1G | 1208 | C | N3-C2-O2 | -5.24 | 118.23 | 121.90 |
| 26 | 14 | 1473 | G | N9-C4-C5 | -5.24 | 103.30 | 105.40 |
| 27 | 1J | 54 | G | C5-N7-C8 | -5.24 | 101.68 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 262 | A | C5-C6-N6 | 5.24 | 127.89 | 123.70 |
| 1 | 13 | 730 | G | N9-C4-C5 | 5.24 | 107.50 | 105.40 |
| 1 | 13 | 964 | A | C2-N3-C4 | -5.24 | 107.98 | 110.60 |
| 26 | 1H | 229 | A | C2-N3-C4 | 5.24 | 113.22 | 110.60 |
| 26 | 1H | 234 | C | C5-C6-N1 | -5.24 | 118.38 | 121.00 |
| 26 | 1H | 404 | C | P-O3'-C3' | 5.24 | 125.99 | 119.70 |
| 26 | 1H | 536 | A | OP2-P-O3' | 5.24 | 116.73 | 105.20 |
| 26 | 1H | 769 | G | N7-C8-N9 | -5.24 | 110.48 | 113.10 |
| 26 | 1H | 1461 | G | N3-C4-C5 | -5.24 | 125.98 | 128.60 |
| 26 | 1H | 1726 | G | C5-C6-O6 | 5.24 | 131.75 | 128.60 |
| 26 | 1H | 1989 | G | N9-C4-C5 | 5.24 | 107.50 | 105.40 |
| 26 | 1H | 2067 | G | C8-N9-C4 | -5.24 | 104.30 | 106.40 |
| 26 | 1H | 2069 | G | OP2-P-O3' | 5.24 | 116.73 | 105.20 |
| 1 | 1G | 550 | G | N1-C6-O6 | 5.24 | 123.04 | 119.90 |
| 1 | 1G | 882 | C | OP1-P-O3' | 5.24 | 116.73 | 105.20 |
| 1 | 1G | 1187 | G | N3-C2-N2 | -5.24 | 116.23 | 119.90 |
| 26 | 14 | 777 | A | OP2-P-O3' | 5.24 | 116.73 | 105.20 |
| 26 | 14 | 784 | A | N3-C4-N9 | -5.24 | 123.21 | 127.40 |
| 26 | 14 | 1334 | G | O5'-P-OP1 | -5.24 | 100.98 | 105.70 |
| 26 | 14 | 1627 | G | N3-C4-N9 | -5.24 | 122.86 | 126.00 |
| 26 | 14 | 2021 | C | N3-C4-C5 | 5.24 | 124.00 | 121.90 |
| 26 | 14 | 2056 | G | N3-C2-N2 | -5.24 | 116.23 | 119.90 |
| 26 | 14 | 2531 | A | C8-N9-C4 | 5.24 | 107.90 | 105.80 |
| 27 | 1J | 48 | A | C4-C5-C6 | 5.24 | 119.62 | 117.00 |
| 1 | 13 | 237 | C | C5-C6-N1 | -5.24 | 118.38 | 121.00 |
| 1 | 13 | 335 | C | N1-C2-N3 | 5.24 | 122.87 | 119.20 |
| 1 | 13 | 798 | G | OP2-P-O3' | 5.24 | 116.73 | 105.20 |
| 26 | 1H | 67 | U | C6-N1-C2 | -5.24 | 117.86 | 121.00 |
| 26 | 1H | 417 | C | C5-C4-N4 | -5.24 | 116.53 | 120.20 |
| 26 | 1H | 689 | A | C8-N9-C4 | 5.24 | 107.90 | 105.80 |
| 26 | 1H | 1215 | G | C4-C5-C6 | 5.24 | 121.94 | 118.80 |
| 26 | 1H | 1434 | A | N1-C6-N6 | -5.24 | 115.46 | 118.60 |
| 26 | 1H | 1834 | U | N3-C2-O2 | -5.24 | 118.53 | 122.20 |
| 26 | 1H | 2074 | U | N1-C2-O2 | -5.24 | 119.13 | 122.80 |
| 26 | 1H | 2245 | U | O4'-C1'-N1 | 5.24 | 112.39 | 108.20 |
| 29 | 11 | 35 | LYS | CG-CD-CE | -5.24 | 96.19 | 111.90 |
| 1 | 1G | 73 | G | C2-N3-C4 | -5.24 | 109.28 | 111.90 |
| 1 | 1G | 872 | A | O5'-P-OP2 | 5.24 | 116.98 | 110.70 |
| 1 | 1G | 921 | U | N3-C4-O4 | 5.24 | 123.07 | 119.40 |
| 26 | 14 | 3 | U | C5-C6-N1 | 5.24 | 125.32 | 122.70 |
| 26 | 14 | 556 | G | C8-N9-C4 | 5.24 | 108.50 | 106.40 |
| 26 | 14 | 1726 | G | C8-N9-C4 | -5.24 | 104.30 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1796 | U | N3-C4-O4 | -5.24 | 115.73 | 119.40 |
| 26 | 14 | 1839 | G | N1-C2-N2 | -5.24 | 111.48 | 116.20 |
| 26 | 14 | 1926 | U | N1-C2-O2 | -5.24 | 119.13 | 122.80 |
| 26 | 14 | 1951 | U | C6-N1-C1' | 5.24 | 128.53 | 121.20 |
| 26 | 14 | 1986 | A | C6-N1-C2 | -5.24 | 115.46 | 118.60 |
| 26 | 14 | 2429 | G | O5'-P-OP1 | 5.24 | 116.99 | 110.70 |
| 26 | 14 | 2509 | G | C5-C6-N1 | -5.24 | 108.88 | 111.50 |
| 26 | 14 | 2564 | A | N1-C6-N6 | -5.24 | 115.46 | 118.60 |
| 1 | 13 | 743 | U | N3-C4-O4 | -5.24 | 115.73 | 119.40 |
| 1 | 13 | 1311 | G | C2-N3-C4 | -5.24 | 109.28 | 111.90 |
| 26 | 1H | 1214 | A | N9-C4-C5 | -5.24 | 103.70 | 105.80 |
| 26 | 1H | 1499 | C | OP2-P-O3' | 5.24 | 116.72 | 105.20 |
| 26 | 1H | 1501 | C | C2-N3-C4 | 5.24 | 122.52 | 119.90 |
| 26 | 1H | 2218 | G | C8-N9-C4 | -5.24 | 104.31 | 106.40 |
| 1 | 1G | 144 | G | C8-N9-C4 | -5.24 | 104.31 | 106.40 |
| 1 | 1G | 1363 | A | N7-C8-N9 | -5.24 | 111.18 | 113.80 |
| 25 | 4L | 13 | A | N1-C6-N6 | -5.24 | 115.46 | 118.60 |
| 26 | 14 | 1526 | G | N3-C2-N2 | 5.24 | 123.57 | 119.90 |
| 26 | 14 | 1695 | G | C8-N9-C1' | -5.24 | 120.19 | 127.00 |
| 26 | 14 | 1955 | U | O4'-C1'-N1 | 5.24 | 112.39 | 108.20 |
| 26 | 14 | 2516 | G | OP2-P-O3' | 5.24 | 116.72 | 105.20 |
| 1 | 13 | 478 | A | C5-C6-N1 | -5.24 | 115.08 | 117.70 |
| 1 | 13 | 1189 | C | O5'-P-OP2 | 5.24 | 116.98 | 110.70 |
| 26 | 1H | 663 | G | N1-C2-N2 | -5.24 | 111.49 | 116.20 |
| 26 | 1H | 986 | C | OP1-P-OP2 | -5.24 | 111.75 | 119.60 |
| 26 | 1H | 1014 | U | N1-C2-O2 | -5.24 | 119.13 | 122.80 |
| 26 | 1H | 1619 | G | C5-N7-C8 | 5.24 | 106.92 | 104.30 |
| 1 | 1G | 73 | G | N3-C4-N9 | -5.24 | 122.86 | 126.00 |
| 1 | 1G | 169 | C | C5-C6-N1 | 5.24 | 123.62 | 121.00 |
| 1 | 1G | 711 | G | N1-C2-N2 | -5.24 | 111.49 | 116.20 |
| 26 | 14 | 396 | G | C6-C5-N7 | -5.24 | 127.26 | 130.40 |
| 26 | 14 | 1543 | A | N1-C6-N6 | -5.24 | 115.46 | 118.60 |
| 44 | A5 | 16 | LYS | CD-CE-NZ | -5.24 | 99.66 | 111.70 |
| 1 | 13 | 494 | U | N3-C4-O4 | 5.23 | 123.06 | 119.40 |
| 1 | 13 | 1304 | G | O5'-P-OP1 | -5.23 | 100.99 | 105.70 |
| 26 | 1H | 76 | C | N3-C4-N4 | 5.23 | 121.66 | 118.00 |
| 26 | 1H | 294 | A | N1-C2-N3 | -5.23 | 126.68 | 129.30 |
| 26 | 1H | 670 | A | N1-C6-N6 | 5.23 | 121.74 | 118.60 |
| 26 | 1H | 775 | G | N7-C8-N9 | 5.23 | 115.72 | 113.10 |
| 26 | 1H | 1544 | C | N3-C4-C5 | 5.23 | 123.99 | 121.90 |
| 26 | 1H | 2056 | G | N1-C2-N3 | 5.23 | 127.04 | 123.90 |
| 26 | 1H | 2094 | G | C8-N9-C4 | -5.23 | 104.31 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 2640 | G | OP1-P-OP2 | 5.23 | 127.45 | 119.60 |
| 26 | 1H | 2891 | G | O5'-P-OP2 | 5.23 | 116.98 | 110.70 |
| 1 | 1G | 609 | A | N9-C4-C5 | 5.23 | 107.89 | 105.80 |
| 1 | 1G | 718 | G | C6-C5-N7 | -5.23 | 127.26 | 130.40 |
| 26 | 14 | 1451 | C | P-O3'-C3' | -5.23 | 113.42 | 119.70 |
| 26 | 14 | 1886 | C | C4-C5-C6 | -5.23 | 114.78 | 117.40 |
| 26 | 1H | 270(W) | G | N3-C4-N9 | 5.23 | 129.14 | 126.00 |
| 26 | 1H | 807 | U | O4'-C1'-N1 | -5.23 | 104.01 | 108.20 |
| 26 | 1H | 1629 | U | C6-N1-C2 | -5.23 | 117.86 | 121.00 |
| 26 | 1H | 1902 | C | N1-C2-O2 | -5.23 | 115.76 | 118.90 |
| 26 | 1H | 2639 | A | C5-C6-N6 | -5.23 | 119.52 | 123.70 |
| 26 | 1H | 2865 | U | OP1-P-OP2 | 5.23 | 127.45 | 119.60 |
| 1 | 1G | 411 | A | C6-N1-C2 | 5.23 | 121.74 | 118.60 |
| 1 | 1G | 790 | A | C5-C6-N1 | 5.23 | 120.32 | 117.70 |
| 1 | 1G | 930 | C | N3-C4-C5 | 5.23 | 123.99 | 121.90 |
| 1 | 1G | 994 | A | C8-N9-C4 | -5.23 | 103.71 | 105.80 |
| 1 | 1G | 1437 | C | C6-N1-C2 | 5.23 | 122.39 | 120.30 |
| 26 | 14 | 137 | C | N3-C2-O2 | -5.23 | 118.24 | 121.90 |
| 26 | 14 | 270(X) | G | C6-C5-N7 | -5.23 | 127.26 | 130.40 |
| 26 | 14 | 328 | U | N3-C4-C5 | -5.23 | 111.46 | 114.60 |
| 26 | 14 | 1364 | G | C5-N7-C8 | 5.23 | 106.92 | 104.30 |
| 26 | 14 | 1662 | C | N3-C4-C5 | -5.23 | 119.81 | 121.90 |
| 26 | 14 | 2336 | A | OP1-P-OP2 | 5.23 | 127.45 | 119.60 |
| 26 | 14 | 2534 | A | C5-N7-C8 | -5.23 | 101.28 | 103.90 |
| 26 | 14 | 2602 | A | O5'-P-OP1 | -5.23 | 100.99 | 105.70 |
| 1 | 13 | 1269 | A | C2-N3-C4 | 5.23 | 113.22 | 110.60 |
| 1 | 13 | 1484 | C | C2-N3-C4 | -5.23 | 117.28 | 119.90 |
| 26 | 1H | 478 | A | O5'-P-OP1 | -5.23 | 100.99 | 105.70 |
| 26 | 1H | 645 | C | O5'-P-OP2 | -5.23 | 100.99 | 105.70 |
| 26 | 1H | 795 | C | C5-C6-N1 | -5.23 | 118.39 | 121.00 |
| 26 | 1H | 1000 | A | C2-N3-C4 | 5.23 | 113.22 | 110.60 |
| 26 | 1H | 1443 | G | C5-N7-C8 | -5.23 | 101.68 | 104.30 |
| 26 | 1H | 1818 | U | N3-C2-O2 | -5.23 | 118.54 | 122.20 |
| 26 | 1H | 2135 | A | C8-N9-C4 | -5.23 | 103.71 | 105.80 |
| 26 | 1H | 2538 | C | C5-C4-N4 | -5.23 | 116.54 | 120.20 |
| 26 | 1H | 2694 | G | N3-C4-N9 | 5.23 | 129.14 | 126.00 |
| 26 | 1H | 2701 | C | N1-C2-O2 | -5.23 | 115.76 | 118.90 |
| 1 | 1G | 6 | G | OP1-P-O3' | 5.23 | 116.71 | 105.20 |
| 1 | 1G | 900 | A | O5'-P-OP1 | -5.23 | 100.99 | 105.70 |
| 1 | 1G | 969 | A | OP1-P-OP2 | 5.23 | 127.44 | 119.60 |
| 26 | 14 | 206 | U | O5'-P-OP2 | -5.23 | 100.99 | 105.70 |
| 26 | 14 | 450 | G | C2-N3-C4 | -5.23 | 109.28 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 648 | G | OP2-P-O3' | 5.23 | 116.71 | 105.20 |
| 26 | 14 | 752 | A | P-O3'-C3' | 5.23 | 125.98 | 119.70 |
| 26 | 14 | 1218 | C | C6-N1-C2 | 5.23 | 122.39 | 120.30 |
| 26 | 14 | 1259 | G | OP1-P-O3' | -5.23 | 93.69 | 105.20 |
| 26 | 14 | 1418 | G | C8-N9-C4 | 5.23 | 108.49 | 106.40 |
| 26 | 14 | 1643 | G | N3-C2-N2 | -5.23 | 116.24 | 119.90 |
| 26 | 14 | 2240 | C | O5'-P-OP2 | -5.23 | 100.99 | 105.70 |
| 26 | 14 | 2539 | C | OP1-P-OP2 | 5.23 | 127.45 | 119.60 |
| 26 | 14 | 2692 | C | O4'-C1'-N1 | 5.23 | 112.38 | 108.20 |
| 26 | 1H | 505 | A | C2-N3-C4 | 5.23 | 113.22 | 110.60 |
| 26 | 1H | 707 | G | O5'-P-OP2 | -5.23 | 100.99 | 105.70 |
| 26 | 1H | 1415 | U | O4'-C1'-N1 | 5.23 | 112.38 | 108.20 |
| 26 | 1H | 1807 | G | N3-C4-C5 | 5.23 | 131.21 | 128.60 |
| 26 | 14 | 626 | U | C2-N3-C4 | -5.23 | 123.86 | 127.00 |
| 26 | 14 | 736 | C | N3-C4-N4 | 5.23 | 121.66 | 118.00 |
| 26 | 14 | 2623 | G | N9-C4-C5 | 5.23 | 107.49 | 105.40 |
| 1 | 13 | 566 | G | O5'-P-OP2 | -5.23 | 101.00 | 105.70 |
| 1 | 13 | 580 | U | C6-N1-C2 | 5.23 | 124.14 | 121.00 |
| 1 | 13 | 1509 | C | C2-N1-C1' | -5.23 | 113.05 | 118.80 |
| 26 | 1H | 239 | U | C2-N1-C1' | -5.23 | 111.43 | 117.70 |
| 26 | 1H | 374 | A | OP1-P-OP2 | 5.23 | 127.44 | 119.60 |
| 26 | 1H | 638 | G | C2-N3-C4 | -5.23 | 109.29 | 111.90 |
| 26 | 1H | 1004 | C | OP1-P-O3' | 5.23 | 116.70 | 105.20 |
| 26 | 1H | 1239 | G | N9-C4-C5 | 5.23 | 107.49 | 105.40 |
| 26 | 1H | 1834 | U | OP2-P-O3' | 5.23 | 116.70 | 105.20 |
| 26 | 1H | 2225 | A | OP1-P-OP2 | -5.23 | 111.76 | 119.60 |
| 26 | 1H | 2395 | C | N1-C2-N3 | -5.23 | 115.54 | 119.20 |
| 26 | 1H | 2434 | A | C4-C5-C6 | -5.23 | 114.39 | 117.00 |
| 1 | 1G | 174 | C | C5-C6-N1 | 5.23 | 123.61 | 121.00 |
| 1 | 1G | 778 | G | C8-N9-C1' | -5.23 | 120.20 | 127.00 |
| 26 | 14 | 548 | A | C2-N3-C4 | 5.23 | 113.21 | 110.60 |
| 26 | 14 | 1467 | C | C4-C5-C6 | 5.23 | 120.01 | 117.40 |
| 26 | 14 | 1477 | A | C4-C5-N7 | -5.23 | 108.09 | 110.70 |
| 26 | 14 | 1497 | U | N3-C4-O4 | -5.23 | 115.74 | 119.40 |
| 26 | 14 | 1545(A) | A | N1-C6-N6 | 5.23 | 121.74 | 118.60 |
| 26 | 14 | 1583 | A | C4-C5-N7 | 5.23 | 113.31 | 110.70 |
| 26 | 14 | 1892 | C | C5-C6-N1 | 5.23 | 123.61 | 121.00 |
| 26 | 14 | 1984 | G | N1-C2-N3 | 5.23 | 127.04 | 123.90 |
| 26 | 14 | 2304 | G | N1-C2-N2 | -5.23 | 111.50 | 116.20 |
| 26 | 14 | 2827 | C | C2-N1-C1' | -5.23 | 113.05 | 118.80 |
| 1 | 13 | 909 | A | O5'-P-OP1 | -5.23 | 101.00 | 105.70 |
| 26 | 1H | 948 | G | C5-C6-O6 | -5.23 | 125.47 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | 1H | 1624 | G | C6-C5-N7 | 5.23 | 133.54 | 130.40 |
| 26 | 1H | 1795 | C | N3-C4-C5 | -5.23 | 119.81 | 121.90 |
| 26 | 1H | 2306 | C | N1-C2-N3 | -5.23 | 115.54 | 119.20 |
| 27 | 16 | 71 | C | N1-C2-O2 | -5.23 | 115.77 | 118.90 |
| 26 | 14 | 59 | U | C4-C5-C6 | 5.23 | 122.84 | 119.70 |
| 26 | 14 | 540 | G | N3-C4-N9 | -5.23 | 122.86 | 126.00 |
| 26 | 14 | 932 | G | C6-C5-N7 | 5.23 | 133.54 | 130.40 |
| 26 | 14 | 2255 | G | N3-C4-C5 | -5.23 | 125.99 | 128.60 |
| 26 | 14 | 2870 | C | C5-C6-N1 | 5.23 | 123.61 | 121.00 |
| 1 | 13 | 803 | G | N1-C2-N3 | 5.22 | 127.03 | 123.90 |
| 1 | 13 | 1092 | A | C8-N9-C4 | -5.22 | 103.71 | 105.80 |
| 26 | 1H | 307 | G | C4-N9-C1' | 5.22 | 133.29 | 126.50 |
| 26 | 1H | 471 | A | C2-N3-C4 | -5.22 | 107.99 | 110.60 |
| 26 | 1H | 728 | G | C8-N9-C1' | -5.22 | 120.21 | 127.00 |
| 26 | 1H | 1628 | G | C4-C5-N7 | -5.22 | 108.71 | 110.80 |
| 26 | 1H | 1665 | A | C4-C5-N7 | 5.22 | 113.31 | 110.70 |
| 26 | 1H | 1689 | A | C5-C6-N6 | 5.22 | 127.88 | 123.70 |
| 26 | 1H | 2246 | G | OP1-P-O3' | 5.22 | 116.69 | 105.20 |
| 1 | 1G | 14 | U | C2-N3-C4 | 5.22 | 130.13 | 127.00 |
| 1 | 1G | 196 | A | C5-C6-N6 | 5.22 | 127.88 | 123.70 |
| 1 | 1G | 500 | G | N9-C4-C5 | 5.22 | 107.49 | 105.40 |
| 1 | 1G | 535 | A | N9-C4-C5 | 5.22 | 107.89 | 105.80 |
| 1 | 1G | 578 | C | O5'-P-OP2 | 5.22 | 116.97 | 110.70 |
| 23 | 2L | 58 | A | O5'-P-OP2 | 5.22 | 116.97 | 110.70 |
| 26 | 14 | 128 | C | C3'-C2'-C1' | -5.22 | 97.32 | 101.50 |
| 26 | 14 | 1652 | A | N9-C4-C5 | 5.22 | 107.89 | 105.80 |
| 26 | 14 | 1954 | G | C4-C5-N7 | -5.22 | 108.71 | 110.80 |
| 26 | 14 | 2586 | C | C5-C6-N1 | 5.22 | 123.61 | 121.00 |
| 46 | C5 | 88 | LYS | CD-CE-NZ | 5.22 | 123.72 | 111.70 |
| 1 | 13 | 331 | G | N3-C4-C5 | 5.22 | 131.21 | 128.60 |
| 1 | 13 | 977 | A | N3-C4-C5 | -5.22 | 123.14 | 126.80 |
| 24 | 3K | 15 | G | C8-N9-C4 | -5.22 | 104.31 | 106.40 |
| 26 | 1H | 360 | G | N3-C2-N2 | 5.22 | 123.56 | 119.90 |
| 26 | 1H | 494 | G | N3-C2-N2 | 5.22 | 123.56 | 119.90 |
| 26 | 1H | 745 | G | C6-C5-N7 | -5.22 | 127.27 | 130.40 |
| 26 | 1H | 981 | A | C6-N1-C2 | 5.22 | 121.73 | 118.60 |
| 26 | 1H | 1189 | A | C5-N7-C8 | -5.22 | 101.29 | 103.90 |
| 26 | 1H | 1886 | C | OP1-P-OP2 | -5.22 | 111.77 | 119.60 |
| 26 | 1H | 2427 | C | OP2-P-O3' | 5.22 | 116.69 | 105.20 |
| 26 | 1H | 2711 | A | OP2-P-O3' | -5.22 | 93.71 | 105.20 |
| 26 | 1H | 2848 | G | N9-C4-C5 | 5.22 | 107.49 | 105.40 |
| 1 | 1G | 262 | A | C4-C5-N7 | 5.22 | 113.31 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 1G | 800 | G | N9-C4-C5 | 5.22 | 107.49 | 105.40 |
| 1 | 1G | 826 | C | N3-C2-O2 | -5.22 | 118.24 | 121.90 |
| 26 | 14 | 18 | C | C6-N1-C1' | 5.22 | 127.07 | 120.80 |
| 26 | 14 | 43 | G | C5-C6-O6 | -5.22 | 125.47 | 128.60 |
| 26 | 14 | 95 | G | C8-N9-C4 | 5.22 | 108.49 | 106.40 |
| 26 | 14 | 1455 | G | N1-C6-O6 | 5.22 | 123.03 | 119.90 |
| 26 | 14 | 1809 | A | C4-C5-N7 | 5.22 | 113.31 | 110.70 |
| 26 | 14 | 1907 | G | C2-N3-C4 | -5.22 | 109.29 | 111.90 |
| 26 | 14 | 2243 | U | C2-N3-C4 | -5.22 | 123.87 | 127.00 |
| 26 | 1H | 1391 | U | C6-N1-C1' | -5.22 | 113.89 | 121.20 |
| 26 | 1H | 2767 | C | N3-C2-O2 | -5.22 | 118.25 | 121.90 |
| 26 | 14 | 640 | C | O5'-P-OP1 | 5.22 | 116.97 | 110.70 |
| 26 | 14 | 997 | G | OP1-P-OP2 | -5.22 | 111.77 | 119.60 |
| 26 | 14 | 2721 | A | O5'-P-OP1 | -5.22 | 101.00 | 105.70 |
| 1 | 13 | 609 | A | N9-C4-C5 | 5.22 | 107.89 | 105.80 |
| 26 | 1H | 270(W) | G | C5-C6-N1 | 5.22 | 114.11 | 111.50 |
| 26 | 1H | 316 | C | C5-C6-N1 | -5.22 | 118.39 | 121.00 |
| 26 | 1H | 798 | G | C5-C6-O6 | 5.22 | 131.73 | 128.60 |
| 26 | 1H | 853 | G | C8-N9-C4 | 5.22 | 108.49 | 106.40 |
| 26 | 1H | 966 | G | N1-C2-N3 | 5.22 | 127.03 | 123.90 |
| 26 | 1H | 1557 | C | OP1-P-O3' | 5.22 | 116.69 | 105.20 |
| 26 | 1H | 2658 | C | C5-C6-N1 | 5.22 | 123.61 | 121.00 |
| 27 | 16 | 49 | C | C5-C6-N1 | 5.22 | 123.61 | 121.00 |
| 1 | 1G | 25 | C | O5'-P-OP2 | -5.22 | 101.00 | 105.70 |
| 1 | 1G | 33 | A | N7-C8-N9 | 5.22 | 116.41 | 113.80 |
| 1 | 1G | 428 | G | N3-C4-N9 | -5.22 | 122.87 | 126.00 |
| 1 | 1G | 796 | C | O5'-P-OP2 | -5.22 | 101.00 | 105.70 |
| 56 | 1L | 74 | C | N3-C4-N4 | -5.22 | 114.35 | 118.00 |
| 26 | 14 | 134 | C | C5-C6-N1 | -5.22 | 118.39 | 121.00 |
| 26 | 14 | 251 | A | C2-N3-C4 | 5.22 | 113.21 | 110.60 |
| 26 | 14 | 750 | A | C6-N1-C2 | 5.22 | 121.73 | 118.60 |
| 26 | 14 | 1271 | G | O5'-P-OP1 | 5.22 | 116.96 | 110.70 |
| 26 | 14 | 1443 | G | C4-N9-C1' | 5.22 | 133.28 | 126.50 |
| 26 | 14 | 1479 | G | N1-C6-O6 | 5.22 | 123.03 | 119.90 |
| 26 | 14 | 2016 | U | N1-C2-O2 | -5.22 | 119.15 | 122.80 |
| 26 | 14 | 2369 | A | OP1-P-OP2 | 5.22 | 127.43 | 119.60 |
| 26 | 14 | 2409 | G | C5-N7-C8 | -5.22 | 101.69 | 104.30 |
| 26 | 14 | 2502 | G | O4'-C1'-N9 | -5.22 | 104.02 | 108.20 |
| 26 | 14 | 2579 | C | N3-C4-C5 | -5.22 | 119.81 | 121.90 |
| 26 | 14 | 2699 | C | N3-C2-O2 | 5.22 | 125.55 | 121.90 |
| 26 | 1H | 1262 | A | O4'-C1'-N9 | -5.22 | 104.03 | 108.20 |
| 26 | 1H | 1285 | G | C5-C6-N1 | -5.22 | 108.89 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 686 | G | P-O3'-C3' | 5.22 | 125.96 | 119.70 |
| 26 | 14 | 717 | G | N9-C4-C5 | -5.22 | 103.31 | 105.40 |
| 1 | 13 | 42 | G | N9-C4-C5 | -5.22 | 103.31 | 105.40 |
| 1 | 13 | 151 | A | N1-C6-N6 | -5.22 | 115.47 | 118.60 |
| 1 | 13 | 370 | C | O5'-P-OP1 | 5.22 | 116.96 | 110.70 |
| 1 | 13 | 438 | G | C4-C5-N7 | -5.22 | 108.71 | 110.80 |
| 1 | 13 | 716 | A | C2-N3-C4 | 5.22 | 113.21 | 110.60 |
| 23 | 2K | 53 | G | C8-N9-C4 | -5.22 | 104.31 | 106.40 |
| 26 | 1H | 63 | U | C6-N1-C2 | -5.22 | 117.87 | 121.00 |
| 26 | 1H | 293 | U | OP1-P-OP2 | 5.22 | 127.42 | 119.60 |
| 26 | 1H | 452 | G | OP2-P-O3' | 5.22 | 116.67 | 105.20 |
| 26 | 1H | 455 | C | OP1-P-OP2 | -5.22 | 111.78 | 119.60 |
| 26 | 1H | 803 | U | C4-C5-C6 | 5.22 | 122.83 | 119.70 |
| 26 | 1H | 958 | U | N3-C2-O2 | -5.22 | 118.55 | 122.20 |
| 26 | 1H | 2087 | G | OP1-P-OP2 | -5.22 | 111.77 | 119.60 |
| 40 | A8 | 88 | ASP | CB-CG-OD2 | 5.22 | 122.99 | 118.30 |
| 1 | 1G | 232 | G | C4-N9-C1' | 5.22 | 133.28 | 126.50 |
| 1 | 1G | 1393 | U | C6-N1-C2 | -5.22 | 117.87 | 121.00 |
| 26 | 14 | 260 | G | C5-C6-O6 | 5.22 | 131.73 | 128.60 |
| 26 | 14 | 458 | G | N3-C2-N2 | 5.22 | 123.55 | 119.90 |
| 26 | 14 | 527 | C | N3-C4-N4 | 5.22 | 121.65 | 118.00 |
| 26 | 14 | 2337 | G | C6-C5-N7 | -5.22 | 127.27 | 130.40 |
| 26 | 14 | 2712 | U | N3-C4-C5 | 5.22 | 117.73 | 114.60 |
| 1 | 13 | 119 | A | O5'-P-OP2 | 5.21 | 116.96 | 110.70 |
| 1 | 13 | 731 | G | N3-C4-C5 | -5.21 | 125.99 | 128.60 |
| 1 | 13 | 940 | C | C4-C5-C6 | -5.21 | 114.79 | 117.40 |
| 26 | 1H | 317 | G | OP1-P-OP2 | -5.21 | 111.78 | 119.60 |
| 26 | 1H | 411 | G | OP1-P-OP2 | 5.21 | 127.42 | 119.60 |
| 26 | 1H | 430 | G | C2-N3-C4 | -5.21 | 109.29 | 111.90 |
| 26 | 1H | 945 | A | P-O3'-C3' | 5.21 | 125.96 | 119.70 |
| 26 | 1H | 1024 | G | N1-C6-O6 | 5.21 | 123.03 | 119.90 |
| 26 | 1H | 1375 | C | C5-C4-N4 | -5.21 | 116.55 | 120.20 |
| 26 | 1H | 1399 | C | N3-C4-N4 | 5.21 | 121.65 | 118.00 |
| 26 | 1H | 1726 | G | C4-C5-N7 | -5.21 | 108.71 | 110.80 |
| 26 | 1H | 1822 | G | N3-C4-N9 | -5.21 | 122.87 | 126.00 |
| 26 | 1H | 1972 | A | C5-C6-N6 | -5.21 | 119.53 | 123.70 |
| 26 | 1H | 2053 | G | O5'-P-OP2 | -5.21 | 101.01 | 105.70 |
| 26 | 1H | 2085 | C | C6-N1-C2 | 5.21 | 122.39 | 120.30 |
| 26 | 1H | 2211 | G | O5'-P-OP2 | -5.21 | 101.01 | 105.70 |
| 26 | 1H | 2236 | C | OP2-P-O3' | 5.21 | 116.67 | 105.20 |
| 1 | 1G | 610 | G | O5'-P-OP2 | -5.21 | 101.01 | 105.70 |
| 26 | 14 | 1428 | C | C6-N1-C2 | 5.21 | 122.39 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1753 | G | C8-N9-C4 | -5.21 | 104.31 | 106.40 |
| 26 | 14 | 1896 | G | N3-C4-C5 | -5.21 | 125.99 | 128.60 |
| 26 | 14 | 2306 | C | C6-N1-C2 | -5.21 | 118.21 | 120.30 |
| 26 | 14 | 2705 | A | N1-C6-N6 | -5.21 | 115.47 | 118.60 |
| 26 | 14 | 2788 | C | C6-N1-C2 | 5.21 | 122.39 | 120.30 |
| 26 | 14 | 2845 | G | N3-C4-N9 | -5.21 | 122.87 | 126.00 |
| 1 | 13 | 1252 | A | C4-C5-N7 | -5.21 | 108.09 | 110.70 |
| 26 | 1H | 111 | A | C6-N1-C2 | -5.21 | 115.47 | 118.60 |
| 26 | 1H | 598 | G | C2-N3-C4 | 5.21 | 114.51 | 111.90 |
| 26 | 1H | 732 | C | OP1-P-O3' | 5.21 | 116.67 | 105.20 |
| 26 | 1H | 774 | A | OP1-P-OP2 | 5.21 | 127.42 | 119.60 |
| 26 | 1H | 823 | G | N1-C6-O6 | 5.21 | 123.03 | 119.90 |
| 26 | 1H | 1381 | G | N3-C4-C5 | 5.21 | 131.21 | 128.60 |
| 26 | 1H | 1444 | G | C5-C6-O6 | 5.21 | 131.73 | 128.60 |
| 26 | 1H | 1936 | A | C4-C5-N7 | 5.21 | 113.31 | 110.70 |
| 26 | 1H | 2387 | U | OP2-P-O3' | 5.21 | 116.67 | 105.20 |
| 27 | 16 | 87 | G | N3-C4-N9 | -5.21 | 122.87 | 126.00 |
| 37 | 78 | 64 | LYS | CD-CE-NZ | 5.21 | 123.69 | 111.70 |
| 1 | 1G | 237 | C | N3-C4-C5 | 5.21 | 123.98 | 121.90 |
| 1 | 1G | 308 | C | C4-C5-C6 | 5.21 | 120.01 | 117.40 |
| 1 | 1G | 1407 | C | O5'-P-OP1 | -5.21 | 101.01 | 105.70 |
| 1 | 1G | 1469 | G | N1-C2-N3 | 5.21 | 127.03 | 123.90 |
| 26 | 14 | 149 | A | N1-C6-N6 | 5.21 | 121.73 | 118.60 |
| 26 | 14 | 956 | G | C4-C5-C6 | 5.21 | 121.93 | 118.80 |
| 1 | 13 | 722 | A | OP1-P-OP2 | -5.21 | 111.78 | 119.60 |
| 1 | 13 | 825 | G | OP2-P-O3' | 5.21 | 116.66 | 105.20 |
| 26 | 1H | 26 | G | N9-C4-C5 | -5.21 | 103.32 | 105.40 |
| 26 | 1H | 137 | C | OP1-P-O3' | -5.21 | 93.73 | 105.20 |
| 26 | 1H | 1164 | G | O4'-C1'-N9 | 5.21 | 112.37 | 108.20 |
| 26 | 1H | 1688 | U | N3-C2-O2 | -5.21 | 118.55 | 122.20 |
| 26 | 1H | 1852 | C | C5-C6-N1 | -5.21 | 118.39 | 121.00 |
| 26 | 1H | 2558 | C | OP1-P-OP2 | -5.21 | 111.78 | 119.60 |
| 26 | 1H | 2647 | U | N3-C4-O4 | -5.21 | 115.75 | 119.40 |
| 33 | 51 | 6 | ARG | NE-CZ-NH1 | -5.21 | 117.69 | 120.30 |
| 54 | P8 | 39 | ARG | CD-NE-CZ | 5.21 | 130.90 | 123.60 |
| 1 | 1G | 535 | A | C5-N7-C8 | 5.21 | 106.51 | 103.90 |
| 1 | 1G | 546 | G | C5-C6-O6 | 5.21 | 131.73 | 128.60 |
| 1 | 1G | 856 | C | N1-C2-O2 | -5.21 | 115.77 | 118.90 |
| 26 | 14 | 721 | C | O5'-P-OP2 | 5.21 | 116.95 | 110.70 |
| 26 | 14 | 1711 | C | C5-C6-N1 | -5.21 | 118.39 | 121.00 |
| 26 | 14 | 1754 | C | OP1-P-O3' | 5.21 | 116.66 | 105.20 |
| 26 | 14 | 1917 | U | C2-N3-C4 | 5.21 | 130.13 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 27 | 1J | 46 | A | C5-N7-C8 | 5.21 | 106.51 | 103.90 |
| 1 | 13 | 150 | C | C6-N1-C2 | -5.21 | 118.22 | 120.30 |
| 1 | 13 | 1478 | C | N3-C4-C5 | 5.21 | 123.98 | 121.90 |
| 26 | 1H | 136 | G | N3-C4-C5 | 5.21 | 131.21 | 128.60 |
| 26 | 1H | 459 | U | O5'-P-OP1 | 5.21 | 116.95 | 110.70 |
| 26 | 1H | 1040 | C | N1-C2-O2 | 5.21 | 122.03 | 118.90 |
| 26 | 1H | 1966 | A | N3-C4-N9 | -5.21 | 123.23 | 127.40 |
| 26 | 1H | 1973 | G | N9-C4-C5 | 5.21 | 107.48 | 105.40 |
| 26 | 1H | 2547 | U | C5-C4-O4 | -5.21 | 122.77 | 125.90 |
| 1 | 1G | 191(A) | G | C8-N9-C4 | 5.21 | 108.48 | 106.40 |
| 23 | 2L | 35 | C | OP1-P-O3' | 5.21 | 116.66 | 105.20 |
| 26 | 14 | 1158 | C | C4-C5-C6 | 5.21 | 120.00 | 117.40 |
| 26 | 14 | 1309 | G | C4-C5-N7 | -5.21 | 108.72 | 110.80 |
| 1 | 13 | 1418 | A | C5-C6-N1 | 5.21 | 120.31 | 117.70 |
| 24 | 3K | 3 | G | C8-N9-C4 | -5.21 | 104.32 | 106.40 |
| 25 | 4K | 13 | A | N1-C6-N6 | -5.21 | 115.47 | 118.60 |
| 26 | 1H | 477 | A | C5-C6-N6 | 5.21 | 127.87 | 123.70 |
| 26 | 1H | 696 | G | N3-C2-N2 | 5.21 | 123.55 | 119.90 |
| 26 | 1H | 854 | G | N9-C4-C5 | -5.21 | 103.32 | 105.40 |
| 26 | 1H | 1413 | G | OP1-P-OP2 | -5.21 | 111.79 | 119.60 |
| 26 | 1H | 1497 | U | N3-C2-O2 | 5.21 | 125.85 | 122.20 |
| 26 | 1H | 1771 | C | N1-C2-O2 | -5.21 | 115.78 | 118.90 |
| 26 | 1H | 2372 | G | C5-C6-N1 | -5.21 | 108.90 | 111.50 |
| 26 | 1H | 2844 | G | C5-N7-C8 | -5.21 | 101.70 | 104.30 |
| 1 | 1G | 46 | G | N3-C2-N2 | -5.21 | 116.25 | 119.90 |
| 1 | 1G | 122 | G | OP2-P-O3' | 5.21 | 116.66 | 105.20 |
| 26 | 14 | 477 | A | OP1-P-O3' | 5.21 | 116.66 | 105.20 |
| 26 | 14 | 1283 | G | N3-C4-N9 | 5.21 | 129.13 | 126.00 |
| 26 | 14 | 1437 | C | C5-C6-N1 | 5.21 | 123.60 | 121.00 |
| 26 | 14 | 1600 | C | OP1-P-O3' | 5.21 | 116.66 | 105.20 |
| 26 | 14 | 2395 | C | OP1-P-OP2 | -5.21 | 111.79 | 119.60 |
| 26 | 14 | 2824 | C | C4-C5-C6 | 5.21 | 120.00 | 117.40 |
| 1 | 13 | 93 | U | C5-C6-N1 | 5.21 | 125.30 | 122.70 |
| 1 | 13 | 701 | C | N1-C2-O2 | 5.21 | 122.02 | 118.90 |
| 1 | 13 | 865 | A | C5-N7-C8 | -5.21 | 101.30 | 103.90 |
| 24 | 3K | 34 | U | N1-C2-N3 | -5.21 | 111.78 | 114.90 |
| 26 | 1H | 29 | U | OP1-P-OP2 | -5.21 | 111.79 | 119.60 |
| 26 | 1H | 258 | G | N3-C4-N9 | 5.21 | 129.12 | 126.00 |
| 26 | 1H | 621 | A | C4-C5-C6 | 5.21 | 119.60 | 117.00 |
| 26 | 1H | 2077 | A | C6-N1-C2 | -5.21 | 115.48 | 118.60 |
| 26 | 1H | 2248 | C | OP1-P-OP2 | 5.21 | 127.41 | 119.60 |
| 27 | 16 | 45 | A | C4-C5-C6 | 5.21 | 119.60 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | 1G | 617 | G | N3-C4-N9 | -5.21 | 122.88 | 126.00 |
| 1 | 1G | 775 | G | C5-C6-O6 | 5.21 | 131.72 | 128.60 |
| 1 | 1G | 1313 | U | N3-C4-O4 | 5.21 | 123.04 | 119.40 |
| 56 | 1L | 45 | G | O4'-C1'-N9 | 5.21 | 112.36 | 108.20 |
| 26 | 14 | 524 | U | C2-N1-C1' | 5.21 | 123.95 | 117.70 |
| 26 | 14 | 526 | A | N9-C4-C5 | 5.21 | 107.88 | 105.80 |
| 26 | 14 | 619 | G | C8-N9-C4 | -5.21 | 104.32 | 106.40 |
| 26 | 14 | 763 | G | C8-N9-C4 | -5.21 | 104.32 | 106.40 |
| 26 | 14 | 2464 | C | C2-N1-C1' | -5.21 | 113.07 | 118.80 |
| 26 | 14 | 2731 | G | N9-C4-C5 | 5.21 | 107.48 | 105.40 |
| 26 | 14 | 2772 | C | C2-N3-C4 | -5.21 | 117.30 | 119.90 |
| 1 | 13 | 365 | U | C2-N1-C1' | 5.21 | 123.95 | 117.70 |
| 1 | 13 | 1106 | G | N9-C4-C5 | 5.21 | 107.48 | 105.40 |
| 26 | 1H | 750 | A | C4-C5-C6 | -5.21 | 114.40 | 117.00 |
| 26 | 1H | 1285 | G | OP1-P-OP2 | 5.21 | 127.41 | 119.60 |
| 26 | 1H | 1559 | G | C3'-C2'-C1' | -5.21 | 97.34 | 101.50 |
| 26 | 1H | 1561 | G | N1-C6-O6 | -5.21 | 116.78 | 119.90 |
| 26 | 1H | 1911 | U | OP2-P-O3' | 5.21 | 116.65 | 105.20 |
| 26 | 1H | 2710 | C | C4-C5-C6 | 5.21 | 120.00 | 117.40 |
| 1 | 1G | 147 | G | N1-C6-O6 | 5.21 | 123.02 | 119.90 |
| 26 | 14 | 1155 | A | N1-C2-N3 | 5.21 | 131.90 | 129.30 |
| 26 | 14 | 1446 | C | C6-N1-C2 | -5.21 | 118.22 | 120.30 |
| 26 | 14 | 1907 | G | N7-C8-N9 | -5.21 | 110.50 | 113.10 |
| 26 | 14 | 2040 | C | C2-N3-C4 | -5.21 | 117.30 | 119.90 |
| 26 | 14 | 2544 | G | C6-C5-N7 | -5.21 | 127.28 | 130.40 |
| 1 | 13 | 31 | G | N3-C4-C5 | -5.20 | 126.00 | 128.60 |
| 1 | 13 | 117 | G | C5-C6-N1 | -5.20 | 108.90 | 111.50 |
| 1 | 13 | 795 | C | C2-N3-C4 | -5.20 | 117.30 | 119.90 |
| 1 | 13 | 925 | G | C6-C5-N7 | -5.20 | 127.28 | 130.40 |
| 1 | 13 | 1399 | C | N3-C4-N4 | 5.20 | 121.64 | 118.00 |
| 26 | 1H | 768 | G | C8-N9-C1' | -5.20 | 120.23 | 127.00 |
| 26 | 1H | 983 | A | C4-C5-C6 | -5.20 | 114.40 | 117.00 |
| 26 | 1H | 995 | C | OP1-P-OP2 | -5.20 | 111.80 | 119.60 |
| 26 | 1H | 2443 | C | C2-N3-C4 | -5.20 | 117.30 | 119.90 |
| 26 | 1H | 2653 | U | C6-N1-C2 | -5.20 | 117.88 | 121.00 |
| 26 | 14 | 259 | G | C8-N9-C4 | 5.20 | 108.48 | 106.40 |
| 26 | 14 | 519 | U | C5-C6-N1 | -5.20 | 120.10 | 122.70 |
| 26 | 14 | 1320 | C | N1-C2-O2 | -5.20 | 115.78 | 118.90 |
| 26 | 14 | 1687 | G | C4-C5-C6 | -5.20 | 115.68 | 118.80 |
| 26 | 14 | 1935 | G | C4-C5-C6 | -5.20 | 115.68 | 118.80 |
| 26 | 14 | 2368 | C | N3-C4-C5 | 5.20 | 123.98 | 121.90 |
| 1 | 13 | 352 | C | N1-C2-O2 | 5.20 | 122.02 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 622 | A | C5-C6-N6 | 5.20 | 127.86 | 123.70 |
| 1 | 13 | 1129 | C | O5'-P-OP2 | -5.20 | 101.02 | 105.70 |
| 1 | 13 | 1483 | A | C5-C6-N6 | -5.20 | 119.54 | 123.70 |
| 27 | 16 | 98 | G | N1-C2-N2 | -5.20 | 111.52 | 116.20 |
| 1 | 1G | 825 | G | N1-C2-N2 | -5.20 | 111.52 | 116.20 |
| 1 | 1G | 1523 | G | C5-C6-O6 | 5.20 | 131.72 | 128.60 |
| 26 | 14 | 807 | U | N1-C2-N3 | 5.20 | 118.02 | 114.90 |
| 26 | 14 | 1669 | A | N1-C2-N3 | 5.20 | 131.90 | 129.30 |
| 26 | 14 | 1800 | C | C5-C4-N4 | -5.20 | 116.56 | 120.20 |
| 26 | 14 | 2227 | A | N9-C1'-C2' | -5.20 | 106.28 | 112.00 |
| 26 | 14 | 2383 | G | N3-C4-N9 | 5.20 | 129.12 | 126.00 |
| 26 | 14 | 2511 | U | C5-C6-N1 | -5.20 | 120.10 | 122.70 |
| 1 | 13 | 1281 | U | C2-N1-C1' | 5.20 | 123.94 | 117.70 |
| 23 | 2K | 37 | U | O5'-P-OP2 | -5.20 | 101.02 | 105.70 |
| 26 | 1H | 209 | C | C5-C6-N1 | -5.20 | 118.40 | 121.00 |
| 26 | 1H | 486 | C | C2-N3-C4 | 5.20 | 122.50 | 119.90 |
| 26 | 1H | 1564 | C | N3-C2-O2 | -5.20 | 118.26 | 121.90 |
| 26 | 1H | 1677 | A | OP2-P-O3' | 5.20 | 116.64 | 105.20 |
| 26 | 1H | 1860 | G | N3-C4-N9 | -5.20 | 122.88 | 126.00 |
| 26 | 1H | 2036 | C | OP1-P-OP2 | -5.20 | 111.80 | 119.60 |
| 26 | 1H | 2353 | G | C5-C6-O6 | 5.20 | 131.72 | 128.60 |
| 26 | 1H | 2820 | A | C6-N1-C2 | -5.20 | 115.48 | 118.60 |
| 27 | 16 | 101 | A | OP1-P-O3' | -5.20 | 93.76 | 105.20 |
| 1 | 1G | 108 | G | N1-C6-O6 | 5.20 | 123.02 | 119.90 |
| 1 | 1G | 114 | U | C4-C5-C6 | 5.20 | 122.82 | 119.70 |
| 1 | 1G | 1460 | A | N1-C6-N6 | -5.20 | 115.48 | 118.60 |
| 26 | 14 | 71 | A | O4'-C1'-N9 | -5.20 | 104.04 | 108.20 |
| 26 | 14 | 536 | A | O5'-P-OP2 | -5.20 | 101.02 | 105.70 |
| 26 | 14 | 871 | U | OP1-P-OP2 | -5.20 | 111.80 | 119.60 |
| 26 | 14 | 1603 | A | C4-C5-N7 | 5.20 | 113.30 | 110.70 |
| 26 | 14 | 1935 | G | OP1-P-O3' | 5.20 | 116.64 | 105.20 |
| 26 | 14 | 1981 | A | OP1-P-O3' | -5.20 | 93.76 | 105.20 |
| 26 | 14 | 2253 | G | C8-N9-C4 | 5.20 | 108.48 | 106.40 |
| 26 | 14 | 2816 | C | C2-N3-C4 | -5.20 | 117.30 | 119.90 |
| 29 | 19 | 273 | ARG | NE-CZ-NH1 | 5.20 | 122.90 | 120.30 |
| 1 | 13 | 478 | A | OP1-P-O3' | 5.20 | 116.64 | 105.20 |
| 1 | 13 | 502 | G | C8-N9-C4 | 5.20 | 108.48 | 106.40 |
| 1 | 13 | 601 | C | C5-C6-N1 | 5.20 | 123.60 | 121.00 |
| 1 | 13 | 1462 | G | N7-C8-N9 | -5.20 | 110.50 | 113.10 |
| 1 | 13 | 1470 | G | OP2-P-O3' | 5.20 | 116.64 | 105.20 |
| 23 | 2K | 20 | G | OP1-P-OP2 | 5.20 | 127.40 | 119.60 |
| 26 | 1H | 265 | A | N1-C6-N6 | 5.20 | 121.72 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 837 | C | O5'-P-OP1 | -5.20 | 101.02 | 105.70 |
| 26 | 1H | 1690 | A | C2-N3-C4 | -5.20 | 108.00 | 110.60 |
| 26 | 1H | 2060 | A | OP2-P-O3' | 5.20 | 116.64 | 105.20 |
| 26 | 1H | 2198 | A | N1-C2-N3 | 5.20 | 131.90 | 129.30 |
| 26 | 1H | 2351 | G | OP1-P-O3' | 5.20 | 116.64 | 105.20 |
| 26 | 1H | 2636 | U | C5-C6-N1 | -5.20 | 120.10 | 122.70 |
| 26 | 1H | 2878 | U | N3-C2-O2 | -5.20 | 118.56 | 122.20 |
| 39 | 98 | 4 | LEU | CB-CG-CD2 | -5.20 | 102.16 | 111.00 |
| 1 | 1G | 1328 | C | N1-C2-N3 | -5.20 | 115.56 | 119.20 |
| 26 | 14 | 1256 | G | C4-N9-C1' | 5.20 | 133.26 | 126.50 |
| 26 | 14 | 1703 | G | C6-C5-N7 | -5.20 | 127.28 | 130.40 |
| 26 | 14 | 2026 | C | N3-C2-O2 | 5.20 | 125.54 | 121.90 |
| 26 | 14 | 2256 | G | O5'-P-OP1 | 5.20 | 116.94 | 110.70 |
| 26 | 14 | 2822 | G | C5-C6-N1 | -5.20 | 108.90 | 111.50 |
| 1 | 13 | 566 | G | N3-C4-C5 | -5.20 | 126.00 | 128.60 |
| 1 | 13 | 694 | A | N3-C4-C5 | 5.20 | 130.44 | 126.80 |
| 26 | 1H | 573 | G | C6-N1-C2 | -5.20 | 121.98 | 125.10 |
| 26 | 1H | 595 | C | OP2-P-O3' | 5.20 | 116.63 | 105.20 |
| 26 | 1H | 758 | C | N3-C2-O2 | -5.20 | 118.26 | 121.90 |
| 26 | 1H | 2065 | C | N1-C2-N3 | 5.20 | 122.84 | 119.20 |
| 38 | 88 | 10 | ARG | NE-CZ-NH2 | -5.20 | 117.70 | 120.30 |
| 1 | 1G | 446 | G | N1-C6-O6 | 5.20 | 123.02 | 119.90 |
| 26 | 14 | 623 | G | C4-C5-N7 | 5.20 | 112.88 | 110.80 |
| 26 | 14 | 795 | C | OP1-P-O3' | 5.20 | 116.63 | 105.20 |
| 26 | 14 | 1243 | G | N3-C2-N2 | 5.20 | 123.54 | 119.90 |
| 26 | 14 | 1644 | C | O5'-P-OP2 | -5.20 | 101.02 | 105.70 |
| 26 | 14 | 1682 | G | OP1-P-OP2 | 5.20 | 127.39 | 119.60 |
| 26 | 14 | 1931 | U | OP1-P-OP2 | -5.20 | 111.80 | 119.60 |
| 26 | 14 | 1938 | A | C4-C5-N7 | 5.20 | 113.30 | 110.70 |
| 26 | 1H | 58 | G | N3-C4-C5 | -5.20 | 126.00 | 128.60 |
| 26 | 1H | 359 | A | OP1-P-OP2 | 5.20 | 127.39 | 119.60 |
| 26 | 1H | 457 | A | C2-N3-C4 | -5.20 | 108.00 | 110.60 |
| 26 | 1H | 589 | C | C6-N1-C2 | -5.20 | 118.22 | 120.30 |
| 26 | 1H | 932 | G | C8-N9-C4 | -5.20 | 104.32 | 106.40 |
| 26 | 1H | 1031 | G | N3-C4-C5 | -5.20 | 126.00 | 128.60 |
| 26 | 1H | 1338 | G | C5-C6-N1 | 5.20 | 114.10 | 111.50 |
| 26 | 1H | 1648 | C | N1-C2-N3 | 5.20 | 122.84 | 119.20 |
| 26 | 1H | 2023 | G | C5-C6-N1 | -5.20 | 108.90 | 111.50 |
| 1 | 1G | 544 | G | C6-N1-C2 | -5.20 | 121.98 | 125.10 |
| 1 | 1G | 910 | C | C6-N1-C1' | -5.20 | 114.57 | 120.80 |
| 26 | 14 | 684 | G | N3-C4-C5 | -5.20 | 126.00 | 128.60 |
| 26 | 14 | 951 | C | N3-C4-N4 | -5.20 | 114.36 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1223 | C | N1-C2-O2 | -5.20 | 115.78 | 118.90 |
| 26 | 14 | 1557 | C | C2-N3-C4 | -5.20 | 117.30 | 119.90 |
| 26 | 14 | 2381 | C | C5-C4-N4 | 5.20 | 123.84 | 120.20 |
| 26 | 14 | 2724 | C | OP2-P-O3' | 5.20 | 116.63 | 105.20 |
| 26 | 1H | 221 | A | C5-C6-N1 | 5.19 | 120.30 | 117.70 |
| 26 | 1H | 439 | G | N1-C6-O6 | 5.19 | 123.02 | 119.90 |
| 26 | 1H | 526 | A | C4-C5-N7 | -5.19 | 108.10 | 110.70 |
| 26 | 1H | 1700 | A | C5-C6-N6 | -5.19 | 119.55 | 123.70 |
| 1 | 1G | 97 | U | N3-C4-C5 | -5.19 | 111.48 | 114.60 |
| 1 | 1G | 888 | G | N1-C2-N2 | -5.19 | 111.53 | 116.20 |
| 26 | 14 | 796 | C | N3-C4-N4 | -5.19 | 114.36 | 118.00 |
| 26 | 14 | 2627 | G | C5-C6-O6 | -5.19 | 125.48 | 128.60 |
| 26 | 1H | 215 | G | N3-C4-C5 | 5.19 | 131.20 | 128.60 |
| 26 | 1H | 293 | U | C6-N1-C2 | -5.19 | 117.89 | 121.00 |
| 26 | 1H | 747 | U | C5-C6-N1 | -5.19 | 120.10 | 122.70 |
| 26 | 1H | 1391 | U | N3-C4-O4 | 5.19 | 123.03 | 119.40 |
| 26 | 1H | 1843 | C | C2-N1-C1' | -5.19 | 113.09 | 118.80 |
| 26 | 1H | 2744 | G | C4-C5-N7 | -5.19 | 108.72 | 110.80 |
| 26 | 1H | 2841 | C | N3-C4-N4 | -5.19 | 114.36 | 118.00 |
| 27 | 16 | 30 | C | O5'-P-OP1 | -5.19 | 101.03 | 105.70 |
| 27 | 16 | 54 | G | C4-N9-C1' | -5.19 | 119.75 | 126.50 |
| 29 | 11 | 30 | GLU | CB-CA-C | 5.19 | 120.78 | 110.40 |
| 29 | 11 | 233 | HIS | C-N-CA | -5.19 | 111.40 | 122.30 |
| 1 | 1G | 1189 | C | C6-N1-C2 | 5.19 | 122.38 | 120.30 |
| 1 | 1G | 1338 | G | N9-C4-C5 | 5.19 | 107.48 | 105.40 |
| 1 | 1G | 1482 | G | C4-N9-C1' | 5.19 | 133.25 | 126.50 |
| 26 | 14 | 324 | A | C4-C5-N7 | -5.19 | 108.10 | 110.70 |
| 26 | 14 | 735 | A | OP1-P-O3' | 5.19 | 116.62 | 105.20 |
| 26 | 14 | 1378 | A | N7-C8-N9 | -5.19 | 111.20 | 113.80 |
| 26 | 14 | 1812 | A | OP1-P-O3' | 5.19 | 116.62 | 105.20 |
| 26 | 14 | 2395 | C | C4-C5-C6 | -5.19 | 114.80 | 117.40 |
| 26 | 14 | 2406 | U | O4'-C1'-N1 | -5.19 | 104.05 | 108.20 |
| 26 | 14 | 2552 | U | C4-C5-C6 | -5.19 | 116.58 | 119.70 |
| 27 | 1J | 18 | G | N3-C2-N2 | -5.19 | 116.27 | 119.90 |
| 1 | 13 | 509 | A | N9-C4-C5 | 5.19 | 107.88 | 105.80 |
| 1 | 13 | 915 | A | N9-C4-C5 | 5.19 | 107.88 | 105.80 |
| 1 | 13 | 1185 | G | N1-C6-O6 | 5.19 | 123.02 | 119.90 |
| 1 | 13 | 1355 | G | C6-C5-N7 | -5.19 | 127.29 | 130.40 |
| 1 | 13 | 1419 | G | N3-C2-N2 | -5.19 | 116.27 | 119.90 |
| 1 | 13 | 1446 | A | O5'-P-OP2 | -5.19 | 101.03 | 105.70 |
| 26 | 1H | 414 | C | C4-C5-C6 | 5.19 | 120.00 | 117.40 |
| 26 | 1H | 501 | A | C4-C5-N7 | -5.19 | 108.10 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 554 | U | C2-N1-C1' | -5.19 | 111.47 | 117.70 |
| 26 | 1H | 617 | G | O5'-P-OP1 | 5.19 | 116.93 | 110.70 |
| 26 | 1H | 755 | C | N1-C2-N3 | 5.19 | 122.83 | 119.20 |
| 26 | 1H | 1424 | G | N1-C2-N3 | 5.19 | 127.01 | 123.90 |
| 26 | 1H | 1601 | G | OP1-P-O3' | 5.19 | 116.62 | 105.20 |
| 26 | 1H | 1899 | G | C5-N7-C8 | -5.19 | 101.70 | 104.30 |
| 26 | 1H | 1981 | A | N3-C4-C5 | 5.19 | 130.43 | 126.80 |
| 26 | 1H | 2192 | G | N1-C2-N3 | 5.19 | 127.01 | 123.90 |
| 26 | 1H | 2735 | G | C5-C6-N1 | 5.19 | 114.09 | 111.50 |
| 26 | 1H | 2774 | C | C5-C6-N1 | -5.19 | 118.41 | 121.00 |
| 27 | 16 | 5 | C | C5-C4-N4 | -5.19 | 116.57 | 120.20 |
| 1 | 1G | 145 | G | N1-C6-O6 | 5.19 | 123.02 | 119.90 |
| 26 | 14 | 270(G) | C | OP1-P-OP2 | 5.19 | 127.39 | 119.60 |
| 26 | 14 | 795 | C | C2-N1-C1' | 5.19 | 124.51 | 118.80 |
| 26 | 14 | 1386 | C | N3-C2-O2 | 5.19 | 125.53 | 121.90 |
| 26 | 14 | 1981 | A | O4'-C1'-N9 | -5.19 | 104.05 | 108.20 |
| 26 | 14 | 2489 | G | C2-N3-C4 | -5.19 | 109.30 | 111.90 |
| 1 | 13 | 1365 | G | N3-C4-C5 | 5.19 | 131.19 | 128.60 |
| 26 | 1H | 122 | G | C4-C5-C6 | 5.19 | 121.91 | 118.80 |
| 26 | 1H | 1809 | A | C8-N9-C4 | 5.19 | 107.88 | 105.80 |
| 26 | 1H | 2427 | C | OP1-P-OP2 | -5.19 | 111.82 | 119.60 |
| 27 | 16 | 109 | G | N1-C6-O6 | 5.19 | 123.01 | 119.90 |
| 1 | 1G | 252 | U | N3-C2-O2 | -5.19 | 118.57 | 122.20 |
| 26 | 14 | 788 | A | C4-C5-N7 | 5.19 | 113.30 | 110.70 |
| 26 | 14 | 1547 | C | C5-C4-N4 | 5.19 | 123.83 | 120.20 |
| 26 | 14 | 1760 | A | O5'-P-OP2 | -5.19 | 101.03 | 105.70 |
| 26 | 14 | 1829 | A | C4-C5-C6 | 5.19 | 119.59 | 117.00 |
| 26 | 14 | 1861 | G | C2-N3-C4 | -5.19 | 109.31 | 111.90 |
| 26 | 14 | 2718 | G | C6-C5-N7 | -5.19 | 127.29 | 130.40 |
| 1 | 13 | 466 | C | C6-N1-C2 | 5.19 | 122.38 | 120.30 |
| 1 | 13 | 944 | G | N9-C4-C5 | 5.19 | 107.47 | 105.40 |
| 1 | 13 | 1306 | A | C8-N9-C4 | -5.19 | 103.72 | 105.80 |
| 26 | 1H | 95 | G | C4-N9-C1' | 5.19 | 133.24 | 126.50 |
| 26 | 1H | 348 | G | C4-C5-N7 | -5.19 | 108.72 | 110.80 |
| 26 | 1H | 484 | C | OP1-P-O3' | 5.19 | 116.61 | 105.20 |
| 26 | 1H | 972 | G | N1-C2-N2 | -5.19 | 111.53 | 116.20 |
| 26 | 1H | 1392 | A | C5-N7-C8 | 5.19 | 106.49 | 103.90 |
| 26 | 1H | 1597 | A | O5'-P-OP1 | 5.19 | 116.92 | 110.70 |
| 26 | 1H | 1983 | C | O5'-P-OP2 | -5.19 | 101.03 | 105.70 |
| 1 | 1G | 113 | G | OP2-P-O3' | 5.19 | 116.61 | 105.20 |
| 26 | 14 | 600 | G | N7-C8-N9 | 5.19 | 115.69 | 113.10 |
| 26 | 14 | 1501 | C | C5-C6-N1 | 5.19 | 123.59 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 1811 | G | N1-C6-O6 | 5.19 | 123.01 | 119.90 |
| 26 | 14 | 2277 | G | C6-C5-N7 | 5.19 | 133.51 | 130.40 |
| 26 | 14 | 2580 | U | C5-C6-N1 | -5.19 | 120.11 | 122.70 |
| 26 | 14 | 2602 | A | C6-C5-N7 | 5.19 | 135.93 | 132.30 |
| 26 | 14 | 2762 | G | C8-N9-C4 | -5.19 | 104.33 | 106.40 |
| 1 | 13 | 38 | G | C8-N9-C4 | -5.19 | 104.33 | 106.40 |
| 1 | 13 | 1298 | C | O5'-P-OP2 | -5.19 | 101.03 | 105.70 |
| 1 | 13 | 1361 | G | C6-N1-C2 | -5.19 | 121.99 | 125.10 |
| 26 | 1H | 551 | G | C5-N7-C8 | -5.19 | 101.71 | 104.30 |
| 26 | 1H | 2458 | G | C6-C5-N7 | -5.19 | 127.29 | 130.40 |
| 1 | 1G | 910 | C | C6-N1-C2 | 5.19 | 122.37 | 120.30 |
| 26 | 14 | 345 | A | N7-C8-N9 | -5.19 | 111.21 | 113.80 |
| 26 | 14 | 939 | G | N3-C2-N2 | -5.19 | 116.27 | 119.90 |
| 26 | 14 | 1361 | G | N7-C8-N9 | -5.19 | 110.51 | 113.10 |
| 26 | 14 | 2051 | A | C5-C6-N1 | -5.19 | 115.11 | 117.70 |
| 1 | 13 | 295 | C | C5-C6-N1 | -5.18 | 118.41 | 121.00 |
| 1 | 13 | 810 | C | C5-C6-N1 | -5.18 | 118.41 | 121.00 |
| 1 | 13 | 1442 | G | C2-N3-C4 | -5.18 | 109.31 | 111.90 |
| 26 | 1H | 212 | G | C5-C6-N1 | 5.18 | 114.09 | 111.50 |
| 26 | 1H | 554 | U | C5-C6-N1 | -5.18 | 120.11 | 122.70 |
| 26 | 1H | 926 | A | C5-N7-C8 | -5.18 | 101.31 | 103.90 |
| 26 | 1H | 1676 | A | OP2-P-O3' | 5.18 | 116.60 | 105.20 |
| 26 | 1H | 2367 | G | N1-C2-N3 | 5.18 | 127.01 | 123.90 |
| 26 | 1H | 2412 | A | C4-C5-N7 | -5.18 | 108.11 | 110.70 |
| 26 | 1H | 2567 | G | N1-C2-N3 | -5.18 | 120.79 | 123.90 |
| 26 | 1H | 2850 | A | C4-C5-C6 | -5.18 | 114.41 | 117.00 |
| 1 | 1G | 293 | G | OP1-P-OP2 | -5.18 | 111.82 | 119.60 |
| 1 | 1G | 1406 | U | N1-C2-N3 | 5.18 | 118.01 | 114.90 |
| 26 | 14 | 798 | G | C2-N3-C4 | -5.18 | 109.31 | 111.90 |
| 26 | 14 | 847 | U | OP1-P-OP2 | 5.18 | 127.38 | 119.60 |
| 26 | 14 | 1285 | G | C6-N1-C2 | -5.18 | 121.99 | 125.10 |
| 26 | 14 | 1935 | G | C8-N9-C4 | -5.18 | 104.33 | 106.40 |
| 1 | 13 | 31 | G | N1-C6-O6 | 5.18 | 123.01 | 119.90 |
| 1 | 13 | 297 | G | C5-N7-C8 | -5.18 | 101.71 | 104.30 |
| 1 | 13 | 1465 | C | O5'-P-OP1 | -5.18 | 101.03 | 105.70 |
| 26 | 1H | 122 | G | OP1-P-OP2 | 5.18 | 127.37 | 119.60 |
| 26 | 1H | 1423 | G | C4-C5-N7 | -5.18 | 108.73 | 110.80 |
| 26 | 1H | 1577 | C | N3-C2-O2 | -5.18 | 118.27 | 121.90 |
| 26 | 1H | 1695 | G | N3-C4-C5 | -5.18 | 126.01 | 128.60 |
| 26 | 1H | 2072 | G | N1-C2-N3 | -5.18 | 120.79 | 123.90 |
| 26 | 1H | 2369 | A | C6-N1-C2 | -5.18 | 115.49 | 118.60 |
| 26 | 1H | 2507 | C | C4-C5-C6 | 5.18 | 119.99 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2521 | C | OP1-P-O3' | -5.18 | 93.80 | 105.20 |
| 26 | 1H | 2697 | G | C2-N3-C4 | -5.18 | 109.31 | 111.90 |
| 1 | 1G | 5 | U | C6-N1-C2 | 5.18 | 124.11 | 121.00 |
| 1 | 1G | 609 | A | N1-C6-N6 | -5.18 | 115.49 | 118.60 |
| 1 | 1G | 660 | G | O5'-P-OP2 | -5.18 | 101.03 | 105.70 |
| 56 | 1L | 37 | A | C5-C6-N6 | -5.18 | 119.56 | 123.70 |
| 26 | 14 | 81 | G | OP1-P-OP2 | 5.18 | 127.37 | 119.60 |
| 26 | 14 | 817 | C | O5'-P-OP1 | -5.18 | 101.03 | 105.70 |
| 26 | 14 | 1278 | A | OP1-P-OP2 | 5.18 | 127.38 | 119.60 |
| 26 | 14 | 1804 | C | N3-C2-O2 | -5.18 | 118.27 | 121.90 |
| 26 | 14 | 2271 | G | OP2-P-O3' | 5.18 | 116.60 | 105.20 |
| 26 | 14 | 2553 | G | N9-C4-C5 | -5.18 | 103.33 | 105.40 |
| 47 | D5 | 63 | ASP | CB-CG-OD1 | 5.18 | 122.96 | 118.30 |
| 1 | 13 | 1389 | C | N3-C2-O2 | 5.18 | 125.53 | 121.90 |
| 1 | 13 | 1437 | C | O5'-P-OP2 | 5.18 | 116.92 | 110.70 |
| 13 | 4I | 108 | ARG | NE-CZ-NH2 | 5.18 | 122.89 | 120.30 |
| 26 | 1H | 381 | G | OP1-P-O3' | 5.18 | 116.60 | 105.20 |
| 26 | 1H | 1051 | G | N3-C4-C5 | -5.18 | 126.01 | 128.60 |
| 26 | 1H | 1916 | A | OP1-P-OP2 | -5.18 | 111.83 | 119.60 |
| 26 | 1H | 2209 | C | C6-N1-C2 | 5.18 | 122.37 | 120.30 |
| 26 | 1H | 2787 | C | C5-C6-N1 | 5.18 | 123.59 | 121.00 |
| 1 | 1G | 123 | C | C5-C6-N1 | -5.18 | 118.41 | 121.00 |
| 1 | 1G | 1527 | C | N1-C2-O2 | -5.18 | 115.79 | 118.90 |
| 26 | 14 | 242 | G | C4-N9-C1' | -5.18 | 119.76 | 126.50 |
| 26 | 14 | 277 | C | N1-C2-O2 | 5.18 | 122.01 | 118.90 |
| 26 | 14 | 2195 | C | C2-N1-C1' | -5.18 | 113.10 | 118.80 |
| 26 | 14 | 2603 | G | N9-C4-C5 | -5.18 | 103.33 | 105.40 |
| 1 | 13 | 753 | A | C4-C5-C6 | 5.18 | 119.59 | 117.00 |
| 1 | 13 | 1534 | A | C8-N9-C4 | -5.18 | 103.73 | 105.80 |
| 26 | 1H | 50 | U | N1-C2-O2 | -5.18 | 119.17 | 122.80 |
| 26 | 1H | 102 | G | C5-C6-N1 | -5.18 | 108.91 | 111.50 |
| 26 | 1H | 529 | A | N9-C4-C5 | -5.18 | 103.73 | 105.80 |
| 26 | 1H | 2508 | G | OP1-P-OP2 | -5.18 | 111.83 | 119.60 |
| 26 | 14 | 31 | C | N3-C4-N4 | 5.18 | 121.63 | 118.00 |
| 26 | 14 | 112 | U | N1-C2-N3 | 5.18 | 118.01 | 114.90 |
| 26 | 14 | 1324 | G | N3-C4-C5 | -5.18 | 126.01 | 128.60 |
| 26 | 14 | 1468 | C | C5-C4-N4 | -5.18 | 116.58 | 120.20 |
| 26 | 14 | 1878 | G | N1-C6-O6 | 5.18 | 123.01 | 119.90 |
| 26 | 14 | 1914 | C | N3-C2-O2 | -5.18 | 118.27 | 121.90 |
| 26 | 14 | 1973 | G | OP1-P-OP2 | -5.18 | 111.83 | 119.60 |
| 26 | 14 | 2280 | G | N3-C4-C5 | 5.18 | 131.19 | 128.60 |
| 26 | 14 | 2532 | G | C2-N3-C4 | -5.18 | 109.31 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2878 | U | C4-C5-C6 | 5.18 | 122.81 | 119.70 |
| 1 | 13 | 140 | A | C6-C5-N7 | -5.18 | 128.68 | 132.30 |
| 1 | 13 | 613 | C | OP2-P-O3' | 5.18 | 116.59 | 105.20 |
| 26 | 1H | 468 | G | N3-C4-N9 | 5.18 | 129.11 | 126.00 |
| 26 | 1H | 1351 | C | N1-C2-N3 | 5.18 | 122.83 | 119.20 |
| 26 | 1H | 1572 | A | OP2-P-O3' | 5.18 | 116.59 | 105.20 |
| 26 | 1H | 2047 | U | C5-C6-N1 | 5.18 | 125.29 | 122.70 |
| 1 | 1G | 114 | U | C5-C6-N1 | -5.18 | 120.11 | 122.70 |
| 1 | 1G | 565 | U | C4-C5-C6 | 5.18 | 122.81 | 119.70 |
| 26 | 14 | 303 | U | O5'-P-OP1 | 5.18 | 116.91 | 110.70 |
| 26 | 14 | 660 | G | C6-N1-C2 | 5.18 | 128.21 | 125.10 |
| 26 | 14 | 1268 | A | C6-N1-C2 | -5.18 | 115.49 | 118.60 |
| 26 | 14 | 2425 | A | N1-C2-N3 | 5.18 | 131.89 | 129.30 |
| 1 | 13 | 362 | G | C6-N1-C2 | 5.18 | 128.21 | 125.10 |
| 1 | 13 | 364 | A | OP1-P-OP2 | -5.18 | 111.84 | 119.60 |
| 1 | 13 | 545 | C | C4-C5-C6 | -5.18 | 114.81 | 117.40 |
| 1 | 13 | 975 | A | N1-C6-N6 | 5.18 | 121.71 | 118.60 |
| 1 | 13 | 1267 | C | N3-C4-C5 | -5.18 | 119.83 | 121.90 |
| 1 | 13 | 1512 | U | N1-C2-O2 | 5.18 | 126.42 | 122.80 |
| 26 | 1H | 266 | G | N7-C8-N9 | -5.18 | 110.51 | 113.10 |
| 26 | 1H | 394 | A | C6-N1-C2 | -5.18 | 115.49 | 118.60 |
| 26 | 1H | 1050 | A | O4'-C1'-N9 | 5.18 | 112.34 | 108.20 |
| 26 | 1H | 1215 | G | OP1-P-O3' | 5.18 | 116.59 | 105.20 |
| 26 | 1H | 1237 | A | C5-C6-N6 | 5.18 | 127.84 | 123.70 |
| 26 | 1H | 1780 | A | C4-C5-N7 | -5.18 | 108.11 | 110.70 |
| 26 | 1H | 2728 | U | O5'-P-OP2 | -5.18 | 101.04 | 105.70 |
| 26 | 1H | 2822 | G | C8-N9-C4 | 5.18 | 108.47 | 106.40 |
| 1 | 1G | 50 | A | C4-C5-C6 | 5.18 | 119.59 | 117.00 |
| 1 | 1G | 313 | A | C2-N3-C4 | 5.18 | 113.19 | 110.60 |
| 1 | 1G | 327 | A | N1-C2-N3 | 5.18 | 131.89 | 129.30 |
| 1 | 1G | 509 | A | C5-C6-N6 | -5.18 | 119.56 | 123.70 |
| 1 | 1G | 942 | G | N3-C4-C5 | -5.18 | 126.01 | 128.60 |
| 1 | 1G | 1190 | G | C5-C6-O6 | 5.18 | 131.71 | 128.60 |
| 26 | 14 | 238 | C | C2-N3-C4 | -5.18 | 117.31 | 119.90 |
| 26 | 14 | 793 | A | O5'-P-OP1 | 5.18 | 116.91 | 110.70 |
| 26 | 14 | 1140 | C | C2-N3-C4 | 5.18 | 122.49 | 119.90 |
| 26 | 14 | 1862 | G | C5-C6-N1 | -5.18 | 108.91 | 111.50 |
| 26 | 14 | 2405 | G | N7-C8-N9 | 5.18 | 115.69 | 113.10 |
| 26 | 14 | 2613 | U | C5-C6-N1 | -5.18 | 120.11 | 122.70 |
| 26 | 14 | 2698 | U | OP1-P-OP2 | -5.18 | 111.84 | 119.60 |
| 26 | 14 | 2820 | A | N1-C2-N3 | 5.18 | 131.89 | 129.30 |
| 1 | 13 | 314 | C | N3-C4-N4 | -5.17 | 114.38 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 464 | G | C5-N7-C8 | -5.17 | 101.71 | 104.30 |
| 1 | 13 | 726 | C | C2-N3-C4 | 5.17 | 122.49 | 119.90 |
| 1 | 13 | 967 | C | C2-N3-C4 | -5.17 | 117.31 | 119.90 |
| 1 | 13 | 1114 | C | N1-C2-O2 | 5.17 | 122.00 | 118.90 |
| 22 | 1K | 38 | A | C4-C5-N7 | 5.17 | 113.29 | 110.70 |
| 26 | 1H | 59 | U | C5-C6-N1 | 5.17 | 125.29 | 122.70 |
| 26 | 1H | 1126 | A | N9-C4-C5 | 5.17 | 107.87 | 105.80 |
| 26 | 1H | 2759 | G | C8-N9-C4 | 5.17 | 108.47 | 106.40 |
| 26 | 1H | 2896 | C | C2-N3-C4 | 5.17 | 122.49 | 119.90 |
| 27 | 16 | 15 | A | OP1-P-O3' | 5.17 | 116.59 | 105.20 |
| 1 | 1G | 1183 | A | C8-N9-C4 | 5.17 | 107.87 | 105.80 |
| 23 | 2L | 39 | A | N7-C8-N9 | 5.17 | 116.39 | 113.80 |
| 26 | 14 | 97 | C | N1-C2-O2 | 5.17 | 122.00 | 118.90 |
| 26 | 14 | 312 | G | C4-N9-C1' | 5.17 | 133.23 | 126.50 |
| 26 | 14 | 981 | A | C2-N3-C4 | -5.17 | 108.01 | 110.60 |
| 26 | 14 | 1143 | A | O5'-P-OP1 | 5.17 | 116.91 | 110.70 |
| 26 | 14 | 1478 | G | O5'-P-OP2 | -5.17 | 101.04 | 105.70 |
| 26 | 14 | 1728 | G | N3-C2-N2 | 5.17 | 123.52 | 119.90 |
| 26 | 14 | 1764 | G | N3-C4-C5 | -5.17 | 126.01 | 128.60 |
| 26 | 14 | 2661 | G | C5-C6-N1 | -5.17 | 108.91 | 111.50 |
| 26 | 14 | 2728 | U | OP1-P-OP2 | 5.17 | 127.36 | 119.60 |
| 26 | 14 | 2871 | C | N1-C2-O2 | 5.17 | 122.00 | 118.90 |
| 39 | 55 | 98 | LEU | CB-CG-CD1 | -5.17 | 102.20 | 111.00 |
| 1 | 13 | 521 | G | C5-C6-N1 | 5.17 | 114.09 | 111.50 |
| 26 | 1H | 782 | A | O5'-P-OP1 | -5.17 | 101.04 | 105.70 |
| 26 | 1H | 805 | G | C4-C5-N7 | 5.17 | 112.87 | 110.80 |
| 26 | 1H | 1214 | A | N1-C2-N3 | -5.17 | 126.71 | 129.30 |
| 26 | 1H | 1440 | G | OP1-P-O3' | 5.17 | 116.58 | 105.20 |
| 26 | 1H | 1961 | C | C5-C4-N4 | -5.17 | 116.58 | 120.20 |
| 26 | 1H | 2520 | C | C2-N3-C4 | -5.17 | 117.31 | 119.90 |
| 26 | 1H | 2521 | C | C2-N3-C4 | -5.17 | 117.31 | 119.90 |
| 1 | 1G | 114 | U | OP1-P-OP2 | 5.17 | 127.36 | 119.60 |
| 1 | 1G | 592 | G | C8-N9-C4 | -5.17 | 104.33 | 106.40 |
| 26 | 14 | 781 | A | C6-N1-C2 | -5.17 | 115.50 | 118.60 |
| 26 | 14 | 1292 | U | N1-C2-N3 | -5.17 | 111.80 | 114.90 |
| 26 | 14 | 1307 | A | C5-N7-C8 | -5.17 | 101.31 | 103.90 |
| 26 | 14 | 1969 | A | C4-C5-C6 | 5.17 | 119.59 | 117.00 |
| 26 | 14 | 2078 | C | OP1-P-OP2 | -5.17 | 111.84 | 119.60 |
| 26 | 14 | 2723 | C | N3-C2-O2 | -5.17 | 118.28 | 121.90 |
| 26 | 14 | 2816 | C | N1-C2-O2 | -5.17 | 115.80 | 118.90 |
| 1 | 13 | 397 | A | C5-C6-N1 | -5.17 | 115.11 | 117.70 |
| 1 | 13 | 568 | G | N3-C4-C5 | -5.17 | 126.01 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 1 | 13 | 698 | G | C8-N9-C4 | -5.17 | 104.33 | 106.40 |
| 1 | 13 | 1125 | U | N3-C2-O2 | 5.17 | 125.82 | 122.20 |
| 26 | 1H | 1116 | C | N3-C4-C5 | -5.17 | 119.83 | 121.90 |
| 26 | 1H | 1120 | G | C6-N1-C2 | 5.17 | 128.20 | 125.10 |
| 26 | 1H | 1173 | G | C4-N9-C1' | -5.17 | 119.78 | 126.50 |
| 26 | 1H | 1364 | G | N9-C1'-C2' | -5.17 | 106.31 | 112.00 |
| 26 | 1H | 2049 | G | C4-C5-N7 | -5.17 | 108.73 | 110.80 |
| 26 | 1H | 2340 | G | C4-C5-C6 | -5.17 | 115.70 | 118.80 |
| 26 | 1H | 2372 | G | P-O3'-C3' | -5.17 | 113.50 | 119.70 |
| 26 | 1H | 2445 | G | N1-C2-N3 | 5.17 | 127.00 | 123.90 |
| 27 | 16 | 61 | G | C8-N9-C4 | -5.17 | 104.33 | 106.40 |
| 1 | 1G | 96 | G | C2-N3-C4 | -5.17 | 109.31 | 111.90 |
| 1 | 1G | 454 | C | N1-C2-O2 | 5.17 | 122.00 | 118.90 |
| 1 | 1G | 837 | G | N3-C4-C5 | 5.17 | 131.19 | 128.60 |
| 26 | 14 | 786 | C | N1-C2-N3 | 5.17 | 122.82 | 119.20 |
| 26 | 14 | 2016 | U | C6-N1-C2 | -5.17 | 117.90 | 121.00 |
| 1 | 13 | 1517 | G | N1-C2-N3 | 5.17 | 127.00 | 123.90 |
| 26 | 1H | 270(R) | G | C4-C5-C6 | 5.17 | 121.90 | 118.80 |
| 26 | 1H | 1765 | C | C2-N3-C4 | -5.17 | 117.31 | 119.90 |
| 26 | 1H | 1821 | A | C4-C5-C6 | 5.17 | 119.58 | 117.00 |
| 26 | 1H | 1843 | C | OP1-P-OP2 | -5.17 | 111.84 | 119.60 |
| 1 | 1G | 27 | G | C5-C6-N1 | -5.17 | 108.92 | 111.50 |
| 1 | 1G | 509 | A | C4-C5-N7 | 5.17 | 113.28 | 110.70 |
| 26 | 14 | 150 | C | N3-C4-N4 | -5.17 | 114.38 | 118.00 |
| 26 | 14 | 2173 | A | P-O3'-C3' | 5.17 | 125.90 | 119.70 |
| 26 | 14 | 2391 | G | C4-N9-C1' | -5.17 | 119.78 | 126.50 |
| 26 | 14 | 2539 | C | O5'-P-OP2 | -5.17 | 101.05 | 105.70 |
| 26 | 14 | 2559 | C | C4-C5-C6 | 5.17 | 119.98 | 117.40 |
| 26 | 14 | 2611 | U | N3-C4-O4 | 5.17 | 123.02 | 119.40 |
| 1 | 13 | 1333 | A | C8-N9-C4 | -5.17 | 103.73 | 105.80 |
| 24 | 3K | 76 | A | N3-C4-C5 | 5.17 | 130.42 | 126.80 |
| 26 | 1H | 399 | G | C6-N1-C2 | -5.17 | 122.00 | 125.10 |
| 26 | 1H | 424 | G | C5-C6-O6 | -5.17 | 125.50 | 128.60 |
| 26 | 1H | 464 | U | O5'-P-OP2 | 5.17 | 116.90 | 110.70 |
| 26 | 1H | 636 | G | N1-C2-N2 | 5.17 | 120.85 | 116.20 |
| 26 | 1H | 806 | C | OP2-P-O3' | -5.17 | 93.83 | 105.20 |
| 26 | 1H | 816 | C | O5'-P-OP1 | 5.17 | 116.90 | 110.70 |
| 26 | 1H | 2241 | A | C5-N7-C8 | 5.17 | 106.48 | 103.90 |
| 26 | 1H | 2252 | G | C5-C6-N1 | -5.17 | 108.92 | 111.50 |
| 26 | 1H | 2578 | G | O5'-P-OP2 | 5.17 | 116.90 | 110.70 |
| 26 | 14 | 294 | A | O5'-P-OP1 | 5.17 | 116.90 | 110.70 |
| 26 | 14 | 2073 | C | C5-C4-N4 | -5.17 | 116.58 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 2344 | U | N1-C2-O2 | 5.17 | 126.42 | 122.80 |
| 26 | 14 | 2541 | A | N1-C6-N6 | 5.17 | 121.70 | 118.60 |
| 27 | 1J | 109 | G | C6-C5-N7 | -5.17 | 127.30 | 130.40 |
| 1 | 13 | 244 | U | C4-C5-C6 | -5.17 | 116.60 | 119.70 |
| 1 | 13 | 729 | A | OP1-P-O3' | 5.17 | 116.56 | 105.20 |
| 1 | 13 | 1064 | G | N7-C8-N9 | -5.17 | 110.52 | 113.10 |
| 26 | 1H | 182 | A | C2-N3-C4 | -5.17 | 108.02 | 110.60 |
| 26 | 1H | 475 | U | C5-C6-N1 | 5.17 | 125.28 | 122.70 |
| 26 | 1H | 545 | G | C5-C6-N1 | -5.17 | 108.92 | 111.50 |
| 26 | 1H | 651 | G | C6-N1-C2 | -5.17 | 122.00 | 125.10 |
| 26 | 1H | 670 | A | N1-C2-N3 | -5.17 | 126.72 | 129.30 |
| 26 | 1H | 1927 | A | C5-C6-N6 | 5.17 | 127.83 | 123.70 |
| 26 | 1H | 2039 | C | N3-C4-C5 | -5.17 | 119.83 | 121.90 |
| 26 | 1H | 2072 | G | N1-C6-O6 | -5.17 | 116.80 | 119.90 |
| 26 | 1H | 2638 | G | N1-C2-N3 | -5.17 | 120.80 | 123.90 |
| 26 | 1H | 2839 | G | C4-C5-N7 | -5.17 | 108.73 | 110.80 |
| 1 | 1G | 904 | C | OP2-P-O3' | 5.17 | 116.57 | 105.20 |
| 1 | 1G | 1204 | A | N7-C8-N9 | 5.17 | 116.38 | 113.80 |
| 1 | 1G | 1325 | C | C4-C5-C6 | 5.17 | 119.98 | 117.40 |
| 57 | 3L | 70 | C | N1-C2-O2 | 5.17 | 122.00 | 118.90 |
| 26 | 14 | 266 | G | C4-C5-C6 | 5.17 | 121.90 | 118.80 |
| 26 | 14 | 274 | G | C4-C5-N7 | 5.17 | 112.87 | 110.80 |
| 26 | 14 | 404 | C | O5'-P-OP1 | -5.17 | 101.05 | 105.70 |
| 26 | 14 | 667 | U | C5-C4-O4 | -5.17 | 122.80 | 125.90 |
| 26 | 14 | 699 | A | N3-C4-C5 | -5.17 | 123.18 | 126.80 |
| 26 | 14 | 864 | G | O5'-P-OP1 | 5.17 | 116.90 | 110.70 |
| 26 | 14 | 960 | A | O4'-C1'-N9 | 5.17 | 112.33 | 108.20 |
| 26 | 14 | 1207 | C | OP1-P-O3' | 5.17 | 116.57 | 105.20 |
| 26 | 14 | 1761 | C | C2-N3-C4 | -5.17 | 117.32 | 119.90 |
| 26 | 14 | 2021 | C | C2-N1-C1' | 5.17 | 124.48 | 118.80 |
| 37 | 35 | 33 | ARG | C-N-CA | 5.17 | 133.15 | 122.30 |
| 1 | 13 | 714 | G | OP2-P-O3' | 5.17 | 116.56 | 105.20 |
| 1 | 13 | 1128 | C | O4'-C1'-N1 | 5.17 | 112.33 | 108.20 |
| 1 | 13 | 1362 | C | C5-C6-N1 | 5.17 | 123.58 | 121.00 |
| 26 | 1H | 270(K) | C | C6-N1-C2 | -5.17 | 118.23 | 120.30 |
| 26 | 1H | 602 | G | C6-C5-N7 | -5.17 | 127.30 | 130.40 |
| 26 | 1H | 728 | G | C6-N1-C2 | 5.17 | 128.20 | 125.10 |
| 26 | 1H | 1395 | A | N1-C2-N3 | 5.17 | 131.88 | 129.30 |
| 26 | 1H | 1968 | G | N3-C4-C5 | -5.17 | 126.02 | 128.60 |
| 26 | 1H | 2302 | G | O5'-P-OP2 | -5.17 | 101.05 | 105.70 |
| 26 | 1H | 2560 | C | OP1-P-OP2 | 5.17 | 127.35 | 119.60 |
| 41 | B8 | 19 | LEU | CB-CG-CD2 | -5.17 | 102.22 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 1287 | A | C5-C6-N6 | 5.17 | 127.83 | 123.70 |
| 1 | 1G | 1437 | C | C5-C6-N1 | 5.17 | 123.58 | 121.00 |
| 26 | 14 | 138 | G | C5-C6-N1 | 5.17 | 114.08 | 111.50 |
| 26 | 14 | 502 | A | N1-C2-N3 | 5.17 | 131.88 | 129.30 |
| 26 | 14 | 852 | G | C2-N3-C4 | 5.17 | 114.48 | 111.90 |
| 26 | 14 | 1574 | C | OP1-P-OP2 | -5.17 | 111.85 | 119.60 |
| 1 | 13 | 314 | C | C5-C4-N4 | 5.16 | 123.81 | 120.20 |
| 1 | 13 | 567 | G | OP1-P-OP2 | 5.16 | 127.34 | 119.60 |
| 1 | 13 | 1054 | C | C4-C5-C6 | -5.16 | 114.82 | 117.40 |
| 1 | 13 | 1403 | C | OP1-P-OP2 | 5.16 | 127.34 | 119.60 |
| 1 | 13 | 1495 | U | C5-C6-N1 | 5.16 | 125.28 | 122.70 |
| 1 | 13 | 1510 | U | OP1-P-OP2 | 5.16 | 127.35 | 119.60 |
| 26 | 1H | 123 | G | C6-C5-N7 | -5.16 | 127.30 | 130.40 |
| 26 | 1H | 385 | C | C4-C5-C6 | -5.16 | 114.82 | 117.40 |
| 26 | 1H | 540 | G | C5-C6-N1 | -5.16 | 108.92 | 111.50 |
| 26 | 1H | 645 | C | N1-C2-O2 | 5.16 | 122.00 | 118.90 |
| 26 | 1H | 746 | A | N7-C8-N9 | 5.16 | 116.38 | 113.80 |
| 26 | 1H | 903 | C | C6-N1-C2 | 5.16 | 122.37 | 120.30 |
| 26 | 1H | 2730 | C | C4-C5-C6 | -5.16 | 114.82 | 117.40 |
| 32 | 41 | 101 | ILE | CG1-CB-CG2 | -5.16 | 100.04 | 111.40 |
| 32 | 41 | 170 | ARG | NE-CZ-NH1 | 5.16 | 122.88 | 120.30 |
| 1 | 1G | 660 | G | C4-N9-C1' | -5.16 | 119.79 | 126.50 |
| 1 | 1G | 902 | G | N1-C2-N2 | 5.16 | 120.85 | 116.20 |
| 1 | 1G | 1388 | C | N1-C2-O2 | 5.16 | 122.00 | 118.90 |
| 23 | 2L | 60 | A | OP2-P-O3' | 5.16 | 116.56 | 105.20 |
| 26 | 14 | 21 | A | C2-N3-C4 | -5.16 | 108.02 | 110.60 |
| 26 | 14 | 1138 | G | N3-C4-C5 | 5.16 | 131.18 | 128.60 |
| 41 | 75 | 8 | LYS | CB-CG-CD | -5.16 | 98.17 | 111.60 |
| 1 | 13 | 828 | A | C4-C5-C6 | 5.16 | 119.58 | 117.00 |
| 26 | 1H | 617 | G | C5-N7-C8 | 5.16 | 106.88 | 104.30 |
| 26 | 1H | 1026 | U | N1-C2-O2 | -5.16 | 119.19 | 122.80 |
| 26 | 1H | 1440 | G | OP2-P-O3' | -5.16 | 93.84 | 105.20 |
| 26 | 1H | 1896 | G | C8-N9-C4 | 5.16 | 108.47 | 106.40 |
| 26 | 1H | 2332 | U | N3-C4-O4 | -5.16 | 115.79 | 119.40 |
| 1 | 1G | 129 | U | C5-C4-O4 | 5.16 | 129.00 | 125.90 |
| 26 | 14 | 1229 | G | N7-C8-N9 | 5.16 | 115.68 | 113.10 |
| 26 | 14 | 1926 | U | C5-C6-N1 | -5.16 | 120.12 | 122.70 |
| 1 | 13 | 1177 | G | O5'-P-OP1 | 5.16 | 116.89 | 110.70 |
| 1 | 13 | 1393 | U | C5-C4-O4 | 5.16 | 129.00 | 125.90 |
| 26 | 1H | 439 | G | C5-C6-N1 | -5.16 | 108.92 | 111.50 |
| 26 | 1H | 814 | C | OP1-P-OP2 | 5.16 | 127.34 | 119.60 |
| 26 | 1H | 1110 | G | O3'-P-O5' | 5.16 | 113.81 | 104.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1222 | C | N3-C4-C5 | 5.16 | 123.96 | 121.90 |
| 26 | 1H | 1486 | A | C5-C6-N1 | -5.16 | 115.12 | 117.70 |
| 26 | 1H | 1961 | C | OP1-P-O3' | 5.16 | 116.56 | 105.20 |
| 26 | 1H | 2244 | U | O5'-P-OP2 | 5.16 | 116.89 | 110.70 |
| 26 | 1H | 2447 | G | C4-C5-N7 | -5.16 | 108.74 | 110.80 |
| 26 | 1H | 2652 | C | C5-C6-N1 | 5.16 | 123.58 | 121.00 |
| 26 | 1H | 2666 | C | N1-C2-N3 | 5.16 | 122.81 | 119.20 |
| 26 | 1H | 2712 | U | OP2-P-O3' | 5.16 | 116.55 | 105.20 |
| 26 | 1H | 2889 | C | N3-C2-O2 | 5.16 | 125.51 | 121.90 |
| 1 | 1G | 828 | A | N1-C2-N3 | 5.16 | 131.88 | 129.30 |
| 1 | 1G | 972 | C | C5-C6-N1 | 5.16 | 123.58 | 121.00 |
| 1 | 1G | 1277 | C | C6-N1-C2 | -5.16 | 118.23 | 120.30 |
| 1 | 1G | 1522 | U | N1-C2-O2 | -5.16 | 119.19 | 122.80 |
| 26 | 14 | 125 | G | N7-C8-N9 | -5.16 | 110.52 | 113.10 |
| 26 | 14 | 198 | C | OP1-P-OP2 | -5.16 | 111.86 | 119.60 |
| 26 | 14 | 264 | C | C4-C5-C6 | 5.16 | 119.98 | 117.40 |
| 26 | 14 | 355 | G | C6-C5-N7 | -5.16 | 127.30 | 130.40 |
| 26 | 14 | 1407 | C | O5'-P-OP2 | 5.16 | 116.89 | 110.70 |
| 26 | 14 | 1941 | C | O5'-P-OP2 | 5.16 | 116.89 | 110.70 |
| 26 | 14 | 1961 | C | OP1-P-OP2 | 5.16 | 127.34 | 119.60 |
| 26 | 14 | 2267 | A | C5-C6-N1 | 5.16 | 120.28 | 117.70 |
| 1 | 13 | 1306 | A | C4-C5-C6 | 5.16 | 119.58 | 117.00 |
| 1 | 13 | 1455 | G | N3-C4-N9 | -5.16 | 122.91 | 126.00 |
| 25 | 4K | 15 | A | C2-N3-C4 | 5.16 | 113.18 | 110.60 |
| 26 | 1H | 550 | G | N1-C2-N3 | 5.16 | 127.00 | 123.90 |
| 26 | 1H | 744 | G | N3-C4-N9 | 5.16 | 129.09 | 126.00 |
| 26 | 1H | 1031 | G | C5-C6-N1 | 5.16 | 114.08 | 111.50 |
| 26 | 1H | 1407 | C | P-O3'-C3' | -5.16 | 113.51 | 119.70 |
| 26 | 1H | 1449(A) | G | N1-C6-O6 | -5.16 | 116.81 | 119.90 |
| 26 | 1H | 1869 | G | C4-C5-N7 | 5.16 | 112.86 | 110.80 |
| 26 | 1H | 2004 | G | N3-C4-C5 | 5.16 | 131.18 | 128.60 |
| 26 | 1H | 2231 | C | C4-C5-C6 | 5.16 | 119.98 | 117.40 |
| 26 | 1H | 2313 | C | OP2-P-O3' | 5.16 | 116.55 | 105.20 |
| 26 | 1H | 2371 | G | N1-C2-N2 | -5.16 | 111.56 | 116.20 |
| 1 | 1G | 322 | C | C6-N1-C2 | 5.16 | 122.36 | 120.30 |
| 1 | 1G | 1183 | A | N1-C6-N6 | 5.16 | 121.69 | 118.60 |
| 26 | 14 | 1040 | C | N3-C2-O2 | -5.16 | 118.29 | 121.90 |
| 26 | 14 | 1200 | C | C4-C5-C6 | 5.16 | 119.98 | 117.40 |
| 26 | 14 | 1482 | U | C6-N1-C2 | -5.16 | 117.91 | 121.00 |
| 26 | 14 | 1784 | A | P-O5'-C5' | -5.16 | 112.64 | 120.90 |
| 26 | 14 | 2619 | C | OP2-P-O3' | -5.16 | 93.85 | 105.20 |
| 1 | 13 | 1084 | G | N3-C4-C5 | -5.16 | 126.02 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1402 | C | N3-C4-C5 | -5.16 | 119.84 | 121.90 |
| 26 | 1H | 89 | G | N1-C2-N3 | -5.16 | 120.81 | 123.90 |
| 26 | 1H | 1697 | G | N3-C4-N9 | 5.16 | 129.09 | 126.00 |
| 26 | 1H | 2671 | A | N1-C6-N6 | 5.16 | 121.69 | 118.60 |
| 26 | 14 | 2651 | C | C5-C4-N4 | 5.16 | 123.81 | 120.20 |
| 27 | 1J | 22 | U | C2-N1-C1' | 5.16 | 123.89 | 117.70 |
| 27 | 1J | 70 | C | O5'-P-OP1 | -5.16 | 101.06 | 105.70 |
| 55 | M5 | 49 | VAL | CA-CB-CG1 | 5.16 | 118.64 | 110.90 |
| 1 | 13 | 115 | G | N1-C2-N2 | 5.16 | 120.84 | 116.20 |
| 1 | 13 | 873 | A | OP1-P-OP2 | 5.16 | 127.33 | 119.60 |
| 1 | 13 | 918 | A | C6-C5-N7 | -5.16 | 128.69 | 132.30 |
| 1 | 13 | 1287 | A | C2-N3-C4 | -5.16 | 108.02 | 110.60 |
| 25 | 4K | 13 | A | C8-N9-C4 | -5.16 | 103.74 | 105.80 |
| 26 | 1H | 112 | U | C4-C5-C6 | -5.16 | 116.61 | 119.70 |
| 26 | 1H | 192 | C | OP1-P-O3' | 5.16 | 116.54 | 105.20 |
| 26 | 1H | 214 | G | O5'-P-OP2 | -5.16 | 101.06 | 105.70 |
| 26 | 1H | 217 | G | N3-C2-N2 | -5.16 | 116.29 | 119.90 |
| 26 | 1H | 404 | C | N3-C2-O2 | 5.16 | 125.51 | 121.90 |
| 26 | 1H | 669 | G | C2-N3-C4 | -5.16 | 109.32 | 111.90 |
| 26 | 1H | 976 | C | OP1-P-OP2 | 5.16 | 127.33 | 119.60 |
| 26 | 1H | 1159 | U | C2-N1-C1' | 5.16 | 123.89 | 117.70 |
| 26 | 1H | 1402 | C | N1-C2-N3 | -5.16 | 115.59 | 119.20 |
| 26 | 1H | 1660 | C | O5'-P-OP2 | -5.16 | 101.06 | 105.70 |
| 26 | 1H | 2429 | G | N1-C2-N3 | 5.16 | 126.99 | 123.90 |
| 26 | 1H | 2718 | G | N1-C6-O6 | 5.16 | 122.99 | 119.90 |
| 26 | 1H | 2859 | G | OP1-P-O3' | 5.16 | 116.54 | 105.20 |
| 54 | P8 | 28 | ARG | NE-CZ-NH1 | 5.16 | 122.88 | 120.30 |
| 1 | 1G | 790 | A | N9-C4-C5 | 5.16 | 107.86 | 105.80 |
| 26 | 14 | 117 | G | C5-C6-N1 | 5.16 | 114.08 | 111.50 |
| 26 | 14 | 387 | U | C5-C6-N1 | 5.16 | 125.28 | 122.70 |
| 26 | 14 | 1296 | G | C5-N7-C8 | 5.16 | 106.88 | 104.30 |
| 26 | 14 | 2195 | C | C6-N1-C2 | 5.16 | 122.36 | 120.30 |
| 1 | 13 | 1139 | G | N7-C8-N9 | -5.15 | 110.52 | 113.10 |
| 25 | 4K | 10 | G | C8-N9-C4 | -5.15 | 104.34 | 106.40 |
| 26 | 1H | 41 | C | N1-C2-O2 | 5.15 | 121.99 | 118.90 |
| 26 | 1H | 1215 | G | C5-N7-C8 | -5.15 | 101.72 | 104.30 |
| 26 | 1H | 1229(A) | G | N1-C2-N3 | 5.15 | 126.99 | 123.90 |
| 26 | 1H | 1361 | G | OP2-P-O3' | 5.15 | 116.54 | 105.20 |
| 26 | 1H | 2736 | G | C5-C6-O6 | 5.15 | 131.69 | 128.60 |
| 26 | 14 | 577 | G | C6-C5-N7 | -5.15 | 127.31 | 130.40 |
| 26 | 14 | 1996 | C | C5-C4-N4 | 5.15 | 123.81 | 120.20 |
| 26 | 14 | 2467 | C | N3-C2-O2 | -5.15 | 118.29 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 53 | J5 | 19 | ARG | NE-CZ-NH1 | -5.15 | 117.72 | 120.30 |
| 1 | 13 | 51 | A | C2-N3-C4 | -5.15 | 108.02 | 110.60 |
| 1 | 13 | 287 | U | C5-C6-N1 | -5.15 | 120.12 | 122.70 |
| 1 | 13 | 353 | A | N9-C4-C5 | 5.15 | 107.86 | 105.80 |
| 1 | 13 | 447 | G | C4-C5-N7 | 5.15 | 112.86 | 110.80 |
| 26 | 1H | 207 | A | N9-C4-C5 | -5.15 | 103.74 | 105.80 |
| 26 | 1H | 404 | C | N3-C4-C5 | 5.15 | 123.96 | 121.90 |
| 26 | 1H | 460 | A | N9-C4-C5 | -5.15 | 103.74 | 105.80 |
| 26 | 1H | 763 | G | N9-C4-C5 | 5.15 | 107.46 | 105.40 |
| 26 | 1H | 826 | U | C6-N1-C1' | 5.15 | 128.41 | 121.20 |
| 26 | 1H | 1238 | G | C8-N9-C1' | 5.15 | 133.70 | 127.00 |
| 26 | 1H | 1614 | A | O4'-C1'-N9 | 5.15 | 112.32 | 108.20 |
| 26 | 1H | 1726 | G | C2-N3-C4 | -5.15 | 109.32 | 111.90 |
| 26 | 1H | 2523 | G | OP2-P-O3' | 5.15 | 116.54 | 105.20 |
| 26 | 1H | 2667 | C | N3-C2-O2 | 5.15 | 125.51 | 121.90 |
| 26 | 1H | 2670 | A | N1-C2-N3 | 5.15 | 131.88 | 129.30 |
| 27 | 16 | 2 | C | C6-N1-C2 | -5.15 | 118.24 | 120.30 |
| 27 | 16 | 96 | G | C4-C5-C6 | -5.15 | 115.71 | 118.80 |
| 54 | P8 | 3 | ARG | NE-CZ-NH2 | -5.15 | 117.72 | 120.30 |
| 1 | 1G | 381 | C | C6-N1-C2 | 5.15 | 122.36 | 120.30 |
| 1 | 1G | 707 | C | C5-C4-N4 | -5.15 | 116.59 | 120.20 |
| 1 | 1G | 1423 | G | O5'-P-OP2 | -5.15 | 101.06 | 105.70 |
| 57 | 3L | 49 | G | C4-N9-C1' | 5.15 | 133.20 | 126.50 |
| 26 | 14 | 377 | C | N3-C4-C5 | -5.15 | 119.84 | 121.90 |
| 26 | 14 | 389 | G | C8-N9-C4 | 5.15 | 108.46 | 106.40 |
| 26 | 14 | 650 | C | N3-C2-O2 | -5.15 | 118.29 | 121.90 |
| 26 | 14 | 987 | G | C2-N3-C4 | 5.15 | 114.48 | 111.90 |
| 26 | 14 | 1245 | G | N7-C8-N9 | 5.15 | 115.68 | 113.10 |
| 26 | 14 | 1271 | G | OP2-P-O3' | 5.15 | 116.54 | 105.20 |
| 26 | 14 | 1689 | A | N7-C8-N9 | 5.15 | 116.38 | 113.80 |
| 26 | 14 | 1778 | U | C2-N3-C4 | 5.15 | 130.09 | 127.00 |
| 26 | 14 | 1954 | G | N3-C4-C5 | -5.15 | 126.02 | 128.60 |
| 26 | 14 | 2240 | C | OP2-P-O3' | 5.15 | 116.53 | 105.20 |
| 26 | 14 | 2336 | A | OP1-P-O3' | 5.15 | 116.54 | 105.20 |
| 26 | 14 | 2461 | C | C2-N3-C4 | -5.15 | 117.32 | 119.90 |
| 1 | 13 | 1159 | U | C4-C5-C6 | 5.15 | 122.79 | 119.70 |
| 26 | 1H | 195 | A | OP1-P-O3' | -5.15 | 93.87 | 105.20 |
| 26 | 1H | 786 | C | C6-N1-C1' | 5.15 | 126.98 | 120.80 |
| 26 | 1H | 868 | U | O5'-P-OP2 | -5.15 | 101.06 | 105.70 |
| 26 | 1H | 1190 | G | C5'-C4'-C3' | -5.15 | 107.76 | 116.00 |
| 26 | 1H | 1441 | G | C8-N9-C4 | 5.15 | 108.46 | 106.40 |
| 26 | 1H | 1526 | G | OP1-P-OP2 | -5.15 | 111.87 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1711 | C | C6-N1-C2 | -5.15 | 118.24 | 120.30 |
| 27 | 16 | 110 | G | O5'-P-OP2 | 5.15 | 116.88 | 110.70 |
| 1 | 1G | 1125 | U | C6-N1-C2 | 5.15 | 124.09 | 121.00 |
| 1 | 1G | 1467 | G | N3-C4-N9 | -5.15 | 122.91 | 126.00 |
| 23 | 2L | 44 | A | N7-C8-N9 | -5.15 | 111.22 | 113.80 |
| 26 | 14 | 268 | C | C5-C4-N4 | -5.15 | 116.59 | 120.20 |
| 26 | 14 | 782 | A | C4-C5-C6 | 5.15 | 119.58 | 117.00 |
| 26 | 14 | 925 | C | OP1-P-OP2 | 5.15 | 127.33 | 119.60 |
| 26 | 14 | 1608 | A | C5-N7-C8 | 5.15 | 106.47 | 103.90 |
| 26 | 14 | 1682 | G | C4-C5-N7 | -5.15 | 108.74 | 110.80 |
| 26 | 14 | 1822 | G | N1-C2-N2 | 5.15 | 120.83 | 116.20 |
| 26 | 14 | 2016 | U | N3-C4-O4 | 5.15 | 123.00 | 119.40 |
| 26 | 14 | 2059 | A | C2-N3-C4 | 5.15 | 113.17 | 110.60 |
| 26 | 14 | 2492 | U | C6-N1-C2 | -5.15 | 117.91 | 121.00 |
| 26 | 14 | 2608 | G | N3-C2-N2 | -5.15 | 116.29 | 119.90 |
| 1 | 13 | 1255 | G | C8-N9-C4 | 5.15 | 108.46 | 106.40 |
| 26 | 1H | 124 | G | C4-C5-N7 | 5.15 | 112.86 | 110.80 |
| 26 | 1H | 182 | A | C5-C6-N6 | -5.15 | 119.58 | 123.70 |
| 26 | 1H | 574 | C | C6-N1-C1' | 5.15 | 126.98 | 120.80 |
| 26 | 1H | 1522 | G | N1-C2-N2 | 5.15 | 120.83 | 116.20 |
| 26 | 1H | 1917 | U | N1-C2-O2 | 5.15 | 126.40 | 122.80 |
| 26 | 1H | 2663 | G | N3-C2-N2 | -5.15 | 116.30 | 119.90 |
| 29 | 19 | 105 | ILE | CG1-CB-CG2 | 5.15 | 122.73 | 111.40 |
| 1 | 13 | 608 | A | C4-C5-C6 | -5.15 | 114.43 | 117.00 |
| 1 | 13 | 774 | G | N3-C4-N9 | 5.15 | 129.09 | 126.00 |
| 1 | 13 | 1253 | G | N3-C2-N2 | 5.15 | 123.50 | 119.90 |
| 23 | 2K | 12 | G | N7-C8-N9 | -5.15 | 110.53 | 113.10 |
| 23 | 2K | 53 | G | C4-C5-N7 | 5.15 | 112.86 | 110.80 |
| 26 | 1H | 96 | G | C5-N7-C8 | -5.15 | 101.73 | 104.30 |
| 26 | 1H | 397 | G | OP1-P-OP2 | 5.15 | 127.32 | 119.60 |
| 26 | 1H | 500 | G | C5-C6-O6 | 5.15 | 131.69 | 128.60 |
| 26 | 1H | 820 | A | C8-N9-C4 | 5.15 | 107.86 | 105.80 |
| 26 | 1H | 964 | C | C2-N3-C4 | -5.15 | 117.33 | 119.90 |
| 26 | 1H | 1166 | C | N3-C4-N4 | 5.15 | 121.60 | 118.00 |
| 26 | 1H | 1374 | G | N7-C8-N9 | 5.15 | 115.67 | 113.10 |
| 26 | 1H | 1440 | G | C5-C6-O6 | 5.15 | 131.69 | 128.60 |
| 26 | 1H | 1667 | G | N3-C4-C5 | 5.15 | 131.17 | 128.60 |
| 26 | 1H | 2503 | A | C2-N3-C4 | 5.15 | 113.17 | 110.60 |
| 26 | 1H | 2578 | G | P-O3'-C3' | 5.15 | 125.88 | 119.70 |
| 26 | 1H | 2606 | C | OP2-P-O3' | 5.15 | 116.53 | 105.20 |
| 26 | 1H | 2645 | G | C8-N9-C1' | -5.15 | 120.31 | 127.00 |
| 26 | 1H | 2826 | A | C5-N7-C8 | 5.15 | 106.47 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-------------|-------|-------------|----------|
| 1 | 1G | 264 | U | N3-C4-O4 | 5.15 | 123.00 | 119.40 |
| 1 | 1G | 1382 | C | N1-C2-O2 | 5.15 | 121.99 | 118.90 |
| 26 | 14 | 141 | A | N3-C4-C5 | 5.15 | 130.40 | 126.80 |
| 26 | 14 | 869 | G | OP1-P-O3' | 5.15 | 116.53 | 105.20 |
| 26 | 14 | 2246 | G | OP1-P-OP2 | 5.15 | 127.32 | 119.60 |
| 26 | 14 | 2527 | C | N3-C2-O2 | -5.15 | 118.30 | 121.90 |
| 26 | 1H | 966 | G | N9-C4-C5 | 5.15 | 107.46 | 105.40 |
| 26 | 1H | 1026 | U | C4-C5-C6 | 5.15 | 122.79 | 119.70 |
| 26 | 1H | 1235 | G | C6-C5-N7 | -5.15 | 127.31 | 130.40 |
| 26 | 1H | 1549 | C | N3-C4-N4 | -5.15 | 114.40 | 118.00 |
| 1 | 1G | 1095 | U | N1-C2-N3 | 5.15 | 117.99 | 114.90 |
| 26 | 14 | 315 | G | N1-C2-N2 | -5.15 | 111.57 | 116.20 |
| 26 | 14 | 664 | C | C2-N1-C1' | -5.15 | 113.14 | 118.80 |
| 26 | 14 | 1002 | G | C5-C6-O6 | 5.15 | 131.69 | 128.60 |
| 26 | 14 | 1518 | C | N3-C4-C5 | -5.15 | 119.84 | 121.90 |
| 26 | 14 | 2356 | C | C6-N1-C2 | 5.15 | 122.36 | 120.30 |
| 1 | 13 | 1083 | U | O5'-P-OP2 | 5.14 | 116.87 | 110.70 |
| 26 | 1H | 449 | A | OP2-P-O3' | -5.14 | 93.88 | 105.20 |
| 26 | 1H | 488 | G | OP1-P-O3' | 5.14 | 116.52 | 105.20 |
| 26 | 1H | 1617 | C | C5'-C4'-O4' | -5.14 | 102.93 | 109.10 |
| 26 | 1H | 1859 | A | OP1-P-OP2 | -5.14 | 111.88 | 119.60 |
| 26 | 1H | 1901 | A | N3-C4-N9 | 5.14 | 131.51 | 127.40 |
| 26 | 1H | 1992 | G | C2'-C3'-O3' | 5.14 | 121.93 | 113.70 |
| 26 | 1H | 2002 | G | C5-C6-N1 | 5.14 | 114.07 | 111.50 |
| 26 | 1H | 2088 | G | N1-C6-O6 | -5.14 | 116.81 | 119.90 |
| 26 | 1H | 2291 | U | OP2-P-O3' | 5.14 | 116.52 | 105.20 |
| 26 | 1H | 2333 | A | O5'-P-OP1 | 5.14 | 116.87 | 110.70 |
| 26 | 1H | 2513 | G | C4-N9-C1' | 5.14 | 133.19 | 126.50 |
| 26 | 1H | 2541 | A | C4-C5-C6 | -5.14 | 114.43 | 117.00 |
| 26 | 1H | 2708 | G | C6-N1-C2 | -5.14 | 122.01 | 125.10 |
| 27 | 16 | 30 | C | C5-C6-N1 | 5.14 | 123.57 | 121.00 |
| 27 | 16 | 115 | G | OP1-P-O3' | -5.14 | 93.88 | 105.20 |
| 1 | 1G | 218 | C | C6-N1-C2 | -5.14 | 118.24 | 120.30 |
| 1 | 1G | 1090 | U | C6-N1-C2 | -5.14 | 117.91 | 121.00 |
| 26 | 14 | 330 | A | C6-N1-C2 | 5.14 | 121.69 | 118.60 |
| 26 | 14 | 456 | C | N3-C4-N4 | 5.14 | 121.60 | 118.00 |
| 26 | 14 | 525 | U | N1-C2-O2 | -5.14 | 119.20 | 122.80 |
| 26 | 14 | 982 | C | O4'-C1'-N1 | -5.14 | 104.08 | 108.20 |
| 26 | 14 | 1610 | A | C2-N3-C4 | -5.14 | 108.03 | 110.60 |
| 26 | 14 | 2731 | G | C6-N1-C2 | -5.14 | 122.01 | 125.10 |
| 1 | 13 | 14 | U | N1-C2-O2 | -5.14 | 119.20 | 122.80 |
| 1 | 13 | 191(D) | U | C5-C6-N1 | 5.14 | 125.27 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 498 | A | N3-C4-C5 | -5.14 | 123.20 | 126.80 |
| 1 | 13 | 712 | A | C4-C5-N7 | -5.14 | 108.13 | 110.70 |
| 1 | 13 | 1482 | G | N3-C2-N2 | -5.14 | 116.30 | 119.90 |
| 26 | 1H | 529 | A | C4-C5-N7 | 5.14 | 113.27 | 110.70 |
| 26 | 1H | 875 | G | N9-C4-C5 | -5.14 | 103.34 | 105.40 |
| 26 | 1H | 1163 | G | C8-N9-C4 | -5.14 | 104.34 | 106.40 |
| 26 | 1H | 1726 | G | C6-C5-N7 | 5.14 | 133.49 | 130.40 |
| 26 | 1H | 1728 | G | C6-C5-N7 | -5.14 | 127.31 | 130.40 |
| 26 | 1H | 1813 | G | N9-C4-C5 | 5.14 | 107.46 | 105.40 |
| 26 | 1H | 1817 | G | OP1-P-O3' | -5.14 | 93.89 | 105.20 |
| 26 | 1H | 1968 | G | N9-C4-C5 | -5.14 | 103.34 | 105.40 |
| 26 | 1H | 2042 | A | N3-C4-C5 | 5.14 | 130.40 | 126.80 |
| 26 | 1H | 2258 | C | C2-N3-C4 | -5.14 | 117.33 | 119.90 |
| 26 | 1H | 2330 | G | O5'-P-OP1 | 5.14 | 116.87 | 110.70 |
| 27 | 16 | 68 | C | C6-N1-C2 | 5.14 | 122.36 | 120.30 |
| 1 | 1G | 26 | A | C5-N7-C8 | 5.14 | 106.47 | 103.90 |
| 1 | 1G | 306 | G | N7-C8-N9 | 5.14 | 115.67 | 113.10 |
| 26 | 14 | 972 | G | P-O3'-C3' | 5.14 | 125.87 | 119.70 |
| 26 | 14 | 1154 | G | OP2-P-O3' | 5.14 | 116.52 | 105.20 |
| 26 | 14 | 1732 | A | C2-N3-C4 | -5.14 | 108.03 | 110.60 |
| 26 | 14 | 2362 | G | N3-C2-N2 | -5.14 | 116.30 | 119.90 |
| 26 | 14 | 2418 | A | C5-C6-N1 | 5.14 | 120.27 | 117.70 |
| 26 | 14 | 2808 | U | N3-C2-O2 | 5.14 | 125.80 | 122.20 |
| 42 | 85 | 109 | LEU | CB-CG-CD2 | -5.14 | 102.26 | 111.00 |
| 23 | 2K | 54 | G | C5-C6-N1 | -5.14 | 108.93 | 111.50 |
| 26 | 1H | 241 | A | C5-C6-N1 | 5.14 | 120.27 | 117.70 |
| 26 | 1H | 821 | A | O5'-P-OP2 | -5.14 | 101.07 | 105.70 |
| 26 | 1H | 2366 | A | N1-C2-N3 | 5.14 | 131.87 | 129.30 |
| 1 | 1G | 303 | A | C5-C6-N1 | -5.14 | 115.13 | 117.70 |
| 1 | 1G | 518 | C | C5-C6-N1 | -5.14 | 118.43 | 121.00 |
| 26 | 14 | 125 | G | N1-C2-N2 | 5.14 | 120.83 | 116.20 |
| 26 | 14 | 173 | G | N1-C6-O6 | 5.14 | 122.98 | 119.90 |
| 26 | 14 | 638 | G | N1-C6-O6 | 5.14 | 122.98 | 119.90 |
| 26 | 14 | 744 | G | C6-C5-N7 | -5.14 | 127.31 | 130.40 |
| 26 | 14 | 1665 | A | N1-C2-N3 | 5.14 | 131.87 | 129.30 |
| 26 | 14 | 2599 | G | N1-C2-N3 | 5.14 | 126.98 | 123.90 |
| 27 | 1J | 100 | G | N7-C8-N9 | -5.14 | 110.53 | 113.10 |
| 23 | 2K | 62 | C | OP1-P-OP2 | 5.14 | 127.31 | 119.60 |
| 26 | 1H | 26 | G | C2-N3-C4 | -5.14 | 109.33 | 111.90 |
| 26 | 1H | 40 | C | C5-C6-N1 | -5.14 | 118.43 | 121.00 |
| 26 | 1H | 237 | C | C6-N1-C2 | 5.14 | 122.36 | 120.30 |
| 26 | 1H | 463 | G | C4-N9-C1' | -5.14 | 119.82 | 126.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 979 | G | N1-C2-N2 | 5.14 | 120.83 | 116.20 |
| 26 | 1H | 1431 | U | OP1-P-OP2 | -5.14 | 111.89 | 119.60 |
| 26 | 1H | 1485 | G | C8-N9-C4 | 5.14 | 108.46 | 106.40 |
| 26 | 1H | 1650 | G | N1-C2-N3 | 5.14 | 126.98 | 123.90 |
| 26 | 1H | 2210 | G | C5-C6-O6 | 5.14 | 131.68 | 128.60 |
| 1 | 1G | 132 | C | N3-C4-C5 | -5.14 | 119.84 | 121.90 |
| 1 | 1G | 513 | C | N3-C4-C5 | -5.14 | 119.84 | 121.90 |
| 26 | 14 | 373 | U | C6-N1-C1' | -5.14 | 114.00 | 121.20 |
| 26 | 14 | 399 | G | N7-C8-N9 | -5.14 | 110.53 | 113.10 |
| 26 | 14 | 870 | A | C8-N9-C4 | 5.14 | 107.86 | 105.80 |
| 26 | 14 | 1285 | G | OP1-P-O3' | -5.14 | 93.89 | 105.20 |
| 26 | 14 | 2027 | G | C2-N3-C4 | -5.14 | 109.33 | 111.90 |
| 26 | 14 | 2035 | G | C5-N7-C8 | 5.14 | 106.87 | 104.30 |
| 31 | 39 | 95 | ARG | NE-CZ-NH1 | -5.14 | 117.73 | 120.30 |
| 1 | 13 | 973 | G | N3-C4-C5 | -5.14 | 126.03 | 128.60 |
| 1 | 13 | 1424 | C | OP1-P-OP2 | -5.14 | 111.89 | 119.60 |
| 26 | 1H | 96 | G | OP1-P-OP2 | 5.14 | 127.31 | 119.60 |
| 26 | 1H | 113 | G | C5-N7-C8 | -5.14 | 101.73 | 104.30 |
| 26 | 1H | 192 | C | N3-C4-C5 | 5.14 | 123.95 | 121.90 |
| 26 | 1H | 2781 | A | C4-C5-N7 | 5.14 | 113.27 | 110.70 |
| 27 | 16 | 6 | C | C2-N1-C1' | -5.14 | 113.15 | 118.80 |
| 27 | 16 | 9 | G | C5-N7-C8 | -5.14 | 101.73 | 104.30 |
| 23 | 2L | 19 | G | C8-N9-C1' | 5.14 | 133.68 | 127.00 |
| 26 | 14 | 245 | G | C8-N9-C1' | -5.14 | 120.32 | 127.00 |
| 26 | 14 | 2718 | G | N7-C8-N9 | 5.14 | 115.67 | 113.10 |
| 40 | 65 | 101 | LEU | CB-CG-CD1 | 5.14 | 119.73 | 111.00 |
| 1 | 13 | 313 | A | C8-N9-C4 | -5.14 | 103.75 | 105.80 |
| 1 | 13 | 1238 | A | N7-C8-N9 | 5.14 | 116.37 | 113.80 |
| 1 | 13 | 1420 | C | C5-C6-N1 | -5.14 | 118.43 | 121.00 |
| 26 | 1H | 74 | A | O4'-C1'-N9 | -5.14 | 104.09 | 108.20 |
| 26 | 1H | 462 | C | C6-N1-C2 | -5.14 | 118.25 | 120.30 |
| 26 | 1H | 682 | G | OP1-P-OP2 | 5.14 | 127.31 | 119.60 |
| 26 | 1H | 804 | A | OP1-P-O3' | 5.14 | 116.50 | 105.20 |
| 26 | 1H | 1028 | A | OP2-P-O3' | 5.14 | 116.50 | 105.20 |
| 26 | 1H | 1290 | C | N3-C2-O2 | 5.14 | 125.50 | 121.90 |
| 26 | 1H | 1381 | G | N9-C4-C5 | 5.14 | 107.45 | 105.40 |
| 26 | 1H | 1388 | G | C5-N7-C8 | -5.14 | 101.73 | 104.30 |
| 26 | 1H | 1440 | G | C2-N3-C4 | -5.14 | 109.33 | 111.90 |
| 26 | 1H | 2283 | C | OP1-P-OP2 | -5.14 | 111.90 | 119.60 |
| 48 | I8 | 75 | LEU | CA-CB-CG | -5.14 | 103.49 | 115.30 |
| 1 | 1G | 527 | G | N1-C6-O6 | -5.14 | 116.82 | 119.90 |
| 1 | 1G | 899 | C | C6-N1-C1' | -5.14 | 114.64 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 1325 | C | N3-C2-O2 | -5.14 | 118.31 | 121.90 |
| 1 | 1G | 1500 | A | C5-N7-C8 | -5.14 | 101.33 | 103.90 |
| 1 | 1G | 1528 | U | N3-C4-C5 | 5.14 | 117.68 | 114.60 |
| 25 | 4L | 19 | A | O5'-P-OP2 | -5.14 | 101.08 | 105.70 |
| 26 | 14 | 304 | G | N7-C8-N9 | 5.14 | 115.67 | 113.10 |
| 26 | 14 | 515 | A | OP2-P-O3' | 5.14 | 116.50 | 105.20 |
| 26 | 14 | 748 | G | O5'-P-OP1 | -5.14 | 101.08 | 105.70 |
| 26 | 14 | 1186 | G | C8-N9-C1' | -5.14 | 120.32 | 127.00 |
| 26 | 14 | 1428 | C | C4-C5-C6 | 5.14 | 119.97 | 117.40 |
| 26 | 14 | 1703 | G | N1-C2-N3 | 5.14 | 126.98 | 123.90 |
| 26 | 14 | 2049 | G | C5-C6-N1 | 5.14 | 114.07 | 111.50 |
| 26 | 14 | 2374 | C | C5-C4-N4 | -5.14 | 116.60 | 120.20 |
| 26 | 14 | 2581 | G | N7-C8-N9 | 5.14 | 115.67 | 113.10 |
| 1 | 13 | 668 | G | N1-C6-O6 | 5.13 | 122.98 | 119.90 |
| 1 | 13 | 714 | G | C5-C6-N1 | 5.13 | 114.07 | 111.50 |
| 1 | 13 | 898 | G | C5-N7-C8 | -5.13 | 101.73 | 104.30 |
| 1 | 13 | 946 | A | O5'-P-OP1 | -5.13 | 101.08 | 105.70 |
| 23 | 2K | 17 | C | C5-C6-N1 | 5.13 | 123.57 | 121.00 |
| 26 | 1H | 737 | C | OP1-P-O3' | -5.13 | 93.90 | 105.20 |
| 26 | 1H | 1440 | G | C5-N7-C8 | 5.13 | 106.87 | 104.30 |
| 26 | 1H | 1824 | G | OP1-P-OP2 | -5.13 | 111.90 | 119.60 |
| 26 | 1H | 2060 | A | C4-C5-N7 | 5.13 | 113.27 | 110.70 |
| 26 | 1H | 2517 | C | N3-C4-C5 | 5.13 | 123.95 | 121.90 |
| 49 | J8 | 7 | ILE | CA-CB-CG1 | -5.13 | 101.24 | 111.00 |
| 1 | 1G | 333 | G | OP2-P-O3' | 5.13 | 116.50 | 105.20 |
| 26 | 14 | 388 | G | C6-C5-N7 | 5.13 | 133.48 | 130.40 |
| 26 | 14 | 568 | U | C6-N1-C2 | 5.13 | 124.08 | 121.00 |
| 26 | 14 | 1339 | G | N1-C2-N3 | 5.13 | 126.98 | 123.90 |
| 26 | 14 | 1805 | U | N1-C2-N3 | 5.13 | 117.98 | 114.90 |
| 26 | 14 | 1828 | G | C6-N1-C2 | -5.13 | 122.02 | 125.10 |
| 26 | 14 | 2002 | G | C5-C6-O6 | -5.13 | 125.52 | 128.60 |
| 26 | 14 | 2810 | A | C8-N9-C4 | 5.13 | 107.85 | 105.80 |
| 26 | 14 | 2851 | A | O5'-P-OP1 | -5.13 | 101.08 | 105.70 |
| 1 | 13 | 559 | A | N7-C8-N9 | 5.13 | 116.37 | 113.80 |
| 24 | 3K | 34 | U | C5-C6-N1 | 5.13 | 125.27 | 122.70 |
| 26 | 1H | 1606 | G | C5-N7-C8 | 5.13 | 106.87 | 104.30 |
| 26 | 1H | 1666 | G | N1-C2-N2 | -5.13 | 111.58 | 116.20 |
| 26 | 1H | 1674 | G | N1-C6-O6 | 5.13 | 122.98 | 119.90 |
| 26 | 1H | 2341 | G | OP1-P-O3' | 5.13 | 116.49 | 105.20 |
| 26 | 1H | 2545 | G | C5-C6-N1 | 5.13 | 114.07 | 111.50 |
| 26 | 1H | 2741 | A | O4'-C1'-N9 | -5.13 | 104.09 | 108.20 |
| 1 | 1G | 754 | C | N1-C2-O2 | 5.13 | 121.98 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 899 | C | C6-N1-C2 | 5.13 | 122.35 | 120.30 |
| 1 | 1G | 1443 | G | C2-N3-C4 | -5.13 | 109.33 | 111.90 |
| 1 | 1G | 1508 | G | N3-C2-N2 | 5.13 | 123.49 | 119.90 |
| 26 | 14 | 175 | G | OP2-P-O3' | 5.13 | 116.49 | 105.20 |
| 26 | 14 | 700 | G | C2-N3-C4 | 5.13 | 114.47 | 111.90 |
| 26 | 14 | 1480 | G | N3-C4-C5 | 5.13 | 131.17 | 128.60 |
| 1 | 13 | 172 | A | C4-C5-C6 | 5.13 | 119.57 | 117.00 |
| 1 | 13 | 655 | A | C5-N7-C8 | -5.13 | 101.33 | 103.90 |
| 23 | 2K | 58 | A | C6-N1-C2 | -5.13 | 115.52 | 118.60 |
| 26 | 1H | 96 | G | C5-C6-O6 | -5.13 | 125.52 | 128.60 |
| 26 | 1H | 561 | G | C5-C6-O6 | 5.13 | 131.68 | 128.60 |
| 26 | 1H | 1119 | C | N3-C2-O2 | -5.13 | 118.31 | 121.90 |
| 26 | 1H | 1127 | A | N1-C2-N3 | -5.13 | 126.73 | 129.30 |
| 26 | 1H | 1415 | U | O5'-P-OP2 | -5.13 | 101.08 | 105.70 |
| 26 | 1H | 1817 | G | C2-N3-C4 | -5.13 | 109.33 | 111.90 |
| 26 | 1H | 1954 | G | N1-C2-N2 | -5.13 | 111.58 | 116.20 |
| 26 | 1H | 2271 | G | N1-C2-N2 | -5.13 | 111.58 | 116.20 |
| 26 | 1H | 2489 | G | C2-N3-C4 | -5.13 | 109.33 | 111.90 |
| 26 | 1H | 2680 | C | N1-C2-N3 | 5.13 | 122.79 | 119.20 |
| 1 | 1G | 713 | G | C8-N9-C4 | -5.13 | 104.35 | 106.40 |
| 1 | 1G | 917 | G | C4-C5-N7 | 5.13 | 112.85 | 110.80 |
| 1 | 1G | 1267 | C | C5-C6-N1 | 5.13 | 123.57 | 121.00 |
| 11 | 2A | 63 | LEU | CA-CB-CG | 5.13 | 127.10 | 115.30 |
| 26 | 14 | 36 | G | N1-C6-O6 | -5.13 | 116.82 | 119.90 |
| 26 | 14 | 663 | G | OP1-P-OP2 | 5.13 | 127.30 | 119.60 |
| 26 | 14 | 821 | A | N7-C8-N9 | 5.13 | 116.36 | 113.80 |
| 26 | 14 | 919 | G | N3-C2-N2 | -5.13 | 116.31 | 119.90 |
| 26 | 14 | 1225 | C | N3-C2-O2 | 5.13 | 125.49 | 121.90 |
| 26 | 14 | 1269 | A | C2-N3-C4 | -5.13 | 108.03 | 110.60 |
| 26 | 14 | 1913 | A | N1-C2-N3 | -5.13 | 126.73 | 129.30 |
| 26 | 14 | 1915 | U | C6-N1-C2 | -5.13 | 117.92 | 121.00 |
| 26 | 14 | 2311 | A | C8-N9-C4 | -5.13 | 103.75 | 105.80 |
| 26 | 14 | 2424 | C | C5-C4-N4 | 5.13 | 123.79 | 120.20 |
| 26 | 14 | 2619 | C | C2-N1-C1' | -5.13 | 113.16 | 118.80 |
| 1 | 13 | 254 | G | O5'-P-OP2 | 5.13 | 116.86 | 110.70 |
| 1 | 13 | 726 | C | C2-N1-C1' | 5.13 | 124.44 | 118.80 |
| 6 | 5E | 87 | ARG | NE-CZ-NH2 | -5.13 | 117.73 | 120.30 |
| 23 | 2K | 6 | G | C5-C6-O6 | -5.13 | 125.52 | 128.60 |
| 26 | 1H | 36 | G | N3-C2-N2 | -5.13 | 116.31 | 119.90 |
| 26 | 1H | 290 | G | C8-N9-C1' | -5.13 | 120.33 | 127.00 |
| 26 | 1H | 456 | C | C2-N1-C1' | 5.13 | 124.44 | 118.80 |
| 26 | 1H | 477 | A | C4-C5-N7 | -5.13 | 108.14 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 664 | C | C2-N1-C1' | -5.13 | 113.16 | 118.80 |
| 26 | 1H | 1187 | G | N1-C2-N3 | -5.13 | 120.82 | 123.90 |
| 26 | 1H | 1309 | G | O5'-P-OP1 | 5.13 | 116.86 | 110.70 |
| 26 | 1H | 1427 | A | C6-N1-C2 | -5.13 | 115.52 | 118.60 |
| 26 | 1H | 1909 | C | N3-C2-O2 | -5.13 | 118.31 | 121.90 |
| 26 | 1H | 2818 | G | C4-C5-N7 | -5.13 | 108.75 | 110.80 |
| 23 | 2L | 39 | A | N1-C6-N6 | 5.13 | 121.68 | 118.60 |
| 26 | 14 | 250 | G | C2-N3-C4 | 5.13 | 114.47 | 111.90 |
| 26 | 14 | 425 | G | N1-C2-N2 | 5.13 | 120.82 | 116.20 |
| 26 | 14 | 1631 | A | C5-N7-C8 | -5.13 | 101.33 | 103.90 |
| 26 | 14 | 2500 | U | C2-N1-C1' | -5.13 | 111.54 | 117.70 |
| 1 | 13 | 66 | G | OP1-P-OP2 | 5.13 | 127.29 | 119.60 |
| 1 | 13 | 802 | A | OP1-P-OP2 | 5.13 | 127.29 | 119.60 |
| 1 | 13 | 1470 | G | N3-C4-N9 | -5.13 | 122.92 | 126.00 |
| 24 | 3K | 71 | C | C2-N3-C4 | 5.13 | 122.47 | 119.90 |
| 26 | 1H | 915 | C | C5-C4-N4 | 5.13 | 123.79 | 120.20 |
| 26 | 1H | 1990 | C | O5'-P-OP1 | -5.13 | 101.08 | 105.70 |
| 26 | 1H | 2038 | G | C5-N7-C8 | 5.13 | 106.86 | 104.30 |
| 26 | 1H | 2452 | C | OP1-P-OP2 | 5.13 | 127.29 | 119.60 |
| 26 | 1H | 2480 | C | O5'-P-OP2 | -5.13 | 101.08 | 105.70 |
| 26 | 1H | 2493 | U | N1-C2-O2 | -5.13 | 119.21 | 122.80 |
| 26 | 1H | 2742 | C | C5-C6-N1 | 5.13 | 123.56 | 121.00 |
| 1 | 1G | 197 | A | C4-C5-C6 | 5.13 | 119.56 | 117.00 |
| 1 | 1G | 392 | G | N1-C6-O6 | 5.13 | 122.98 | 119.90 |
| 1 | 1G | 639 | G | C5-C6-N1 | -5.13 | 108.94 | 111.50 |
| 1 | 1G | 673 | G | N3-C2-N2 | -5.13 | 116.31 | 119.90 |
| 1 | 1G | 1316 | G | C5-C6-O6 | 5.13 | 131.68 | 128.60 |
| 26 | 14 | 132 | G | C8-N9-C4 | 5.13 | 108.45 | 106.40 |
| 26 | 14 | 184 | C | OP2-P-O3' | 5.13 | 116.48 | 105.20 |
| 26 | 14 | 406 | G | C5-C6-N1 | -5.13 | 108.94 | 111.50 |
| 26 | 14 | 452 | G | N9-C4-C5 | 5.13 | 107.45 | 105.40 |
| 26 | 14 | 1995 | U | C6-N1-C2 | -5.13 | 117.92 | 121.00 |
| 1 | 13 | 294 | U | C6-N1-C2 | -5.13 | 117.92 | 121.00 |
| 1 | 13 | 758 | G | N3-C4-C5 | 5.13 | 131.16 | 128.60 |
| 1 | 13 | 976 | G | C8-N9-C4 | 5.13 | 108.45 | 106.40 |
| 1 | 13 | 1406 | U | C4-C5-C6 | 5.13 | 122.78 | 119.70 |
| 24 | 3K | 44 | U | N1-C2-O2 | 5.13 | 126.39 | 122.80 |
| 26 | 1H | 151 | C | C4-C5-C6 | -5.13 | 114.84 | 117.40 |
| 26 | 1H | 264 | C | C5-C4-N4 | -5.13 | 116.61 | 120.20 |
| 26 | 1H | 975 | G | C8-N9-C4 | 5.13 | 108.45 | 106.40 |
| 26 | 1H | 1011 | G | O5'-P-OP2 | 5.13 | 116.85 | 110.70 |
| 26 | 1H | 1435 | G | N9-C4-C5 | 5.13 | 107.45 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1622 | G | C6-N1-C2 | -5.13 | 122.03 | 125.10 |
| 26 | 1H | 2414 | G | N9-C4-C5 | 5.13 | 107.45 | 105.40 |
| 26 | 1H | 2758 | A | C4-C5-N7 | 5.13 | 113.26 | 110.70 |
| 26 | 14 | 1827 | C | O4'-C1'-N1 | 5.13 | 112.30 | 108.20 |
| 26 | 14 | 1906 | G | C6-C5-N7 | -5.13 | 127.33 | 130.40 |
| 26 | 14 | 2080 | G | OP1-P-OP2 | 5.13 | 127.29 | 119.60 |
| 1 | 13 | 224 | C | C6-N1-C2 | -5.12 | 118.25 | 120.30 |
| 1 | 13 | 672 | U | N3-C4-C5 | -5.12 | 111.53 | 114.60 |
| 26 | 1H | 1265 | A | C2-N3-C4 | -5.12 | 108.04 | 110.60 |
| 26 | 1H | 1386 | C | C6-N1-C1' | 5.12 | 126.95 | 120.80 |
| 26 | 1H | 2031 | A | N3-C4-C5 | -5.12 | 123.21 | 126.80 |
| 27 | 16 | 58 | A | C4-C5-C6 | -5.12 | 114.44 | 117.00 |
| 26 | 14 | 953 | A | N1-C6-N6 | 5.12 | 121.67 | 118.60 |
| 26 | 14 | 1824 | G | OP2-P-O3' | 5.12 | 116.48 | 105.20 |
| 26 | 14 | 2405 | G | OP2-P-O3' | -5.12 | 93.92 | 105.20 |
| 26 | 14 | 2724 | C | N1-C2-N3 | 5.12 | 122.79 | 119.20 |
| 26 | 14 | 2883 | A | C8-N9-C4 | 5.12 | 107.85 | 105.80 |
| 1 | 13 | 15 | G | OP1-P-O3' | 5.12 | 116.47 | 105.20 |
| 1 | 13 | 239 | U | O5'-P-OP1 | 5.12 | 116.85 | 110.70 |
| 1 | 13 | 754 | C | C6-N1-C2 | -5.12 | 118.25 | 120.30 |
| 26 | 1H | 226 | G | C8-N9-C4 | 5.12 | 108.45 | 106.40 |
| 26 | 1H | 512 | G | OP1-P-O3' | 5.12 | 116.47 | 105.20 |
| 26 | 1H | 817 | C | N1-C2-N3 | 5.12 | 122.79 | 119.20 |
| 26 | 1H | 1391 | U | C6-N1-C2 | -5.12 | 117.93 | 121.00 |
| 26 | 1H | 1496 | A | C6-N1-C2 | 5.12 | 121.67 | 118.60 |
| 26 | 1H | 1981 | A | OP1-P-O3' | 5.12 | 116.47 | 105.20 |
| 26 | 1H | 2050 | C | N3-C4-C5 | -5.12 | 119.85 | 121.90 |
| 26 | 1H | 2324 | C | N1-C1'-C2' | 5.12 | 120.66 | 114.00 |
| 27 | 16 | 112 | G | C2-N3-C4 | 5.12 | 114.46 | 111.90 |
| 1 | 1G | 454 | C | N3-C2-O2 | -5.12 | 118.31 | 121.90 |
| 1 | 1G | 609 | A | C8-N9-C4 | -5.12 | 103.75 | 105.80 |
| 1 | 1G | 1096 | C | C5-C6-N1 | 5.12 | 123.56 | 121.00 |
| 1 | 1G | 1499 | A | N9-C4-C5 | -5.12 | 103.75 | 105.80 |
| 26 | 14 | 445 | C | N3-C4-N4 | -5.12 | 114.41 | 118.00 |
| 26 | 14 | 872 | A | C5-C6-N6 | -5.12 | 119.60 | 123.70 |
| 26 | 14 | 1583 | A | C2-N3-C4 | 5.12 | 113.16 | 110.60 |
| 26 | 14 | 2449 | U | C6-N1-C1' | -5.12 | 114.03 | 121.20 |
| 26 | 14 | 2488 | A | C2-N3-C4 | -5.12 | 108.04 | 110.60 |
| 26 | 14 | 2692 | C | C6-N1-C2 | -5.12 | 118.25 | 120.30 |
| 27 | 1J | 17 | C | N1-C2-O2 | 5.12 | 121.97 | 118.90 |
| 1 | 13 | 151 | A | C2-N3-C4 | 5.12 | 113.16 | 110.60 |
| 1 | 13 | 386 | C | C2-N1-C1' | -5.12 | 113.17 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 13 | 567 | G | OP1-P-O3' | 5.12 | 116.47 | 105.20 |
| 1 | 13 | 793 | U | C6-N1-C2 | -5.12 | 117.93 | 121.00 |
| 1 | 13 | 1101 | A | C6-N1-C2 | -5.12 | 115.53 | 118.60 |
| 1 | 13 | 1376 | U | N3-C4-O4 | -5.12 | 115.82 | 119.40 |
| 8 | 7E | 36 | LEU | CB-CG-CD2 | -5.12 | 102.29 | 111.00 |
| 26 | 1H | 283 | A | O5'-P-OP2 | -5.12 | 101.09 | 105.70 |
| 26 | 1H | 335 | C | C5-C6-N1 | 5.12 | 123.56 | 121.00 |
| 26 | 1H | 342 | G | OP1-P-O3' | 5.12 | 116.47 | 105.20 |
| 26 | 1H | 445 | C | OP1-P-OP2 | -5.12 | 111.92 | 119.60 |
| 26 | 1H | 609 | A | C5-C6-N1 | -5.12 | 115.14 | 117.70 |
| 26 | 1H | 862 | G | N3-C4-N9 | 5.12 | 129.07 | 126.00 |
| 26 | 1H | 2274 | A | N3-C4-C5 | 5.12 | 130.38 | 126.80 |
| 26 | 1H | 2412 | A | N3-C4-C5 | -5.12 | 123.22 | 126.80 |
| 26 | 1H | 2639 | A | C6-C5-N7 | -5.12 | 128.72 | 132.30 |
| 1 | 1G | 750 | G | N1-C2-N3 | 5.12 | 126.97 | 123.90 |
| 26 | 14 | 96 | G | C8-N9-C4 | 5.12 | 108.45 | 106.40 |
| 26 | 14 | 137(A) | G | C6-C5-N7 | -5.12 | 127.33 | 130.40 |
| 26 | 14 | 203 | C | N3-C2-O2 | 5.12 | 125.48 | 121.90 |
| 26 | 14 | 564 | C | C5-C4-N4 | -5.12 | 116.61 | 120.20 |
| 26 | 14 | 2313 | C | C2-N3-C4 | 5.12 | 122.46 | 119.90 |
| 26 | 14 | 2348 | U | OP1-P-O3' | -5.12 | 93.93 | 105.20 |
| 1 | 13 | 308 | C | C6-N1-C2 | 5.12 | 122.35 | 120.30 |
| 1 | 13 | 521 | G | C5-C6-O6 | -5.12 | 125.53 | 128.60 |
| 26 | 1H | 88 | G | N1-C6-O6 | -5.12 | 116.83 | 119.90 |
| 26 | 1H | 1421 | G | C6-C5-N7 | -5.12 | 127.33 | 130.40 |
| 1 | 1G | 451 | A | C5-N7-C8 | 5.12 | 106.46 | 103.90 |
| 26 | 14 | 381 | G | C5-C6-N1 | -5.12 | 108.94 | 111.50 |
| 26 | 14 | 2094 | G | C8-N9-C4 | 5.12 | 108.45 | 106.40 |
| 26 | 14 | 2382 | G | N3-C2-N2 | 5.12 | 123.48 | 119.90 |
| 1 | 13 | 35 | G | C4-C5-C6 | 5.12 | 121.87 | 118.80 |
| 1 | 13 | 244 | U | C2-N1-C1' | 5.12 | 123.84 | 117.70 |
| 1 | 13 | 532 | A | C5-C6-N6 | -5.12 | 119.61 | 123.70 |
| 1 | 13 | 1047 | G | C4-C5-N7 | -5.12 | 108.75 | 110.80 |
| 1 | 13 | 1433 | A | C2-N3-C4 | -5.12 | 108.04 | 110.60 |
| 1 | 13 | 1433 | A | OP1-P-OP2 | 5.12 | 127.28 | 119.60 |
| 24 | 3K | 33 | U | C6-N1-C2 | 5.12 | 124.07 | 121.00 |
| 26 | 1H | 254 | G | N1-C2-N2 | 5.12 | 120.81 | 116.20 |
| 26 | 1H | 447 | A | OP2-P-O3' | 5.12 | 116.46 | 105.20 |
| 26 | 1H | 756 | C | C5-C6-N1 | 5.12 | 123.56 | 121.00 |
| 26 | 1H | 858 | U | OP2-P-O3' | 5.12 | 116.46 | 105.20 |
| 26 | 1H | 1342 | A | N3-C4-C5 | 5.12 | 130.38 | 126.80 |
| 26 | 1H | 1784 | A | C6-N1-C2 | 5.12 | 121.67 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1971 | A | C8-N9-C4 | 5.12 | 107.85 | 105.80 |
| 26 | 1H | 2743 | C | C5-C6-N1 | -5.12 | 118.44 | 121.00 |
| 1 | 1G | 114 | U | C5-C4-O4 | 5.12 | 128.97 | 125.90 |
| 1 | 1G | 138 | G | C5-C6-N1 | -5.12 | 108.94 | 111.50 |
| 1 | 1G | 950 | U | C6-N1-C2 | -5.12 | 117.93 | 121.00 |
| 26 | 14 | 592 | G | N3-C2-N2 | -5.12 | 116.32 | 119.90 |
| 26 | 14 | 700 | G | N3-C2-N2 | -5.12 | 116.32 | 119.90 |
| 26 | 14 | 1551 | C | C2-N3-C4 | -5.12 | 117.34 | 119.90 |
| 26 | 14 | 1963 | U | N3-C4-O4 | 5.12 | 122.98 | 119.40 |
| 26 | 14 | 1974 | C | C5-C4-N4 | -5.12 | 116.62 | 120.20 |
| 26 | 14 | 2348 | U | N3-C4-C5 | 5.12 | 117.67 | 114.60 |
| 26 | 14 | 2681 | C | C2-N3-C4 | -5.12 | 117.34 | 119.90 |
| 1 | 13 | 900 | A | O5'-P-OP1 | 5.12 | 116.84 | 110.70 |
| 1 | 13 | 1317 | C | N3-C2-O2 | -5.12 | 118.32 | 121.90 |
| 26 | 1H | 1277 | G | C4-N9-C1' | -5.12 | 119.85 | 126.50 |
| 26 | 1H | 2026 | C | N3-C4-C5 | 5.12 | 123.95 | 121.90 |
| 1 | 1G | 1387 | G | C8-N9-C4 | 5.12 | 108.45 | 106.40 |
| 26 | 14 | 860 | U | OP1-P-O3' | 5.12 | 116.46 | 105.20 |
| 26 | 14 | 1460 | A | C4-C5-C6 | -5.12 | 114.44 | 117.00 |
| 1 | 13 | 41 | G | N7-C8-N9 | -5.12 | 110.54 | 113.10 |
| 1 | 13 | 153 | C | N1-C2-O2 | 5.12 | 121.97 | 118.90 |
| 1 | 13 | 500 | G | C5-C6-O6 | -5.12 | 125.53 | 128.60 |
| 1 | 13 | 645 | C | N1-C2-O2 | 5.12 | 121.97 | 118.90 |
| 1 | 13 | 685 | G | O5'-P-OP1 | -5.12 | 101.10 | 105.70 |
| 26 | 1H | 127 | A | N3-C4-C5 | 5.12 | 130.38 | 126.80 |
| 26 | 1H | 471 | A | OP1-P-OP2 | -5.12 | 111.93 | 119.60 |
| 26 | 1H | 640 | C | C5-C6-N1 | -5.12 | 118.44 | 121.00 |
| 26 | 1H | 1028 | A | C2-N3-C4 | -5.12 | 108.04 | 110.60 |
| 26 | 1H | 2244 | U | N3-C4-O4 | -5.12 | 115.82 | 119.40 |
| 26 | 1H | 2255 | G | C6-N1-C2 | -5.12 | 122.03 | 125.10 |
| 26 | 1H | 2321 | G | O4'-C1'-N9 | 5.12 | 112.29 | 108.20 |
| 26 | 1H | 2426 | A | N7-C8-N9 | 5.12 | 116.36 | 113.80 |
| 1 | 1G | 386 | C | P-O3'-C3' | -5.12 | 113.56 | 119.70 |
| 1 | 1G | 912 | C | OP2-P-O3' | 5.12 | 116.45 | 105.20 |
| 26 | 14 | 1822 | G | N1-C2-N3 | 5.12 | 126.97 | 123.90 |
| 26 | 14 | 2065 | C | O5'-P-OP2 | -5.12 | 101.10 | 105.70 |
| 26 | 14 | 2508 | G | O5'-P-OP2 | 5.12 | 116.84 | 110.70 |
| 26 | 14 | 2555 | U | C5-C6-N1 | -5.12 | 120.14 | 122.70 |
| 1 | 13 | 275 | G | C2-N3-C4 | 5.11 | 114.46 | 111.90 |
| 1 | 13 | 307 | C | OP1-P-OP2 | 5.11 | 127.27 | 119.60 |
| 1 | 13 | 347 | G | O5'-P-OP1 | -5.11 | 101.10 | 105.70 |
| 1 | 13 | 721 | G | OP1-P-OP2 | 5.11 | 127.27 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 1075 | C | C4-C5-C6 | -5.11 | 114.84 | 117.40 |
| 26 | 1H | 188 | G | N1-C2-N2 | -5.11 | 111.60 | 116.20 |
| 26 | 1H | 286 | C | N1-C2-O2 | 5.11 | 121.97 | 118.90 |
| 26 | 1H | 360 | G | C4-C5-N7 | 5.11 | 112.85 | 110.80 |
| 26 | 1H | 989 | G | N7-C8-N9 | 5.11 | 115.66 | 113.10 |
| 26 | 1H | 1309 | G | C5-C6-N1 | -5.11 | 108.94 | 111.50 |
| 26 | 1H | 1898 | U | OP1-P-O3' | 5.11 | 116.45 | 105.20 |
| 26 | 1H | 1961 | C | N3-C4-N4 | 5.11 | 121.58 | 118.00 |
| 26 | 1H | 2212 | A | C5-C6-N1 | -5.11 | 115.14 | 117.70 |
| 26 | 1H | 2380 | C | N3-C4-C5 | 5.11 | 123.94 | 121.90 |
| 26 | 1H | 2670 | A | C2-N3-C4 | -5.11 | 108.04 | 110.60 |
| 26 | 1H | 2684 | U | C4-C5-C6 | 5.11 | 122.77 | 119.70 |
| 27 | 16 | 20 | C | C6-N1-C2 | 5.11 | 122.34 | 120.30 |
| 1 | 1G | 434 | U | N3-C2-O2 | -5.11 | 118.62 | 122.20 |
| 1 | 1G | 610 | G | O5'-P-OP1 | 5.11 | 116.84 | 110.70 |
| 1 | 1G | 795 | C | OP2-P-O3' | 5.11 | 116.45 | 105.20 |
| 1 | 1G | 1512 | U | N3-C4-C5 | -5.11 | 111.53 | 114.60 |
| 26 | 14 | 300 | A | N9-C4-C5 | -5.11 | 103.75 | 105.80 |
| 26 | 14 | 663 | G | N1-C2-N3 | 5.11 | 126.97 | 123.90 |
| 26 | 14 | 783 | A | N9-C1'-C2' | -5.11 | 106.37 | 112.00 |
| 26 | 14 | 917 | A | OP1-P-OP2 | 5.11 | 127.27 | 119.60 |
| 26 | 14 | 1343 | G | C4-C5-C6 | 5.11 | 121.87 | 118.80 |
| 26 | 14 | 1558 | A | C6-C5-N7 | -5.11 | 128.72 | 132.30 |
| 26 | 14 | 1690 | A | C5-N7-C8 | -5.11 | 101.34 | 103.90 |
| 26 | 14 | 1769 | G | C8-N9-C1' | -5.11 | 120.35 | 127.00 |
| 26 | 14 | 2559 | C | N3-C2-O2 | -5.11 | 118.32 | 121.90 |
| 27 | 1J | 9 | G | OP2-P-O3' | 5.11 | 116.45 | 105.20 |
| 29 | 19 | 272 | ALA | N-CA-C | 5.11 | 124.81 | 111.00 |
| 26 | 1H | 452 | G | N1-C2-N3 | -5.11 | 120.83 | 123.90 |
| 26 | 1H | 568 | U | N1-C2-O2 | -5.11 | 119.22 | 122.80 |
| 1 | 1G | 353 | A | OP2-P-O3' | 5.11 | 116.45 | 105.20 |
| 1 | 1G | 892 | A | OP1-P-OP2 | 5.11 | 127.27 | 119.60 |
| 26 | 14 | 695 | G | C5-C6-N1 | -5.11 | 108.94 | 111.50 |
| 26 | 14 | 2395 | C | N3-C4-C5 | 5.11 | 123.94 | 121.90 |
| 1 | 13 | 333 | G | C5-N7-C8 | 5.11 | 106.86 | 104.30 |
| 1 | 13 | 954 | G | N9-C1'-C2' | -5.11 | 106.38 | 112.00 |
| 1 | 13 | 1467 | G | C5-C6-O6 | 5.11 | 131.67 | 128.60 |
| 1 | 13 | 1468 | A | N9-C4-C5 | -5.11 | 103.75 | 105.80 |
| 26 | 1H | 793 | A | N3-C4-C5 | -5.11 | 123.22 | 126.80 |
| 26 | 1H | 821 | A | N9-C4-C5 | 5.11 | 107.84 | 105.80 |
| 26 | 1H | 928 | G | C6-N1-C2 | 5.11 | 128.17 | 125.10 |
| 26 | 1H | 956 | G | N3-C2-N2 | 5.11 | 123.48 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1279 | G | N3-C2-N2 | 5.11 | 123.48 | 119.90 |
| 26 | 1H | 2128 | C | C6-N1-C2 | -5.11 | 118.26 | 120.30 |
| 26 | 1H | 2216 | G | C2-N3-C4 | -5.11 | 109.34 | 111.90 |
| 26 | 1H | 2841 | C | C4-C5-C6 | -5.11 | 114.84 | 117.40 |
| 26 | 1H | 2850 | A | OP1-P-O3' | 5.11 | 116.44 | 105.20 |
| 1 | 1G | 51 | A | OP1-P-OP2 | 5.11 | 127.27 | 119.60 |
| 26 | 14 | 313 | C | OP2-P-O3' | 5.11 | 116.44 | 105.20 |
| 26 | 14 | 449 | A | OP1-P-O3' | 5.11 | 116.44 | 105.20 |
| 26 | 14 | 1245 | G | C5-N7-C8 | -5.11 | 101.75 | 104.30 |
| 26 | 14 | 1696 | G | N1-C2-N2 | -5.11 | 111.60 | 116.20 |
| 26 | 14 | 1815 | A | C5-C6-N6 | -5.11 | 119.61 | 123.70 |
| 26 | 14 | 2029 | G | N9-C4-C5 | 5.11 | 107.44 | 105.40 |
| 26 | 14 | 2068 | U | C4-C5-C6 | -5.11 | 116.63 | 119.70 |
| 1 | 13 | 500 | G | C5-N7-C8 | 5.11 | 106.86 | 104.30 |
| 26 | 1H | 245 | G | N1-C6-O6 | 5.11 | 122.97 | 119.90 |
| 26 | 1H | 275 | G | N1-C6-O6 | -5.11 | 116.83 | 119.90 |
| 26 | 1H | 828 | U | C4-C5-C6 | 5.11 | 122.77 | 119.70 |
| 26 | 1H | 931 | G | C5-C6-O6 | -5.11 | 125.53 | 128.60 |
| 26 | 1H | 1025 | G | N1-C6-O6 | 5.11 | 122.97 | 119.90 |
| 26 | 1H | 1810 | A | O5'-P-OP2 | -5.11 | 101.10 | 105.70 |
| 1 | 1G | 1409 | C | N3-C2-O2 | -5.11 | 118.32 | 121.90 |
| 26 | 14 | 556 | G | N3-C4-N9 | 5.11 | 129.06 | 126.00 |
| 26 | 14 | 1234 | U | N3-C4-O4 | -5.11 | 115.82 | 119.40 |
| 26 | 14 | 1271 | G | N1-C2-N3 | 5.11 | 126.97 | 123.90 |
| 26 | 14 | 1777 | U | C2-N3-C4 | -5.11 | 123.94 | 127.00 |
| 26 | 14 | 1942 | C | OP1-P-O3' | 5.11 | 116.44 | 105.20 |
| 1 | 13 | 795 | C | C5-C6-N1 | -5.11 | 118.45 | 121.00 |
| 1 | 13 | 885 | G | N3-C4-C5 | 5.11 | 131.15 | 128.60 |
| 1 | 13 | 943 | U | N3-C2-O2 | 5.11 | 125.78 | 122.20 |
| 26 | 1H | 427 | U | C2-N1-C1' | 5.11 | 123.83 | 117.70 |
| 26 | 1H | 474 | G | C4-C5-C6 | -5.11 | 115.74 | 118.80 |
| 26 | 1H | 848 | G | O5'-P-OP1 | 5.11 | 116.83 | 110.70 |
| 26 | 1H | 1398 | C | OP1-P-O3' | -5.11 | 93.97 | 105.20 |
| 26 | 1H | 1622 | G | N1-C2-N2 | -5.11 | 111.60 | 116.20 |
| 26 | 1H | 1848 | A | C5-C6-N6 | -5.11 | 119.61 | 123.70 |
| 26 | 1H | 2716 | U | C2-N3-C4 | -5.11 | 123.94 | 127.00 |
| 38 | 88 | 25 | ASP | CB-CG-OD2 | -5.11 | 113.70 | 118.30 |
| 26 | 14 | 270(C) | C | OP2-P-O3' | 5.11 | 116.44 | 105.20 |
| 26 | 14 | 282 | A | N9-C4-C5 | 5.11 | 107.84 | 105.80 |
| 26 | 14 | 300 | A | C4-C5-N7 | 5.11 | 113.25 | 110.70 |
| 26 | 14 | 791 | C | C2-N1-C1' | -5.11 | 113.18 | 118.80 |
| 26 | 14 | 1259 | G | OP2-P-O3' | 5.11 | 116.44 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-------------|-------|-------------|----------|
| 26 | 14 | 1902 | C | C2-N3-C4 | -5.11 | 117.35 | 119.90 |
| 26 | 14 | 2269 | A | C8-N9-C4 | 5.11 | 107.84 | 105.80 |
| 26 | 14 | 2584 | U | C2-N1-C1' | 5.11 | 123.83 | 117.70 |
| 1 | 13 | 430 | A | C4-C5-N7 | 5.11 | 113.25 | 110.70 |
| 1 | 13 | 452 | A | N7-C8-N9 | -5.11 | 111.25 | 113.80 |
| 26 | 1H | 504 | U | C6-N1-C1' | -5.11 | 114.05 | 121.20 |
| 26 | 1H | 765 | G | C2-N3-C4 | -5.11 | 109.35 | 111.90 |
| 26 | 1H | 1678 | G | C4-N9-C1' | -5.11 | 119.86 | 126.50 |
| 26 | 1H | 1832 | C | N3-C4-C5 | -5.11 | 119.86 | 121.90 |
| 26 | 1H | 1984 | G | C5-N7-C8 | 5.11 | 106.85 | 104.30 |
| 26 | 1H | 2842 | G | N1-C2-N3 | -5.11 | 120.84 | 123.90 |
| 27 | 16 | 13 | A | OP1-P-OP2 | 5.11 | 127.26 | 119.60 |
| 27 | 16 | 103 | U | N1-C2-O2 | -5.11 | 119.22 | 122.80 |
| 1 | 1G | 800 | G | N3-C2-N2 | -5.11 | 116.33 | 119.90 |
| 1 | 1G | 857 | C | O5'-P-OP2 | -5.11 | 101.11 | 105.70 |
| 1 | 1G | 910 | C | N3-C2-O2 | -5.11 | 118.33 | 121.90 |
| 1 | 1G | 994 | A | N7-C8-N9 | 5.11 | 116.35 | 113.80 |
| 26 | 14 | 71 | A | C8-N9-C4 | -5.11 | 103.76 | 105.80 |
| 26 | 14 | 270(A) | A | C8-N9-C4 | 5.11 | 107.84 | 105.80 |
| 26 | 14 | 704 | G | C6-N1-C2 | 5.11 | 128.16 | 125.10 |
| 26 | 14 | 741 | G | N7-C8-N9 | 5.11 | 115.65 | 113.10 |
| 26 | 14 | 745 | G | OP1-P-O3' | 5.11 | 116.43 | 105.20 |
| 26 | 14 | 971 | C | OP2-P-O3' | 5.11 | 116.43 | 105.20 |
| 26 | 14 | 1163 | G | C4-C5-N7 | -5.11 | 108.76 | 110.80 |
| 26 | 14 | 1363 | C | N3-C2-O2 | 5.11 | 125.47 | 121.90 |
| 26 | 14 | 1667 | G | C8-N9-C4 | -5.11 | 104.36 | 106.40 |
| 26 | 14 | 1763 | G | C4-C5-C6 | -5.11 | 115.74 | 118.80 |
| 26 | 14 | 1780 | A | C2-N3-C4 | -5.11 | 108.05 | 110.60 |
| 26 | 14 | 2603 | G | OP1-P-O3' | 5.11 | 116.43 | 105.20 |
| 1 | 13 | 758 | G | OP1-P-OP2 | -5.10 | 111.94 | 119.60 |
| 26 | 1H | 347 | A | N9-C4-C5 | -5.10 | 103.76 | 105.80 |
| 26 | 1H | 451 | C | N3-C4-N4 | 5.10 | 121.57 | 118.00 |
| 26 | 1H | 997 | G | C4-C5-N7 | -5.10 | 108.76 | 110.80 |
| 26 | 1H | 1899 | G | N1-C6-O6 | 5.10 | 122.96 | 119.90 |
| 26 | 1H | 2346 | A | C1'-O4'-C4' | -5.10 | 105.82 | 109.90 |
| 26 | 1H | 2382 | G | C5-C6-O6 | 5.10 | 131.66 | 128.60 |
| 1 | 1G | 127 | G | C8-N9-C4 | 5.10 | 108.44 | 106.40 |
| 1 | 1G | 183 | G | C6-C5-N7 | -5.10 | 127.34 | 130.40 |
| 26 | 14 | 263 | C | C4-C5-C6 | 5.10 | 119.95 | 117.40 |
| 26 | 14 | 672 | C | O5'-P-OP1 | 5.10 | 116.83 | 110.70 |
| 26 | 14 | 1233 | C | C6-N1-C2 | -5.10 | 118.26 | 120.30 |
| 26 | 14 | 2677 | G | C4-C5-N7 | -5.10 | 108.76 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 417 | C | O5'-P-OP1 | 5.10 | 116.82 | 110.70 |
| 1 | 13 | 540 | G | C5-C6-O6 | 5.10 | 131.66 | 128.60 |
| 23 | 2K | 24 | C | OP1-P-OP2 | 5.10 | 127.25 | 119.60 |
| 26 | 1H | 642 | G | N3-C2-N2 | -5.10 | 116.33 | 119.90 |
| 26 | 1H | 848 | G | C8-N9-C1' | -5.10 | 120.37 | 127.00 |
| 26 | 1H | 873 | G | C2-N3-C4 | 5.10 | 114.45 | 111.90 |
| 26 | 1H | 1336 | A | C2-N3-C4 | 5.10 | 113.15 | 110.60 |
| 26 | 1H | 2583 | G | O5'-P-OP1 | 5.10 | 116.82 | 110.70 |
| 26 | 1H | 2758 | A | N3-C4-C5 | 5.10 | 130.37 | 126.80 |
| 27 | 16 | 93 | C | C5-C6-N1 | 5.10 | 123.55 | 121.00 |
| 27 | 16 | 109 | G | N3-C2-N2 | -5.10 | 116.33 | 119.90 |
| 26 | 14 | 432 | A | C8-N9-C4 | -5.10 | 103.76 | 105.80 |
| 26 | 14 | 603 | A | N1-C6-N6 | 5.10 | 121.66 | 118.60 |
| 26 | 14 | 823 | G | C4-C5-N7 | -5.10 | 108.76 | 110.80 |
| 26 | 14 | 1777 | U | N1-C2-O2 | -5.10 | 119.23 | 122.80 |
| 1 | 13 | 125 | U | OP2-P-O3' | 5.10 | 116.42 | 105.20 |
| 1 | 13 | 251 | G | N7-C8-N9 | 5.10 | 115.65 | 113.10 |
| 1 | 13 | 812 | C | OP1-P-O3' | 5.10 | 116.42 | 105.20 |
| 26 | 1H | 200 | U | O5'-P-OP1 | -5.10 | 101.11 | 105.70 |
| 26 | 1H | 532 | A | O4'-C1'-N9 | 5.10 | 112.28 | 108.20 |
| 26 | 1H | 2274 | A | C8-N9-C4 | -5.10 | 103.76 | 105.80 |
| 26 | 1H | 2435 | A | C4-C5-N7 | -5.10 | 108.15 | 110.70 |
| 26 | 1H | 2507 | C | N1-C2-N3 | 5.10 | 122.77 | 119.20 |
| 1 | 1G | 305 | G | N3-C4-C5 | -5.10 | 126.05 | 128.60 |
| 1 | 1G | 584 | G | C6-N1-C2 | 5.10 | 128.16 | 125.10 |
| 23 | 2L | 13 | C | N3-C2-O2 | -5.10 | 118.33 | 121.90 |
| 26 | 14 | 1283 | G | N1-C2-N3 | 5.10 | 126.96 | 123.90 |
| 26 | 14 | 1695 | G | C4-C5-N7 | 5.10 | 112.84 | 110.80 |
| 26 | 14 | 2001 | A | N9-C4-C5 | -5.10 | 103.76 | 105.80 |
| 26 | 14 | 2567 | G | N7-C8-N9 | -5.10 | 110.55 | 113.10 |
| 26 | 14 | 2776 | A | O5'-P-OP2 | 5.10 | 116.82 | 110.70 |
| 1 | 13 | 873 | A | C4-C5-N7 | -5.10 | 108.15 | 110.70 |
| 26 | 1H | 300 | A | C4-C5-C6 | 5.10 | 119.55 | 117.00 |
| 26 | 1H | 566 | U | O5'-P-OP2 | 5.10 | 116.82 | 110.70 |
| 26 | 1H | 1475 | G | C2-N3-C4 | -5.10 | 109.35 | 111.90 |
| 26 | 1H | 2301 | C | C6-N1-C1' | 5.10 | 126.92 | 120.80 |
| 26 | 1H | 2527 | C | C4-C5-C6 | -5.10 | 114.85 | 117.40 |
| 26 | 1H | 2585 | U | C6-N1-C2 | 5.10 | 124.06 | 121.00 |
| 26 | 1H | 2757 | A | N7-C8-N9 | 5.10 | 116.35 | 113.80 |
| 45 | F8 | 3 | THR | CA-C-N | 5.10 | 128.42 | 117.20 |
| 1 | 1G | 27 | G | N7-C8-N9 | 5.10 | 115.65 | 113.10 |
| 1 | 1G | 860 | A | OP1-P-OP2 | -5.10 | 111.95 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1450 | U | C2-N1-C1' | 5.10 | 123.82 | 117.70 |
| 26 | 14 | 466 | A | C5-C6-N6 | -5.10 | 119.62 | 123.70 |
| 26 | 14 | 785 | G | N1-C2-N2 | 5.10 | 120.79 | 116.20 |
| 26 | 14 | 1374 | G | N7-C8-N9 | 5.10 | 115.65 | 113.10 |
| 26 | 14 | 1864 | U | OP1-P-O3' | 5.10 | 116.42 | 105.20 |
| 26 | 14 | 2241 | A | N1-C2-N3 | 5.10 | 131.85 | 129.30 |
| 26 | 14 | 2359 | C | N1-C2-N3 | 5.10 | 122.77 | 119.20 |
| 26 | 14 | 2401 | U | N1-C2-O2 | 5.10 | 126.37 | 122.80 |
| 26 | 14 | 2426 | A | C2-N3-C4 | -5.10 | 108.05 | 110.60 |
| 26 | 14 | 2789 | C | N3-C4-N4 | -5.10 | 114.43 | 118.00 |
| 1 | 13 | 784 | C | N3-C2-O2 | 5.10 | 125.47 | 121.90 |
| 26 | 1H | 60 | G | C4-C5-N7 | 5.10 | 112.84 | 110.80 |
| 26 | 1H | 194 | G | N1-C2-N2 | 5.10 | 120.79 | 116.20 |
| 26 | 1H | 344 | G | C6-C5-N7 | 5.10 | 133.46 | 130.40 |
| 26 | 1H | 651 | G | C5-C6-N1 | 5.10 | 114.05 | 111.50 |
| 26 | 1H | 702 | G | C4-C5-C6 | 5.10 | 121.86 | 118.80 |
| 26 | 1H | 1124 | C | O5'-P-OP1 | 5.10 | 116.82 | 110.70 |
| 26 | 1H | 1691 | C | C5-C4-N4 | 5.10 | 123.77 | 120.20 |
| 26 | 1H | 1820 | U | C6-N1-C2 | 5.10 | 124.06 | 121.00 |
| 26 | 1H | 2002 | G | N1-C2-N3 | 5.10 | 126.96 | 123.90 |
| 26 | 1H | 2313 | C | N3-C2-O2 | -5.10 | 118.33 | 121.90 |
| 26 | 1H | 2743 | C | N3-C2-O2 | -5.10 | 118.33 | 121.90 |
| 26 | 1H | 2835 | A | N7-C8-N9 | 5.10 | 116.35 | 113.80 |
| 27 | 16 | 40 | U | N3-C2-O2 | 5.10 | 125.77 | 122.20 |
| 37 | 78 | 50 | ARG | NE-CZ-NH1 | -5.10 | 117.75 | 120.30 |
| 1 | 1G | 68 | G | N3-C4-C5 | -5.10 | 126.05 | 128.60 |
| 1 | 1G | 108 | G | C8-N9-C4 | -5.10 | 104.36 | 106.40 |
| 1 | 1G | 375 | U | O5'-P-OP1 | -5.10 | 101.11 | 105.70 |
| 1 | 1G | 596 | C | N1-C2-N3 | -5.10 | 115.63 | 119.20 |
| 1 | 1G | 1521 | G | N3-C2-N2 | -5.10 | 116.33 | 119.90 |
| 26 | 14 | 107 | C | OP1-P-OP2 | -5.10 | 111.95 | 119.60 |
| 26 | 14 | 352 | G | N7-C8-N9 | 5.10 | 115.65 | 113.10 |
| 26 | 14 | 683 | C | C2-N3-C4 | -5.10 | 117.35 | 119.90 |
| 26 | 14 | 732 | C | C6-N1-C2 | 5.10 | 122.34 | 120.30 |
| 26 | 14 | 916 | G | O5'-P-OP1 | -5.10 | 101.11 | 105.70 |
| 26 | 14 | 1372 | U | OP2-P-O3' | 5.10 | 116.42 | 105.20 |
| 26 | 14 | 1412 | A | C4-C5-C6 | -5.10 | 114.45 | 117.00 |
| 26 | 14 | 2175 | C | C6-N1-C2 | 5.10 | 122.34 | 120.30 |
| 26 | 14 | 2224 | G | N3-C2-N2 | -5.10 | 116.33 | 119.90 |
| 26 | 14 | 2312 | U | C4-C5-C6 | 5.10 | 122.76 | 119.70 |
| 26 | 14 | 2312 | U | N3-C4-C5 | -5.10 | 111.54 | 114.60 |
| 26 | 14 | 2467 | C | C6-N1-C2 | -5.10 | 118.26 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 26 | 14 | 2570 | G | C5-N7-C8 | -5.10 | 101.75 | 104.30 |
| 26 | 14 | 2629 | A | N3-C4-C5 | -5.10 | 123.23 | 126.80 |
| 1 | 13 | 954 | G | N1-C2-N2 | 5.10 | 120.79 | 116.20 |
| 1 | 13 | 1519 | A | OP1-P-OP2 | 5.10 | 127.24 | 119.60 |
| 26 | 1H | 330 | A | C4-C5-C6 | 5.10 | 119.55 | 117.00 |
| 26 | 1H | 765 | G | O5'-P-OP1 | -5.10 | 101.11 | 105.70 |
| 26 | 1H | 1321 | A | P-O3'-C3' | -5.10 | 113.58 | 119.70 |
| 26 | 1H | 2570 | G | C6-C5-N7 | -5.10 | 127.34 | 130.40 |
| 27 | 16 | 117 | G | N3-C4-C5 | 5.10 | 131.15 | 128.60 |
| 1 | 1G | 1361 | G | OP1-P-OP2 | -5.10 | 111.96 | 119.60 |
| 26 | 14 | 1296 | G | O4'-C1'-N9 | 5.10 | 112.28 | 108.20 |
| 26 | 14 | 2853 | C | N1-C2-N3 | 5.10 | 122.77 | 119.20 |
| 1 | 13 | 61 | G | C5-C6-O6 | 5.09 | 131.66 | 128.60 |
| 1 | 13 | 248 | C | N1-C2-O2 | 5.09 | 121.96 | 118.90 |
| 1 | 13 | 937 | A | C8-N9-C4 | -5.09 | 103.76 | 105.80 |
| 1 | 13 | 1357 | A | C6-N1-C2 | 5.09 | 121.66 | 118.60 |
| 26 | 1H | 962 | G | N3-C4-C5 | -5.09 | 126.05 | 128.60 |
| 26 | 1H | 1192 | G | OP2-P-O3' | 5.09 | 116.41 | 105.20 |
| 26 | 1H | 1298 | C | N3-C4-C5 | -5.09 | 119.86 | 121.90 |
| 26 | 1H | 1545(A) | A | N1-C2-N3 | -5.09 | 126.75 | 129.30 |
| 26 | 1H | 1573 | G | N3-C4-C5 | 5.09 | 131.15 | 128.60 |
| 26 | 1H | 2293 | C | N1-C2-O2 | 5.09 | 121.96 | 118.90 |
| 26 | 1H | 2837 | G | OP1-P-OP2 | -5.09 | 111.96 | 119.60 |
| 29 | 11 | 272 | ALA | N-CA-C | 5.09 | 124.75 | 111.00 |
| 1 | 1G | 778 | G | N7-C8-N9 | 5.09 | 115.65 | 113.10 |
| 57 | 3L | 42 | A | N3-C4-N9 | 5.09 | 131.48 | 127.40 |
| 26 | 14 | 544 | C | N3-C4-N4 | 5.09 | 121.57 | 118.00 |
| 26 | 14 | 640 | C | N1-C2-O2 | -5.09 | 115.84 | 118.90 |
| 26 | 14 | 669 | G | C5-C6-O6 | 5.09 | 131.66 | 128.60 |
| 26 | 14 | 1243 | G | N3-C4-N9 | 5.09 | 129.06 | 126.00 |
| 26 | 14 | 1455 | G | C6-C5-N7 | -5.09 | 127.34 | 130.40 |
| 26 | 14 | 1782 | C | N3-C4-N4 | 5.09 | 121.57 | 118.00 |
| 26 | 14 | 1824 | G | N9-C4-C5 | 5.09 | 107.44 | 105.40 |
| 26 | 14 | 2314 | C | N3-C4-N4 | -5.09 | 114.43 | 118.00 |
| 26 | 14 | 2588 | G | C4-C5-N7 | -5.09 | 108.76 | 110.80 |
| 1 | 13 | 879 | C | OP1-P-OP2 | -5.09 | 111.96 | 119.60 |
| 1 | 13 | 1494 | G | N3-C4-N9 | 5.09 | 129.06 | 126.00 |
| 26 | 1H | 744 | G | C6-C5-N7 | -5.09 | 127.34 | 130.40 |
| 26 | 1H | 810 | U | N1-C2-O2 | -5.09 | 119.23 | 122.80 |
| 27 | 16 | 22 | U | OP1-P-OP2 | -5.09 | 111.96 | 119.60 |
| 1 | 1G | 1352 | C | N3-C4-C5 | -5.09 | 119.86 | 121.90 |
| 26 | 14 | 1135 | C | O5'-P-OP1 | 5.09 | 116.81 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 1820 | U | C4-C5-C6 | 5.09 | 122.76 | 119.70 |
| 26 | 14 | 1996 | C | C4-C5-C6 | 5.09 | 119.95 | 117.40 |
| 26 | 1H | 327 | G | N9-C4-C5 | 5.09 | 107.44 | 105.40 |
| 26 | 1H | 693 | C | C6-N1-C1' | 5.09 | 126.91 | 120.80 |
| 26 | 1H | 846 | C | N3-C4-C5 | 5.09 | 123.94 | 121.90 |
| 26 | 1H | 976 | C | C4-C5-C6 | 5.09 | 119.95 | 117.40 |
| 26 | 1H | 1107 | G | N3-C4-N9 | 5.09 | 129.05 | 126.00 |
| 26 | 1H | 2054 | A | C5-C6-N1 | 5.09 | 120.25 | 117.70 |
| 26 | 1H | 2245 | U | N1-C2-O2 | 5.09 | 126.36 | 122.80 |
| 26 | 1H | 2301 | C | C6-N1-C2 | -5.09 | 118.26 | 120.30 |
| 26 | 1H | 2471 | C | N3-C4-C5 | -5.09 | 119.86 | 121.90 |
| 1 | 1G | 154 | C | N1-C2-O2 | 5.09 | 121.95 | 118.90 |
| 1 | 1G | 502 | G | OP1-P-O3' | 5.09 | 116.40 | 105.20 |
| 1 | 1G | 530 | G | N3-C4-N9 | -5.09 | 122.95 | 126.00 |
| 1 | 1G | 808 | C | N3-C4-N4 | -5.09 | 114.44 | 118.00 |
| 1 | 1G | 1395 | C | C6-N1-C2 | -5.09 | 118.26 | 120.30 |
| 26 | 14 | 1031 | G | N1-C6-O6 | 5.09 | 122.95 | 119.90 |
| 26 | 14 | 1705 | G | N1-C6-O6 | -5.09 | 116.84 | 119.90 |
| 26 | 14 | 1730 | U | O4'-C1'-N1 | 5.09 | 112.27 | 108.20 |
| 26 | 14 | 1933 | G | OP1-P-OP2 | 5.09 | 127.24 | 119.60 |
| 26 | 14 | 2812 | G | N3-C4-C5 | 5.09 | 131.15 | 128.60 |
| 1 | 13 | 283 | C | O5'-P-OP1 | -5.09 | 101.12 | 105.70 |
| 1 | 13 | 541 | G | O5'-P-OP1 | 5.09 | 116.81 | 110.70 |
| 1 | 13 | 1082 | G | C4-C5-N7 | 5.09 | 112.84 | 110.80 |
| 1 | 13 | 1454 | G | N1-C6-O6 | 5.09 | 122.95 | 119.90 |
| 22 | 1K | 64 | G | N1-C2-N3 | -5.09 | 120.85 | 123.90 |
| 26 | 1H | 966 | G | N3-C4-C5 | -5.09 | 126.06 | 128.60 |
| 26 | 1H | 986 | C | OP2-P-O3' | 5.09 | 116.39 | 105.20 |
| 26 | 1H | 1763 | G | C4-C5-C6 | -5.09 | 115.75 | 118.80 |
| 26 | 1H | 1764 | G | N9-C4-C5 | 5.09 | 107.44 | 105.40 |
| 26 | 1H | 2352 | A | OP1-P-O3' | 5.09 | 116.40 | 105.20 |
| 26 | 1H | 2773 | C | OP1-P-OP2 | -5.09 | 111.97 | 119.60 |
| 26 | 14 | 454 | A | C5-N7-C8 | 5.09 | 106.44 | 103.90 |
| 26 | 14 | 485 | C | C6-N1-C2 | -5.09 | 118.26 | 120.30 |
| 26 | 14 | 641 | C | C5-C6-N1 | -5.09 | 118.46 | 121.00 |
| 26 | 14 | 1203 | G | N1-C2-N3 | 5.09 | 126.95 | 123.90 |
| 26 | 14 | 1409 | C | C2-N3-C4 | -5.09 | 117.36 | 119.90 |
| 26 | 14 | 1666 | G | OP2-P-O3' | 5.09 | 116.39 | 105.20 |
| 26 | 14 | 1682 | G | N3-C2-N2 | -5.09 | 116.34 | 119.90 |
| 26 | 14 | 1903 | G | OP2-P-O3' | 5.09 | 116.40 | 105.20 |
| 26 | 14 | 2872 | G | C2-N3-C4 | 5.09 | 114.44 | 111.90 |
| 1 | 13 | 362 | G | C5-C6-N1 | -5.09 | 108.96 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|-------------|-------|-------------|----------|
| 1 | 13 | 857 | C | C4-C5-C6 | 5.09 | 119.94 | 117.40 |
| 1 | 13 | 890 | G | OP1-P-O3' | -5.09 | 94.01 | 105.20 |
| 6 | 5E | 48 | LEU | CB-CG-CD2 | -5.09 | 102.35 | 111.00 |
| 26 | 1H | 250 | G | OP1-P-OP2 | 5.09 | 127.23 | 119.60 |
| 26 | 1H | 2025 | C | C5-C4-N4 | -5.09 | 116.64 | 120.20 |
| 1 | 1G | 906 | G | C4-C5-N7 | 5.09 | 112.83 | 110.80 |
| 57 | 3L | 18 | G | C8-N9-C4 | -5.09 | 104.36 | 106.40 |
| 1 | 13 | 712 | A | C6-N1-C2 | -5.09 | 115.55 | 118.60 |
| 1 | 13 | 883 | C | C5-C6-N1 | 5.09 | 123.54 | 121.00 |
| 1 | 13 | 1466 | C | C5-C4-N4 | 5.09 | 123.76 | 120.20 |
| 23 | 2K | 37 | U | OP2-P-O3' | 5.09 | 116.39 | 105.20 |
| 26 | 1H | 48 | G | OP2-P-O3' | 5.09 | 116.39 | 105.20 |
| 26 | 1H | 325 | G | C6-C5-N7 | 5.09 | 133.45 | 130.40 |
| 26 | 1H | 356 | G | N3-C4-C5 | 5.09 | 131.14 | 128.60 |
| 26 | 1H | 406 | G | C5-C6-N1 | -5.09 | 108.96 | 111.50 |
| 26 | 1H | 565 | C | C4-C5-C6 | -5.09 | 114.86 | 117.40 |
| 26 | 1H | 612 | G | O5'-P-OP1 | 5.09 | 116.80 | 110.70 |
| 26 | 1H | 1187 | G | C2-N3-C4 | 5.09 | 114.44 | 111.90 |
| 26 | 1H | 2251 | G | OP2-P-O3' | -5.09 | 94.01 | 105.20 |
| 26 | 1H | 2777 | G | OP1-P-O3' | 5.09 | 116.39 | 105.20 |
| 27 | 16 | 33 | G | N1-C2-N2 | -5.09 | 111.62 | 116.20 |
| 27 | 16 | 37 | C | N3-C2-O2 | 5.09 | 125.46 | 121.90 |
| 27 | 16 | 117 | G | N3-C2-N2 | 5.09 | 123.46 | 119.90 |
| 1 | 1G | 11 | G | C4-C5-N7 | -5.09 | 108.77 | 110.80 |
| 26 | 14 | 224 | G | O5'-P-OP2 | -5.09 | 101.12 | 105.70 |
| 26 | 14 | 966 | G | N7-C8-N9 | -5.09 | 110.56 | 113.10 |
| 26 | 14 | 1354 | A | C5-C6-N6 | -5.09 | 119.63 | 123.70 |
| 26 | 14 | 1578 | U | C6-N1-C2 | -5.09 | 117.95 | 121.00 |
| 26 | 14 | 1815 | A | C6-C5-N7 | -5.09 | 128.74 | 132.30 |
| 26 | 14 | 1827 | C | OP2-P-O3' | -5.09 | 94.01 | 105.20 |
| 26 | 14 | 2275 | C | C5'-C4'-O4' | -5.09 | 103.00 | 109.10 |
| 26 | 14 | 2384 | G | N7-C8-N9 | -5.09 | 110.56 | 113.10 |
| 26 | 14 | 2653 | U | N1-C2-N3 | -5.09 | 111.85 | 114.90 |
| 23 | 2K | 43 | G | N1-C2-N3 | 5.08 | 126.95 | 123.90 |
| 26 | 1H | 1449(A) | G | C5-N7-C8 | 5.08 | 106.84 | 104.30 |
| 26 | 1H | 2278 | A | C6-C5-N7 | -5.08 | 128.74 | 132.30 |
| 26 | 1H | 2476 | A | C4-N9-C1' | 5.08 | 135.45 | 126.30 |
| 26 | 1H | 2714 | G | C6-N1-C2 | -5.08 | 122.05 | 125.10 |
| 27 | 16 | 54 | G | O5'-P-OP2 | 5.08 | 116.80 | 110.70 |
| 26 | 14 | 28 | A | N1-C6-N6 | 5.08 | 121.65 | 118.60 |
| 26 | 14 | 1924 | C | N3-C2-O2 | 5.08 | 125.46 | 121.90 |
| 26 | 14 | 2496 | C | C5-C4-N4 | -5.08 | 116.64 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 2781 | A | C5-C6-N6 | 5.08 | 127.77 | 123.70 |
| 1 | 13 | 1126 | U | C5-C6-N1 | -5.08 | 120.16 | 122.70 |
| 1 | 13 | 1190 | G | C8-N9-C4 | -5.08 | 104.37 | 106.40 |
| 1 | 13 | 1350 | A | C8-N9-C4 | -5.08 | 103.77 | 105.80 |
| 1 | 13 | 1413 | A | N1-C6-N6 | 5.08 | 121.65 | 118.60 |
| 13 | 4I | 48 | LEU | CA-CB-CG | 5.08 | 126.99 | 115.30 |
| 26 | 1H | 344 | G | C5-C6-O6 | 5.08 | 131.65 | 128.60 |
| 26 | 1H | 451 | C | OP2-P-O3' | 5.08 | 116.38 | 105.20 |
| 26 | 1H | 675 | A | N1-C6-N6 | -5.08 | 115.55 | 118.60 |
| 26 | 1H | 1005 | C | N1-C2-O2 | -5.08 | 115.85 | 118.90 |
| 26 | 1H | 1160 | G | C5-N7-C8 | -5.08 | 101.76 | 104.30 |
| 26 | 1H | 1170 | G | C8-N9-C4 | -5.08 | 104.37 | 106.40 |
| 26 | 1H | 2234 | G | N1-C2-N3 | 5.08 | 126.95 | 123.90 |
| 26 | 1H | 2270 | G | C4-C5-C6 | 5.08 | 121.85 | 118.80 |
| 26 | 1H | 2273 | A | OP2-P-O3' | 5.08 | 116.38 | 105.20 |
| 26 | 1H | 2289 | G | C4-C5-C6 | -5.08 | 115.75 | 118.80 |
| 26 | 1H | 2532 | G | N9-C4-C5 | -5.08 | 103.37 | 105.40 |
| 26 | 1H | 2581 | G | N3-C2-N2 | 5.08 | 123.46 | 119.90 |
| 26 | 1H | 2625 | G | O4'-C1'-N9 | -5.08 | 104.13 | 108.20 |
| 1 | 1G | 7 | G | OP1-P-O3' | 5.08 | 116.39 | 105.20 |
| 1 | 1G | 1521 | G | N1-C6-O6 | 5.08 | 122.95 | 119.90 |
| 26 | 14 | 256 | A | N1-C6-N6 | 5.08 | 121.65 | 118.60 |
| 26 | 14 | 408 | G | OP1-P-OP2 | -5.08 | 111.97 | 119.60 |
| 26 | 14 | 472 | A | C2-N3-C4 | -5.08 | 108.06 | 110.60 |
| 26 | 14 | 629 | G | N1-C6-O6 | 5.08 | 122.95 | 119.90 |
| 26 | 14 | 842 | G | O4'-C1'-N9 | -5.08 | 104.13 | 108.20 |
| 26 | 14 | 1203 | G | C5-C6-N1 | -5.08 | 108.96 | 111.50 |
| 26 | 14 | 1230 | C | N3-C4-C5 | 5.08 | 123.93 | 121.90 |
| 26 | 14 | 1295 | C | N3-C4-N4 | -5.08 | 114.44 | 118.00 |
| 26 | 14 | 1613 | G | N3-C4-C5 | -5.08 | 126.06 | 128.60 |
| 26 | 14 | 2381 | C | N3-C2-O2 | 5.08 | 125.46 | 121.90 |
| 1 | 13 | 696 | A | C2-N3-C4 | -5.08 | 108.06 | 110.60 |
| 1 | 13 | 765 | G | C2-N3-C4 | -5.08 | 109.36 | 111.90 |
| 1 | 13 | 833 | U | O5'-P-OP2 | -5.08 | 101.13 | 105.70 |
| 1 | 13 | 1068 | G | O5'-P-OP1 | 5.08 | 116.80 | 110.70 |
| 26 | 1H | 111 | A | O5'-P-OP2 | -5.08 | 101.13 | 105.70 |
| 26 | 1H | 194 | G | C6-C5-N7 | -5.08 | 127.35 | 130.40 |
| 26 | 1H | 270(A) | A | N7-C8-N9 | -5.08 | 111.26 | 113.80 |
| 26 | 1H | 423 | A | N1-C6-N6 | -5.08 | 115.55 | 118.60 |
| 26 | 1H | 529 | A | N3-C4-N9 | 5.08 | 131.47 | 127.40 |
| 26 | 1H | 690 | G | C6-N1-C2 | -5.08 | 122.05 | 125.10 |
| 26 | 1H | 735 | A | N1-C2-N3 | 5.08 | 131.84 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 793 | A | C5-C6-N1 | 5.08 | 120.24 | 117.70 |
| 26 | 1H | 837 | C | C5-C4-N4 | -5.08 | 116.64 | 120.20 |
| 26 | 1H | 1130 | U | N3-C4-O4 | 5.08 | 122.96 | 119.40 |
| 26 | 1H | 1286 | A | C5-C6-N1 | 5.08 | 120.24 | 117.70 |
| 26 | 1H | 1339 | G | OP1-P-OP2 | -5.08 | 111.98 | 119.60 |
| 26 | 1H | 1454 | U | C5-C6-N1 | -5.08 | 120.16 | 122.70 |
| 26 | 1H | 1551 | C | OP2-P-O3' | 5.08 | 116.38 | 105.20 |
| 26 | 1H | 2056 | G | C6-N1-C2 | -5.08 | 122.05 | 125.10 |
| 26 | 1H | 2092 | U | C2-N1-C1' | 5.08 | 123.80 | 117.70 |
| 26 | 1H | 2230 | G | OP1-P-OP2 | 5.08 | 127.22 | 119.60 |
| 26 | 1H | 2307 | G | C4-C5-N7 | 5.08 | 112.83 | 110.80 |
| 26 | 1H | 2555 | U | C5-C4-O4 | 5.08 | 128.95 | 125.90 |
| 1 | 1G | 1441 | G | C5-C6-N1 | -5.08 | 108.96 | 111.50 |
| 26 | 14 | 138 | G | N7-C8-N9 | 5.08 | 115.64 | 113.10 |
| 26 | 14 | 308 | G | C5-N7-C8 | -5.08 | 101.76 | 104.30 |
| 26 | 14 | 518 | G | C6-C5-N7 | -5.08 | 127.35 | 130.40 |
| 26 | 14 | 1474 | C | N3-C4-C5 | -5.08 | 119.87 | 121.90 |
| 1 | 13 | 259 | G | N1-C6-O6 | 5.08 | 122.95 | 119.90 |
| 1 | 13 | 391 | G | C4-C5-C6 | -5.08 | 115.75 | 118.80 |
| 26 | 1H | 412 | A | N1-C2-N3 | 5.08 | 131.84 | 129.30 |
| 26 | 1H | 612 | G | N3-C2-N2 | -5.08 | 116.34 | 119.90 |
| 26 | 1H | 1012 | U | N3-C2-O2 | 5.08 | 125.76 | 122.20 |
| 26 | 1H | 2026 | C | O5'-P-OP1 | 5.08 | 116.80 | 110.70 |
| 26 | 1H | 2360 | A | C4-C5-N7 | 5.08 | 113.24 | 110.70 |
| 26 | 1H | 2857 | G | C5-N7-C8 | -5.08 | 101.76 | 104.30 |
| 26 | 1H | 2875 | C | C5-C6-N1 | -5.08 | 118.46 | 121.00 |
| 55 | Q8 | 62 | LEU | CA-CB-CG | 5.08 | 126.98 | 115.30 |
| 1 | 1G | 118 | U | N3-C4-C5 | -5.08 | 111.55 | 114.60 |
| 1 | 1G | 755 | G | N1-C6-O6 | 5.08 | 122.95 | 119.90 |
| 23 | 2L | 14 | A | O5'-P-OP2 | 5.08 | 116.80 | 110.70 |
| 26 | 14 | 339 | U | N1-C2-N3 | -5.08 | 111.85 | 114.90 |
| 26 | 14 | 407 | G | OP2-P-O3' | 5.08 | 116.38 | 105.20 |
| 26 | 14 | 1263 | U | C2-N1-C1' | 5.08 | 123.80 | 117.70 |
| 26 | 14 | 1496 | A | C5-C6-N1 | -5.08 | 115.16 | 117.70 |
| 1 | 13 | 344 | A | O4'-C1'-N9 | -5.08 | 104.14 | 108.20 |
| 1 | 13 | 624 | C | OP2-P-O3' | 5.08 | 116.37 | 105.20 |
| 1 | 13 | 828 | A | OP1-P-OP2 | 5.08 | 127.22 | 119.60 |
| 1 | 13 | 1219 | U | N1-C2-O2 | -5.08 | 119.25 | 122.80 |
| 26 | 1H | 28 | A | O5'-P-OP1 | 5.08 | 116.79 | 110.70 |
| 26 | 1H | 659 | C | N3-C4-C5 | 5.08 | 123.93 | 121.90 |
| 26 | 1H | 685 | A | N9-C4-C5 | -5.08 | 103.77 | 105.80 |
| 26 | 1H | 723 | G | C8-N9-C1' | -5.08 | 120.40 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1453 | A | C5-C6-N6 | -5.08 | 119.64 | 123.70 |
| 26 | 1H | 2022 | U | N3-C2-O2 | 5.08 | 125.75 | 122.20 |
| 26 | 1H | 2340 | G | OP1-P-O3' | 5.08 | 116.38 | 105.20 |
| 27 | 16 | 25 | A | C6-C5-N7 | -5.08 | 128.75 | 132.30 |
| 27 | 16 | 108 | C | N3-C4-C5 | -5.08 | 119.87 | 121.90 |
| 39 | 98 | 18 | LEU | CB-CG-CD2 | -5.08 | 102.37 | 111.00 |
| 1 | 1G | 54 | C | N3-C4-C5 | 5.08 | 123.93 | 121.90 |
| 1 | 1G | 133 | U | N3-C4-O4 | 5.08 | 122.95 | 119.40 |
| 1 | 1G | 169 | C | N1-C2-O2 | 5.08 | 121.95 | 118.90 |
| 1 | 1G | 758 | G | N9-C4-C5 | -5.08 | 103.37 | 105.40 |
| 1 | 1G | 951 | G | O5'-P-OP2 | 5.08 | 116.80 | 110.70 |
| 26 | 14 | 760 | G | N1-C2-N3 | 5.08 | 126.95 | 123.90 |
| 26 | 14 | 818 | G | N1-C6-O6 | -5.08 | 116.85 | 119.90 |
| 26 | 14 | 1138 | G | N7-C8-N9 | 5.08 | 115.64 | 113.10 |
| 26 | 14 | 1914 | C | C6-N1-C1' | -5.08 | 114.70 | 120.80 |
| 26 | 14 | 1978 | A | N1-C6-N6 | -5.08 | 115.55 | 118.60 |
| 26 | 14 | 2031 | A | C6-N1-C2 | -5.08 | 115.55 | 118.60 |
| 26 | 14 | 2718 | G | C5-C6-N1 | -5.08 | 108.96 | 111.50 |
| 1 | 13 | 12 | U | C4-C5-C6 | 5.08 | 122.75 | 119.70 |
| 8 | 7E | 14 | ARG | NE-CZ-NH1 | -5.08 | 117.76 | 120.30 |
| 26 | 1H | 1349 | A | C6-C5-N7 | -5.08 | 128.75 | 132.30 |
| 26 | 1H | 1775 | U | N1-C2-O2 | -5.08 | 119.25 | 122.80 |
| 26 | 1H | 1990 | C | N1-C2-N3 | 5.08 | 122.75 | 119.20 |
| 26 | 1H | 2333 | A | O5'-P-OP2 | -5.08 | 101.13 | 105.70 |
| 26 | 1H | 2383 | G | C4-N9-C1' | 5.08 | 133.10 | 126.50 |
| 26 | 1H | 2679 | A | C5-C6-N6 | -5.08 | 119.64 | 123.70 |
| 1 | 1G | 1473 | A | C5-C6-N6 | -5.08 | 119.64 | 123.70 |
| 26 | 14 | 2315 | G | OP1-P-O3' | 5.08 | 116.37 | 105.20 |
| 24 | 3K | 17 | U | N1-C2-O2 | 5.08 | 126.35 | 122.80 |
| 26 | 1H | 343 | C | C6-N1-C2 | -5.08 | 118.27 | 120.30 |
| 26 | 1H | 496 | G | N3-C4-C5 | 5.08 | 131.14 | 128.60 |
| 26 | 1H | 596 | G | N1-C2-N2 | 5.08 | 120.77 | 116.20 |
| 26 | 1H | 677 | A | O5'-P-OP2 | -5.08 | 101.13 | 105.70 |
| 26 | 1H | 928 | G | O5'-P-OP2 | 5.08 | 116.79 | 110.70 |
| 26 | 1H | 978 | G | N1-C2-N3 | 5.08 | 126.95 | 123.90 |
| 26 | 1H | 1161 | C | C6-N1-C1' | 5.08 | 126.89 | 120.80 |
| 26 | 1H | 1330 | C | C6-N1-C2 | -5.08 | 118.27 | 120.30 |
| 1 | 1G | 142 | G | C5-C6-N1 | 5.08 | 114.04 | 111.50 |
| 1 | 1G | 1048 | G | C8-N9-C4 | -5.08 | 104.37 | 106.40 |
| 1 | 1G | 1525 | G | N1-C2-N2 | -5.08 | 111.63 | 116.20 |
| 26 | 14 | 1557 | C | C5-C4-N4 | 5.08 | 123.75 | 120.20 |
| 26 | 14 | 1622 | G | OP2-P-O3' | 5.08 | 116.37 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 1792 | G | N3-C2-N2 | -5.08 | 116.35 | 119.90 |
| 26 | 14 | 1904 | G | OP2-P-O3' | 5.08 | 116.37 | 105.20 |
| 26 | 14 | 2046 | G | C8-N9-C4 | 5.08 | 108.43 | 106.40 |
| 27 | 1J | 66 | A | C5-C6-N1 | -5.08 | 115.16 | 117.70 |
| 1 | 13 | 360 | A | N1-C6-N6 | 5.07 | 121.64 | 118.60 |
| 1 | 13 | 599 | C | C5-C6-N1 | 5.07 | 123.54 | 121.00 |
| 1 | 13 | 861 | G | C4-C5-N7 | -5.07 | 108.77 | 110.80 |
| 1 | 13 | 907 | A | N9-C4-C5 | -5.07 | 103.77 | 105.80 |
| 23 | 2K | 7 | G | N9-C4-C5 | -5.07 | 103.37 | 105.40 |
| 26 | 1H | 201 | C | N1-C2-O2 | -5.07 | 115.86 | 118.90 |
| 26 | 1H | 273(A) | G | N3-C4-C5 | 5.07 | 131.14 | 128.60 |
| 26 | 1H | 481 | G | C5-C6-O6 | -5.07 | 125.56 | 128.60 |
| 26 | 1H | 1636 | C | O5'-P-OP2 | 5.07 | 116.79 | 110.70 |
| 26 | 1H | 1640 | C | C5-C4-N4 | 5.07 | 123.75 | 120.20 |
| 26 | 1H | 1814 | G | C8-N9-C4 | -5.07 | 104.37 | 106.40 |
| 26 | 1H | 2608 | G | N3-C2-N2 | -5.07 | 116.35 | 119.90 |
| 1 | 1G | 376 | G | C4-C5-N7 | -5.07 | 108.77 | 110.80 |
| 1 | 1G | 422 | C | O4'-C1'-N1 | 5.07 | 112.26 | 108.20 |
| 1 | 1G | 483 | C | C2-N1-C1' | -5.07 | 113.22 | 118.80 |
| 1 | 1G | 552 | U | N1-C2-N3 | 5.07 | 117.94 | 114.90 |
| 23 | 2L | 20 | G | N1-C6-O6 | 5.07 | 122.94 | 119.90 |
| 23 | 2L | 28 | U | N1-C2-O2 | 5.07 | 126.35 | 122.80 |
| 57 | 3L | 76 | A | C5-C6-N6 | -5.07 | 119.64 | 123.70 |
| 26 | 14 | 312 | G | C5-N7-C8 | -5.07 | 101.76 | 104.30 |
| 26 | 14 | 639 | U | O5'-P-OP2 | -5.07 | 101.13 | 105.70 |
| 26 | 14 | 958 | U | O5'-P-OP1 | -5.07 | 101.13 | 105.70 |
| 26 | 14 | 961 | C | O5'-P-OP2 | -5.07 | 101.13 | 105.70 |
| 26 | 14 | 1297 | C | C5-C4-N4 | 5.07 | 123.75 | 120.20 |
| 26 | 14 | 1773 | A | N1-C2-N3 | 5.07 | 131.84 | 129.30 |
| 26 | 14 | 1926 | U | C2-N3-C4 | -5.07 | 123.95 | 127.00 |
| 26 | 14 | 2043 | C | N3-C2-O2 | 5.07 | 125.45 | 121.90 |
| 1 | 13 | 295 | C | C4-C5-C6 | 5.07 | 119.94 | 117.40 |
| 1 | 13 | 1342 | C | N3-C4-N4 | -5.07 | 114.45 | 118.00 |
| 1 | 13 | 1501 | C | N3-C4-N4 | 5.07 | 121.55 | 118.00 |
| 26 | 1H | 1567 | A | O5'-P-OP2 | -5.07 | 101.14 | 105.70 |
| 26 | 1H | 1685 | C | C5-C4-N4 | -5.07 | 116.65 | 120.20 |
| 26 | 1H | 2271 | G | C8-N9-C1' | -5.07 | 120.41 | 127.00 |
| 26 | 1H | 2294 | C | N3-C4-C5 | 5.07 | 123.93 | 121.90 |
| 26 | 1H | 2640 | G | C8-N9-C4 | -5.07 | 104.37 | 106.40 |
| 1 | 1G | 958 | A | O5'-P-OP2 | -5.07 | 101.14 | 105.70 |
| 26 | 14 | 462 | C | N3-C2-O2 | -5.07 | 118.35 | 121.90 |
| 26 | 14 | 2868 | A | C4-C5-C6 | 5.07 | 119.54 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 13 | 22 | G | OP2-P-O3' | 5.07 | 116.35 | 105.20 |
| 1 | 13 | 32 | A | N9-C4-C5 | 5.07 | 107.83 | 105.80 |
| 1 | 13 | 606 | G | N3-C4-C5 | -5.07 | 126.06 | 128.60 |
| 1 | 13 | 749 | C | OP1-P-OP2 | -5.07 | 111.99 | 119.60 |
| 1 | 13 | 1211 | U | C5-C6-N1 | -5.07 | 120.17 | 122.70 |
| 26 | 1H | 40 | C | O4'-C1'-N1 | 5.07 | 112.26 | 108.20 |
| 26 | 1H | 144 | C | N1-C2-O2 | 5.07 | 121.94 | 118.90 |
| 26 | 1H | 180 | G | C6-C5-N7 | -5.07 | 127.36 | 130.40 |
| 26 | 1H | 973 | A | O5'-P-OP1 | -5.07 | 101.14 | 105.70 |
| 26 | 1H | 1029 | A | C6-C5-N7 | -5.07 | 128.75 | 132.30 |
| 26 | 1H | 1320 | C | C4-C5-C6 | 5.07 | 119.94 | 117.40 |
| 26 | 1H | 2323 | G | N3-C4-C5 | 5.07 | 131.14 | 128.60 |
| 26 | 1H | 2505 | G | P-O3'-C3' | 5.07 | 125.78 | 119.70 |
| 26 | 1H | 2562 | U | N3-C4-O4 | -5.07 | 115.85 | 119.40 |
| 29 | 11 | 52 | ARG | NE-CZ-NH2 | 5.07 | 122.83 | 120.30 |
| 42 | C8 | 3 | ARG | NE-CZ-NH2 | -5.07 | 117.76 | 120.30 |
| 26 | 14 | 86 | C | C5-C4-N4 | -5.07 | 116.65 | 120.20 |
| 26 | 14 | 634 | C | C6-N1-C2 | 5.07 | 122.33 | 120.30 |
| 26 | 14 | 1920 | C | C6-N1-C2 | 5.07 | 122.33 | 120.30 |
| 26 | 14 | 2068 | U | C5-C4-O4 | -5.07 | 122.86 | 125.90 |
| 26 | 14 | 2280 | G | C2-N3-C4 | -5.07 | 109.36 | 111.90 |
| 26 | 14 | 2675 | A | OP1-P-OP2 | -5.07 | 111.99 | 119.60 |
| 27 | 1J | 44 | G | C4-C5-N7 | -5.07 | 108.77 | 110.80 |
| 1 | 13 | 887 | G | N1-C2-N2 | -5.07 | 111.64 | 116.20 |
| 23 | 2K | 39 | A | OP1-P-OP2 | -5.07 | 112.00 | 119.60 |
| 23 | 2K | 72 | C | C4-C5-C6 | 5.07 | 119.93 | 117.40 |
| 26 | 1H | 377 | C | N3-C2-O2 | 5.07 | 125.45 | 121.90 |
| 26 | 1H | 566 | U | C4-C5-C6 | -5.07 | 116.66 | 119.70 |
| 26 | 1H | 606 | U | N3-C4-O4 | -5.07 | 115.85 | 119.40 |
| 26 | 1H | 708 | C | N1-C2-O2 | -5.07 | 115.86 | 118.90 |
| 26 | 1H | 848 | G | N1-C2-N3 | 5.07 | 126.94 | 123.90 |
| 26 | 1H | 998 | C | C5-C6-N1 | 5.07 | 123.53 | 121.00 |
| 26 | 1H | 1944 | U | C6-N1-C2 | 5.07 | 124.04 | 121.00 |
| 26 | 1H | 2292 | C | C4-C5-C6 | -5.07 | 114.86 | 117.40 |
| 26 | 1H | 2435 | A | C6-N1-C2 | 5.07 | 121.64 | 118.60 |
| 26 | 1H | 2846 | G | N1-C6-O6 | 5.07 | 122.94 | 119.90 |
| 1 | 1G | 299 | G | C5-N7-C8 | 5.07 | 106.83 | 104.30 |
| 26 | 14 | 871 | U | C6-N1-C1' | 5.07 | 128.30 | 121.20 |
| 26 | 14 | 1891 | G | C2-N3-C4 | -5.07 | 109.36 | 111.90 |
| 29 | 19 | 43 | ARG | NE-CZ-NH2 | 5.07 | 122.83 | 120.30 |
| 1 | 13 | 498 | A | C6-N1-C2 | -5.07 | 115.56 | 118.60 |
| 1 | 13 | 892 | A | C5-C6-N6 | -5.07 | 119.65 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 13 | 1331 | G | P-O3'-C3' | 5.07 | 125.78 | 119.70 |
| 1 | 13 | 1405 | G | N9-C4-C5 | 5.07 | 107.43 | 105.40 |
| 1 | 13 | 1452 | C | N1-C2-O2 | 5.07 | 121.94 | 118.90 |
| 26 | 1H | 55 | G | N1-C2-N3 | 5.07 | 126.94 | 123.90 |
| 26 | 1H | 197 | A | C5-N7-C8 | -5.07 | 101.37 | 103.90 |
| 26 | 1H | 2708 | G | N9-C4-C5 | -5.07 | 103.37 | 105.40 |
| 1 | 1G | 873 | A | C5-C6-N6 | 5.07 | 127.75 | 123.70 |
| 26 | 14 | 398 | G | C4-C5-N7 | -5.07 | 108.77 | 110.80 |
| 26 | 14 | 508 | G | P-O3'-C3' | -5.07 | 113.62 | 119.70 |
| 26 | 14 | 823 | G | O5'-P-OP1 | 5.07 | 116.78 | 110.70 |
| 26 | 14 | 1093 | G | N7-C8-N9 | 5.07 | 115.63 | 113.10 |
| 26 | 14 | 1135 | C | OP1-P-OP2 | -5.07 | 112.00 | 119.60 |
| 26 | 14 | 2101 | G | C2-N3-C4 | -5.07 | 109.37 | 111.90 |
| 26 | 14 | 2247 | A | N1-C2-N3 | 5.07 | 131.83 | 129.30 |
| 26 | 14 | 2296 | U | OP1-P-O3' | 5.07 | 116.35 | 105.20 |
| 26 | 14 | 2336 | A | N3-C4-C5 | -5.07 | 123.25 | 126.80 |
| 27 | 1J | 63 | G | N7-C8-N9 | -5.07 | 110.57 | 113.10 |
| 1 | 13 | 242 | C | N3-C4-C5 | 5.07 | 123.93 | 121.90 |
| 1 | 13 | 423 | G | C2-N3-C4 | 5.07 | 114.43 | 111.90 |
| 1 | 13 | 478 | A | C2-N3-C4 | -5.07 | 108.07 | 110.60 |
| 1 | 13 | 907 | A | C5-N7-C8 | -5.07 | 101.37 | 103.90 |
| 1 | 13 | 1476 | G | N7-C8-N9 | -5.07 | 110.57 | 113.10 |
| 26 | 1H | 132 | G | N1-C2-N2 | -5.07 | 111.64 | 116.20 |
| 26 | 1H | 510 | C | C5-C4-N4 | 5.07 | 123.75 | 120.20 |
| 26 | 1H | 560 | C | C6-N1-C2 | 5.07 | 122.33 | 120.30 |
| 26 | 1H | 790 | C | C6-N1-C2 | 5.07 | 122.33 | 120.30 |
| 26 | 1H | 1242 | A | N1-C6-N6 | 5.07 | 121.64 | 118.60 |
| 26 | 1H | 1430 | C | N3-C4-C5 | -5.07 | 119.87 | 121.90 |
| 26 | 1H | 1846 | G | N1-C6-O6 | 5.07 | 122.94 | 119.90 |
| 26 | 1H | 2062 | A | N9-C4-C5 | -5.07 | 103.77 | 105.80 |
| 26 | 1H | 2697 | G | C5-C6-N1 | -5.07 | 108.97 | 111.50 |
| 1 | 1G | 128 | G | C2-N3-C4 | -5.07 | 109.37 | 111.90 |
| 1 | 1G | 727 | G | C2-N3-C4 | 5.07 | 114.43 | 111.90 |
| 57 | 3L | 48 | C | C2-N1-C1' | 5.07 | 124.37 | 118.80 |
| 26 | 14 | 124 | G | OP2-P-O3' | 5.07 | 116.34 | 105.20 |
| 26 | 14 | 136 | G | OP1-P-OP2 | 5.07 | 127.20 | 119.60 |
| 26 | 14 | 582 | G | C2-N3-C4 | -5.07 | 109.37 | 111.90 |
| 26 | 14 | 673 | C | N3-C4-C5 | 5.07 | 123.93 | 121.90 |
| 26 | 14 | 811 | U | OP1-P-OP2 | -5.07 | 112.00 | 119.60 |
| 26 | 14 | 1569 | A | C5-C6-N1 | 5.07 | 120.23 | 117.70 |
| 26 | 14 | 1894 | C | N3-C2-O2 | -5.07 | 118.36 | 121.90 |
| 26 | 14 | 2247 | A | C8-N9-C4 | -5.07 | 103.77 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2562 | U | C5-C6-N1 | -5.07 | 120.17 | 122.70 |
| 26 | 14 | 2694 | G | OP1-P-OP2 | 5.07 | 127.20 | 119.60 |
| 26 | 14 | 2727 | G | N1-C2-N3 | 5.07 | 126.94 | 123.90 |
| 1 | 13 | 104 | G | C4-C5-N7 | 5.06 | 112.83 | 110.80 |
| 26 | 1H | 845 | G | C5-C6-O6 | -5.06 | 125.56 | 128.60 |
| 1 | 1G | 247 | G | C5-C6-N1 | 5.06 | 114.03 | 111.50 |
| 56 | 1L | 76 | A | O5'-P-OP2 | -5.06 | 101.14 | 105.70 |
| 26 | 14 | 861 | A | C5-C6-N6 | 5.06 | 127.75 | 123.70 |
| 26 | 14 | 939 | G | OP2-P-O3' | 5.06 | 116.34 | 105.20 |
| 26 | 14 | 1392 | A | N1-C6-N6 | -5.06 | 115.56 | 118.60 |
| 26 | 14 | 2042 | A | C5-N7-C8 | -5.06 | 101.37 | 103.90 |
| 26 | 14 | 2346 | A | N9-C1'-C2' | 5.06 | 120.58 | 114.00 |
| 1 | 13 | 791 | G | N3-C4-C5 | -5.06 | 126.07 | 128.60 |
| 1 | 13 | 833 | U | C2-N1-C1' | -5.06 | 111.62 | 117.70 |
| 1 | 13 | 1085 | U | O5'-P-OP2 | 5.06 | 116.78 | 110.70 |
| 1 | 13 | 1324 | A | O5'-P-OP2 | 5.06 | 116.77 | 110.70 |
| 26 | 1H | 135 | G | C2-N3-C4 | 5.06 | 114.43 | 111.90 |
| 26 | 1H | 440 | G | C5-C6-N1 | 5.06 | 114.03 | 111.50 |
| 26 | 1H | 816 | C | OP1-P-OP2 | -5.06 | 112.00 | 119.60 |
| 26 | 1H | 931 | G | N1-C2-N3 | 5.06 | 126.94 | 123.90 |
| 26 | 1H | 1107 | G | C8-N9-C1' | -5.06 | 120.42 | 127.00 |
| 26 | 1H | 1160 | G | C6-N1-C2 | 5.06 | 128.14 | 125.10 |
| 26 | 1H | 1264 | G | N3-C4-C5 | 5.06 | 131.13 | 128.60 |
| 26 | 1H | 1414 | G | C6-N1-C2 | -5.06 | 122.06 | 125.10 |
| 26 | 1H | 1579 | A | C4-C5-C6 | 5.06 | 119.53 | 117.00 |
| 26 | 1H | 2042 | A | N3-C4-N9 | -5.06 | 123.35 | 127.40 |
| 26 | 1H | 2360 | A | C8-N9-C4 | 5.06 | 107.83 | 105.80 |
| 55 | Q8 | 47 | LYS | N-CA-C | -5.06 | 97.33 | 111.00 |
| 1 | 1G | 328 | C | N3-C4-C5 | -5.06 | 119.88 | 121.90 |
| 1 | 1G | 331 | G | C4-N9-C1' | 5.06 | 133.08 | 126.50 |
| 1 | 1G | 543 | C | C6-N1-C2 | -5.06 | 118.28 | 120.30 |
| 1 | 1G | 1070 | U | N3-C2-O2 | -5.06 | 118.66 | 122.20 |
| 26 | 14 | 1020 | A | N1-C2-N3 | 5.06 | 131.83 | 129.30 |
| 26 | 14 | 1471 | A | N7-C8-N9 | 5.06 | 116.33 | 113.80 |
| 26 | 14 | 1846 | G | C4-C5-C6 | 5.06 | 121.84 | 118.80 |
| 26 | 14 | 2447 | G | C8-N9-C4 | 5.06 | 108.42 | 106.40 |
| 26 | 14 | 2468 | G | C2-N3-C4 | 5.06 | 114.43 | 111.90 |
| 26 | 14 | 2590 | A | N7-C8-N9 | -5.06 | 111.27 | 113.80 |
| 1 | 13 | 959 | A | C5-C6-N6 | -5.06 | 119.65 | 123.70 |
| 26 | 1H | 310 | A | N9-C4-C5 | -5.06 | 103.78 | 105.80 |
| 26 | 1H | 1537 | C | C2-N3-C4 | 5.06 | 122.43 | 119.90 |
| 26 | 1H | 1591 | G | C5-C6-O6 | 5.06 | 131.64 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 1H | 2701 | C | OP1-P-O3' | -5.06 | 94.06 | 105.20 |
| 1 | 1G | 309 | G | C4-C5-N7 | 5.06 | 112.82 | 110.80 |
| 26 | 14 | 2397 | G | N1-C2-N3 | -5.06 | 120.86 | 123.90 |
| 1 | 13 | 293 | G | N1-C6-O6 | 5.06 | 122.94 | 119.90 |
| 1 | 13 | 295 | C | N3-C2-O2 | -5.06 | 118.36 | 121.90 |
| 1 | 13 | 816 | A | C2-N3-C4 | 5.06 | 113.13 | 110.60 |
| 1 | 13 | 959 | A | N9-C4-C5 | -5.06 | 103.78 | 105.80 |
| 26 | 1H | 125 | G | C5-N7-C8 | -5.06 | 101.77 | 104.30 |
| 26 | 1H | 270(Y) | G | C2-N3-C4 | -5.06 | 109.37 | 111.90 |
| 26 | 1H | 945 | A | OP1-P-O3' | 5.06 | 116.33 | 105.20 |
| 27 | 16 | 24 | G | C4-N9-C1' | 5.06 | 133.08 | 126.50 |
| 1 | 1G | 311 | C | C5-C6-N1 | 5.06 | 123.53 | 121.00 |
| 1 | 1G | 505 | G | C2-N3-C4 | 5.06 | 114.43 | 111.90 |
| 1 | 1G | 825 | G | OP2-P-O3' | 5.06 | 116.33 | 105.20 |
| 1 | 1G | 1305 | G | N7-C8-N9 | -5.06 | 110.57 | 113.10 |
| 1 | 1G | 1429 | C | OP1-P-OP2 | -5.06 | 112.01 | 119.60 |
| 23 | 2L | 46 | G | N1-C6-O6 | 5.06 | 122.94 | 119.90 |
| 26 | 14 | 428 | A | O4'-C1'-N9 | 5.06 | 112.25 | 108.20 |
| 26 | 14 | 1218 | C | C5-C6-N1 | -5.06 | 118.47 | 121.00 |
| 26 | 14 | 1235 | G | C4-C5-N7 | -5.06 | 108.78 | 110.80 |
| 26 | 14 | 1860 | G | N1-C2-N2 | 5.06 | 120.75 | 116.20 |
| 26 | 14 | 2209 | C | C2-N3-C4 | -5.06 | 117.37 | 119.90 |
| 26 | 14 | 2500 | U | O4'-C1'-N1 | 5.06 | 112.25 | 108.20 |
| 1 | 13 | 254 | G | OP1-P-OP2 | -5.06 | 112.01 | 119.60 |
| 1 | 13 | 287 | U | C2-N3-C4 | -5.06 | 123.97 | 127.00 |
| 1 | 13 | 652 | U | N3-C4-O4 | 5.06 | 122.94 | 119.40 |
| 1 | 13 | 681 | C | OP1-P-O3' | 5.06 | 116.33 | 105.20 |
| 1 | 13 | 869 | G | C2-N3-C4 | -5.06 | 109.37 | 111.90 |
| 26 | 1H | 137 | C | N1-C2-O2 | 5.06 | 121.94 | 118.90 |
| 26 | 1H | 876 | C | OP1-P-OP2 | -5.06 | 112.02 | 119.60 |
| 26 | 1H | 943 | U | C5-C6-N1 | -5.06 | 120.17 | 122.70 |
| 26 | 1H | 1138 | G | C8-N9-C1' | -5.06 | 120.42 | 127.00 |
| 26 | 1H | 2462 | U | OP1-P-OP2 | 5.06 | 127.19 | 119.60 |
| 26 | 1H | 2525 | G | OP2-P-O3' | 5.06 | 116.33 | 105.20 |
| 1 | 1G | 608 | A | C4-C5-C6 | -5.06 | 114.47 | 117.00 |
| 1 | 1G | 687 | A | C5-C6-N1 | 5.06 | 120.23 | 117.70 |
| 26 | 14 | 141 | A | O5'-P-OP2 | -5.06 | 101.15 | 105.70 |
| 26 | 14 | 318 | C | O5'-P-OP1 | -5.06 | 101.15 | 105.70 |
| 26 | 14 | 1565 | C | C5-C6-N1 | -5.06 | 118.47 | 121.00 |
| 26 | 14 | 1762 | A | C4-C5-C6 | -5.06 | 114.47 | 117.00 |
| 26 | 14 | 1791 | A | C5-C6-N6 | -5.06 | 119.65 | 123.70 |
| 26 | 14 | 1891 | G | C5-C6-O6 | 5.06 | 131.63 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2030 | A | N9-C1'-C2' | 5.06 | 120.57 | 114.00 |
| 26 | 14 | 2331 | G | C5-C6-O6 | -5.06 | 125.56 | 128.60 |
| 26 | 14 | 2440 | C | OP1-P-O3' | 5.06 | 116.33 | 105.20 |
| 26 | 14 | 2851 | A | N7-C8-N9 | 5.06 | 116.33 | 113.80 |
| 1 | 13 | 58 | C | N1-C2-O2 | 5.06 | 121.93 | 118.90 |
| 1 | 13 | 778 | G | C6-C5-N7 | -5.06 | 127.37 | 130.40 |
| 26 | 1H | 472 | A | C5-C6-N1 | 5.06 | 120.23 | 117.70 |
| 26 | 1H | 570 | G | C4-N9-C1' | 5.06 | 133.07 | 126.50 |
| 26 | 1H | 1273 | U | C4-C5-C6 | 5.06 | 122.73 | 119.70 |
| 26 | 1H | 1627 | G | N9-C4-C5 | -5.06 | 103.38 | 105.40 |
| 26 | 1H | 2454 | G | C6-N1-C2 | -5.06 | 122.07 | 125.10 |
| 26 | 1H | 2814 | C | N3-C2-O2 | 5.06 | 125.44 | 121.90 |
| 1 | 1G | 610 | G | N1-C2-N3 | 5.06 | 126.93 | 123.90 |
| 26 | 14 | 75 | G | C4-C5-N7 | -5.06 | 108.78 | 110.80 |
| 26 | 14 | 265 | A | C6-N1-C2 | 5.06 | 121.63 | 118.60 |
| 26 | 14 | 1693 | U | C5-C4-O4 | 5.06 | 128.93 | 125.90 |
| 26 | 14 | 1823 | G | N3-C2-N2 | 5.06 | 123.44 | 119.90 |
| 1 | 13 | 4 | U | N3-C2-O2 | -5.05 | 118.66 | 122.20 |
| 1 | 13 | 338 | A | N7-C8-N9 | 5.05 | 116.33 | 113.80 |
| 1 | 13 | 364 | A | C4-C5-C6 | 5.05 | 119.53 | 117.00 |
| 1 | 13 | 716 | A | OP1-P-OP2 | -5.05 | 112.02 | 119.60 |
| 1 | 13 | 862 | C | N3-C4-C5 | -5.05 | 119.88 | 121.90 |
| 1 | 13 | 1216 | G | C4-C5-N7 | -5.05 | 108.78 | 110.80 |
| 1 | 13 | 1368 | G | C2-N3-C4 | 5.05 | 114.43 | 111.90 |
| 1 | 13 | 1517 | G | OP1-P-O3' | 5.05 | 116.32 | 105.20 |
| 23 | 2K | 61 | U | O5'-P-OP1 | 5.05 | 116.77 | 110.70 |
| 26 | 1H | 95 | G | C4-C5-N7 | -5.05 | 108.78 | 110.80 |
| 26 | 1H | 470 | A | C2-N3-C4 | -5.05 | 108.07 | 110.60 |
| 26 | 1H | 1228 | G | C5-C6-N1 | -5.05 | 108.97 | 111.50 |
| 26 | 1H | 1321 | A | C5-N7-C8 | 5.05 | 106.43 | 103.90 |
| 1 | 1G | 191 | G | O5'-P-OP1 | -5.05 | 101.15 | 105.70 |
| 1 | 1G | 995 | C | C5-C6-N1 | 5.05 | 123.53 | 121.00 |
| 26 | 14 | 431 | U | N3-C2-O2 | 5.05 | 125.74 | 122.20 |
| 26 | 14 | 473 | G | C6-C5-N7 | -5.05 | 127.37 | 130.40 |
| 26 | 14 | 626 | U | C5-C4-O4 | -5.05 | 122.87 | 125.90 |
| 26 | 14 | 823 | G | N1-C2-N3 | 5.05 | 126.93 | 123.90 |
| 26 | 14 | 1001 | A | C6-C5-N7 | 5.05 | 135.84 | 132.30 |
| 26 | 14 | 1108 | U | C6-N1-C2 | -5.05 | 117.97 | 121.00 |
| 26 | 14 | 1388 | G | C2-N3-C4 | -5.05 | 109.37 | 111.90 |
| 26 | 14 | 1672 | C | C6-N1-C2 | 5.05 | 122.32 | 120.30 |
| 26 | 14 | 2008 | C | C5-C4-N4 | -5.05 | 116.66 | 120.20 |
| 26 | 14 | 2380 | C | OP2-P-O3' | 5.05 | 116.32 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 2872 | G | N3-C4-C5 | -5.05 | 126.07 | 128.60 |
| 1 | 13 | 180 | U | C6-N1-C2 | -5.05 | 117.97 | 121.00 |
| 1 | 13 | 560 | U | OP1-P-O3' | 5.05 | 116.32 | 105.20 |
| 1 | 13 | 597 | G | OP2-P-O3' | 5.05 | 116.32 | 105.20 |
| 1 | 13 | 1433 | A | C5-C6-N1 | -5.05 | 115.17 | 117.70 |
| 22 | 1K | 7 | U | N3-C2-O2 | -5.05 | 118.66 | 122.20 |
| 26 | 1H | 2197 | U | C2-N3-C4 | -5.05 | 123.97 | 127.00 |
| 26 | 1H | 2299 | G | OP1-P-O3' | 5.05 | 116.32 | 105.20 |
| 26 | 1H | 2782 | G | C6-C5-N7 | -5.05 | 127.37 | 130.40 |
| 1 | 1G | 294 | U | OP2-P-O3' | 5.05 | 116.32 | 105.20 |
| 26 | 14 | 1374 | G | N1-C6-O6 | 5.05 | 122.93 | 119.90 |
| 26 | 14 | 1461 | G | C6-C5-N7 | -5.05 | 127.37 | 130.40 |
| 26 | 14 | 1853 | A | C2-N3-C4 | -5.05 | 108.07 | 110.60 |
| 26 | 14 | 1994 | C | C5-C4-N4 | 5.05 | 123.74 | 120.20 |
| 26 | 14 | 2026 | C | C5-C4-N4 | -5.05 | 116.66 | 120.20 |
| 1 | 13 | 256 | U | O5'-P-OP2 | -5.05 | 101.15 | 105.70 |
| 26 | 1H | 206 | U | C6-N1-C1' | -5.05 | 114.13 | 121.20 |
| 26 | 1H | 270 | A | N9-C4-C5 | 5.05 | 107.82 | 105.80 |
| 26 | 1H | 365 | C | C6-N1-C2 | 5.05 | 122.32 | 120.30 |
| 26 | 1H | 699 | A | C6-N1-C2 | -5.05 | 115.57 | 118.60 |
| 26 | 1H | 791 | C | O4'-C1'-N1 | -5.05 | 104.16 | 108.20 |
| 26 | 1H | 836 | G | N3-C2-N2 | 5.05 | 123.44 | 119.90 |
| 26 | 1H | 1347 | G | C8-N9-C4 | -5.05 | 104.38 | 106.40 |
| 26 | 1H | 1368 | G | C5-N7-C8 | 5.05 | 106.83 | 104.30 |
| 26 | 1H | 1794 | U | O5'-P-OP1 | 5.05 | 116.76 | 110.70 |
| 26 | 1H | 1861 | G | C6-C5-N7 | 5.05 | 133.43 | 130.40 |
| 26 | 1H | 2445 | G | N1-C6-O6 | -5.05 | 116.87 | 119.90 |
| 37 | 78 | 60 | MET | CG-SD-CE | -5.05 | 92.12 | 100.20 |
| 1 | 1G | 301 | G | C5-C6-N1 | -5.05 | 108.97 | 111.50 |
| 1 | 1G | 346 | G | C5-C6-O6 | -5.05 | 125.57 | 128.60 |
| 1 | 1G | 426 | G | C4-C5-N7 | -5.05 | 108.78 | 110.80 |
| 26 | 14 | 199 | A | N3-C4-C5 | -5.05 | 123.26 | 126.80 |
| 26 | 14 | 444 | C | N3-C4-C5 | 5.05 | 123.92 | 121.90 |
| 26 | 14 | 500 | G | C4-C5-N7 | -5.05 | 108.78 | 110.80 |
| 26 | 14 | 644 | A | N7-C8-N9 | -5.05 | 111.27 | 113.80 |
| 26 | 14 | 984 | A | OP1-P-OP2 | -5.05 | 112.02 | 119.60 |
| 26 | 14 | 1296 | G | N1-C2-N3 | 5.05 | 126.93 | 123.90 |
| 26 | 14 | 1951 | U | OP1-P-O3' | 5.05 | 116.31 | 105.20 |
| 26 | 14 | 2272 | U | OP1-P-O3' | 5.05 | 116.31 | 105.20 |
| 26 | 14 | 2440 | C | N3-C4-N4 | -5.05 | 114.46 | 118.00 |
| 1 | 13 | 251 | G | C6-C5-N7 | -5.05 | 127.37 | 130.40 |
| 1 | 13 | 807 | A | C6-N1-C2 | -5.05 | 115.57 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 1 | 13 | 983 | A | C2-N3-C4 | -5.05 | 108.08 | 110.60 |
| 26 | 1H | 25 | U | C6-N1-C2 | 5.05 | 124.03 | 121.00 |
| 26 | 1H | 59 | U | N3-C2-O2 | -5.05 | 118.67 | 122.20 |
| 26 | 1H | 365 | C | N1-C2-O2 | -5.05 | 115.87 | 118.90 |
| 26 | 1H | 655 | A | C5-C6-N6 | -5.05 | 119.66 | 123.70 |
| 26 | 1H | 954 | G | OP1-P-O3' | 5.05 | 116.31 | 105.20 |
| 26 | 1H | 1229(A) | G | N3-C4-N9 | -5.05 | 122.97 | 126.00 |
| 26 | 1H | 1328 | G | N1-C2-N2 | -5.05 | 111.66 | 116.20 |
| 26 | 1H | 1328 | G | N3-C4-C5 | -5.05 | 126.08 | 128.60 |
| 26 | 1H | 1435 | G | N1-C2-N3 | 5.05 | 126.93 | 123.90 |
| 26 | 1H | 1454 | U | N3-C2-O2 | -5.05 | 118.67 | 122.20 |
| 26 | 1H | 1911 | U | N1-C2-N3 | 5.05 | 117.93 | 114.90 |
| 26 | 1H | 1963 | U | OP1-P-OP2 | 5.05 | 127.18 | 119.60 |
| 26 | 1H | 2066 | C | C2-N1-C1' | 5.05 | 124.35 | 118.80 |
| 1 | 1G | 596 | C | N3-C4-C5 | 5.05 | 123.92 | 121.90 |
| 1 | 1G | 646 | U | C5-C4-O4 | 5.05 | 128.93 | 125.90 |
| 1 | 1G | 1431 | C | C5-C6-N1 | 5.05 | 123.53 | 121.00 |
| 1 | 1G | 1525 | G | N1-C6-O6 | -5.05 | 116.87 | 119.90 |
| 3 | 22 | 34 | LEU | CA-CB-CG | 5.05 | 126.91 | 115.30 |
| 26 | 14 | 139 | G | OP1-P-O3' | 5.05 | 116.31 | 105.20 |
| 26 | 14 | 425 | G | C4-N9-C1' | -5.05 | 119.94 | 126.50 |
| 26 | 14 | 570 | G | O4'-C1'-N9 | -5.05 | 104.16 | 108.20 |
| 26 | 14 | 703 | U | N3-C4-O4 | -5.05 | 115.86 | 119.40 |
| 26 | 14 | 1845 | G | N1-C2-N3 | 5.05 | 126.93 | 123.90 |
| 26 | 14 | 2325 | G | N7-C8-N9 | 5.05 | 115.62 | 113.10 |
| 26 | 14 | 2714 | G | C2-N3-C4 | -5.05 | 109.38 | 111.90 |
| 1 | 13 | 953 | G | N7-C8-N9 | 5.05 | 115.62 | 113.10 |
| 26 | 1H | 141(A) | C | N1-C2-O2 | -5.05 | 115.87 | 118.90 |
| 26 | 1H | 2090 | G | C5-C6-N1 | -5.05 | 108.98 | 111.50 |
| 26 | 1H | 2099 | U | C6-N1-C2 | -5.05 | 117.97 | 121.00 |
| 26 | 14 | 958 | U | C5-C6-N1 | 5.05 | 125.22 | 122.70 |
| 26 | 14 | 2518 | A | N7-C8-N9 | 5.05 | 116.32 | 113.80 |
| 1 | 13 | 713 | G | C8-N9-C4 | 5.05 | 108.42 | 106.40 |
| 1 | 13 | 1064 | G | N3-C2-N2 | -5.05 | 116.37 | 119.90 |
| 22 | 1K | 56 | C | C5-C6-N1 | 5.05 | 123.52 | 121.00 |
| 26 | 1H | 85 | G | N3-C2-N2 | -5.05 | 116.37 | 119.90 |
| 26 | 1H | 309 | G | N1-C2-N3 | -5.05 | 120.87 | 123.90 |
| 26 | 1H | 557 | U | OP2-P-O3' | 5.05 | 116.30 | 105.20 |
| 26 | 1H | 916 | G | N1-C2-N3 | -5.05 | 120.87 | 123.90 |
| 26 | 1H | 1429 | G | C5-C6-N1 | -5.05 | 108.98 | 111.50 |
| 26 | 1H | 1448 | G | C5-C6-O6 | -5.05 | 125.57 | 128.60 |
| 26 | 1H | 2346 | A | OP1-P-O3' | 5.05 | 116.30 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 2357 | U | OP2-P-O3' | 5.05 | 116.30 | 105.20 |
| 26 | 1H | 2366 | A | OP2-P-O3' | 5.05 | 116.30 | 105.20 |
| 26 | 1H | 2529 | G | C4-C5-N7 | 5.05 | 112.82 | 110.80 |
| 26 | 1H | 2537 | U | N3-C2-O2 | -5.05 | 118.67 | 122.20 |
| 1 | 1G | 184 | G | C5-N7-C8 | -5.05 | 101.78 | 104.30 |
| 1 | 1G | 1465 | C | C5-C6-N1 | 5.05 | 123.52 | 121.00 |
| 26 | 14 | 372 | G | C4-C5-C6 | -5.05 | 115.77 | 118.80 |
| 26 | 14 | 547 | A | N9-C4-C5 | 5.05 | 107.82 | 105.80 |
| 26 | 14 | 804 | A | C4-C5-N7 | -5.05 | 108.18 | 110.70 |
| 26 | 14 | 961 | C | N3-C4-C5 | 5.05 | 123.92 | 121.90 |
| 26 | 14 | 1252 | G | C2-N3-C4 | 5.05 | 114.42 | 111.90 |
| 26 | 14 | 1359 | A | C6-N1-C2 | 5.05 | 121.63 | 118.60 |
| 26 | 14 | 1490 | A | C5-C6-N6 | -5.05 | 119.66 | 123.70 |
| 26 | 14 | 1731 | G | N1-C6-O6 | 5.05 | 122.93 | 119.90 |
| 26 | 14 | 2108 | C | C5-C6-N1 | 5.05 | 123.52 | 121.00 |
| 1 | 13 | 298 | A | C6-N1-C2 | -5.04 | 115.57 | 118.60 |
| 1 | 13 | 622 | A | N9-C4-C5 | 5.04 | 107.82 | 105.80 |
| 1 | 13 | 667 | G | N3-C4-N9 | -5.04 | 122.97 | 126.00 |
| 26 | 1H | 397 | G | C5-C6-O6 | -5.04 | 125.57 | 128.60 |
| 26 | 1H | 696 | G | N9-C4-C5 | -5.04 | 103.38 | 105.40 |
| 26 | 1H | 1314 | C | C6-N1-C1' | -5.04 | 114.75 | 120.80 |
| 26 | 1H | 1707 | G | N3-C4-C5 | 5.04 | 131.12 | 128.60 |
| 26 | 1H | 1870 | C | C4-C5-C6 | 5.04 | 119.92 | 117.40 |
| 26 | 1H | 1976 | U | C2-N3-C4 | -5.04 | 123.97 | 127.00 |
| 26 | 1H | 2094 | G | O5'-P-OP2 | -5.04 | 101.16 | 105.70 |
| 26 | 1H | 2578 | G | C6-C5-N7 | 5.04 | 133.43 | 130.40 |
| 1 | 1G | 1348 | U | OP2-P-O3' | 5.04 | 116.30 | 105.20 |
| 26 | 14 | 633 | A | N1-C6-N6 | 5.04 | 121.63 | 118.60 |
| 26 | 14 | 807 | U | N1-C2-O2 | -5.04 | 119.27 | 122.80 |
| 26 | 14 | 951 | C | C5-C6-N1 | 5.04 | 123.52 | 121.00 |
| 26 | 14 | 1229 | G | C6-C5-N7 | -5.04 | 127.37 | 130.40 |
| 1 | 13 | 1089 | G | C8-N9-C4 | 5.04 | 108.42 | 106.40 |
| 1 | 13 | 1400 | C | C2-N1-C1' | 5.04 | 124.35 | 118.80 |
| 26 | 1H | 36 | G | C2-N3-C4 | 5.04 | 114.42 | 111.90 |
| 26 | 1H | 482 | A | OP1-P-O3' | 5.04 | 116.29 | 105.20 |
| 26 | 1H | 608 | A | C4-C5-N7 | -5.04 | 108.18 | 110.70 |
| 26 | 1H | 784 | A | P-O3'-C3' | 5.04 | 125.75 | 119.70 |
| 26 | 1H | 863 | A | C6-N1-C2 | -5.04 | 115.57 | 118.60 |
| 26 | 1H | 974 | G | C5-C6-O6 | -5.04 | 125.57 | 128.60 |
| 26 | 1H | 1800 | C | OP1-P-OP2 | -5.04 | 112.03 | 119.60 |
| 26 | 1H | 1829 | A | C4-C5-C6 | 5.04 | 119.52 | 117.00 |
| 26 | 1H | 2745 | C | O5'-P-OP2 | 5.04 | 116.75 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 798 | G | OP1-P-OP2 | -5.04 | 112.03 | 119.60 |
| 1 | 1G | 1432 | G | C8-N9-C4 | -5.04 | 104.38 | 106.40 |
| 26 | 14 | 212 | G | OP1-P-OP2 | 5.04 | 127.17 | 119.60 |
| 26 | 14 | 1429 | G | C4-N9-C1' | 5.04 | 133.06 | 126.50 |
| 26 | 14 | 1704 | G | N1-C6-O6 | 5.04 | 122.93 | 119.90 |
| 26 | 14 | 2024 | G | N1-C6-O6 | 5.04 | 122.93 | 119.90 |
| 26 | 14 | 2163 | C | C2-N1-C1' | 5.04 | 124.35 | 118.80 |
| 26 | 14 | 2340 | G | N3-C4-C5 | 5.04 | 131.12 | 128.60 |
| 26 | 14 | 2357 | U | N3-C4-O4 | 5.04 | 122.93 | 119.40 |
| 27 | 1J | 54 | G | N9-C4-C5 | 5.04 | 107.42 | 105.40 |
| 1 | 13 | 125 | U | N3-C4-O4 | 5.04 | 122.93 | 119.40 |
| 1 | 13 | 784 | C | C6-N1-C2 | 5.04 | 122.32 | 120.30 |
| 23 | 2K | 45 | A | C4-C5-N7 | 5.04 | 113.22 | 110.70 |
| 25 | 4K | 12 | A | C8-N9-C4 | -5.04 | 103.78 | 105.80 |
| 26 | 1H | 71 | A | N9-C1'-C2' | -5.04 | 106.45 | 112.00 |
| 26 | 1H | 278 | A | C2-N3-C4 | 5.04 | 113.12 | 110.60 |
| 26 | 1H | 493 | G | O5'-P-OP2 | -5.04 | 101.16 | 105.70 |
| 26 | 1H | 585 | G | O5'-P-OP1 | -5.04 | 101.16 | 105.70 |
| 26 | 1H | 684 | G | N1-C2-N2 | 5.04 | 120.74 | 116.20 |
| 26 | 1H | 1966 | A | C5-C6-N6 | 5.04 | 127.73 | 123.70 |
| 26 | 1H | 2620 | C | N3-C4-N4 | 5.04 | 121.53 | 118.00 |
| 26 | 1H | 2706 | G | C5-C6-O6 | -5.04 | 125.58 | 128.60 |
| 1 | 1G | 1243 | C | N3-C4-C5 | -5.04 | 119.88 | 121.90 |
| 1 | 1G | 1432 | G | C6-C5-N7 | -5.04 | 127.38 | 130.40 |
| 1 | 1G | 1437 | C | N1-C2-N3 | -5.04 | 115.67 | 119.20 |
| 26 | 14 | 69 | C | C4-C5-C6 | 5.04 | 119.92 | 117.40 |
| 26 | 14 | 716 | A | N1-C2-N3 | 5.04 | 131.82 | 129.30 |
| 26 | 14 | 730 | C | N3-C2-O2 | -5.04 | 118.37 | 121.90 |
| 26 | 14 | 1014 | U | C5-C6-N1 | 5.04 | 125.22 | 122.70 |
| 26 | 14 | 1024 | G | C2-N3-C4 | -5.04 | 109.38 | 111.90 |
| 26 | 14 | 1235 | G | C4-C5-C6 | 5.04 | 121.83 | 118.80 |
| 26 | 14 | 1236 | G | O5'-P-OP1 | -5.04 | 101.16 | 105.70 |
| 26 | 14 | 1772 | G | P-O3'-C3' | 5.04 | 125.75 | 119.70 |
| 26 | 14 | 2543 | G | C5-C6-N1 | 5.04 | 114.02 | 111.50 |
| 26 | 14 | 2546 | U | C6-N1-C2 | -5.04 | 117.98 | 121.00 |
| 26 | 14 | 2583 | G | C6-N1-C2 | -5.04 | 122.08 | 125.10 |
| 26 | 1H | 254 | G | C2-N3-C4 | 5.04 | 114.42 | 111.90 |
| 26 | 1H | 1018 | C | C6-N1-C2 | 5.04 | 122.32 | 120.30 |
| 26 | 1H | 2147 | G | N1-C6-O6 | 5.04 | 122.92 | 119.90 |
| 26 | 1H | 2517 | C | C6-N1-C2 | 5.04 | 122.32 | 120.30 |
| 1 | 1G | 1490 | C | O5'-P-OP1 | 5.04 | 116.75 | 110.70 |
| 26 | 14 | 580 | C | C4-C5-C6 | -5.04 | 114.88 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 817 | C | C5-C6-N1 | 5.04 | 123.52 | 121.00 |
| 26 | 14 | 1149 | G | OP1-P-O3' | 5.04 | 116.29 | 105.20 |
| 1 | 13 | 522 | C | N1-C2-N3 | -5.04 | 115.67 | 119.20 |
| 1 | 13 | 988 | G | N1-C2-N2 | -5.04 | 111.67 | 116.20 |
| 1 | 13 | 1398 | A | C6-N1-C2 | -5.04 | 115.58 | 118.60 |
| 1 | 13 | 1442 | G | C8-N9-C1' | 5.04 | 133.55 | 127.00 |
| 26 | 1H | 55 | G | C8-N9-C4 | 5.04 | 108.42 | 106.40 |
| 26 | 1H | 252 | G | N7-C8-N9 | -5.04 | 110.58 | 113.10 |
| 26 | 1H | 523 | C | N3-C4-N4 | 5.04 | 121.53 | 118.00 |
| 26 | 1H | 630 | G | C4-C5-C6 | 5.04 | 121.82 | 118.80 |
| 26 | 1H | 780 | G | C5-C6-N1 | -5.04 | 108.98 | 111.50 |
| 26 | 1H | 1390 | U | N3-C4-O4 | -5.04 | 115.87 | 119.40 |
| 26 | 1H | 2666 | C | C5-C6-N1 | 5.04 | 123.52 | 121.00 |
| 26 | 1H | 2671 | A | C4-C5-N7 | 5.04 | 113.22 | 110.70 |
| 26 | 1H | 2711 | A | O4'-C1'-N9 | 5.04 | 112.23 | 108.20 |
| 26 | 1H | 2732 | G | C6-N1-C2 | -5.04 | 122.08 | 125.10 |
| 27 | 16 | 102 | G | C5-N7-C8 | 5.04 | 106.82 | 104.30 |
| 1 | 1G | 1127 | G | N3-C4-N9 | 5.04 | 129.02 | 126.00 |
| 26 | 14 | 1382 | G | N9-C4-C5 | -5.04 | 103.39 | 105.40 |
| 26 | 14 | 1685 | C | N1-C2-O2 | -5.04 | 115.88 | 118.90 |
| 26 | 14 | 1947 | C | N3-C4-C5 | 5.04 | 123.92 | 121.90 |
| 26 | 14 | 2346 | A | O4'-C1'-N9 | 5.04 | 112.23 | 108.20 |
| 26 | 14 | 2434 | A | C4-C5-C6 | 5.04 | 119.52 | 117.00 |
| 26 | 14 | 2642 | G | O5'-P-OP1 | 5.04 | 116.75 | 110.70 |
| 1 | 13 | 30 | U | C5-C6-N1 | 5.04 | 125.22 | 122.70 |
| 26 | 1H | 339 | U | OP1-P-O3' | 5.04 | 116.28 | 105.20 |
| 26 | 1H | 717 | G | C6-N1-C2 | -5.04 | 122.08 | 125.10 |
| 26 | 1H | 1378 | A | C6-N1-C2 | 5.04 | 121.62 | 118.60 |
| 27 | 16 | 54 | G | N1-C2-N2 | 5.04 | 120.73 | 116.20 |
| 1 | 1G | 1516 | G | C5-C6-O6 | 5.04 | 131.62 | 128.60 |
| 26 | 14 | 1390 | U | OP1-P-O3' | 5.04 | 116.28 | 105.20 |
| 26 | 14 | 2042 | A | C4-C5-N7 | 5.04 | 113.22 | 110.70 |
| 26 | 14 | 2048 | G | C6-C5-N7 | 5.04 | 133.42 | 130.40 |
| 26 | 14 | 2587 | A | C5-C6-N6 | -5.04 | 119.67 | 123.70 |
| 26 | 14 | 2724 | C | C6-N1-C2 | 5.04 | 122.31 | 120.30 |
| 1 | 13 | 394 | G | C4-C5-C6 | 5.04 | 121.82 | 118.80 |
| 1 | 13 | 503 | C | C4-C5-C6 | 5.04 | 119.92 | 117.40 |
| 1 | 13 | 753 | A | C2-N3-C4 | -5.04 | 108.08 | 110.60 |
| 1 | 13 | 900 | A | C8-N9-C4 | 5.04 | 107.81 | 105.80 |
| 1 | 13 | 1198 | G | C4-C5-N7 | -5.04 | 108.79 | 110.80 |
| 1 | 13 | 1480 | G | N1-C2-N3 | 5.04 | 126.92 | 123.90 |
| 26 | 1H | 1034 | G | C4-C5-C6 | 5.04 | 121.82 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 1604 | C | C2-N3-C4 | -5.04 | 117.38 | 119.90 |
| 26 | 1H | 1772 | G | O4'-C1'-N9 | 5.04 | 112.23 | 108.20 |
| 26 | 1H | 2438 | U | N3-C2-O2 | -5.04 | 118.67 | 122.20 |
| 26 | 1H | 2557 | G | C6-C5-N7 | 5.04 | 133.42 | 130.40 |
| 1 | 1G | 303 | A | C2-N3-C4 | -5.04 | 108.08 | 110.60 |
| 1 | 1G | 816 | A | N1-C6-N6 | -5.04 | 115.58 | 118.60 |
| 26 | 14 | 92 | G | C2-N3-C4 | -5.04 | 109.38 | 111.90 |
| 26 | 14 | 283 | A | N1-C2-N3 | 5.04 | 131.82 | 129.30 |
| 26 | 14 | 686 | G | C4-C5-N7 | 5.04 | 112.81 | 110.80 |
| 26 | 14 | 1515 | C | C2-N3-C4 | -5.04 | 117.38 | 119.90 |
| 26 | 14 | 1987 | G | C8-N9-C4 | 5.04 | 108.41 | 106.40 |
| 26 | 14 | 2415 | G | OP1-P-O3' | 5.04 | 116.28 | 105.20 |
| 26 | 14 | 2820 | A | N3-C4-C5 | 5.04 | 130.32 | 126.80 |
| 26 | 14 | 2865 | U | C6-N1-C1' | 5.04 | 128.25 | 121.20 |
| 24 | 3K | 21 | A | C2-N3-C4 | 5.03 | 113.12 | 110.60 |
| 26 | 1H | 134 | C | OP1-P-OP2 | -5.03 | 112.05 | 119.60 |
| 26 | 1H | 341 | G | N7-C8-N9 | -5.03 | 110.58 | 113.10 |
| 26 | 1H | 385 | C | C5-C6-N1 | 5.03 | 123.52 | 121.00 |
| 26 | 1H | 747 | U | C6-N1-C2 | 5.03 | 124.02 | 121.00 |
| 26 | 1H | 962 | G | O5'-P-OP1 | -5.03 | 101.17 | 105.70 |
| 26 | 1H | 985 | C | C5-C6-N1 | -5.03 | 118.48 | 121.00 |
| 26 | 1H | 1259 | G | C6-N1-C2 | 5.03 | 128.12 | 125.10 |
| 26 | 1H | 1320 | C | C6-N1-C2 | 5.03 | 122.31 | 120.30 |
| 26 | 1H | 1354 | A | C6-C5-N7 | -5.03 | 128.78 | 132.30 |
| 26 | 1H | 1408 | C | N3-C2-O2 | 5.03 | 125.42 | 121.90 |
| 26 | 1H | 1810 | A | N9-C1'-C2' | -5.03 | 106.46 | 112.00 |
| 26 | 1H | 2847 | U | O5'-P-OP2 | 5.03 | 116.74 | 110.70 |
| 1 | 1G | 452 | A | N9-C4-C5 | -5.03 | 103.79 | 105.80 |
| 1 | 1G | 673 | G | C5-C6-O6 | -5.03 | 125.58 | 128.60 |
| 1 | 1G | 889 | A | O4'-C1'-N9 | 5.03 | 112.23 | 108.20 |
| 56 | 1L | 45 | G | C4-N9-C1' | 5.03 | 133.04 | 126.50 |
| 26 | 14 | 25 | U | N1-C2-O2 | -5.03 | 119.28 | 122.80 |
| 26 | 14 | 30 | G | C6-C5-N7 | -5.03 | 127.38 | 130.40 |
| 26 | 14 | 33 | U | C5-C6-N1 | -5.03 | 120.18 | 122.70 |
| 26 | 14 | 456 | C | OP1-P-OP2 | 5.03 | 127.15 | 119.60 |
| 26 | 14 | 686 | G | N1-C2-N3 | 5.03 | 126.92 | 123.90 |
| 26 | 14 | 1381 | G | OP1-P-OP2 | 5.03 | 127.15 | 119.60 |
| 26 | 14 | 1429 | G | OP2-P-O3' | 5.03 | 116.27 | 105.20 |
| 26 | 14 | 1455 | G | O5'-P-OP1 | -5.03 | 101.17 | 105.70 |
| 26 | 14 | 1651 | G | N7-C8-N9 | 5.03 | 115.62 | 113.10 |
| 26 | 14 | 2000 | G | OP1-P-OP2 | -5.03 | 112.05 | 119.60 |
| 26 | 14 | 2282 | G | C6-N1-C2 | 5.03 | 128.12 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2405 | G | OP1-P-O3' | 5.03 | 116.28 | 105.20 |
| 26 | 14 | 2490 | G | C8-N9-C4 | -5.03 | 104.39 | 106.40 |
| 26 | 14 | 2572 | A | OP1-P-OP2 | 5.03 | 127.15 | 119.60 |
| 1 | 13 | 598 | U | C6-N1-C2 | -5.03 | 117.98 | 121.00 |
| 1 | 13 | 1518 | A | C4-C5-C6 | 5.03 | 119.52 | 117.00 |
| 26 | 1H | 44 | A | O5'-P-OP2 | 5.03 | 116.74 | 110.70 |
| 26 | 1H | 309 | G | OP1-P-OP2 | -5.03 | 112.05 | 119.60 |
| 26 | 1H | 1257 | C | N3-C4-N4 | 5.03 | 121.52 | 118.00 |
| 26 | 1H | 1450 | C | O5'-P-OP2 | -5.03 | 101.17 | 105.70 |
| 26 | 1H | 2024 | G | C8-N9-C4 | -5.03 | 104.39 | 106.40 |
| 26 | 1H | 2596 | U | N3-C4-C5 | 5.03 | 117.62 | 114.60 |
| 1 | 1G | 495 | A | C4-N9-C1' | -5.03 | 117.24 | 126.30 |
| 1 | 1G | 977 | A | N3-C4-C5 | -5.03 | 123.28 | 126.80 |
| 26 | 14 | 652 | C | C6-N1-C2 | -5.03 | 118.29 | 120.30 |
| 26 | 14 | 1828 | G | OP2-P-O3' | 5.03 | 116.27 | 105.20 |
| 1 | 13 | 516 | U | N1-C2-O2 | 5.03 | 126.32 | 122.80 |
| 1 | 13 | 1060 | C | C2-N3-C4 | 5.03 | 122.42 | 119.90 |
| 1 | 13 | 1065 | U | N3-C4-C5 | 5.03 | 117.62 | 114.60 |
| 26 | 1H | 341 | G | C6-C5-N7 | 5.03 | 133.42 | 130.40 |
| 26 | 1H | 1377 | G | C6-N1-C2 | -5.03 | 122.08 | 125.10 |
| 26 | 1H | 2015 | A | C4-C5-N7 | 5.03 | 113.22 | 110.70 |
| 26 | 1H | 2035 | G | N1-C2-N3 | 5.03 | 126.92 | 123.90 |
| 26 | 1H | 2335 | A | N1-C6-N6 | -5.03 | 115.58 | 118.60 |
| 26 | 1H | 2595 | G | C6-N1-C2 | 5.03 | 128.12 | 125.10 |
| 26 | 1H | 2729 | G | C4-C5-C6 | 5.03 | 121.82 | 118.80 |
| 26 | 1H | 2825 | C | N3-C4-N4 | 5.03 | 121.52 | 118.00 |
| 27 | 16 | 100 | G | C5-N7-C8 | 5.03 | 106.81 | 104.30 |
| 1 | 1G | 897 | C | C5-C4-N4 | -5.03 | 116.68 | 120.20 |
| 1 | 1G | 971 | G | O5'-P-OP1 | 5.03 | 116.74 | 110.70 |
| 1 | 1G | 1478 | C | C5-C4-N4 | 5.03 | 123.72 | 120.20 |
| 26 | 14 | 569 | U | OP1-P-O3' | 5.03 | 116.27 | 105.20 |
| 26 | 14 | 750 | A | OP2-P-O3' | 5.03 | 116.27 | 105.20 |
| 26 | 14 | 925 | C | C5-C4-N4 | 5.03 | 123.72 | 120.20 |
| 26 | 14 | 1368 | G | C6-C5-N7 | 5.03 | 133.42 | 130.40 |
| 26 | 14 | 1686 | C | C6-N1-C2 | 5.03 | 122.31 | 120.30 |
| 26 | 14 | 2356 | C | C4-C5-C6 | 5.03 | 119.92 | 117.40 |
| 27 | 1J | 18 | G | C6-N1-C2 | 5.03 | 128.12 | 125.10 |
| 1 | 13 | 477 | G | C4-N9-C1' | -5.03 | 119.96 | 126.50 |
| 1 | 13 | 521 | G | C6-N1-C2 | -5.03 | 122.08 | 125.10 |
| 26 | 1H | 348 | G | C6-C5-N7 | 5.03 | 133.42 | 130.40 |
| 26 | 1H | 809 | G | C5-C6-N1 | 5.03 | 114.02 | 111.50 |
| 26 | 1H | 1590 | U | C4-C5-C6 | 5.03 | 122.72 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 1 | 1G | 265 | G | C8-N9-C4 | 5.03 | 108.41 | 106.40 |
| 1 | 1G | 353 | A | C4-C5-C6 | -5.03 | 114.48 | 117.00 |
| 1 | 1G | 697 | U | C4-C5-C6 | 5.03 | 122.72 | 119.70 |
| 26 | 14 | 30 | G | N3-C4-C5 | -5.03 | 126.09 | 128.60 |
| 26 | 14 | 833 | U | N3-C4-O4 | 5.03 | 122.92 | 119.40 |
| 26 | 14 | 1283 | G | N1-C2-N2 | -5.03 | 111.67 | 116.20 |
| 26 | 14 | 2216 | G | C8-N9-C4 | 5.03 | 108.41 | 106.40 |
| 26 | 14 | 2299 | G | O5'-P-OP1 | -5.03 | 101.17 | 105.70 |
| 26 | 14 | 2706 | G | OP1-P-OP2 | 5.03 | 127.14 | 119.60 |
| 26 | 14 | 2776 | A | P-O3'-C3' | 5.03 | 125.73 | 119.70 |
| 1 | 13 | 505 | G | C6-C5-N7 | -5.03 | 127.38 | 130.40 |
| 23 | 2K | 76 | C | O5'-P-OP2 | -5.03 | 101.17 | 105.70 |
| 26 | 1H | 218 | A | C4-C5-C6 | 5.03 | 119.51 | 117.00 |
| 26 | 1H | 687 | C | N3-C2-O2 | 5.03 | 125.42 | 121.90 |
| 26 | 1H | 936 | C | C6-N1-C1' | -5.03 | 114.77 | 120.80 |
| 26 | 1H | 1249 | U | O4'-C1'-N1 | -5.03 | 104.18 | 108.20 |
| 26 | 1H | 1519 | G | C5-C6-N1 | -5.03 | 108.99 | 111.50 |
| 26 | 1H | 2006 | C | O5'-P-OP1 | 5.03 | 116.73 | 110.70 |
| 26 | 1H | 2562 | U | C2-N3-C4 | -5.03 | 123.98 | 127.00 |
| 26 | 1H | 2760 | C | N3-C4-N4 | -5.03 | 114.48 | 118.00 |
| 1 | 1G | 1073 | U | C2-N3-C4 | 5.03 | 130.02 | 127.00 |
| 23 | 2L | 36 | A | OP1-P-O3' | 5.03 | 116.26 | 105.20 |
| 26 | 14 | 15 | G | N1-C2-N3 | 5.03 | 126.92 | 123.90 |
| 26 | 14 | 18 | C | N3-C2-O2 | 5.03 | 125.42 | 121.90 |
| 26 | 14 | 231 | C | N3-C2-O2 | 5.03 | 125.42 | 121.90 |
| 26 | 14 | 287 | C | C6-N1-C2 | -5.03 | 118.29 | 120.30 |
| 26 | 14 | 573 | G | C2-N3-C4 | 5.03 | 114.41 | 111.90 |
| 26 | 14 | 621 | A | N3-C4-N9 | -5.03 | 123.38 | 127.40 |
| 26 | 14 | 1313 | U | C2-N3-C4 | -5.03 | 123.98 | 127.00 |
| 26 | 14 | 1792 | G | C5-N7-C8 | 5.03 | 106.81 | 104.30 |
| 1 | 13 | 744 | C | OP1-P-OP2 | -5.03 | 112.06 | 119.60 |
| 1 | 13 | 822 | C | N3-C4-C5 | -5.03 | 119.89 | 121.90 |
| 1 | 13 | 1159 | U | N3-C4-C5 | -5.03 | 111.58 | 114.60 |
| 1 | 13 | 1192 | C | C2-N1-C1' | 5.03 | 124.33 | 118.80 |
| 26 | 1H | 514 | A | C5-N7-C8 | 5.03 | 106.41 | 103.90 |
| 26 | 1H | 1127 | A | C2-N3-C4 | 5.03 | 113.11 | 110.60 |
| 26 | 1H | 1534 | G | C4-N9-C1' | 5.03 | 133.03 | 126.50 |
| 26 | 1H | 1656 | C | OP2-P-O3' | 5.03 | 116.26 | 105.20 |
| 26 | 1H | 1807 | G | C4-C5-N7 | 5.03 | 112.81 | 110.80 |
| 26 | 1H | 1888 | G | O4'-C1'-N9 | 5.03 | 112.22 | 108.20 |
| 26 | 1H | 1904 | G | C5-N7-C8 | 5.03 | 106.81 | 104.30 |
| 26 | 1H | 2643 | G | C4-C5-N7 | 5.03 | 112.81 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | 1G | 675 | A | N1-C6-N6 | 5.03 | 121.62 | 118.60 |
| 1 | 1G | 939 | G | N1-C6-O6 | -5.03 | 116.88 | 119.90 |
| 1 | 1G | 942 | G | N3-C4-N9 | 5.03 | 129.01 | 126.00 |
| 26 | 14 | 622 | G | C5-N7-C8 | 5.03 | 106.81 | 104.30 |
| 26 | 14 | 746 | A | P-O5'-C5' | -5.03 | 112.86 | 120.90 |
| 26 | 14 | 1239 | G | O5'-P-OP1 | -5.03 | 101.18 | 105.70 |
| 26 | 14 | 1782 | C | C2-N1-C1' | 5.03 | 124.33 | 118.80 |
| 26 | 14 | 1844 | C | O5'-P-OP2 | 5.03 | 116.73 | 110.70 |
| 26 | 14 | 1962 | C | C2-N3-C4 | -5.03 | 117.39 | 119.90 |
| 26 | 14 | 2378 | A | N1-C6-N6 | 5.03 | 121.61 | 118.60 |
| 1 | 13 | 338 | A | C5-C6-N6 | -5.02 | 119.68 | 123.70 |
| 1 | 13 | 1493 | A | C4-C5-N7 | -5.02 | 108.19 | 110.70 |
| 26 | 1H | 305 | U | C5-C4-O4 | 5.02 | 128.91 | 125.90 |
| 26 | 1H | 1712 | C | C5-C6-N1 | 5.02 | 123.51 | 121.00 |
| 26 | 1H | 2206 | C | C2-N3-C4 | -5.02 | 117.39 | 119.90 |
| 26 | 1H | 2740 | A | N9-C4-C5 | -5.02 | 103.79 | 105.80 |
| 26 | 14 | 2427 | C | OP2-P-O3' | 5.02 | 116.25 | 105.20 |
| 1 | 13 | 561 | U | C5-C4-O4 | -5.02 | 122.89 | 125.90 |
| 1 | 13 | 677 | U | OP1-P-O3' | 5.02 | 116.25 | 105.20 |
| 1 | 13 | 1108 | G | C5-C6-N1 | -5.02 | 108.99 | 111.50 |
| 1 | 13 | 1191 | A | C8-N9-C4 | 5.02 | 107.81 | 105.80 |
| 1 | 13 | 1285 | A | C6-N1-C2 | -5.02 | 115.59 | 118.60 |
| 26 | 1H | 1038 | C | N1-C2-O2 | 5.02 | 121.91 | 118.90 |
| 26 | 1H | 1248 | G | OP1-P-OP2 | -5.02 | 112.07 | 119.60 |
| 26 | 1H | 1894 | C | N3-C4-N4 | 5.02 | 121.52 | 118.00 |
| 26 | 1H | 2709 | G | N1-C6-O6 | -5.02 | 116.89 | 119.90 |
| 26 | 1H | 2782 | G | OP1-P-OP2 | 5.02 | 127.13 | 119.60 |
| 26 | 1H | 2822 | G | C6-N1-C2 | 5.02 | 128.11 | 125.10 |
| 1 | 1G | 291 | C | N3-C4-N4 | 5.02 | 121.52 | 118.00 |
| 1 | 1G | 982 | U | C4-C5-C6 | -5.02 | 116.69 | 119.70 |
| 26 | 14 | 66 | C | N1-C2-O2 | -5.02 | 115.89 | 118.90 |
| 26 | 14 | 444 | C | OP1-P-OP2 | 5.02 | 127.13 | 119.60 |
| 26 | 14 | 512 | G | C5-C6-N1 | -5.02 | 108.99 | 111.50 |
| 26 | 14 | 659 | C | C6-N1-C2 | 5.02 | 122.31 | 120.30 |
| 26 | 14 | 780 | G | C5-C6-O6 | 5.02 | 131.61 | 128.60 |
| 26 | 14 | 1128 | A | C5-C6-N6 | 5.02 | 127.72 | 123.70 |
| 26 | 14 | 1408 | C | OP1-P-OP2 | -5.02 | 112.07 | 119.60 |
| 26 | 14 | 1526 | G | O5'-P-OP1 | 5.02 | 116.73 | 110.70 |
| 26 | 14 | 1618 | A | N7-C8-N9 | 5.02 | 116.31 | 113.80 |
| 26 | 14 | 1933 | G | C5-C6-N1 | -5.02 | 108.99 | 111.50 |
| 26 | 14 | 2387 | U | OP1-P-OP2 | 5.02 | 127.13 | 119.60 |
| 26 | 14 | 2392 | A | C5-C6-N6 | 5.02 | 127.72 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 14 | 2844 | G | C5-C6-O6 | -5.02 | 125.59 | 128.60 |
| 1 | 13 | 252 | U | N1-C2-O2 | 5.02 | 126.31 | 122.80 |
| 1 | 13 | 519 | C | N3-C4-C5 | -5.02 | 119.89 | 121.90 |
| 1 | 13 | 695 | A | N1-C2-N3 | 5.02 | 131.81 | 129.30 |
| 26 | 1H | 455 | C | OP1-P-O3' | -5.02 | 94.15 | 105.20 |
| 26 | 1H | 468 | G | C5-N7-C8 | 5.02 | 106.81 | 104.30 |
| 26 | 1H | 1152 | C | C6-N1-C1' | 5.02 | 126.83 | 120.80 |
| 26 | 1H | 2584 | U | OP1-P-O3' | 5.02 | 116.25 | 105.20 |
| 26 | 1H | 2658 | C | C4-C5-C6 | -5.02 | 114.89 | 117.40 |
| 1 | 1G | 1251 | A | N9-C4-C5 | 5.02 | 107.81 | 105.80 |
| 26 | 14 | 99 | U | C5-C4-O4 | 5.02 | 128.91 | 125.90 |
| 26 | 14 | 410 | G | C2-N3-C4 | -5.02 | 109.39 | 111.90 |
| 26 | 14 | 1564 | C | O5'-P-OP2 | -5.02 | 101.18 | 105.70 |
| 26 | 14 | 1667 | G | N9-C4-C5 | 5.02 | 107.41 | 105.40 |
| 26 | 14 | 1692 | U | N1-C2-O2 | -5.02 | 119.29 | 122.80 |
| 1 | 13 | 1082 | G | OP1-P-O3' | 5.02 | 116.24 | 105.20 |
| 1 | 13 | 1364 | U | OP1-P-O3' | 5.02 | 116.24 | 105.20 |
| 3 | 2E | 204 | LEU | CA-CB-CG | -5.02 | 103.75 | 115.30 |
| 23 | 2K | 70 | C | OP2-P-O3' | 5.02 | 116.24 | 105.20 |
| 26 | 1H | 729 | G | N7-C8-N9 | 5.02 | 115.61 | 113.10 |
| 26 | 1H | 970 | C | OP1-P-O3' | -5.02 | 94.16 | 105.20 |
| 26 | 1H | 1855 | G | N3-C4-C5 | -5.02 | 126.09 | 128.60 |
| 26 | 1H | 2087 | G | C2-N3-C4 | 5.02 | 114.41 | 111.90 |
| 26 | 1H | 2210 | G | O5'-P-OP1 | 5.02 | 116.72 | 110.70 |
| 26 | 1H | 2327 | A | C6-N1-C2 | -5.02 | 115.59 | 118.60 |
| 26 | 1H | 2448 | A | C5-C6-N6 | -5.02 | 119.69 | 123.70 |
| 27 | 16 | 6 | C | O5'-P-OP1 | 5.02 | 116.72 | 110.70 |
| 1 | 1G | 259 | G | C2-N3-C4 | -5.02 | 109.39 | 111.90 |
| 1 | 1G | 708 | C | C4-C5-C6 | -5.02 | 114.89 | 117.40 |
| 1 | 1G | 952 | U | OP2-P-O3' | 5.02 | 116.24 | 105.20 |
| 1 | 1G | 1272 | G | C5-N7-C8 | -5.02 | 101.79 | 104.30 |
| 1 | 1G | 1386 | G | C4-C5-N7 | -5.02 | 108.79 | 110.80 |
| 25 | 4L | 20 | U | N3-C2-O2 | -5.02 | 118.69 | 122.20 |
| 26 | 14 | 179 | G | O5'-P-OP2 | -5.02 | 101.18 | 105.70 |
| 26 | 14 | 268 | C | O5'-P-OP2 | -5.02 | 101.18 | 105.70 |
| 26 | 14 | 431 | U | N3-C4-O4 | 5.02 | 122.91 | 119.40 |
| 26 | 14 | 596 | G | N1-C2-N3 | 5.02 | 126.91 | 123.90 |
| 26 | 14 | 1962 | C | OP1-P-OP2 | -5.02 | 112.07 | 119.60 |
| 26 | 14 | 2039 | C | O5'-P-OP1 | 5.02 | 116.72 | 110.70 |
| 1 | 13 | 909 | A | OP1-P-O3' | -5.02 | 94.16 | 105.20 |
| 26 | 1H | 99 | U | N1-C2-O2 | 5.02 | 126.31 | 122.80 |
| 26 | 1H | 193 | U | OP1-P-O3' | -5.02 | 94.16 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 1H | 456 | C | N3-C4-C5 | -5.02 | 119.89 | 121.90 |
| 26 | 1H | 483 | A | N1-C2-N3 | 5.02 | 131.81 | 129.30 |
| 26 | 1H | 1346 | G | C5-C6-N1 | 5.02 | 114.01 | 111.50 |
| 26 | 1H | 1349 | A | N3-C4-C5 | 5.02 | 130.31 | 126.80 |
| 26 | 1H | 1849 | G | C4-C5-C6 | 5.02 | 121.81 | 118.80 |
| 26 | 1H | 1959 | G | OP2-P-O3' | 5.02 | 116.24 | 105.20 |
| 26 | 1H | 2007 | C | N3-C2-O2 | -5.02 | 118.39 | 121.90 |
| 26 | 1H | 2276 | G | C4-N9-C1' | 5.02 | 133.02 | 126.50 |
| 26 | 1H | 2336 | A | C4-C5-N7 | -5.02 | 108.19 | 110.70 |
| 1 | 1G | 292 | G | O5'-P-OP2 | -5.02 | 101.18 | 105.70 |
| 1 | 1G | 882 | C | C2-N3-C4 | -5.02 | 117.39 | 119.90 |
| 26 | 14 | 96 | G | C6-N1-C2 | -5.02 | 122.09 | 125.10 |
| 26 | 14 | 578 | A | C2-N3-C4 | -5.02 | 108.09 | 110.60 |
| 26 | 14 | 738 | G | C4-C5-C6 | 5.02 | 121.81 | 118.80 |
| 26 | 14 | 767 | U | N1-C2-O2 | 5.02 | 126.31 | 122.80 |
| 26 | 14 | 1280 | G | OP2-P-O3' | 5.02 | 116.24 | 105.20 |
| 26 | 14 | 2318 | G | C6-N1-C2 | 5.02 | 128.11 | 125.10 |
| 26 | 14 | 2428 | G | C6-C5-N7 | 5.02 | 133.41 | 130.40 |
| 26 | 14 | 2691 | C | N3-C4-C5 | -5.02 | 119.89 | 121.90 |
| 26 | 14 | 2878 | U | C6-N1-C2 | -5.02 | 117.99 | 121.00 |
| 1 | 13 | 824 | C | C5-C4-N4 | -5.02 | 116.69 | 120.20 |
| 26 | 1H | 232 | G | C4-N9-C1' | 5.02 | 133.02 | 126.50 |
| 26 | 1H | 313 | C | N3-C4-N4 | 5.02 | 121.51 | 118.00 |
| 26 | 1H | 753 | C | O4'-C1'-N1 | 5.02 | 112.21 | 108.20 |
| 26 | 1H | 2406 | U | N1-C2-O2 | 5.02 | 126.31 | 122.80 |
| 1 | 1G | 159 | G | C6-C5-N7 | 5.02 | 133.41 | 130.40 |
| 1 | 1G | 354 | G | O5'-P-OP2 | -5.02 | 101.19 | 105.70 |
| 1 | 1G | 1516 | G | O5'-P-OP2 | -5.02 | 101.19 | 105.70 |
| 26 | 14 | 1603 | A | O5'-P-OP1 | 5.02 | 116.72 | 110.70 |
| 1 | 13 | 438 | G | C8-N9-C4 | -5.01 | 104.39 | 106.40 |
| 1 | 13 | 1488 | G | C6-N1-C2 | -5.01 | 122.09 | 125.10 |
| 26 | 1H | 76 | C | OP2-P-O3' | 5.01 | 116.23 | 105.20 |
| 26 | 1H | 424 | G | OP1-P-OP2 | 5.01 | 127.12 | 119.60 |
| 26 | 1H | 771 | G | N1-C2-N2 | 5.01 | 120.71 | 116.20 |
| 26 | 1H | 1679 | U | C5-C4-O4 | -5.01 | 122.89 | 125.90 |
| 26 | 1H | 1982 | C | C5-C4-N4 | -5.01 | 116.69 | 120.20 |
| 26 | 1H | 2016 | U | C2-N1-C1' | -5.01 | 111.68 | 117.70 |
| 26 | 1H | 2295 | C | N1-C2-O2 | 5.01 | 121.91 | 118.90 |
| 1 | 1G | 186 | C | OP1-P-O3' | 5.01 | 116.23 | 105.20 |
| 23 | 2L | 10 | G | N1-C2-N2 | -5.01 | 111.69 | 116.20 |
| 26 | 14 | 130 | C | C5-C6-N1 | -5.01 | 118.49 | 121.00 |
| 26 | 14 | 187 | G | C2-N3-C4 | -5.01 | 109.39 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 26 | 14 | 440 | G | C5-N7-C8 | -5.01 | 101.79 | 104.30 |
| 26 | 14 | 1001 | A | C8-N9-C4 | -5.01 | 103.79 | 105.80 |
| 26 | 14 | 2330 | G | C4-N9-C1' | 5.01 | 133.02 | 126.50 |
| 26 | 14 | 2689 | U | N1-C2-N3 | 5.01 | 117.91 | 114.90 |
| 26 | 14 | 2856 | C | OP1-P-OP2 | -5.01 | 112.08 | 119.60 |
| 1 | 13 | 1102 | A | OP2-P-O3' | 5.01 | 116.23 | 105.20 |
| 26 | 1H | 6 | A | C6-C5-N7 | -5.01 | 128.79 | 132.30 |
| 26 | 1H | 303 | U | O4'-C1'-N1 | 5.01 | 112.21 | 108.20 |
| 26 | 1H | 636 | G | O4'-C1'-N9 | 5.01 | 112.21 | 108.20 |
| 26 | 1H | 1316 | U | N3-C4-O4 | -5.01 | 115.89 | 119.40 |
| 26 | 1H | 2225 | A | C2-N3-C4 | 5.01 | 113.11 | 110.60 |
| 26 | 1H | 2300 | G | N3-C2-N2 | -5.01 | 116.39 | 119.90 |
| 26 | 1H | 2328 | A | C6-N1-C2 | -5.01 | 115.59 | 118.60 |
| 26 | 1H | 2558 | C | N3-C2-O2 | -5.01 | 118.39 | 121.90 |
| 26 | 14 | 429 | A | C5-N7-C8 | -5.01 | 101.39 | 103.90 |
| 26 | 14 | 736 | C | C6-N1-C2 | 5.01 | 122.31 | 120.30 |
| 26 | 14 | 1958 | C | C2-N3-C4 | 5.01 | 122.41 | 119.90 |
| 26 | 14 | 2067 | G | N7-C8-N9 | 5.01 | 115.61 | 113.10 |
| 26 | 14 | 2330 | G | N3-C4-N9 | 5.01 | 129.01 | 126.00 |
| 1 | 13 | 771 | G | N9-C4-C5 | 5.01 | 107.41 | 105.40 |
| 1 | 13 | 906 | G | C6-N1-C2 | -5.01 | 122.09 | 125.10 |
| 1 | 13 | 975 | A | O4'-C1'-N9 | -5.01 | 104.19 | 108.20 |
| 1 | 13 | 1056 | U | C5-C4-O4 | 5.01 | 128.91 | 125.90 |
| 1 | 13 | 1144 | G | O5'-P-OP1 | -5.01 | 101.19 | 105.70 |
| 1 | 13 | 1302 | U | N3-C4-O4 | -5.01 | 115.89 | 119.40 |
| 1 | 13 | 1399 | C | C2-N3-C4 | -5.01 | 117.39 | 119.90 |
| 26 | 1H | 125 | G | N3-C4-C5 | -5.01 | 126.09 | 128.60 |
| 26 | 1H | 236 | C | OP2-P-O3' | 5.01 | 116.22 | 105.20 |
| 26 | 1H | 334 | C | C4-C5-C6 | 5.01 | 119.91 | 117.40 |
| 26 | 1H | 619 | G | C5-N7-C8 | 5.01 | 106.81 | 104.30 |
| 26 | 1H | 627 | A | C4-C5-N7 | -5.01 | 108.19 | 110.70 |
| 26 | 1H | 674 | G | O5'-P-OP2 | 5.01 | 116.71 | 110.70 |
| 26 | 1H | 787 | U | N1-C2-O2 | -5.01 | 119.29 | 122.80 |
| 26 | 1H | 1204 | A | N9-C1'-C2' | 5.01 | 120.52 | 114.00 |
| 26 | 1H | 1573 | G | N1-C6-O6 | 5.01 | 122.91 | 119.90 |
| 26 | 1H | 1937 | A | P-O3'-C3' | 5.01 | 125.71 | 119.70 |
| 26 | 1H | 2328 | A | C2-N3-C4 | -5.01 | 108.09 | 110.60 |
| 26 | 1H | 2508 | G | C8-N9-C4 | -5.01 | 104.40 | 106.40 |
| 26 | 1H | 2556 | C | C5-C4-N4 | -5.01 | 116.69 | 120.20 |
| 26 | 1H | 2603 | G | C5-C6-O6 | -5.01 | 125.59 | 128.60 |
| 27 | 16 | 21 | G | N1-C2-N3 | -5.01 | 120.89 | 123.90 |
| 27 | 16 | 25 | A | C5-C6-N1 | -5.01 | 115.19 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 1 | 1G | 1415 | G | N9-C4-C5 | -5.01 | 103.40 | 105.40 |
| 3 | 22 | 142 | MET | CB-CG-SD | 5.01 | 127.43 | 112.40 |
| 26 | 14 | 1226 | G | N1-C2-N2 | -5.01 | 111.69 | 116.20 |
| 26 | 14 | 1901 | A | N1-C6-N6 | -5.01 | 115.59 | 118.60 |
| 41 | 75 | 93 | ARG | NE-CZ-NH2 | -5.01 | 117.79 | 120.30 |
| 1 | 13 | 524 | G | OP2-P-O3' | 5.01 | 116.22 | 105.20 |
| 1 | 13 | 605 | U | N1-C2-N3 | 5.01 | 117.91 | 114.90 |
| 1 | 13 | 617 | G | C6-C5-N7 | -5.01 | 127.39 | 130.40 |
| 1 | 13 | 768 | A | N9-C4-C5 | 5.01 | 107.80 | 105.80 |
| 1 | 13 | 988 | G | C5-C6-O6 | 5.01 | 131.61 | 128.60 |
| 23 | 2K | 59 | A | OP1-P-OP2 | -5.01 | 112.09 | 119.60 |
| 26 | 1H | 270(E) | G | N3-C4-C5 | 5.01 | 131.10 | 128.60 |
| 26 | 1H | 476 | G | C4-C5-N7 | -5.01 | 108.80 | 110.80 |
| 26 | 1H | 480 | A | C5-C6-N6 | -5.01 | 119.69 | 123.70 |
| 26 | 1H | 873 | G | N9-C4-C5 | 5.01 | 107.40 | 105.40 |
| 26 | 1H | 1237 | A | N1-C6-N6 | -5.01 | 115.59 | 118.60 |
| 26 | 1H | 1250 | G | N9-C4-C5 | -5.01 | 103.40 | 105.40 |
| 26 | 1H | 1450 | C | N1-C2-O2 | -5.01 | 115.89 | 118.90 |
| 26 | 1H | 2316 | C | C6-N1-C2 | -5.01 | 118.30 | 120.30 |
| 26 | 1H | 2567 | G | C5-C6-O6 | -5.01 | 125.59 | 128.60 |
| 26 | 1H | 2699 | C | N3-C2-O2 | 5.01 | 125.41 | 121.90 |
| 26 | 1H | 2710 | C | C2-N1-C1' | -5.01 | 113.29 | 118.80 |
| 27 | 16 | 73 | A | C5-C6-N1 | 5.01 | 120.20 | 117.70 |
| 29 | 11 | 29 | PRO | CA-N-CD | -5.01 | 104.49 | 111.50 |
| 1 | 1G | 544 | G | C5-C6-N1 | 5.01 | 114.00 | 111.50 |
| 57 | 3L | 42 | A | N9-C4-C5 | -5.01 | 103.80 | 105.80 |
| 26 | 14 | 224 | G | N1-C6-O6 | -5.01 | 116.89 | 119.90 |
| 26 | 14 | 415 | A | C6-N1-C2 | -5.01 | 115.59 | 118.60 |
| 26 | 14 | 514 | A | OP1-P-OP2 | 5.01 | 127.11 | 119.60 |
| 26 | 14 | 649 | G | N9-C4-C5 | 5.01 | 107.40 | 105.40 |
| 26 | 14 | 769 | G | C5-N7-C8 | 5.01 | 106.81 | 104.30 |
| 26 | 14 | 794 | G | C5-N7-C8 | 5.01 | 106.80 | 104.30 |
| 26 | 14 | 835 | A | N9-C4-C5 | -5.01 | 103.80 | 105.80 |
| 26 | 14 | 2085 | C | C4-C5-C6 | 5.01 | 119.91 | 117.40 |
| 1 | 13 | 35 | G | N3-C2-N2 | -5.01 | 116.39 | 119.90 |
| 1 | 13 | 973 | G | C4-C5-N7 | -5.01 | 108.80 | 110.80 |
| 1 | 13 | 1389 | C | C5-C6-N1 | 5.01 | 123.50 | 121.00 |
| 26 | 1H | 88 | G | N1-C2-N2 | -5.01 | 111.69 | 116.20 |
| 26 | 1H | 767 | U | C2-N3-C4 | -5.01 | 124.00 | 127.00 |
| 26 | 1H | 1150 | C | C6-N1-C2 | 5.01 | 122.30 | 120.30 |
| 26 | 1H | 2279 | G | N3-C2-N2 | 5.01 | 123.41 | 119.90 |
| 26 | 1H | 2407 | G | C4-N9-C1' | 5.01 | 133.01 | 126.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|---------|------|------------|-------|-------------|----------|
| 1 | 1G | 700 | G | C6-C5-N7 | -5.01 | 127.39 | 130.40 |
| 23 | 2L | 72 | C | N3-C2-O2 | -5.01 | 118.39 | 121.90 |
| 26 | 14 | 148 | C | C2-N1-C1' | -5.01 | 113.29 | 118.80 |
| 26 | 14 | 768 | G | N3-C4-C5 | -5.01 | 126.10 | 128.60 |
| 26 | 14 | 1449(A) | G | OP1-P-OP2 | 5.01 | 127.11 | 119.60 |
| 26 | 14 | 1768 | U | C5-C6-N1 | 5.01 | 125.20 | 122.70 |
| 26 | 14 | 2335 | A | C5-C6-N6 | 5.01 | 127.71 | 123.70 |
| 26 | 14 | 2668 | G | N1-C6-O6 | -5.01 | 116.89 | 119.90 |
| 29 | 19 | 215 | LEU | CA-CB-CG | -5.01 | 103.78 | 115.30 |
| 1 | 13 | 481 | G | C4-N9-C1' | 5.01 | 133.01 | 126.50 |
| 1 | 13 | 770 | C | C2-N3-C4 | -5.01 | 117.40 | 119.90 |
| 1 | 13 | 928 | G | N3-C4-C5 | 5.01 | 131.10 | 128.60 |
| 1 | 13 | 1317 | C | C6-N1-C2 | -5.01 | 118.30 | 120.30 |
| 26 | 1H | 645 | C | C5-C4-N4 | 5.01 | 123.70 | 120.20 |
| 26 | 1H | 967 | C | C5-C6-N1 | -5.01 | 118.50 | 121.00 |
| 26 | 1H | 1161 | C | OP1-P-O3' | 5.01 | 116.21 | 105.20 |
| 26 | 1H | 1357 | U | N1-C2-O2 | -5.01 | 119.30 | 122.80 |
| 26 | 1H | 1367 | A | C4-C5-C6 | 5.01 | 119.50 | 117.00 |
| 26 | 1H | 2031 | A | P-O3'-C3' | -5.01 | 113.69 | 119.70 |
| 26 | 1H | 2758 | A | C5-N7-C8 | -5.01 | 101.40 | 103.90 |
| 27 | 16 | 94 | C | N3-C4-C5 | -5.01 | 119.90 | 121.90 |
| 1 | 1G | 668 | G | OP1-P-O3' | 5.01 | 116.22 | 105.20 |
| 1 | 1G | 1095 | U | C6-N1-C2 | -5.01 | 118.00 | 121.00 |
| 1 | 1G | 1366 | C | OP1-P-O3' | 5.01 | 116.22 | 105.20 |
| 1 | 1G | 1416 | G | C6-N1-C2 | 5.01 | 128.10 | 125.10 |
| 1 | 1G | 1454 | G | N1-C6-O6 | 5.01 | 122.90 | 119.90 |
| 26 | 14 | 258 | G | C5-C6-N1 | -5.01 | 109.00 | 111.50 |
| 26 | 14 | 679 | C | O5'-P-OP1 | -5.01 | 101.19 | 105.70 |
| 26 | 14 | 706 | A | N3-C4-N9 | -5.01 | 123.40 | 127.40 |
| 26 | 14 | 1251 | C | N3-C2-O2 | 5.01 | 125.40 | 121.90 |
| 26 | 14 | 1322 | A | N1-C6-N6 | -5.01 | 115.60 | 118.60 |
| 26 | 14 | 1726 | G | N1-C2-N3 | 5.01 | 126.90 | 123.90 |
| 26 | 14 | 2069 | G | O5'-P-OP2 | 5.01 | 116.71 | 110.70 |
| 26 | 14 | 2347 | C | N3-C4-N4 | -5.01 | 114.50 | 118.00 |
| 26 | 14 | 2606 | C | N1-C2-N3 | 5.01 | 122.70 | 119.20 |
| 26 | 14 | 2712(A) | A | OP1-P-OP2 | 5.01 | 127.11 | 119.60 |
| 1 | 13 | 343 | U | O4'-C1'-N1 | 5.00 | 112.20 | 108.20 |
| 1 | 13 | 1048 | G | C6-C5-N7 | -5.00 | 127.40 | 130.40 |
| 26 | 1H | 1164 | G | N9-C4-C5 | 5.00 | 107.40 | 105.40 |
| 26 | 1H | 2414 | G | OP1-P-O3' | 5.00 | 116.21 | 105.20 |
| 1 | 1G | 306 | G | C5-N7-C8 | -5.00 | 101.80 | 104.30 |
| 1 | 1G | 1482 | G | N9-C4-C5 | -5.00 | 103.40 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 26 | 14 | 1399 | C | N3-C4-N4 | 5.00 | 121.50 | 118.00 |
| 26 | 14 | 2016 | U | C5-C6-N1 | -5.00 | 120.20 | 122.70 |
| 27 | 1J | 81 | G | N3-C2-N2 | 5.00 | 123.40 | 119.90 |
| 1 | 13 | 129(A) | G | N7-C8-N9 | 5.00 | 115.60 | 113.10 |
| 1 | 13 | 168 | G | C8-N9-C4 | -5.00 | 104.40 | 106.40 |
| 1 | 13 | 635 | G | N1-C6-O6 | 5.00 | 122.90 | 119.90 |
| 1 | 13 | 880 | C | N1-C2-O2 | 5.00 | 121.90 | 118.90 |
| 22 | 1K | 31 | A | OP1-P-OP2 | -5.00 | 112.09 | 119.60 |
| 24 | 3K | 43 | U | C6-N1-C1' | -5.00 | 114.20 | 121.20 |
| 26 | 1H | 17 | G | C5-C6-N1 | 5.00 | 114.00 | 111.50 |
| 26 | 1H | 391 | G | OP1-P-OP2 | 5.00 | 127.10 | 119.60 |
| 26 | 1H | 804 | A | O5'-P-OP2 | 5.00 | 116.70 | 110.70 |
| 26 | 1H | 970 | C | O5'-P-OP1 | -5.00 | 101.20 | 105.70 |
| 26 | 1H | 1000 | A | C4-C5-C6 | -5.00 | 114.50 | 117.00 |
| 26 | 1H | 2097 | C | N3-C4-C5 | 5.00 | 123.90 | 121.90 |
| 26 | 1H | 2437 | U | C2-N1-C1' | -5.00 | 111.70 | 117.70 |
| 1 | 1G | 678 | U | C5-C4-O4 | 5.00 | 128.90 | 125.90 |
| 1 | 1G | 690 | G | C4-C5-N7 | 5.00 | 112.80 | 110.80 |
| 1 | 1G | 788 | U | OP2-P-O3' | 5.00 | 116.21 | 105.20 |
| 1 | 1G | 1452 | C | C5-C6-N1 | 5.00 | 123.50 | 121.00 |
| 26 | 14 | 96 | G | N7-C8-N9 | -5.00 | 110.60 | 113.10 |
| 26 | 14 | 228 | A | N3-C4-C5 | 5.00 | 130.30 | 126.80 |
| 26 | 14 | 818 | G | C2-N3-C4 | 5.00 | 114.40 | 111.90 |
| 26 | 14 | 908 | C | C6-N1-C2 | -5.00 | 118.30 | 120.30 |
| 26 | 14 | 1613 | G | N1-C2-N2 | -5.00 | 111.70 | 116.20 |
| 26 | 14 | 1664 | A | C8-N9-C1' | -5.00 | 118.69 | 127.70 |
| 26 | 14 | 2341 | G | N3-C4-C5 | 5.00 | 131.10 | 128.60 |
| 26 | 14 | 2518 | A | O4'-C1'-N9 | -5.00 | 104.20 | 108.20 |
| 26 | 14 | 2551 | C | N3-C4-C5 | -5.00 | 119.90 | 121.90 |
| 27 | 1J | 118 | G | C4-N9-C1' | 5.00 | 133.01 | 126.50 |
| 1 | 13 | 557 | G | N1-C6-O6 | -5.00 | 116.90 | 119.90 |
| 1 | 13 | 587 | G | OP1-P-OP2 | -5.00 | 112.10 | 119.60 |
| 1 | 13 | 625 | G | OP2-P-O3' | 5.00 | 116.20 | 105.20 |
| 1 | 13 | 1320 | C | C5-C6-N1 | -5.00 | 118.50 | 121.00 |
| 1 | 13 | 1504 | G | N3-C2-N2 | -5.00 | 116.40 | 119.90 |
| 26 | 1H | 177 | G | C5-N7-C8 | 5.00 | 106.80 | 104.30 |
| 26 | 1H | 672 | C | O5'-P-OP1 | 5.00 | 116.70 | 110.70 |
| 26 | 1H | 937 | U | N3-C4-C5 | 5.00 | 117.60 | 114.60 |
| 26 | 1H | 1017 | G | N1-C2-N2 | 5.00 | 120.70 | 116.20 |
| 26 | 1H | 1169 | G | N1-C6-O6 | 5.00 | 122.90 | 119.90 |
| 26 | 1H | 1383 | C | C6-N1-C1' | -5.00 | 114.80 | 120.80 |
| 26 | 1H | 1445 | C | N3-C4-C5 | -5.00 | 119.90 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 26 | 1H | 1470 | G | C4-C5-N7 | -5.00 | 108.80 | 110.80 |
| 26 | 1H | 1620 | G | O5'-P-OP2 | 5.00 | 116.70 | 110.70 |
| 26 | 1H | 1930 | G | OP1-P-OP2 | 5.00 | 127.10 | 119.60 |
| 26 | 1H | 2427 | C | C5-C6-N1 | -5.00 | 118.50 | 121.00 |
| 26 | 1H | 2768 | C | N3-C2-O2 | -5.00 | 118.40 | 121.90 |
| 48 | I8 | 55 | ARG | NE-CZ-NH1 | -5.00 | 117.80 | 120.30 |
| 1 | 1G | 1427 | U | C2-N3-C4 | -5.00 | 124.00 | 127.00 |
| 1 | 1G | 1474 | G | C5-N7-C8 | -5.00 | 101.80 | 104.30 |
| 26 | 14 | 523 | C | C2-N3-C4 | 5.00 | 122.40 | 119.90 |
| 26 | 14 | 620 | G | N9-C4-C5 | 5.00 | 107.40 | 105.40 |
| 26 | 14 | 1594 | G | C4-C5-N7 | 5.00 | 112.80 | 110.80 |
| 26 | 14 | 1596 | A | C2-N3-C4 | -5.00 | 108.10 | 110.60 |
| 26 | 14 | 1911 | U | C4-C5-C6 | -5.00 | 116.70 | 119.70 |
| 26 | 14 | 2441 | C | C6-N1-C2 | 5.00 | 122.30 | 120.30 |
| 26 | 14 | 2834 | G | C5-C6-O6 | 5.00 | 131.60 | 128.60 |

There are no chirality outliers.

All (209) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 29 | 11 | 113 | VAL | Peptide |
| 29 | 11 | 122 | ASP | Peptide |
| 29 | 11 | 236 | GLY | Peptide |
| 29 | 11 | 237 | GLU | Peptide |
| 29 | 11 | 29 | PRO | Peptide |
| 29 | 11 | 41 | GLY | Peptide |
| 2 | 12 | 127 | ILE | Peptide |
| 2 | 12 | 19 | HIS | Peptide |
| 2 | 12 | 22 | LYS | Peptide |
| 2 | 12 | 23 | ARG | Peptide |
| 2 | 12 | 44 | LEU | Peptide |
| 2 | 12 | 98 | LEU | Peptide |
| 26 | 14 | 463 | G | Sidechain |
| 35 | 15 | 124 | ALA | Peptide |
| 35 | 15 | 127 | ASP | Peptide |
| 35 | 15 | 135 | PRO | Peptide |
| 35 | 15 | 41 | ASP | Peptide |
| 29 | 19 | 237 | GLU | Peptide |
| 29 | 19 | 27 | THR | Peptide |
| 29 | 19 | 271 | ILE | Peptide |
| 29 | 19 | 273 | ARG | Peptide |
| 29 | 19 | 28 | GLU | Peptide |

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| Mol | Chain | Res | Type | Group |
|------------|--------------|------------|-------------|--------------|
| 29 | 19 | 9 | TYR | Peptide |
| 2 | 1E | 169 | LYS | Peptide |
| 2 | 1E | 234 | PRO | Peptide |
| 2 | 1E | 9 | GLU | Peptide |
| 30 | 21 | 153 | GLY | Peptide |
| 30 | 21 | 18 | ASP | Peptide |
| 30 | 21 | 187 | ALA | Peptide |
| 30 | 21 | 19 | ARG | Peptide |
| 30 | 21 | 53 | PRO | Peptide |
| 30 | 21 | 56 | PRO | Peptide |
| 30 | 21 | 57 | LYS | Peptide |
| 30 | 21 | 64 | LYS | Peptide |
| 30 | 21 | 77 | ILE | Peptide |
| 30 | 21 | 78 | LEU | Peptide |
| 30 | 21 | 82 | ARG | Peptide |
| 3 | 22 | 125 | GLU | Peptide |
| 3 | 22 | 88 | ARG | Peptide |
| 30 | 29 | 202 | LYS | Peptide |
| 30 | 29 | 61 | ARG | Peptide |
| 30 | 29 | 76 | ARG | Peptide |
| 30 | 29 | 87 | GLU | Peptide |
| 30 | 29 | 88 | GLY | Peptide |
| 30 | 29 | 89 | ASP | Peptide |
| 11 | 2A | 49 | GLY | Peptide |
| 3 | 2E | 128 | PHE | Peptide |
| 3 | 2E | 166 | GLU | Peptide |
| 11 | 2I | 102 | GLY | Peptide |
| 31 | 31 | 130 | ALA | Peptide |
| 31 | 31 | 133 | ASN | Peptide |
| 31 | 31 | 17 | ARG | Peptide |
| 4 | 32 | 154 | ASN | Peptide |
| 4 | 32 | 179 | GLU | Peptide |
| 4 | 32 | 29 | PRO | Peptide |
| 4 | 32 | 84 | LYS | Peptide |
| 37 | 35 | 107 | LYS | Peptide |
| 37 | 35 | 110 | TYR | Peptide |
| 37 | 35 | 36 | LYS | Peptide |
| 37 | 35 | 70 | GLN | Peptide |
| 31 | 39 | 12 | LEU | Peptide |
| 31 | 39 | 123 | LEU | Peptide |
| 31 | 39 | 127 | GLU | Peptide |
| 31 | 39 | 146 | ALA | Peptide |

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| Mol | Chain | Res | Type | Group |
|------------|--------------|------------|-------------|--------------|
| 31 | 39 | 15 | SER | Peptide |
| 31 | 39 | 166 | ALA | Peptide |
| 31 | 39 | 20 | LEU | Peptide |
| 31 | 39 | 24 | LEU | Peptide |
| 31 | 39 | 26 | ALA | Peptide |
| 31 | 39 | 82 | ILE | Peptide |
| 31 | 39 | 89 | VAL | Peptide |
| 12 | 3A | 46 | LYS | Peptide |
| 4 | 3E | 151 | LYS | Peptide |
| 12 | 3I | 118 | SER | Peptide |
| 12 | 3I | 125 | PRO | Peptide |
| 12 | 3I | 47 | LYS | Peptide |
| 12 | 3I | 48 | PRO | Peptide |
| 12 | 3I | 87 | GLY | Peptide |
| 32 | 41 | 82 | LEU | Peptide |
| 32 | 41 | 85 | GLY | Peptide |
| 32 | 41 | 95 | ARG | Peptide |
| 38 | 45 | 134 | ARG | Peptide |
| 38 | 45 | 135 | ASP | Peptide |
| 38 | 45 | 137 | TYR | Peptide |
| 38 | 45 | 24 | GLY | Peptide |
| 38 | 45 | 79 | LEU | Peptide |
| 38 | 45 | 80 | GLU | Peptide |
| 38 | 45 | 82 | ARG | Peptide |
| 32 | 49 | 106 | LEU | Peptide |
| 32 | 49 | 113 | ARG | Peptide |
| 32 | 49 | 13 | GLU | Peptide |
| 32 | 49 | 142 | PRO | Peptide |
| 32 | 49 | 4 | ASP | Peptide |
| 32 | 49 | 5 | VAL | Peptide |
| 13 | 4A | 57 | ARG | Peptide |
| 13 | 4A | 94 | ARG | Peptide |
| 5 | 4E | 112 | LEU | Peptide |
| 13 | 4I | 105 | THR | Peptide |
| 13 | 4I | 107 | ALA | Peptide |
| 13 | 4I | 94 | ARG | Peptide |
| 33 | 51 | 137 | ASP | Peptide |
| 33 | 51 | 152 | ARG | Peptide |
| 33 | 51 | 155 | SER | Peptide |
| 35 | 58 | 47 | ALA | Peptide |
| 35 | 58 | 49 | GLY | Peptide |
| 35 | 58 | 56 | ASN | Peptide |

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| Mol | Chain | Res | Type | Group |
|------------|--------------|------------|-------------|--------------|
| 33 | 59 | 144 | VAL | Peptide |
| 33 | 59 | 150 | ALA | Peptide |
| 33 | 59 | 7 | LEU | Peptide |
| 14 | 5A | 27 | CYS | Peptide |
| 14 | 5I | 14 | PRO | Peptide |
| 34 | 61 | 11 | ASN | Peptide |
| 34 | 61 | 114 | LEU | Peptide |
| 34 | 61 | 134 | PRO | Peptide |
| 34 | 61 | 61 | ARG | Peptide |
| 34 | 69 | 101 | LEU | Peptide |
| 34 | 69 | 112 | LYS | Peptide |
| 34 | 69 | 142 | VAL | Peptide |
| 34 | 69 | 143 | SER | Peptide |
| 34 | 69 | 75 | LEU | Peptide |
| 34 | 69 | 77 | LEU | Peptide |
| 15 | 6A | 12 | ILE | Peptide |
| 7 | 6E | 5 | ARG | Peptide |
| 28 | 71 | 38 | ASP | Peptide |
| 41 | 75 | 11 | GLU | Peptide |
| 41 | 75 | 12 | SER | Peptide |
| 37 | 78 | 115 | LEU | Peptide |
| 37 | 78 | 12 | ALA | Peptide |
| 37 | 78 | 18 | ARG | Peptide |
| 37 | 78 | 19 | VAL | Peptide |
| 37 | 78 | 24 | GLY | Peptide |
| 37 | 78 | 26 | GLY | Peptide |
| 37 | 78 | 36 | LYS | Peptide |
| 16 | 7I | 51 | VAL | Peptide |
| 9 | 82 | 117 | HIS | Peptide |
| 42 | 85 | 72 | HIS | Peptide |
| 42 | 85 | 90 | VAL | Peptide |
| 42 | 85 | 95 | LEU | Peptide |
| 42 | 85 | 96 | ALA | Peptide |
| 42 | 85 | 98 | LEU | Peptide |
| 38 | 88 | 138 | ASP | Peptide |
| 38 | 88 | 20 | ALA | Peptide |
| 38 | 88 | 58 | PHE | Peptide |
| 9 | 8E | 110 | GLU | Peptide |
| 17 | 8I | 48 | GLU | Peptide |
| 43 | 95 | 44 | LYS | Peptide |
| 43 | 95 | 49 | THR | Peptide |
| 43 | 95 | 80 | GLN | Peptide |

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| Mol | Chain | Res | Type | Group |
|------------|--------------|------------|-------------|--------------|
| 44 | A5 | 43 | GLY | Peptide |
| 40 | A8 | 110 | LEU | Peptide |
| 40 | A8 | 3 | ARG | Peptide |
| 19 | AA | 66 | MET | Peptide |
| 19 | AI | 6 | LYS | Peptide |
| 19 | AI | 7 | LYS | Peptide |
| 45 | B5 | 61 | GLY | Peptide |
| 45 | B5 | 93 | GLU | Peptide |
| 41 | B8 | 12 | SER | Peptide |
| 41 | B8 | 2 | ASN | Peptide |
| 41 | B8 | 54 | ARG | Peptide |
| 41 | B8 | 58 | ASN | Peptide |
| 20 | BA | 101 | GLY | Peptide |
| 20 | BA | 11 | SER | Peptide |
| 20 | BA | 72 | LEU | Peptide |
| 20 | BA | 99 | LEU | Peptide |
| 20 | BI | 12 | ALA | Peptide |
| 46 | C5 | 81 | LYS | Peptide |
| 42 | C8 | 75 | ASN | Peptide |
| 42 | C8 | 90 | VAL | Peptide |
| 42 | C8 | 95 | LEU | Peptide |
| 47 | D5 | 61 | LEU | Peptide |
| 43 | D8 | 36 | PRO | Peptide |
| 43 | D8 | 44 | LYS | Peptide |
| 43 | D8 | 48 | GLY | Peptide |
| 43 | D8 | 49 | THR | Peptide |
| 48 | E5 | 17 | GLN | Peptide |
| 49 | F5 | 78 | LYS | Peptide |
| 49 | F5 | 82 | LEU | Peptide |
| 49 | F5 | 85 | LEU | Peptide |
| 45 | F8 | 2 | LYS | Peptide |
| 45 | F8 | 24 | GLY | Peptide |
| 50 | G5 | 15 | LYS | Peptide |
| 50 | G5 | 17 | SER | Peptide |
| 50 | G5 | 42 | GLY | Peptide |
| 50 | G5 | 43 | GLN | Peptide |
| 46 | G8 | 10 | GLY | Peptide |
| 46 | G8 | 53 | PRO | Peptide |
| 46 | G8 | 54 | LYS | Peptide |
| 46 | G8 | 80 | GLY | Peptide |
| 46 | G8 | 84 | ARG | Peptide |
| 46 | G8 | 94 | LYS | Peptide |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|---------|
| 47 | H8 | 59 | LEU | Peptide |
| 47 | H8 | 63 | ASP | Peptide |
| 49 | J8 | 75 | GLU | Peptide |
| 49 | J8 | 85 | LEU | Peptide |
| 50 | K8 | 15 | LYS | Peptide |
| 50 | K8 | 17 | SER | Peptide |
| 50 | K8 | 2 | LYS | Peptide |
| 50 | K8 | 46 | GLN | Peptide |
| 55 | M5 | 29 | LYS | Peptide |
| 55 | M5 | 40 | GLU | Peptide |
| 55 | M5 | 48 | PHE | Peptide |
| 52 | M8 | 37 | SER | Peptide |
| 52 | M8 | 38 | LYS | Peptide |
| 52 | M8 | 40 | HIS | Peptide |
| 52 | M8 | 43 | TYR | Peptide |
| 52 | M8 | 45 | GLY | Peptide |
| 54 | P8 | 45 | ALA | Peptide |
| 55 | Q8 | 49 | VAL | Peptide |
| 55 | Q8 | 51 | ALA | Peptide |

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | 13 | 32097 | 0 | 16197 | 1109 | 0 |
| 1 | 1G | 32152 | 0 | 16231 | 1228 | 2 |
| 2 | 12 | 1695 | 0 | 1729 | 133 | 0 |
| 2 | 1E | 1874 | 0 | 1926 | 143 | 0 |
| 3 | 22 | 1529 | 0 | 1592 | 134 | 0 |
| 3 | 2E | 1605 | 0 | 1668 | 83 | 0 |
| 4 | 32 | 1702 | 0 | 1764 | 160 | 0 |
| 4 | 3E | 1696 | 0 | 1752 | 134 | 0 |
| 5 | 42 | 1136 | 0 | 1200 | 105 | 0 |
| 5 | 4E | 1142 | 0 | 1204 | 90 | 0 |
| 6 | 52 | 842 | 0 | 857 | 50 | 0 |
| 6 | 5E | 837 | 0 | 852 | 48 | 0 |
| 7 | 62 | 1110 | 0 | 1163 | 82 | 0 |
| 7 | 6E | 1229 | 0 | 1274 | 76 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 8 | 72 | 1107 | 0 | 1165 | 73 | 0 |
| 8 | 7E | 1115 | 0 | 1177 | 78 | 0 |
| 9 | 82 | 820 | 0 | 848 | 83 | 0 |
| 9 | 8E | 1000 | 0 | 1031 | 93 | 0 |
| 10 | 1A | 474 | 0 | 484 | 43 | 0 |
| 10 | 1I | 593 | 0 | 610 | 46 | 0 |
| 11 | 2A | 835 | 0 | 847 | 31 | 0 |
| 11 | 2I | 823 | 0 | 833 | 53 | 0 |
| 12 | 3A | 947 | 0 | 1033 | 81 | 0 |
| 12 | 3I | 956 | 0 | 1046 | 47 | 0 |
| 13 | 4A | 893 | 0 | 946 | 85 | 0 |
| 13 | 4I | 942 | 0 | 997 | 66 | 0 |
| 14 | 5A | 388 | 0 | 424 | 47 | 0 |
| 14 | 5I | 491 | 0 | 530 | 37 | 0 |
| 15 | 6A | 729 | 0 | 768 | 35 | 0 |
| 15 | 6I | 729 | 0 | 768 | 52 | 0 |
| 16 | 7A | 705 | 0 | 725 | 55 | 0 |
| 16 | 7I | 671 | 0 | 693 | 60 | 0 |
| 17 | 8A | 823 | 0 | 891 | 37 | 0 |
| 17 | 8I | 834 | 0 | 904 | 56 | 0 |
| 18 | 9A | 544 | 0 | 605 | 35 | 0 |
| 18 | 9I | 544 | 0 | 605 | 33 | 0 |
| 19 | AA | 283 | 0 | 284 | 22 | 0 |
| 19 | AI | 654 | 0 | 675 | 55 | 0 |
| 20 | BA | 757 | 0 | 856 | 56 | 0 |
| 20 | BI | 746 | 0 | 843 | 56 | 0 |
| 21 | 1B | 204 | 0 | 218 | 18 | 0 |
| 21 | 1F | 199 | 0 | 208 | 10 | 0 |
| 22 | 1K | 1477 | 0 | 758 | 66 | 0 |
| 23 | 2K | 1646 | 0 | 844 | 42 | 0 |
| 23 | 2L | 1646 | 0 | 844 | 59 | 0 |
| 24 | 3K | 1611 | 0 | 817 | 93 | 0 |
| 25 | 4K | 439 | 0 | 219 | 17 | 0 |
| 25 | 4L | 373 | 0 | 185 | 10 | 0 |
| 26 | 14 | 61630 | 0 | 31047 | 1916 | 1 |
| 26 | 1H | 60960 | 0 | 30668 | 1946 | 0 |
| 27 | 16 | 2617 | 0 | 1328 | 91 | 0 |
| 27 | 1J | 2617 | 0 | 1328 | 133 | 0 |
| 28 | 71 | 1050 | 0 | 1071 | 88 | 0 |
| 29 | 11 | 2120 | 0 | 2197 | 169 | 0 |
| 29 | 19 | 2120 | 0 | 2197 | 169 | 0 |
| 30 | 21 | 1558 | 0 | 1624 | 120 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 30 | 29 | 1558 | 0 | 1622 | 186 | 0 |
| 31 | 31 | 1585 | 0 | 1632 | 121 | 0 |
| 31 | 39 | 1602 | 0 | 1649 | 122 | 0 |
| 32 | 41 | 1457 | 0 | 1514 | 130 | 0 |
| 32 | 49 | 1457 | 0 | 1514 | 161 | 0 |
| 33 | 51 | 1312 | 0 | 1384 | 87 | 0 |
| 33 | 59 | 539 | 0 | 563 | 41 | 0 |
| 34 | 61 | 1131 | 0 | 1218 | 80 | 1 |
| 34 | 69 | 1131 | 0 | 1218 | 86 | 0 |
| 35 | 15 | 1096 | 0 | 1168 | 60 | 0 |
| 35 | 58 | 1104 | 0 | 1180 | 75 | 0 |
| 36 | 25 | 932 | 0 | 996 | 65 | 0 |
| 36 | 68 | 932 | 0 | 996 | 50 | 0 |
| 37 | 35 | 1130 | 0 | 1217 | 140 | 0 |
| 37 | 78 | 1122 | 0 | 1206 | 122 | 0 |
| 38 | 45 | 1099 | 0 | 1153 | 112 | 0 |
| 38 | 88 | 1113 | 0 | 1156 | 82 | 0 |
| 39 | 55 | 967 | 0 | 1033 | 57 | 0 |
| 39 | 98 | 967 | 0 | 1033 | 62 | 0 |
| 40 | 65 | 876 | 0 | 938 | 85 | 0 |
| 40 | A8 | 881 | 0 | 943 | 86 | 0 |
| 41 | 75 | 1133 | 0 | 1190 | 80 | 0 |
| 41 | B8 | 1123 | 0 | 1181 | 105 | 0 |
| 42 | 85 | 959 | 0 | 1019 | 68 | 0 |
| 42 | C8 | 950 | 0 | 1011 | 82 | 0 |
| 43 | 95 | 766 | 0 | 837 | 77 | 0 |
| 43 | D8 | 778 | 0 | 851 | 80 | 0 |
| 44 | A5 | 876 | 0 | 941 | 41 | 0 |
| 44 | E8 | 876 | 0 | 941 | 46 | 0 |
| 45 | B5 | 735 | 0 | 785 | 54 | 0 |
| 45 | F8 | 740 | 0 | 787 | 50 | 0 |
| 46 | C5 | 799 | 0 | 888 | 79 | 0 |
| 46 | G8 | 788 | 0 | 875 | 88 | 0 |
| 47 | D5 | 1064 | 0 | 1082 | 88 | 0 |
| 47 | H8 | 1218 | 0 | 1241 | 75 | 0 |
| 48 | E5 | 616 | 0 | 633 | 49 | 0 |
| 48 | I8 | 606 | 0 | 625 | 40 | 0 |
| 49 | F5 | 737 | 0 | 813 | 60 | 0 |
| 49 | J8 | 737 | 0 | 813 | 50 | 0 |
| 50 | G5 | 563 | 0 | 612 | 35 | 0 |
| 50 | K8 | 568 | 0 | 614 | 47 | 0 |
| 51 | H5 | 459 | 0 | 512 | 19 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 51 | L8 | 459 | 0 | 512 | 20 | 0 |
| 52 | M8 | 366 | 0 | 370 | 49 | 0 |
| 53 | J5 | 434 | 0 | 454 | 33 | 0 |
| 53 | N8 | 369 | 0 | 388 | 44 | 0 |
| 54 | L5 | 391 | 0 | 432 | 22 | 0 |
| 54 | P8 | 401 | 0 | 436 | 18 | 0 |
| 55 | M5 | 516 | 0 | 582 | 50 | 0 |
| 55 | Q8 | 516 | 0 | 582 | 54 | 0 |
| 56 | 1L | 1570 | 0 | 798 | 39 | 0 |
| 57 | 3L | 1611 | 0 | 817 | 69 | 0 |
| 58 | 11 | 1 | 0 | 0 | 0 | 0 |
| 58 | 13 | 141 | 0 | 0 | 0 | 0 |
| 58 | 14 | 420 | 0 | 0 | 0 | 0 |
| 58 | 16 | 12 | 0 | 0 | 0 | 0 |
| 58 | 1G | 78 | 0 | 0 | 0 | 0 |
| 58 | 1H | 488 | 0 | 0 | 0 | 0 |
| 58 | 1J | 6 | 0 | 0 | 0 | 0 |
| 58 | 21 | 2 | 0 | 0 | 0 | 0 |
| 58 | 29 | 3 | 0 | 0 | 0 | 0 |
| 58 | 2K | 3 | 0 | 0 | 0 | 0 |
| 58 | 2L | 3 | 0 | 0 | 0 | 0 |
| 58 | 32 | 1 | 0 | 0 | 0 | 0 |
| 58 | 35 | 1 | 0 | 0 | 0 | 0 |
| 58 | 3I | 1 | 0 | 0 | 0 | 0 |
| 58 | 41 | 1 | 0 | 0 | 0 | 0 |
| 58 | 45 | 3 | 0 | 0 | 0 | 0 |
| 58 | 55 | 1 | 0 | 0 | 0 | 0 |
| 58 | 5E | 2 | 0 | 0 | 0 | 0 |
| 58 | 5I | 1 | 0 | 0 | 0 | 0 |
| 58 | 78 | 1 | 0 | 0 | 0 | 0 |
| 58 | 7A | 1 | 0 | 0 | 0 | 0 |
| 58 | 85 | 2 | 0 | 0 | 0 | 0 |
| 58 | 88 | 1 | 0 | 0 | 0 | 0 |
| 58 | C5 | 1 | 0 | 0 | 0 | 0 |
| 58 | C8 | 1 | 0 | 0 | 0 | 0 |
| 58 | E5 | 1 | 0 | 0 | 0 | 0 |
| 58 | I8 | 1 | 0 | 0 | 0 | 0 |
| 58 | J8 | 2 | 0 | 0 | 0 | 0 |
| 58 | L5 | 1 | 0 | 0 | 0 | 0 |
| 58 | P8 | 1 | 0 | 0 | 0 | 0 |
| 58 | Q8 | 1 | 0 | 0 | 0 | 0 |
| 59 | 32 | 8 | 0 | 0 | 4 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 59 | 3E | 8 | 0 | 0 | 0 | 0 |
| 60 | 5A | 1 | 0 | 0 | 0 | 0 |
| 60 | 5I | 1 | 0 | 0 | 0 | 0 |
| 60 | C5 | 1 | 0 | 0 | 0 | 0 |
| 60 | G8 | 1 | 0 | 0 | 0 | 0 |
| 61 | 11 | 9 | 0 | 0 | 0 | 0 |
| 61 | 13 | 148 | 0 | 0 | 21 | 0 |
| 61 | 14 | 411 | 0 | 0 | 57 | 0 |
| 61 | 16 | 18 | 0 | 0 | 4 | 0 |
| 61 | 19 | 4 | 0 | 0 | 2 | 0 |
| 61 | 1G | 44 | 0 | 0 | 6 | 0 |
| 61 | 1H | 670 | 0 | 0 | 78 | 0 |
| 61 | 1J | 11 | 0 | 0 | 2 | 0 |
| 61 | 1K | 1 | 0 | 0 | 0 | 0 |
| 61 | 21 | 5 | 0 | 0 | 2 | 0 |
| 61 | 29 | 3 | 0 | 0 | 0 | 0 |
| 61 | 31 | 6 | 0 | 0 | 0 | 0 |
| 61 | 35 | 2 | 0 | 0 | 0 | 0 |
| 61 | 39 | 8 | 0 | 0 | 0 | 0 |
| 61 | 3E | 2 | 0 | 0 | 1 | 0 |
| 61 | 3I | 2 | 0 | 0 | 0 | 0 |
| 61 | 4K | 6 | 0 | 0 | 0 | 0 |
| 61 | 55 | 1 | 0 | 0 | 0 | 0 |
| 61 | 58 | 2 | 0 | 0 | 0 | 0 |
| 61 | 5A | 3 | 0 | 0 | 2 | 0 |
| 61 | 5I | 1 | 0 | 0 | 0 | 0 |
| 61 | 6I | 1 | 0 | 0 | 0 | 0 |
| 61 | 78 | 3 | 0 | 0 | 1 | 0 |
| 61 | B8 | 1 | 0 | 0 | 0 | 0 |
| 61 | BA | 1 | 0 | 0 | 0 | 0 |
| 61 | D8 | 1 | 0 | 0 | 0 | 0 |
| 61 | E5 | 1 | 0 | 0 | 0 | 0 |
| 61 | E8 | 1 | 0 | 0 | 0 | 0 |
| 61 | F5 | 2 | 0 | 0 | 0 | 0 |
| 61 | G8 | 1 | 0 | 0 | 0 | 0 |
| 61 | I8 | 1 | 0 | 0 | 0 | 0 |
| 61 | L5 | 1 | 0 | 0 | 0 | 0 |
| 61 | M5 | 2 | 0 | 0 | 0 | 0 |
| 61 | Q8 | 1 | 0 | 0 | 0 | 0 |
| All | All | 292607 | 0 | 194505 | 12060 | 2 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 26.

All (12060) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 46:G8:84:ARG:CB | 46:G8:84:ARG:CG | 1.75 | 1.63 |
| 46:G8:84:ARG:CG | 46:G8:84:ARG:CD | 1.76 | 1.61 |
| 29:19:246:PRO:N | 29:19:255:LYS:HZ1 | 1.10 | 1.44 |
| 3:22:29:TYR:CE1 | 3:22:33:LEU:HD22 | 1.61 | 1.35 |
| 37:35:121:LYS:C | 37:35:122:PRO:N | 1.77 | 1.35 |
| 26:14:2572:A:C8 | 30:29:144:ARG:HD2 | 1.64 | 1.31 |
| 26:14:957:A:H5' | 38:45:76:LYS:CD | 1.59 | 1.30 |
| 26:1H:389:G:P | 49:J8:25:LYS:NZ | 2.09 | 1.26 |
| 15:6I:26:GLU:OE2 | 15:6I:77:ARG:NE | 1.67 | 1.25 |
| 32:49:111:LEU:HD23 | 32:49:140:ILE:CD1 | 1.65 | 1.25 |
| 34:61:135:GLU:OE1 | 34:61:136:VAL:N | 1.70 | 1.24 |
| 37:35:52:GLU:N | 37:35:52:GLU:OE2 | 1.71 | 1.23 |
| 2:1E:189:ASP:CG | 2:1E:205:ASP:OD1 | 1.78 | 1.22 |
| 3:22:29:TYR:CZ | 3:22:33:LEU:HD22 | 1.76 | 1.20 |
| 32:49:111:LEU:CD2 | 32:49:140:ILE:HD13 | 1.70 | 1.19 |
| 30:29:119:ARG:NH1 | 30:29:120:TRP:NE1 | 1.90 | 1.18 |
| 43:D8:1:MET:SD | 43:D8:43:GLU:HG2 | 1.82 | 1.18 |
| 40:A8:61:ASN:ND2 | 40:A8:64:GLU:OE1 | 1.77 | 1.17 |
| 35:58:48:MET:O | 35:58:48:MET:CE | 1.93 | 1.16 |
| 29:19:246:PRO:N | 29:19:255:LYS:NZ | 1.95 | 1.15 |
| 26:1H:943:U:OP2 | 37:78:36:LYS:NZ | 1.79 | 1.14 |
| 26:1H:389:G:P | 49:J8:25:LYS:HZ2 | 1.68 | 1.13 |
| 37:78:126:VAL:HG12 | 37:78:147:LEU:HD11 | 1.29 | 1.13 |
| 49:F5:91:LYS:NZ | 49:F5:95:LEU:HD22 | 1.62 | 1.13 |
| 40:A8:85:VAL:HG23 | 40:A8:112:PHE:HZ | 1.01 | 1.12 |
| 26:1H:2714:G:OP2 | 61:1H:3501:HOH:O | 1.67 | 1.12 |
| 49:F5:92:LYS:HD3 | 49:F5:93:GLU:H | 1.02 | 1.11 |
| 3:22:29:TYR:CE1 | 3:22:33:LEU:CD2 | 2.35 | 1.10 |
| 26:1H:2711:A:OP2 | 61:1H:3501:HOH:O | 1.68 | 1.09 |
| 46:G8:85:VAL:HG23 | 46:G8:96:ILE:HG13 | 1.36 | 1.08 |
| 26:14:957:A:C5' | 38:45:76:LYS:HD3 | 1.83 | 1.07 |
| 30:29:119:ARG:NH1 | 30:29:120:TRP:CE2 | 2.23 | 1.06 |
| 40:A8:85:VAL:HG23 | 40:A8:112:PHE:CZ | 1.89 | 1.06 |
| 26:1H:95:G:OP1 | 50:K8:46:GLN:OE1 | 1.74 | 1.05 |
| 42:C8:92:ARG:HD2 | 43:D8:11:GLN:HG3 | 1.40 | 1.04 |
| 32:49:114:ILE:HD13 | 32:49:140:ILE:HG21 | 1.40 | 1.04 |
| 35:58:48:MET:O | 35:58:48:MET:HE1 | 1.58 | 1.03 |
| 1:13:974:A:OP2 | 14:5I:41:ARG:NH1 | 1.92 | 1.03 |
| 39:55:51:LEU:HD22 | 39:55:66:VAL:HG23 | 1.41 | 1.03 |
| 26:1H:389:G:OP1 | 49:J8:25:LYS:NZ | 1.84 | 1.03 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 38:45:25:ASP:HB3 | 38:45:102:VAL:H | 1.21 | 1.03 |
| 3:22:29:TYR:CE1 | 3:22:33:LEU:HB2 | 1.92 | 1.02 |
| 26:14:2415:G:H4' | 37:35:67:MET:H | 1.20 | 1.02 |
| 1:1G:998:G:N2 | 1:1G:1043:C:N3 | 2.08 | 1.01 |
| 1:13:837:G:OP2 | 1:13:842:C:N4 | 1.92 | 1.01 |
| 26:14:2075:U:OP1 | 29:19:244:ARG:NH2 | 1.92 | 1.01 |
| 49:F5:85:LEU:HD13 | 49:F5:88:LYS:HG3 | 1.40 | 1.01 |
| 26:1H:2124:G:H5'' | 28:71:174:PRO:HG3 | 1.43 | 1.01 |
| 32:41:161:THR:HG22 | 32:41:163:ALA:H | 1.22 | 1.01 |
| 32:49:15:VAL:O | 32:49:19:LEU:HD12 | 1.60 | 1.01 |
| 32:41:132:ASN:HB3 | 32:41:158:ALA:HA | 1.40 | 1.00 |
| 32:41:131:TYR:O | 32:41:159:VAL:HG22 | 1.60 | 1.00 |
| 38:45:81:VAL:O | 38:45:82:ARG:NH1 | 1.92 | 1.00 |
| 26:1H:863:A:N7 | 61:1H:3511:HOH:O | 1.93 | 0.99 |
| 13:4A:13:LYS:HD3 | 13:4A:14:ARG:H | 1.25 | 0.99 |
| 4:32:60:GLU:HG2 | 4:32:202:LEU:HB2 | 1.44 | 0.99 |
| 29:19:246:PRO:HG2 | 29:19:255:LYS:HE3 | 1.43 | 0.99 |
| 9:8E:112:LYS:HA | 9:8E:119:ALA:HB2 | 1.44 | 0.99 |
| 19:AI:40:ILE:HG12 | 19:AI:41:VAL:HG13 | 1.43 | 0.99 |
| 26:1H:818:G:OP2 | 61:1H:3502:HOH:O | 1.81 | 0.98 |
| 17:8I:76:LEU:HD11 | 17:8I:79:SER:HB3 | 1.42 | 0.98 |
| 26:1H:1109:C:O2 | 26:1H:1110:G:N2 | 1.96 | 0.98 |
| 29:19:28:GLU:OE1 | 29:19:28:GLU:O | 1.82 | 0.98 |
| 26:14:957:A:H5' | 38:45:76:LYS:HD3 | 0.98 | 0.98 |
| 18:9A:21:LYS:HE2 | 18:9A:57:GLY:HA3 | 1.45 | 0.97 |
| 30:29:54:GLN:NE2 | 30:29:72:VAL:O | 1.96 | 0.97 |
| 26:14:1970:A:OP1 | 61:14:3501:HOH:O | 1.82 | 0.97 |
| 26:1H:862:G:OP2 | 61:1H:3503:HOH:O | 1.81 | 0.96 |
| 26:1H:1187:G:O6 | 61:1H:3502:HOH:O | 1.81 | 0.96 |
| 26:14:2135:A:N7 | 26:14:2156:G:N2 | 2.13 | 0.96 |
| 49:F5:91:LYS:HZ3 | 49:F5:95:LEU:HD22 | 1.22 | 0.96 |
| 2:12:75:LYS:HA | 2:12:78:GLN:HB2 | 1.44 | 0.96 |
| 26:14:1997:G:OP2 | 61:14:3502:HOH:O | 1.83 | 0.96 |
| 31:39:63:LYS:HZ2 | 31:39:67:GLN:HB3 | 1.30 | 0.96 |
| 47:D5:91:LEU:HD13 | 47:D5:130:PRO:HG3 | 1.47 | 0.96 |
| 29:19:246:PRO:CD | 29:19:255:LYS:HZ1 | 1.78 | 0.96 |
| 26:1H:2577:A:H5'' | 26:1H:2578:G:H5' | 1.46 | 0.96 |
| 24:3K:59:A:H3' | 24:3K:60:U:H5' | 1.47 | 0.96 |
| 26:14:957:A:H5' | 38:45:76:LYS:CE | 1.95 | 0.96 |
| 3:22:29:TYR:HE1 | 3:22:33:LEU:HD22 | 1.31 | 0.95 |
| 5:42:31:LEU:HD23 | 5:42:45:PHE:HB3 | 1.47 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 38:45:66:ILE:HD12 | 38:45:67:ARG:H | 1.27 | 0.95 |
| 27:16:15:A:H5' | 27:16:16:G:H8 | 1.30 | 0.95 |
| 1:1G:474:G:H2' | 1:1G:475:G:H8 | 1.30 | 0.95 |
| 2:1E:189:ASP:OD2 | 2:1E:205:ASP:OD1 | 1.83 | 0.95 |
| 30:29:119:ARG:NH1 | 30:29:120:TRP:HE1 | 1.53 | 0.95 |
| 26:1H:1634:A:OP2 | 61:1H:3504:HOH:O | 1.85 | 0.95 |
| 30:29:119:ARG:NH1 | 30:29:120:TRP:CZ2 | 2.34 | 0.95 |
| 43:95:2:PHE:HD2 | 43:95:42:GLY:HA2 | 1.32 | 0.95 |
| 26:14:2611:U:H6 | 26:14:2611:U:H5' | 1.31 | 0.95 |
| 13:4I:10:PRO:HB2 | 13:4I:18:ALA:HB1 | 1.48 | 0.95 |
| 26:1H:912:C:OP1 | 38:88:8:LYS:NZ | 1.98 | 0.95 |
| 41:B8:3:ARG:HB2 | 41:B8:6:LEU:HB2 | 1.49 | 0.94 |
| 27:16:15:A:H5' | 27:16:16:G:C8 | 2.01 | 0.94 |
| 28:71:45:ALA:HB2 | 28:71:212:VAL:HG22 | 1.49 | 0.94 |
| 1:13:1502:A:H2 | 1:13:1505:G:H1 | 1.13 | 0.94 |
| 31:39:53:THR:HG22 | 31:39:55:GLY:H | 1.31 | 0.94 |
| 30:29:60:ASN:HB2 | 30:29:62:PRO:HD2 | 1.49 | 0.94 |
| 26:1H:2576:G:OP1 | 61:1H:3505:HOH:O | 1.86 | 0.94 |
| 1:1G:1395:C:HO2' | 1:1G:1401:G:HO2' | 1.07 | 0.94 |
| 26:14:1359:A:N6 | 26:14:1372:U:H3 | 1.66 | 0.94 |
| 26:14:676:A:H8 | 26:14:2069:G:H21 | 1.12 | 0.93 |
| 31:31:6:VAL:N | 31:31:24:LEU:O | 2.01 | 0.93 |
| 1:13:509:A:OP2 | 61:13:1801:HOH:O | 1.85 | 0.93 |
| 1:13:1123:A:HO2' | 10:1I:38:ILE:N | 1.66 | 0.93 |
| 22:1K:76:A:H8 | 26:1H:2583:G:H21 | 1.12 | 0.93 |
| 26:1H:674:G:H1' | 31:31:74:ARG:HD3 | 1.47 | 0.93 |
| 26:1H:751:A:H5' | 44:E8:90:ARG:HA | 1.48 | 0.93 |
| 31:31:185:ASP:OD1 | 31:31:188:ARG:NH1 | 2.02 | 0.93 |
| 40:A8:11:LYS:HD3 | 40:A8:91:PRO:HD3 | 1.51 | 0.93 |
| 56:1L:34:U:O4 | 25:4L:21:A:N6 | 2.01 | 0.93 |
| 35:58:47:ALA:HB2 | 35:58:112:LEU:HD11 | 1.50 | 0.93 |
| 1:13:468:A:H5'' | 16:7I:80:PHE:CD1 | 2.04 | 0.93 |
| 1:13:963:G:N3 | 10:1I:55:LYS:NZ | 2.16 | 0.93 |
| 30:21:119:ARG:HD3 | 30:21:160:TYR:HB2 | 1.50 | 0.93 |
| 4:32:157:LEU:O | 4:32:161:ASN:ND2 | 2.01 | 0.93 |
| 24:3K:19:G:N2 | 26:1H:2112:G:N3 | 2.18 | 0.92 |
| 5:42:101:ILE:O | 5:42:120:THR:OG1 | 1.86 | 0.92 |
| 26:1H:1899:G:N2 | 26:1H:1902:C:H41 | 1.65 | 0.92 |
| 32:49:114:ILE:HB | 32:49:117:PHE:HB2 | 1.52 | 0.92 |
| 1:13:455:C:N3 | 1:13:477:G:N2 | 2.15 | 0.92 |
| 1:13:613:C:H42 | 1:13:627:G:H1 | 1.17 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|--------------------|--------------------------|-------------------|
| 26:14:275:G:N2 | 26:14:276:A:N7 | 2.17 | 0.92 |
| 26:1H:320:A:OP1 | 31:31:135:LYS:NZ | 2.02 | 0.91 |
| 2:12:91:PRO:HG2 | 2:12:155:LEU:HG | 1.52 | 0.91 |
| 32:49:106:LEU:CG | 32:49:111:LEU:HG | 1.99 | 0.91 |
| 26:1H:2590:A:OP2 | 29:11:237:GLU:HB3 | 1.70 | 0.91 |
| 50:G5:50:ILE:HD12 | 50:G5:51:ARG:H | 1.34 | 0.91 |
| 45:B5:63:LYS:O | 45:B5:63:LYS:HD2 | 1.70 | 0.91 |
| 1:13:1077:G:N2 | 1:13:1080:A:OP2 | 2.03 | 0.91 |
| 42:C8:8:VAL:HG23 | 42:C8:11:ARG:HH21 | 1.35 | 0.91 |
| 26:14:2485:G:H5' | 38:45:46:GLN:HE21 | 1.35 | 0.91 |
| 26:1H:270(K):C:O2 | 26:1H:270(N):G:N2 | 2.04 | 0.91 |
| 26:1H:993:G:OP1 | 42:C8:50:ARG:NH2 | 2.04 | 0.91 |
| 29:11:31:LYS:HG3 | 29:11:33:LEU:HD21 | 1.52 | 0.91 |
| 44:E8:73:ALA:HB3 | 44:E8:106:ILE:HB | 1.53 | 0.91 |
| 26:1H:2315:G:H21 | 32:41:128:ARG:HH22 | 1.19 | 0.90 |
| 1:1G:838:G:N2 | 1:1G:848:C:N3 | 2.20 | 0.90 |
| 26:1H:1047:G:N2 | 26:1H:1111:A:OP2 | 2.03 | 0.90 |
| 26:14:957:A:O4' | 38:45:76:LYS:HE2 | 1.69 | 0.90 |
| 30:29:25:VAL:HG12 | 30:29:26:ILE:H | 1.36 | 0.90 |
| 32:49:111:LEU:HD23 | 32:49:140:ILE:HD13 | 0.92 | 0.90 |
| 42:85:91:ASP:OD1 | 42:85:96:ALA:N | 2.04 | 0.90 |
| 20:BI:69:GLY:O | 20:BI:73:HIS:NE2 | 2.05 | 0.90 |
| 5:42:79:GLU:O | 8:72:104:ARG:NH1 | 2.04 | 0.90 |
| 31:39:123:LEU:O | 31:39:125:LEU:N | 2.03 | 0.90 |
| 11:2I:41:THR:HG21 | 11:2I:71:LYS:HD2 | 1.52 | 0.90 |
| 26:14:2873:A:H8 | 39:55:6:SER:H | 1.17 | 0.90 |
| 49:F5:92:LYS:HD3 | 49:F5:93:GLU:N | 1.87 | 0.90 |
| 26:1H:1899:G:H22 | 26:1H:1902:C:N4 | 1.70 | 0.90 |
| 27:1J:18:G:H1 | 27:1J:65:C:H42 | 1.13 | 0.90 |
| 32:41:98:ARG:NE | 52:M8:1:MET:SD | 2.45 | 0.90 |
| 36:25:13:ASN:HD21 | 36:25:96:THR:HG23 | 1.36 | 0.90 |
| 26:1H:1899:G:H22 | 26:1H:1902:C:H41 | 0.90 | 0.90 |
| 13:4A:31:LYS:HA | 13:4A:34:LEU:HD21 | 1.52 | 0.90 |
| 55:M5:48:PHE:HB2 | 55:M5:49:VAL:HG22 | 1.52 | 0.90 |
| 15:6I:26:GLU:OE2 | 15:6I:77:ARG:CZ | 2.21 | 0.89 |
| 26:14:654(B):C:HO2' | 26:14:654(S):G:H1 | 1.13 | 0.89 |
| 26:14:869:G:H5' | 38:45:6:ARG:HH21 | 1.33 | 0.89 |
| 26:1H:1257:C:H4' | 31:31:83:PHE:CD1 | 2.08 | 0.89 |
| 26:1H:733:G:OP2 | 61:1H:3508:HOH:O | 1.90 | 0.89 |
| 26:1H:2469:A:H2 | 26:1H:2481:G:H21 | 1.16 | 0.89 |
| 29:11:37:LEU:N | 29:11:37:LEU:HD23 | 1.88 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:177:C:OP1 | 20:BI:65:LYS:NZ | 2.06 | 0.89 |
| 1:1G:589:C:H42 | 1:1G:650:G:H1 | 1.12 | 0.89 |
| 1:13:339:C:OP2 | 36:68:97:ARG:NH1 | 2.05 | 0.89 |
| 2:1E:68:ILE:HG13 | 2:1E:161:ALA:HB3 | 1.53 | 0.89 |
| 26:1H:1228:G:OP2 | 42:C8:16:LYS:NZ | 2.06 | 0.89 |
| 1:1G:258:G:N7 | 61:1G:1701:HOH:O | 2.05 | 0.89 |
| 3:22:29:TYR:HE1 | 3:22:33:LEU:CB | 1.85 | 0.89 |
| 9:8E:47:LEU:HD12 | 9:8E:50:LEU:HD12 | 1.55 | 0.89 |
| 15:6I:82:ILE:O | 15:6I:86:GLY:N | 2.05 | 0.89 |
| 26:1H:138:G:N2 | 45:F8:44:GLU:OE2 | 2.04 | 0.89 |
| 26:1H:1981:A:OP1 | 61:1H:3506:HOH:O | 1.89 | 0.89 |
| 38:88:65:PHE:O | 38:88:66:ILE:HG13 | 1.73 | 0.89 |
| 15:6I:25:THR:HB | 15:6I:77:ARG:NH2 | 1.87 | 0.89 |
| 26:1H:676:A:H8 | 26:1H:2069:G:H21 | 1.13 | 0.89 |
| 29:19:245:PRO:C | 29:19:255:LYS:HZ1 | 1.76 | 0.89 |
| 26:1H:456:C:H3' | 45:F8:68:ARG:HH12 | 1.37 | 0.89 |
| 26:1H:2789:C:O2 | 26:1H:2894:G:N2 | 2.06 | 0.89 |
| 7:62:113:GLU:HB2 | 7:62:119:ARG:HG2 | 1.54 | 0.88 |
| 45:B5:27:THR:HG22 | 45:B5:80:ILE:HG22 | 1.55 | 0.88 |
| 5:4E:11:ILE:HD11 | 5:4E:31:LEU:HD13 | 1.56 | 0.88 |
| 12:3A:20:LYS:HD2 | 12:3A:21:LYS:N | 1.88 | 0.88 |
| 29:19:246:PRO:CG | 29:19:255:LYS:HE3 | 2.03 | 0.88 |
| 26:1H:2781:A:H5'' | 26:1H:2782:G:H5' | 1.52 | 0.88 |
| 1:1G:54:C:N4 | 1:1G:353:A:OP2 | 2.07 | 0.88 |
| 57:3L:55:U:H3 | 57:3L:57:G:H3' | 1.37 | 0.88 |
| 37:35:79:ARG:HG2 | 37:35:110:TYR:HB2 | 1.55 | 0.88 |
| 40:65:50:SER:O | 40:65:76:LYS:NZ | 2.06 | 0.88 |
| 26:1H:1434:A:H61 | 26:1H:1558:A:N6 | 1.72 | 0.88 |
| 35:58:48:MET:O | 35:58:48:MET:SD | 2.30 | 0.88 |
| 3:22:29:TYR:OH | 3:22:33:LEU:HD22 | 1.74 | 0.88 |
| 5:42:102:ALA:HB1 | 5:42:106:PRO:HG2 | 1.54 | 0.88 |
| 26:1H:2615:U:OP2 | 61:1H:3507:HOH:O | 1.90 | 0.88 |
| 26:14:2651:C:H42 | 26:14:2669:G:H1 | 1.22 | 0.88 |
| 26:1H:2308:G:H1 | 26:1H:2311:A:H2 | 1.21 | 0.88 |
| 29:11:6:PHE:CE2 | 29:11:13:ARG:NH2 | 2.42 | 0.87 |
| 26:1H:135:G:O6 | 26:1H:144:C:N4 | 2.07 | 0.87 |
| 26:1H:1040:C:N4 | 26:1H:1115:G:O6 | 2.07 | 0.87 |
| 43:D8:65:GLY:HA3 | 43:D8:91:TYR:CE1 | 2.09 | 0.87 |
| 3:22:29:TYR:HE1 | 3:22:33:LEU:HB2 | 1.35 | 0.87 |
| 26:1H:2032:G:H21 | 30:21:146:THR:HG23 | 1.39 | 0.87 |
| 1:1G:617:G:H1 | 1:1G:623:C:H42 | 1.20 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|--------------------|--------------------------|-------------------|
| 3:22:130:VAL:HG13 | 3:22:134:ILE:HG12 | 1.53 | 0.87 |
| 26:14:1754:C:OP1 | 41:75:96:ARG:NH1 | 2.07 | 0.87 |
| 39:55:103:ARG:NH2 | 44:A5:40:ASN:OD1 | 2.08 | 0.87 |
| 1:1G:1095:U:P | 1:1G:1108:G:H1 | 1.98 | 0.87 |
| 26:14:1806:C:O2' | 29:19:46:GLN:NE2 | 2.08 | 0.87 |
| 27:1J:80:U:H2' | 27:1J:81:G:H21 | 1.39 | 0.87 |
| 1:13:542:G:OP1 | 4:3E:10:ARG:NH2 | 2.07 | 0.87 |
| 26:14:71:A:H2 | 45:B5:31:HIS:HE2 | 1.23 | 0.87 |
| 26:1H:1287:A:N7 | 39:98:107:ASP:HB2 | 1.90 | 0.87 |
| 26:14:2287:A:H62 | 26:14:2344:U:H3 | 1.20 | 0.87 |
| 46:C5:75:ILE:HA | 46:C5:80:GLY:HA2 | 1.57 | 0.87 |
| 49:F5:80:LEU:HD12 | 49:F5:82:LEU:HD13 | 1.57 | 0.87 |
| 50:G5:25:VAL:HG12 | 50:G5:60:LEU:HD23 | 1.56 | 0.87 |
| 26:1H:568:U:O4 | 61:1H:3510:HOH:O | 1.92 | 0.86 |
| 26:1H:1239:G:OP1 | 61:1H:3509:HOH:O | 1.92 | 0.86 |
| 43:D8:21:ARG:NE | 43:D8:93:GLU:OE2 | 2.08 | 0.86 |
| 3:22:29:TYR:HE1 | 3:22:33:LEU:CD2 | 1.83 | 0.86 |
| 29:11:6:PHE:HE2 | 29:11:13:ARG:HH21 | 0.94 | 0.86 |
| 32:41:66:GLN:HA | 52:M8:6:HIS:HE1 | 1.40 | 0.86 |
| 49:J8:93:GLU:CD | 49:J8:94:LEU:H | 1.79 | 0.86 |
| 31:39:188:ARG:HA | 37:35:3:LEU:HD11 | 1.57 | 0.86 |
| 1:1G:976:G:N2 | 1:1G:1362(A):C:OP2 | 2.08 | 0.86 |
| 32:49:106:LEU:HG | 32:49:111:LEU:HG | 1.56 | 0.86 |
| 1:13:510:A:OP2 | 61:13:1802:HOH:O | 1.92 | 0.86 |
| 1:13:601:C:H2' | 1:13:602:A:H8 | 1.39 | 0.86 |
| 1:13:1422:G:H5'' | 36:68:48:PRO:HB3 | 1.57 | 0.86 |
| 46:G8:82:PRO:HB3 | 46:G8:99:CYS:HB2 | 1.54 | 0.86 |
| 3:22:29:TYR:CE1 | 3:22:33:LEU:CB | 2.57 | 0.86 |
| 26:1H:2712(A):A:OP2 | 61:1H:3501:HOH:O | 1.94 | 0.86 |
| 26:14:84:A:N6 | 26:14:102:G:O2' | 2.09 | 0.86 |
| 36:68:2:ILE:HD12 | 36:68:6:THR:HG21 | 1.57 | 0.86 |
| 1:1G:1249:C:H41 | 1:1G:1287:A:H5' | 1.40 | 0.86 |
| 53:N8:36:CYS:HB2 | 53:N8:49:CYS:SG | 2.16 | 0.86 |
| 1:13:1122:U:O4 | 1:13:1123:A:N6 | 2.08 | 0.86 |
| 1:13:877:C:OP1 | 8:7E:88:LYS:NZ | 2.09 | 0.85 |
| 9:82:27:THR:OG1 | 9:82:31:GLN:O | 1.91 | 0.85 |
| 1:13:535:A:OP1 | 61:13:1803:HOH:O | 1.94 | 0.85 |
| 16:7I:8:ARG:NH1 | 16:7I:15:PRO:HB3 | 1.91 | 0.85 |
| 44:E8:79:GLY:HA3 | 44:E8:100:THR:HG22 | 1.56 | 0.85 |
| 1:13:148:G:N2 | 1:13:174:C:N3 | 2.24 | 0.85 |
| 1:13:1149:C:H2' | 1:13:1150:U:H6 | 1.42 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 34:61:6:LEU:HD13 | 34:61:36:ALA:HA | 1.57 | 0.85 |
| 16:7A:14:ASN:O | 16:7A:16:HIS:N | 2.08 | 0.85 |
| 26:14:517:C:OP2 | 53:J5:13:LYS:NZ | 2.08 | 0.85 |
| 47:D5:53:ILE:HG22 | 47:D5:71:VAL:HG13 | 1.54 | 0.85 |
| 1:13:1290:G:O3' | 7:6E:37:ASN:OD1 | 1.94 | 0.85 |
| 50:K8:4:SER:OG | 50:K8:5:GLU:N | 2.08 | 0.85 |
| 26:1H:2392:A:H2 | 26:1H:2424:C:H42 | 1.24 | 0.85 |
| 31:31:129:PHE:HB2 | 31:31:132:VAL:HG13 | 1.59 | 0.85 |
| 32:41:150:ASP:OD1 | 32:41:153:ARG:NH1 | 2.09 | 0.85 |
| 24:3K:34:U:H1' | 24:3K:35:U:H5' | 1.57 | 0.85 |
| 41:B8:26:ASP:HB3 | 41:B8:92:GLY:H | 1.40 | 0.85 |
| 26:14:1899:G:H21 | 26:14:1902:C:H41 | 1.24 | 0.85 |
| 4:32:108:LEU:HD13 | 4:32:174:LEU:HB3 | 1.58 | 0.85 |
| 5:42:79:GLU:HG2 | 5:42:92:LYS:HG3 | 1.57 | 0.85 |
| 27:1J:15:A:H5' | 27:1J:16:G:C8 | 2.11 | 0.85 |
| 1:13:1256:A:OP2 | 3:2E:26:LYS:NZ | 2.10 | 0.85 |
| 39:98:41:ALA:O | 39:98:44:LEU:N | 2.10 | 0.85 |
| 26:14:71:A:OP2 | 26:14:71:A:H3' | 1.76 | 0.85 |
| 29:19:44:ASN:OD1 | 29:19:46:GLN:HG3 | 1.76 | 0.85 |
| 26:1H:620:G:H4' | 26:1H:621:A:H5'' | 1.57 | 0.84 |
| 2:1E:212:GLN:HE21 | 2:1E:234:PRO:HA | 1.41 | 0.84 |
| 30:21:105:THR:OG1 | 30:21:199:ARG:NH2 | 2.09 | 0.84 |
| 30:21:169:ASN:HA | 30:21:201:THR:HG21 | 1.58 | 0.84 |
| 26:14:71:A:H5' | 26:14:71:A:C8 | 2.11 | 0.84 |
| 30:21:97:LYS:N | 30:21:100:GLU:OE1 | 2.09 | 0.84 |
| 41:B8:12:SER:OG | 41:B8:15:VAL:N | 2.09 | 0.84 |
| 30:29:134:ILE:HD12 | 30:29:134:ILE:O | 1.78 | 0.84 |
| 3:2E:78:GLY:HA3 | 3:2E:83:ARG:HB3 | 1.59 | 0.84 |
| 22:1K:52:G:H1 | 22:1K:62:C:H42 | 1.20 | 0.84 |
| 26:14:2415:G:H4' | 37:35:67:MET:N | 1.91 | 0.84 |
| 1:13:307:C:OP2 | 61:13:1804:HOH:O | 1.96 | 0.84 |
| 1:1G:1200:C:H1' | 1:1G:1204:A:H61 | 1.40 | 0.84 |
| 57:3L:6:G:N1 | 57:3L:67:C:O2 | 2.11 | 0.84 |
| 7:6E:35:LYS:HD3 | 7:6E:38:LEU:HD23 | 1.60 | 0.84 |
| 26:1H:10:G:O2' | 26:1H:2801:A:N3 | 2.10 | 0.84 |
| 33:51:106:THR:HG22 | 33:51:112:PRO:HB3 | 1.57 | 0.84 |
| 51:L8:18:ASP:OD2 | 51:L8:49:LYS:NZ | 2.11 | 0.84 |
| 1:1G:975:A:H4' | 1:1G:976:G:H5'' | 1.59 | 0.84 |
| 26:1H:2134:A:OP2 | 26:1H:2156:G:N2 | 2.11 | 0.84 |
| 33:51:86:GLU:HG3 | 33:51:87:LEU:H | 1.42 | 0.84 |
| 46:G8:38:ILE:HD11 | 46:G8:64:GLU:HG3 | 1.59 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 10:1A:48:THR:HA | 10:1A:62:HIS:HB3 | 1.60 | 0.84 |
| 1:1G:587:G:N2 | 1:1G:754:C:OP2 | 2.11 | 0.84 |
| 26:14:1899:G:H21 | 26:14:1902:C:N4 | 1.76 | 0.84 |
| 8:7E:7:ALA:HB2 | 8:7E:85:ARG:HD3 | 1.60 | 0.83 |
| 26:1H:2656:U:H3 | 26:1H:2665:A:H2 | 1.25 | 0.83 |
| 3:2E:58:GLU:HB2 | 3:2E:65:ALA:HB3 | 1.58 | 0.83 |
| 9:8E:3:GLN:OE1 | 9:8E:20:ARG:NH1 | 2.11 | 0.83 |
| 20:BI:71:THR:HG22 | 20:BI:72:LEU:H | 1.40 | 0.83 |
| 24:3K:61:C:H1' | 28:71:52:ARG:HH11 | 1.42 | 0.83 |
| 30:21:135:HIS:NE2 | 61:21:401:HOH:O | 2.10 | 0.83 |
| 1:1G:353:A:H5' | 1:1G:353:A:H8 | 1.43 | 0.83 |
| 8:72:12:ARG:HD3 | 8:72:26:VAL:HG12 | 1.58 | 0.83 |
| 46:C5:3:VAL:HG11 | 46:C5:32:PRO:HB2 | 1.60 | 0.83 |
| 1:13:1263:C:O2 | 1:13:1272:G:N2 | 2.11 | 0.83 |
| 47:H8:152:ALA:HB2 | 47:H8:169:GLU:H | 1.43 | 0.83 |
| 1:1G:81:G:H1 | 1:1G:89:U:H3 | 1.26 | 0.83 |
| 1:1G:1221:G:H4' | 19:AA:77:THR:HG21 | 1.59 | 0.83 |
| 4:32:122:ARG:NH2 | 4:32:134:ASP:OD2 | 2.10 | 0.83 |
| 23:2L:24:C:H2' | 23:2L:25:U:C6 | 2.13 | 0.83 |
| 40:65:3:ARG:HH21 | 40:65:4:LEU:HB2 | 1.43 | 0.83 |
| 48:E5:72:ARG:HB3 | 48:E5:75:LEU:HB2 | 1.58 | 0.83 |
| 1:13:1191:A:OP2 | 3:2E:3:ASN:ND2 | 2.12 | 0.83 |
| 26:14:869:G:H5' | 38:45:6:ARG:NH2 | 1.92 | 0.83 |
| 26:1H:2096:U:H3 | 26:1H:2193:G:H1 | 1.22 | 0.83 |
| 26:14:622:G:OP2 | 37:35:108:LYS:NZ | 2.11 | 0.83 |
| 1:13:538:G:H5'' | 12:3I:114:LYS:HB2 | 1.59 | 0.83 |
| 26:14:831:G:OP1 | 61:14:3504:HOH:O | 1.97 | 0.83 |
| 44:E8:88:ARG:HB3 | 44:E8:92:ARG:HB2 | 1.59 | 0.83 |
| 1:1G:934:C:O2' | 1:1G:1344:C:OP2 | 1.97 | 0.83 |
| 1:1G:1000:A:N6 | 1:1G:1040:U:O4 | 2.11 | 0.83 |
| 29:11:108:PRO:HG3 | 29:11:143:HIS:CE1 | 2.14 | 0.83 |
| 1:13:1240:U:OP2 | 7:6E:116:ALA:N | 2.11 | 0.83 |
| 7:6E:16:LEU:HD13 | 9:8E:44:VAL:HG22 | 1.61 | 0.83 |
| 35:58:96:GLU:O | 35:58:98:VAL:N | 2.12 | 0.83 |
| 13:4A:36:LYS:NZ | 13:4A:59:TYR:OH | 2.11 | 0.83 |
| 26:14:900:A:H2' | 26:14:901:A:H8 | 1.43 | 0.83 |
| 1:1G:1192:C:OP2 | 3:22:4:LYS:NZ | 2.12 | 0.83 |
| 4:32:191:ARG:HH21 | 4:32:194:LEU:HB2 | 1.43 | 0.83 |
| 26:14:1364:G:OP2 | 49:F5:2:SER:N | 2.12 | 0.83 |
| 4:32:31:CYS:C | 4:32:33:MET:H | 1.82 | 0.82 |
| 26:14:2156:G:N7 | 26:14:2157:G:N2 | 2.26 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 37:35:71:VAL:HG13 | 37:35:72:PRO:HD3 | 1.61 | 0.82 |
| 38:45:22:LYS:HG2 | 38:45:23:GLY:HA2 | 1.60 | 0.82 |
| 28:71:181:PRO:HG2 | 28:71:184:LYS:H | 1.44 | 0.82 |
| 55:Q8:6:THR:HG23 | 55:Q8:64:TYR:HD2 | 1.44 | 0.82 |
| 9:82:17:VAL:HG11 | 9:82:81:ILE:HD13 | 1.59 | 0.82 |
| 41:75:125:ARG:HB2 | 41:75:129:ARG:HH21 | 1.42 | 0.82 |
| 1:13:894:G:OP2 | 61:13:1805:HOH:O | 1.96 | 0.82 |
| 13:4I:13:LYS:O | 13:4I:44:ARG:HD3 | 1.79 | 0.82 |
| 26:1H:879:G:O6 | 26:1H:897:C:N4 | 2.12 | 0.82 |
| 43:95:21:ARG:NH2 | 43:95:65:GLY:O | 2.12 | 0.82 |
| 26:1H:71:A:H2 | 45:F8:31:HIS:HE2 | 1.24 | 0.82 |
| 32:41:112:PRO:HB3 | 52:M8:36:CYS:HA | 1.61 | 0.82 |
| 1:1G:1273:G:H3' | 1:1G:1274:G:H8 | 1.45 | 0.82 |
| 26:14:71:A:H4' | 26:14:72:U:H5'' | 1.61 | 0.82 |
| 26:14:1188:U:O2' | 26:14:1189:A:H5' | 1.79 | 0.82 |
| 1:13:262:A:H2' | 1:13:263:A:C8 | 2.15 | 0.82 |
| 15:6I:25:THR:HB | 15:6I:77:ARG:HH21 | 1.41 | 0.82 |
| 55:Q8:52:LYS:HB3 | 55:Q8:53:PRO:HD2 | 1.60 | 0.82 |
| 26:14:161:U:H4' | 26:14:171:G:H21 | 1.43 | 0.82 |
| 26:14:2468:G:N2 | 26:14:2481:G:O2' | 2.10 | 0.82 |
| 26:1H:1992:G:N7 | 61:1H:3532:HOH:O | 2.10 | 0.82 |
| 34:61:135:GLU:OE1 | 34:61:135:GLU:C | 2.18 | 0.82 |
| 1:1G:1342:C:H4' | 9:82:125:TYR:HB2 | 1.58 | 0.82 |
| 3:22:18:TRP:HE1 | 14:5A:55:GLY:H | 1.23 | 0.82 |
| 26:14:2127:G:H1 | 26:14:2161:C:H42 | 1.25 | 0.82 |
| 26:1H:1703:G:N7 | 61:1H:3538:HOH:O | 2.12 | 0.82 |
| 29:11:17:THR:HG22 | 29:11:204:ILE:HA | 1.62 | 0.82 |
| 38:88:66:ILE:HD12 | 38:88:67:ARG:H | 1.44 | 0.82 |
| 1:1G:523:A:H61 | 12:3A:92:ASP:HB2 | 1.45 | 0.82 |
| 26:14:1049:C:N4 | 26:14:2751:G:O6 | 2.12 | 0.82 |
| 32:41:170:ARG:HH21 | 32:41:180:PHE:HB3 | 1.45 | 0.82 |
| 40:65:12:PHE:O | 40:65:16:ASN:ND2 | 2.13 | 0.82 |
| 41:75:13:ARG:HD3 | 41:75:13:ARG:H | 1.45 | 0.82 |
| 24:3K:5:C:O2 | 24:3K:68:G:N1 | 2.08 | 0.82 |
| 26:1H:363(B):G:H2' | 26:1H:363(C):G:H8 | 1.44 | 0.82 |
| 26:1H:588:U:H2' | 26:1H:589:C:C6 | 2.14 | 0.82 |
| 41:B8:6:LEU:HA | 41:B8:9:LEU:HB2 | 1.60 | 0.82 |
| 1:1G:1218:C:OP2 | 14:5A:9:LYS:NZ | 2.13 | 0.82 |
| 4:3E:19:LEU:HB2 | 4:3E:21:LEU:HD11 | 1.62 | 0.81 |
| 24:3K:4:U:H3 | 24:3K:69:A:H61 | 1.25 | 0.81 |
| 1:1G:1076:C:H42 | 1:1G:1081:G:H1 | 1.28 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 41:75:88:ILE:HD13 | 41:75:91:ARG:CZ | 2.10 | 0.81 |
| 1:13:989:C:H42 | 1:13:1216:G:H1 | 1.26 | 0.81 |
| 26:1H:389:G:P | 49:J8:25:LYS:HZ1 | 1.89 | 0.81 |
| 26:1H:2101:G:N2 | 26:1H:2188:C:N3 | 2.27 | 0.81 |
| 26:1H:2787:C:H1' | 30:21:62:PRO:HG3 | 1.63 | 0.81 |
| 29:11:10:THR:OG1 | 29:11:13:ARG:HB2 | 1.78 | 0.81 |
| 51:L8:37:LEU:HD12 | 51:L8:43:ILE:HD13 | 1.63 | 0.81 |
| 52:M8:40:HIS:ND1 | 52:M8:44:THR:O | 2.13 | 0.81 |
| 27:16:90:C:H5' | 38:88:18:LYS:HA | 1.62 | 0.81 |
| 27:1J:73:A:OP2 | 61:1J:301:HOH:O | 1.97 | 0.81 |
| 42:85:50:ARG:HH12 | 43:95:72:VAL:HG23 | 1.44 | 0.81 |
| 28:71:21:THR:HG23 | 28:71:24:GLU:HB3 | 1.63 | 0.81 |
| 43:D8:1:MET:SD | 43:D8:43:GLU:CG | 2.66 | 0.81 |
| 4:32:61:LYS:HB2 | 4:32:203:VAL:HG13 | 1.62 | 0.81 |
| 13:4A:13:LYS:HD3 | 13:4A:14:ARG:N | 1.96 | 0.81 |
| 26:14:806:C:OP2 | 37:35:41:ARG:NH2 | 2.13 | 0.81 |
| 26:14:1154:G:OP2 | 42:85:58:ARG:NH1 | 2.14 | 0.81 |
| 26:14:2074:U:OP1 | 61:14:3506:HOH:O | 1.98 | 0.81 |
| 29:19:244:ARG:NH2 | 61:19:301:HOH:O | 2.14 | 0.81 |
| 2:1E:185:ILE:HD12 | 2:1E:199:TYR:HB2 | 1.60 | 0.81 |
| 7:6E:16:LEU:HD11 | 9:8E:42:ARG:HA | 1.63 | 0.81 |
| 40:A8:85:VAL:CG2 | 40:A8:112:PHE:HZ | 1.88 | 0.81 |
| 26:1H:1606:G:OP1 | 61:1H:3512:HOH:O | 1.97 | 0.81 |
| 26:14:654(B):C:O2' | 26:14:654(S):G:N1 | 2.12 | 0.81 |
| 46:C5:73:ARG:NH1 | 46:C5:81:LYS:O | 2.14 | 0.81 |
| 7:62:70:LYS:HG3 | 7:62:96:GLN:HB3 | 1.63 | 0.81 |
| 24:3K:3:G:N2 | 24:3K:70:C:N3 | 2.28 | 0.81 |
| 26:1H:270(J):G:H2' | 26:1H:270(K):C:H4' | 1.63 | 0.81 |
| 52:M8:37:SER:OG | 52:M8:42:PHE:O | 1.99 | 0.81 |
| 26:14:993:G:OP1 | 42:85:50:ARG:NH2 | 2.14 | 0.81 |
| 26:14:2572:A:N7 | 30:29:144:ARG:HD2 | 1.96 | 0.81 |
| 49:F5:85:LEU:HA | 49:F5:87:PRO:HD2 | 1.61 | 0.81 |
| 1:1G:377:G:H1 | 1:1G:386:C:H42 | 1.24 | 0.81 |
| 4:32:23:GLY:N | 4:32:26:CYS:SG | 2.54 | 0.81 |
| 26:14:570:G:O6 | 61:14:3505:HOH:O | 1.98 | 0.81 |
| 34:69:3:VAL:HG12 | 34:69:38:LEU:HA | 1.60 | 0.81 |
| 36:25:1:MET:HE3 | 36:25:67:LYS:HG2 | 1.63 | 0.81 |
| 26:1H:2749:A:P | 33:51:4:ILE:HD11 | 2.21 | 0.80 |
| 26:14:977:G:N2 | 26:14:986:C:O2 | 2.11 | 0.80 |
| 26:14:1945:G:H2' | 26:14:1946:U:C6 | 2.16 | 0.80 |
| 27:1J:28:C:H42 | 27:1J:56:G:H1 | 1.30 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 19:AI:40:ILE:HD11 | 19:AI:62:ILE:HD13 | 1.63 | 0.80 |
| 26:1H:1021:A:H62 | 26:1H:1141:U:H3 | 1.24 | 0.80 |
| 9:82:81:ILE:HG22 | 9:82:85:LEU:HD23 | 1.64 | 0.80 |
| 26:14:2572:A:C8 | 30:29:144:ARG:CD | 2.58 | 0.80 |
| 32:49:145:THR:HG1 | 32:49:148:MET:H | 1.27 | 0.80 |
| 1:13:362:G:H4' | 12:3I:33:ARG:HH21 | 1.45 | 0.80 |
| 1:1G:474:G:H2' | 1:1G:475:G:C8 | 2.15 | 0.80 |
| 39:55:74:LYS:HE2 | 39:55:74:LYS:H | 1.45 | 0.80 |
| 1:13:1178:G:OP2 | 9:8E:93:ARG:NH2 | 2.13 | 0.80 |
| 26:1H:674:G:C1' | 31:31:74:ARG:HD3 | 2.12 | 0.80 |
| 1:1G:80:G:N1 | 1:1G:89:U:O2 | 2.12 | 0.80 |
| 3:22:29:TYR:HE1 | 3:22:33:LEU:CG | 1.94 | 0.80 |
| 33:59:60:ARG:O | 33:59:63:SER:OG | 1.99 | 0.80 |
| 24:3K:34:U:O2' | 24:3K:35:U:O5' | 2.00 | 0.80 |
| 26:1H:270(H):C:N3 | 26:1H:270(R):G:N2 | 2.29 | 0.80 |
| 26:14:1250:G:OP2 | 37:35:21:ARG:NH1 | 2.14 | 0.80 |
| 1:13:8:A:N7 | 4:3E:208:SER:OG | 2.14 | 0.80 |
| 10:1I:49:VAL:HG23 | 14:5I:41:ARG:HB2 | 1.63 | 0.80 |
| 26:1H:517:C:OP1 | 53:N8:16:ARG:NH2 | 2.13 | 0.80 |
| 26:1H:2469:A:O2' | 38:88:56:ARG:HG2 | 1.82 | 0.80 |
| 32:41:66:GLN:HA | 52:M8:6:HIS:CE1 | 2.16 | 0.80 |
| 32:49:106:LEU:CD1 | 32:49:111:LEU:HG | 2.11 | 0.80 |
| 36:25:2:ILE:HD12 | 36:25:6:THR:HG21 | 1.64 | 0.80 |
| 40:65:107:GLU:H | 40:65:110:LEU:HD21 | 1.43 | 0.80 |
| 1:13:982:U:H5'' | 14:5I:6:LEU:HD11 | 1.64 | 0.80 |
| 11:2I:85:ARG:HG2 | 11:2I:112:THR:H | 1.45 | 0.80 |
| 26:1H:907:U:O2' | 38:88:101:ARG:NH2 | 2.14 | 0.80 |
| 34:61:68:LEU:HA | 34:61:71:ILE:HG22 | 1.62 | 0.80 |
| 35:58:12:ARG:HG2 | 35:58:13:TRP:H | 1.46 | 0.80 |
| 3:22:90:GLU:HA | 3:22:93:LYS:HD3 | 1.63 | 0.80 |
| 29:19:39:LYS:O | 29:19:40:THR:HG23 | 1.80 | 0.80 |
| 33:59:54:ARG:HB3 | 33:59:65:HIS:HB2 | 1.64 | 0.80 |
| 38:45:32:TYR:OH | 38:45:111:GLU:OE1 | 2.00 | 0.80 |
| 50:G5:47:ASN:O | 50:G5:49:LYS:N | 2.15 | 0.80 |
| 1:13:1133:G:N2 | 1:13:1141:C:O2 | 2.11 | 0.80 |
| 26:1H:945:A:N3 | 61:1H:3544:HOH:O | 2.14 | 0.80 |
| 27:1J:18:G:N2 | 27:1J:65:C:N3 | 2.29 | 0.80 |
| 1:13:186(B):C:O2 | 1:13:191(E):G:N2 | 2.13 | 0.80 |
| 26:1H:1278:A:OP1 | 39:98:36:THR:HG22 | 1.82 | 0.80 |
| 26:14:1012:U:OP1 | 42:85:70:ARG:NH2 | 2.15 | 0.80 |
| 26:14:1632:A:N7 | 61:14:3531:HOH:O | 2.15 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 29:19:83:GLU:OE1 | 29:19:104:TYR:OH | 1.98 | 0.80 |
| 8:7E:102:ARG:H | 8:7E:102:ARG:HD3 | 1.47 | 0.80 |
| 41:B8:3:ARG:O | 41:B8:7:ILE:N | 2.13 | 0.80 |
| 26:14:1327:C:OP2 | 61:14:3507:HOH:O | 1.99 | 0.80 |
| 27:1J:42:C:O2' | 32:49:67:LYS:O | 2.00 | 0.80 |
| 45:B5:1:MET:N | 45:B5:6:ASP:OD2 | 2.15 | 0.80 |
| 1:13:1454:G:H4' | 20:BI:36:LEU:HD21 | 1.62 | 0.79 |
| 2:1E:189:ASP:CB | 2:1E:205:ASP:OD1 | 2.30 | 0.79 |
| 26:14:2075:U:P | 29:19:244:ARG:HH21 | 2.03 | 0.79 |
| 29:19:43:ARG:HG2 | 29:19:49:ILE:HA | 1.62 | 0.79 |
| 1:13:737:A:H2' | 1:13:738:C:C6 | 2.16 | 0.79 |
| 13:4A:96:LEU:HD22 | 13:4A:97:PRO:HD2 | 1.64 | 0.79 |
| 26:14:569:U:OP2 | 61:14:3508:HOH:O | 1.99 | 0.79 |
| 36:68:98:VAL:HG11 | 36:68:114:ILE:HG23 | 1.65 | 0.79 |
| 46:G8:94:LYS:NZ | 46:G8:95:LYS:H | 1.80 | 0.79 |
| 1:13:474:G:H2' | 1:13:475:G:H8 | 1.48 | 0.79 |
| 7:6E:122:HIS:HA | 7:6E:125:MET:HE2 | 1.63 | 0.79 |
| 9:8E:10:ARG:CD | 9:8E:11:LYS:HG3 | 2.12 | 0.79 |
| 26:14:938:G:OP2 | 55:M5:52:LYS:NZ | 2.14 | 0.79 |
| 26:14:2293:C:N4 | 26:14:2339:G:O6 | 2.16 | 0.79 |
| 34:69:59:ALA:HA | 34:69:62:LYS:HB3 | 1.63 | 0.79 |
| 10:1I:40:LEU:HB2 | 10:1I:69:ASN:HB2 | 1.64 | 0.79 |
| 55:Q8:52:LYS:HB3 | 55:Q8:53:PRO:CD | 2.11 | 0.79 |
| 1:1G:1263:C:N4 | 1:1G:1272:G:O6 | 2.12 | 0.79 |
| 3:22:29:TYR:CD1 | 3:22:33:LEU:HB2 | 2.16 | 0.79 |
| 26:14:1456:G:OP2 | 61:14:3509:HOH:O | 2.00 | 0.79 |
| 26:1H:2857:G:N2 | 26:1H:2860:A:OP2 | 2.13 | 0.79 |
| 35:58:42:TRP:O | 42:C8:64:ARG:NH2 | 2.15 | 0.79 |
| 2:12:71:VAL:HG11 | 2:12:164:VAL:HA | 1.65 | 0.79 |
| 26:14:751:A:H5' | 44:A5:90:ARG:HA | 1.65 | 0.79 |
| 49:F5:91:LYS:HZ1 | 49:F5:95:LEU:HD22 | 1.43 | 0.79 |
| 13:4I:9:ILE:HD12 | 32:41:146:TYR:HD2 | 1.48 | 0.79 |
| 26:1H:2303:G:O2' | 32:41:132:ASN:OD1 | 1.99 | 0.79 |
| 26:14:1942:C:OP2 | 26:14:1943:U:O2' | 2.01 | 0.79 |
| 26:14:2075:U:P | 29:19:244:ARG:NH2 | 2.54 | 0.79 |
| 35:58:56:ASN:N | 35:58:125:GLY:O | 2.13 | 0.79 |
| 1:1G:1128:C:H5'' | 9:82:16:ARG:HH22 | 1.46 | 0.79 |
| 1:1G:1316:G:H5'' | 14:5A:17:LYS:NZ | 1.97 | 0.79 |
| 26:14:2773:C:H2' | 26:14:2774:C:H6 | 1.47 | 0.79 |
| 29:19:255:LYS:H | 29:19:255:LYS:HD3 | 1.48 | 0.79 |
| 47:D5:45:ASP:OD1 | 47:D5:49:ARG:NH2 | 2.14 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 50:G5:42:GLY:HA2 | 50:G5:43:GLN:OE1 | 1.83 | 0.79 |
| 26:1H:1437:C:HO2' | 26:1H:1518:C:HO2' | 1.27 | 0.79 |
| 29:11:71:ASP:OD1 | 29:11:103:ARG:NH2 | 2.16 | 0.79 |
| 48:I8:23:VAL:HG13 | 48:I8:38:VAL:HG22 | 1.64 | 0.79 |
| 26:14:2377:A:H4' | 40:65:111:GLU:HG2 | 1.65 | 0.79 |
| 4:3E:15:GLU:OE1 | 4:3E:66:ARG:NH1 | 2.16 | 0.79 |
| 26:1H:86:C:H4' | 26:1H:104:U:H1' | 1.65 | 0.79 |
| 26:1H:135:G:N1 | 26:1H:144:C:N3 | 2.30 | 0.79 |
| 26:1H:287:C:H2' | 26:1H:288:C:H6 | 1.48 | 0.79 |
| 29:11:182:LEU:H | 29:11:272:ALA:HB3 | 1.48 | 0.79 |
| 31:31:134:GLY:H | 31:31:162:LEU:HB3 | 1.48 | 0.79 |
| 26:14:847:U:OP2 | 61:14:3510:HOH:O | 2.01 | 0.79 |
| 37:35:37:GLY:HA2 | 37:35:41:ARG:NH2 | 1.98 | 0.79 |
| 1:1G:1243:C:OP2 | 21:1B:10:ARG:NH2 | 2.16 | 0.78 |
| 2:1E:115:LEU:HD11 | 2:1E:146:GLN:HG3 | 1.65 | 0.78 |
| 44:E8:79:GLY:HA3 | 44:E8:100:THR:CG2 | 2.14 | 0.78 |
| 2:12:50:GLU:HG3 | 2:12:201:ILE:HG12 | 1.64 | 0.78 |
| 26:14:2636:U:O2' | 30:29:44:TYR:OH | 1.99 | 0.78 |
| 27:1J:27:C:H2' | 27:1J:28:C:H5' | 1.66 | 0.78 |
| 7:6E:15:ASP:HB3 | 7:6E:20:ASP:H | 1.47 | 0.78 |
| 9:8E:10:ARG:HD3 | 9:8E:11:LYS:HG3 | 1.63 | 0.78 |
| 26:1H:1441:G:H2' | 26:1H:1442:G:H8 | 1.49 | 0.78 |
| 1:1G:1116:C:H42 | 1:1G:1184:G:H1 | 1.27 | 0.78 |
| 14:5A:14:PRO:HB2 | 14:5A:15:LYS:HG3 | 1.66 | 0.78 |
| 57:3L:29:U:O4 | 57:3L:41:A:N6 | 2.16 | 0.78 |
| 41:75:126:ALA:HA | 41:75:129:ARG:HD2 | 1.66 | 0.78 |
| 50:G5:22:GLU:HG2 | 50:G5:64:LEU:HD11 | 1.63 | 0.78 |
| 26:1H:2059:A:OP2 | 61:1H:3513:HOH:O | 2.01 | 0.78 |
| 26:14:1592:C:H2' | 26:14:1593:G:C8 | 2.19 | 0.78 |
| 4:3E:72:GLU:OE1 | 4:3E:207:TYR:OH | 2.01 | 0.78 |
| 7:6E:113:GLU:HB2 | 7:6E:119:ARG:HG2 | 1.66 | 0.78 |
| 1:1G:362:G:H4' | 12:3A:33:ARG:HH21 | 1.48 | 0.78 |
| 1:1G:664:G:H22 | 1:1G:741:G:H1 | 1.30 | 0.78 |
| 27:1J:80:U:O2 | 27:1J:96:G:N1 | 2.13 | 0.78 |
| 35:15:104:LYS:HA | 35:15:107:LEU:HD12 | 1.65 | 0.78 |
| 24:3K:33:U:H2' | 24:3K:34:U:H3' | 1.66 | 0.78 |
| 26:1H:2287:A:N6 | 26:1H:2344:U:H3 | 1.81 | 0.78 |
| 33:51:8:PRO:HG2 | 33:51:69:ARG:HH21 | 1.47 | 0.78 |
| 8:72:69:ARG:NH1 | 8:72:75:ARG:O | 2.17 | 0.78 |
| 16:7A:1:MET:O | 16:7A:24:ALA:N | 2.17 | 0.78 |
| 18:9A:84:LYS:H | 18:9A:84:LYS:HD3 | 1.47 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:14:2287:A:N6 | 26:14:2344:U:H3 | 1.80 | 0.78 |
| 32:49:15:VAL:HG13 | 32:49:175:LEU:HB3 | 1.65 | 0.78 |
| 1:13:1455:G:OP1 | 20:BI:35:THR:OG1 | 2.01 | 0.78 |
| 26:1H:259:G:O2' | 26:1H:621:A:O2' | 2.01 | 0.78 |
| 30:21:116:VAL:HG11 | 30:21:138:PRO:HB3 | 1.66 | 0.78 |
| 1:1G:1209:C:O2' | 1:1G:1214:C:N4 | 2.13 | 0.78 |
| 1:13:1329:A:H5' | 13:4I:29:ARG:HD2 | 1.66 | 0.78 |
| 43:D8:35:LEU:HB2 | 43:D8:57:VAL:HG13 | 1.65 | 0.78 |
| 13:4A:80:ARG:HH21 | 19:AA:65:ASN:HD22 | 1.32 | 0.78 |
| 42:85:66:ASN:HB2 | 42:85:76:TYR:HB2 | 1.65 | 0.78 |
| 54:L5:29:LYS:HA | 54:L5:32:LYS:HB3 | 1.65 | 0.78 |
| 1:13:316:G:OP2 | 1:13:351:G:O2' | 2.02 | 0.78 |
| 9:8E:17:VAL:HA | 9:8E:63:ILE:HG12 | 1.66 | 0.78 |
| 13:4I:19:LEU:HD13 | 13:4I:22:ILE:HD13 | 1.65 | 0.78 |
| 26:1H:592:G:H21 | 55:Q8:4:MET:HE1 | 1.49 | 0.78 |
| 26:1H:1170:G:N2 | 26:1H:1180:C:N3 | 2.32 | 0.78 |
| 32:41:67:LYS:H | 32:41:67:LYS:HD3 | 1.48 | 0.78 |
| 1:1G:588:G:H1 | 1:1G:651:C:H42 | 1.32 | 0.78 |
| 8:72:123:GLU:OE2 | 8:72:123:GLU:N | 2.13 | 0.78 |
| 26:14:625:G:N7 | 37:35:107:LYS:NZ | 2.32 | 0.78 |
| 26:1H:1334:G:N7 | 61:1H:3548:HOH:O | 2.17 | 0.78 |
| 26:1H:2701:C:H3' | 26:1H:2702:U:H5' | 1.66 | 0.78 |
| 37:78:63:PRO:HB2 | 55:Q8:30:ARG:HH21 | 1.49 | 0.78 |
| 8:72:99:GLU:HG2 | 8:72:100:ILE:H | 1.47 | 0.78 |
| 26:14:848:G:H2' | 26:14:849:A:C8 | 2.18 | 0.78 |
| 26:14:2130:U:O2' | 26:14:2158:A:N1 | 2.15 | 0.78 |
| 1:13:989:C:N3 | 1:13:1216:G:N2 | 2.30 | 0.77 |
| 26:1H:1479:G:N7 | 26:1H:1510:A:N6 | 2.32 | 0.77 |
| 26:1H:1728:G:H8 | 26:1H:1732:A:H62 | 1.30 | 0.77 |
| 4:32:163:GLU:HA | 4:32:166:LYS:HD2 | 1.65 | 0.77 |
| 13:4A:79:LYS:O | 13:4A:82:MET:HG2 | 1.85 | 0.77 |
| 26:14:1443:G:H1 | 26:14:1548:C:H42 | 1.32 | 0.77 |
| 1:13:1213:A:O2' | 1:13:1215:G:N7 | 2.15 | 0.77 |
| 16:7I:4:ILE:HB | 16:7I:66:PRO:HB3 | 1.66 | 0.77 |
| 24:3K:17:U:H3 | 26:1H:2112:G:N2 | 1.82 | 0.77 |
| 46:G8:61:ILE:CG2 | 46:G8:63:LYS:HD3 | 2.14 | 0.77 |
| 53:N8:40:LYS:HG2 | 53:N8:46:CYS:HA | 1.66 | 0.77 |
| 1:1G:278:G:N7 | 17:8A:92:ARG:NH2 | 2.31 | 0.77 |
| 1:1G:1423:G:H2' | 1:1G:1424:C:H6 | 1.49 | 0.77 |
| 3:22:70:VAL:HG12 | 3:22:72:LYS:H | 1.48 | 0.77 |
| 40:65:106:ARG:O | 40:65:106:ARG:HD2 | 1.84 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:49:A:N7 | 26:1H:120:U:H5 | 1.81 | 0.77 |
| 26:1H:2327:A:H2' | 26:1H:2328:A:C8 | 2.18 | 0.77 |
| 34:61:8:PRO:HA | 34:61:14:ASP:HA | 1.65 | 0.77 |
| 52:M8:18:CYS:SG | 52:M8:39:CYS:HB2 | 2.23 | 0.77 |
| 26:14:1771:C:HO2' | 26:14:1786:A:H8 | 1.31 | 0.77 |
| 2:1E:11:LEU:HB3 | 2:1E:213:LEU:HD13 | 1.66 | 0.77 |
| 26:1H:2791:C:H2' | 26:1H:2792:G:H5' | 1.65 | 0.77 |
| 27:16:42:C:O3' | 32:41:67:LYS:HE2 | 1.84 | 0.77 |
| 31:31:66:PRO:O | 31:31:67:GLN:HB3 | 1.83 | 0.77 |
| 1:1G:1435:G:H2' | 1:1G:1436:U:C6 | 2.19 | 0.77 |
| 26:14:1218:C:H42 | 26:14:1231:G:H1 | 1.29 | 0.77 |
| 47:D5:30:ASN:HA | 47:D5:89:PHE:HE1 | 1.48 | 0.77 |
| 16:7I:8:ARG:NH1 | 16:7I:15:PRO:HA | 2.00 | 0.77 |
| 26:1H:760:G:OP2 | 61:1H:3514:HOH:O | 2.02 | 0.77 |
| 34:61:129:THR:HG22 | 34:61:137:PRO:HB3 | 1.66 | 0.77 |
| 41:B8:11:GLU:OE1 | 41:B8:11:GLU:HA | 1.84 | 0.77 |
| 2:12:91:PRO:HG3 | 2:12:154:LEU:HB2 | 1.66 | 0.77 |
| 19:AA:66:MET:SD | 19:AA:69:HIS:NE2 | 2.57 | 0.77 |
| 30:21:105:THR:HG1 | 30:21:199:ARG:HH21 | 1.31 | 0.77 |
| 42:C8:79:PHE:CE1 | 42:C8:83:LEU:HD22 | 2.20 | 0.77 |
| 3:22:18:TRP:HE1 | 14:5A:55:GLY:N | 1.82 | 0.77 |
| 3:22:130:VAL:HG13 | 3:22:134:ILE:CG1 | 2.13 | 0.77 |
| 36:25:115:VAL:HG13 | 36:25:121:VAL:HG21 | 1.66 | 0.77 |
| 26:1H:662:G:H4' | 37:78:15:ARG:HA | 1.65 | 0.77 |
| 41:B8:24:PRO:HD3 | 41:B8:52:ILE:HD12 | 1.67 | 0.77 |
| 44:E8:79:GLY:N | 44:E8:100:THR:O | 2.16 | 0.77 |
| 1:1G:1453:G:O2' | 20:BA:39:LYS:NZ | 2.13 | 0.77 |
| 1:1G:920:U:H2' | 1:1G:921:U:C6 | 2.20 | 0.77 |
| 20:BA:49:ALA:HA | 20:BA:52:ALA:HB3 | 1.66 | 0.77 |
| 26:14:1057:A:N7 | 26:14:1086:A:O2' | 2.18 | 0.77 |
| 37:35:146:VAL:HG22 | 37:35:147:LEU:HG | 1.66 | 0.77 |
| 34:61:38:LEU:HD13 | 34:61:40:THR:HG23 | 1.67 | 0.77 |
| 32:49:106:LEU:HD11 | 32:49:111:LEU:HG | 1.65 | 0.77 |
| 2:1E:219:VAL:HA | 2:1E:222:ILE:HD12 | 1.67 | 0.77 |
| 15:6I:39:LEU:HB3 | 15:6I:56:LEU:HD12 | 1.66 | 0.77 |
| 57:3L:70:C:H2' | 57:3L:71:C:H5' | 1.67 | 0.77 |
| 26:14:259:G:H21 | 26:14:621:A:H8 | 1.33 | 0.77 |
| 26:14:1141:U:H2' | 35:15:63:THR:HG21 | 1.67 | 0.77 |
| 30:29:1:MET:HG3 | 30:29:200:GLU:OE2 | 1.85 | 0.77 |
| 2:1E:166:ASP:HB3 | 2:1E:169:LYS:HB2 | 1.65 | 0.76 |
| 26:1H:2308:G:N1 | 26:1H:2311:A:H2 | 1.83 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 30:21:116:VAL:HG23 | 30:21:120:TRP:HD1 | 1.50 | 0.76 |
| 26:14:125:G:H5'' | 54:L5:19:ARG:HD3 | 1.67 | 0.76 |
| 26:14:2207:C:H42 | 26:14:2217:G:H1 | 1.28 | 0.76 |
| 30:29:25:VAL:HG12 | 30:29:26:ILE:N | 1.98 | 0.76 |
| 55:M5:34:TRP:HB3 | 55:M5:35:GLN:OE1 | 1.85 | 0.76 |
| 6:5E:27:GLN:HA | 6:5E:30:LEU:HD12 | 1.66 | 0.76 |
| 26:1H:452:G:OP2 | 61:1H:3517:HOH:O | 2.03 | 0.76 |
| 26:1H:1568:G:OP1 | 29:11:63:ARG:NH1 | 2.17 | 0.76 |
| 4:32:201:GLN:HA | 4:32:204:ILE:HG22 | 1.67 | 0.76 |
| 17:8A:66:SER:O | 17:8A:70:ARG:NH1 | 2.17 | 0.76 |
| 26:14:662:G:H5' | 37:35:15:ARG:HA | 1.66 | 0.76 |
| 26:14:770:G:OP2 | 61:14:3512:HOH:O | 2.03 | 0.76 |
| 26:14:2110:G:C2 | 26:14:2120:G:H1' | 2.20 | 0.76 |
| 37:35:85:LEU:HA | 37:35:88:LEU:HB3 | 1.67 | 0.76 |
| 41:75:51:ARG:HG2 | 41:75:98:LYS:HE3 | 1.65 | 0.76 |
| 1:13:160:A:N6 | 1:13:343:U:O2' | 2.18 | 0.76 |
| 3:2E:101:LEU:HD23 | 3:2E:102:ASN:N | 2.00 | 0.76 |
| 5:4E:39:GLY:HA2 | 5:4E:113:ALA:HB1 | 1.66 | 0.76 |
| 26:1H:2404:C:OP2 | 61:1H:3516:HOH:O | 2.02 | 0.76 |
| 44:E8:78:GLU:OE2 | 44:E8:99:ARG:HD3 | 1.84 | 0.76 |
| 1:1G:1095:U:OP1 | 1:1G:1108:G:N2 | 2.17 | 0.76 |
| 1:1G:1347:G:O2' | 1:1G:1373:G:O6 | 2.01 | 0.76 |
| 32:49:161:THR:HG22 | 32:49:163:ALA:H | 1.50 | 0.76 |
| 41:75:26:ASP:OD1 | 41:75:120:ARG:NH2 | 2.18 | 0.76 |
| 1:1G:447:G:H21 | 1:1G:487:A:H62 | 1.34 | 0.76 |
| 1:1G:1001:G:O6 | 1:1G:1038:C:N4 | 2.15 | 0.76 |
| 43:D8:21:ARG:HG2 | 43:D8:91:TYR:HE2 | 1.51 | 0.76 |
| 49:J8:93:GLU:OE2 | 49:J8:94:LEU:HB2 | 1.85 | 0.76 |
| 1:1G:1016:A:H1' | 1:1G:1218:C:H1' | 1.66 | 0.76 |
| 4:3E:157:LEU:HD12 | 4:3E:161:ASN:HD21 | 1.51 | 0.76 |
| 5:4E:73:ASN:O | 5:4E:73:ASN:ND2 | 2.18 | 0.76 |
| 26:1H:2302:G:N2 | 26:1H:2314:C:O2 | 2.17 | 0.76 |
| 1:1G:292:G:OP2 | 1:1G:305:G:N2 | 2.14 | 0.76 |
| 1:1G:407:G:OP1 | 4:32:115:ARG:NH2 | 2.13 | 0.76 |
| 26:14:1198:U:H2' | 26:14:1199:U:C6 | 2.21 | 0.76 |
| 26:14:2141:G:H1 | 26:14:2150:U:H3 | 1.33 | 0.76 |
| 1:13:1009:G:O6 | 1:13:1020:U:N3 | 2.15 | 0.76 |
| 26:1H:298:G:N7 | 46:G8:84:ARG:NH1 | 2.33 | 0.76 |
| 31:31:129:PHE:HA | 31:31:142:TRP:NE1 | 2.01 | 0.76 |
| 29:19:246:PRO:CD | 29:19:255:LYS:HE3 | 2.16 | 0.76 |
| 31:39:25:PRO:HB3 | 31:39:28:ILE:HG23 | 1.68 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:2787:C:O3' | 30:21:61:ARG:NH1 | 2.18 | 0.76 |
| 37:78:47:ASP:OD2 | 37:78:50:ARG:NH2 | 2.19 | 0.76 |
| 1:1G:490:G:OP2 | 4:32:132:ARG:NH2 | 2.19 | 0.76 |
| 1:1G:1116:C:H2' | 1:1G:1117:G:C8 | 2.21 | 0.76 |
| 1:1G:1256:A:N6 | 1:1G:1278:U:OP2 | 2.17 | 0.76 |
| 49:F5:92:LYS:CD | 49:F5:93:GLU:H | 1.92 | 0.76 |
| 26:1H:2334:G:O6 | 48:I8:74:ARG:NH2 | 2.19 | 0.76 |
| 43:D8:47:VAL:HG13 | 43:D8:48:GLY:H | 1.51 | 0.76 |
| 17:8I:66:SER:O | 17:8I:70:ARG:NH1 | 2.19 | 0.76 |
| 33:51:40:GLU:N | 33:51:40:GLU:OE2 | 2.19 | 0.76 |
| 33:51:98:LEU:HD23 | 33:51:125:VAL:HG23 | 1.68 | 0.76 |
| 1:1G:1069:C:O2' | 5:42:25:ARG:NH2 | 2.18 | 0.76 |
| 26:14:95:G:H4' | 50:G5:46:GLN:HB2 | 1.68 | 0.76 |
| 1:13:452:A:N6 | 1:13:480:U:O2 | 2.19 | 0.75 |
| 24:3K:44:U:H3' | 24:3K:45:G:H4' | 1.68 | 0.75 |
| 26:1H:176:G:O2' | 26:1H:177:G:H5' | 1.87 | 0.75 |
| 26:1H:1871:A:H2' | 26:1H:1872:A:C8 | 2.21 | 0.75 |
| 1:1G:1218:C:OP1 | 14:5A:12:ARG:NH2 | 2.19 | 0.75 |
| 3:22:73:PRO:O | 3:22:76:VAL:HG22 | 1.86 | 0.75 |
| 9:8E:17:VAL:HG21 | 9:8E:80:GLY:HA3 | 1.66 | 0.75 |
| 29:11:30:GLU:OE1 | 29:11:63:ARG:NE | 2.14 | 0.75 |
| 1:1G:1025:U:O2' | 1:1G:1026:G:N7 | 2.19 | 0.75 |
| 26:14:517:C:OP1 | 53:J5:16:ARG:NH2 | 2.19 | 0.75 |
| 26:14:2392:A:H2 | 26:14:2424:C:H42 | 1.31 | 0.75 |
| 27:1J:21:G:H2' | 27:1J:22:U:O4' | 1.86 | 0.75 |
| 34:69:123:LEU:HD21 | 34:69:143:SER:HB3 | 1.68 | 0.75 |
| 43:95:35:LEU:HB2 | 43:95:37:VAL:HG13 | 1.67 | 0.75 |
| 47:D5:30:ASN:HA | 47:D5:89:PHE:CE1 | 2.20 | 0.75 |
| 3:2E:150:LYS:HE2 | 3:2E:152:ILE:HD11 | 1.68 | 0.75 |
| 6:52:11:ASN:O | 6:52:14:LEU:HD22 | 1.86 | 0.75 |
| 12:3A:100:ILE:HG22 | 12:3A:101:VAL:H | 1.50 | 0.75 |
| 32:49:111:LEU:CD2 | 32:49:140:ILE:CD1 | 2.46 | 0.75 |
| 34:69:65:ALA:O | 34:69:69:LYS:N | 2.19 | 0.75 |
| 41:75:108:ARG:HA | 41:75:111:ARG:HG3 | 1.67 | 0.75 |
| 5:4E:145:LYS:HA | 5:4E:148:VAL:HB | 1.67 | 0.75 |
| 1:1G:243:A:H4' | 1:1G:244:U:H5'' | 1.67 | 0.75 |
| 1:1G:1071:C:H2' | 1:1G:1072:G:H8 | 1.51 | 0.75 |
| 5:42:33:VAL:HG21 | 5:42:109:ILE:HG12 | 1.69 | 0.75 |
| 26:14:675:A:O2' | 31:39:67:GLN:NE2 | 2.20 | 0.75 |
| 30:29:169:ASN:HA | 30:29:201:THR:HG21 | 1.65 | 0.75 |
| 48:E5:32:ARG:O | 48:E5:34:GLY:N | 2.15 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:474:G:H2' | 1:13:475:G:C8 | 2.22 | 0.75 |
| 16:7I:8:ARG:NH1 | 16:7I:15:PRO:CB | 2.50 | 0.75 |
| 26:1H:1016:G:O6 | 61:1H:3515:HOH:O | 2.02 | 0.75 |
| 46:G8:97:ARG:NH2 | 46:G8:103:GLY:O | 2.20 | 0.75 |
| 1:1G:620:C:C2 | 4:32:135:LEU:HG | 2.21 | 0.75 |
| 17:8A:87:LYS:O | 17:8A:91:ARG:HD2 | 1.85 | 0.75 |
| 18:9A:22:VAL:HG22 | 18:9A:23:LYS:H | 1.52 | 0.75 |
| 27:1J:11:C:OP2 | 27:1J:12:C:N4 | 2.18 | 0.75 |
| 26:1H:1021:A:H8 | 26:1H:1021:A:H3' | 1.50 | 0.75 |
| 28:71:30:LYS:NZ | 28:71:178:ALA:O | 2.19 | 0.75 |
| 35:58:12:ARG:HG2 | 35:58:13:TRP:N | 2.01 | 0.75 |
| 45:F8:36:LYS:HG2 | 45:F8:54:VAL:HG23 | 1.67 | 0.75 |
| 1:1G:607:A:H2' | 1:1G:608:A:O4' | 1.85 | 0.75 |
| 26:14:1141:U:H2' | 35:15:63:THR:CG2 | 2.16 | 0.75 |
| 26:14:1678:G:H22 | 26:14:1989:G:H22 | 1.34 | 0.75 |
| 30:29:12:THR:O | 30:29:23:VAL:HG22 | 1.87 | 0.75 |
| 30:29:68:ALA:C | 30:29:70:ALA:H | 1.90 | 0.75 |
| 34:69:102:SER:O | 34:69:106:GLY:N | 2.19 | 0.75 |
| 26:1H:489:G:N7 | 44:E8:49:LYS:NZ | 2.35 | 0.75 |
| 26:1H:1016:G:N7 | 61:1H:3550:HOH:O | 2.18 | 0.75 |
| 26:1H:2636:U:OP1 | 30:21:79:ARG:HA | 1.86 | 0.75 |
| 26:1H:2698:U:N3 | 26:1H:2709:G:O6 | 2.17 | 0.75 |
| 28:71:22:ILE:HD13 | 28:71:189:ILE:HG22 | 1.68 | 0.75 |
| 57:3L:19:G:N3 | 57:3L:57:G:N2 | 2.35 | 0.75 |
| 26:14:863:A:H2' | 26:14:864:G:C8 | 2.22 | 0.75 |
| 29:19:244:ARG:HB2 | 29:19:245:PRO:HD2 | 1.68 | 0.75 |
| 26:1H:587:C:N3 | 37:78:33:ARG:NH1 | 2.35 | 0.75 |
| 26:14:1443:G:N2 | 26:14:1548:C:N3 | 2.34 | 0.75 |
| 26:14:2250:G:C4 | 38:45:82:ARG:HG3 | 2.21 | 0.75 |
| 29:19:95:LEU:HD11 | 29:19:105:ILE:HD12 | 1.69 | 0.75 |
| 48:E5:12:ASN:HA | 48:E5:14:ARG:HH21 | 1.52 | 0.75 |
| 13:4I:12:ASN:HD22 | 13:4I:13:LYS:H | 1.35 | 0.75 |
| 26:1H:547:A:H2 | 26:1H:548:A:H62 | 1.34 | 0.75 |
| 26:1H:1285:G:N2 | 26:1H:1329:U:OP1 | 2.17 | 0.75 |
| 26:14:1055:G:N2 | 26:14:1086:A:OP1 | 2.19 | 0.75 |
| 33:59:66:GLY:O | 33:59:70:THR:OG1 | 2.03 | 0.75 |
| 43:95:2:PHE:HE1 | 43:95:13:ARG:HG3 | 1.50 | 0.75 |
| 5:4E:76:ILE:HG13 | 5:4E:93:PRO:HG3 | 1.69 | 0.74 |
| 13:4I:4:ILE:HG22 | 13:4I:5:ALA:H | 1.52 | 0.74 |
| 26:1H:142:G:H1' | 45:F8:37:THR:HG21 | 1.69 | 0.74 |
| 26:1H:974(A):C:OP1 | 61:1H:3521:HOH:O | 2.04 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:1H:2154:G:N2 | 26:1H:2155:G:O6 | 2.20 | 0.74 |
| 26:1H:2849:U:H4' | 26:1H:2868:A:C2 | 2.21 | 0.74 |
| 41:B8:21:GLU:OE1 | 41:B8:91:ARG:NH2 | 2.20 | 0.74 |
| 26:14:469:G:OP2 | 61:14:3513:HOH:O | 2.04 | 0.74 |
| 37:35:13:ASN:C | 37:35:15:ARG:H | 1.90 | 0.74 |
| 1:13:5:U:OP1 | 1:13:5:U:H4' | 1.82 | 0.74 |
| 45:F8:47:PHE:O | 45:F8:49:VAL:HG23 | 1.87 | 0.74 |
| 1:1G:539:A:H2' | 1:1G:540:G:C8 | 2.21 | 0.74 |
| 2:12:18:GLY:O | 2:12:19:HIS:ND1 | 2.17 | 0.74 |
| 8:72:51:VAL:HG11 | 8:72:60:ARG:HB2 | 1.68 | 0.74 |
| 41:75:125:ARG:HB2 | 41:75:129:ARG:NH2 | 2.01 | 0.74 |
| 3:2E:62:ASP:O | 3:2E:98:ASN:ND2 | 2.16 | 0.74 |
| 4:3E:29:PRO:HA | 4:3E:34:GLU:HG3 | 1.68 | 0.74 |
| 4:3E:64:LEU:HD22 | 4:3E:198:VAL:HG11 | 1.70 | 0.74 |
| 26:1H:259:G:HO2' | 26:1H:621:A:HO2' | 1.35 | 0.74 |
| 26:1H:1430:C:H2' | 26:1H:1431:U:C6 | 2.23 | 0.74 |
| 30:21:26:ILE:HG23 | 30:21:182:LEU:HB3 | 1.69 | 0.74 |
| 37:78:97:PRO:HA | 37:78:100:LEU:HB2 | 1.69 | 0.74 |
| 26:14:918:A:O2' | 27:1J:96:G:N2 | 2.20 | 0.74 |
| 26:14:1019:U:H2' | 26:14:1020:A:C8 | 2.23 | 0.74 |
| 26:14:1171:G:O2' | 26:14:1173:G:O4' | 2.04 | 0.74 |
| 26:14:2260:C:OP1 | 61:14:3514:HOH:O | 2.04 | 0.74 |
| 12:3I:60:LEU:HD13 | 12:3I:61:THR:N | 2.02 | 0.74 |
| 46:G8:28:LYS:NZ | 46:G8:40:GLU:HG3 | 2.03 | 0.74 |
| 1:1G:750:G:N2 | 15:6A:23:GLY:O | 2.17 | 0.74 |
| 12:3A:41:ARG:HG2 | 12:3A:42:THR:H | 1.52 | 0.74 |
| 43:95:22:VAL:HG22 | 43:95:23:GLU:H | 1.52 | 0.74 |
| 9:8E:5:TYR:O | 9:8E:87:GLN:NE2 | 2.19 | 0.74 |
| 26:1H:760:G:OP1 | 61:1H:3520:HOH:O | 2.04 | 0.74 |
| 26:1H:1536:A:H3' | 26:1H:1537:C:H6 | 1.53 | 0.74 |
| 26:1H:2129:C:N4 | 26:1H:2161:C:O2' | 2.21 | 0.74 |
| 12:3A:20:LYS:HE3 | 12:3A:21:LYS:C | 2.07 | 0.74 |
| 26:14:152:G:O6 | 26:14:174:C:N4 | 2.13 | 0.74 |
| 26:14:2173:A:O2' | 26:14:2174:C:OP1 | 2.05 | 0.74 |
| 1:13:1125:U:OP2 | 1:13:1145:C:N4 | 2.20 | 0.74 |
| 6:5E:39:LYS:HD3 | 6:5E:64:GLN:HG3 | 1.70 | 0.74 |
| 19:AI:5:LEU:HD13 | 19:AI:10:PHE:HD1 | 1.50 | 0.74 |
| 26:1H:1649:G:O2' | 39:98:107:ASP:OD2 | 2.04 | 0.74 |
| 26:1H:2315:G:OP1 | 32:41:36:LYS:NZ | 2.21 | 0.74 |
| 26:1H:2359:C:H5'' | 55:Q8:52:LYS:HD2 | 1.67 | 0.74 |
| 38:88:139:GLU:N | 38:88:139:GLU:OE2 | 2.20 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 42:C8:92:ARG:NH1 | 43:D8:11:GLN:O | 2.21 | 0.74 |
| 23:2L:24:C:H2' | 23:2L:25:U:H6 | 1.51 | 0.74 |
| 31:39:110:LEU:HD21 | 31:39:181:LEU:HD12 | 1.67 | 0.74 |
| 1:13:353:A:H8 | 1:13:353:A:H5' | 1.53 | 0.74 |
| 53:N8:41:PRO:O | 53:N8:44:THR:OG1 | 2.03 | 0.74 |
| 1:1G:128:G:H4' | 17:8A:3:LYS:HG2 | 1.69 | 0.74 |
| 1:1G:539:A:OP2 | 12:3A:115:LYS:NZ | 2.16 | 0.74 |
| 26:14:631:A:OP2 | 55:M5:47:LYS:NZ | 2.18 | 0.74 |
| 26:14:1210:A:H5'' | 26:14:1211:U:H3' | 1.69 | 0.74 |
| 26:1H:1021:A:H3' | 26:1H:1021:A:C8 | 2.23 | 0.74 |
| 26:1H:2683:C:OP1 | 41:B8:53:ARG:NH2 | 2.20 | 0.74 |
| 31:31:167:ALA:HB1 | 31:31:173:VAL:HG11 | 1.69 | 0.74 |
| 2:12:166:ASP:HB3 | 2:12:169:LYS:HB2 | 1.70 | 0.74 |
| 37:35:75:ILE:HD12 | 37:35:77:ARG:NH2 | 2.03 | 0.74 |
| 7:6E:79:ARG:HA | 7:6E:84:ASN:HA | 1.68 | 0.74 |
| 39:98:67:LEU:HD22 | 39:98:76:VAL:HG21 | 1.70 | 0.74 |
| 4:32:145:GLU:HG3 | 4:32:184:LYS:HG2 | 1.70 | 0.74 |
| 26:14:1310:G:H1 | 26:14:1604:C:H42 | 1.34 | 0.74 |
| 40:65:28:VAL:HG11 | 40:65:98:VAL:HG12 | 1.70 | 0.74 |
| 1:13:1081:G:H2' | 1:13:1082:G:H8 | 1.53 | 0.73 |
| 11:2I:22:HIS:HB3 | 11:2I:29:ILE:HG23 | 1.68 | 0.73 |
| 20:BI:10:LEU:HD21 | 20:BI:12:ALA:HB3 | 1.68 | 0.73 |
| 26:1H:543:C:H42 | 26:1H:550:G:H1 | 1.36 | 0.73 |
| 26:1H:2452:C:OP1 | 61:1H:3519:HOH:O | 2.04 | 0.73 |
| 35:58:97:ARG:H | 35:58:100:GLU:HG3 | 1.53 | 0.73 |
| 1:1G:408:A:H2' | 1:1G:409:G:O4' | 1.88 | 0.73 |
| 14:5A:12:ARG:HG3 | 14:5A:14:PRO:HD3 | 1.70 | 0.73 |
| 26:14:528:A:C2 | 26:14:2042:A:H2' | 2.23 | 0.73 |
| 26:14:780:G:H21 | 26:14:783:A:H62 | 1.36 | 0.73 |
| 26:14:2404:C:OP2 | 61:14:3515:HOH:O | 2.06 | 0.73 |
| 1:13:1442:G:H2' | 1:13:1443:G:H5' | 1.69 | 0.73 |
| 19:AI:64:GLU:O | 19:AI:67:VAL:HG13 | 1.88 | 0.73 |
| 26:1H:1169:G:H1 | 26:1H:1180:C:H42 | 1.34 | 0.73 |
| 26:1H:2053:G:OP2 | 61:1H:3523:HOH:O | 2.05 | 0.73 |
| 33:51:8:PRO:HG2 | 33:51:69:ARG:NH2 | 2.03 | 0.73 |
| 38:88:17:LEU:HB3 | 38:88:39:PRO:HB2 | 1.70 | 0.73 |
| 26:14:1784:A:H4' | 26:14:1785:A:O5' | 1.86 | 0.73 |
| 26:14:2292:C:OP1 | 40:65:17:ARG:NH2 | 2.21 | 0.73 |
| 8:7E:87:SER:HB2 | 8:7E:93:VAL:HB | 1.69 | 0.73 |
| 12:3I:117:ARG:HB3 | 12:3I:122:THR:HB | 1.71 | 0.73 |
| 26:1H:2502:G:OP2 | 61:1H:3518:HOH:O | 2.04 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 27:16:15:A:H1' | 27:16:109:G:C8 | 2.23 | 0.73 |
| 30:21:103:ASP:OD1 | 30:21:201:THR:HG22 | 1.87 | 0.73 |
| 26:14:848:G:C4 | 26:14:933:A:H8 | 2.06 | 0.73 |
| 26:14:2387:U:H1' | 48:E5:41:ARG:HE | 1.54 | 0.73 |
| 26:14:2768:C:O2' | 35:15:89:LYS:NZ | 2.20 | 0.73 |
| 29:19:37:LEU:O | 29:19:37:LEU:HD12 | 1.88 | 0.73 |
| 1:13:468:A:H4' | 16:7I:80:PHE:HB2 | 1.68 | 0.73 |
| 6:5E:82:ARG:HB2 | 6:5E:85:VAL:HG23 | 1.70 | 0.73 |
| 26:1H:275:G:N2 | 26:1H:276:A:N7 | 2.35 | 0.73 |
| 35:58:39:ARG:NH2 | 35:58:41:ASP:OD2 | 2.21 | 0.73 |
| 43:D8:24:LYS:HA | 43:D8:92:THR:HG23 | 1.68 | 0.73 |
| 1:1G:330:C:O2 | 61:1G:1702:HOH:O | 2.07 | 0.73 |
| 1:1G:1266:G:N2 | 1:1G:1270:C:N3 | 2.36 | 0.73 |
| 26:14:848:G:OP2 | 26:14:929:G:N2 | 2.17 | 0.73 |
| 26:14:1689:A:H62 | 26:14:1698:A:H2 | 1.37 | 0.73 |
| 29:11:65:ILE:HD11 | 29:11:67:PHE:CZ | 2.23 | 0.73 |
| 42:C8:84:LYS:C | 42:C8:84:LYS:HD3 | 2.09 | 0.73 |
| 47:H8:165:VAL:HB | 47:H8:166:SER:HA | 1.70 | 0.73 |
| 1:1G:1133:G:N2 | 1:1G:1141:C:O2 | 2.21 | 0.73 |
| 4:32:107:ARG:HH22 | 4:32:196:LEU:HD11 | 1.54 | 0.73 |
| 26:14:1005:C:O2' | 35:15:28:THR:HG23 | 1.89 | 0.73 |
| 26:14:1187:G:H8 | 26:14:1187:G:O5' | 1.69 | 0.73 |
| 40:65:62:LYS:O | 40:65:66:ALA:N | 2.16 | 0.73 |
| 43:95:2:PHE:CD2 | 43:95:42:GLY:HA2 | 2.20 | 0.73 |
| 1:13:352:C:O2' | 1:13:354:G:OP1 | 2.07 | 0.73 |
| 3:2E:88:ARG:HA | 3:2E:91:LEU:HD12 | 1.71 | 0.73 |
| 7:6E:78:ARG:NH2 | 7:6E:154:TYR:O | 2.22 | 0.73 |
| 24:3K:76:A:H8 | 26:1H:2394:C:H42 | 1.34 | 0.73 |
| 26:1H:2176:A:O2' | 28:7I:44:HIS:NE2 | 2.20 | 0.73 |
| 47:H8:165:VAL:HB | 47:H8:167:PRO:HD3 | 1.70 | 0.73 |
| 4:32:60:GLU:OE2 | 4:32:199:ASN:N | 2.21 | 0.73 |
| 26:14:176:G:O2' | 26:14:177:G:H5' | 1.88 | 0.73 |
| 26:14:1167:U:O2 | 26:14:1183:G:N2 | 2.22 | 0.73 |
| 42:85:28:ARG:NH1 | 42:85:38:THR:OG1 | 2.21 | 0.73 |
| 40:A8:66:ALA:HA | 40:A8:69:VAL:HG12 | 1.70 | 0.73 |
| 1:1G:371:G:O2' | 1:1G:373:A:N7 | 2.22 | 0.73 |
| 1:1G:1291:G:O3' | 9:82:39:GLY:HA3 | 1.89 | 0.73 |
| 26:14:1560:G:OP1 | 61:14:3516:HOH:O | 2.07 | 0.73 |
| 20:BI:63:ILE:HD12 | 20:BI:81:LYS:HG3 | 1.70 | 0.73 |
| 26:1H:588:U:H2' | 26:1H:589:C:H6 | 1.52 | 0.73 |
| 26:1H:848:G:H2' | 26:1H:849:A:C8 | 2.24 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:1045:A:O2' | 26:1H:1047:G:N7 | 2.22 | 0.73 |
| 26:1H:1156:A:C8 | 42:C8:51:LYS:HG2 | 2.24 | 0.73 |
| 44:E8:27:LYS:HB3 | 44:E8:31:GLU:HG3 | 1.71 | 0.73 |
| 1:1G:1142:G:H3' | 1:1G:1143:G:H8 | 1.53 | 0.73 |
| 26:14:943:U:OP2 | 37:35:36:LYS:HD3 | 1.87 | 0.73 |
| 26:14:1048:A:OP2 | 26:14:1110:G:N2 | 2.22 | 0.73 |
| 26:14:2062:A:O2' | 26:14:2063:C:OP1 | 2.07 | 0.73 |
| 46:C5:2:ARG:NE | 46:C5:2:ARG:HA | 2.04 | 0.73 |
| 30:21:50:GLY:HA2 | 30:21:77:ILE:HA | 1.69 | 0.73 |
| 47:H8:134:PRO:HG3 | 47:H8:161:VAL:HG11 | 1.71 | 0.73 |
| 1:1G:1105:A:H2' | 1:1G:1106:G:C8 | 2.24 | 0.73 |
| 1:1G:1411:C:O2 | 1:1G:1489:G:N2 | 2.16 | 0.73 |
| 7:62:18:TYR:HD2 | 7:62:59:LEU:HD22 | 1.54 | 0.73 |
| 9:82:32:ASP:HB3 | 9:82:35:GLU:HB2 | 1.69 | 0.73 |
| 26:14:470:A:H5' | 26:14:470:A:H8 | 1.53 | 0.73 |
| 26:14:1022:G:O2' | 26:14:1023:U:OP2 | 2.07 | 0.73 |
| 39:55:56:LYS:NZ | 39:55:90:ARG:O | 2.18 | 0.73 |
| 33:51:9:ILE:HG21 | 33:51:51:ARG:HH21 | 1.54 | 0.73 |
| 26:14:972:G:OP2 | 26:14:973:A:O2' | 2.05 | 0.73 |
| 37:35:98:GLU:HA | 37:35:101:VAL:HG12 | 1.70 | 0.73 |
| 38:45:75:THR:HA | 38:45:89:ASN:HA | 1.69 | 0.73 |
| 32:41:55:LYS:HE2 | 32:41:150:ASP:HB3 | 1.68 | 0.72 |
| 1:1G:958:A:N3 | 1:1G:985:C:O2' | 2.21 | 0.72 |
| 1:1G:973:G:O2' | 10:1A:54:PHE:O | 2.06 | 0.72 |
| 1:1G:1449:C:H3' | 1:1G:1450:U:O4' | 1.88 | 0.72 |
| 3:22:63:ASN:HA | 3:22:98:ASN:HB2 | 1.71 | 0.72 |
| 13:4A:90:LEU:HD12 | 13:4A:91:ARG:HD3 | 1.69 | 0.72 |
| 26:14:1107:G:N2 | 26:14:1108:U:O2 | 2.22 | 0.72 |
| 31:39:129:PHE:HA | 31:39:142:TRP:CD1 | 2.22 | 0.72 |
| 26:1H:1174:A:O2' | 26:1H:1178:C:N4 | 2.22 | 0.72 |
| 29:11:142:VAL:HG23 | 29:11:193:VAL:HA | 1.71 | 0.72 |
| 53:N8:40:LYS:NZ | 53:N8:48:GLU:H | 1.87 | 0.72 |
| 1:1G:1305:G:H22 | 1:1G:1331:G:H2' | 1.53 | 0.72 |
| 8:72:48:TYR:HB3 | 8:72:61:VAL:HG13 | 1.71 | 0.72 |
| 9:82:26:VAL:HG22 | 9:82:60:ASP:HA | 1.69 | 0.72 |
| 16:7A:72:ARG:HD2 | 16:7A:73:LEU:HD23 | 1.70 | 0.72 |
| 26:14:754:C:H2' | 26:14:755:C:H6 | 1.54 | 0.72 |
| 26:14:839:U:H2' | 26:14:840:C:C6 | 2.24 | 0.72 |
| 26:14:960:A:H61 | 38:45:82:ARG:HH21 | 1.37 | 0.72 |
| 26:14:1288:U:C2 | 26:14:1327:C:O2 | 2.42 | 0.72 |
| 26:14:1899:G:O2' | 26:14:1900:A:O5' | 2.07 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 45:B5:57:LEU:HD21 | 45:B5:78:LYS:HD2 | 1.70 | 0.72 |
| 1:13:730:G:C5 | 1:13:731:G:H1' | 2.24 | 0.72 |
| 1:13:1372:U:H5'' | 9:8E:71:SER:HB3 | 1.71 | 0.72 |
| 26:1H:1520:U:H2' | 26:1H:1521:G:O4' | 1.90 | 0.72 |
| 36:68:19:ILE:HG22 | 36:68:43:VAL:HA | 1.71 | 0.72 |
| 40:A8:106:ARG:NH1 | 40:A8:107:GLU:HG2 | 2.04 | 0.72 |
| 1:1G:1207:G:H2' | 1:1G:1208:C:C6 | 2.24 | 0.72 |
| 5:42:68:GLU:HG3 | 5:42:70:PRO:HD3 | 1.70 | 0.72 |
| 32:49:136:ARG:NH2 | 32:49:154:GLY:H | 1.88 | 0.72 |
| 43:95:79:VAL:O | 43:95:80:GLN:HG2 | 1.90 | 0.72 |
| 6:5E:81:ILE:HD11 | 29:11:125:ILE:HB | 1.70 | 0.72 |
| 7:6E:111:ARG:NH1 | 7:6E:113:GLU:OE2 | 2.23 | 0.72 |
| 28:71:45:ALA:HA | 28:71:211:SER:O | 1.89 | 0.72 |
| 37:78:114:ILE:HD11 | 37:78:130:PHE:HD2 | 1.54 | 0.72 |
| 43:D8:44:LYS:O | 43:D8:46:VAL:N | 2.22 | 0.72 |
| 1:1G:1055:A:H62 | 1:1G:1200:C:H42 | 1.37 | 0.72 |
| 42:85:91:ASP:O | 42:85:92:ARG:HG3 | 1.90 | 0.72 |
| 5:4E:98:THR:HB | 5:4E:117:ASP:HB3 | 1.72 | 0.72 |
| 26:1H:732:C:H3' | 61:1H:3508:HOH:O | 1.89 | 0.72 |
| 26:1H:1173:G:N2 | 26:1H:1175:U:O4' | 2.23 | 0.72 |
| 42:C8:92:ARG:O | 42:C8:94:ASN:N | 2.23 | 0.72 |
| 13:4A:97:PRO:HA | 13:4A:110:ARG:HE | 1.53 | 0.72 |
| 26:14:1252:G:N3 | 42:85:33:ARG:HD2 | 2.05 | 0.72 |
| 26:14:1316:U:H2' | 26:14:1317:A:H8 | 1.54 | 0.72 |
| 26:14:1329:U:H5'' | 26:14:1330:C:H5 | 1.54 | 0.72 |
| 32:49:106:LEU:HG | 32:49:111:LEU:CG | 2.19 | 0.72 |
| 37:35:106:LEU:HD13 | 37:35:112:LEU:HD23 | 1.71 | 0.72 |
| 1:13:611:A:N1 | 1:13:629:G:N2 | 2.33 | 0.72 |
| 26:1H:1785:A:OP2 | 61:1H:3525:HOH:O | 2.07 | 0.72 |
| 26:1H:1798:U:H5' | 29:11:259:THR:OG1 | 1.89 | 0.72 |
| 31:31:33:LEU:HD13 | 31:31:112:MET:HE2 | 1.69 | 0.72 |
| 32:41:47:LYS:HD2 | 32:41:81:LYS:HB2 | 1.70 | 0.72 |
| 37:78:115:LEU:HA | 37:78:134:ALA:HB2 | 1.72 | 0.72 |
| 43:D8:47:VAL:O | 43:D8:49:THR:OG1 | 2.08 | 0.72 |
| 1:1G:1410:G:H2' | 1:1G:1411:C:C6 | 2.25 | 0.72 |
| 26:14:580:C:H2' | 26:14:581:C:H6 | 1.54 | 0.72 |
| 26:14:993:G:N3 | 43:95:89:GLN:NE2 | 2.38 | 0.72 |
| 53:J5:49:CYS:SG | 53:J5:50:GLY:N | 2.62 | 0.72 |
| 22:1K:51:A:H2 | 22:1K:64:G:H1 | 1.38 | 0.72 |
| 26:1H:297:C:H5'' | 46:G8:86:ARG:HG3 | 1.70 | 0.72 |
| 26:1H:1338:G:O2' | 26:1H:1339:G:H5' | 1.88 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 50:K8:42:GLY:O | 50:K8:44:LEU:N | 2.23 | 0.72 |
| 1:1G:552:U:H1' | 12:3A:32:PHE:CE1 | 2.25 | 0.72 |
| 1:1G:1123:A:H4' | 10:1A:36:GLY:HA3 | 1.72 | 0.72 |
| 26:14:2399:G:N2 | 26:14:2417:C:O2 | 2.18 | 0.72 |
| 26:1H:2053:G:OP1 | 61:1H:3522:HOH:O | 2.05 | 0.72 |
| 26:1H:2213:U:O2 | 49:J8:52:ARG:NH2 | 2.23 | 0.72 |
| 26:1H:2298:A:H62 | 26:1H:2318:G:H8 | 1.36 | 0.72 |
| 26:1H:2788:C:O2' | 26:1H:2809:A:N3 | 2.22 | 0.72 |
| 1:1G:37:U:H2' | 1:1G:38:G:H8 | 1.54 | 0.72 |
| 11:2A:29:ILE:HG22 | 11:2A:44:SER:HB2 | 1.72 | 0.72 |
| 20:BA:92:LEU:HB3 | 20:BA:98:PRO:HB3 | 1.72 | 0.72 |
| 26:14:1378:A:O2' | 26:14:1380:G:N7 | 2.17 | 0.72 |
| 40:65:62:LYS:HA | 40:65:65:VAL:HB | 1.70 | 0.72 |
| 41:75:91:ARG:NH1 | 41:75:124:ASP:OD2 | 2.22 | 0.72 |
| 26:1H:2453:A:OP2 | 61:1H:3524:HOH:O | 2.07 | 0.72 |
| 1:1G:589:C:N3 | 1:1G:650:G:N2 | 2.30 | 0.72 |
| 1:1G:600:C:H2' | 1:1G:601:C:H6 | 1.55 | 0.72 |
| 9:82:28:VAL:HG13 | 9:82:63:ILE:O | 1.89 | 0.72 |
| 26:14:2304:G:N2 | 26:14:2312:U:O4 | 2.22 | 0.72 |
| 41:75:93:ARG:HH11 | 41:75:93:ARG:HG2 | 1.55 | 0.72 |
| 47:D5:10:ARG:NH2 | 47:D5:26:GLY:O | 2.22 | 0.72 |
| 26:1H:2712:U:H1' | 26:1H:2712(A):A:C8 | 2.23 | 0.72 |
| 32:41:96:ARG:HB2 | 32:41:96:ARG:HH11 | 1.52 | 0.72 |
| 1:1G:363:A:OP1 | 12:3A:33:ARG:HG3 | 1.90 | 0.72 |
| 1:1G:1150:U:H4' | 10:1A:41:PRO:HG3 | 1.70 | 0.72 |
| 2:12:61:LEU:HD12 | 2:12:160:ASP:HB2 | 1.72 | 0.72 |
| 2:12:118:LEU:HD11 | 2:12:141:GLU:HG2 | 1.71 | 0.72 |
| 10:1A:80:LYS:O | 10:1A:84:GLN:NE2 | 2.23 | 0.72 |
| 26:14:450:G:OP2 | 61:14:3520:HOH:O | 2.08 | 0.72 |
| 26:14:1416:G:O2' | 26:14:1417:C:O5' | 2.07 | 0.72 |
| 26:14:1945:G:H2' | 26:14:1946:U:H6 | 1.54 | 0.72 |
| 27:1J:7:G:H2' | 40:65:38:GLN:HE22 | 1.55 | 0.72 |
| 27:1J:80:U:H2' | 27:1J:81:G:N2 | 2.04 | 0.72 |
| 27:1J:101:A:N7 | 61:1J:302:HOH:O | 2.23 | 0.72 |
| 44:A5:45:TYR:CZ | 44:A5:49:LYS:NZ | 2.57 | 0.72 |
| 44:A5:45:TYR:OH | 44:A5:49:LYS:NZ | 2.23 | 0.72 |
| 3:2E:84:ILE:HG23 | 3:2E:88:ARG:HH22 | 1.55 | 0.71 |
| 26:1H:646:A:H2' | 26:1H:647:G:O4' | 1.90 | 0.71 |
| 26:1H:1250:G:N7 | 37:78:18:ARG:NH1 | 2.38 | 0.71 |
| 26:1H:1486:A:H2' | 26:1H:1487:G:H8 | 1.53 | 0.71 |
| 26:1H:2399:G:H1 | 26:1H:2417:C:H42 | 1.37 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:1G:625:G:H4' | 16:7A:16:HIS:CG | 2.25 | 0.71 |
| 5:42:84:PHE:N | 5:42:87:SER:O | 2.23 | 0.71 |
| 8:72:83:ILE:HD13 | 8:72:137:VAL:HG22 | 1.70 | 0.71 |
| 26:14:872:A:H4' | 38:45:66:ILE:HD11 | 1.72 | 0.71 |
| 26:14:1579:A:H2' | 26:14:1580:A:C8 | 2.25 | 0.71 |
| 26:14:1754:C:P | 41:75:96:ARG:NH1 | 2.63 | 0.71 |
| 26:14:2016:U:O2 | 53:J5:7:PRO:HG2 | 1.90 | 0.71 |
| 40:65:85:VAL:HG22 | 40:65:110:LEU:HB2 | 1.71 | 0.71 |
| 1:13:652:U:O4 | 1:13:752:G:O2' | 2.03 | 0.71 |
| 5:4E:145:LYS:HD3 | 5:4E:146:ALA:H | 1.54 | 0.71 |
| 19:AI:18:LYS:HZ1 | 19:AI:22:LEU:HD13 | 1.55 | 0.71 |
| 26:1H:1009:A:OP2 | 35:58:37:LYS:NZ | 2.23 | 0.71 |
| 26:1H:1521:G:N7 | 61:1H:3567:HOH:O | 2.23 | 0.71 |
| 26:1H:2145:C:H5 | 26:1H:2148:G:H21 | 1.37 | 0.71 |
| 37:78:101:VAL:HG12 | 37:78:106:LEU:HD12 | 1.71 | 0.71 |
| 1:1G:1090:U:H2' | 1:1G:1091:U:C6 | 2.25 | 0.71 |
| 1:1G:1154:G:H2' | 1:1G:1155:G:C8 | 2.25 | 0.71 |
| 11:2A:98:LEU:HA | 11:2A:101:SER:HB3 | 1.71 | 0.71 |
| 46:C5:87:LYS:H | 46:C5:94:LYS:HG2 | 1.55 | 0.71 |
| 50:G5:43:GLN:HB2 | 50:G5:45:SER:O | 1.90 | 0.71 |
| 7:6E:2:ALA:HB2 | 7:6E:7:ALA:HB2 | 1.73 | 0.71 |
| 26:1H:1332:G:OP1 | 61:1H:3527:HOH:O | 2.08 | 0.71 |
| 37:78:17:LYS:HG3 | 37:78:18:ARG:H | 1.54 | 0.71 |
| 43:D8:15:GLU:HG3 | 43:D8:16:PRO:HD2 | 1.72 | 0.71 |
| 1:1G:278:G:OP2 | 17:8A:41:LYS:NZ | 2.23 | 0.71 |
| 26:14:529:A:H4' | 26:14:530:G:H5' | 1.70 | 0.71 |
| 26:14:2343:C:HO2' | 26:14:2373:G:HO2' | 1.24 | 0.71 |
| 26:14:2376:A:H2' | 26:14:2377:A:C8 | 2.25 | 0.71 |
| 31:39:63:LYS:NZ | 31:39:67:GLN:HB3 | 2.04 | 0.71 |
| 34:69:8:PRO:HD3 | 34:69:15:VAL:HG22 | 1.71 | 0.71 |
| 40:65:66:ALA:O | 40:65:69:VAL:HG22 | 1.91 | 0.71 |
| 26:1H:234:C:H2' | 26:1H:235:U:H6 | 1.55 | 0.71 |
| 26:1H:2287:A:H62 | 26:1H:2344:U:H3 | 1.35 | 0.71 |
| 27:16:101:A:OP2 | 61:16:301:HOH:O | 2.06 | 0.71 |
| 26:14:733:G:OP2 | 61:14:3517:HOH:O | 2.07 | 0.71 |
| 27:1J:3:C:H42 | 27:1J:117:G:H22 | 1.37 | 0.71 |
| 29:11:69:ARG:NH2 | 29:11:128:GLY:O | 2.18 | 0.71 |
| 3:22:33:LEU:HD12 | 3:22:36:ASP:HB3 | 1.70 | 0.71 |
| 9:82:114:TYR:HE2 | 10:1A:60:ARG:H | 1.38 | 0.71 |
| 26:14:544:C:N4 | 26:14:549:G:O6 | 2.16 | 0.71 |
| 26:14:1198:U:H2' | 26:14:1199:U:H6 | 1.54 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 43:95:35:LEU:HB2 | 43:95:37:VAL:CG1 | 2.19 | 0.71 |
| 1:13:396:G:O2' | 1:13:398:C:OP1 | 2.09 | 0.71 |
| 34:61:59:ALA:HA | 34:61:62:LYS:HB3 | 1.73 | 0.71 |
| 1:1G:942:G:N2 | 9:82:124:GLN:OE1 | 2.23 | 0.71 |
| 1:1G:1508:G:O6 | 1:1G:1527:C:N4 | 2.19 | 0.71 |
| 5:42:101:ILE:HD11 | 5:42:119:LEU:HD23 | 1.71 | 0.71 |
| 5:42:122:GLU:O | 5:42:126:ARG:NH1 | 2.23 | 0.71 |
| 12:3A:100:ILE:HG22 | 12:3A:101:VAL:N | 2.06 | 0.71 |
| 26:14:1091:G:N2 | 26:14:1092:C:N3 | 2.38 | 0.71 |
| 26:14:2334:G:N2 | 40:65:16:ASN:OD1 | 2.22 | 0.71 |
| 55:M5:33:ASN:O | 55:M5:35:GLN:N | 2.23 | 0.71 |
| 1:13:404:U:OP1 | 4:3E:118:ARG:NH1 | 2.24 | 0.71 |
| 26:1H:125:G:H5' | 26:1H:125:G:H8 | 1.55 | 0.71 |
| 26:1H:1113:U:H5' | 33:51:2:SER:HB2 | 1.71 | 0.71 |
| 26:1H:2751:G:H5' | 33:51:4:ILE:HD12 | 1.73 | 0.71 |
| 26:1H:2795:G:N2 | 26:1H:2799:A:OP2 | 2.24 | 0.71 |
| 1:1G:581:G:OP1 | 15:6A:61:GLY:HA3 | 1.89 | 0.71 |
| 12:3A:78:GLN:HE22 | 12:3A:81:SER:HB3 | 1.55 | 0.71 |
| 26:14:996:A:OP2 | 42:85:92:ARG:NH1 | 2.22 | 0.71 |
| 1:13:330:C:O2 | 61:13:1806:HOH:O | 2.08 | 0.71 |
| 1:13:583:A:OP2 | 61:13:1807:HOH:O | 2.09 | 0.71 |
| 1:13:881:G:OP2 | 12:3I:12:ARG:NH2 | 2.24 | 0.71 |
| 1:13:1130:A:O2' | 9:8E:3:GLN:NE2 | 2.24 | 0.71 |
| 26:1H:1141:U:H6 | 35:58:63:THR:HG1 | 1.36 | 0.71 |
| 26:1H:1430:C:H2' | 26:1H:1431:U:H6 | 1.55 | 0.71 |
| 26:1H:1496:A:H8 | 26:1H:1577:C:HO2' | 1.38 | 0.71 |
| 45:F8:9:LEU:HB2 | 45:F8:29:TRP:O | 1.91 | 0.71 |
| 51:L8:12:PRO:O | 51:L8:20:LYS:NZ | 2.23 | 0.71 |
| 26:14:139:G:N2 | 26:14:1596:A:H4' | 2.05 | 0.71 |
| 26:14:2378:A:H4' | 40:65:23:ARG:HH11 | 1.55 | 0.71 |
| 31:39:131:GLY:H | 31:39:142:TRP:HB2 | 1.56 | 0.71 |
| 26:1H:1705:G:C2' | 26:1H:1706:U:H5' | 2.20 | 0.71 |
| 26:1H:1981:A:OP1 | 61:1H:3526:HOH:O | 2.08 | 0.71 |
| 26:1H:2395:C:H5'' | 26:1H:2396:G:OP2 | 1.89 | 0.71 |
| 29:11:31:LYS:O | 29:11:34:VAL:N | 2.23 | 0.71 |
| 50:K8:3:LEU:CB | 50:K8:6:VAL:H | 2.04 | 0.71 |
| 1:1G:922:G:H4' | 5:42:20:GLN:HA | 1.73 | 0.71 |
| 1:1G:1052:U:O2 | 1:1G:1206:G:N1 | 2.16 | 0.71 |
| 1:1G:1134:G:N2 | 1:1G:1141:C:N3 | 2.39 | 0.71 |
| 5:42:10:MET:HA | 5:42:32:VAL:HG22 | 1.73 | 0.71 |
| 26:14:598:G:H1' | 37:35:12:ALA:HB2 | 1.71 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:1455:G:OP2 | 61:14:3518:HOH:O | 2.08 | 0.71 |
| 31:39:160:ASN:HB3 | 31:39:163:VAL:HB | 1.73 | 0.71 |
| 1:13:1147:C:O2 | 9:8E:16:ARG:NH1 | 2.24 | 0.71 |
| 22:1K:14:A:H61 | 22:1K:22:G:H2' | 1.55 | 0.71 |
| 24:3K:15:G:H2' | 24:3K:59:A:H61 | 1.56 | 0.71 |
| 26:1H:2849:U:O4 | 41:B8:23:ARG:NH2 | 2.18 | 0.71 |
| 30:21:77:ILE:O | 30:21:79:ARG:N | 2.23 | 0.71 |
| 26:14:1024:G:H3' | 26:14:1025:G:H5'' | 1.71 | 0.71 |
| 29:19:255:LYS:H | 29:19:255:LYS:CD | 2.03 | 0.71 |
| 32:49:76:SER:OG | 32:49:84:LYS:N | 2.24 | 0.71 |
| 47:D5:158:PRO:HG2 | 47:D5:161:VAL:HG22 | 1.73 | 0.71 |
| 50:G5:23:LYS:NZ | 50:G5:27:GLU:OE2 | 2.20 | 0.71 |
| 4:3E:74:GLN:O | 4:3E:78:LEU:HD13 | 1.91 | 0.70 |
| 9:8E:50:LEU:HD23 | 9:8E:85:LEU:HD11 | 1.71 | 0.70 |
| 26:1H:1678:G:H8 | 26:1H:1678:G:O5' | 1.74 | 0.70 |
| 29:11:38:LYS:HD2 | 29:11:38:LYS:C | 2.09 | 0.70 |
| 29:11:146:GLU:HB2 | 29:11:189:CYS:HB3 | 1.72 | 0.70 |
| 30:21:82:ARG:O | 30:21:84:PHE:N | 2.24 | 0.70 |
| 32:41:35:GLU:HG3 | 32:41:36:LYS:HB2 | 1.72 | 0.70 |
| 1:1G:198:G:H2' | 1:1G:199:G:H8 | 1.56 | 0.70 |
| 30:29:54:GLN:O | 30:29:75:VAL:HG13 | 1.91 | 0.70 |
| 40:65:62:LYS:HD3 | 40:65:97:ARG:HD2 | 1.71 | 0.70 |
| 7:6E:5:ARG:HB3 | 7:6E:7:ALA:H | 1.56 | 0.70 |
| 9:8E:121:ARG:NH1 | 9:8E:122:ALA:O | 2.23 | 0.70 |
| 41:B8:111:ARG:HD3 | 41:B8:111:ARG:H | 1.56 | 0.70 |
| 3:22:16:ARG:NH2 | 3:22:182:ILE:H | 1.88 | 0.70 |
| 9:82:14:VAL:HB | 9:82:65:VAL:HG23 | 1.73 | 0.70 |
| 26:14:273(F):C:H3' | 26:14:274:G:H5'' | 1.72 | 0.70 |
| 26:14:321:G:OP1 | 31:39:135:LYS:NZ | 2.17 | 0.70 |
| 1:13:1062:U:H2' | 1:13:1063:C:C6 | 2.27 | 0.70 |
| 26:1H:1336:A:OP2 | 45:F8:64:LYS:NZ | 2.18 | 0.70 |
| 29:11:31:LYS:O | 29:11:35:LYS:NZ | 2.24 | 0.70 |
| 37:78:126:VAL:CG1 | 37:78:147:LEU:HD11 | 2.15 | 0.70 |
| 4:32:71:SER:OG | 4:32:74:GLN:OE1 | 2.08 | 0.70 |
| 57:3L:35:U:O2 | 25:4L:14:A:N6 | 2.24 | 0.70 |
| 31:39:27:GLU:O | 31:39:28:ILE:HG12 | 1.91 | 0.70 |
| 32:49:73:ALA:HB3 | 32:49:85:GLY:H | 1.57 | 0.70 |
| 1:13:812:C:N3 | 61:13:1815:HOH:O | 2.25 | 0.70 |
| 4:3E:107:ARG:NH2 | 4:3E:194:LEU:HD22 | 2.06 | 0.70 |
| 17:8I:75:ARG:NH1 | 17:8I:76:LEU:O | 2.24 | 0.70 |
| 28:71:23:ASP:HB2 | 28:71:190:ARG:NH2 | 2.05 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 46:G8:68:HIS:O | 46:G8:71:LYS:HG2 | 1.91 | 0.70 |
| 52:M8:31:ILE:HG22 | 52:M8:32:TYR:H | 1.55 | 0.70 |
| 53:N8:33:CYS:SG | 53:N8:40:LYS:HD3 | 2.31 | 0.70 |
| 1:1G:1080:A:H5' | 5:42:14:ARG:HH22 | 1.56 | 0.70 |
| 1:1G:1248:A:N6 | 1:1G:1288:A:OP2 | 2.24 | 0.70 |
| 30:29:103:ASP:OD1 | 30:29:201:THR:HG22 | 1.90 | 0.70 |
| 47:D5:29:TYR:HB3 | 47:D5:34:ASN:HB2 | 1.72 | 0.70 |
| 48:E5:70:GLN:OE1 | 48:E5:72:ARG:NH1 | 2.24 | 0.70 |
| 1:13:266:G:H5'' | 1:13:267:C:C5 | 2.27 | 0.70 |
| 1:13:848:C:H2' | 1:13:849:C:O4' | 1.92 | 0.70 |
| 26:1H:33:U:H4' | 26:1H:34:C:OP1 | 1.90 | 0.70 |
| 26:1H:442:G:H1' | 31:31:48:THR:HG21 | 1.72 | 0.70 |
| 4:32:19:LEU:HB2 | 4:32:21:LEU:HD11 | 1.73 | 0.70 |
| 29:19:255:LYS:CD | 29:19:255:LYS:N | 2.55 | 0.70 |
| 1:13:719:C:H1' | 18:9I:49:LYS:HG2 | 1.72 | 0.70 |
| 2:1E:63:MET:HB2 | 2:1E:225:ALA:HB1 | 1.73 | 0.70 |
| 26:1H:654(C):G:H1 | 26:1H:654(Q):C:N4 | 1.89 | 0.70 |
| 26:1H:1359:A:H2' | 26:1H:1360:A:H5' | 1.72 | 0.70 |
| 26:1H:1381:G:N7 | 61:1H:3566:HOH:O | 2.23 | 0.70 |
| 1:1G:114:U:H2' | 1:1G:115:G:C8 | 2.26 | 0.70 |
| 13:4A:32:GLU:O | 13:4A:36:LYS:N | 2.23 | 0.70 |
| 26:14:1106:G:H3' | 26:14:1107:G:C8 | 2.27 | 0.70 |
| 39:55:29:LEU:HB3 | 39:55:75:LEU:HD21 | 1.73 | 0.70 |
| 26:1H:389:G:P | 49:J8:25:LYS:CE | 2.79 | 0.70 |
| 26:1H:731:C:OP1 | 61:1H:3529:HOH:O | 2.09 | 0.70 |
| 26:1H:1329:U:H5'' | 26:1H:1330:C:H5 | 1.54 | 0.70 |
| 29:11:26:LYS:HD2 | 29:11:29:PRO:HB3 | 1.72 | 0.70 |
| 1:1G:1162:C:H42 | 1:1G:1174:G:H1 | 1.38 | 0.70 |
| 2:12:103:THR:HG23 | 2:12:176:GLU:HB3 | 1.72 | 0.70 |
| 2:12:127:ILE:O | 2:12:135:GLN:NE2 | 2.24 | 0.70 |
| 15:6A:16:ALA:HB1 | 15:6A:21:ASP:HB3 | 1.74 | 0.70 |
| 26:14:1486:A:H2' | 26:14:1487:G:C8 | 2.26 | 0.70 |
| 26:14:2468:G:H22 | 26:14:2481:G:HO2' | 1.37 | 0.70 |
| 30:29:47:VAL:HG21 | 30:29:86:PRO:HD2 | 1.72 | 0.70 |
| 30:29:53:PRO:HA | 30:29:74:PRO:HB3 | 1.74 | 0.70 |
| 1:13:524:G:H2' | 1:13:525:C:C6 | 2.27 | 0.70 |
| 30:21:128:SER:OG | 30:21:129:HIS:N | 2.25 | 0.70 |
| 31:31:33:LEU:CD1 | 31:31:112:MET:HE2 | 2.21 | 0.70 |
| 46:G8:42:VAL:HG13 | 46:G8:43:ASN:H | 1.56 | 0.70 |
| 1:1G:617:G:H5' | 16:7A:45:THR:HG22 | 1.74 | 0.70 |
| 1:1G:1105:A:H2' | 1:1G:1106:G:H8 | 1.55 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 7:62:47:CYS:HA | 7:62:50:ILE:HB | 1.73 | 0.70 |
| 21:1B:6:ARG:HH11 | 21:1B:15:ARG:HH12 | 1.38 | 0.70 |
| 26:14:1635:G:OP1 | 61:14:3519:HOH:O | 2.08 | 0.70 |
| 30:29:116:VAL:HG11 | 30:29:138:PRO:HB3 | 1.73 | 0.70 |
| 31:39:120:GLU:HG3 | 31:39:122:LYS:HG2 | 1.72 | 0.70 |
| 32:49:119:GLY:HA3 | 32:49:181:ARG:HB2 | 1.74 | 0.70 |
| 18:9I:53:ARG:HA | 18:9I:56:THR:CG2 | 2.22 | 0.70 |
| 26:1H:2295:C:OP1 | 40:A8:10:ARG:NH1 | 2.24 | 0.70 |
| 30:21:48:GLN:OE1 | 30:21:77:ILE:HG21 | 1.92 | 0.70 |
| 1:1G:421:U:O2' | 1:1G:423:G:N7 | 2.24 | 0.70 |
| 4:32:150:GLU:C | 4:32:152:SER:H | 1.95 | 0.70 |
| 8:72:17:THR:O | 8:72:78:GLN:NE2 | 2.24 | 0.70 |
| 21:1B:3:LYS:HB3 | 21:1B:14:TRP:CD1 | 2.26 | 0.70 |
| 56:1L:3:G:O2' | 56:1L:4:U:O5' | 2.10 | 0.70 |
| 26:14:900:A:H2' | 26:14:901:A:C8 | 2.27 | 0.70 |
| 26:14:1047:G:H21 | 26:14:1111:A:H61 | 1.37 | 0.70 |
| 1:13:664:G:H22 | 1:13:741:G:H1 | 1.38 | 0.70 |
| 26:1H:2646:C:OP2 | 26:1H:2732:G:O2' | 2.10 | 0.70 |
| 42:C8:92:ARG:HD2 | 43:D8:11:GLN:CG | 2.20 | 0.70 |
| 1:1G:1126:U:N3 | 1:1G:1281:U:O4' | 2.25 | 0.70 |
| 1:1G:1343:G:H4' | 9:82:122:ALA:HB3 | 1.74 | 0.70 |
| 7:62:51:GLN:O | 7:62:51:GLN:NE2 | 2.24 | 0.70 |
| 26:14:531:C:H4' | 26:14:532:A:H5'' | 1.74 | 0.70 |
| 30:29:60:ASN:OD1 | 30:29:63:LEU:HD22 | 1.92 | 0.70 |
| 1:13:737:A:H2' | 1:13:738:C:H6 | 1.53 | 0.69 |
| 8:7E:21:LYS:O | 8:7E:63:LEU:HD23 | 1.92 | 0.69 |
| 24:3K:49:G:N2 | 24:3K:65:C:O2 | 2.21 | 0.69 |
| 26:1H:311:A:H2 | 26:1H:331:A:H5'' | 1.57 | 0.69 |
| 29:11:137:PRO:O | 29:11:140:THR:OG1 | 2.08 | 0.69 |
| 30:21:38:THR:HG23 | 30:21:41:LYS:H | 1.57 | 0.69 |
| 39:98:61:HIS:O | 39:98:64:ARG:N | 2.25 | 0.69 |
| 43:D8:38:LEU:O | 43:D8:51:VAL:HG23 | 1.92 | 0.69 |
| 11:2A:27:ASN:OD1 | 11:2A:28:THR:N | 2.26 | 0.69 |
| 26:14:39:C:O2 | 31:39:46:ARG:NH2 | 2.25 | 0.69 |
| 26:14:1794:U:H2' | 26:14:1795:C:H6 | 1.55 | 0.69 |
| 43:95:69:LYS:HD3 | 43:95:86:GLY:HA3 | 1.72 | 0.69 |
| 1:13:692:U:O2' | 1:13:694:A:N7 | 2.21 | 0.69 |
| 22:1K:48:C:O2' | 22:1K:49:G:OP1 | 2.10 | 0.69 |
| 26:1H:1330:C:OP1 | 61:1H:3530:HOH:O | 2.09 | 0.69 |
| 8:72:29:SER:HB3 | 8:72:32:LYS:HG3 | 1.74 | 0.69 |
| 9:82:81:ILE:O | 9:82:85:LEU:N | 2.25 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 26:14:452:G:OP2 | 61:14:3524:HOH:O | 2.10 | 0.69 |
| 29:19:30:GLU:HG3 | 29:19:63:ARG:NH2 | 2.06 | 0.69 |
| 33:59:9:ILE:HG22 | 33:59:52:VAL:H | 1.58 | 0.69 |
| 47:D5:76:LEU:HA | 47:D5:83:PRO:HA | 1.74 | 0.69 |
| 53:J5:16:ARG:NH1 | 53:J5:17:ASP:OD1 | 2.26 | 0.69 |
| 26:1H:270(L):U:C2 | 34:61:50:ARG:HG2 | 2.26 | 0.69 |
| 26:1H:1386:C:H2' | 26:1H:1387:C:H6 | 1.58 | 0.69 |
| 34:61:110:ASP:OD1 | 34:61:112:LYS:HG3 | 1.92 | 0.69 |
| 1:1G:1184:G:H2' | 1:1G:1185:G:C8 | 2.26 | 0.69 |
| 3:22:20:SER:HB2 | 3:22:40:ARG:HH22 | 1.57 | 0.69 |
| 26:14:323:G:O2' | 26:14:1205:U:N3 | 2.25 | 0.69 |
| 1:13:233:C:H2' | 1:13:234:C:H6 | 1.56 | 0.69 |
| 7:6E:75:VAL:HG13 | 7:6E:145:ALA:HA | 1.72 | 0.69 |
| 16:7I:5:ARG:HH21 | 16:7I:22:THR:HG23 | 1.57 | 0.69 |
| 20:BI:90:GLN:HA | 20:BI:93:GLU:HB2 | 1.74 | 0.69 |
| 27:16:4:C:H42 | 27:16:116:G:H1 | 1.39 | 0.69 |
| 29:11:136:ILE:O | 29:11:168:ARG:NH2 | 2.25 | 0.69 |
| 32:41:25:TYR:CD2 | 32:41:31:VAL:HG12 | 2.27 | 0.69 |
| 32:41:179:PRO:HB3 | 52:M8:38:LYS:HE2 | 1.72 | 0.69 |
| 41:B8:16:ARG:NH2 | 41:B8:83:ILE:O | 2.24 | 0.69 |
| 1:1G:1264:C:H1' | 1:1G:1272:G:H22 | 1.58 | 0.69 |
| 26:14:1582:C:HO2' | 26:14:1586:A:H8 | 1.39 | 0.69 |
| 26:14:2836:U:H2' | 26:14:2837:G:C8 | 2.27 | 0.69 |
| 28:71:212:VAL:HG21 | 28:71:226:PRO:HG3 | 1.74 | 0.69 |
| 35:58:69:GLN:O | 35:58:71:ILE:HD12 | 1.92 | 0.69 |
| 1:1G:1348:U:H3 | 1:1G:1374:A:H2 | 1.38 | 0.69 |
| 26:14:1800:C:OP2 | 29:19:183:ARG:NH2 | 2.25 | 0.69 |
| 26:14:2812:G:N2 | 26:14:2889:C:N3 | 2.41 | 0.69 |
| 48:E5:21:LEU:HD21 | 48:E5:41:ARG:HH12 | 1.58 | 0.69 |
| 1:13:126:G:OP1 | 1:13:605:U:O2' | 2.11 | 0.69 |
| 26:1H:1606:G:OP1 | 61:1H:3531:HOH:O | 2.09 | 0.69 |
| 26:1H:2098:U:H3 | 26:1H:2191:G:H1 | 1.40 | 0.69 |
| 43:D8:1:MET:SD | 43:D8:43:GLU:OE1 | 2.51 | 0.69 |
| 1:1G:534:U:O3' | 61:1G:1703:HOH:O | 2.10 | 0.69 |
| 1:1G:838:G:N2 | 1:1G:842:C:O2' | 2.24 | 0.69 |
| 1:1G:1353:G:O6 | 1:1G:1369:C:N4 | 2.26 | 0.69 |
| 2:12:91:PRO:CG | 2:12:155:LEU:HG | 2.23 | 0.69 |
| 17:8A:88:TYR:HA | 17:8A:91:ARG:HD2 | 1.75 | 0.69 |
| 23:2L:61:U:OP2 | 23:2L:62:C:N4 | 2.23 | 0.69 |
| 26:14:1019:U:H3 | 26:14:1142(A):A:H62 | 1.41 | 0.69 |
| 26:14:1073:A:H2' | 26:14:1074:G:H8 | 1.58 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 37:35:97:PRO:O | 37:35:98:GLU:HG3 | 1.91 | 0.69 |
| 37:35:101:VAL:HG21 | 37:35:108:LYS:HB2 | 1.72 | 0.69 |
| 38:45:66:ILE:HD12 | 38:45:67:ARG:N | 2.04 | 0.69 |
| 41:75:88:ILE:O | 41:75:88:ILE:HG13 | 1.91 | 0.69 |
| 50:G5:19:VAL:HA | 50:G5:22:GLU:HG3 | 1.73 | 0.69 |
| 1:13:1412:C:H2' | 1:13:1413:A:C8 | 2.27 | 0.69 |
| 20:BI:50:GLU:HG2 | 20:BI:100:ILE:HB | 1.75 | 0.69 |
| 24:3K:34:U:C4 | 25:4K:14:A:N6 | 2.59 | 0.69 |
| 26:1H:818:G:OP2 | 61:1H:3534:HOH:O | 2.11 | 0.69 |
| 26:1H:1290:C:H2' | 26:1H:1291:C:C6 | 2.28 | 0.69 |
| 26:1H:1658:C:OP1 | 61:1H:3533:HOH:O | 2.10 | 0.69 |
| 32:41:54:GLU:N | 32:41:54:GLU:OE2 | 2.26 | 0.69 |
| 1:1G:503:C:OP2 | 12:3A:116:SER:HB3 | 1.92 | 0.69 |
| 1:1G:1181:G:N2 | 1:1G:1182:G:O2' | 2.25 | 0.69 |
| 57:3L:76:A:H61 | 26:14:2422:A:H5'' | 1.56 | 0.69 |
| 26:14:1456:G:OP2 | 61:14:3518:HOH:O | 2.10 | 0.69 |
| 1:13:1078:U:O2 | 5:4E:130:ASN:ND2 | 2.25 | 0.69 |
| 17:8I:65:ILE:HG21 | 17:8I:69:LYS:HE2 | 1.75 | 0.69 |
| 26:1H:1525:G:H2' | 26:1H:1526:G:H8 | 1.58 | 0.69 |
| 30:21:131:ALA:HB1 | 61:21:401:HOH:O | 1.90 | 0.69 |
| 38:88:66:ILE:CD1 | 38:88:67:ARG:H | 2.05 | 0.69 |
| 41:B8:26:ASP:OD2 | 41:B8:120:ARG:NH2 | 2.24 | 0.69 |
| 44:E8:1:MET:HB3 | 44:E8:64:MET:HE3 | 1.73 | 0.69 |
| 50:K8:47:ASN:O | 50:K8:49:LYS:N | 2.24 | 0.69 |
| 55:Q8:33:ASN:HA | 55:Q8:36:LYS:HD2 | 1.75 | 0.69 |
| 1:1G:438:G:H4' | 4:32:123:HIS:CD2 | 2.27 | 0.69 |
| 1:1G:517:G:N2 | 1:1G:530:G:OP1 | 2.19 | 0.69 |
| 26:14:1453:A:OP2 | 61:14:3522:HOH:O | 2.10 | 0.69 |
| 46:C5:48:ALA:HB3 | 46:C5:59:GLY:HA2 | 1.74 | 0.69 |
| 48:E5:49:LYS:HB2 | 48:E5:82:ARG:HH12 | 1.58 | 0.69 |
| 1:13:1137:C:O2 | 1:13:1138:G:N2 | 2.25 | 0.69 |
| 9:8E:47:LEU:HD23 | 9:8E:47:LEU:H | 1.58 | 0.69 |
| 26:1H:1520:U:OP2 | 61:1H:3535:HOH:O | 2.11 | 0.69 |
| 26:1H:1845:G:OP1 | 29:11:258:LYS:NZ | 2.23 | 0.69 |
| 26:1H:2849:U:OP2 | 41:B8:95:ARG:NH1 | 2.26 | 0.69 |
| 32:41:150:ASP:OD1 | 32:41:151:ALA:N | 2.26 | 0.69 |
| 1:1G:316:G:OP2 | 1:1G:351:G:O2' | 2.11 | 0.69 |
| 1:1G:1239:A:H4' | 1:1G:1240:U:H5'' | 1.74 | 0.69 |
| 4:32:112:VAL:N | 4:32:116:GLN:OE1 | 2.14 | 0.69 |
| 34:69:7:GLU:HG2 | 34:69:8:PRO:HD2 | 1.74 | 0.69 |
| 42:85:92:ARG:C | 42:85:94:ASN:H | 1.96 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 19:AI:18:LYS:O | 19:AI:18:LYS:NZ | 2.21 | 0.69 |
| 38:88:66:ILE:O | 38:88:104:PHE:N | 2.26 | 0.69 |
| 1:1G:928:G:O2' | 1:1G:1533:C:OP1 | 2.11 | 0.69 |
| 29:19:31:LYS:NZ | 29:19:33:LEU:HB2 | 2.08 | 0.69 |
| 30:29:9:VAL:HG12 | 41:75:8:LYS:NZ | 2.08 | 0.69 |
| 32:49:124:SER:HB2 | 32:49:131:TYR:CE1 | 2.28 | 0.69 |
| 49:F5:7:ILE:HA | 49:F5:91:LYS:HE2 | 1.73 | 0.69 |
| 49:F5:40:ARG:HH21 | 49:F5:42:GLN:HE21 | 1.41 | 0.69 |
| 1:13:376:G:O3' | 16:7I:5:ARG:NH1 | 2.25 | 0.68 |
| 2:1E:70:PHE:O | 2:1E:93:VAL:N | 2.20 | 0.68 |
| 2:1E:86:GLU:C | 2:1E:86:GLU:OE1 | 2.31 | 0.68 |
| 3:2E:180:ALA:HB1 | 3:2E:182:ILE:HG13 | 1.74 | 0.68 |
| 9:8E:13:ALA:HB2 | 9:8E:68:GLY:HA3 | 1.74 | 0.68 |
| 26:1H:2377:A:H2' | 26:1H:2378:A:C8 | 2.27 | 0.68 |
| 42:C8:74:LEU:HD13 | 42:C8:75:ASN:O | 1.93 | 0.68 |
| 43:D8:21:ARG:HG2 | 43:D8:91:TYR:CE2 | 2.28 | 0.68 |
| 46:G8:30:VAL:HG22 | 46:G8:37:VAL:HG12 | 1.73 | 0.68 |
| 2:12:30:ARG:HH22 | 2:12:194:PRO:HB2 | 1.58 | 0.68 |
| 7:62:148:ASN:ND2 | 7:62:148:ASN:O | 2.26 | 0.68 |
| 8:72:104:ARG:HB3 | 8:72:108:GLY:H | 1.57 | 0.68 |
| 11:2A:48:ILE:HD11 | 11:2A:64:ALA:HA | 1.74 | 0.68 |
| 13:4A:66:LEU:HA | 13:4A:70:LEU:HD12 | 1.75 | 0.68 |
| 57:3L:11:C:H42 | 57:3L:24:G:H1 | 1.41 | 0.68 |
| 26:14:752:A:H3' | 54:L5:1:MET:SD | 2.34 | 0.68 |
| 26:14:1153:C:OP1 | 42:85:93:LYS:NZ | 2.26 | 0.68 |
| 26:14:1693:U:O2' | 29:19:14:ARG:NH2 | 2.26 | 0.68 |
| 45:B5:40:LYS:HA | 45:B5:51:VAL:HG11 | 1.74 | 0.68 |
| 1:13:453:A:H4' | 16:7I:72:ARG:HB2 | 1.73 | 0.68 |
| 1:13:1149:C:H2' | 1:13:1150:U:C6 | 2.27 | 0.68 |
| 4:3E:18:LYS:HD3 | 4:3E:31:CYS:SG | 2.33 | 0.68 |
| 26:1H:780:G:H21 | 26:1H:783:A:H62 | 1.39 | 0.68 |
| 48:I8:53:MET:HG3 | 48:I8:59:LEU:CD2 | 2.24 | 0.68 |
| 26:14:26:G:OP1 | 44:A5:80:PRO:HB3 | 1.93 | 0.68 |
| 26:14:34:C:H1' | 26:14:35:G:OP1 | 1.92 | 0.68 |
| 26:14:1399:C:H2' | 26:14:1400:G:H8 | 1.59 | 0.68 |
| 32:49:136:ARG:CZ | 32:49:154:GLY:H | 2.06 | 0.68 |
| 47:D5:4:ARG:HG2 | 47:D5:58:VAL:HB | 1.74 | 0.68 |
| 2:1E:230:VAL:HG22 | 2:1E:231:GLU:H | 1.57 | 0.68 |
| 6:5E:17:SER:HA | 6:5E:20:ALA:HB3 | 1.74 | 0.68 |
| 16:7I:22:THR:HA | 16:7I:33:ILE:HG13 | 1.74 | 0.68 |
| 26:1H:1729:A:O2' | 26:1H:1730:U:H5'' | 1.93 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:1778:U:H2' | 26:1H:1784:A:N6 | 2.07 | 0.68 |
| 41:B8:51:ARG:HB2 | 41:B8:98:LYS:HD3 | 1.76 | 0.68 |
| 1:1G:1160:G:OP1 | 2:12:133:LYS:NZ | 2.25 | 0.68 |
| 26:14:2210:G:H3' | 26:14:2211:G:C5 | 2.28 | 0.68 |
| 47:D5:10:ARG:HH21 | 47:D5:26:GLY:N | 1.91 | 0.68 |
| 48:E5:63:VAL:HG12 | 48:E5:64:ASP:H | 1.58 | 0.68 |
| 1:13:1291:G:OP1 | 7:6E:37:ASN:ND2 | 2.25 | 0.68 |
| 8:7E:86:ILE:HG22 | 8:7E:87:SER:H | 1.58 | 0.68 |
| 17:8I:101:ARG:H | 17:8I:101:ARG:HH21 | 1.41 | 0.68 |
| 26:1H:639:U:O2' | 26:1H:640:C:H5' | 1.91 | 0.68 |
| 33:51:153:LYS:HB2 | 33:51:155:SER:H | 1.58 | 0.68 |
| 37:78:118:GLY:O | 37:78:137:LYS:NZ | 2.24 | 0.68 |
| 1:1G:345:C:OP2 | 41:75:39:ARG:NH2 | 2.22 | 0.68 |
| 1:1G:560:U:O2' | 1:1G:561:U:OP2 | 2.11 | 0.68 |
| 26:14:34:C:O2' | 26:14:35:G:O5' | 2.10 | 0.68 |
| 1:13:1238:A:N3 | 1:13:1241:G:O2' | 2.26 | 0.68 |
| 16:7I:8:ARG:NH1 | 16:7I:15:PRO:CA | 2.56 | 0.68 |
| 26:1H:1405:U:H2' | 26:1H:1406:U:C6 | 2.28 | 0.68 |
| 37:78:15:ARG:HB3 | 37:78:16:ARG:HD2 | 1.73 | 0.68 |
| 1:1G:1086:U:H2' | 1:1G:1087:G:H8 | 1.58 | 0.68 |
| 1:1G:1089:G:H1 | 1:1G:1096:C:H42 | 1.41 | 0.68 |
| 23:2L:10:G:N2 | 23:2L:27:G:H1' | 2.08 | 0.68 |
| 26:14:1680:U:N3 | 26:14:1764:G:OP2 | 2.23 | 0.68 |
| 27:1J:103:U:HO2' | 47:D5:29:TYR:HH | 1.34 | 0.68 |
| 1:13:1285:A:O5' | 1:13:1285:A:H8 | 1.77 | 0.68 |
| 2:1E:133:LYS:HD2 | 2:1E:134:GLU:N | 2.09 | 0.68 |
| 28:71:21:THR:O | 28:71:25:ALA:N | 2.27 | 0.68 |
| 30:21:64:LYS:O | 30:21:70:ALA:HB1 | 1.93 | 0.68 |
| 41:B8:31:SER:HB2 | 41:B8:84:GLN:HB2 | 1.75 | 0.68 |
| 8:72:7:ALA:HA | 8:72:10:LEU:HD12 | 1.75 | 0.68 |
| 26:14:2513:G:O2' | 30:29:154:LYS:NZ | 2.26 | 0.68 |
| 43:95:35:LEU:O | 43:95:37:VAL:HG22 | 1.93 | 0.68 |
| 49:F5:52:ARG:HH11 | 49:F5:57:GLU:HG3 | 1.58 | 0.68 |
| 1:13:401:C:O2' | 1:13:621:A:N3 | 2.27 | 0.68 |
| 1:13:457:C:H2' | 1:13:458:C:H6 | 1.59 | 0.68 |
| 19:AI:44:MET:O | 19:AI:47:HIS:ND1 | 2.23 | 0.68 |
| 22:1K:5:C:H1' | 22:1K:69:A:H61 | 1.57 | 0.68 |
| 2:12:30:ARG:NH2 | 2:12:195:ASP:OD1 | 2.27 | 0.68 |
| 9:82:21:PRO:HA | 9:82:59:PHE:HA | 1.75 | 0.68 |
| 10:1A:28:ARG:HH21 | 10:1A:34:VAL:HB | 1.59 | 0.68 |
| 26:14:93:C:H5' | 26:14:94:G:OP2 | 1.94 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:14:1359:A:H62 | 26:14:1372:U:H3 | 0.80 | 0.68 |
| 26:14:2352:A:C2 | 48:E5:33:ALA:HB1 | 2.29 | 0.68 |
| 31:39:34:TRP:HB2 | 37:35:6:LEU:HD12 | 1.74 | 0.68 |
| 41:75:3:ARG:HG2 | 41:75:6:LEU:H | 1.57 | 0.68 |
| 4:3E:157:LEU:O | 4:3E:161:ASN:ND2 | 2.27 | 0.68 |
| 5:4E:81:GLU:HG2 | 5:4E:90:VAL:HG23 | 1.73 | 0.68 |
| 18:9I:66:LEU:HG | 18:9I:70:ILE:HD11 | 1.75 | 0.68 |
| 26:1H:270(R):G:H2' | 26:1H:270(S):G:C8 | 2.29 | 0.68 |
| 26:1H:1443:G:C2 | 26:1H:1549:C:N3 | 2.62 | 0.68 |
| 26:1H:1538:G:H2' | 26:1H:1539:G:H8 | 1.59 | 0.68 |
| 26:1H:2405:G:OP1 | 37:78:77:ARG:NH2 | 2.27 | 0.68 |
| 29:11:29:PRO:O | 29:11:30:GLU:HG2 | 1.94 | 0.68 |
| 26:14:1771:C:O2' | 26:14:1786:A:H8 | 1.77 | 0.68 |
| 1:13:407:G:OP2 | 61:13:1808:HOH:O | 2.11 | 0.68 |
| 2:1E:69:LEU:HD11 | 2:1E:93:VAL:HG23 | 1.74 | 0.68 |
| 13:4I:9:ILE:HD12 | 32:41:146:TYR:CD2 | 2.28 | 0.68 |
| 19:AI:13:ASP:HA | 19:AI:16:LEU:HB3 | 1.76 | 0.68 |
| 24:3K:57:G:H1 | 26:1H:2112:G:N2 | 1.91 | 0.68 |
| 4:32:15:GLU:OE1 | 4:32:59:ARG:NH2 | 2.19 | 0.68 |
| 4:32:165:MET:HA | 4:32:168:ARG:HD2 | 1.75 | 0.68 |
| 5:42:43:LEU:HD22 | 5:42:136:MET:HG3 | 1.76 | 0.68 |
| 26:14:601:C:O2' | 31:39:104:LYS:NZ | 2.27 | 0.68 |
| 32:49:19:LEU:HA | 32:49:22:ARG:HB2 | 1.75 | 0.68 |
| 32:49:41:GLN:NE2 | 32:49:154:GLY:O | 2.26 | 0.68 |
| 41:75:13:ARG:HD3 | 41:75:13:ARG:N | 2.09 | 0.68 |
| 45:B5:15:GLU:CD | 45:B5:15:GLU:H | 1.97 | 0.68 |
| 1:13:552:U:H5' | 12:3I:86:ARG:HD2 | 1.75 | 0.68 |
| 1:13:736:C:H2' | 1:13:737:A:C8 | 2.28 | 0.68 |
| 1:13:1291:G:P | 7:6E:37:ASN:OD1 | 2.52 | 0.68 |
| 2:1E:33:TYR:HB2 | 2:1E:43:ASP:HB2 | 1.76 | 0.68 |
| 16:7I:43:LYS:HA | 16:7I:48:TRP:HB2 | 1.76 | 0.68 |
| 26:1H:1537:C:H42 | 26:1H:1538:G:H21 | 1.42 | 0.68 |
| 44:E8:24:ILE:HD12 | 44:E8:24:ILE:O | 1.94 | 0.68 |
| 49:J8:91:LYS:O | 49:J8:93:GLU:OE1 | 2.12 | 0.68 |
| 1:1G:967:C:H3' | 1:1G:968:A:H2' | 1.76 | 0.68 |
| 13:4A:91:ARG:HB2 | 13:4A:92:HIS:CD2 | 2.29 | 0.68 |
| 26:14:2353:G:N7 | 61:14:3547:HOH:O | 2.27 | 0.68 |
| 26:14:2773:C:H2' | 26:14:2774:C:C6 | 2.29 | 0.68 |
| 29:19:246:PRO:HD2 | 29:19:255:LYS:HE3 | 1.76 | 0.68 |
| 4:3E:107:ARG:HH22 | 4:3E:194:LEU:HD22 | 1.58 | 0.67 |
| 5:4E:9:LYS:NZ | 5:4E:111:GLU:OE2 | 2.27 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:1509:C:H2' | 26:1H:1511:A:C8 | 2.29 | 0.67 |
| 26:1H:1535:U:O4 | 26:1H:1538:G:O2' | 2.06 | 0.67 |
| 26:1H:2591:C:H2' | 26:1H:2592:G:C8 | 2.28 | 0.67 |
| 29:11:85:ASP:OD2 | 29:11:88:ARG:NH1 | 2.25 | 0.67 |
| 43:D8:21:ARG:CZ | 43:D8:93:GLU:OE2 | 2.42 | 0.67 |
| 1:1G:108:G:OP1 | 1:1G:326:G:N2 | 2.26 | 0.67 |
| 1:1G:275:G:H5' | 17:8A:14:LYS:HG2 | 1.74 | 0.67 |
| 1:1G:1004:A:OP2 | 1:1G:1025:U:N3 | 2.26 | 0.67 |
| 1:1G:1258:G:H2' | 1:1G:1259:C:H6 | 1.59 | 0.67 |
| 26:14:875:G:H2' | 26:14:876:C:H5' | 1.77 | 0.67 |
| 26:14:1342:A:H2 | 26:14:1602:U:H3 | 1.42 | 0.67 |
| 26:14:2681:C:H5 | 26:14:2725:A:H62 | 1.41 | 0.67 |
| 29:19:148:GLU:HB2 | 29:19:151:LYS:HD2 | 1.75 | 0.67 |
| 32:49:125:PHE:HB3 | 32:49:166:ASP:HB2 | 1.74 | 0.67 |
| 47:D5:127:LYS:O | 47:D5:162:GLU:HB3 | 1.93 | 0.67 |
| 18:9I:66:LEU:O | 18:9I:70:ILE:HG13 | 1.94 | 0.67 |
| 26:1H:1859:A:N6 | 26:1H:1883:G:O2' | 2.28 | 0.67 |
| 46:G8:29:GLU:HB3 | 46:G8:38:ILE:CG2 | 2.24 | 0.67 |
| 1:1G:536:C:OP2 | 61:1G:1705:HOH:O | 2.12 | 0.67 |
| 1:1G:658:G:O6 | 1:1G:746:A:N6 | 2.27 | 0.67 |
| 1:1G:1431:C:N3 | 1:1G:1469:G:N2 | 2.38 | 0.67 |
| 8:72:106:GLY:O | 8:72:122:ARG:NH2 | 2.27 | 0.67 |
| 9:82:15:ALA:HB1 | 9:82:80:GLY:HA3 | 1.76 | 0.67 |
| 26:14:536:A:H4' | 42:85:57:PHE:HZ | 1.59 | 0.67 |
| 26:14:1388:G:H2' | 26:14:1389:G:H8 | 1.59 | 0.67 |
| 26:14:2273:A:H2' | 26:14:2274:A:C8 | 2.29 | 0.67 |
| 27:1J:88:C:H5'' | 27:1J:89:G:N7 | 2.09 | 0.67 |
| 32:49:173:LEU:HA | 32:49:176:LEU:HB2 | 1.76 | 0.67 |
| 42:C8:91:ASP:OD1 | 42:C8:93:LYS:HA | 1.95 | 0.67 |
| 49:J8:83:GLU:HG3 | 49:J8:85:LEU:H | 1.59 | 0.67 |
| 50:K8:16:LEU:HD23 | 50:K8:16:LEU:C | 2.14 | 0.67 |
| 50:K8:42:GLY:C | 50:K8:44:LEU:H | 1.97 | 0.67 |
| 26:14:2012:G:OP1 | 44:A5:11:ARG:NH2 | 2.27 | 0.67 |
| 32:49:105:LYS:CG | 32:49:106:LEU:HD13 | 2.25 | 0.67 |
| 40:65:10:ARG:HH21 | 40:65:91:PRO:HB2 | 1.57 | 0.67 |
| 46:C5:88:LYS:O | 46:C5:89:PHE:HB3 | 1.95 | 0.67 |
| 1:13:145:G:O6 | 1:13:177:C:N4 | 2.27 | 0.67 |
| 4:3E:30:LYS:HA | 4:3E:35:ARG:HE | 1.59 | 0.67 |
| 7:6E:48:LYS:HA | 7:6E:51:GLN:HB3 | 1.76 | 0.67 |
| 26:1H:55:G:H2' | 26:1H:56:A:H8 | 1.57 | 0.67 |
| 26:1H:787:U:H5'' | 26:1H:788:A:H5' | 1.75 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:1557:C:OP2 | 26:1H:1558:A:O2' | 2.12 | 0.67 |
| 26:1H:2093:G:OP2 | 34:61:22:LYS:HD2 | 1.95 | 0.67 |
| 27:16:73:A:OP2 | 61:16:302:HOH:O | 2.11 | 0.67 |
| 43:D8:37:VAL:O | 43:D8:38:LEU:HG | 1.94 | 0.67 |
| 1:1G:448:A:P | 1:1G:485:G:H22 | 2.17 | 0.67 |
| 26:14:2537:U:H2' | 26:14:2538:C:C6 | 2.29 | 0.67 |
| 31:39:40:GLN:HE22 | 31:39:182:ASN:HB2 | 1.59 | 0.67 |
| 43:95:76:LYS:HZ2 | 43:95:82:ARG:HE | 1.42 | 0.67 |
| 46:C5:83:THR:HG22 | 46:C5:84:ARG:H | 1.60 | 0.67 |
| 47:D5:97:GLU:HB3 | 47:D5:125:LEU:HD11 | 1.76 | 0.67 |
| 15:6I:55:GLY:HA2 | 15:6I:58:MET:HE3 | 1.76 | 0.67 |
| 26:1H:2801:A:OP2 | 26:1H:2895:U:O2' | 2.13 | 0.67 |
| 28:71:200:LYS:HE3 | 28:71:204:ALA:HB3 | 1.77 | 0.67 |
| 34:61:135:GLU:OE1 | 34:61:136:VAL:CA | 2.42 | 0.67 |
| 1:1G:1304:G:N1 | 1:1G:1332:A:OP2 | 2.27 | 0.67 |
| 3:22:16:ARG:HH22 | 3:22:182:ILE:H | 1.43 | 0.67 |
| 26:14:188:G:N7 | 61:14:3550:HOH:O | 2.28 | 0.67 |
| 26:14:1678:G:H22 | 26:14:1989:G:N2 | 1.92 | 0.67 |
| 33:59:61:HIS:O | 33:59:65:HIS:N | 2.24 | 0.67 |
| 37:35:105:LEU:O | 37:35:106:LEU:HB3 | 1.92 | 0.67 |
| 46:C5:20:TYR:CZ | 46:C5:42:VAL:HA | 2.29 | 0.67 |
| 26:1H:422:A:P | 61:1H:3579:HOH:O | 2.53 | 0.67 |
| 28:71:20:TYR:HB2 | 28:71:25:ALA:HB2 | 1.74 | 0.67 |
| 1:1G:108:G:H5' | 1:1G:109:A:H5'' | 1.74 | 0.67 |
| 1:1G:677:U:H3 | 1:1G:713:G:H22 | 1.40 | 0.67 |
| 1:1G:762:C:H2' | 1:1G:763:G:H8 | 1.58 | 0.67 |
| 1:1G:1452:C:H4' | 1:1G:1453:G:O5' | 1.92 | 0.67 |
| 13:4A:37:THR:HG22 | 13:4A:55:ARG:HH12 | 1.58 | 0.67 |
| 26:14:1007:C:OP1 | 35:15:37:LYS:NZ | 2.28 | 0.67 |
| 27:1J:20:C:N3 | 27:1J:63:G:N2 | 2.42 | 0.67 |
| 29:19:242:ARG:HH11 | 29:19:242:ARG:H | 1.42 | 0.67 |
| 32:49:53:LEU:HB2 | 32:49:90:LEU:HD11 | 1.76 | 0.67 |
| 32:49:112:PRO:HA | 32:49:117:PHE:CG | 2.30 | 0.67 |
| 42:85:92:ARG:HD3 | 42:85:94:ASN:HB3 | 1.76 | 0.67 |
| 1:13:690:G:H1 | 11:2I:51:LYS:HE3 | 1.60 | 0.67 |
| 5:4E:51:VAL:HG13 | 5:4E:52:PRO:HD3 | 1.75 | 0.67 |
| 5:4E:102:ALA:HB3 | 5:4E:107:ARG:HB3 | 1.77 | 0.67 |
| 26:1H:1857:G:O2' | 26:1H:1885:A:N6 | 2.27 | 0.67 |
| 31:31:165:ARG:HA | 31:31:168:ARG:HD3 | 1.76 | 0.67 |
| 39:98:33:ARG:HG3 | 39:98:115:GLU:HB3 | 1.76 | 0.67 |
| 46:G8:28:LYS:HZ1 | 46:G8:40:GLU:HG3 | 1.60 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 49:J8:93:GLU:CD | 49:J8:94:LEU:N | 2.48 | 0.67 |
| 1:1G:977:A:O2' | 1:1G:981:U:N3 | 2.28 | 0.67 |
| 11:2A:82:VAL:HB | 11:2A:108:ILE:HG12 | 1.77 | 0.67 |
| 26:14:2305:A:C6 | 26:14:2306:C:C2 | 2.83 | 0.67 |
| 45:B5:41:ASN:HA | 45:B5:44:GLU:HB2 | 1.77 | 0.67 |
| 5:4E:8:GLU:HG2 | 5:4E:34:VAL:HG22 | 1.75 | 0.67 |
| 26:1H:1257:C:H4' | 31:31:83:PHE:CE1 | 2.29 | 0.67 |
| 26:1H:1432:C:H2' | 26:1H:1433:U:O4' | 1.94 | 0.67 |
| 33:51:102:ALA:HA | 33:51:117:PRO:HD3 | 1.77 | 0.67 |
| 2:12:211:ILE:HG22 | 2:12:215:LEU:HD11 | 1.75 | 0.67 |
| 4:32:22:LYS:N | 4:32:26:CYS:SG | 2.66 | 0.67 |
| 16:7A:45:THR:OG1 | 16:7A:47:ASP:OD1 | 2.10 | 0.67 |
| 26:14:1581:G:H2' | 26:14:1582:C:O4' | 1.95 | 0.67 |
| 32:49:106:LEU:HD23 | 32:49:178:PHE:CE1 | 2.29 | 0.67 |
| 2:1E:136:VAL:HA | 2:1E:139:LYS:HB3 | 1.76 | 0.67 |
| 26:1H:426:C:H2' | 26:1H:427:U:H6 | 1.60 | 0.67 |
| 26:1H:1510:A:O2' | 26:1H:1512:G:N7 | 2.17 | 0.67 |
| 26:1H:1697:G:OP2 | 26:1H:1698:A:O2' | 2.11 | 0.67 |
| 33:51:4:ILE:HG23 | 33:51:6:ARG:CZ | 2.25 | 0.67 |
| 1:1G:155:C:H42 | 1:1G:166:G:H1 | 1.42 | 0.67 |
| 1:1G:762:C:H2' | 1:1G:763:G:C8 | 2.30 | 0.67 |
| 1:1G:979:C:H3' | 1:1G:980:C:H5'' | 1.76 | 0.67 |
| 1:1G:1400:C:N4 | 23:2L:35:C:H1' | 2.10 | 0.67 |
| 26:14:10:G:N2 | 26:14:2802:G:OP1 | 2.27 | 0.67 |
| 26:14:607:U:OP1 | 31:39:102:PRO:HA | 1.94 | 0.67 |
| 43:95:37:VAL:HG21 | 43:95:57:VAL:H | 1.60 | 0.67 |
| 1:13:601:C:H2' | 1:13:602:A:C8 | 2.26 | 0.67 |
| 1:13:1182:G:H4' | 1:13:1183:A:H5'' | 1.75 | 0.67 |
| 1:13:1256:A:N6 | 1:13:1278:U:OP2 | 2.24 | 0.67 |
| 3:2E:95:THR:HB | 3:2E:97:LYS:HG3 | 1.77 | 0.67 |
| 26:1H:607:U:OP1 | 31:31:102:PRO:HA | 1.95 | 0.67 |
| 26:1H:2070:G:OP1 | 61:1H:3540:HOH:O | 2.13 | 0.67 |
| 26:1H:2345:G:N3 | 26:1H:2381:C:H2' | 2.10 | 0.67 |
| 26:14:1537:C:H2' | 26:14:1538:G:C8 | 2.30 | 0.67 |
| 26:14:2190:G:H2' | 26:14:2191:G:H1' | 1.76 | 0.67 |
| 26:14:2414:G:H21 | 37:35:67:MET:CE | 2.08 | 0.67 |
| 32:49:39:ILE:HD11 | 32:49:94:LEU:HD12 | 1.76 | 0.67 |
| 32:49:106:LEU:HG | 32:49:111:LEU:HB2 | 1.76 | 0.67 |
| 32:49:132:ASN:HB3 | 32:49:158:ALA:HA | 1.77 | 0.67 |
| 36:25:107:ARG:HB3 | 36:25:115:VAL:HG21 | 1.76 | 0.67 |
| 38:45:35:VAL:HG12 | 38:45:36:ALA:H | 1.59 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 40:65:42:ASP:O | 40:65:43:GLU:HB3 | 1.94 | 0.67 |
| 42:85:92:ARG:O | 42:85:94:ASN:N | 2.27 | 0.67 |
| 1:13:318:G:H1 | 1:13:335:C:H42 | 1.43 | 0.66 |
| 1:13:765:G:H5' | 1:13:766:A:OP1 | 1.96 | 0.66 |
| 1:13:1291:G:OP1 | 7:6E:37:ASN:CG | 2.32 | 0.66 |
| 23:2K:2:G:H2' | 23:2K:2:G:N3 | 2.09 | 0.66 |
| 24:3K:17:U:H2' | 24:3K:18:G:C8 | 2.29 | 0.66 |
| 26:1H:193:U:OP1 | 61:1H:3539:HOH:O | 2.12 | 0.66 |
| 26:1H:1287:A:C8 | 39:98:107:ASP:HB2 | 2.29 | 0.66 |
| 26:1H:2079:U:O4 | 61:1H:3528:HOH:O | 2.09 | 0.66 |
| 30:21:47:VAL:HG11 | 30:21:86:PRO:HD2 | 1.76 | 0.66 |
| 37:78:17:LYS:HG3 | 37:78:18:ARG:N | 2.09 | 0.66 |
| 1:1G:406:G:O6 | 1:1G:436:C:N4 | 2.20 | 0.66 |
| 1:1G:1255:G:H22 | 1:1G:1283:G:H1' | 1.58 | 0.66 |
| 4:32:127:THR:OG1 | 4:32:131:ARG:N | 2.28 | 0.66 |
| 12:3A:78:GLN:NE2 | 12:3A:81:SER:HB3 | 2.09 | 0.66 |
| 26:14:528:A:OP2 | 35:15:114:ARG:NH1 | 2.28 | 0.66 |
| 26:14:750:A:OP1 | 26:14:1615:C:N4 | 2.28 | 0.66 |
| 26:14:1701:A:H5' | 26:14:1702:G:OP2 | 1.95 | 0.66 |
| 26:14:1784:A:H5' | 61:14:3656:HOH:O | 1.94 | 0.66 |
| 26:14:2064:C:H2' | 26:14:2065:C:C6 | 2.29 | 0.66 |
| 37:35:84:ASN:HD22 | 37:35:117:GLU:HB2 | 1.60 | 0.66 |
| 1:13:454:C:H41 | 1:13:478:A:H2 | 1.43 | 0.66 |
| 3:2E:147:LYS:HB3 | 3:2E:203:PHE:CD2 | 2.30 | 0.66 |
| 17:8I:45:HIS:O | 17:8I:73:VAL:HG23 | 1.95 | 0.66 |
| 20:BI:29:LYS:O | 20:BI:33:ILE:HG12 | 1.96 | 0.66 |
| 1:1G:631:G:H2' | 1:1G:631:G:OP2 | 1.95 | 0.66 |
| 1:1G:1259:C:H42 | 1:1G:1275:A:H61 | 1.43 | 0.66 |
| 20:BA:64:ASP:CG | 20:BA:81:LYS:HZ2 | 1.99 | 0.66 |
| 26:14:34:C:HO2' | 26:14:35:G:H8 | 1.43 | 0.66 |
| 26:14:1975:G:OP2 | 61:14:3527:HOH:O | 2.13 | 0.66 |
| 29:19:27:THR:HG22 | 29:19:29:PRO:O | 1.95 | 0.66 |
| 1:13:505:G:N7 | 61:13:1819:HOH:O | 2.28 | 0.66 |
| 1:13:559:A:OP1 | 5:4E:126:ARG:NH2 | 2.28 | 0.66 |
| 5:4E:100:VAL:HG22 | 5:4E:118:ILE:HG22 | 1.75 | 0.66 |
| 26:1H:2312:U:H5' | 32:41:88:ILE:HD12 | 1.76 | 0.66 |
| 42:C8:92:ARG:HH21 | 43:D8:10:LYS:HB3 | 1.61 | 0.66 |
| 46:G8:34:LYS:HG3 | 46:G8:34:LYS:O | 1.94 | 0.66 |
| 18:9A:21:LYS:NZ | 18:9A:22:VAL:O | 2.27 | 0.66 |
| 42:85:70:ARG:NH2 | 42:85:75:ASN:HB3 | 2.10 | 0.66 |
| 1:13:1060:C:C4 | 3:2E:2:GLY:HA3 | 2.30 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 17:8I:88:TYR:O | 17:8I:91:ARG:HB2 | 1.94 | 0.66 |
| 19:AI:5:LEU:HD13 | 19:AI:10:PHE:CD1 | 2.30 | 0.66 |
| 26:1H:1187:G:H5'' | 43:D8:81:TYR:CE2 | 2.31 | 0.66 |
| 26:1H:1901:A:OP2 | 29:11:255:LYS:HE2 | 1.96 | 0.66 |
| 26:1H:1914:C:H2' | 26:1H:1915:U:O4' | 1.95 | 0.66 |
| 44:E8:18:ARG:HD3 | 44:E8:76:VAL:HG13 | 1.77 | 0.66 |
| 6:52:100:ASN:ND2 | 18:9A:26:LEU:O | 2.28 | 0.66 |
| 26:14:2350:C:OP2 | 61:14:3528:HOH:O | 2.14 | 0.66 |
| 26:14:2488:A:H8 | 26:14:2488:A:O5' | 1.78 | 0.66 |
| 26:14:2749:A:N3 | 33:59:59:ARG:NH1 | 2.38 | 0.66 |
| 34:69:123:LEU:HD23 | 34:69:142:VAL:HG23 | 1.75 | 0.66 |
| 1:13:221:C:H2' | 1:13:222:U:H6 | 1.58 | 0.66 |
| 2:1E:12:GLU:N | 2:1E:12:GLU:OE1 | 2.27 | 0.66 |
| 4:3E:92:VAL:HG12 | 4:3E:96:LEU:HD21 | 1.78 | 0.66 |
| 26:1H:600:G:N2 | 26:1H:605:C:O3' | 2.29 | 0.66 |
| 26:1H:2690:C:H5'' | 26:1H:2872:G:N2 | 2.10 | 0.66 |
| 35:58:96:GLU:O | 35:58:98:VAL:HG12 | 1.94 | 0.66 |
| 41:B8:29:ARG:HB2 | 41:B8:46:GLU:HG3 | 1.76 | 0.66 |
| 1:1G:155:C:N3 | 1:1G:166:G:N2 | 2.40 | 0.66 |
| 1:1G:377:G:OP1 | 16:7A:3:LYS:NZ | 2.28 | 0.66 |
| 3:22:182:ILE:HG22 | 3:22:203:PHE:HA | 1.77 | 0.66 |
| 57:3L:50:C:H2' | 57:3L:51:A:C8 | 2.31 | 0.66 |
| 26:14:336:C:OP1 | 46:C5:83:THR:HG23 | 1.96 | 0.66 |
| 26:14:780:G:OP1 | 29:19:218:ARG:NH2 | 2.29 | 0.66 |
| 26:14:1653:G:H3' | 39:55:2:ARG:HG2 | 1.77 | 0.66 |
| 26:14:1729:A:H2' | 26:14:1731:G:N2 | 2.11 | 0.66 |
| 38:45:4:PRO:HD3 | 38:45:70:PRO:O | 1.96 | 0.66 |
| 26:1H:106:C:H2' | 26:1H:107:C:C6 | 2.31 | 0.66 |
| 26:1H:363(B):G:H2' | 26:1H:363(C):G:C8 | 2.29 | 0.66 |
| 26:1H:1397:U:OP2 | 26:1H:1398:C:N4 | 2.27 | 0.66 |
| 26:1H:1728:G:N2 | 26:1H:1730:U:OP2 | 2.29 | 0.66 |
| 34:61:93:THR:HA | 34:61:119:PRO:HB3 | 1.78 | 0.66 |
| 43:D8:79:VAL:HG13 | 43:D8:81:TYR:HB3 | 1.75 | 0.66 |
| 45:F8:15:GLU:H | 45:F8:15:GLU:CD | 1.98 | 0.66 |
| 1:1G:297:G:N2 | 1:1G:300:A:OP2 | 2.28 | 0.66 |
| 1:1G:411:A:H62 | 1:1G:413:G:H21 | 1.43 | 0.66 |
| 7:62:69:VAL:HG22 | 7:62:135:VAL:HG22 | 1.76 | 0.66 |
| 26:14:1975:G:OP1 | 61:14:3526:HOH:O | 2.13 | 0.66 |
| 37:35:114:ILE:O | 37:35:115:LEU:HD23 | 1.96 | 0.66 |
| 54:L5:12:ARG:NH2 | 54:L5:44:PRO:HB3 | 2.11 | 0.66 |
| 1:13:280:C:C2 | 17:8I:38:ARG:HG3 | 2.31 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:376:G:H5'' | 16:7I:5:ARG:HB2 | 1.76 | 0.66 |
| 1:13:963:G:H21 | 10:1I:55:LYS:CE | 2.08 | 0.66 |
| 21:1F:5:ASP:HB3 | 21:1F:8:THR:HG22 | 1.77 | 0.66 |
| 26:1H:654(C):G:O2' | 26:1H:654(S):G:N2 | 2.25 | 0.66 |
| 28:71:45:ALA:CB | 28:71:212:VAL:HG22 | 2.25 | 0.66 |
| 4:32:91:SER:HA | 4:32:94:LEU:HD12 | 1.76 | 0.66 |
| 5:42:69:VAL:O | 5:42:71:LEU:N | 2.29 | 0.66 |
| 10:1A:79:ARG:HA | 10:1A:82:ILE:HG12 | 1.78 | 0.66 |
| 16:7A:67:THR:HG22 | 16:7A:68:ASP:H | 1.60 | 0.66 |
| 26:14:580:C:H2' | 26:14:581:C:C6 | 2.30 | 0.66 |
| 26:14:1022:G:H22 | 26:14:1142(A):A:H2 | 1.43 | 0.66 |
| 30:29:182:LEU:O | 30:29:183:LEU:HD12 | 1.96 | 0.66 |
| 1:13:963:G:H1 | 1:13:972:C:H42 | 1.43 | 0.66 |
| 1:13:1126:U:H2' | 1:13:1127:G:C8 | 2.31 | 0.66 |
| 1:13:1132:C:H2' | 1:13:1133:G:H8 | 1.61 | 0.66 |
| 1:13:1189:C:H5' | 3:2E:5:ILE:HD13 | 1.77 | 0.66 |
| 2:1E:5:ILE:HD12 | 2:1E:6:THR:H | 1.61 | 0.66 |
| 4:3E:92:VAL:O | 4:3E:96:LEU:HD22 | 1.95 | 0.66 |
| 6:5E:38:GLU:HB2 | 6:5E:64:GLN:HB3 | 1.78 | 0.66 |
| 19:AI:41:VAL:HG22 | 19:AI:67:VAL:O | 1.96 | 0.66 |
| 26:1H:1689:A:H62 | 26:1H:1698:A:H2 | 1.43 | 0.66 |
| 26:1H:1870:C:H2' | 26:1H:1871:A:O4' | 1.96 | 0.66 |
| 26:1H:2019:A:H62 | 53:N8:9:LYS:HE3 | 1.60 | 0.66 |
| 37:78:144:GLU:OE2 | 37:78:144:GLU:N | 2.29 | 0.66 |
| 26:14:2520:C:H41 | 26:14:2542:A:H62 | 1.43 | 0.66 |
| 26:14:2712:U:H1' | 26:14:2712(A):A:C8 | 2.31 | 0.66 |
| 26:1H:2572:A:C8 | 30:21:144:ARG:HD2 | 2.30 | 0.66 |
| 26:1H:2863:C:O2' | 26:1H:2864:G:H5' | 1.96 | 0.66 |
| 29:11:31:LYS:HG3 | 29:11:33:LEU:CD2 | 2.24 | 0.66 |
| 33:51:93:GLY:O | 33:51:95:ARG:NH2 | 2.28 | 0.66 |
| 1:1G:887:G:H21 | 1:1G:1489:G:H4' | 1.61 | 0.66 |
| 1:1G:1148:U:H2' | 1:1G:1149:C:O4' | 1.96 | 0.66 |
| 1:1G:1412:C:H2' | 1:1G:1413:A:C8 | 2.31 | 0.66 |
| 1:1G:1535:C:H41 | 25:4L:9:G:H22 | 1.43 | 0.66 |
| 56:1L:54:5MU:OP2 | 56:1L:54:5MU:H71 | 1.94 | 0.66 |
| 26:14:1899:G:N2 | 26:14:1902:C:H41 | 1.91 | 0.66 |
| 26:14:2068:U:H3 | 26:14:2430:A:H2 | 1.42 | 0.66 |
| 26:14:2162:G:H2' | 26:14:2163:C:H5' | 1.77 | 0.66 |
| 26:14:2414:G:H21 | 37:35:67:MET:HE3 | 1.61 | 0.66 |
| 32:49:7:LEU:HD21 | 32:49:104:GLU:HA | 1.77 | 0.66 |
| 1:13:58:C:O2' | 1:13:388:G:N7 | 2.27 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 9:8E:128:ARG:NH1 | 23:2K:34:U:OP2 | 2.19 | 0.66 |
| 26:1H:1657:C:H2' | 26:1H:1658:C:C6 | 2.31 | 0.66 |
| 26:1H:1800:C:OP2 | 29:11:183:ARG:NH2 | 2.25 | 0.66 |
| 26:1H:2312:U:H5' | 32:41:88:ILE:CD1 | 2.26 | 0.66 |
| 28:71:66:HIS:HB2 | 28:71:188:ASN:HD21 | 1.60 | 0.66 |
| 33:51:126:PRO:HG2 | 33:51:130:ARG:HH12 | 1.61 | 0.66 |
| 1:1G:359:U:H2' | 1:1G:360:A:C8 | 2.31 | 0.66 |
| 1:1G:889:A:H61 | 1:1G:907:A:H5'' | 1.61 | 0.66 |
| 1:1G:1460:A:OP2 | 20:BA:27:LYS:NZ | 2.28 | 0.66 |
| 4:32:175:SER:HB3 | 4:32:186:LEU:HD11 | 1.77 | 0.66 |
| 5:42:68:GLU:OE1 | 5:42:70:PRO:HG3 | 1.95 | 0.66 |
| 26:14:602:G:O2' | 26:14:604:G:O2' | 2.11 | 0.66 |
| 26:14:796:C:H2' | 26:14:797:C:C6 | 2.31 | 0.66 |
| 26:14:1778:U:H2' | 26:14:1784:A:N6 | 2.10 | 0.66 |
| 26:14:2758:A:H2' | 26:14:2759:G:O4' | 1.95 | 0.66 |
| 1:13:247:G:OP2 | 17:8I:100:LYS:N | 2.29 | 0.65 |
| 1:13:1328:C:OP1 | 21:1F:21:TYR:OH | 2.14 | 0.65 |
| 2:1E:237:ALA:O | 2:1E:239:VAL:N | 2.28 | 0.65 |
| 4:3E:98:GLU:O | 4:3E:103:ASN:ND2 | 2.28 | 0.65 |
| 21:1F:8:THR:HG23 | 21:1F:11:GLY:H | 1.61 | 0.65 |
| 26:1H:836:G:H5'' | 26:1H:837:C:OP2 | 1.96 | 0.65 |
| 26:1H:1441:G:H2' | 26:1H:1442:G:C8 | 2.31 | 0.65 |
| 26:1H:1794:U:H2' | 26:1H:1795:C:C6 | 2.31 | 0.65 |
| 26:1H:2502:G:OP2 | 61:1H:3543:HOH:O | 2.14 | 0.65 |
| 29:11:2:ALA:HA | 29:11:20:ASP:HB3 | 1.78 | 0.65 |
| 1:1G:1096:C:O2' | 1:1G:1170:A:O2' | 2.05 | 0.65 |
| 1:1G:1184:G:H2' | 1:1G:1185:G:H8 | 1.59 | 0.65 |
| 1:1G:1513:A:H2' | 1:1G:1514:C:C6 | 2.31 | 0.65 |
| 23:2L:5:G:N2 | 23:2L:69:C:O2 | 2.28 | 0.65 |
| 26:14:1797:C:HO2' | 29:19:259:THR:HG1 | 1.29 | 0.65 |
| 31:39:25:PRO:HB2 | 31:39:27:GLU:H | 1.60 | 0.65 |
| 37:35:47:ASP:OD2 | 37:35:50:ARG:NH1 | 2.30 | 0.65 |
| 37:35:52:GLU:N | 37:35:52:GLU:CD | 2.49 | 0.65 |
| 1:13:129(A):G:H4' | 1:13:130:A:H5'' | 1.78 | 0.65 |
| 12:3I:60:LEU:HD13 | 12:3I:61:THR:H | 1.61 | 0.65 |
| 23:2K:33:OMC:HM22 | 23:2K:34:U:H5' | 1.78 | 0.65 |
| 26:1H:243:U:OP1 | 55:Q8:6:THR:OG1 | 2.14 | 0.65 |
| 26:1H:275:G:N7 | 26:1H:363:G:N1 | 2.45 | 0.65 |
| 26:1H:2855:C:H2' | 26:1H:2856:C:H6 | 1.60 | 0.65 |
| 27:16:54:G:H2' | 27:16:55:U:H6 | 1.60 | 0.65 |
| 1:1G:1200:C:O2 | 1:1G:1205:U:N3 | 2.27 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:1670:C:O2 | 30:29:129:HIS:NE2 | 2.24 | 0.65 |
| 40:65:107:GLU:N | 40:65:110:LEU:HD21 | 2.10 | 0.65 |
| 41:75:8:LYS:O | 41:75:11:GLU:HG2 | 1.96 | 0.65 |
| 45:B5:8:ILE:O | 50:G5:36:ARG:NH2 | 2.29 | 0.65 |
| 45:B5:18:TYR:O | 45:B5:20:GLY:N | 2.30 | 0.65 |
| 51:H5:4:LEU:O | 51:H5:36:VAL:HA | 1.96 | 0.65 |
| 1:13:827:U:H5 | 1:13:872:A:N1 | 1.94 | 0.65 |
| 1:13:916:G:OP2 | 61:13:1809:HOH:O | 2.15 | 0.65 |
| 24:3K:19:G:H22 | 26:1H:2112:G:H1' | 1.59 | 0.65 |
| 26:1H:425:G:H2' | 26:1H:426:C:H6 | 1.62 | 0.65 |
| 26:1H:456:C:H3' | 45:F8:68:ARG:NH1 | 2.10 | 0.65 |
| 26:1H:1538:G:H2' | 26:1H:1539:G:C8 | 2.31 | 0.65 |
| 27:16:100:G:OP2 | 61:16:303:HOH:O | 2.13 | 0.65 |
| 29:11:35:LYS:N | 29:11:35:LYS:HD2 | 2.10 | 0.65 |
| 1:1G:1071:C:H2' | 1:1G:1072:G:C8 | 2.30 | 0.65 |
| 1:1G:1092:A:H5'' | 7:62:4:ARG:HH21 | 1.61 | 0.65 |
| 7:62:75:VAL:HA | 7:62:88:PRO:HA | 1.79 | 0.65 |
| 16:7A:36:ILE:HD12 | 16:7A:56:ALA:HA | 1.79 | 0.65 |
| 26:14:628:G:H5'' | 55:M5:18:ALA:HB2 | 1.79 | 0.65 |
| 26:14:1665:A:OP2 | 61:14:3511:HOH:O | 2.14 | 0.65 |
| 26:14:2137:C:H42 | 26:14:2155:G:H1 | 1.43 | 0.65 |
| 31:39:148:LEU:HD21 | 31:39:191:ARG:HD3 | 1.77 | 0.65 |
| 40:65:104:GLY:O | 40:65:106:ARG:NH1 | 2.30 | 0.65 |
| 43:95:76:LYS:NZ | 43:95:82:ARG:HE | 1.95 | 0.65 |
| 1:13:224:C:H2' | 1:13:225:C:C6 | 2.32 | 0.65 |
| 1:13:1073:U:O2' | 2:1E:104:ASN:OD1 | 2.06 | 0.65 |
| 2:1E:215:LEU:HA | 2:1E:218:ALA:HB3 | 1.79 | 0.65 |
| 26:1H:547:A:H2' | 26:1H:548:A:H8 | 1.60 | 0.65 |
| 26:1H:729:G:O4' | 29:11:208:LYS:NZ | 2.30 | 0.65 |
| 27:16:8:U:N3 | 27:16:112:G:O6 | 2.17 | 0.65 |
| 50:K8:50:ILE:HD12 | 50:K8:51:ARG:N | 2.10 | 0.65 |
| 1:1G:532:A:H2 | 3:22:156:ARG:HH22 | 1.44 | 0.65 |
| 26:14:825:C:H1' | 37:35:55:ARG:HD3 | 1.78 | 0.65 |
| 26:14:1856:G:N2 | 26:14:1886:C:N3 | 2.44 | 0.65 |
| 30:29:170:LEU:HD11 | 30:29:185:LYS:O | 1.96 | 0.65 |
| 31:39:36:VAL:HG11 | 31:39:183:VAL:HG21 | 1.77 | 0.65 |
| 46:C5:3:VAL:CG1 | 46:C5:32:PRO:HB2 | 2.27 | 0.65 |
| 1:13:323:U:H5' | 20:BI:23:ARG:HB2 | 1.79 | 0.65 |
| 1:13:445:G:H2' | 1:13:446:G:C8 | 2.31 | 0.65 |
| 1:13:1178:G:N2 | 1:13:1181:G:H8 | 1.95 | 0.65 |
| 1:13:1448:C:H42 | 1:13:1455:G:H1 | 1.44 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:1H:125:G:H5' | 26:1H:125:G:C8 | 2.31 | 0.65 |
| 26:1H:2176:A:OP1 | 28:71:7:TYR:OH | 2.09 | 0.65 |
| 28:71:22:ILE:HA | 28:71:25:ALA:HB3 | 1.79 | 0.65 |
| 1:1G:26:A:N6 | 1:1G:558:G:O2' | 2.28 | 0.65 |
| 1:1G:592:G:N2 | 1:1G:647:C:O2 | 2.22 | 0.65 |
| 1:1G:1292:U:H2' | 1:1G:1293:G:C8 | 2.30 | 0.65 |
| 7:62:21:VAL:HG23 | 7:62:22:LEU:HD12 | 1.77 | 0.65 |
| 7:62:73:MET:HG2 | 7:62:90:GLU:HA | 1.79 | 0.65 |
| 7:62:113:GLU:O | 7:62:119:ARG:HD3 | 1.96 | 0.65 |
| 26:14:901:A:H5' | 26:14:902:C:OP2 | 1.96 | 0.65 |
| 26:14:2785:C:O2' | 30:29:64:LYS:NZ | 2.28 | 0.65 |
| 1:13:611:A:H61 | 1:13:629:G:H1 | 1.44 | 0.65 |
| 10:1I:44:VAL:HG11 | 10:1I:46:ARG:HH21 | 1.61 | 0.65 |
| 26:1H:323:G:C8 | 31:31:171:PRO:HG3 | 2.32 | 0.65 |
| 27:16:116:G:H4' | 40:A8:54:LEU:HD12 | 1.79 | 0.65 |
| 33:51:30:LYS:NZ | 33:51:81:GLU:H | 1.94 | 0.65 |
| 37:78:114:ILE:HD11 | 37:78:130:PHE:CD2 | 2.32 | 0.65 |
| 46:G8:85:VAL:HG13 | 46:G8:98:VAL:HB | 1.79 | 0.65 |
| 1:1G:408:A:H5' | 4:32:116:GLN:HG3 | 1.79 | 0.65 |
| 1:1G:517:G:N2 | 1:1G:533:A:OP2 | 2.25 | 0.65 |
| 4:32:12:CYS:SG | 4:32:18:LYS:HA | 2.37 | 0.65 |
| 4:32:176:LEU:HG | 4:32:178:VAL:HB | 1.79 | 0.65 |
| 13:4A:14:ARG:HA | 13:4A:43:THR:O | 1.96 | 0.65 |
| 26:14:548:A:C5 | 26:14:549:G:H1' | 2.31 | 0.65 |
| 26:14:2331:G:H4' | 48:E5:43:THR:H | 1.61 | 0.65 |
| 27:1J:44:G:H5'' | 27:1J:45:A:OP1 | 1.96 | 0.65 |
| 29:19:30:GLU:HG3 | 29:19:63:ARG:CZ | 2.26 | 0.65 |
| 32:49:145:THR:OG1 | 32:49:148:MET:N | 2.18 | 0.65 |
| 1:13:749:C:H2' | 1:13:750:G:H8 | 1.62 | 0.65 |
| 1:13:1298:C:H2' | 7:6E:114:ARG:HH21 | 1.61 | 0.65 |
| 7:6E:69:VAL:HG22 | 7:6E:135:VAL:HG13 | 1.77 | 0.65 |
| 19:AI:22:LEU:HA | 19:AI:25:LYS:HB2 | 1.78 | 0.65 |
| 26:1H:2261:C:O2' | 26:1H:2262:U:H5' | 1.97 | 0.65 |
| 26:1H:2576:G:OP1 | 61:1H:3542:HOH:O | 2.14 | 0.65 |
| 34:61:68:LEU:HA | 34:61:71:ILE:CG2 | 2.27 | 0.65 |
| 37:78:60:MET:HA | 55:Q8:13:ARG:NH1 | 2.12 | 0.65 |
| 48:I8:53:MET:HG3 | 48:I8:59:LEU:HD23 | 1.78 | 0.65 |
| 52:M8:36:CYS:HB3 | 52:M8:39:CYS:HB3 | 1.77 | 0.65 |
| 1:1G:1109:C:H2' | 1:1G:1110:A:O4' | 1.96 | 0.65 |
| 15:6A:15:PHE:O | 15:6A:27:VAL:HG22 | 1.96 | 0.65 |
| 26:14:995:C:O4' | 42:85:57:PHE:HD2 | 1.79 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:1408:C:O2 | 26:14:1595:G:N2 | 2.29 | 0.65 |
| 26:14:2438:U:H5' | 26:14:2600:A:OP1 | 1.97 | 0.65 |
| 27:1J:52:A:H62 | 40:65:33:LYS:HG3 | 1.61 | 0.65 |
| 36:25:11:ALA:HB1 | 36:25:99:PHE:HB2 | 1.78 | 0.65 |
| 49:F5:24:ALA:HB3 | 49:F5:27:GLU:HG3 | 1.77 | 0.65 |
| 1:13:148:G:N2 | 1:13:149:A:N1 | 2.45 | 0.65 |
| 1:13:983:A:H2 | 1:13:984:C:C6 | 2.14 | 0.65 |
| 1:13:1368:G:OP1 | 9:8E:111:ARG:NH2 | 2.30 | 0.65 |
| 13:4I:82:MET:C | 13:4I:84:ILE:H | 1.99 | 0.65 |
| 15:6I:11:VAL:HG21 | 15:6I:34:LEU:HD13 | 1.79 | 0.65 |
| 26:1H:141(A):C:H2' | 26:1H:142:G:O4' | 1.97 | 0.65 |
| 26:1H:2173:A:H2' | 26:1H:2174:C:C2 | 2.31 | 0.65 |
| 29:11:29:PRO:HG2 | 29:11:83:GLU:OE1 | 1.95 | 0.65 |
| 37:78:31:ALA:O | 37:78:32:THR:HG22 | 1.97 | 0.65 |
| 4:32:103:ASN:OD1 | 4:32:114:ARG:NH2 | 2.30 | 0.65 |
| 13:4A:91:ARG:O | 13:4A:95:GLY:N | 2.30 | 0.65 |
| 26:14:142:G:H1' | 45:B5:37:THR:HG21 | 1.79 | 0.65 |
| 26:14:646:A:H2' | 26:14:647:G:O4' | 1.96 | 0.65 |
| 26:14:990:A:H5' | 26:14:990:A:H8 | 1.62 | 0.65 |
| 26:14:1899:G:N2 | 26:14:1902:C:N4 | 2.44 | 0.65 |
| 26:14:2745:C:H42 | 26:14:2759:G:H1 | 1.44 | 0.65 |
| 32:49:111:LEU:HB3 | 32:49:117:PHE:CE1 | 2.30 | 0.65 |
| 39:55:85:PRO:O | 39:55:88:ARG:HD2 | 1.96 | 0.65 |
| 5:4E:39:GLY:CA | 5:4E:113:ALA:HB1 | 2.26 | 0.65 |
| 16:7I:77:ALA:HB3 | 16:7I:79:VAL:HG23 | 1.78 | 0.65 |
| 26:1H:587:C:H2' | 37:78:19:VAL:HG21 | 1.77 | 0.65 |
| 34:61:144:VAL:HG13 | 34:61:145:VAL:HG23 | 1.79 | 0.65 |
| 39:98:14:SER:OG | 39:98:15:SER:N | 2.28 | 0.65 |
| 44:E8:58:ALA:HB1 | 44:E8:64:MET:HG3 | 1.77 | 0.65 |
| 1:1G:793:U:O2 | 1:1G:1516:G:H4' | 1.97 | 0.65 |
| 11:2A:86:GLY:H | 11:2A:112:THR:HG23 | 1.62 | 0.65 |
| 26:14:2724:C:OP1 | 30:29:118:LYS:HE3 | 1.97 | 0.65 |
| 29:19:246:PRO:CD | 29:19:255:LYS:CE | 2.75 | 0.65 |
| 38:45:57:HIS:CE1 | 38:45:116:GLU:HB3 | 2.32 | 0.65 |
| 42:85:91:ASP:OD2 | 42:85:96:ALA:HB2 | 1.97 | 0.65 |
| 43:95:2:PHE:CE1 | 43:95:13:ARG:HG3 | 2.32 | 0.65 |
| 44:A5:37:ARG:HG2 | 44:A5:38:TYR:CE1 | 2.32 | 0.65 |
| 1:13:410:G:OP1 | 4:3E:30:LYS:NZ | 2.22 | 0.65 |
| 1:13:750:G:N3 | 15:6I:23:GLY:HA3 | 2.11 | 0.65 |
| 1:13:963:G:H21 | 10:1I:55:LYS:HE2 | 1.62 | 0.65 |
| 1:13:1449:C:O2' | 1:13:1451:A:N6 | 2.29 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:4E:148:VAL:HA | 5:4E:151:LEU:HD12 | 1.78 | 0.65 |
| 17:8I:101:ARG:N | 17:8I:101:ARG:HD3 | 2.12 | 0.65 |
| 26:1H:309:G:N3 | 26:1H:329:G:O2' | 2.29 | 0.65 |
| 30:29:54:GLN:H | 30:29:74:PRO:HB3 | 1.62 | 0.65 |
| 30:29:171:GLU:HB3 | 30:29:185:LYS:HG3 | 1.78 | 0.65 |
| 1:13:536:C:OP2 | 61:13:1810:HOH:O | 2.15 | 0.64 |
| 1:13:1234:C:H2' | 1:13:1235:U:C6 | 2.32 | 0.64 |
| 28:71:66:HIS:HB2 | 28:71:188:ASN:ND2 | 2.12 | 0.64 |
| 29:11:35:LYS:HA | 29:11:64:ILE:HG22 | 1.79 | 0.64 |
| 1:1G:298:A:O5' | 1:1G:298:A:H8 | 1.80 | 0.64 |
| 1:1G:565:U:H3' | 1:1G:566:G:H2' | 1.79 | 0.64 |
| 1:1G:629:G:H2' | 1:1G:630:G:H4' | 1.78 | 0.64 |
| 1:1G:736:C:H2' | 1:1G:737:A:C8 | 2.32 | 0.64 |
| 1:1G:922:G:H1 | 1:1G:1395:C:H42 | 1.45 | 0.64 |
| 1:1G:933:G:N7 | 7:62:3:ARG:NH2 | 2.45 | 0.64 |
| 1:1G:1219:U:OP1 | 14:5A:19:ARG:NH1 | 2.26 | 0.64 |
| 4:32:31:CYS:HB2 | 4:32:33:MET:H | 1.63 | 0.64 |
| 5:42:42:GLY:HA2 | 5:42:136:MET:HE1 | 1.78 | 0.64 |
| 10:1A:49:VAL:HB | 14:5A:41:ARG:HB2 | 1.79 | 0.64 |
| 57:3L:12:U:H3 | 57:3L:23:A:H61 | 1.44 | 0.64 |
| 26:14:55:G:O6 | 26:14:115:C:N4 | 2.19 | 0.64 |
| 26:14:2777:G:H5'' | 26:14:2778:A:H5' | 1.78 | 0.64 |
| 30:29:81:ILE:HG22 | 30:29:82:ARG:H | 1.62 | 0.64 |
| 32:49:60:LEU:HD21 | 32:49:92:VAL:HG11 | 1.79 | 0.64 |
| 4:3E:31:CYS:HB3 | 4:3E:34:GLU:HG2 | 1.78 | 0.64 |
| 22:1K:74:C:H42 | 26:1H:2508:G:H5' | 1.61 | 0.64 |
| 26:1H:1328:G:H2' | 26:1H:1330:C:C5 | 2.32 | 0.64 |
| 36:68:112:MET:HG3 | 36:68:113:LYS:H | 1.62 | 0.64 |
| 55:Q8:54:GLU:O | 55:Q8:58:ILE:HG12 | 1.97 | 0.64 |
| 1:1G:625:G:H4' | 16:7A:16:HIS:CD2 | 2.32 | 0.64 |
| 1:1G:1084:G:H5' | 1:1G:1102:A:OP2 | 1.98 | 0.64 |
| 2:12:115:LEU:HD13 | 2:12:145:LEU:HB3 | 1.77 | 0.64 |
| 7:62:68:ASN:ND2 | 7:62:127:ALA:O | 2.20 | 0.64 |
| 12:3A:18:VAL:O | 12:3A:19:ARG:HG3 | 1.98 | 0.64 |
| 26:14:89:G:H3' | 26:14:90:U:H5'' | 1.79 | 0.64 |
| 26:14:303:U:H2' | 26:14:304:G:C8 | 2.32 | 0.64 |
| 26:14:568:U:O2' | 61:14:3529:HOH:O | 2.15 | 0.64 |
| 26:14:1794:U:H2' | 26:14:1795:C:C6 | 2.31 | 0.64 |
| 26:14:2683:C:OP1 | 41:75:53:ARG:NH2 | 2.31 | 0.64 |
| 35:15:30:ILE:O | 35:15:34:LEU:HD22 | 1.97 | 0.64 |
| 1:13:457:C:H2' | 1:13:458:C:C6 | 2.31 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:1728:G:H2' | 26:1H:1731:G:O6 | 1.97 | 0.64 |
| 29:11:141:VAL:HG12 | 29:11:164:GLN:HG2 | 1.78 | 0.64 |
| 1:1G:376:G:H5'' | 16:7A:5:ARG:HB2 | 1.79 | 0.64 |
| 2:12:49:GLU:O | 2:12:52:GLU:HG3 | 1.97 | 0.64 |
| 2:12:97:TRP:HZ3 | 2:12:99:GLY:HA2 | 1.63 | 0.64 |
| 15:6A:10:LYS:HD2 | 15:6A:10:LYS:C | 2.18 | 0.64 |
| 26:14:289:A:H3' | 26:14:290:G:H8 | 1.61 | 0.64 |
| 26:14:925:C:H2' | 26:14:926:A:H8 | 1.61 | 0.64 |
| 26:14:960:A:H61 | 38:45:82:ARG:NH2 | 1.95 | 0.64 |
| 26:14:2031:A:N3 | 26:14:2455:G:O2' | 2.25 | 0.64 |
| 27:1J:7:G:H3' | 27:1J:8:U:H5'' | 1.77 | 0.64 |
| 27:1J:18:G:H2' | 27:1J:19:G:C8 | 2.31 | 0.64 |
| 27:1J:113:C:H2' | 27:1J:114:G:C8 | 2.32 | 0.64 |
| 29:19:242:ARG:O | 61:19:302:HOH:O | 2.15 | 0.64 |
| 44:A5:73:ALA:O | 44:A5:106:ILE:HG12 | 1.97 | 0.64 |
| 46:C5:76:CYS:HB2 | 46:C5:104:GLY:HA3 | 1.80 | 0.64 |
| 1:13:677:U:H3 | 1:13:713:G:H22 | 1.45 | 0.64 |
| 26:1H:106:C:H2' | 26:1H:107:C:H6 | 1.61 | 0.64 |
| 31:31:8:GLN:OE1 | 31:31:21:ALA:HB2 | 1.96 | 0.64 |
| 35:58:38:HIS:CE1 | 35:58:39:ARG:HG3 | 2.31 | 0.64 |
| 1:1G:629:G:C2 | 1:1G:630:G:H1' | 2.32 | 0.64 |
| 2:12:74:LYS:HD2 | 2:12:166:ASP:HB2 | 1.79 | 0.64 |
| 26:14:196:A:OP2 | 37:35:46:LYS:NZ | 2.30 | 0.64 |
| 26:14:729:G:H2' | 26:14:1775:U:O2 | 1.98 | 0.64 |
| 26:14:1114:G:H2' | 26:14:1115:G:C8 | 2.32 | 0.64 |
| 26:14:2490:G:H2' | 26:14:2490:G:N3 | 2.10 | 0.64 |
| 26:14:2611:U:H5' | 26:14:2611:U:C6 | 2.23 | 0.64 |
| 32:49:60:LEU:HD22 | 32:49:68:PRO:HB3 | 1.80 | 0.64 |
| 45:B5:63:LYS:HD2 | 45:B5:63:LYS:C | 2.17 | 0.64 |
| 7:6E:79:ARG:HG3 | 7:6E:84:ASN:HB2 | 1.78 | 0.64 |
| 8:7E:10:LEU:HD22 | 8:7E:83:ILE:HD11 | 1.78 | 0.64 |
| 26:1H:878:A:N1 | 26:1H:898:C:N4 | 2.42 | 0.64 |
| 41:B8:62:THR:HG22 | 41:B8:75:ILE:HG13 | 1.79 | 0.64 |
| 1:1G:980:C:H5' | 1:1G:981:U:H5 | 1.63 | 0.64 |
| 11:2A:109:VAL:HG12 | 18:9A:86:VAL:HA | 1.78 | 0.64 |
| 26:14:468:G:H5'' | 26:14:469:G:OP2 | 1.97 | 0.64 |
| 26:14:1071:G:N2 | 26:14:1090:U:OP2 | 2.26 | 0.64 |
| 26:14:2387:U:H4' | 48:E5:41:ARG:HH21 | 1.62 | 0.64 |
| 38:45:31:ASP:N | 38:45:106:VAL:O | 2.29 | 0.64 |
| 46:C5:52:SER:H | 46:C5:56:PRO:HA | 1.62 | 0.64 |
| 49:F5:71:TYR:O | 49:F5:74:VAL:HG12 | 1.97 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:13:491:G:H2' | 1:13:492:G:H8 | 1.61 | 0.64 |
| 1:13:1034:G:N2 | 1:13:1035:A:N7 | 2.42 | 0.64 |
| 1:13:1131:G:H2' | 1:13:1132:C:H6 | 1.62 | 0.64 |
| 26:1H:2580:U:H4' | 30:21:130:GLY:HA3 | 1.78 | 0.64 |
| 26:1H:2701:C:H3' | 26:1H:2702:U:C5' | 2.27 | 0.64 |
| 27:16:7:G:H4' | 40:A8:29:PHE:CD2 | 2.33 | 0.64 |
| 34:61:3:VAL:HG12 | 34:61:38:LEU:HA | 1.80 | 0.64 |
| 41:B8:91:ARG:O | 41:B8:116:ALA:HA | 1.98 | 0.64 |
| 46:G8:42:VAL:HG13 | 46:G8:43:ASN:N | 2.13 | 0.64 |
| 1:1G:1132:C:H2' | 1:1G:1133:G:C8 | 2.33 | 0.64 |
| 1:1G:1502:A:H2 | 1:1G:1505:G:H1 | 1.44 | 0.64 |
| 3:22:31:HIS:HA | 3:22:34:LEU:HD23 | 1.80 | 0.64 |
| 4:32:12:CYS:SG | 4:32:19:LEU:N | 2.62 | 0.64 |
| 26:14:577:G:O2' | 26:14:1254:A:OP1 | 2.15 | 0.64 |
| 26:14:957:A:C4' | 38:45:76:LYS:HE2 | 2.28 | 0.64 |
| 26:14:2135:A:H1' | 26:14:2159:G:O2' | 1.97 | 0.64 |
| 43:95:58:VAL:H | 43:95:98:GLU:HB2 | 1.62 | 0.64 |
| 55:M5:50:LEU:HG | 55:M5:51:ALA:H | 1.63 | 0.64 |
| 1:13:21:G:H2' | 1:13:22:G:C8 | 2.33 | 0.64 |
| 2:1E:121:LEU:HB3 | 2:1E:127:ILE:HG23 | 1.78 | 0.64 |
| 17:8I:9:VAL:O | 17:8I:21:VAL:HA | 1.98 | 0.64 |
| 17:8I:55:ASP:HA | 17:8I:79:SER:HA | 1.80 | 0.64 |
| 26:1H:2128:C:N3 | 26:1H:2129:C:N4 | 2.44 | 0.64 |
| 29:11:29:PRO:HD2 | 29:11:30:GLU:HG2 | 1.80 | 0.64 |
| 1:1G:1443:G:O2' | 41:75:122:ASP:OD2 | 2.16 | 0.64 |
| 26:14:620:G:N3 | 26:14:620:G:H5'' | 2.13 | 0.64 |
| 26:14:867:C:H5 | 26:14:868:U:C4 | 2.15 | 0.64 |
| 26:14:1568:G:H5' | 29:19:60:ARG:HA | 1.80 | 0.64 |
| 26:14:2327:A:H2' | 26:14:2328:A:C8 | 2.33 | 0.64 |
| 26:14:2882:A:OP1 | 39:55:96:ARG:NE | 2.18 | 0.64 |
| 11:2I:85:ARG:HA | 11:2I:112:THR:OG1 | 1.97 | 0.64 |
| 16:7I:8:ARG:HH12 | 16:7I:15:PRO:HA | 1.63 | 0.64 |
| 26:1H:185:U:H4' | 26:1H:218:A:H4' | 1.80 | 0.64 |
| 26:1H:1434:A:H61 | 26:1H:1558:A:H62 | 1.43 | 0.64 |
| 26:14:676:A:H8 | 26:14:2069:G:N2 | 1.92 | 0.64 |
| 26:14:1669:A:H5'' | 26:14:1670:C:OP2 | 1.98 | 0.64 |
| 30:29:119:ARG:HD3 | 30:29:120:TRP:CD1 | 2.32 | 0.64 |
| 42:85:90:VAL:HG22 | 43:95:39:LEU:HB3 | 1.78 | 0.64 |
| 1:13:5:U:O4 | 4:3E:89:THR:HG23 | 1.98 | 0.64 |
| 1:13:390:C:O3' | 16:7I:28:ARG:NH2 | 2.31 | 0.64 |
| 1:13:836:G:OP1 | 18:9I:61:LYS:NZ | 2.30 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:2E:84:ILE:HG23 | 3:2E:88:ARG:NH2 | 2.13 | 0.64 |
| 19:AI:41:VAL:HG12 | 19:AI:44:MET:HB2 | 1.80 | 0.64 |
| 24:3K:61:C:O2 | 28:71:52:ARG:HD3 | 1.98 | 0.64 |
| 26:1H:322:A:H5' | 26:1H:340:A:H1' | 1.79 | 0.64 |
| 26:1H:330:A:HO2' | 26:1H:331:A:H8 | 1.43 | 0.64 |
| 26:1H:1509:C:H2' | 26:1H:1511:A:H8 | 1.62 | 0.64 |
| 26:1H:2657:A:O2' | 33:51:160:LYS:NZ | 2.30 | 0.64 |
| 39:98:10:LEU:O | 39:98:12:ARG:N | 2.31 | 0.64 |
| 41:B8:26:ASP:O | 41:B8:49:VAL:HG12 | 1.98 | 0.64 |
| 53:N8:40:LYS:HZ1 | 53:N8:48:GLU:H | 1.42 | 0.64 |
| 1:1G:1142:G:H3' | 1:1G:1143:G:C8 | 2.32 | 0.64 |
| 2:12:19:HIS:CE1 | 2:12:204:ASN:HB3 | 2.33 | 0.64 |
| 6:52:69:GLU:OE1 | 6:52:69:GLU:N | 2.25 | 0.64 |
| 26:14:957:A:C5' | 38:45:76:LYS:CD | 2.54 | 0.64 |
| 26:14:1040:C:H2' | 26:14:1041:C:O4' | 1.97 | 0.64 |
| 26:14:1379:A:H4' | 26:14:1380:G:OP2 | 1.96 | 0.64 |
| 30:29:109:LYS:HE2 | 30:29:191:PRO:HA | 1.80 | 0.64 |
| 34:69:75:LEU:HD22 | 34:69:77:LEU:N | 2.12 | 0.64 |
| 43:95:44:LYS:O | 43:95:46:VAL:N | 2.26 | 0.64 |
| 1:13:1177:G:H2' | 1:13:1178:G:C4 | 2.33 | 0.64 |
| 1:13:1503:A:N6 | 25:4K:11:U:O2 | 2.31 | 0.64 |
| 8:7E:6:ILE:HB | 8:7E:85:ARG:HH12 | 1.61 | 0.64 |
| 26:1H:274:G:H2' | 26:1H:275:G:H1' | 1.79 | 0.64 |
| 1:1G:1129:C:N4 | 1:1G:1139:G:H22 | 1.96 | 0.64 |
| 26:14:315:G:H2' | 26:14:316:C:H6 | 1.63 | 0.64 |
| 26:14:1492:G:H3' | 26:14:1493:C:H5' | 1.80 | 0.64 |
| 26:14:2147:G:H2' | 26:14:2148:G:H4' | 1.80 | 0.64 |
| 29:19:33:LEU:HD23 | 29:19:34:VAL:HG13 | 1.80 | 0.64 |
| 31:39:89:VAL:HG12 | 31:39:90:PHE:H | 1.62 | 0.64 |
| 1:13:97:U:H2' | 1:13:99:C:C5 | 2.33 | 0.63 |
| 1:13:642:A:N3 | 8:7E:113:SER:OG | 2.31 | 0.63 |
| 1:13:1145:C:H4' | 1:13:1146:A:H8 | 1.62 | 0.63 |
| 3:2E:73:PRO:O | 3:2E:76:VAL:HG22 | 1.98 | 0.63 |
| 7:6E:143:ARG:HD2 | 24:3K:41:A:O3' | 1.98 | 0.63 |
| 26:1H:102:G:OP1 | 50:K8:7:ARG:NH2 | 2.29 | 0.63 |
| 26:1H:573:G:O2' | 26:1H:574:C:H3' | 1.99 | 0.63 |
| 29:11:6:PHE:HE2 | 29:11:13:ARG:NH2 | 1.80 | 0.63 |
| 32:41:66:GLN:OE1 | 32:41:98:ARG:NH1 | 2.32 | 0.63 |
| 46:G8:61:ILE:HG23 | 46:G8:63:LYS:HD3 | 1.78 | 0.63 |
| 46:G8:84:ARG:O | 46:G8:85:VAL:HG13 | 1.98 | 0.63 |
| 7:62:29:LYS:HB3 | 7:62:105:VAL:HG21 | 1.80 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 18:9A:31:LEU:HD23 | 18:9A:31:LEU:H | 1.63 | 0.63 |
| 26:14:314:A:H2' | 26:14:315:G:C8 | 2.33 | 0.63 |
| 26:14:486:C:HO2' | 44:A5:60:ASN:HD22 | 1.42 | 0.63 |
| 26:14:1252:G:O4' | 42:85:33:ARG:HD3 | 1.98 | 0.63 |
| 36:25:13:ASN:HD21 | 36:25:97:ARG:H | 1.46 | 0.63 |
| 47:D5:3:TYR:O | 47:D5:58:VAL:N | 2.23 | 0.63 |
| 55:M5:48:PHE:HA | 55:M5:49:VAL:HG13 | 1.79 | 0.63 |
| 7:6E:18:TYR:HD2 | 7:6E:59:LEU:HD12 | 1.62 | 0.63 |
| 22:1K:52:G:N2 | 22:1K:62:C:N3 | 2.45 | 0.63 |
| 26:1H:1230:C:H2' | 26:1H:1231:G:C8 | 2.33 | 0.63 |
| 26:1H:1999:C:H5'' | 26:1H:2723:C:O2' | 1.98 | 0.63 |
| 31:31:33:LEU:HD13 | 31:31:112:MET:CE | 2.29 | 0.63 |
| 32:41:114:ILE:HG22 | 32:41:115:ARG:O | 1.99 | 0.63 |
| 41:B8:23:ARG:HG3 | 41:B8:120:ARG:NH1 | 2.14 | 0.63 |
| 43:D8:21:ARG:CG | 43:D8:91:TYR:HE2 | 2.10 | 0.63 |
| 52:M8:37:SER:O | 52:M8:44:THR:OG1 | 2.14 | 0.63 |
| 1:1G:1493:A:H2' | 26:14:1913:A:H61 | 1.63 | 0.63 |
| 26:14:2572:A:C2 | 30:29:144:ARG:NH2 | 2.66 | 0.63 |
| 26:14:2637:U:H5' | 30:29:44:TYR:CE1 | 2.33 | 0.63 |
| 29:19:245:PRO:C | 29:19:255:LYS:NZ | 2.44 | 0.63 |
| 30:29:1:MET:N | 30:29:200:GLU:OE2 | 2.30 | 0.63 |
| 46:C5:73:ARG:NH2 | 46:C5:82:PRO:O | 2.31 | 0.63 |
| 2:1E:212:GLN:NE2 | 2:1E:234:PRO:HA | 2.11 | 0.63 |
| 4:3E:8:VAL:O | 4:3E:11:LEU:HG | 1.97 | 0.63 |
| 26:1H:639:U:H2' | 26:1H:640:C:C6 | 2.32 | 0.63 |
| 26:1H:1718:G:C2 | 26:1H:1725:G:C8 | 2.85 | 0.63 |
| 46:G8:39:VAL:O | 46:G8:42:VAL:HG12 | 1.99 | 0.63 |
| 1:1G:1004:A:N1 | 1:1G:1023:G:N2 | 2.47 | 0.63 |
| 5:42:27:ARG:HH11 | 5:42:47:LYS:HZ3 | 1.45 | 0.63 |
| 7:62:93:PRO:HG2 | 7:62:94:ARG:HH21 | 1.62 | 0.63 |
| 7:62:136:LYS:NZ | 7:62:137:LYS:NZ | 2.45 | 0.63 |
| 47:D5:5:LEU:HD21 | 47:D5:43:GLU:HB2 | 1.81 | 0.63 |
| 1:13:591:U:H2' | 1:13:592:G:C8 | 2.33 | 0.63 |
| 1:13:994:A:N7 | 1:13:1216:G:H4' | 2.13 | 0.63 |
| 20:BI:50:GLU:HB2 | 20:BI:99:LEU:HB3 | 1.80 | 0.63 |
| 25:4K:24:A:H3' | 25:4K:25:A:OP1 | 1.99 | 0.63 |
| 26:1H:1138:G:H21 | 35:58:106:MET:HE3 | 1.62 | 0.63 |
| 31:31:101:LEU:O | 31:31:106:ARG:NH1 | 2.32 | 0.63 |
| 38:88:32:TYR:HE1 | 38:88:133:ARG:HD3 | 1.63 | 0.63 |
| 1:1G:20:U:H2' | 1:1G:21:G:O4' | 1.98 | 0.63 |
| 1:1G:447:G:N2 | 1:1G:487:A:H62 | 1.97 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:1G:946:A:H61 | 1:1G:1234:C:H42 | 1.46 | 0.63 |
| 1:1G:1106:G:H2' | 1:1G:1107:C:H6 | 1.62 | 0.63 |
| 7:62:26:PHE:CE2 | 7:62:30:ILE:HD11 | 2.33 | 0.63 |
| 8:72:44:PHE:HA | 8:72:79:VAL:HG11 | 1.80 | 0.63 |
| 1:13:167:G:H2' | 1:13:168:G:H8 | 1.63 | 0.63 |
| 26:1H:1021:A:H8 | 26:1H:1022:G:H5'' | 1.64 | 0.63 |
| 33:51:86:GLU:OE2 | 33:51:165:ALA:HB2 | 1.96 | 0.63 |
| 41:B8:50:ILE:HD13 | 41:B8:64:ARG:HB3 | 1.79 | 0.63 |
| 44:E8:1:MET:HB3 | 44:E8:64:MET:CE | 2.28 | 0.63 |
| 50:K8:3:LEU:HA | 50:K8:4:SER:HB3 | 1.81 | 0.63 |
| 1:1G:260:G:OP2 | 20:BA:83:ARG:NH1 | 2.31 | 0.63 |
| 1:1G:1055:A:H62 | 1:1G:1200:C:N4 | 1.96 | 0.63 |
| 1:1G:1305:G:HO2' | 1:1G:1306:A:H8 | 1.46 | 0.63 |
| 26:14:981:A:OP2 | 26:14:982:C:N4 | 2.29 | 0.63 |
| 1:13:455:C:H42 | 1:13:477:G:H1 | 1.44 | 0.63 |
| 26:1H:1231:G:H2' | 26:1H:1232:G:C8 | 2.34 | 0.63 |
| 26:1H:2750:A:H3' | 33:51:4:ILE:HD13 | 1.80 | 0.63 |
| 27:16:80:U:H2' | 27:16:81:G:H21 | 1.62 | 0.63 |
| 40:A8:48:LEU:HD23 | 40:A8:82:ILE:HD11 | 1.81 | 0.63 |
| 42:C8:79:PHE:HE1 | 42:C8:83:LEU:HD22 | 1.64 | 0.63 |
| 43:D8:79:VAL:CG1 | 43:D8:81:TYR:HB3 | 2.27 | 0.63 |
| 1:1G:1011:G:H22 | 1:1G:1018:C:N4 | 1.95 | 0.63 |
| 3:22:44:GLU:HA | 3:22:52:LEU:HD11 | 1.80 | 0.63 |
| 6:52:2:ARG:HD3 | 6:52:92:LYS:HE3 | 1.81 | 0.63 |
| 26:14:372:G:OP2 | 49:F5:69:LYS:NZ | 2.29 | 0.63 |
| 26:14:1163:G:OP1 | 43:95:24:LYS:NZ | 2.27 | 0.63 |
| 26:14:1450:C:H2' | 26:14:1451:C:C6 | 2.34 | 0.63 |
| 34:69:72:LEU:HD11 | 34:69:107:VAL:HG11 | 1.81 | 0.63 |
| 34:69:90:GLY:O | 34:69:121:LYS:HD2 | 1.99 | 0.63 |
| 36:25:13:ASN:ND2 | 36:25:96:THR:HG23 | 2.09 | 0.63 |
| 37:35:57:THR:HB | 37:35:60:MET:HB2 | 1.79 | 0.63 |
| 47:D5:164:ALA:O | 47:D5:165:VAL:HG13 | 1.99 | 0.63 |
| 55:M5:7:HIS:ND1 | 55:M5:7:HIS:O | 2.32 | 0.63 |
| 1:13:736:C:H2' | 1:13:737:A:H8 | 1.63 | 0.63 |
| 4:3E:47:ARG:HH22 | 4:3E:49:ARG:HG2 | 1.64 | 0.63 |
| 8:7E:87:SER:HB2 | 8:7E:93:VAL:CB | 2.29 | 0.63 |
| 13:4I:65:LYS:HG3 | 13:4I:69:GLU:HB3 | 1.81 | 0.63 |
| 26:1H:1416:G:HO2' | 26:1H:1417:C:H6 | 1.47 | 0.63 |
| 26:1H:1858:G:H1' | 26:1H:1883:G:H22 | 1.64 | 0.63 |
| 26:1H:1887:C:H2' | 26:1H:1888:G:H5' | 1.80 | 0.63 |
| 35:58:95:PRO:O | 35:58:97:ARG:HB2 | 1.99 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 37:78:60:MET:HA | 55:Q8:13:ARG:HH11 | 1.63 | 0.63 |
| 38:88:137:TYR:HB3 | 47:H8:76:LEU:HD21 | 1.80 | 0.63 |
| 40:A8:66:ALA:HB1 | 40:A8:101:LEU:HB2 | 1.81 | 0.63 |
| 47:H8:19:ARG:NH1 | 47:H8:84:GLU:O | 2.32 | 0.63 |
| 1:1G:373:A:C2 | 1:1G:374:A:C8 | 2.86 | 0.63 |
| 1:1G:1294:G:H2' | 1:1G:1295:G:H8 | 1.63 | 0.63 |
| 26:14:365:C:OP2 | 61:14:3530:HOH:O | 2.15 | 0.63 |
| 26:14:952:G:OP1 | 38:45:16:ARG:NH1 | 2.32 | 0.63 |
| 26:14:1491:G:O4' | 29:19:99:ASP:HB3 | 1.98 | 0.63 |
| 26:14:2068:U:N3 | 26:14:2430:A:C2 | 2.61 | 0.63 |
| 26:14:2108:C:N4 | 26:14:2180:U:O4 | 2.32 | 0.63 |
| 26:14:2131:G:H5'' | 26:14:2133:G:H4' | 1.81 | 0.63 |
| 26:14:2304:G:N2 | 26:14:2313:C:H42 | 1.95 | 0.63 |
| 27:1J:2:C:N4 | 27:1J:118:G:O6 | 2.32 | 0.63 |
| 43:95:57:VAL:HG23 | 43:95:99:ILE:H | 1.64 | 0.63 |
| 1:13:1298:C:P | 7:6E:114:ARG:HH22 | 2.21 | 0.63 |
| 7:6E:62:PHE:HA | 7:6E:124:LEU:HD21 | 1.81 | 0.63 |
| 24:3K:3:G:H1 | 24:3K:70:C:H42 | 1.44 | 0.63 |
| 26:1H:941:A:H4' | 61:1H:3851:HOH:O | 1.99 | 0.63 |
| 26:1H:2061:G:OP2 | 26:1H:2502:G:H5' | 1.99 | 0.63 |
| 26:1H:2250:G:C6 | 38:88:83:MET:HB3 | 2.33 | 0.63 |
| 27:16:42:C:O2' | 32:41:67:LYS:O | 2.16 | 0.63 |
| 29:11:27:THR:C | 29:11:29:PRO:HD3 | 2.19 | 0.63 |
| 42:C8:8:VAL:HG23 | 42:C8:11:ARG:NH2 | 2.10 | 0.63 |
| 2:12:58:ILE:HB | 2:12:221:LEU:HB2 | 1.79 | 0.63 |
| 4:32:89:THR:H | 5:42:97:GLY:HA3 | 1.63 | 0.63 |
| 13:4A:44:ARG:HB2 | 13:4A:46:LYS:HG2 | 1.79 | 0.63 |
| 26:14:2298:A:H1' | 26:14:2321:G:N2 | 2.13 | 0.63 |
| 26:14:2305:A:C5 | 32:49:136:ARG:NH1 | 2.67 | 0.63 |
| 30:29:9:VAL:HG12 | 41:75:8:LYS:HZ1 | 1.63 | 0.63 |
| 30:29:54:GLN:CG | 30:29:55:ASN:H | 2.12 | 0.63 |
| 49:F5:85:LEU:HD13 | 49:F5:88:LYS:CG | 2.22 | 0.63 |
| 1:13:1435:G:H2' | 1:13:1436:U:C6 | 2.34 | 0.63 |
| 1:13:1469:G:H2' | 1:13:1470:G:C8 | 2.34 | 0.63 |
| 15:6I:26:GLU:OE2 | 15:6I:77:ARG:CD | 2.47 | 0.63 |
| 18:9I:53:ARG:HA | 18:9I:56:THR:HG23 | 1.79 | 0.63 |
| 19:AI:25:LYS:HG3 | 19:AI:27:GLU:HG3 | 1.81 | 0.63 |
| 26:1H:299:A:H5' | 26:1H:300:A:OP2 | 1.98 | 0.63 |
| 26:1H:342:G:O6 | 61:1H:3541:HOH:O | 2.13 | 0.63 |
| 26:1H:860:U:H1' | 26:1H:2268:A:H5' | 1.80 | 0.63 |
| 26:1H:2156:G:H3' | 26:1H:2157:G:H21 | 1.62 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 31:31:67:GLN:HG3 | 31:31:67:GLN:O | 1.98 | 0.63 |
| 26:14:480:A:H2' | 26:14:480:A:N3 | 2.14 | 0.63 |
| 26:14:2485:G:C5' | 38:45:46:GLN:HE21 | 2.11 | 0.63 |
| 33:59:149:ARG:NH2 | 33:59:167:GLU:OE2 | 2.31 | 0.63 |
| 38:45:36:ALA:HB2 | 38:45:103:MET:HE2 | 1.81 | 0.63 |
| 42:85:92:ARG:HG2 | 43:95:11:GLN:OE1 | 1.99 | 0.63 |
| 43:95:85:LYS:HB3 | 43:95:87:HIS:H | 1.64 | 0.63 |
| 47:D5:29:TYR:HA | 47:D5:34:ASN:HA | 1.81 | 0.63 |
| 55:M5:33:ASN:HA | 55:M5:36:LYS:HD2 | 1.81 | 0.63 |
| 1:13:403:C:OP1 | 4:3E:137:SER:OG | 2.18 | 0.62 |
| 1:13:947:G:H2' | 1:13:948:C:C6 | 2.33 | 0.62 |
| 5:4E:101:ILE:O | 5:4E:120:THR:OG1 | 2.13 | 0.62 |
| 7:6E:113:GLU:HB3 | 7:6E:118:VAL:HG13 | 1.80 | 0.62 |
| 8:7E:102:ARG:HD3 | 8:7E:102:ARG:N | 2.14 | 0.62 |
| 13:4I:27:LYS:HD3 | 13:4I:31:LYS:HZ3 | 1.64 | 0.62 |
| 26:1H:1591:G:H2' | 26:1H:1592:C:C6 | 2.34 | 0.62 |
| 26:1H:1827:C:C2' | 26:1H:1828:G:H5' | 2.29 | 0.62 |
| 28:71:66:HIS:CE1 | 28:71:187:ASP:HB3 | 2.34 | 0.62 |
| 30:21:1:MET:N | 30:21:83:ASP:O | 2.29 | 0.62 |
| 32:41:104:GLU:HB3 | 52:M8:23:GLU:OE1 | 1.99 | 0.62 |
| 4:32:134:ASP:O | 4:32:136:PRO:HD3 | 1.99 | 0.62 |
| 26:14:957:A:C5' | 38:45:76:LYS:CE | 2.74 | 0.62 |
| 26:14:2485:G:H5'' | 38:45:46:GLN:NE2 | 2.11 | 0.62 |
| 31:39:164:ARG:O | 31:39:167:ALA:HB3 | 1.98 | 0.62 |
| 37:35:14:LYS:O | 37:35:16:ARG:N | 2.32 | 0.62 |
| 15:6I:17:ARG:HA | 15:6I:17:ARG:CZ | 2.29 | 0.62 |
| 41:B8:2:ASN:O | 41:B8:3:ARG:HG2 | 1.98 | 0.62 |
| 46:G8:97:ARG:O | 46:G8:101:LYS:HG3 | 1.99 | 0.62 |
| 49:J8:93:GLU:OE2 | 49:J8:94:LEU:CB | 2.47 | 0.62 |
| 1:1G:1057:G:H22 | 1:1G:1204:A:H1' | 1.64 | 0.62 |
| 1:1G:1411:C:H2' | 1:1G:1412:C:H6 | 1.64 | 0.62 |
| 1:1G:1414:U:H2' | 1:1G:1415:G:C8 | 2.34 | 0.62 |
| 2:12:54:THR:HA | 2:12:57:PHE:CD2 | 2.35 | 0.62 |
| 20:BA:25:ARG:O | 20:BA:29:LYS:HG2 | 1.99 | 0.62 |
| 26:14:846:C:O2' | 26:14:929:G:O6 | 2.11 | 0.62 |
| 26:14:2472:G:N2 | 26:14:2477:C:OP1 | 2.30 | 0.62 |
| 27:1J:3:C:H2' | 27:1J:4:C:C6 | 2.34 | 0.62 |
| 55:M5:40:GLU:HA | 55:M5:43:GLN:HB3 | 1.81 | 0.62 |
| 1:13:1286:A:H2' | 1:13:1287:A:H4' | 1.80 | 0.62 |
| 2:1E:100:GLY:O | 2:1E:104:ASN:N | 2.27 | 0.62 |
| 26:1H:583:G:OP2 | 42:C8:10:ARG:HD2 | 1.99 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:2577:A:OP1 | 61:1H:3542:HOH:O | 2.16 | 0.62 |
| 38:88:104:PHE:HE2 | 38:88:125:LEU:HD11 | 1.64 | 0.62 |
| 46:G8:76:CYS:SG | 46:G8:97:ARG:HG3 | 2.39 | 0.62 |
| 26:14:910:A:C5 | 38:45:13:GLN:HG3 | 2.33 | 0.62 |
| 1:13:244:U:H4' | 1:13:245:C:O5' | 1.98 | 0.62 |
| 3:2E:7:PRO:O | 3:2E:11:ARG:HG2 | 1.99 | 0.62 |
| 5:4E:126:ARG:HG3 | 5:4E:126:ARG:HH11 | 1.64 | 0.62 |
| 24:3K:57:G:H22 | 26:1H:2112:G:H21 | 1.46 | 0.62 |
| 26:1H:950:G:H2' | 26:1H:951:C:C6 | 2.34 | 0.62 |
| 26:1H:1516:U:H2' | 26:1H:1517:G:C8 | 2.34 | 0.62 |
| 26:1H:2135:A:N6 | 26:1H:2156:G:O2' | 2.28 | 0.62 |
| 31:31:132:VAL:O | 31:31:133:ASN:OD1 | 2.17 | 0.62 |
| 32:41:10:LYS:O | 32:41:15:VAL:HG23 | 1.99 | 0.62 |
| 49:J8:89:GLU:O | 49:J8:93:GLU:HG3 | 1.99 | 0.62 |
| 1:1G:280:C:H3' | 1:1G:281:G:H5' | 1.81 | 0.62 |
| 4:32:189:PRO:HB2 | 4:32:194:LEU:HD21 | 1.82 | 0.62 |
| 7:62:27:ILE:HD11 | 7:62:43:PHE:HD2 | 1.63 | 0.62 |
| 26:14:330:A:H2 | 26:14:1210:A:HO2' | 1.47 | 0.62 |
| 26:14:1060:U:H4' | 26:14:1061:U:H5'' | 1.81 | 0.62 |
| 26:14:2638:G:OP2 | 30:29:82:ARG:NH2 | 2.31 | 0.62 |
| 30:29:10:GLY:N | 41:75:8:LYS:HZ1 | 1.96 | 0.62 |
| 1:13:1305:G:H5' | 21:1F:4:GLY:HA3 | 1.81 | 0.62 |
| 16:7I:79:VAL:HB | 16:7I:80:PHE:CE2 | 2.34 | 0.62 |
| 26:1H:195:A:N6 | 26:1H:198:C:OP2 | 2.32 | 0.62 |
| 26:1H:330:A:O2' | 26:1H:331:A:H8 | 1.82 | 0.62 |
| 26:1H:2023:G:H5' | 26:1H:2617:C:H4' | 1.81 | 0.62 |
| 35:58:35:ARG:O | 35:58:42:TRP:HZ3 | 1.82 | 0.62 |
| 41:B8:111:ARG:O | 41:B8:112:ARG:HB3 | 1.99 | 0.62 |
| 1:1G:12:U:H4' | 1:1G:526:C:O2' | 2.00 | 0.62 |
| 1:1G:73:G:N2 | 1:1G:97:U:O2 | 2.31 | 0.62 |
| 1:1G:439:A:H2' | 1:1G:440:A:O4' | 1.98 | 0.62 |
| 1:1G:980:C:H5' | 1:1G:981:U:C5 | 2.34 | 0.62 |
| 1:1G:1055:A:H8 | 1:1G:1055:A:OP2 | 1.83 | 0.62 |
| 3:22:18:TRP:CD1 | 14:5A:54:PRO:HA | 2.34 | 0.62 |
| 4:32:119:GLN:HG3 | 4:32:123:HIS:HE1 | 1.64 | 0.62 |
| 13:4A:34:LEU:HD23 | 13:4A:34:LEU:H | 1.63 | 0.62 |
| 26:14:162:U:H1' | 26:14:171:G:C2 | 2.34 | 0.62 |
| 26:14:1047:G:N2 | 26:14:1111:A:H61 | 1.97 | 0.62 |
| 26:14:1316:U:H2' | 26:14:1317:A:C8 | 2.35 | 0.62 |
| 26:14:1419:A:H2' | 26:14:1421:G:N7 | 2.14 | 0.62 |
| 26:14:1859:A:N6 | 26:14:1883:G:O2' | 2.32 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|----------------------|--------------------|--------------------------|-------------------|
| 33:59:67:LEU:O | 33:59:71:LEU:HD13 | 2.00 | 0.62 |
| 41:75:13:ARG:H | 41:75:13:ARG:HH11 | 1.48 | 0.62 |
| 1:13:735:C:H2' | 1:13:736:C:H6 | 1.65 | 0.62 |
| 2:1E:31:TYR:HB3 | 2:1E:42:ILE:HD11 | 1.79 | 0.62 |
| 26:1H:784:A:C6 | 29:11:229:VAL:HG11 | 2.35 | 0.62 |
| 26:1H:818:G:H5' | 26:1H:839:U:OP1 | 1.99 | 0.62 |
| 26:1H:1243:G:O2' | 37:78:7:ARG:NH2 | 2.32 | 0.62 |
| 26:1H:1311:G:C2 | 45:F8:60:ARG:NH1 | 2.67 | 0.62 |
| 47:H8:28:MET:HB3 | 47:H8:35:ARG:HB2 | 1.80 | 0.62 |
| 1:1G:429:U:H3' | 4:32:9:CYS:SG | 2.39 | 0.62 |
| 1:1G:857:C:H3' | 1:1G:858:G:C8 | 2.34 | 0.62 |
| 1:1G:1298:C:H4' | 1:1G:1299:A:C4 | 2.34 | 0.62 |
| 25:4L:12:A:O2' | 25:4L:13:A:O5' | 2.12 | 0.62 |
| 26:14:486:C:O2' | 44:A5:60:ASN:ND2 | 2.23 | 0.62 |
| 26:14:623:G:H2' | 26:14:624:C:C6 | 2.34 | 0.62 |
| 26:14:2564:A:H5'' | 26:14:2565:A:OP2 | 1.99 | 0.62 |
| 26:14:2712(A):A:H5'' | 26:14:2713:A:OP2 | 1.99 | 0.62 |
| 30:29:55:ASN:HB2 | 30:29:58:ARG:HH21 | 1.65 | 0.62 |
| 34:69:129:THR:HG22 | 34:69:137:PRO:HB3 | 1.81 | 0.62 |
| 39:55:18:LEU:HD22 | 39:55:22:ARG:HD2 | 1.81 | 0.62 |
| 1:13:838:G:O6 | 1:13:848:C:N4 | 2.31 | 0.62 |
| 1:13:1006:C:O2 | 1:13:1023:G:N2 | 2.32 | 0.62 |
| 1:13:1226:C:H4' | 19:AI:80:TYR:OH | 2.00 | 0.62 |
| 4:3E:172:PRO:HB2 | 4:3E:187:ARG:HH12 | 1.65 | 0.62 |
| 26:1H:1359:A:H5' | 26:1H:1359:A:N3 | 2.15 | 0.62 |
| 26:1H:1794:U:H2' | 26:1H:1795:C:H6 | 1.63 | 0.62 |
| 37:78:68:GLN:OE1 | 37:78:68:GLN:HA | 1.98 | 0.62 |
| 38:88:139:GLU:HA | 38:88:140:ALA:O | 1.99 | 0.62 |
| 1:1G:458:C:H2' | 1:1G:464:G:H8 | 1.63 | 0.62 |
| 5:42:80:ILE:HA | 8:72:104:ARG:HH12 | 1.64 | 0.62 |
| 6:52:52:ILE:HD11 | 18:9A:77:GLY:HA3 | 1.80 | 0.62 |
| 26:14:141:A:H8 | 26:14:1595:G:H21 | 1.44 | 0.62 |
| 26:14:878:A:H5'' | 26:14:900:A:N6 | 2.14 | 0.62 |
| 26:14:1110:G:H2' | 26:14:1111:A:C8 | 2.35 | 0.62 |
| 26:14:1639:U:H4' | 26:14:2699:C:H4' | 1.82 | 0.62 |
| 34:69:124:GLY:H | 34:69:142:VAL:HG22 | 1.62 | 0.62 |
| 1:13:591:U:H2' | 1:13:592:G:H8 | 1.64 | 0.62 |
| 1:13:767:A:H2' | 1:13:768:A:O4' | 1.99 | 0.62 |
| 1:13:1296:C:OP1 | 13:4I:44:ARG:NH2 | 2.33 | 0.62 |
| 1:13:1318:A:H1' | 19:AI:37:ARG:HE | 1.64 | 0.62 |
| 6:5E:2:ARG:HD3 | 6:5E:92:LYS:HE2 | 1.82 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:270(C):C:H42 | 26:1H:270(W):G:H1 | 1.47 | 0.62 |
| 26:1H:1799:G:O2' | 26:1H:1800:C:OP2 | 2.11 | 0.62 |
| 26:1H:2331:G:O3' | 48:I8:43:THR:HG22 | 2.00 | 0.62 |
| 1:1G:520:A:OP2 | 12:3A:51:ALA:HB1 | 2.00 | 0.62 |
| 1:1G:589:C:H5'' | 8:72:29:SER:HB2 | 1.82 | 0.62 |
| 1:1G:779:C:O2' | 1:1G:780:A:H5' | 2.00 | 0.62 |
| 1:1G:929:G:H1 | 1:1G:1388:C:H42 | 1.47 | 0.62 |
| 2:12:22:LYS:HB3 | 2:12:24:TRP:CE2 | 2.35 | 0.62 |
| 26:14:527:C:N4 | 26:14:2779:U:OP1 | 2.33 | 0.62 |
| 26:14:745:G:H5'' | 26:14:746:A:OP2 | 2.00 | 0.62 |
| 30:29:1:MET:CG | 30:29:200:GLU:OE2 | 2.48 | 0.62 |
| 34:69:33:ARG:HB3 | 34:69:35:LEU:HG | 1.82 | 0.62 |
| 51:H5:37:LEU:HD13 | 51:H5:43:ILE:HG21 | 1.81 | 0.62 |
| 1:13:1104:G:OP1 | 2:1E:144:ARG:NH2 | 2.27 | 0.62 |
| 5:4E:38:GLN:O | 5:4E:38:GLN:HG3 | 1.99 | 0.62 |
| 8:7E:81:HIS:N | 8:7E:138:TRP:O | 2.31 | 0.62 |
| 26:1H:1183:G:O2' | 51:L8:29:ARG:NH1 | 2.32 | 0.62 |
| 26:1H:1516:U:H2' | 26:1H:1517:G:H8 | 1.64 | 0.62 |
| 26:1H:2864:G:H2' | 26:1H:2865:U:C6 | 2.35 | 0.62 |
| 27:16:55:U:H2' | 27:16:56:G:C8 | 2.35 | 0.62 |
| 33:51:40:GLU:HB2 | 33:51:41:MET:HE2 | 1.82 | 0.62 |
| 47:H8:3:TYR:O | 47:H8:58:VAL:HG23 | 1.99 | 0.62 |
| 47:H8:126:VAL:HA | 47:H8:164:ALA:H | 1.65 | 0.62 |
| 1:1G:857:C:H3' | 1:1G:858:G:H8 | 1.65 | 0.62 |
| 1:1G:1335:C:OP1 | 1:1G:1337:G:N2 | 2.32 | 0.62 |
| 3:22:84:ILE:O | 3:22:88:ARG:NH2 | 2.33 | 0.62 |
| 7:62:116:ALA:O | 7:62:120:ILE:HG12 | 2.00 | 0.62 |
| 26:14:1225:C:O3' | 43:95:85:LYS:HA | 2.00 | 0.62 |
| 26:14:1826:G:H2' | 26:14:1827:C:C6 | 2.35 | 0.62 |
| 30:29:37:ARG:HD3 | 30:29:42:ASP:CG | 2.20 | 0.62 |
| 31:39:133:ASN:HA | 31:39:162:LEU:HD23 | 1.81 | 0.62 |
| 32:49:4:ASP:HA | 32:49:6:ALA:HA | 1.81 | 0.62 |
| 26:1H:871:U:OP1 | 38:88:5:ARG:HG3 | 1.99 | 0.62 |
| 26:1H:1111:A:H2 | 26:1H:1112:G:H1' | 1.64 | 0.62 |
| 26:1H:2054:A:H5'' | 26:1H:2055:C:O5' | 2.00 | 0.62 |
| 26:1H:2751:G:OP2 | 33:51:4:ILE:HD13 | 1.99 | 0.62 |
| 1:1G:865:A:O5' | 1:1G:865:A:H8 | 1.83 | 0.62 |
| 10:1A:34:VAL:HG13 | 10:1A:74:ILE:HD13 | 1.82 | 0.62 |
| 13:4A:93:ARG:HG3 | 13:4A:94:ARG:HD2 | 1.82 | 0.62 |
| 23:2L:48:U:O2' | 23:2L:49:C:OP2 | 2.18 | 0.62 |
| 57:3L:65:C:H2' | 57:3L:66:A:C8 | 2.35 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 26:14:2295:C:H5 | 40:65:13:ARG:HH22 | 1.48 | 0.62 |
| 31:39:113:ALA:HB1 | 31:39:186:ILE:HG21 | 1.81 | 0.62 |
| 32:49:118:ARG:HG3 | 32:49:181:ARG:HD3 | 1.82 | 0.62 |
| 49:F5:89:GLU:O | 49:F5:93:GLU:HB2 | 1.98 | 0.62 |
| 54:L5:29:LYS:O | 54:L5:33:ARG:HG2 | 2.00 | 0.62 |
| 1:13:266:G:H5' | 1:13:267:C:H5 | 1.63 | 0.61 |
| 1:13:668:G:O2' | 15:6I:46:HIS:HB3 | 1.99 | 0.61 |
| 1:13:1139:G:H4' | 1:13:1140:C:H5' | 1.81 | 0.61 |
| 2:1E:16:HIS:CE1 | 2:1E:210:SER:HB2 | 2.34 | 0.61 |
| 12:3I:53:ARG:HG3 | 12:3I:53:ARG:HH11 | 1.65 | 0.61 |
| 14:5I:48:ALA:HB2 | 14:5I:53:LEU:HD12 | 1.81 | 0.61 |
| 26:1H:70:G:H21 | 26:1H:71:A:N6 | 1.97 | 0.61 |
| 26:1H:805:G:OP1 | 61:1H:3546:HOH:O | 2.16 | 0.61 |
| 26:1H:1328:G:H2' | 26:1H:1330:C:C4 | 2.35 | 0.61 |
| 26:1H:1416:G:O2' | 26:1H:1417:C:O5' | 2.18 | 0.61 |
| 26:1H:2315:G:H21 | 32:41:128:ARG:NH2 | 1.92 | 0.61 |
| 26:1H:2836:U:H2' | 26:1H:2837:G:C8 | 2.35 | 0.61 |
| 28:7I:5:LYS:HA | 28:7I:8:ARG:HB2 | 1.81 | 0.61 |
| 1:1G:991:U:O2' | 1:1G:993:G:O4' | 2.16 | 0.61 |
| 1:1G:1238:A:H62 | 1:1G:1299:A:H61 | 1.47 | 0.61 |
| 4:32:31:CYS:C | 4:32:33:MET:N | 2.53 | 0.61 |
| 26:14:315:G:H2' | 26:14:316:C:C6 | 2.35 | 0.61 |
| 26:14:754:C:H2' | 26:14:755:C:C6 | 2.35 | 0.61 |
| 26:14:1161:C:H1' | 43:95:8:GLY:O | 2.00 | 0.61 |
| 26:14:1447:G:H1' | 26:14:1545(A):A:H1' | 1.82 | 0.61 |
| 26:14:2387:U:C1' | 48:E5:41:ARG:HE | 2.13 | 0.61 |
| 26:14:2652:C:H42 | 26:14:2668:G:H1 | 1.48 | 0.61 |
| 32:49:120:LEU:HB2 | 32:49:180:PHE:HA | 1.82 | 0.61 |
| 36:25:119:PRO:HB2 | 41:75:68:TYR:CE2 | 2.35 | 0.61 |
| 40:65:24:LEU:HB2 | 40:65:85:VAL:HG12 | 1.82 | 0.61 |
| 1:13:477:G:H2' | 1:13:478:A:C8 | 2.35 | 0.61 |
| 2:1E:212:GLN:O | 2:1E:216:SER:OG | 2.17 | 0.61 |
| 4:3E:83:SER:HA | 4:3E:89:THR:HG22 | 1.82 | 0.61 |
| 19:AI:51:VAL:O | 19:AI:57:HIS:HA | 1.99 | 0.61 |
| 24:3K:34:U:O5' | 24:3K:34:U:H6 | 1.84 | 0.61 |
| 26:1H:458:G:O2' | 26:1H:469:G:O6 | 2.16 | 0.61 |
| 26:1H:2845:G:N2 | 26:1H:2871:C:O2 | 2.32 | 0.61 |
| 33:51:86:GLU:HG3 | 33:51:87:LEU:N | 2.14 | 0.61 |
| 33:51:121:ILE:HG13 | 33:51:144:VAL:HG21 | 1.82 | 0.61 |
| 55:Q8:52:LYS:CB | 55:Q8:53:PRO:HD2 | 2.29 | 0.61 |
| 1:1G:1208:C:H2' | 1:1G:1209:C:O4' | 2.00 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:1G:1256:A:OP2 | 3:22:27:LYS:NZ | 2.30 | 0.61 |
| 4:32:107:ARG:HD3 | 4:32:173:TRP:HZ2 | 1.63 | 0.61 |
| 26:14:1138:G:C4 | 26:14:1139:G:H1' | 2.34 | 0.61 |
| 26:14:1399:C:H2' | 26:14:1400:G:C8 | 2.34 | 0.61 |
| 26:14:2331:G:O3' | 48:E5:43:THR:HG22 | 2.01 | 0.61 |
| 38:45:22:LYS:N | 38:45:23:GLY:HA3 | 2.15 | 0.61 |
| 48:E5:27:GLU:OE1 | 48:E5:69:PHE:N | 2.30 | 0.61 |
| 1:13:1178:G:H21 | 1:13:1181:G:H8 | 1.47 | 0.61 |
| 1:13:1266:G:N2 | 1:13:1270:C:N3 | 2.48 | 0.61 |
| 3:2E:77:ILE:HA | 3:2E:84:ILE:HD12 | 1.82 | 0.61 |
| 4:3E:67:ILE:HD13 | 4:3E:196:LEU:HD22 | 1.83 | 0.61 |
| 26:1H:2306:C:H3' | 26:1H:2307:G:C5' | 2.30 | 0.61 |
| 31:31:59:TYR:CD1 | 31:31:78:ILE:HD11 | 2.35 | 0.61 |
| 1:1G:36:C:OP1 | 12:3A:123:LYS:NZ | 2.21 | 0.61 |
| 1:1G:867:G:H2' | 1:1G:868:C:H6 | 1.65 | 0.61 |
| 1:1G:1188:A:H5'' | 14:5A:58:LYS:NZ | 2.15 | 0.61 |
| 1:1G:1324:A:H4' | 1:1G:1362:C:H4' | 1.80 | 0.61 |
| 2:12:42:ILE:HD11 | 2:12:202:PRO:HB2 | 1.82 | 0.61 |
| 13:4A:81:LEU:HG | 13:4A:89:GLY:HA2 | 1.81 | 0.61 |
| 18:9A:53:ARG:HH21 | 18:9A:60:ALA:H | 1.46 | 0.61 |
| 26:14:1814:G:H5'' | 29:19:54:ARG:NH1 | 2.15 | 0.61 |
| 26:14:2522:U:O2' | 26:14:2647:U:H5'' | 1.99 | 0.61 |
| 31:39:129:PHE:HB3 | 31:39:131:GLY:O | 2.01 | 0.61 |
| 32:49:66:GLN:NE2 | 32:49:93:THR:O | 2.33 | 0.61 |
| 34:69:130:TYR:HB3 | 34:69:136:VAL:HG13 | 1.81 | 0.61 |
| 37:35:13:ASN:O | 37:35:15:ARG:N | 2.32 | 0.61 |
| 44:A5:59:VAL:HA | 44:A5:64:MET:H | 1.66 | 0.61 |
| 48:E5:50:ASN:O | 48:E5:62:LEU:HB2 | 2.00 | 0.61 |
| 22:1K:18:G:N2 | 22:1K:57:G:N3 | 2.47 | 0.61 |
| 26:1H:1543:A:H3' | 26:1H:1543:A:OP2 | 2.01 | 0.61 |
| 26:1H:1797:C:O2' | 29:11:259:THR:OG1 | 2.16 | 0.61 |
| 39:98:52:ILE:O | 39:98:55:ALA:N | 2.33 | 0.61 |
| 53:N8:39:MET:O | 53:N8:40:LYS:HD2 | 2.00 | 0.61 |
| 1:1G:1203:C:H2' | 1:1G:1204:A:H8 | 1.66 | 0.61 |
| 13:4A:66:LEU:HA | 13:4A:70:LEU:HB2 | 1.81 | 0.61 |
| 26:14:1072:C:N4 | 26:14:1098:A:OP2 | 2.32 | 0.61 |
| 26:14:1992:G:N2 | 26:14:1996:C:O2 | 2.30 | 0.61 |
| 35:15:71:ILE:HD12 | 35:15:71:ILE:O | 2.00 | 0.61 |
| 1:13:7:G:H5' | 1:13:298:A:O4' | 2.00 | 0.61 |
| 1:13:131:C:H2' | 1:13:132:C:C6 | 2.34 | 0.61 |
| 1:13:1152:A:H5' | 10:II:13:HIS:CG | 2.34 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 23:2K:54:G:H2' | 23:2K:55:5MU:H6 | 1.65 | 0.61 |
| 26:1H:1378:A:OP1 | 54:P8:10:ARG:NH2 | 2.34 | 0.61 |
| 26:1H:1932:A:H2' | 26:1H:1933:G:O4' | 1.99 | 0.61 |
| 33:51:27:LYS:HA | 33:51:32:GLU:HA | 1.83 | 0.61 |
| 50:K8:52:ASP:O | 50:K8:56:GLN:HB2 | 2.01 | 0.61 |
| 1:1G:1014:A:H5' | 19:AA:15:LEU:HD11 | 1.83 | 0.61 |
| 1:1G:1089:G:C2 | 1:1G:1090:U:H1' | 2.35 | 0.61 |
| 2:12:128:GLU:O | 2:12:130:ARG:HG2 | 2.00 | 0.61 |
| 3:22:199:LYS:HB3 | 3:22:201:TYR:HE1 | 1.66 | 0.61 |
| 26:14:138:G:H5'' | 26:14:139:G:OP2 | 1.99 | 0.61 |
| 26:14:957:A:N6 | 26:14:2459:A:C8 | 2.69 | 0.61 |
| 26:14:957:A:OP1 | 38:45:76:LYS:CD | 2.48 | 0.61 |
| 26:14:1815:A:P | 29:19:54:ARG:HH22 | 2.22 | 0.61 |
| 26:14:2720:U:H3 | 26:14:2873:A:H2 | 1.48 | 0.61 |
| 35:15:73:THR:HG22 | 35:15:84:LYS:HB3 | 1.83 | 0.61 |
| 36:25:4:PRO:O | 36:25:5:GLN:HB2 | 2.00 | 0.61 |
| 39:55:18:LEU:HD22 | 39:55:22:ARG:CD | 2.31 | 0.61 |
| 50:G5:45:SER:O | 50:G5:45:SER:OG | 2.16 | 0.61 |
| 1:13:8:A:H5' | 5:4E:101:ILE:HG22 | 1.82 | 0.61 |
| 1:13:1113:C:H2' | 1:13:1114:C:H6 | 1.64 | 0.61 |
| 1:13:1347:G:O6 | 9:8E:10:ARG:NH2 | 2.29 | 0.61 |
| 4:3E:7:PRO:HB2 | 4:3E:10:ARG:HD2 | 1.82 | 0.61 |
| 15:6I:7:GLU:OE1 | 15:6I:38:ARG:NH2 | 2.33 | 0.61 |
| 26:1H:1443:G:N2 | 26:1H:1549:C:N3 | 2.49 | 0.61 |
| 26:1H:2679:A:H4' | 30:21:165:VAL:HG11 | 1.83 | 0.61 |
| 37:78:97:PRO:HB3 | 37:78:112:LEU:HD12 | 1.82 | 0.61 |
| 41:B8:108:ARG:HA | 41:B8:111:ARG:NE | 2.15 | 0.61 |
| 1:1G:668:G:O2' | 15:6A:46:HIS:HB3 | 2.00 | 0.61 |
| 1:1G:1111:A:H2' | 1:1G:1112:C:C6 | 2.36 | 0.61 |
| 1:1G:1203:C:H2' | 1:1G:1204:A:O4' | 2.01 | 0.61 |
| 57:3L:66:A:H2' | 57:3L:67:C:O4' | 2.01 | 0.61 |
| 26:14:71:A:H2 | 45:B5:31:HIS:NE2 | 1.96 | 0.61 |
| 26:14:630:G:N2 | 26:14:633:A:OP2 | 2.32 | 0.61 |
| 26:14:1757:U:H3 | 26:14:1762:A:H2 | 1.43 | 0.61 |
| 1:13:738:C:H2' | 1:13:739:C:C6 | 2.36 | 0.61 |
| 1:13:757:U:H5'' | 1:13:822:C:O2 | 2.00 | 0.61 |
| 1:13:1292:U:H2' | 1:13:1293:G:C8 | 2.35 | 0.61 |
| 13:4I:15:VAL:O | 13:4I:19:LEU:HD23 | 1.99 | 0.61 |
| 14:5I:6:LEU:HD13 | 14:5I:23:ARG:HH22 | 1.65 | 0.61 |
| 14:5I:53:LEU:HB3 | 14:5I:56:VAL:HG21 | 1.81 | 0.61 |
| 22:1K:6:G:N7 | 22:1K:68:G:N1 | 2.49 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:907:U:H4' | 38:88:101:ARG:HH22 | 1.65 | 0.61 |
| 27:16:15:A:H3' | 27:16:16:G:H5' | 1.83 | 0.61 |
| 4:32:101:LEU:HD23 | 4:32:121:VAL:HG13 | 1.81 | 0.61 |
| 26:14:1027:A:C2 | 26:14:2488:A:H5' | 2.36 | 0.61 |
| 26:14:1225:C:H4' | 43:95:85:LYS:HA | 1.82 | 0.61 |
| 26:14:1939:U:OP1 | 26:14:2604:U:O2' | 2.17 | 0.61 |
| 26:14:2464:C:H42 | 26:14:2486:G:H1 | 1.49 | 0.61 |
| 41:75:98:LYS:N | 41:75:98:LYS:HD2 | 2.15 | 0.61 |
| 1:13:537:G:H5'' | 12:3I:113:ARG:NH1 | 2.16 | 0.61 |
| 5:4E:8:GLU:OE2 | 5:4E:63:ARG:NH2 | 2.33 | 0.61 |
| 15:6I:37:ASN:O | 15:6I:41:GLU:OE2 | 2.19 | 0.61 |
| 17:8I:9:VAL:HG21 | 17:8I:84:LEU:HD12 | 1.82 | 0.61 |
| 26:1H:1018:C:O2' | 26:1H:1019:U:H5' | 2.01 | 0.61 |
| 26:1H:1417:C:H2' | 26:1H:1418:G:O4' | 2.00 | 0.61 |
| 26:1H:2577:A:C5' | 26:1H:2578:G:H5' | 2.26 | 0.61 |
| 36:68:47:ILE:HG13 | 36:68:48:PRO:HD2 | 1.82 | 0.61 |
| 52:M8:11:PRO:HA | 52:M8:25:TYR:HA | 1.83 | 0.61 |
| 2:12:162:ILE:HD11 | 2:12:184:VAL:HG22 | 1.82 | 0.61 |
| 3:22:129:ALA:O | 3:22:133:ALA:N | 2.28 | 0.61 |
| 12:3A:70:ILE:HD13 | 12:3A:77:LEU:HD12 | 1.82 | 0.61 |
| 19:AA:15:LEU:HD22 | 19:AA:18:LYS:HE3 | 1.81 | 0.61 |
| 26:14:1991:U:H2' | 26:14:1992:G:H5'' | 1.83 | 0.61 |
| 26:14:2052:G:O4' | 30:29:142:GLY:HA3 | 2.00 | 0.61 |
| 49:F5:11:ARG:HB3 | 49:F5:11:ARG:HH11 | 1.65 | 0.61 |
| 1:13:279:A:H4' | 1:13:280:C:H5'' | 1.82 | 0.61 |
| 11:2I:19:ALA:HB2 | 11:2I:32:ILE:HG23 | 1.82 | 0.61 |
| 23:2K:21:U:O2' | 23:2K:22:A:H5' | 2.01 | 0.61 |
| 26:1H:1406:U:H2' | 26:1H:1407:C:C6 | 2.36 | 0.61 |
| 26:1H:1466:G:N2 | 26:1H:1547:C:N3 | 2.49 | 0.61 |
| 26:1H:2367:G:H2' | 26:1H:2368:C:H6 | 1.66 | 0.61 |
| 33:51:155:SER:HB2 | 33:51:156:ALA:O | 2.01 | 0.61 |
| 34:61:40:THR:O | 34:61:44:LEU:HB2 | 2.01 | 0.61 |
| 4:32:171:GLY:HA3 | 4:32:173:TRP:CZ3 | 2.36 | 0.61 |
| 12:3A:24:VAL:HG12 | 12:3A:26:ALA:HB2 | 1.83 | 0.61 |
| 12:3A:82:VAL:HG23 | 12:3A:105:TYR:HB3 | 1.81 | 0.61 |
| 26:14:118:A:N3 | 26:14:178:G:H1' | 2.14 | 0.61 |
| 26:14:873:G:H1' | 38:45:29:PHE:HE2 | 1.66 | 0.61 |
| 26:14:2295:C:H41 | 40:65:13:ARG:NH2 | 1.98 | 0.61 |
| 26:14:2307:G:O2' | 26:14:2308:G:OP2 | 2.18 | 0.61 |
| 26:14:2343:C:O2' | 26:14:2373:G:O2' | 2.01 | 0.61 |
| 26:14:2619:C:OP1 | 30:29:152:LYS:NZ | 2.34 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 47:D5:79:ARG:HB2 | 47:D5:80:ARG:HD2 | 1.83 | 0.61 |
| 1:13:1305:G:N2 | 1:13:1331:G:H2' | 2.16 | 0.61 |
| 13:4I:66:LEU:O | 13:4I:70:LEU:N | 2.34 | 0.61 |
| 17:8I:89:LEU:HA | 17:8I:92:ARG:HB3 | 1.82 | 0.61 |
| 26:1H:270(I):G:N2 | 26:1H:270(R):G:H1' | 2.16 | 0.61 |
| 26:1H:483:A:H1' | 46:G8:59:GLY:O | 2.01 | 0.61 |
| 26:1H:934:G:H2' | 26:1H:935:C:H6 | 1.66 | 0.61 |
| 41:B8:57:PHE:HE1 | 41:B8:79:HIS:HB2 | 1.66 | 0.61 |
| 1:1G:589:C:N4 | 1:1G:650:G:H1 | 1.93 | 0.61 |
| 2:12:70:PHE:N | 2:12:92:TYR:HA | 2.16 | 0.61 |
| 7:62:16:LEU:HD11 | 9:82:42:ARG:HA | 1.82 | 0.61 |
| 11:2A:96:ARG:HA | 11:2A:99:GLN:HB2 | 1.83 | 0.61 |
| 57:3L:43:U:H2' | 57:3L:44:U:C5 | 2.36 | 0.61 |
| 26:14:821:A:O2' | 26:14:946:G:OP2 | 2.19 | 0.61 |
| 26:14:995:C:C5 | 42:85:57:PHE:HE2 | 2.19 | 0.61 |
| 26:14:2364:C:H4' | 48:E5:56:ASP:OD2 | 2.01 | 0.61 |
| 26:14:2439:A:H5' | 26:14:2439:A:C8 | 2.36 | 0.61 |
| 26:14:2495:G:H5'' | 38:45:81:VAL:HG12 | 1.83 | 0.61 |
| 36:25:88:ASN:HB3 | 36:25:94:ARG:HD3 | 1.82 | 0.61 |
| 38:45:12:GLN:HE21 | 38:45:72:LYS:HG3 | 1.65 | 0.61 |
| 1:13:192:U:H2' | 1:13:193:C:C6 | 2.36 | 0.60 |
| 1:13:1137:C:H1' | 1:13:1138:G:C2 | 2.36 | 0.60 |
| 8:7E:9:MET:SD | 8:7E:32:LYS:HG2 | 2.41 | 0.60 |
| 24:3K:76:A:H8 | 26:1H:2394:C:N4 | 1.99 | 0.60 |
| 26:1H:780:G:H21 | 26:1H:783:A:N6 | 1.98 | 0.60 |
| 26:1H:1026:U:O2' | 26:1H:1027:A:H5'' | 2.00 | 0.60 |
| 26:1H:1678:G:H22 | 26:1H:1989:G:H22 | 1.48 | 0.60 |
| 26:1H:1806:C:O2' | 29:11:46:GLN:OE1 | 2.16 | 0.60 |
| 46:G8:30:VAL:HG12 | 46:G8:32:PRO:HD3 | 1.81 | 0.60 |
| 1:1G:559:A:H4' | 1:1G:560:U:H5'' | 1.83 | 0.60 |
| 1:1G:722:A:H5'' | 1:1G:723:U:OP2 | 2.01 | 0.60 |
| 19:AA:63:THR:HG21 | 19:AA:74:PHE:HE2 | 1.65 | 0.60 |
| 26:14:71:A:H5' | 26:14:71:A:H8 | 1.62 | 0.60 |
| 26:14:335:C:H4' | 46:C5:73:ARG:HD2 | 1.83 | 0.60 |
| 26:14:1036:G:H8 | 26:14:1036:G:O5' | 1.83 | 0.60 |
| 37:35:51:PHE:C | 37:35:52:GLU:OE2 | 2.39 | 0.60 |
| 44:A5:33:ARG:NE | 44:A5:52:GLU:OE2 | 2.30 | 0.60 |
| 50:G5:50:ILE:HD12 | 50:G5:51:ARG:N | 2.10 | 0.60 |
| 1:13:136:C:H4' | 16:7I:65:GLN:NE2 | 2.17 | 0.60 |
| 2:1E:5:ILE:HD13 | 2:1E:6:THR:HG23 | 1.82 | 0.60 |
| 3:2E:108:ASN:HB3 | 3:2E:111:LEU:HB2 | 1.83 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 22:1K:14:A:H62 | 22:1K:22:G:H21 | 1.49 | 0.60 |
| 26:1H:1340:U:H4' | 26:1H:1341:U:OP2 | 2.00 | 0.60 |
| 26:1H:1433:U:O2 | 26:1H:1561:G:C2 | 2.54 | 0.60 |
| 33:51:56:SER:HB3 | 33:51:61:HIS:HD1 | 1.64 | 0.60 |
| 37:78:121:LYS:HE2 | 37:78:123:LEU:HD21 | 1.83 | 0.60 |
| 50:K8:16:LEU:HD23 | 50:K8:16:LEU:O | 2.00 | 0.60 |
| 55:Q8:37:SER:O | 55:Q8:40:GLU:N | 2.33 | 0.60 |
| 1:1G:1152:A:H2' | 1:1G:1153:C:C6 | 2.37 | 0.60 |
| 26:14:1264:G:OP1 | 53:J5:19:ARG:NH2 | 2.31 | 0.60 |
| 26:14:2880:C:H1' | 39:55:92:GLY:HA3 | 1.81 | 0.60 |
| 27:1J:46:A:H2' | 27:1J:47:C:C6 | 2.36 | 0.60 |
| 30:29:1:MET:CB | 30:29:200:GLU:OE2 | 2.48 | 0.60 |
| 1:13:1171:G:H2' | 1:13:1172:C:H6 | 1.66 | 0.60 |
| 23:2K:29:C:H2' | 23:2K:30:G:H8 | 1.67 | 0.60 |
| 26:1H:503:A:H4' | 26:1H:504:U:H5'' | 1.81 | 0.60 |
| 26:1H:1194:A:H8 | 26:1H:1194:A:OP2 | 1.84 | 0.60 |
| 26:1H:1332:G:H21 | 26:1H:1610:A:H8 | 1.49 | 0.60 |
| 26:1H:2820:A:O2' | 26:1H:2821:A:OP1 | 2.18 | 0.60 |
| 29:11:35:LYS:HB2 | 29:11:62:TYR:O | 2.01 | 0.60 |
| 46:G8:94:LYS:HG3 | 46:G8:95:LYS:N | 2.16 | 0.60 |
| 1:1G:440:A:H3' | 1:1G:442:C:C6 | 2.37 | 0.60 |
| 2:12:72:GLY:HA2 | 2:12:165:VAL:HG11 | 1.83 | 0.60 |
| 12:3A:33:ARG:H | 12:3A:85:ILE:HG22 | 1.66 | 0.60 |
| 18:9A:44:LEU:HD11 | 18:9A:70:ILE:HG21 | 1.83 | 0.60 |
| 26:14:579:G:H2' | 26:14:580:C:C6 | 2.35 | 0.60 |
| 26:14:854:G:H2' | 26:14:855:G:C8 | 2.37 | 0.60 |
| 26:14:1355:G:O2' | 26:14:1356:G:H5' | 2.01 | 0.60 |
| 35:15:95:PRO:O | 35:15:98:VAL:HG22 | 2.01 | 0.60 |
| 38:45:36:ALA:HB2 | 38:45:103:MET:CE | 2.31 | 0.60 |
| 47:D5:124:ILE:HD11 | 47:D5:165:VAL:HG21 | 1.82 | 0.60 |
| 51:H5:18:ASP:HB2 | 51:H5:49:LYS:HE3 | 1.83 | 0.60 |
| 1:13:157:G:N2 | 1:13:165:C:O2 | 2.35 | 0.60 |
| 1:13:1068:G:N2 | 1:13:1191:A:N3 | 2.47 | 0.60 |
| 2:1E:115:LEU:HD13 | 2:1E:145:LEU:HB2 | 1.84 | 0.60 |
| 22:1K:17:U:HO2' | 22:1K:57:G:N2 | 1.99 | 0.60 |
| 30:21:105:THR:HG1 | 30:21:199:ARG:NH2 | 1.91 | 0.60 |
| 49:J8:93:GLU:OE2 | 49:J8:94:LEU:HD12 | 2.02 | 0.60 |
| 1:1G:1004:A:C2 | 1:1G:1006:C:H1' | 2.36 | 0.60 |
| 7:62:126:ASP:HB3 | 7:62:131:LYS:O | 2.01 | 0.60 |
| 20:BA:49:ALA:O | 20:BA:100:ILE:HG21 | 2.02 | 0.60 |
| 26:14:597:U:H2' | 26:14:598:G:C8 | 2.36 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:14:2695:C:H2' | 26:14:2696:U:C6 | 2.36 | 0.60 |
| 26:14:2893:G:O2' | 26:14:2894:G:OP2 | 2.19 | 0.60 |
| 27:1J:14:U:OP2 | 27:1J:70:C:O2' | 2.19 | 0.60 |
| 8:7E:98:LYS:H | 8:7E:98:LYS:HD2 | 1.67 | 0.60 |
| 14:5I:6:LEU:HB3 | 14:5I:23:ARG:HH22 | 1.67 | 0.60 |
| 22:1K:76:A:H8 | 26:1H:2583:G:N2 | 1.92 | 0.60 |
| 26:1H:1111:A:C2 | 26:1H:1112:G:H1' | 2.36 | 0.60 |
| 26:1H:1221:C:H2' | 26:1H:1222:C:H6 | 1.66 | 0.60 |
| 34:61:92:VAL:HG23 | 34:61:96:ASP:HB2 | 1.82 | 0.60 |
| 35:58:131:GLN:OE1 | 35:58:132:ALA:N | 2.34 | 0.60 |
| 38:88:20:ALA:HA | 38:88:98:LYS:HB3 | 1.82 | 0.60 |
| 40:A8:20:ARG:NH2 | 48:I8:51:VAL:O | 2.34 | 0.60 |
| 1:1G:1309:G:OP2 | 13:4A:99:ARG:NH2 | 2.28 | 0.60 |
| 1:1G:1331:G:OP1 | 1:1G:1331:G:H4' | 2.01 | 0.60 |
| 2:12:49:GLU:N | 2:12:49:GLU:OE2 | 2.35 | 0.60 |
| 20:BA:56:MET:HG2 | 20:BA:84:LEU:HD11 | 1.81 | 0.60 |
| 29:19:246:PRO:CD | 29:19:255:LYS:NZ | 2.52 | 0.60 |
| 32:49:97:ASP:HA | 32:49:100:TRP:HB2 | 1.83 | 0.60 |
| 42:85:106:PHE:O | 42:85:109:LEU:N | 2.32 | 0.60 |
| 48:E5:34:GLY:HA2 | 48:E5:61:ALA:O | 2.02 | 0.60 |
| 1:13:1117:G:H5'' | 9:8E:104:ARG:NH1 | 2.17 | 0.60 |
| 2:1E:96:ARG:CZ | 2:1E:96:ARG:H | 2.15 | 0.60 |
| 3:2E:35:GLU:OE1 | 3:2E:97:LYS:NZ | 2.33 | 0.60 |
| 5:4E:24:ARG:HG3 | 5:4E:26:PHE:HE1 | 1.66 | 0.60 |
| 26:1H:1607:C:H4' | 26:1H:1608:A:O5' | 2.02 | 0.60 |
| 26:1H:1678:G:N2 | 26:1H:1989:G:H22 | 2.00 | 0.60 |
| 28:71:29:VAL:HG13 | 28:71:30:LYS:HG2 | 1.83 | 0.60 |
| 33:51:10:PRO:HD2 | 33:51:50:VAL:H | 1.66 | 0.60 |
| 2:12:82:ARG:HA | 2:12:85:ALA:HB3 | 1.84 | 0.60 |
| 6:52:77:ARG:HD3 | 6:52:78:GLU:N | 2.16 | 0.60 |
| 13:4A:59:TYR:CD2 | 13:4A:60:VAL:HG13 | 2.37 | 0.60 |
| 16:7A:51:VAL:HG12 | 16:7A:53:VAL:HG22 | 1.84 | 0.60 |
| 20:BA:64:ASP:OD2 | 20:BA:81:LYS:NZ | 2.34 | 0.60 |
| 57:3L:1:G:H1 | 57:3L:72:C:H42 | 1.50 | 0.60 |
| 57:3L:61:C:N4 | 57:3L:62:C:H41 | 2.00 | 0.60 |
| 25:4L:12:A:HO2' | 25:4L:13:A:P | 2.24 | 0.60 |
| 26:14:96:G:H4' | 50:G5:48:HIS:ND1 | 2.16 | 0.60 |
| 26:14:617:G:OP1 | 31:39:40:GLN:NE2 | 2.34 | 0.60 |
| 26:14:814:C:O3' | 43:95:84:LYS:NZ | 2.31 | 0.60 |
| 26:14:995:C:O2 | 35:15:3:THR:OG1 | 2.18 | 0.60 |
| 26:14:2359:C:H2' | 26:14:2360:A:O4' | 2.02 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 32:49:105:LYS:HG3 | 32:49:106:LEU:CD1 | 2.31 | 0.60 |
| 1:13:108:G:OP2 | 1:13:326:G:N1 | 2.26 | 0.60 |
| 1:13:328:C:H4' | 1:13:329:A:H5' | 1.84 | 0.60 |
| 1:13:1060:C:C5 | 3:2E:2:GLY:HA3 | 2.37 | 0.60 |
| 5:4E:51:VAL:O | 5:4E:55:VAL:HG23 | 2.02 | 0.60 |
| 9:8E:32:ASP:OD1 | 9:8E:33:PHE:N | 2.35 | 0.60 |
| 23:2K:62:C:H2' | 23:2K:63:C:H6 | 1.67 | 0.60 |
| 26:1H:1140:C:OP1 | 35:58:23:LEU:HB3 | 2.02 | 0.60 |
| 26:1H:1705:G:O2' | 26:1H:1706:U:H5' | 2.01 | 0.60 |
| 26:1H:2136:C:H2' | 26:1H:2137:C:C6 | 2.36 | 0.60 |
| 26:1H:2400:G:H2' | 26:1H:2401:U:H6 | 1.66 | 0.60 |
| 26:1H:2695:C:H2' | 26:1H:2696:U:H6 | 1.66 | 0.60 |
| 31:31:155:LEU:HB2 | 31:31:189:THR:HG21 | 1.83 | 0.60 |
| 38:88:35:VAL:HG13 | 38:88:130:LYS:HB3 | 1.82 | 0.60 |
| 46:G8:17:SER:OG | 46:G8:71:LYS:HE3 | 2.00 | 0.60 |
| 1:1G:1081:G:OP2 | 5:42:47:LYS:NZ | 2.31 | 0.60 |
| 1:1G:1243:C:OP2 | 21:1B:10:ARG:CZ | 2.50 | 0.60 |
| 4:32:162:LEU:HD13 | 4:32:178:VAL:HG22 | 1.83 | 0.60 |
| 26:14:433:C:C4 | 26:14:434:U:O4 | 2.54 | 0.60 |
| 26:14:2136:C:H2' | 26:14:2137:C:C6 | 2.36 | 0.60 |
| 26:14:2762:G:H5' | 26:14:2763:G:OP2 | 2.00 | 0.60 |
| 34:69:21:VAL:HG21 | 34:69:25:TYR:HD2 | 1.66 | 0.60 |
| 40:65:3:ARG:HE | 40:65:3:ARG:C | 2.04 | 0.60 |
| 1:13:64:G:H3' | 1:13:65:U:H5' | 1.84 | 0.60 |
| 1:13:359:U:H2' | 1:13:360:A:C8 | 2.37 | 0.60 |
| 1:13:457:C:O2 | 1:13:476:G:O2' | 2.20 | 0.60 |
| 1:13:1263:C:N3 | 1:13:1272:G:N1 | 2.33 | 0.60 |
| 9:8E:45:ALA:O | 9:8E:78:LYS:NZ | 2.35 | 0.60 |
| 26:1H:547:A:H2' | 26:1H:548:A:C8 | 2.37 | 0.60 |
| 26:1H:1971:A:C5 | 29:11:241:PRO:HD3 | 2.37 | 0.60 |
| 26:1H:2105:C:H2' | 26:1H:2106:G:H8 | 1.65 | 0.60 |
| 26:1H:2172:U:H5' | 26:1H:2173:A:OP2 | 2.01 | 0.60 |
| 28:71:49:ILE:HD13 | 28:71:56:GLN:O | 2.01 | 0.60 |
| 5:42:90:VAL:HG23 | 5:42:121:LYS:HB3 | 1.83 | 0.60 |
| 26:14:387:U:H4' | 26:14:388:G:O5' | 2.00 | 0.60 |
| 35:15:10:GLU:HG2 | 35:15:11:PRO:HD2 | 1.84 | 0.60 |
| 40:65:31:SER:O | 40:65:97:ARG:NH1 | 2.31 | 0.60 |
| 44:A5:88:ARG:NH1 | 44:A5:94:ASP:OD2 | 2.35 | 0.60 |
| 1:13:563:A:N7 | 1:13:567:G:H1' | 2.17 | 0.60 |
| 2:1E:156:LYS:N | 2:1E:156:LYS:HE2 | 2.17 | 0.60 |
| 5:4E:43:LEU:HD13 | 5:4E:109:ILE:HD11 | 1.84 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 16:7I:74:LEU:HB3 | 16:7I:79:VAL:HG21 | 1.82 | 0.60 |
| 33:51:10:PRO:O | 33:51:11:VAL:HG13 | 2.02 | 0.60 |
| 33:51:87:LEU:HB2 | 33:51:131:VAL:HG12 | 1.83 | 0.60 |
| 50:K8:4:SER:C | 50:K8:7:ARG:HG2 | 2.21 | 0.60 |
| 1:1G:352:C:O2' | 1:1G:354:G:OP1 | 2.18 | 0.60 |
| 1:1G:1343:G:H2' | 1:1G:1344:C:C6 | 2.37 | 0.60 |
| 13:4A:57:ARG:O | 13:4A:61:GLU:HB2 | 2.00 | 0.60 |
| 26:14:1645:G:H5'' | 26:14:1646:C:H5' | 1.83 | 0.60 |
| 27:1J:64:C:N4 | 27:1J:108:C:O2' | 2.35 | 0.60 |
| 29:19:246:PRO:HD2 | 29:19:255:LYS:CE | 2.31 | 0.60 |
| 49:F5:92:LYS:O | 49:F5:94:LEU:N | 2.34 | 0.60 |
| 1:13:1015:A:H2' | 1:13:1016:A:C8 | 2.37 | 0.60 |
| 3:2E:64:VAL:HG12 | 3:2E:66:VAL:HG23 | 1.84 | 0.60 |
| 13:4I:37:THR:O | 13:4I:55:ARG:NH1 | 2.35 | 0.60 |
| 26:1H:455:C:N3 | 26:1H:472:A:H2' | 2.16 | 0.60 |
| 26:1H:961:C:OP2 | 61:1H:3547:HOH:O | 2.16 | 0.60 |
| 29:11:39:LYS:HG3 | 29:11:40:THR:H | 1.66 | 0.60 |
| 31:31:129:PHE:HB2 | 31:31:132:VAL:CG1 | 2.31 | 0.60 |
| 33:51:56:SER:OG | 33:51:57:ASP:N | 2.34 | 0.60 |
| 37:78:50:ARG:HD3 | 55:Q8:7:HIS:CD2 | 2.35 | 0.60 |
| 1:1G:371:G:H1 | 1:1G:390:C:H42 | 1.46 | 0.60 |
| 2:12:146:GLN:O | 2:12:150:SER:HB2 | 2.02 | 0.60 |
| 2:12:165:VAL:HG23 | 2:12:166:ASP:H | 1.67 | 0.60 |
| 3:22:7:PRO:O | 3:22:11:ARG:NH1 | 2.35 | 0.60 |
| 56:1L:67:C:N4 | 56:1L:68:G:O6 | 2.35 | 0.60 |
| 23:2L:50:G:H2' | 23:2L:51:U:O4' | 2.01 | 0.60 |
| 26:14:914:C:N3 | 26:14:915:C:H1' | 2.17 | 0.60 |
| 26:14:2768:C:H4' | 35:15:89:LYS:HZ3 | 1.67 | 0.60 |
| 29:19:246:PRO:CG | 29:19:255:LYS:CE | 2.79 | 0.60 |
| 32:49:106:LEU:HG | 32:49:111:LEU:CB | 2.32 | 0.60 |
| 48:E5:23:VAL:HG12 | 48:E5:25:ARG:O | 2.01 | 0.60 |
| 3:2E:16:ARG:NH1 | 3:2E:16:ARG:HB2 | 2.16 | 0.59 |
| 14:5I:6:LEU:HB3 | 14:5I:23:ARG:NH2 | 2.17 | 0.59 |
| 24:3K:57:G:H22 | 26:1H:2112:G:N2 | 2.00 | 0.59 |
| 26:1H:430:G:H5'' | 26:1H:431:U:OP2 | 2.02 | 0.59 |
| 26:1H:654(P):G:N7 | 26:1H:654(Q):C:N4 | 2.50 | 0.59 |
| 26:1H:1988:C:H2' | 26:1H:1989:G:H8 | 1.67 | 0.59 |
| 26:1H:2299:G:OP2 | 32:41:74:LYS:NZ | 2.35 | 0.59 |
| 1:1G:426:G:H2' | 1:1G:427:U:C6 | 2.37 | 0.59 |
| 13:4A:55:ARG:O | 13:4A:59:TYR:N | 2.34 | 0.59 |
| 27:1J:18:G:H1 | 27:1J:65:C:N4 | 1.94 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 27:1J:19:G:H2' | 27:1J:20:C:O4' | 2.01 | 0.59 |
| 32:49:18:GLU:HG3 | 32:49:21:ARG:HH21 | 1.66 | 0.59 |
| 41:75:31:SER:OG | 41:75:85:LYS:HE3 | 2.00 | 0.59 |
| 44:A5:20:VAL:HG23 | 44:A5:47:VAL:HG21 | 1.84 | 0.59 |
| 46:C5:36:ALA:HA | 46:C5:67:LEU:O | 2.02 | 0.59 |
| 47:D5:19:ARG:HH11 | 47:D5:84:GLU:HB2 | 1.67 | 0.59 |
| 1:13:200:G:H1 | 1:13:217:C:H42 | 1.49 | 0.59 |
| 1:13:1372:U:OP1 | 9:8E:72:GLY:N | 2.29 | 0.59 |
| 10:1I:83:GLU:HA | 10:1I:86:MET:CE | 2.32 | 0.59 |
| 26:1H:298:G:N7 | 46:G8:84:ARG:CZ | 2.66 | 0.59 |
| 26:1H:705:A:C8 | 26:1H:727:A:C2 | 2.90 | 0.59 |
| 26:1H:1161:C:H1' | 43:D8:8:GLY:O | 2.02 | 0.59 |
| 26:1H:1525:G:H2' | 26:1H:1526:G:C8 | 2.36 | 0.59 |
| 26:1H:2287:A:C2 | 26:1H:2289:G:C8 | 2.91 | 0.59 |
| 34:61:5:LEU:HD13 | 34:61:13:GLY:O | 2.03 | 0.59 |
| 34:61:131:LYS:HB3 | 34:61:132:PRO:HA | 1.84 | 0.59 |
| 36:68:88:ASN:HD21 | 36:68:90:GLN:HB2 | 1.67 | 0.59 |
| 1:1G:376:G:H1 | 1:1G:387:U:H3 | 1.50 | 0.59 |
| 1:1G:826:C:O2 | 8:72:15:ASN:ND2 | 2.35 | 0.59 |
| 1:1G:1084:G:O2' | 1:1G:1103:C:N4 | 2.23 | 0.59 |
| 1:1G:1224:G:N1 | 1:1G:1322:C:O2' | 2.34 | 0.59 |
| 1:1G:1535:C:H41 | 25:4L:9:G:N2 | 1.99 | 0.59 |
| 2:12:119:GLU:HG2 | 2:12:142:LEU:HD11 | 1.84 | 0.59 |
| 7:62:65:ALA:HB3 | 7:62:124:LEU:HD23 | 1.85 | 0.59 |
| 8:72:29:SER:H | 8:72:32:LYS:HB2 | 1.66 | 0.59 |
| 9:82:71:SER:HA | 9:82:74:ILE:HD12 | 1.84 | 0.59 |
| 16:7A:39:TYR:HB2 | 16:7A:49:LEU:HD13 | 1.82 | 0.59 |
| 26:14:854:G:H2' | 26:14:855:G:H8 | 1.66 | 0.59 |
| 26:14:2232:U:P | 49:F5:40:ARG:HH22 | 2.24 | 0.59 |
| 26:14:2250:G:C2 | 38:45:82:ARG:HB3 | 2.37 | 0.59 |
| 26:14:2467:C:H4' | 38:45:123:HIS:CD2 | 2.36 | 0.59 |
| 31:39:122:LYS:HB3 | 31:39:191:ARG:HB2 | 1.83 | 0.59 |
| 36:25:7:TYR:CE1 | 36:25:20:MET:HB2 | 2.36 | 0.59 |
| 1:13:517:G:N1 | 1:13:533:A:OP2 | 2.36 | 0.59 |
| 8:7E:82:HIS:CE1 | 8:7E:84:ARG:HB2 | 2.37 | 0.59 |
| 16:7I:43:LYS:HG2 | 16:7I:48:TRP:CE3 | 2.37 | 0.59 |
| 26:1H:764:A:O4' | 29:11:213:ARG:HG3 | 2.02 | 0.59 |
| 26:1H:1038:C:H2' | 26:1H:1039:G:O4' | 2.03 | 0.59 |
| 32:41:124:SER:HB2 | 32:41:131:TYR:CE2 | 2.37 | 0.59 |
| 3:22:62:ASP:O | 3:22:97:LYS:HB2 | 2.02 | 0.59 |
| 5:42:121:LYS:NZ | 5:42:122:GLU:O | 2.35 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:161:U:H4' | 26:14:171:G:N2 | 2.16 | 0.59 |
| 26:14:830:G:H4' | 26:14:831:G:OP2 | 2.01 | 0.59 |
| 26:14:1218:C:N3 | 26:14:1231:G:N2 | 2.44 | 0.59 |
| 26:14:2131:G:H5'' | 26:14:2133:G:C4' | 2.32 | 0.59 |
| 30:29:147:PRO:HB2 | 30:29:149:ARG:HG3 | 1.84 | 0.59 |
| 41:75:118:ARG:NH2 | 41:75:121:ILE:HG21 | 2.18 | 0.59 |
| 46:C5:42:VAL:HG13 | 46:C5:65:ALA:HB3 | 1.85 | 0.59 |
| 1:13:68:G:C2 | 1:13:69:G:C8 | 2.91 | 0.59 |
| 1:13:1178:G:N2 | 1:13:1181:G:C8 | 2.70 | 0.59 |
| 5:4E:35:GLY:HA3 | 5:4E:112:LEU:O | 2.02 | 0.59 |
| 15:6I:10:LYS:HE2 | 15:6I:10:LYS:HA | 1.83 | 0.59 |
| 15:6I:69:TYR:CE1 | 15:6I:73:GLU:HG3 | 2.37 | 0.59 |
| 18:9I:38:GLU:OE1 | 18:9I:41:LYS:NZ | 2.30 | 0.59 |
| 19:AI:23:ASN:HD21 | 19:AI:43:GLU:HB2 | 1.67 | 0.59 |
| 24:3K:58:A:O2' | 24:3K:59:A:OP1 | 2.15 | 0.59 |
| 26:1H:286:C:H2' | 26:1H:287:C:C6 | 2.37 | 0.59 |
| 26:1H:652:C:H2' | 26:1H:653:A:H5' | 1.84 | 0.59 |
| 26:1H:654(O):G:H8 | 26:1H:654(P):G:H1' | 1.66 | 0.59 |
| 26:1H:1139:G:O2' | 26:1H:1143:A:N1 | 2.26 | 0.59 |
| 26:1H:1997:G:H5'' | 30:21:117:MET:HE2 | 1.84 | 0.59 |
| 26:1H:2702:U:C6 | 26:1H:2702:U:H5'' | 2.37 | 0.59 |
| 40:A8:27:SER:HA | 40:A8:88:ASP:HB3 | 1.83 | 0.59 |
| 1:1G:963:G:H21 | 10:1A:55:LYS:HE2 | 1.68 | 0.59 |
| 1:1G:997:U:H2' | 1:1G:998:G:C8 | 2.38 | 0.59 |
| 1:1G:1294:G:H2' | 1:1G:1295:G:C8 | 2.38 | 0.59 |
| 2:12:27:LYS:O | 2:12:30:ARG:NH1 | 2.34 | 0.59 |
| 8:72:110:ALA:HB3 | 8:72:121:ASP:HB3 | 1.82 | 0.59 |
| 9:82:40:LEU:HB3 | 9:82:43:ALA:HB2 | 1.85 | 0.59 |
| 23:2L:77:A:H2' | 23:2L:77:A:N3 | 2.17 | 0.59 |
| 26:14:1441:G:H2' | 26:14:1442:G:H8 | 1.67 | 0.59 |
| 26:14:2136:C:N3 | 26:14:2137:C:N4 | 2.51 | 0.59 |
| 26:14:2467:C:H2' | 26:14:2468:G:O4' | 2.02 | 0.59 |
| 26:14:2563:U:H2' | 26:14:2565:A:OP2 | 2.03 | 0.59 |
| 29:19:267:SER:O | 29:19:268:ARG:HG2 | 2.02 | 0.59 |
| 32:49:114:ILE:HG22 | 32:49:115:ARG:O | 2.02 | 0.59 |
| 34:69:69:LYS:HD2 | 34:69:70:GLU:HG3 | 1.84 | 0.59 |
| 41:75:15:VAL:HG23 | 41:75:79:HIS:CE1 | 2.37 | 0.59 |
| 1:13:721:G:C6 | 1:13:733:A:C2 | 2.90 | 0.59 |
| 1:13:724:G:C2 | 1:13:725:G:C8 | 2.90 | 0.59 |
| 1:13:1053:G:N7 | 1:13:1199:U:H3' | 2.17 | 0.59 |
| 1:13:1167:A:H2' | 1:13:1169:A:C8 | 2.38 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 2:1E:43:ASP:HB3 | 2:1E:46:LYS:HD3 | 1.85 | 0.59 |
| 26:1H:1510:A:H2' | 26:1H:1510:A:N3 | 2.17 | 0.59 |
| 26:1H:2016:U:O2 | 53:N8:7:PRO:HG2 | 2.02 | 0.59 |
| 26:1H:2584:U:H2' | 26:1H:2585:U:H2' | 1.85 | 0.59 |
| 31:31:155:LEU:HD12 | 31:31:174:VAL:HG23 | 1.84 | 0.59 |
| 47:H8:61:LEU:O | 47:H8:64:GLY:HA2 | 2.02 | 0.59 |
| 47:H8:126:VAL:HG12 | 47:H8:163:LEU:HD23 | 1.83 | 0.59 |
| 48:I8:72:ARG:O | 48:I8:75:LEU:HB2 | 2.02 | 0.59 |
| 1:1G:991:U:O2 | 1:1G:993:G:H8 | 1.85 | 0.59 |
| 2:12:91:PRO:HG3 | 2:12:154:LEU:HD12 | 1.84 | 0.59 |
| 26:14:120:U:C2 | 26:14:149:A:C6 | 2.91 | 0.59 |
| 26:14:481:G:OP2 | 46:C5:47:LYS:HD3 | 2.02 | 0.59 |
| 26:14:1835:G:OP2 | 61:14:3532:HOH:O | 2.17 | 0.59 |
| 41:75:61:PHE:CE1 | 41:75:76:PHE:HB2 | 2.37 | 0.59 |
| 1:13:200:G:N2 | 1:13:218:C:O2 | 2.35 | 0.59 |
| 1:13:536:C:H2' | 1:13:537:G:C8 | 2.38 | 0.59 |
| 8:7E:20:TYR:HE2 | 8:7E:75:ARG:HD2 | 1.67 | 0.59 |
| 9:8E:10:ARG:NE | 9:8E:11:LYS:HG3 | 2.18 | 0.59 |
| 9:8E:41:VAL:O | 9:8E:43:ALA:N | 2.35 | 0.59 |
| 17:8I:48:GLU:O | 17:8I:48:GLU:HG2 | 2.02 | 0.59 |
| 26:1H:51:G:H1' | 26:1H:119:A:N1 | 2.17 | 0.59 |
| 26:1H:2164:C:OP2 | 26:1H:2166:G:N2 | 2.35 | 0.59 |
| 45:F8:24:GLY:O | 45:F8:83:VAL:HG22 | 2.02 | 0.59 |
| 55:Q8:21:LYS:HD3 | 55:Q8:49:VAL:HG11 | 1.84 | 0.59 |
| 1:1G:547:A:OP2 | 4:32:2:GLY:HA2 | 2.02 | 0.59 |
| 1:1G:1279:A:O2' | 1:1G:1282:C:N4 | 2.35 | 0.59 |
| 3:22:5:ILE:HG21 | 10:1A:51:ARG:NH2 | 2.17 | 0.59 |
| 3:22:44:GLU:HG3 | 3:22:52:LEU:HD21 | 1.83 | 0.59 |
| 6:52:5:GLU:HG2 | 6:52:64:GLN:OE1 | 2.02 | 0.59 |
| 56:1L:18:G:O6 | 26:14:880:G:H1' | 2.02 | 0.59 |
| 26:14:1935:G:H1' | 26:14:1964:G:N2 | 2.17 | 0.59 |
| 26:14:2651:C:N4 | 26:14:2669:G:H1 | 1.96 | 0.59 |
| 26:14:2880:C:O2' | 39:55:90:ARG:HD3 | 2.02 | 0.59 |
| 27:1J:7:G:C2' | 40:65:38:GLN:HE22 | 2.16 | 0.59 |
| 30:29:89:ASP:O | 30:29:90:THR:HG22 | 2.03 | 0.59 |
| 36:25:43:VAL:HG21 | 36:25:56:ASP:HB2 | 1.84 | 0.59 |
| 40:65:30:ARG:HD3 | 40:65:98:VAL:HG13 | 1.83 | 0.59 |
| 1:13:738:C:H2' | 1:13:739:C:H6 | 1.67 | 0.59 |
| 2:1E:87:ARG:NE | 2:1E:232:PRO:HB3 | 2.17 | 0.59 |
| 25:4K:23:A:H2' | 25:4K:24:A:H4' | 1.84 | 0.59 |
| 26:1H:860:U:H5 | 26:1H:917:A:C2 | 2.20 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:1401:G:H2' | 26:1H:1402:C:C6 | 2.38 | 0.59 |
| 50:K8:3:LEU:CB | 50:K8:6:VAL:HG23 | 2.32 | 0.59 |
| 1:1G:617:G:C2 | 1:1G:618:C:C5 | 2.91 | 0.59 |
| 1:1G:947:G:O3' | 13:4A:109:THR:OG1 | 2.20 | 0.59 |
| 1:1G:1261:A:H5' | 1:1G:1283:G:O3' | 2.03 | 0.59 |
| 1:1G:1387:G:H2' | 1:1G:1388:C:H6 | 1.68 | 0.59 |
| 1:1G:1411:C:H2' | 1:1G:1412:C:C6 | 2.37 | 0.59 |
| 1:1G:1450:U:OP1 | 1:1G:1451:A:N6 | 2.35 | 0.59 |
| 6:52:2:ARG:NH2 | 6:52:69:GLU:HG3 | 2.17 | 0.59 |
| 20:BA:39:LYS:HD2 | 20:BA:55:ILE:HD13 | 1.85 | 0.59 |
| 26:14:1288:U:H4' | 26:14:1289:C:OP2 | 2.03 | 0.59 |
| 26:14:1448:G:H1' | 26:14:1528:A:H62 | 1.67 | 0.59 |
| 26:14:1542:G:O6 | 26:14:1543:A:N6 | 2.36 | 0.59 |
| 26:14:2259:G:N2 | 26:14:2282:G:C2 | 2.71 | 0.59 |
| 29:19:108:PRO:HG2 | 29:19:111:LEU:HB2 | 1.85 | 0.59 |
| 49:F5:40:ARG:HH21 | 49:F5:42:GLN:HG2 | 1.68 | 0.59 |
| 4:3E:155:LEU:O | 4:3E:158:ILE:N | 2.36 | 0.59 |
| 16:7I:8:ARG:HH12 | 16:7I:15:PRO:CA | 2.15 | 0.59 |
| 16:7I:8:ARG:CZ | 16:7I:15:PRO:HB3 | 2.32 | 0.59 |
| 24:3K:68:G:H2' | 24:3K:69:A:C8 | 2.37 | 0.59 |
| 26:1H:6:A:H2 | 26:1H:7:G:C4 | 2.21 | 0.59 |
| 26:1H:412:A:H2' | 26:1H:412:A:N3 | 2.17 | 0.59 |
| 26:1H:582:G:H2' | 26:1H:583:G:C8 | 2.37 | 0.59 |
| 26:1H:1515:C:H2' | 26:1H:1516:U:H6 | 1.68 | 0.59 |
| 26:1H:1568:G:P | 29:11:63:ARG:HH12 | 2.25 | 0.59 |
| 26:1H:2666:C:H42 | 33:51:109:PHE:HA | 1.67 | 0.59 |
| 33:51:24:VAL:HG13 | 33:51:35:VAL:HB | 1.83 | 0.59 |
| 1:1G:1196:U:O4 | 5:42:24:ARG:NH1 | 2.36 | 0.59 |
| 26:14:1225:C:H4' | 43:95:85:LYS:HG2 | 1.84 | 0.59 |
| 26:14:2305:A:C4 | 32:49:136:ARG:HD3 | 2.37 | 0.59 |
| 26:14:2346:A:C2 | 26:14:2383:G:C2 | 2.91 | 0.59 |
| 26:14:2392:A:H2 | 26:14:2424:C:N4 | 1.98 | 0.59 |
| 27:1J:83:G:H4' | 51:H5:52:HIS:CG | 2.38 | 0.59 |
| 32:49:111:LEU:O | 32:49:114:ILE:HG12 | 2.01 | 0.59 |
| 35:15:33:LEU:HD12 | 35:15:38:HIS:ND1 | 2.17 | 0.59 |
| 38:45:75:THR:HB | 38:45:86:GLY:HA3 | 1.84 | 0.59 |
| 41:75:77:PRO:HG2 | 41:75:80:SER:HB3 | 1.85 | 0.59 |
| 20:BI:45:GLN:HB2 | 20:BI:91:LEU:HD13 | 1.85 | 0.59 |
| 20:BI:57:ARG:HH11 | 20:BI:102:GLY:HA2 | 1.68 | 0.59 |
| 22:1K:34:U8U:S2 | 25:4K:21:A:H2 | 2.25 | 0.59 |
| 24:3K:13:C:H2' | 24:3K:14:A:H8 | 1.67 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:55:G:H2' | 26:1H:56:A:C8 | 2.36 | 0.59 |
| 26:1H:252:G:OP2 | 37:78:50:ARG:NH1 | 2.36 | 0.59 |
| 27:16:91:C:OP1 | 38:88:19:GLY:HA2 | 2.01 | 0.59 |
| 42:C8:74:LEU:CD1 | 42:C8:75:ASN:O | 2.51 | 0.59 |
| 49:J8:64:ALA:HA | 49:J8:67:ILE:HG13 | 1.85 | 0.59 |
| 1:1G:110:C:H2' | 1:1G:111:G:O4' | 2.01 | 0.59 |
| 1:1G:1499:A:H1' | 1:1G:1520:G:H5' | 1.85 | 0.59 |
| 2:12:127:ILE:HG23 | 2:12:135:GLN:HE22 | 1.67 | 0.59 |
| 3:22:29:TYR:CZ | 3:22:33:LEU:CD2 | 2.68 | 0.59 |
| 10:1A:36:GLY:O | 10:1A:38:ILE:HG13 | 2.02 | 0.59 |
| 26:14:404:C:OP2 | 61:14:3533:HOH:O | 2.17 | 0.59 |
| 26:14:1165:U:H2' | 26:14:1166:C:C6 | 2.37 | 0.59 |
| 26:14:1678:G:N2 | 26:14:1989:G:H22 | 2.00 | 0.59 |
| 26:14:2639:A:C2 | 26:14:2778:A:C8 | 2.91 | 0.59 |
| 27:1J:13:A:H2' | 27:1J:70:C:O2' | 2.03 | 0.59 |
| 32:49:145:THR:O | 32:49:146:TYR:HB3 | 2.02 | 0.59 |
| 40:65:14:VAL:HG11 | 40:65:89:ARG:HD3 | 1.85 | 0.59 |
| 49:F5:29:GLY:O | 49:F5:30:VAL:HG22 | 2.01 | 0.59 |
| 1:13:191(D):U:H2' | 1:13:191(E):G:C8 | 2.37 | 0.59 |
| 1:13:346:G:H3' | 1:13:346:G:N3 | 2.17 | 0.59 |
| 1:13:686:U:O4 | 1:13:703:G:H1' | 2.03 | 0.59 |
| 26:1H:84:A:H3' | 46:G8:8:LYS:HB2 | 1.84 | 0.59 |
| 26:1H:654(O):G:H3' | 26:1H:654(P):G:O4' | 2.02 | 0.59 |
| 26:1H:723:G:H2' | 26:1H:724:U:O4' | 2.03 | 0.59 |
| 26:1H:825:C:H2' | 26:1H:826:U:H5' | 1.84 | 0.59 |
| 26:1H:858:U:O2 | 26:1H:2268:A:H2' | 2.03 | 0.59 |
| 26:1H:1129:A:N6 | 26:1H:2491:U:OP1 | 2.35 | 0.59 |
| 26:1H:1593:G:H2' | 26:1H:1594:G:C8 | 2.38 | 0.59 |
| 26:1H:2146:C:H4' | 26:1H:2147:G:C5 | 2.37 | 0.59 |
| 28:71:44:HIS:O | 28:71:212:VAL:HA | 2.02 | 0.59 |
| 29:11:26:LYS:HB3 | 29:11:29:PRO:HG3 | 1.83 | 0.59 |
| 30:21:69:LYS:HD2 | 30:21:69:LYS:N | 2.17 | 0.59 |
| 1:1G:439:A:H3' | 1:1G:440:A:H8 | 1.68 | 0.59 |
| 1:1G:1057:G:O6 | 1:1G:1203:C:N4 | 2.36 | 0.59 |
| 1:1G:1085:U:H5' | 1:1G:1094:G:N2 | 2.18 | 0.59 |
| 1:1G:1321:C:H4' | 13:4A:87:TYR:CE2 | 2.38 | 0.59 |
| 13:4A:16:ASP:OD1 | 13:4A:16:ASP:N | 2.36 | 0.59 |
| 26:14:107:C:H2' | 26:14:108:U:H6 | 1.68 | 0.59 |
| 26:14:443:A:H1' | 26:14:1201:C:O4' | 2.02 | 0.59 |
| 26:14:1332:G:C8 | 26:14:1332:G:H5' | 2.38 | 0.59 |
| 26:14:1991:U:C2' | 26:14:1992:G:H5'' | 2.33 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 31:39:18:ARG:NH2 | 31:39:19:GLU:O | 2.36 | 0.59 |
| 32:49:112:PRO:HA | 32:49:117:PHE:CD2 | 2.38 | 0.59 |
| 39:55:106:GLY:O | 39:55:107:ASP:HB3 | 2.03 | 0.59 |
| 1:13:109:A:C8 | 1:13:326:G:H2' | 2.38 | 0.58 |
| 1:13:443:C:H42 | 1:13:491:G:H1 | 1.50 | 0.58 |
| 1:13:593:G:H1 | 1:13:646:U:H3 | 1.49 | 0.58 |
| 2:1E:19:HIS:HD2 | 2:1E:205:ASP:OD1 | 1.86 | 0.58 |
| 3:2E:52:LEU:HA | 3:2E:70:VAL:HG23 | 1.85 | 0.58 |
| 5:4E:148:VAL:HG21 | 8:7E:107:LEU:HD22 | 1.85 | 0.58 |
| 26:1H:1604:C:H5' | 61:1H:4029:HOH:O | 2.01 | 0.58 |
| 26:1H:2134:A:H3' | 26:1H:2135:A:C8 | 2.38 | 0.58 |
| 27:16:15:A:H1' | 27:16:109:G:C4 | 2.38 | 0.58 |
| 29:11:108:PRO:HG3 | 29:11:143:HIS:HE1 | 1.65 | 0.58 |
| 33:51:109:PHE:HE1 | 33:51:152:ARG:NH2 | 2.01 | 0.58 |
| 34:61:1:MET:O | 34:61:20:ASP:HA | 2.03 | 0.58 |
| 40:A8:32:LEU:O | 40:A8:62:LYS:NZ | 2.36 | 0.58 |
| 42:C8:92:ARG:HB2 | 43:D8:11:GLN:NE2 | 2.18 | 0.58 |
| 42:C8:92:ARG:NE | 43:D8:11:GLN:H | 2.00 | 0.58 |
| 1:1G:1319:A:H61 | 1:1G:1361:G:H21 | 1.50 | 0.58 |
| 4:32:101:LEU:O | 4:32:104:VAL:HG12 | 2.03 | 0.58 |
| 26:14:155:C:N3 | 26:14:171:G:N2 | 2.50 | 0.58 |
| 26:14:1686:C:H2' | 26:14:1687:G:O4' | 2.03 | 0.58 |
| 27:1J:27:C:C2' | 27:1J:28:C:H5' | 2.33 | 0.58 |
| 30:29:31:CYS:SG | 30:29:51:PHE:HB2 | 2.43 | 0.58 |
| 32:49:56:ALA:HB2 | 32:49:153:ARG:HE | 1.68 | 0.58 |
| 34:69:78:THR:O | 34:69:80:PRO:HD3 | 2.03 | 0.58 |
| 43:95:85:LYS:HD2 | 43:95:87:HIS:H | 1.68 | 0.58 |
| 55:M5:14:VAL:HG11 | 55:M5:58:ILE:HD11 | 1.84 | 0.58 |
| 1:13:346:G:H8 | 41:B8:41:ARG:CZ | 2.15 | 0.58 |
| 1:13:624:C:O3' | 16:7I:10:GLY:HA2 | 2.02 | 0.58 |
| 1:13:1121:U:H2' | 1:13:1122:U:O4' | 2.03 | 0.58 |
| 3:2E:16:ARG:HB2 | 3:2E:16:ARG:HH11 | 1.67 | 0.58 |
| 8:7E:36:LEU:HA | 8:7E:39:LEU:HD23 | 1.85 | 0.58 |
| 23:2K:8:4SU:O5' | 23:2K:8:4SU:H6 | 2.02 | 0.58 |
| 26:1H:699:A:H2' | 26:1H:700:G:O4' | 2.03 | 0.58 |
| 26:1H:1956:U:H2' | 26:1H:1957:C:H5' | 1.85 | 0.58 |
| 26:1H:2378:A:H8 | 26:1H:2378:A:O5' | 1.85 | 0.58 |
| 32:41:179:PRO:HG3 | 52:M8:38:LYS:NZ | 2.18 | 0.58 |
| 34:61:58:LEU:O | 34:61:62:LYS:N | 2.35 | 0.58 |
| 40:A8:4:LEU:HD23 | 40:A8:8:GLU:HG3 | 1.85 | 0.58 |
| 42:C8:92:ARG:HB2 | 43:D8:11:GLN:HE21 | 1.66 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|--------------------|--------------------------|-------------------|
| 26:14:303:U:H2' | 26:14:304:G:H8 | 1.66 | 0.58 |
| 26:14:395:U:H2' | 61:14:3782:HOH:O | 2.02 | 0.58 |
| 26:14:395:U:H2' | 26:14:396:G:N7 | 2.18 | 0.58 |
| 26:14:1019:U:OP1 | 26:14:1035:U:O2' | 2.09 | 0.58 |
| 26:14:2489:G:N2 | 26:14:2491:U:O4 | 2.35 | 0.58 |
| 26:14:2512:C:H5'' | 26:14:2513:G:OP2 | 2.03 | 0.58 |
| 27:1J:2:C:H2' | 27:1J:3:C:C5 | 2.38 | 0.58 |
| 29:19:246:PRO:HG2 | 29:19:255:LYS:CE | 2.27 | 0.58 |
| 41:75:11:GLU:OE1 | 41:75:11:GLU:N | 2.36 | 0.58 |
| 42:85:98:LEU:HA | 42:85:100:VAL:O | 2.02 | 0.58 |
| 1:13:1145:C:H4' | 1:13:1146:A:C8 | 2.38 | 0.58 |
| 8:7E:43:GLY:O | 8:7E:64:LYS:HD3 | 2.03 | 0.58 |
| 19:AI:5:LEU:HB3 | 19:AI:10:PHE:HE1 | 1.68 | 0.58 |
| 24:3K:65:C:H2' | 24:3K:66:A:C8 | 2.38 | 0.58 |
| 26:1H:2122:U:O2' | 28:71:166:ASP:OD1 | 2.15 | 0.58 |
| 26:1H:2126:A:N6 | 26:1H:2163:C:O2' | 2.36 | 0.58 |
| 38:88:66:ILE:HD12 | 38:88:67:ARG:N | 2.15 | 0.58 |
| 41:B8:12:SER:HG | 41:B8:15:VAL:N | 2.01 | 0.58 |
| 1:1G:309:G:H8 | 1:1G:309:G:O5' | 1.85 | 0.58 |
| 1:1G:575:G:O2' | 61:1G:1704:HOH:O | 2.11 | 0.58 |
| 1:1G:1305:G:H22 | 1:1G:1331:G:C2' | 2.16 | 0.58 |
| 7:62:26:PHE:O | 7:62:30:ILE:HG13 | 2.04 | 0.58 |
| 57:3L:8:U:H1' | 57:3L:48:C:C2 | 2.38 | 0.58 |
| 26:14:634:C:H2' | 26:14:635:C:C6 | 2.37 | 0.58 |
| 26:14:1403:C:OP1 | 26:14:1522:G:N2 | 2.24 | 0.58 |
| 26:14:1667:G:H5'' | 36:25:5:GLN:O | 2.03 | 0.58 |
| 26:14:1796:U:H2' | 26:14:1797:C:C6 | 2.38 | 0.58 |
| 26:14:2115:G:H1' | 26:14:2171:A:H61 | 1.67 | 0.58 |
| 26:14:2250:G:C6 | 38:45:82:ARG:HD2 | 2.38 | 0.58 |
| 26:14:2299:G:H2' | 26:14:2300:G:C8 | 2.38 | 0.58 |
| 26:14:2542:A:N3 | 26:14:2542:A:H5'' | 2.18 | 0.58 |
| 29:19:12:SER:HB2 | 29:19:208:LYS:HB3 | 1.85 | 0.58 |
| 29:19:28:GLU:O | 29:19:28:GLU:CD | 2.40 | 0.58 |
| 29:19:95:LEU:CD1 | 29:19:105:ILE:HD12 | 2.32 | 0.58 |
| 34:69:77:LEU:HD12 | 34:69:78:THR:H | 1.67 | 0.58 |
| 45:B5:1:MET:N | 45:B5:2:LYS:HA | 2.18 | 0.58 |
| 1:13:178:C:H2' | 1:13:179:A:O4' | 2.03 | 0.58 |
| 1:13:538:G:O3' | 12:3I:114:LYS:HE2 | 2.03 | 0.58 |
| 1:13:1226:C:OP2 | 13:4I:103:THR:OG1 | 2.13 | 0.58 |
| 26:1H:637:A:H2' | 37:78:117:GLU:OE1 | 2.04 | 0.58 |
| 26:1H:1142(A):A:H4' | 35:58:25:ARG:HH22 | 1.68 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:2163:C:OP2 | 26:1H:2164:C:N4 | 2.35 | 0.58 |
| 26:1H:2165:G:H8 | 26:1H:2165:G:OP2 | 1.87 | 0.58 |
| 26:1H:2461:C:H2' | 26:1H:2462:U:C6 | 2.38 | 0.58 |
| 29:11:37:LEU:HD23 | 29:11:37:LEU:H | 1.63 | 0.58 |
| 33:51:121:ILE:HG12 | 33:51:140:LYS:HD3 | 1.85 | 0.58 |
| 42:C8:106:PHE:HA | 42:C8:109:LEU:HD12 | 1.84 | 0.58 |
| 50:K8:47:ASN:C | 50:K8:49:LYS:H | 2.05 | 0.58 |
| 1:1G:801:U:H2' | 1:1G:802:A:H8 | 1.67 | 0.58 |
| 1:1G:1521:G:H2' | 1:1G:1522:U:C6 | 2.39 | 0.58 |
| 2:12:30:ARG:NH2 | 2:12:194:PRO:HB2 | 2.18 | 0.58 |
| 5:42:41:VAL:O | 5:42:67:VAL:N | 2.37 | 0.58 |
| 26:14:89:G:H3' | 26:14:90:U:C5' | 2.34 | 0.58 |
| 26:14:130:C:O3' | 26:14:1349:A:H1' | 2.04 | 0.58 |
| 26:14:139:G:H22 | 26:14:1596:A:H4' | 1.68 | 0.58 |
| 26:14:536:A:OP1 | 42:85:53:ARG:NH1 | 2.36 | 0.58 |
| 26:14:801:G:N7 | 31:39:53:THR:HG23 | 2.19 | 0.58 |
| 26:14:1359:A:N7 | 26:14:1372:U:O4 | 2.35 | 0.58 |
| 26:14:1461:G:H2' | 26:14:1462:C:C6 | 2.38 | 0.58 |
| 26:14:2789:C:H1' | 26:14:2892:A:H2 | 1.68 | 0.58 |
| 30:29:54:GLN:HG3 | 30:29:55:ASN:H | 1.68 | 0.58 |
| 30:29:111:ARG:HD2 | 30:29:160:TYR:CD2 | 2.38 | 0.58 |
| 31:39:108:LYS:O | 31:39:112:MET:HG3 | 2.03 | 0.58 |
| 32:49:97:ASP:H | 32:49:100:TRP:HD1 | 1.51 | 0.58 |
| 49:F5:40:ARG:NH2 | 49:F5:42:GLN:HE21 | 2.01 | 0.58 |
| 1:13:1106:G:H5'' | 3:2E:172:ARG:HG2 | 1.84 | 0.58 |
| 26:1H:774:A:H2 | 26:1H:787:U:HO2' | 1.50 | 0.58 |
| 37:78:19:VAL:HB | 37:78:20:GLY:HA3 | 1.86 | 0.58 |
| 38:88:5:ARG:HH21 | 38:88:6:ARG:HD3 | 1.69 | 0.58 |
| 39:98:100:LEU:CD1 | 39:98:113:LEU:HD13 | 2.33 | 0.58 |
| 1:1G:18:C:H6 | 1:1G:18:C:O5' | 1.86 | 0.58 |
| 2:12:73:THR:O | 2:12:78:GLN:NE2 | 2.36 | 0.58 |
| 26:14:673:C:H4' | 31:39:82:ILE:HD11 | 1.85 | 0.58 |
| 26:14:1292:U:H2' | 26:14:1293:C:C6 | 2.39 | 0.58 |
| 26:14:1418:G:H2' | 26:14:1579:A:N6 | 2.18 | 0.58 |
| 29:19:126:GLN:O | 29:19:193:VAL:HG13 | 2.03 | 0.58 |
| 35:15:14:VAL:HA | 35:15:135:PRO:HD2 | 1.84 | 0.58 |
| 46:C5:20:TYR:CE2 | 46:C5:42:VAL:HA | 2.37 | 0.58 |
| 2:1E:71:VAL:HG12 | 2:1E:93:VAL:HB | 1.84 | 0.58 |
| 26:1H:354:G:H2' | 26:1H:355:G:H8 | 1.68 | 0.58 |
| 26:1H:818:G:H4' | 26:1H:838:C:O3' | 2.04 | 0.58 |
| 26:1H:1166:C:H2' | 26:1H:1167:U:C6 | 2.38 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:2470:G:H5' | 38:88:56:ARG:HH21 | 1.69 | 0.58 |
| 29:11:30:GLU:HG3 | 29:11:63:ARG:NH2 | 2.19 | 0.58 |
| 37:78:19:VAL:HB | 37:78:20:GLY:CA | 2.33 | 0.58 |
| 1:1G:9:G:OP1 | 5:42:122:GLU:HB2 | 2.03 | 0.58 |
| 1:1G:1365:G:H2' | 1:1G:1366:C:C6 | 2.39 | 0.58 |
| 3:22:147:LYS:HB2 | 3:22:203:PHE:HD1 | 1.69 | 0.58 |
| 12:3A:60:LEU:HB2 | 12:3A:64:TYR:CB | 2.33 | 0.58 |
| 15:6A:87:ILE:HG22 | 15:6A:88:ARG:HB2 | 1.86 | 0.58 |
| 26:14:1754:C:P | 41:75:96:ARG:HH11 | 2.21 | 0.58 |
| 38:45:25:ASP:HB3 | 38:45:102:VAL:N | 2.05 | 0.58 |
| 44:A5:72:LYS:HB3 | 44:A5:106:ILE:HG13 | 1.85 | 0.58 |
| 1:13:57:G:H2' | 1:13:58:C:C6 | 2.39 | 0.58 |
| 1:13:429:U:H1' | 1:13:430:A:H5'' | 1.85 | 0.58 |
| 1:13:1464:G:H2' | 1:13:1465:C:H6 | 1.69 | 0.58 |
| 4:3E:173:TRP:CD1 | 4:3E:174:LEU:HG | 2.39 | 0.58 |
| 26:1H:1517:G:H5'' | 26:1H:1518:C:OP2 | 2.03 | 0.58 |
| 26:1H:2636:U:H2' | 26:1H:2637:U:C6 | 2.38 | 0.58 |
| 26:1H:2688:U:H5 | 26:1H:2720:U:OP2 | 1.87 | 0.58 |
| 27:16:12:C:OP2 | 27:16:12:C:H6 | 1.85 | 0.58 |
| 29:11:119:ALA:CB | 29:11:130:ALA:HB3 | 2.32 | 0.58 |
| 39:98:54:LEU:HB3 | 39:98:62:ALA:HB1 | 1.84 | 0.58 |
| 46:G8:94:LYS:HZ2 | 46:G8:95:LYS:H | 1.52 | 0.58 |
| 54:P8:35:ARG:NH1 | 54:P8:42:LEU:HD11 | 2.18 | 0.58 |
| 1:1G:735:C:H2' | 1:1G:736:C:H6 | 1.68 | 0.58 |
| 7:62:116:ALA:HA | 7:62:119:ARG:HE | 1.69 | 0.58 |
| 8:72:68:ARG:CZ | 8:72:74:PRO:HB3 | 2.33 | 0.58 |
| 12:3A:8:ASN:O | 12:3A:12:ARG:HG3 | 2.04 | 0.58 |
| 18:9A:38:GLU:OE2 | 18:9A:38:GLU:N | 2.37 | 0.58 |
| 26:14:1434:A:H2' | 26:14:1435:G:C8 | 2.38 | 0.58 |
| 26:14:1592:C:H2' | 26:14:1593:G:H8 | 1.65 | 0.58 |
| 26:14:2324:C:H5'' | 26:14:2325:G:H5' | 1.85 | 0.58 |
| 26:14:2461:C:H2' | 26:14:2462:U:C6 | 2.39 | 0.58 |
| 26:14:2641:G:P | 35:15:74:ARG:HH21 | 2.26 | 0.58 |
| 1:13:659:U:H2' | 1:13:660:G:C8 | 2.39 | 0.58 |
| 3:2E:59:ARG:HA | 3:2E:63:ASN:O | 2.04 | 0.58 |
| 6:5E:50:TYR:OH | 18:9I:74:ARG:O | 2.12 | 0.58 |
| 8:7E:44:PHE:HE2 | 8:7E:109:ILE:HG12 | 1.68 | 0.58 |
| 8:7E:45:ILE:HD12 | 8:7E:47:GLY:HA2 | 1.86 | 0.58 |
| 8:7E:82:HIS:NE2 | 8:7E:136:GLU:OE2 | 2.35 | 0.58 |
| 9:8E:71:SER:HA | 9:8E:74:ILE:HD12 | 1.86 | 0.58 |
| 26:1H:388:G:O3' | 49:J8:25:LYS:CE | 2.52 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 26:1H:556:G:H2' | 26:1H:557:U:C6 | 2.39 | 0.58 |
| 26:1H:957:A:N1 | 26:1H:2458:G:H4' | 2.18 | 0.58 |
| 26:1H:2275:C:O2' | 38:88:85:LYS:HA | 2.03 | 0.58 |
| 26:1H:2327:A:H2' | 26:1H:2328:A:H8 | 1.66 | 0.58 |
| 26:1H:2359:C:C5' | 55:Q8:52:LYS:HD2 | 2.33 | 0.58 |
| 29:11:70:TRP:CE2 | 29:11:150:LYS:HD3 | 2.39 | 0.58 |
| 43:D8:38:LEU:O | 43:D8:39:LEU:HD23 | 2.04 | 0.58 |
| 50:K8:5:GLU:O | 50:K8:8:LYS:N | 2.37 | 0.58 |
| 52:M8:6:HIS:HD1 | 52:M8:7:PRO:HD2 | 1.69 | 0.58 |
| 1:1G:730:G:C5 | 1:1G:731:G:H1' | 2.38 | 0.58 |
| 1:1G:801:U:H2' | 1:1G:802:A:C8 | 2.39 | 0.58 |
| 5:42:81:GLU:HA | 5:42:90:VAL:HG12 | 1.86 | 0.58 |
| 26:14:943:U:OP2 | 37:35:36:LYS:HG3 | 2.03 | 0.58 |
| 26:14:2096:U:H3 | 26:14:2193:G:H1 | 1.52 | 0.58 |
| 39:55:87:TYR:HD1 | 39:55:90:ARG:HE | 1.52 | 0.58 |
| 50:G5:47:ASN:C | 50:G5:49:LYS:H | 2.03 | 0.58 |
| 1:13:67:C:H1' | 1:13:171:A:C2 | 2.39 | 0.58 |
| 1:13:1243:C:O2 | 1:13:1295:G:N2 | 2.37 | 0.58 |
| 6:5E:97:PHE:O | 18:9I:31:LEU:HD23 | 2.04 | 0.58 |
| 20:BI:49:ALA:HB1 | 20:BI:99:LEU:HB2 | 1.86 | 0.58 |
| 20:BI:53:LEU:HA | 20:BI:56:MET:HB3 | 1.85 | 0.58 |
| 26:1H:234:C:H2' | 26:1H:235:U:C6 | 2.37 | 0.58 |
| 26:1H:644:A:H4' | 26:1H:645:C:C5 | 2.38 | 0.58 |
| 26:1H:662:G:C4' | 37:78:15:ARG:HA | 2.32 | 0.58 |
| 28:71:59:ARG:HA | 28:71:163:PHE:O | 2.03 | 0.58 |
| 37:78:28:GLY:O | 37:78:31:ALA:N | 2.26 | 0.58 |
| 2:12:124:SER:O | 2:12:126:GLU:N | 2.34 | 0.58 |
| 15:6A:10:LYS:HA | 15:6A:13:GLN:OE1 | 2.04 | 0.58 |
| 17:8A:87:LYS:C | 17:8A:91:ARG:HD2 | 2.24 | 0.58 |
| 26:14:550:G:O2' | 26:14:1220:A:N3 | 2.34 | 0.58 |
| 26:14:660:G:H21 | 37:35:12:ALA:CB | 2.16 | 0.58 |
| 26:14:1340:U:H4' | 26:14:1394:U:O2' | 2.04 | 0.58 |
| 26:14:2158:A:O2' | 26:14:2159:G:O4' | 2.19 | 0.58 |
| 26:14:2789:C:O3' | 26:14:2790:A:H4' | 2.04 | 0.58 |
| 27:1J:49:C:OP2 | 40:65:30:ARG:NH1 | 2.36 | 0.58 |
| 34:69:5:LEU:HD21 | 34:69:19:VAL:HG12 | 1.86 | 0.58 |
| 34:69:124:GLY:H | 34:69:142:VAL:CG2 | 2.17 | 0.58 |
| 36:25:89:ASN:OD1 | 36:25:89:ASN:N | 2.37 | 0.58 |
| 43:95:37:VAL:CG2 | 43:95:57:VAL:H | 2.17 | 0.58 |
| 3:2E:38:ARG:HD3 | 3:2E:94:LEU:HD11 | 1.86 | 0.58 |
| 3:2E:57:ILE:HG12 | 3:2E:66:VAL:HG22 | 1.85 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 7:6E:62:PHE:HD1 | 7:6E:124:LEU:HD11 | 1.69 | 0.58 |
| 17:8I:14:LYS:N | 17:8I:14:LYS:HD2 | 2.19 | 0.58 |
| 23:2K:47:G7M:O2' | 23:2K:48:U:O5' | 2.22 | 0.58 |
| 26:1H:126:A:O5' | 54:P8:19:ARG:HG3 | 2.04 | 0.58 |
| 26:1H:190:A:OP2 | 49:J8:39:LYS:HE3 | 2.03 | 0.58 |
| 26:1H:1675:C:N4 | 26:1H:1993:U:O4' | 2.37 | 0.58 |
| 26:1H:2068:U:N3 | 26:1H:2430:A:C2 | 2.72 | 0.58 |
| 32:41:101:ILE:HD13 | 52:M8:9:LEU:HD11 | 1.86 | 0.58 |
| 52:M8:43:TYR:CD2 | 52:M8:44:THR:HG23 | 2.38 | 0.58 |
| 1:1G:735:C:H2' | 1:1G:736:C:C6 | 2.38 | 0.58 |
| 1:1G:1251:A:H2' | 1:1G:1252:A:C8 | 2.38 | 0.58 |
| 8:72:23:SER:OG | 8:72:60:ARG:HG2 | 2.04 | 0.58 |
| 20:BA:64:ASP:OD1 | 20:BA:81:LYS:HD2 | 2.03 | 0.58 |
| 26:14:853:G:H2' | 26:14:854:G:C8 | 2.39 | 0.58 |
| 26:14:1430:C:H2' | 26:14:1431:U:C6 | 2.39 | 0.58 |
| 26:14:2143:C:H2' | 26:14:2144:U:H4' | 1.85 | 0.58 |
| 26:14:2577:A:O4' | 53:J5:3:LYS:HB2 | 2.04 | 0.58 |
| 26:14:2789:C:O2 | 26:14:2894:G:N2 | 2.37 | 0.58 |
| 26:14:2795:G:H2' | 26:14:2795:G:N3 | 2.18 | 0.58 |
| 34:69:130:TYR:O | 34:69:131:LYS:HD2 | 2.03 | 0.58 |
| 35:15:56:ASN:H | 35:15:125:GLY:HA3 | 1.68 | 0.58 |
| 38:45:21:THR:HG21 | 38:45:101:ARG:HD2 | 1.85 | 0.58 |
| 1:13:277:C:H2' | 1:13:278:G:H8 | 1.68 | 0.57 |
| 4:3E:122:ARG:HH12 | 4:3E:135:LEU:HD13 | 1.68 | 0.57 |
| 4:3E:150:GLU:HA | 4:3E:153:ARG:HG3 | 1.86 | 0.57 |
| 6:5E:52:ILE:O | 6:5E:55:ASP:HB2 | 2.04 | 0.57 |
| 8:7E:23:SER:HA | 8:7E:61:VAL:O | 2.04 | 0.57 |
| 9:8E:42:ARG:NH1 | 9:8E:71:SER:OG | 2.34 | 0.57 |
| 17:8I:64:PRO:HB3 | 17:8I:70:ARG:NH1 | 2.19 | 0.57 |
| 26:1H:433:C:H2' | 26:1H:434:U:C6 | 2.39 | 0.57 |
| 26:1H:443:A:C5 | 31:31:45:ARG:HD2 | 2.39 | 0.57 |
| 26:1H:631:A:H5'' | 26:1H:632:A:OP2 | 2.04 | 0.57 |
| 26:1H:1166:C:H2' | 26:1H:1167:U:H6 | 1.69 | 0.57 |
| 39:98:2:ARG:O | 39:98:5:LYS:HG2 | 2.04 | 0.57 |
| 1:1G:522:C:H2' | 1:1G:523:A:O4' | 2.04 | 0.57 |
| 1:1G:595:G:H1' | 1:1G:596:C:H5 | 1.68 | 0.57 |
| 1:1G:634:C:H2' | 1:1G:635:G:H8 | 1.69 | 0.57 |
| 1:1G:930:C:H42 | 1:1G:1387:G:H1 | 1.52 | 0.57 |
| 1:1G:1095:U:OP1 | 1:1G:1108:G:N1 | 2.35 | 0.57 |
| 1:1G:1207:G:H2' | 1:1G:1208:C:H6 | 1.68 | 0.57 |
| 17:8A:22:LEU:HD13 | 17:8A:41:LYS:HG2 | 1.86 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 20:BA:72:LEU:O | 20:BA:73:HIS:HB2 | 2.03 | 0.57 |
| 29:19:85:ASP:HB2 | 29:19:92:ILE:CD1 | 2.34 | 0.57 |
| 30:29:51:PHE:O | 30:29:74:PRO:HB2 | 2.04 | 0.57 |
| 31:39:28:ILE:HA | 31:39:112:MET:HB3 | 1.86 | 0.57 |
| 1:13:237:C:H5'' | 17:8I:25:ARG:CZ | 2.33 | 0.57 |
| 1:13:451:A:N6 | 1:13:480:U:H2' | 2.19 | 0.57 |
| 1:13:779:C:H2' | 1:13:780:A:O4' | 2.05 | 0.57 |
| 1:13:1348:U:H4' | 9:8E:120:ARG:HG3 | 1.85 | 0.57 |
| 2:1E:160:ASP:O | 2:1E:183:PRO:HD2 | 2.04 | 0.57 |
| 4:3E:79:PHE:CE2 | 4:3E:204:ILE:HA | 2.39 | 0.57 |
| 11:2I:59:TYR:CZ | 11:2I:63:LEU:HD11 | 2.39 | 0.57 |
| 23:2K:29:C:H2' | 23:2K:30:G:C8 | 2.38 | 0.57 |
| 23:2K:54:G:O2' | 23:2K:55:5MU:H5'' | 2.03 | 0.57 |
| 26:1H:773:U:H4' | 29:11:47:GLY:HA3 | 1.87 | 0.57 |
| 26:1H:1174:A:C8 | 26:1H:1176:G:H1' | 2.38 | 0.57 |
| 26:1H:1639:U:H5'' | 61:1H:3699:HOH:O | 2.03 | 0.57 |
| 26:1H:2146:C:H4' | 26:1H:2147:G:N7 | 2.19 | 0.57 |
| 32:41:67:LYS:HD2 | 52:M8:6:HIS:CG | 2.38 | 0.57 |
| 34:61:129:THR:HA | 34:61:137:PRO:HA | 1.86 | 0.57 |
| 38:88:59:ARG:C | 38:88:61:GLY:H | 2.08 | 0.57 |
| 41:B8:41:ARG:HH11 | 41:B8:41:ARG:HB2 | 1.69 | 0.57 |
| 41:B8:97:ALA:HB1 | 41:B8:98:LYS:HE2 | 1.85 | 0.57 |
| 50:K8:51:ARG:NH1 | 50:K8:55:ARG:HH12 | 2.02 | 0.57 |
| 1:1G:1179:A:H5'' | 9:82:97:LYS:HE3 | 1.86 | 0.57 |
| 2:12:145:LEU:O | 2:12:149:LEU:HB2 | 2.04 | 0.57 |
| 2:12:164:VAL:HB | 2:12:186:ALA:HB2 | 1.87 | 0.57 |
| 4:32:127:THR:HG23 | 4:32:147:ALA:HB3 | 1.84 | 0.57 |
| 5:42:18:ARG:HH21 | 5:42:25:ARG:HD3 | 1.68 | 0.57 |
| 6:52:22:GLU:OE1 | 6:52:84:ASN:ND2 | 2.38 | 0.57 |
| 13:4A:78:ILE:HG23 | 13:4A:92:HIS:ND1 | 2.19 | 0.57 |
| 15:6A:17:ARG:HH11 | 15:6A:77:ARG:NH1 | 2.01 | 0.57 |
| 26:14:1386:C:H2' | 26:14:1387:C:C6 | 2.39 | 0.57 |
| 26:14:2748:A:H2' | 26:14:2749:A:H8 | 1.69 | 0.57 |
| 32:49:75:LYS:HA | 32:49:84:LYS:HG3 | 1.86 | 0.57 |
| 35:15:7:LYS:O | 35:15:9:VAL:HG13 | 2.04 | 0.57 |
| 39:55:45:ARG:HA | 39:55:95:THR:HG21 | 1.84 | 0.57 |
| 47:D5:23:LYS:HD3 | 47:D5:40:ASP:HA | 1.86 | 0.57 |
| 1:13:343:U:H2' | 1:13:344:A:H5'' | 1.85 | 0.57 |
| 1:13:453:A:OP2 | 1:13:478:A:N6 | 2.37 | 0.57 |
| 1:13:625:G:H4' | 16:7I:16:HIS:HB2 | 1.86 | 0.57 |
| 1:13:1131:G:H2' | 1:13:1132:C:C6 | 2.39 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:1423:G:P | 36:68:49:ARG:HH22 | 2.27 | 0.57 |
| 14:5I:26:ARG:NH1 | 14:5I:43:CYS:SG | 2.77 | 0.57 |
| 22:1K:14:A:N6 | 22:1K:22:G:N3 | 2.53 | 0.57 |
| 26:1H:1444:G:C2 | 26:1H:1548:C:N3 | 2.72 | 0.57 |
| 26:1H:2153:G:H2' | 26:1H:2154:G:O4' | 2.04 | 0.57 |
| 26:1H:2188:C:N4 | 26:1H:2189:U:O2 | 2.37 | 0.57 |
| 26:1H:2361:A:OP1 | 55:Q8:27:THR:HG23 | 2.05 | 0.57 |
| 32:41:97:ASP:O | 32:41:100:TRP:N | 2.36 | 0.57 |
| 41:B8:20:PRO:HD2 | 41:B8:86:ILE:HG23 | 1.85 | 0.57 |
| 42:C8:50:ARG:HG2 | 42:C8:53:ARG:NH2 | 2.18 | 0.57 |
| 1:1G:403:C:H42 | 1:1G:547:A:H5' | 1.68 | 0.57 |
| 1:1G:1059:C:O2 | 10:1A:53:PRO:HG3 | 2.04 | 0.57 |
| 2:12:175:ARG:O | 2:12:179:LYS:HB2 | 2.04 | 0.57 |
| 26:14:589:C:O3' | 31:39:95:ARG:NH1 | 2.37 | 0.57 |
| 26:14:616:A:C4 | 31:39:180:GLY:HA2 | 2.39 | 0.57 |
| 26:14:1021:A:H62 | 26:14:1141:U:H3 | 1.51 | 0.57 |
| 29:19:72:LYS:NZ | 29:19:99:ASP:OD2 | 2.29 | 0.57 |
| 31:39:130:ALA:H | 31:39:142:TRP:HD1 | 1.51 | 0.57 |
| 33:59:54:ARG:NH2 | 33:59:57:ASP:OD1 | 2.36 | 0.57 |
| 38:45:21:THR:HG22 | 38:45:23:GLY:HA3 | 1.85 | 0.57 |
| 1:13:272:C:H2' | 1:13:273:A:C8 | 2.39 | 0.57 |
| 2:1E:16:HIS:NE2 | 2:1E:210:SER:O | 2.37 | 0.57 |
| 8:7E:34:GLU:OE1 | 8:7E:37:ARG:NH1 | 2.37 | 0.57 |
| 8:7E:64:LYS:HG2 | 8:7E:79:VAL:HG21 | 1.87 | 0.57 |
| 10:1I:8:LEU:HD12 | 10:1I:20:ALA:HB2 | 1.85 | 0.57 |
| 26:1H:1021:A:C8 | 26:1H:1021:A:C3' | 2.85 | 0.57 |
| 26:1H:1439:A:C2 | 26:1H:1553:A:C4 | 2.93 | 0.57 |
| 26:1H:2291:U:H2' | 26:1H:2292:C:C6 | 2.39 | 0.57 |
| 1:1G:620:C:H2' | 1:1G:621:A:O4' | 2.04 | 0.57 |
| 1:1G:1124:G:H2' | 1:1G:1145:C:C4 | 2.40 | 0.57 |
| 7:62:41:ARG:O | 7:62:45:ASP:HB2 | 2.04 | 0.57 |
| 26:14:641:C:H5'' | 26:14:642:G:OP2 | 2.05 | 0.57 |
| 26:14:867:C:H5'' | 26:14:868:U:OP2 | 2.04 | 0.57 |
| 26:14:1688:U:O2 | 26:14:1700:A:H5' | 2.04 | 0.57 |
| 29:19:44:ASN:HB3 | 29:19:47:GLY:H | 1.69 | 0.57 |
| 32:49:55:LYS:O | 32:49:59:GLU:HB2 | 2.04 | 0.57 |
| 33:59:148:ILE:H | 33:59:148:ILE:HD12 | 1.68 | 0.57 |
| 37:35:136:GLU:O | 37:35:138:LEU:N | 2.36 | 0.57 |
| 1:13:1118:C:H1' | 1:13:1179:A:C4 | 2.38 | 0.57 |
| 1:13:1127:G:H1' | 1:13:1148:U:H3 | 1.68 | 0.57 |
| 11:2I:85:ARG:HD3 | 11:2I:113:PRO:HD3 | 1.85 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 11:2I:90:GLY:O | 11:2I:94:ALA:N | 2.28 | 0.57 |
| 15:6I:25:THR:HG22 | 15:6I:70:LEU:HD22 | 1.86 | 0.57 |
| 26:1H:1291:C:H2' | 26:1H:1292:U:C6 | 2.39 | 0.57 |
| 27:16:15:A:H1' | 27:16:109:G:C5 | 2.40 | 0.57 |
| 1:1G:209:U:O2' | 1:1G:210:U:H5'' | 2.05 | 0.57 |
| 1:1G:1325:C:OP2 | 21:1B:15:ARG:NH2 | 2.29 | 0.57 |
| 1:1G:1459:C:OP1 | 20:BA:31:SER:OG | 2.15 | 0.57 |
| 3:22:58:GLU:HB2 | 3:22:65:ALA:HB3 | 1.86 | 0.57 |
| 19:AA:15:LEU:O | 19:AA:18:LYS:HG2 | 2.03 | 0.57 |
| 26:14:205:G:O2' | 26:14:206:U:OP2 | 2.23 | 0.57 |
| 26:14:815:C:O2 | 26:14:1193:G:C2 | 2.57 | 0.57 |
| 26:14:918:A:C8 | 26:14:919:G:C8 | 2.92 | 0.57 |
| 26:14:1564:C:O2' | 26:14:1565:C:H5' | 2.04 | 0.57 |
| 26:14:2607:G:H2' | 26:14:2608:G:O4' | 2.03 | 0.57 |
| 27:1J:23:G:N2 | 27:1J:60:C:O2 | 2.34 | 0.57 |
| 37:35:63:PRO:HG2 | 55:M5:25:MET:HB3 | 1.86 | 0.57 |
| 47:D5:52:SER:O | 47:D5:54:HIS:N | 2.38 | 0.57 |
| 1:13:1023:G:H3' | 1:13:1024:G:H5'' | 1.85 | 0.57 |
| 1:13:1455:G:H8 | 1:13:1455:G:O5' | 1.88 | 0.57 |
| 2:1E:120:ALA:O | 2:1E:124:SER:OG | 2.17 | 0.57 |
| 3:2E:72:LYS:HD3 | 3:2E:75:VAL:HG21 | 1.87 | 0.57 |
| 26:1H:195:A:H4' | 26:1H:251:A:O2' | 2.03 | 0.57 |
| 26:1H:1221:C:H2' | 26:1H:1222:C:C6 | 2.40 | 0.57 |
| 26:1H:1298:C:H5'' | 26:1H:1299:G:OP2 | 2.05 | 0.57 |
| 26:1H:1678:G:O5' | 26:1H:1678:G:C8 | 2.55 | 0.57 |
| 26:1H:1820:U:O2 | 29:11:202:LYS:HB3 | 2.05 | 0.57 |
| 26:1H:2702:U:H5'' | 26:1H:2702:U:H6 | 1.70 | 0.57 |
| 28:71:181:PRO:HD2 | 28:71:184:LYS:HB3 | 1.85 | 0.57 |
| 31:31:126:VAL:O | 31:31:196:LEU:HD23 | 2.05 | 0.57 |
| 38:88:20:ALA:HB2 | 38:88:99:PRO:HD2 | 1.87 | 0.57 |
| 50:K8:5:GLU:C | 50:K8:5:GLU:OE2 | 2.43 | 0.57 |
| 1:1G:353:A:H5' | 1:1G:353:A:C8 | 2.32 | 0.57 |
| 1:1G:1200:C:H1' | 1:1G:1204:A:N6 | 2.14 | 0.57 |
| 6:52:15:ASP:OD1 | 6:52:17:SER:N | 2.38 | 0.57 |
| 26:14:749:C:H5'' | 61:14:3842:HOH:O | 2.04 | 0.57 |
| 26:14:910:A:H62 | 38:45:12:GLN:HA | 1.69 | 0.57 |
| 26:14:1591:G:H2' | 26:14:1592:C:O4' | 2.04 | 0.57 |
| 34:69:41:GLU:HA | 34:69:44:LEU:HB2 | 1.86 | 0.57 |
| 38:45:25:ASP:CB | 38:45:102:VAL:H | 2.07 | 0.57 |
| 1:13:886:G:OP2 | 61:13:1811:HOH:O | 2.18 | 0.57 |
| 1:13:937:A:N6 | 1:13:1345:U:O4 | 2.35 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:3E:108:LEU:HD21 | 4:3E:183:GLY:HA3 | 1.85 | 0.57 |
| 26:1H:701:G:C2' | 26:1H:702:G:H5' | 2.35 | 0.57 |
| 26:1H:1210:A:H5' | 26:1H:1210:A:H8 | 1.69 | 0.57 |
| 26:1H:2102:U:H2' | 26:1H:2103:C:C6 | 2.40 | 0.57 |
| 26:1H:2109:U:H1' | 26:1H:2181:G:N2 | 2.19 | 0.57 |
| 26:1H:2864:G:H2' | 26:1H:2865:U:H6 | 1.68 | 0.57 |
| 36:68:120:GLU:HG2 | 36:68:122:LEU:HG | 1.87 | 0.57 |
| 37:78:16:ARG:HA | 37:78:16:ARG:HE | 1.70 | 0.57 |
| 41:B8:27:THR:HG22 | 41:B8:48:ILE:HG12 | 1.87 | 0.57 |
| 1:1G:452:A:H62 | 1:1G:480:U:H3 | 1.51 | 0.57 |
| 1:1G:1192:C:P | 3:22:4:LYS:HZ2 | 2.28 | 0.57 |
| 1:1G:1504:G:H4' | 1:1G:1505:G:O4' | 2.05 | 0.57 |
| 2:12:116:GLU:HG2 | 2:12:153:ARG:NH1 | 2.19 | 0.57 |
| 5:42:103:GLY:O | 5:42:106:PRO:HD2 | 2.04 | 0.57 |
| 9:82:85:LEU:HD11 | 9:82:96:LEU:HD21 | 1.86 | 0.57 |
| 57:3L:19:G:N1 | 26:14:2111:C:O2' | 2.36 | 0.57 |
| 26:14:600:G:O3' | 31:39:108:LYS:NZ | 2.38 | 0.57 |
| 26:14:838:C:O2' | 26:14:839:U:H5' | 2.05 | 0.57 |
| 26:14:2121:G:H22 | 26:14:2178:C:H1' | 1.68 | 0.57 |
| 26:14:2280:G:O2' | 26:14:2388:A:N1 | 2.30 | 0.57 |
| 26:14:2356:C:H4' | 48:E5:20:ARG:HG3 | 1.85 | 0.57 |
| 27:1J:104:A:H2' | 27:1J:105:G:O4' | 2.03 | 0.57 |
| 31:39:122:LYS:O | 31:39:123:LEU:HG | 2.04 | 0.57 |
| 31:39:152:GLU:OE2 | 31:39:191:ARG:NH1 | 2.38 | 0.57 |
| 1:13:558:G:H2' | 1:13:559:A:H2 | 1.70 | 0.57 |
| 1:13:983:A:H1' | 1:13:1049:U:O2 | 2.03 | 0.57 |
| 1:13:1127:G:H2' | 1:13:1128:C:C2 | 2.40 | 0.57 |
| 4:3E:112:VAL:HG12 | 4:3E:116:GLN:OE1 | 2.04 | 0.57 |
| 15:6I:56:LEU:HA | 15:6I:59:MET:HE2 | 1.85 | 0.57 |
| 20:BI:30:LYS:HE2 | 20:BI:80:ARG:HH22 | 1.69 | 0.57 |
| 22:1K:27:G:N2 | 22:1K:43:U:H3 | 2.02 | 0.57 |
| 26:1H:533:G:H5' | 42:C8:24:TYR:CE1 | 2.39 | 0.57 |
| 26:1H:1486:A:H2' | 26:1H:1487:G:C8 | 2.37 | 0.57 |
| 26:1H:1971:A:C4 | 29:11:241:PRO:HD3 | 2.40 | 0.57 |
| 26:1H:2257:U:O2' | 26:1H:2258:C:H5' | 2.04 | 0.57 |
| 26:1H:2462:U:H1' | 26:1H:2491:U:O4 | 2.05 | 0.57 |
| 26:1H:2470:G:H8 | 26:1H:2470:G:O5' | 1.87 | 0.57 |
| 26:1H:2533:A:OP1 | 26:1H:2665:A:H1' | 2.05 | 0.57 |
| 29:11:37:LEU:H | 29:11:37:LEU:CD2 | 2.17 | 0.57 |
| 30:21:116:VAL:O | 30:21:117:MET:HB3 | 2.04 | 0.57 |
| 32:41:41:GLN:HG2 | 32:41:155:MET:HB3 | 1.86 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 32:41:76:SER:OG | 32:41:84:LYS:N | 2.37 | 0.57 |
| 32:41:102:PHE:HA | 32:41:105:LYS:HE2 | 1.87 | 0.57 |
| 39:98:67:LEU:CD2 | 39:98:76:VAL:HG21 | 2.34 | 0.57 |
| 45:F8:25:LYS:HG3 | 45:F8:82:GLN:OE1 | 2.04 | 0.57 |
| 1:1G:192:U:C4' | 20:BA:103:GLY:HA2 | 2.34 | 0.57 |
| 1:1G:272:C:H2' | 1:1G:273:A:H8 | 1.69 | 0.57 |
| 1:1G:709:G:H2' | 1:1G:710:G:H8 | 1.69 | 0.57 |
| 1:1G:713:G:H2' | 1:1G:714:G:C8 | 2.39 | 0.57 |
| 1:1G:1106:G:H2' | 1:1G:1107:C:C6 | 2.40 | 0.57 |
| 1:1G:1315:U:H2' | 1:1G:1316:G:H5' | 1.87 | 0.57 |
| 2:12:188:ALA:O | 2:12:203:GLY:N | 2.37 | 0.57 |
| 3:22:123:GLN:HA | 3:22:126:ARG:HB3 | 1.87 | 0.57 |
| 8:72:120:THR:N | 8:72:123:GLU:OE1 | 2.38 | 0.57 |
| 26:14:1024:G:C3' | 26:14:1025:G:H5'' | 2.34 | 0.57 |
| 26:14:2118:U:O2 | 26:14:2148:G:O2' | 2.21 | 0.57 |
| 26:14:2425:A:H4' | 26:14:2426:A:H5'' | 1.85 | 0.57 |
| 26:14:2556:C:H2' | 26:14:2557:G:O4' | 2.04 | 0.57 |
| 30:29:11:MET:HE3 | 30:29:186:GLY:HA2 | 1.87 | 0.57 |
| 33:59:7:LEU:HA | 33:59:65:HIS:NE2 | 2.19 | 0.57 |
| 36:25:9:GLU:O | 36:25:83:ALA:HA | 2.04 | 0.57 |
| 41:75:112:ARG:HD2 | 41:75:113:LYS:HD2 | 1.87 | 0.57 |
| 1:13:5:U:H3 | 4:3E:87:GLY:HA2 | 1.70 | 0.57 |
| 1:13:323:U:H2' | 1:13:324:G:O4' | 2.05 | 0.57 |
| 1:13:674:G:H2' | 1:13:675:A:C8 | 2.39 | 0.57 |
| 2:1E:18:GLY:H | 2:1E:42:ILE:HG22 | 1.70 | 0.57 |
| 26:1H:1187:G:OP2 | 61:1H:3549:HOH:O | 2.18 | 0.57 |
| 26:1H:1439:A:C2 | 26:1H:1553:A:C5 | 2.93 | 0.57 |
| 26:1H:1533:C:O2 | 26:1H:1539:G:N2 | 2.38 | 0.57 |
| 40:A8:78:LEU:HD12 | 40:A8:108:GLY:HA3 | 1.85 | 0.57 |
| 47:H8:7:ALA:HB2 | 47:H8:59:LEU:HD22 | 1.86 | 0.57 |
| 49:J8:93:GLU:OE2 | 49:J8:94:LEU:CG | 2.52 | 0.57 |
| 1:1G:684:A:C6 | 1:1G:685:G:C6 | 2.93 | 0.57 |
| 1:1G:1162:C:N4 | 1:1G:1174:G:H1 | 2.02 | 0.57 |
| 1:1G:1203:C:H2' | 1:1G:1204:A:C8 | 2.40 | 0.57 |
| 7:62:115:ARG:O | 7:62:118:VAL:HG22 | 2.05 | 0.57 |
| 12:3A:89:ARG:NH1 | 12:3A:91:LYS:HA | 2.20 | 0.57 |
| 14:5A:7:ILE:H | 14:5A:7:ILE:HD12 | 1.70 | 0.57 |
| 57:3L:8:U:H3 | 57:3L:14:A:N6 | 2.03 | 0.57 |
| 26:14:607:U:H3 | 26:14:621:A:H2 | 1.53 | 0.57 |
| 26:14:698:C:OP1 | 26:14:1634:A:N6 | 2.37 | 0.57 |
| 26:14:1019:U:H2' | 26:14:1020:A:H8 | 1.68 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:2138:C:N4 | 26:14:2153:G:O6 | 2.38 | 0.57 |
| 26:14:2387:U:H1' | 48:E5:41:ARG:NE | 2.20 | 0.57 |
| 27:1J:94:C:H2' | 27:1J:95:U:C6 | 2.40 | 0.57 |
| 34:69:120:ILE:HG22 | 34:69:122:GLU:H | 1.69 | 0.57 |
| 1:13:76:G:O4' | 1:13:95:G:N1 | 2.37 | 0.57 |
| 1:13:1171:G:O2' | 1:13:1172:C:H5' | 2.04 | 0.57 |
| 1:13:1429:C:H2' | 1:13:1430:C:H6 | 1.70 | 0.57 |
| 13:4I:35:GLU:O | 13:4I:38:GLY:N | 2.34 | 0.57 |
| 17:8I:43:LEU:HD12 | 17:8I:68:ARG:HG2 | 1.87 | 0.57 |
| 23:2K:20:G:C2 | 23:2K:58:A:N3 | 2.73 | 0.57 |
| 24:3K:53:G:H1 | 24:3K:61:C:H42 | 1.53 | 0.57 |
| 24:3K:68:G:H2' | 24:3K:69:A:H8 | 1.70 | 0.57 |
| 26:1H:74:A:H5'' | 26:1H:74:A:H8 | 1.69 | 0.57 |
| 26:1H:504:U:O2 | 26:1H:504:U:H2' | 2.05 | 0.57 |
| 26:1H:736:C:O5' | 26:1H:736:C:H6 | 1.87 | 0.57 |
| 26:1H:1915:U:H2' | 26:1H:1916:A:O4' | 2.05 | 0.57 |
| 26:1H:2592:G:C2' | 26:1H:2593:U:H5' | 2.35 | 0.57 |
| 26:1H:2712:U:H1' | 26:1H:2712(A):A:N7 | 2.19 | 0.57 |
| 36:68:112:MET:HG3 | 36:68:113:LYS:N | 2.20 | 0.57 |
| 37:78:115:LEU:HA | 37:78:134:ALA:CB | 2.34 | 0.57 |
| 1:1G:689:C:H3' | 1:1G:690:G:H21 | 1.70 | 0.57 |
| 1:1G:731:G:OP1 | 1:1G:766:A:H1' | 2.05 | 0.57 |
| 1:1G:1329:A:H2' | 1:1G:1330:U:O4' | 2.05 | 0.57 |
| 8:72:97:VAL:HA | 8:72:100:ILE:HD11 | 1.85 | 0.57 |
| 23:2L:8:4SU:C2 | 23:2L:14:A:H62 | 2.18 | 0.57 |
| 26:14:923:C:H2' | 26:14:924:C:C6 | 2.39 | 0.57 |
| 26:14:943:U:OP2 | 37:35:36:LYS:CD | 2.53 | 0.57 |
| 29:19:44:ASN:CB | 29:19:47:GLY:H | 2.18 | 0.57 |
| 33:59:149:ARG:NH1 | 33:59:163:TYR:HB3 | 2.20 | 0.57 |
| 49:F5:78:LYS:O | 49:F5:80:LEU:HD22 | 2.05 | 0.57 |
| 1:13:353:A:H5' | 1:13:353:A:C8 | 2.38 | 0.56 |
| 2:1E:118:LEU:HD12 | 2:1E:142:LEU:HB2 | 1.86 | 0.56 |
| 2:1E:215:LEU:O | 2:1E:219:VAL:HG23 | 2.05 | 0.56 |
| 4:3E:98:GLU:HG3 | 4:3E:103:ASN:HD21 | 1.70 | 0.56 |
| 11:2I:79:SER:HB2 | 11:2I:106:LYS:HD2 | 1.87 | 0.56 |
| 13:4I:84:ILE:HG23 | 13:4I:86:CYS:H | 1.70 | 0.56 |
| 17:8I:48:GLU:OE1 | 17:8I:50:LYS:HE2 | 2.05 | 0.56 |
| 26:1H:825:C:C2' | 26:1H:826:U:H5' | 2.35 | 0.56 |
| 26:1H:2111:C:C4 | 26:1H:2145:C:C2 | 2.93 | 0.56 |
| 26:1H:2292:C:O2' | 26:1H:2293:C:H5' | 2.05 | 0.56 |
| 26:1H:2721:A:H2' | 26:1H:2722:G:O4' | 2.05 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 37:78:15:ARG:HB2 | 37:78:16:ARG:HG2 | 1.87 | 0.56 |
| 42:C8:92:ARG:CB | 43:D8:11:GLN:NE2 | 2.68 | 0.56 |
| 1:1G:222:U:H2' | 1:1G:223:U:H6 | 1.70 | 0.56 |
| 1:1G:426:G:OP1 | 4:32:36:ARG:NH2 | 2.37 | 0.56 |
| 3:22:130:VAL:CG1 | 3:22:134:ILE:HG12 | 2.31 | 0.56 |
| 7:62:49:ILE:HD13 | 7:62:118:VAL:HG12 | 1.87 | 0.56 |
| 26:14:1278:A:H2' | 26:14:1279:G:C8 | 2.39 | 0.56 |
| 26:14:1536:A:C8 | 26:14:1537:C:H1' | 2.40 | 0.56 |
| 26:14:2354:G:N7 | 61:14:3561:HOH:O | 2.33 | 0.56 |
| 26:14:2688:U:H1' | 26:14:2721:A:H62 | 1.69 | 0.56 |
| 47:D5:5:LEU:HD13 | 47:D5:6:LYS:N | 2.20 | 0.56 |
| 47:D5:27:VAL:HG12 | 47:D5:87:ASP:HA | 1.87 | 0.56 |
| 1:13:813:U:OP2 | 1:13:816:A:N6 | 2.32 | 0.56 |
| 2:1E:207:ALA:O | 2:1E:210:SER:OG | 2.20 | 0.56 |
| 6:5E:46:ARG:HB3 | 6:5E:60:PHE:CE1 | 2.40 | 0.56 |
| 7:6E:87:VAL:HG12 | 7:6E:89:MET:HG3 | 1.86 | 0.56 |
| 8:7E:16:ALA:HB1 | 8:7E:24:THR:HG21 | 1.87 | 0.56 |
| 12:3I:9:GLN:O | 12:3I:13:LYS:HG2 | 2.05 | 0.56 |
| 19:AI:50:ALA:HB1 | 19:AI:57:HIS:HB3 | 1.87 | 0.56 |
| 22:1K:10:G:H22 | 22:1K:26:A:H2' | 1.70 | 0.56 |
| 24:3K:34:U:H1' | 24:3K:35:U:C5' | 2.31 | 0.56 |
| 26:1H:192:C:N3 | 61:1H:3603:HOH:O | 2.32 | 0.56 |
| 26:1H:330:A:O2' | 26:1H:331:A:C8 | 2.57 | 0.56 |
| 26:1H:1022:G:O6 | 35:58:66:LYS:NZ | 2.37 | 0.56 |
| 26:1H:1899:G:N2 | 26:1H:1902:C:N4 | 2.41 | 0.56 |
| 26:1H:2468:G:H4' | 26:1H:2468:G:OP1 | 2.05 | 0.56 |
| 28:7I:65:PRO:HG2 | 28:7I:66:HIS:HD2 | 1.71 | 0.56 |
| 31:31:127:GLU:O | 31:31:129:PHE:N | 2.36 | 0.56 |
| 3:22:18:TRP:NE1 | 14:5A:54:PRO:HA | 2.21 | 0.56 |
| 5:42:42:GLY:HA3 | 5:42:65:ASN:O | 2.04 | 0.56 |
| 5:42:140:ARG:O | 5:42:143:ARG:NH1 | 2.32 | 0.56 |
| 57:3L:12:U:H3' | 57:3L:13:C:C6 | 2.40 | 0.56 |
| 26:14:958:U:O2 | 27:1J:89(A):A:O2' | 2.19 | 0.56 |
| 26:14:1035:U:H5'' | 33:59:59:ARG:HB3 | 1.86 | 0.56 |
| 26:14:1291:C:H2' | 26:14:1292:U:C6 | 2.41 | 0.56 |
| 26:14:1729:A:H2 | 26:14:1730:U:H5 | 1.53 | 0.56 |
| 26:14:2142:C:H2' | 26:14:2143:C:C6 | 2.40 | 0.56 |
| 26:14:2553:G:H5'' | 26:14:2554:U:OP2 | 2.03 | 0.56 |
| 26:14:2600:A:H2' | 26:14:2601:C:C6 | 2.40 | 0.56 |
| 1:13:877:C:H5'' | 8:7E:88:LYS:HD3 | 1.86 | 0.56 |
| 1:13:1391:U:H2' | 1:13:1392:G:C8 | 2.40 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:1E:46:LYS:HA | 2:1E:49:GLU:OE1 | 2.04 | 0.56 |
| 2:1E:195:ASP:O | 8:7E:74:PRO:HG3 | 2.05 | 0.56 |
| 9:8E:29:ASN:N | 9:8E:63:ILE:O | 2.31 | 0.56 |
| 13:4I:34:LEU:HD13 | 13:4I:41:PRO:HA | 1.87 | 0.56 |
| 13:4I:58:GLU:O | 13:4I:62:ASN:ND2 | 2.31 | 0.56 |
| 14:5I:21:TYR:HE2 | 14:5I:23:ARG:NE | 2.03 | 0.56 |
| 14:5I:53:LEU:HB3 | 14:5I:56:VAL:CG2 | 2.35 | 0.56 |
| 16:7I:72:ARG:HD3 | 16:7I:73:LEU:HD23 | 1.88 | 0.56 |
| 18:9I:58:LEU:HD23 | 18:9I:63:GLN:HA | 1.86 | 0.56 |
| 19:AI:22:LEU:HD12 | 19:AI:25:LYS:HG2 | 1.87 | 0.56 |
| 24:3K:34:U:HO2' | 24:3K:35:U:P | 2.28 | 0.56 |
| 24:3K:67:C:H2' | 24:3K:68:G:C8 | 2.40 | 0.56 |
| 26:1H:155:C:H5' | 26:1H:161:U:OP2 | 2.05 | 0.56 |
| 26:1H:2296:U:H4' | 26:1H:2297:C:OP1 | 2.05 | 0.56 |
| 26:1H:2468:G:O4' | 26:1H:2468:G:N3 | 2.36 | 0.56 |
| 26:1H:2785:C:H2' | 26:1H:2786:U:O4' | 2.06 | 0.56 |
| 27:16:79:C:O5' | 27:16:79:C:H6 | 1.89 | 0.56 |
| 29:11:238:GLY:O | 29:11:239:ARG:HB2 | 2.05 | 0.56 |
| 38:88:66:ILE:CG1 | 38:88:67:ARG:H | 2.17 | 0.56 |
| 45:F8:36:LYS:HG2 | 45:F8:54:VAL:CG2 | 2.34 | 0.56 |
| 46:G8:15:VAL:HG21 | 46:G8:42:VAL:HG21 | 1.87 | 0.56 |
| 46:G8:87:LYS:HD3 | 46:G8:88:LYS:N | 2.19 | 0.56 |
| 47:H8:152:ALA:HB3 | 47:H8:167:PRO:O | 2.06 | 0.56 |
| 50:K8:5:GLU:OE2 | 50:K8:6:VAL:N | 2.38 | 0.56 |
| 50:K8:64:LEU:HD11 | 50:K8:68:ARG:HH11 | 1.70 | 0.56 |
| 53:N8:39:MET:C | 53:N8:40:LYS:HD2 | 2.25 | 0.56 |
| 1:1G:340:U:H2' | 1:1G:341:C:C6 | 2.40 | 0.56 |
| 1:1G:657:G:N2 | 15:6A:22:THR:OG1 | 2.38 | 0.56 |
| 1:1G:1348:U:N3 | 1:1G:1374:A:H2 | 2.02 | 0.56 |
| 3:22:8:ILE:HD12 | 3:22:16:ARG:HG2 | 1.87 | 0.56 |
| 3:22:42:LEU:HA | 3:22:45:LYS:HD3 | 1.86 | 0.56 |
| 4:32:8:VAL:HG22 | 4:32:115:ARG:HH12 | 1.69 | 0.56 |
| 10:1A:48:THR:HA | 10:1A:62:HIS:CB | 2.35 | 0.56 |
| 12:3A:20:LYS:HD2 | 12:3A:21:LYS:H | 1.70 | 0.56 |
| 56:1L:37:A:O2' | 26:14:1913:A:N6 | 2.38 | 0.56 |
| 26:14:67:U:H3 | 26:14:74:A:H2 | 1.53 | 0.56 |
| 26:14:140:A:C8 | 26:14:1408:C:O2' | 2.57 | 0.56 |
| 26:14:155:C:N3 | 26:14:171:G:N1 | 2.52 | 0.56 |
| 26:14:353:G:H2' | 26:14:354:G:H8 | 1.70 | 0.56 |
| 26:14:1052:C:H42 | 26:14:1107:G:H1 | 1.54 | 0.56 |
| 26:14:1441:G:H2' | 26:14:1442:G:C8 | 2.40 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:14:1607:C:H4' | 26:14:1608:A:O5' | 2.06 | 0.56 |
| 26:14:1846:G:N2 | 26:14:1894:C:O2 | 2.35 | 0.56 |
| 26:14:2121:G:N1 | 26:14:2178:C:O2 | 2.38 | 0.56 |
| 26:14:2141:G:N2 | 26:14:2150:U:O2 | 2.30 | 0.56 |
| 26:14:2346:A:H5'' | 26:14:2383:G:H1' | 1.87 | 0.56 |
| 26:14:2543:G:H2' | 26:14:2544:G:C8 | 2.40 | 0.56 |
| 26:14:2578:G:OP1 | 26:14:2614:A:N6 | 2.32 | 0.56 |
| 31:39:53:THR:HG22 | 31:39:55:GLY:N | 2.12 | 0.56 |
| 31:39:74:ARG:HG3 | 31:39:74:ARG:O | 2.05 | 0.56 |
| 32:49:170:ARG:NH2 | 32:49:174:GLU:OE1 | 2.34 | 0.56 |
| 33:59:8:PRO:HG2 | 33:59:69:ARG:CZ | 2.35 | 0.56 |
| 36:25:13:ASN:O | 36:25:15:GLY:N | 2.38 | 0.56 |
| 1:13:297:G:H4' | 1:13:557:G:H4' | 1.88 | 0.56 |
| 1:13:390:C:H2' | 1:13:391:G:C8 | 2.40 | 0.56 |
| 1:13:1198:G:HO2' | 10:1I:54:PHE:HD2 | 1.53 | 0.56 |
| 1:13:1318:A:H2' | 1:13:1319:A:H5'' | 1.87 | 0.56 |
| 6:5E:15:ASP:CG | 6:5E:18:GLN:H | 2.08 | 0.56 |
| 10:1I:40:LEU:HB2 | 10:1I:69:ASN:CB | 2.34 | 0.56 |
| 26:1H:2055:C:H4' | 26:1H:2056:G:H5'' | 1.88 | 0.56 |
| 26:1H:2789:C:H1' | 26:1H:2892:A:H2 | 1.71 | 0.56 |
| 26:1H:2795:G:H2' | 26:1H:2798:C:OP2 | 2.04 | 0.56 |
| 38:88:5:ARG:HH21 | 38:88:6:ARG:CD | 2.18 | 0.56 |
| 40:A8:28:VAL:HG11 | 40:A8:98:VAL:HG12 | 1.86 | 0.56 |
| 47:H8:136:PHE:C | 47:H8:137:ILE:HD12 | 2.26 | 0.56 |
| 1:1G:193:C:H2' | 1:1G:194:C:H6 | 1.70 | 0.56 |
| 2:12:82:ARG:HH22 | 2:12:150:SER:HB3 | 1.70 | 0.56 |
| 57:3L:48:C:N4 | 57:3L:59:A:N3 | 2.53 | 0.56 |
| 26:14:66:C:H2' | 26:14:67:U:O4' | 2.05 | 0.56 |
| 26:14:1388:G:H2' | 26:14:1389:G:C8 | 2.39 | 0.56 |
| 26:14:1751:C:H2' | 26:14:1752:C:C6 | 2.40 | 0.56 |
| 26:14:2127:G:H1 | 26:14:2161:C:N4 | 1.98 | 0.56 |
| 26:14:2270:G:OP2 | 61:14:3534:HOH:O | 2.17 | 0.56 |
| 26:14:2685:G:O6 | 61:14:3523:HOH:O | 2.10 | 0.56 |
| 29:19:43:ARG:HG2 | 29:19:49:ILE:CA | 2.35 | 0.56 |
| 30:29:51:PHE:CG | 30:29:52:LEU:N | 2.73 | 0.56 |
| 45:B5:27:THR:CG2 | 45:B5:80:ILE:HG22 | 2.32 | 0.56 |
| 51:H5:6:VAL:HG12 | 51:H5:56:VAL:HB | 1.87 | 0.56 |
| 1:13:437:U:H5'' | 4:3E:155:LEU:HD21 | 1.88 | 0.56 |
| 1:13:1429:C:H2' | 1:13:1430:C:C6 | 2.40 | 0.56 |
| 7:6E:44:TYR:HA | 7:6E:47:CYS:SG | 2.46 | 0.56 |
| 15:6I:53:HIS:ND1 | 15:6I:53:HIS:O | 2.39 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 23:2K:32:G:H2' | 23:2K:33:OMC:H6 | 1.69 | 0.56 |
| 26:1H:710:G:H1 | 26:1H:721:C:H42 | 1.52 | 0.56 |
| 26:1H:748:G:C8 | 44:E8:89:ALA:HB1 | 2.40 | 0.56 |
| 26:1H:817:C:H4' | 26:1H:932:G:C5 | 2.41 | 0.56 |
| 26:1H:900:A:H2' | 26:1H:901:A:H8 | 1.71 | 0.56 |
| 26:1H:1279:G:H4' | 39:98:31:HIS:CD2 | 2.40 | 0.56 |
| 26:1H:1790:C:H2' | 26:1H:1791:A:C5 | 2.41 | 0.56 |
| 26:1H:1858:G:H1' | 26:1H:1883:G:N2 | 2.19 | 0.56 |
| 26:1H:2714:G:O5' | 26:1H:2714:G:H8 | 1.88 | 0.56 |
| 40:A8:58:LEU:HD12 | 40:A8:68:GLN:OE1 | 2.05 | 0.56 |
| 49:J8:7:ILE:HD12 | 49:J8:62:VAL:HG11 | 1.87 | 0.56 |
| 1:1G:1008:C:H42 | 1:1G:1021:G:H22 | 1.52 | 0.56 |
| 5:42:76:ILE:HG22 | 5:42:78:HIS:H | 1.71 | 0.56 |
| 7:62:23:VAL:HG13 | 7:62:43:PHE:HE2 | 1.70 | 0.56 |
| 26:14:470:A:H5' | 26:14:470:A:C8 | 2.39 | 0.56 |
| 26:14:662:G:H5' | 37:35:15:ARG:CA | 2.36 | 0.56 |
| 26:14:824:A:H1' | 26:14:2358:G:N7 | 2.21 | 0.56 |
| 26:14:1342:A:H2 | 26:14:1602:U:N3 | 2.03 | 0.56 |
| 26:14:1500:G:O2' | 29:19:100:GLY:O | 2.23 | 0.56 |
| 26:14:2540:C:O2' | 26:14:2740:A:N3 | 2.33 | 0.56 |
| 26:14:2567:G:H2' | 26:14:2568:C:C6 | 2.40 | 0.56 |
| 32:49:12:TYR:O | 32:49:17:PRO:HD3 | 2.05 | 0.56 |
| 38:45:34:LEU:HD11 | 38:45:129:THR:HB | 1.86 | 0.56 |
| 43:95:7:THR:HG23 | 43:95:22:VAL:HG21 | 1.86 | 0.56 |
| 46:C5:76:CYS:CB | 46:C5:97:ARG:HG3 | 2.36 | 0.56 |
| 1:13:134:A:H61 | 16:7I:25:ARG:NH1 | 2.04 | 0.56 |
| 1:13:240:C:H2' | 1:13:241:C:H6 | 1.69 | 0.56 |
| 2:1E:121:LEU:HB3 | 2:1E:127:ILE:CG2 | 2.35 | 0.56 |
| 3:2E:46:GLU:HB2 | 3:2E:47:LEU:HD22 | 1.88 | 0.56 |
| 5:4E:48:ALA:HB2 | 5:4E:57:LYS:HD3 | 1.87 | 0.56 |
| 23:2K:62:C:H2' | 23:2K:63:C:C6 | 2.40 | 0.56 |
| 24:3K:15:G:H22 | 24:3K:48:C:H41 | 1.54 | 0.56 |
| 26:1H:49:A:H5'' | 26:1H:51:G:H5'' | 1.88 | 0.56 |
| 26:1H:445:C:O2' | 26:1H:446:G:H5' | 2.05 | 0.56 |
| 26:1H:572:A:H5'' | 26:1H:573:G:OP2 | 2.05 | 0.56 |
| 26:1H:1429:G:O2' | 26:1H:1430:C:H5' | 2.05 | 0.56 |
| 26:1H:1766:U:O2' | 26:1H:1767:C:H5' | 2.05 | 0.56 |
| 26:1H:2175:C:H5' | 28:71:3:HIS:ND1 | 2.21 | 0.56 |
| 26:1H:2750:A:H3' | 33:51:4:ILE:CD1 | 2.36 | 0.56 |
| 27:16:73:A:C4 | 27:16:104:A:C2 | 2.93 | 0.56 |
| 29:11:119:ALA:HB1 | 29:11:130:ALA:HB3 | 1.86 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 32:41:11:TYR:OH | 32:41:16:ARG:NH1 | 2.39 | 0.56 |
| 34:61:58:LEU:HG | 34:61:59:ALA:N | 2.21 | 0.56 |
| 42:C8:97:ASP:OD2 | 42:C8:101:ARG:NH2 | 2.39 | 0.56 |
| 47:H8:163:LEU:HD13 | 47:H8:165:VAL:HA | 1.87 | 0.56 |
| 50:K8:50:ILE:HD12 | 50:K8:51:ARG:H | 1.70 | 0.56 |
| 1:1G:293:G:H4' | 1:1G:609:A:N1 | 2.21 | 0.56 |
| 1:1G:382:A:H2' | 1:1G:383:A:C8 | 2.41 | 0.56 |
| 1:1G:841:U:H3' | 1:1G:841:U:H6 | 1.71 | 0.56 |
| 1:1G:1017:G:H2' | 1:1G:1018:C:C6 | 2.41 | 0.56 |
| 1:1G:1359:C:O2' | 1:1G:1362:C:N4 | 2.38 | 0.56 |
| 8:72:11:THR:HG23 | 8:72:14:ARG:HH12 | 1.70 | 0.56 |
| 13:4A:39:ILE:HD11 | 13:4A:55:ARG:HH22 | 1.71 | 0.56 |
| 14:5A:24:CYS:SG | 14:5A:25:VAL:N | 2.77 | 0.56 |
| 16:7A:22:THR:HA | 16:7A:33:ILE:HD12 | 1.87 | 0.56 |
| 16:7A:57:ARG:NH2 | 16:7A:79:VAL:O | 2.33 | 0.56 |
| 17:8A:23:VAL:O | 17:8A:39:SER:HA | 2.06 | 0.56 |
| 26:14:34:C:O2' | 26:14:35:G:H8 | 1.88 | 0.56 |
| 26:14:531:C:OP1 | 26:14:561:G:N2 | 2.38 | 0.56 |
| 26:14:809:G:H2' | 26:14:810:U:O4' | 2.06 | 0.56 |
| 26:14:1593:G:H2' | 26:14:1594:G:C8 | 2.40 | 0.56 |
| 26:14:1678:G:N2 | 26:14:1989:G:N2 | 2.52 | 0.56 |
| 26:14:1804:C:O5' | 26:14:1804:C:H6 | 1.89 | 0.56 |
| 31:39:154:VAL:HA | 31:39:191:ARG:O | 2.05 | 0.56 |
| 32:49:145:THR:HG1 | 32:49:148:MET:N | 2.00 | 0.56 |
| 34:69:8:PRO:CD | 34:69:15:VAL:HG22 | 2.36 | 0.56 |
| 34:69:114:LEU:O | 34:69:114:LEU:HD13 | 2.05 | 0.56 |
| 38:45:103:MET:O | 38:45:104:PHE:HB2 | 2.06 | 0.56 |
| 47:D5:28:MET:O | 47:D5:35:ARG:N | 2.31 | 0.56 |
| 49:F5:79:GLY:O | 49:F5:80:LEU:HD13 | 2.05 | 0.56 |
| 53:J5:31:VAL:HG13 | 53:J5:42:PRO:HG3 | 1.88 | 0.56 |
| 2:1E:136:VAL:O | 2:1E:140:HIS:N | 2.34 | 0.56 |
| 6:5E:28:ARG:O | 6:5E:32:ASN:ND2 | 2.37 | 0.56 |
| 11:2I:41:THR:CG2 | 11:2I:71:LYS:HD2 | 2.31 | 0.56 |
| 24:3K:40:C:H5' | 24:3K:41:A:OP2 | 2.05 | 0.56 |
| 26:1H:298:G:N7 | 46:G8:84:ARG:NH2 | 2.53 | 0.56 |
| 26:1H:456:C:H4' | 26:1H:457:A:OP1 | 2.03 | 0.56 |
| 26:1H:653:A:H4' | 26:1H:654:A:OP1 | 2.06 | 0.56 |
| 26:1H:1693:U:O2' | 29:11:14:ARG:NH2 | 2.39 | 0.56 |
| 26:1H:2533:A:H2' | 26:1H:2534:A:O4' | 2.06 | 0.56 |
| 26:1H:2685:G:H5' | 36:68:68:GLU:OE1 | 2.06 | 0.56 |
| 38:88:78:PRO:HB2 | 38:88:81:VAL:HG11 | 1.87 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 41:B8:56:GLY:O | 41:B8:59:THR:HG23 | 2.06 | 0.56 |
| 43:D8:76:LYS:O | 43:D8:79:VAL:HG12 | 2.05 | 0.56 |
| 1:1G:42:G:H1 | 1:1G:400:C:H42 | 1.53 | 0.56 |
| 1:1G:191(F):U:O2 | 20:BA:105:SER:OG | 2.14 | 0.56 |
| 1:1G:1010:G:C2 | 1:1G:1011:G:C4 | 2.94 | 0.56 |
| 1:1G:1112:C:C4 | 3:22:178:LEU:HD23 | 2.41 | 0.56 |
| 1:1G:1224:G:C6 | 1:1G:1322:C:H1' | 2.41 | 0.56 |
| 10:1A:25:GLU:O | 10:1A:29:ARG:HB3 | 2.06 | 0.56 |
| 20:BA:10:LEU:HD13 | 20:BA:12:ALA:H | 1.70 | 0.56 |
| 57:3L:11:C:N4 | 57:3L:24:G:H1 | 2.04 | 0.56 |
| 26:14:389:G:N1 | 37:35:71:VAL:HG12 | 2.21 | 0.56 |
| 26:14:479:A:N3 | 26:14:481:G:H5'' | 2.19 | 0.56 |
| 26:14:780:G:N2 | 26:14:783:A:H62 | 2.02 | 0.56 |
| 26:14:1759:A:H4' | 26:14:2715:C:O4' | 2.06 | 0.56 |
| 26:14:1843:C:H5' | 29:19:253:GLN:OE1 | 2.06 | 0.56 |
| 26:14:2633:G:H1' | 30:29:62:PRO:HG2 | 1.86 | 0.56 |
| 43:95:85:LYS:HD2 | 43:95:87:HIS:HA | 1.86 | 0.56 |
| 45:B5:5:TYR:CE2 | 50:G5:30:ARG:HB2 | 2.40 | 0.56 |
| 47:D5:93:ASP:HB2 | 47:D5:131:ARG:HH21 | 1.70 | 0.56 |
| 1:13:276:G:C6 | 1:13:277:C:C4 | 2.94 | 0.56 |
| 4:3E:173:TRP:HB2 | 4:3E:187:ARG:O | 2.06 | 0.56 |
| 4:3E:187:ARG:HH22 | 4:3E:193:ASP:CG | 2.09 | 0.56 |
| 5:4E:51:VAL:CG1 | 5:4E:52:PRO:HD3 | 2.36 | 0.56 |
| 7:6E:15:ASP:HB3 | 7:6E:20:ASP:N | 2.20 | 0.56 |
| 7:6E:115:ARG:O | 7:6E:118:VAL:HG12 | 2.06 | 0.56 |
| 26:1H:950:G:H2' | 26:1H:951:C:H6 | 1.70 | 0.56 |
| 26:1H:992:C:H2' | 26:1H:993:G:H8 | 1.70 | 0.56 |
| 26:1H:1470:G:N7 | 61:1H:3607:HOH:O | 2.33 | 0.56 |
| 31:31:153:SER:HB2 | 31:31:189:THR:HA | 1.88 | 0.56 |
| 32:41:115:ARG:HH21 | 32:41:137:GLU:CD | 2.10 | 0.56 |
| 37:78:50:ARG:HH21 | 37:78:50:ARG:HG3 | 1.70 | 0.56 |
| 41:B8:54:ARG:HA | 41:B8:59:THR:HB | 1.86 | 0.56 |
| 45:F8:57:LEU:N | 45:F8:57:LEU:HD23 | 2.21 | 0.56 |
| 1:1G:198:G:H2' | 1:1G:199:G:C8 | 2.41 | 0.56 |
| 1:1G:339:C:H2' | 1:1G:340:U:C6 | 2.41 | 0.56 |
| 1:1G:1082:G:H8 | 1:1G:1082:G:OP2 | 1.88 | 0.56 |
| 1:1G:1104:G:H2' | 1:1G:1105:A:H5' | 1.87 | 0.56 |
| 1:1G:1218:C:P | 14:5A:9:LYS:HZ1 | 2.28 | 0.56 |
| 1:1G:1423:G:H2' | 1:1G:1424:C:C6 | 2.36 | 0.56 |
| 8:72:99:GLU:HG2 | 8:72:100:ILE:N | 2.19 | 0.56 |
| 10:1A:32:ALA:HB1 | 10:1A:76:ASN:HB2 | 1.88 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 17:8A:88:TYR:HA | 17:8A:91:ARG:CD | 2.36 | 0.56 |
| 20:BA:23:ARG:HH22 | 20:BA:27:LYS:HD2 | 1.71 | 0.56 |
| 26:14:536:A:H4' | 42:85:57:PHE:CZ | 2.41 | 0.56 |
| 26:14:565:C:H4' | 26:14:1253:A:C6 | 2.41 | 0.56 |
| 26:14:1639:U:OP1 | 61:14:3535:HOH:O | 2.18 | 0.56 |
| 32:49:105:LYS:HG3 | 32:49:106:LEU:HD13 | 1.86 | 0.56 |
| 36:25:71:ARG:HE | 36:25:105:GLU:CD | 2.09 | 0.56 |
| 47:D5:10:ARG:HH21 | 47:D5:26:GLY:H | 1.51 | 0.56 |
| 47:D5:19:ARG:NH1 | 47:D5:84:GLU:O | 2.38 | 0.56 |
| 1:13:881:G:P | 12:3I:12:ARG:HH22 | 2.29 | 0.56 |
| 1:13:1305:G:H8 | 1:13:1305:G:OP2 | 1.89 | 0.56 |
| 2:1E:27:LYS:HD3 | 2:1E:193:ASP:HB2 | 1.88 | 0.56 |
| 3:2E:20:SER:OG | 3:2E:40:ARG:NH2 | 2.23 | 0.56 |
| 12:3I:70:ILE:HG12 | 12:3I:100:ILE:HD12 | 1.86 | 0.56 |
| 26:1H:878:A:N6 | 26:1H:899:A:H1' | 2.21 | 0.56 |
| 26:1H:1513:C:C5 | 26:1H:1514:U:H5 | 2.24 | 0.56 |
| 26:1H:2027:G:C5 | 26:1H:2028:U:C5 | 2.93 | 0.56 |
| 27:16:12:C:N3 | 48:I8:74:ARG:NH1 | 2.54 | 0.56 |
| 27:16:13:A:N1 | 27:16:69:G:O2' | 2.33 | 0.56 |
| 27:16:83:G:C6 | 27:16:84:C:C5 | 2.94 | 0.56 |
| 33:51:20:ALA:HB1 | 33:51:21:PRO:HD2 | 1.87 | 0.56 |
| 49:J8:87:PRO:O | 49:J8:91:LYS:HE2 | 2.06 | 0.56 |
| 1:1G:562:C:O2' | 12:3A:17:LYS:HG2 | 2.06 | 0.56 |
| 1:1G:937:A:H1' | 1:1G:1379:G:N2 | 2.20 | 0.56 |
| 1:1G:1127:G:O2' | 1:1G:1128:C:H5' | 2.05 | 0.56 |
| 3:22:70:VAL:HG12 | 3:22:72:LYS:N | 2.18 | 0.56 |
| 57:3L:69:A:C6 | 57:3L:70:C:N4 | 2.74 | 0.56 |
| 26:14:724:U:H2' | 26:14:725:G:O4' | 2.06 | 0.56 |
| 26:14:909:A:O2' | 26:14:910:A:H5'' | 2.06 | 0.56 |
| 26:14:1338:G:N3 | 26:14:1393:A:H2 | 2.03 | 0.56 |
| 26:14:1871:A:H2' | 26:14:1872:A:C8 | 2.41 | 0.56 |
| 26:14:2312:U:H5'' | 32:49:74:LYS:HZ3 | 1.71 | 0.56 |
| 26:14:2370:G:C6 | 26:14:2371:G:C6 | 2.94 | 0.56 |
| 38:45:42:ILE:HD13 | 38:45:97:VAL:CG2 | 2.36 | 0.56 |
| 47:D5:69:THR:HG22 | 47:D5:90:VAL:HG22 | 1.86 | 0.56 |
| 1:13:188:U:O2' | 1:13:189:U:OP1 | 2.24 | 0.56 |
| 1:13:458:C:H2' | 1:13:464:G:O4' | 2.05 | 0.56 |
| 1:13:1135:U:H4' | 1:13:1136:U:H5 | 1.70 | 0.56 |
| 1:13:1194:U:H2' | 1:13:1195:C:C6 | 2.41 | 0.56 |
| 2:1E:21:ARG:HB2 | 2:1E:39:ILE:HD13 | 1.88 | 0.56 |
| 4:3E:98:GLU:HG2 | 4:3E:189:PRO:HG2 | 1.87 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|---------------------|--------------------------|-------------------|
| 11:2I:73:MET:HE2 | 11:2I:103:LEU:HD22 | 1.87 | 0.56 |
| 11:2I:98:LEU:O | 11:2I:101:SER:OG | 2.18 | 0.56 |
| 12:3I:93:LEU:O | 12:3I:96:VAL:HG12 | 2.05 | 0.56 |
| 18:9I:53:ARG:HA | 18:9I:56:THR:HG22 | 1.89 | 0.56 |
| 26:1H:443:A:H3' | 31:31:45:ARG:NH2 | 2.20 | 0.56 |
| 26:1H:1170:G:N2 | 26:1H:1180:C:C2 | 2.73 | 0.56 |
| 26:1H:1337:G:H2' | 26:1H:1338:G:H8 | 1.70 | 0.56 |
| 26:1H:2336:A:H61 | 48:18:43:THR:CG2 | 2.18 | 0.56 |
| 28:71:23:ASP:HB2 | 28:71:190:ARG:HH22 | 1.71 | 0.56 |
| 30:21:87:GLU:OE1 | 30:21:87:GLU:N | 2.38 | 0.56 |
| 34:61:1:MET:C | 34:61:20:ASP:HB2 | 2.27 | 0.56 |
| 37:78:64:LYS:HD2 | 55:Q8:12:LYS:HB3 | 1.87 | 0.56 |
| 39:98:12:ARG:HD3 | 39:98:16:HIS:CD2 | 2.41 | 0.56 |
| 41:B8:3:ARG:O | 41:B8:6:LEU:N | 2.39 | 0.56 |
| 43:D8:18:LEU:HD13 | 43:D8:20:LEU:HB2 | 1.87 | 0.56 |
| 46:G8:94:LYS:HZ3 | 46:G8:95:LYS:H | 1.53 | 0.56 |
| 47:H8:5:LEU:HD23 | 47:H8:47:VAL:HG21 | 1.87 | 0.56 |
| 50:K8:30:ARG:O | 50:K8:34:GLU:HG3 | 2.06 | 0.56 |
| 54:P8:5:TRP:CD1 | 54:P8:7:PRO:HG3 | 2.41 | 0.56 |
| 1:1G:601:C:H2' | 1:1G:602:A:C8 | 2.41 | 0.56 |
| 1:1G:1015:A:H2' | 1:1G:1016:A:H8 | 1.71 | 0.56 |
| 1:1G:1053:G:N7 | 1:1G:1199:U:H3' | 2.21 | 0.56 |
| 1:1G:1137:C:H1' | 1:1G:1138:G:C2 | 2.41 | 0.56 |
| 1:1G:1401:G:OP1 | 25:4L:18:G:O2' | 2.20 | 0.56 |
| 8:72:26:VAL:O | 8:72:59:LEU:N | 2.37 | 0.56 |
| 18:9A:36:ASN:OD1 | 18:9A:39:VAL:HB | 2.06 | 0.56 |
| 26:14:896:A:H5' | 26:14:897:C:H6 | 1.71 | 0.56 |
| 26:14:1149:G:H2' | 26:14:1150:C:C6 | 2.41 | 0.56 |
| 26:14:1585:C:O2 | 26:14:1585:C:H2' | 2.06 | 0.56 |
| 26:14:1899:G:HO2' | 26:14:1900:A:P | 2.29 | 0.56 |
| 26:14:2259:G:C2 | 26:14:2282:G:N1 | 2.74 | 0.56 |
| 26:14:2712:U:O2' | 26:14:2712(A):A:O5' | 2.20 | 0.56 |
| 26:14:2787:C:O2' | 30:29:61:ARG:O | 2.17 | 0.56 |
| 35:15:13:TRP:HB2 | 35:15:133:GLN:HB2 | 1.88 | 0.56 |
| 35:15:49:GLY:H | 35:15:119:ARG:NH1 | 2.03 | 0.56 |
| 36:25:34:THR:HG22 | 36:25:37:ASP:OD2 | 2.06 | 0.56 |
| 38:45:78:PRO:HG3 | 38:45:87:LYS:HD3 | 1.88 | 0.56 |
| 1:13:247:G:C5 | 1:13:248:C:H5 | 2.24 | 0.55 |
| 1:13:491:G:H2' | 1:13:492:G:C8 | 2.39 | 0.55 |
| 1:13:652:U:HO2' | 1:13:653:A:P | 2.28 | 0.55 |
| 1:13:711:G:O2' | 1:13:712:A:H5' | 2.06 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:1234:C:O2' | 1:13:1235:U:H5' | 2.05 | 0.55 |
| 2:1E:20:GLU:HB3 | 2:1E:23:ARG:HD2 | 1.87 | 0.55 |
| 2:1E:47:THR:O | 2:1E:51:LEU:N | 2.35 | 0.55 |
| 2:1E:73:THR:HA | 2:1E:96:ARG:NH2 | 2.20 | 0.55 |
| 3:2E:18:TRP:CD1 | 14:5I:54:PRO:HA | 2.41 | 0.55 |
| 4:3E:49:ARG:CZ | 4:3E:49:ARG:HB2 | 2.36 | 0.55 |
| 19:AI:23:ASN:ND2 | 19:AI:43:GLU:HB2 | 2.21 | 0.55 |
| 26:1H:550:G:H2' | 26:1H:551:G:C8 | 2.40 | 0.55 |
| 26:1H:2692:C:O2 | 26:1H:2847:U:H4' | 2.05 | 0.55 |
| 34:61:113:ARG:HD2 | 34:61:131:LYS:HB2 | 1.88 | 0.55 |
| 37:78:29:LYS:HG2 | 37:78:30:THR:N | 2.22 | 0.55 |
| 1:1G:419:C:H42 | 1:1G:424:G:H1 | 1.52 | 0.55 |
| 1:1G:521:G:O5' | 12:3A:73:GLU:HG2 | 2.05 | 0.55 |
| 1:1G:588:G:H1 | 1:1G:651:C:N4 | 2.04 | 0.55 |
| 1:1G:1104:G:C2' | 1:1G:1105:A:H5' | 2.36 | 0.55 |
| 1:1G:1300:G:N1 | 1:1G:1335:C:O4' | 2.39 | 0.55 |
| 4:32:150:GLU:C | 4:32:152:SER:N | 2.59 | 0.55 |
| 7:62:46:ALA:O | 7:62:50:ILE:N | 2.38 | 0.55 |
| 23:2L:2:G:N3 | 23:2L:2:G:H2' | 2.20 | 0.55 |
| 26:14:1499:C:H2' | 26:14:1500:G:H8 | 1.70 | 0.55 |
| 29:19:133:LEU:HD13 | 29:19:173:VAL:CG2 | 2.36 | 0.55 |
| 30:29:119:ARG:NH1 | 30:29:120:TRP:HZ2 | 2.02 | 0.55 |
| 32:49:136:ARG:NH2 | 32:49:154:GLY:N | 2.54 | 0.55 |
| 37:35:52:GLU:O | 37:35:54:GLY:N | 2.38 | 0.55 |
| 40:65:87:PHE:CE1 | 40:65:102:ALA:HB2 | 2.41 | 0.55 |
| 45:B5:51:VAL:H | 45:B5:83:VAL:HG23 | 1.71 | 0.55 |
| 1:13:45:U:H2' | 1:13:46:G:C8 | 2.41 | 0.55 |
| 1:13:311:C:H2' | 1:13:312:C:H6 | 1.71 | 0.55 |
| 1:13:1177:G:OP1 | 1:13:1177:G:H4' | 2.05 | 0.55 |
| 1:13:1351:U:H1' | 7:6E:33:ASP:O | 2.05 | 0.55 |
| 4:3E:108:LEU:HD23 | 4:3E:110:PHE:HE1 | 1.71 | 0.55 |
| 5:4E:6:PHE:CE2 | 5:4E:66:MET:HE1 | 2.41 | 0.55 |
| 26:1H:443:A:H1' | 26:1H:1201:C:O4' | 2.06 | 0.55 |
| 26:1H:654:A:H2 | 26:1H:654(A):A:H3' | 1.71 | 0.55 |
| 26:1H:872:A:H4' | 38:88:66:ILE:HD11 | 1.87 | 0.55 |
| 26:1H:1542:G:OP2 | 26:1H:1543:A:O2' | 2.22 | 0.55 |
| 26:1H:2749:A:H1' | 33:51:63:SER:OG | 2.06 | 0.55 |
| 34:61:21:VAL:HG21 | 34:61:25:TYR:HD2 | 1.69 | 0.55 |
| 39:98:50:HIS:NE2 | 39:98:54:LEU:HD21 | 2.21 | 0.55 |
| 41:B8:41:ARG:HB2 | 41:B8:41:ARG:NH1 | 2.21 | 0.55 |
| 1:1G:930:C:N4 | 1:1G:931:C:C4 | 2.74 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 5:42:16:THR:OG1 | 5:42:17:ALA:N | 2.39 | 0.55 |
| 12:3A:28:LYS:HD2 | 12:3A:33:ARG:HH12 | 1.71 | 0.55 |
| 13:4A:84:ILE:HD12 | 19:AA:74:PHE:CZ | 2.41 | 0.55 |
| 20:BA:49:ALA:HB2 | 20:BA:92:LEU:HD22 | 1.87 | 0.55 |
| 26:14:6:A:H2' | 35:15:131:GLN:NE2 | 2.22 | 0.55 |
| 26:14:275:G:O2' | 26:14:276:A:O4' | 2.22 | 0.55 |
| 26:14:640:C:H5'' | 26:14:641:C:OP2 | 2.06 | 0.55 |
| 26:14:863:A:H2' | 26:14:864:G:H8 | 1.68 | 0.55 |
| 26:14:1141:U:OP2 | 35:15:63:THR:OG1 | 2.14 | 0.55 |
| 26:14:2366:A:H2' | 26:14:2367:G:O4' | 2.06 | 0.55 |
| 26:14:2611:U:H6 | 26:14:2611:U:C5' | 2.13 | 0.55 |
| 27:1J:20:C:H42 | 27:1J:63:G:H1 | 1.54 | 0.55 |
| 30:29:68:ALA:O | 30:29:70:ALA:N | 2.36 | 0.55 |
| 37:35:86:LYS:HB3 | 37:35:117:GLU:O | 2.07 | 0.55 |
| 38:45:57:HIS:ND1 | 38:45:117:ALA:HB2 | 2.20 | 0.55 |
| 45:B5:63:LYS:HA | 45:B5:72:LYS:HA | 1.88 | 0.55 |
| 46:C5:21:LYS:O | 46:C5:23:ARG:NH2 | 2.39 | 0.55 |
| 49:F5:85:LEU:O | 49:F5:85:LEU:HD12 | 2.06 | 0.55 |
| 53:J5:37:LYS:C | 53:J5:37:LYS:HD3 | 2.27 | 0.55 |
| 1:13:192:U:H4' | 20:BI:57:ARG:HD2 | 1.88 | 0.55 |
| 1:13:1167:A:C6 | 1:13:1169:A:C6 | 2.95 | 0.55 |
| 1:13:1177:G:C8 | 1:13:1178:G:C2 | 2.94 | 0.55 |
| 9:8E:16:ARG:O | 9:8E:63:ILE:HG23 | 2.07 | 0.55 |
| 14:5I:29:ARG:HH12 | 14:5I:31:ARG:HB2 | 1.69 | 0.55 |
| 26:1H:104:U:H2' | 26:1H:105:C:H5' | 1.89 | 0.55 |
| 26:1H:274:G:N2 | 26:1H:276:A:H61 | 2.04 | 0.55 |
| 26:1H:1022:G:N2 | 26:1H:1142(A):A:N1 | 2.46 | 0.55 |
| 26:1H:1317:A:H2' | 26:1H:1318:C:H6 | 1.70 | 0.55 |
| 26:1H:1761:C:H42 | 26:1H:1762:A:H62 | 1.53 | 0.55 |
| 26:1H:2611:U:H6 | 26:1H:2611:U:H5' | 1.72 | 0.55 |
| 27:16:75:G:H21 | 47:H8:85:HIS:CE1 | 2.25 | 0.55 |
| 29:11:113:VAL:O | 29:11:113:VAL:HG22 | 2.07 | 0.55 |
| 38:88:39:PRO:HA | 38:88:97:VAL:O | 2.07 | 0.55 |
| 39:98:51:LEU:HD22 | 39:98:66:VAL:HG13 | 1.88 | 0.55 |
| 40:A8:67:ARG:HG2 | 40:A8:71:ARG:NH1 | 2.21 | 0.55 |
| 41:B8:78:LEU:HD12 | 41:B8:79:HIS:CE1 | 2.41 | 0.55 |
| 43:D8:39:LEU:O | 43:D8:40:LEU:HD22 | 2.05 | 0.55 |
| 1:1G:1289:A:OP2 | 21:1B:9:ARG:NH2 | 2.39 | 0.55 |
| 19:AA:56:GLN:HE22 | 19:AA:59:PRO:HG3 | 1.71 | 0.55 |
| 26:14:2305:A:H8 | 32:49:156:ASP:OD1 | 1.90 | 0.55 |
| 27:1J:66:A:C2 | 27:1J:108:C:C4 | 2.95 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 32:49:105:LYS:HG2 | 32:49:106:LEU:HD13 | 1.89 | 0.55 |
| 37:35:136:GLU:O | 37:35:139:LYS:N | 2.39 | 0.55 |
| 1:13:342:C:H2' | 1:13:343:U:H5' | 1.87 | 0.55 |
| 1:13:490:G:OP1 | 4:3E:151:LYS:HE3 | 2.06 | 0.55 |
| 1:13:626:U:H2' | 1:13:627:G:C8 | 2.41 | 0.55 |
| 1:13:651:C:H2' | 1:13:652:U:C6 | 2.40 | 0.55 |
| 1:13:1454:G:OP1 | 20:BI:39:LYS:HD2 | 2.06 | 0.55 |
| 3:2E:47:LEU:O | 3:2E:51:GLY:N | 2.40 | 0.55 |
| 26:1H:140:A:H8 | 26:1H:1408:C:HO2' | 1.51 | 0.55 |
| 26:1H:1213:A:H1' | 26:1H:1238:G:N3 | 2.22 | 0.55 |
| 26:1H:1478:G:H2' | 26:1H:1479:G:H8 | 1.71 | 0.55 |
| 26:1H:2244:U:H2' | 26:1H:2245:U:O4' | 2.06 | 0.55 |
| 44:E8:88:ARG:HB3 | 44:E8:92:ARG:CB | 2.34 | 0.55 |
| 1:1G:1438:G:OP2 | 20:BA:34:LYS:NZ | 2.40 | 0.55 |
| 5:42:147:ASP:O | 5:42:151:LEU:HG | 2.07 | 0.55 |
| 23:2L:1:C:P | 38:45:87:LYS:HE2 | 2.46 | 0.55 |
| 26:14:370:G:H4' | 26:14:371:A:OP2 | 2.05 | 0.55 |
| 26:14:660:G:H21 | 37:35:12:ALA:HA | 1.71 | 0.55 |
| 26:14:920:G:H2' | 26:14:921:G:C8 | 2.42 | 0.55 |
| 26:14:1532:C:H42 | 26:14:1539:G:H1 | 1.54 | 0.55 |
| 26:14:2312:U:C5 | 26:14:2313:C:C4 | 2.94 | 0.55 |
| 31:39:103:LYS:HA | 31:39:106:ARG:HG3 | 1.89 | 0.55 |
| 31:39:127:GLU:OE1 | 31:39:127:GLU:HA | 2.06 | 0.55 |
| 1:13:321:A:C2 | 1:13:333:G:C2 | 2.95 | 0.55 |
| 1:13:451:A:OP1 | 1:13:481:G:N2 | 2.27 | 0.55 |
| 1:13:622:A:C8 | 1:13:623:C:C6 | 2.94 | 0.55 |
| 1:13:1171:G:H2' | 1:13:1172:C:C6 | 2.41 | 0.55 |
| 2:1E:61:LEU:HD23 | 2:1E:68:ILE:HD11 | 1.89 | 0.55 |
| 15:6I:15:PHE:CE1 | 15:6I:84:LYS:HE2 | 2.42 | 0.55 |
| 26:1H:85:G:OP2 | 46:G8:9:LYS:HB2 | 2.06 | 0.55 |
| 26:1H:581:C:H2' | 26:1H:582:G:H8 | 1.71 | 0.55 |
| 26:1H:1473:G:H8 | 26:1H:1473:G:O5' | 1.90 | 0.55 |
| 26:1H:1513:C:C4 | 26:1H:1514:U:C5 | 2.95 | 0.55 |
| 27:16:116:G:H4' | 40:A8:54:LEU:CD1 | 2.36 | 0.55 |
| 29:11:141:VAL:HA | 29:11:163:ALA:O | 2.07 | 0.55 |
| 37:78:97:PRO:HD3 | 37:78:126:VAL:O | 2.07 | 0.55 |
| 41:B8:58:ASN:O | 41:B8:58:ASN:ND2 | 2.39 | 0.55 |
| 1:1G:596:C:H2' | 1:1G:597:G:C8 | 2.41 | 0.55 |
| 1:1G:922:G:H21 | 1:1G:1398:A:H2 | 1.54 | 0.55 |
| 1:1G:991:U:C5 | 1:1G:1212:U:H1' | 2.42 | 0.55 |
| 1:1G:1238:A:N3 | 1:1G:1241:G:O2' | 2.33 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 9:82:16:ARG:O | 9:82:63:ILE:HG23 | 2.07 | 0.55 |
| 9:82:113:LYS:H | 9:82:119:ALA:CB | 2.20 | 0.55 |
| 21:1B:10:ARG:HA | 21:1B:13:ILE:HD12 | 1.87 | 0.55 |
| 26:14:117:G:OP1 | 26:14:124:G:N1 | 2.39 | 0.55 |
| 26:14:2068:U:N3 | 26:14:2430:A:H2 | 2.02 | 0.55 |
| 26:14:2760:C:H2' | 26:14:2761:G:C8 | 2.42 | 0.55 |
| 27:1J:6:C:C2 | 27:1J:115:G:N2 | 2.75 | 0.55 |
| 34:69:135:GLU:N | 34:69:135:GLU:OE2 | 2.38 | 0.55 |
| 1:13:109:A:N7 | 1:13:326:G:H2' | 2.22 | 0.55 |
| 1:13:1139:G:H22 | 1:13:1143:G:H1 | 1.55 | 0.55 |
| 12:3I:110:VAL:CG2 | 12:3I:120:TYR:HB3 | 2.36 | 0.55 |
| 13:4I:39:ILE:HD12 | 13:4I:56:LEU:HD22 | 1.89 | 0.55 |
| 18:9I:58:LEU:HG | 18:9I:62:GLU:HB3 | 1.87 | 0.55 |
| 26:1H:1324:G:C4 | 26:1H:1328:G:O6 | 2.59 | 0.55 |
| 26:1H:1365:A:OP1 | 49:J8:41:ARG:NH2 | 2.40 | 0.55 |
| 26:1H:1386:C:H2' | 26:1H:1387:C:C6 | 2.41 | 0.55 |
| 26:1H:1448:G:N2 | 26:1H:1449:A:N6 | 2.54 | 0.55 |
| 26:1H:1570:A:H5' | 29:11:37:LEU:HD22 | 1.87 | 0.55 |
| 26:1H:1988:C:H2' | 26:1H:1989:G:C8 | 2.41 | 0.55 |
| 26:1H:2296:U:OP2 | 40:A8:9:ARG:NH1 | 2.27 | 0.55 |
| 26:1H:2880:C:O2' | 39:98:90:ARG:NH1 | 2.37 | 0.55 |
| 29:11:182:LEU:N | 29:11:272:ALA:HB3 | 2.20 | 0.55 |
| 30:21:31:CYS:HB2 | 30:21:91:VAL:HG22 | 1.88 | 0.55 |
| 30:21:173:VAL:N | 30:21:183:LEU:O | 2.35 | 0.55 |
| 41:B8:1:MET:C | 41:B8:2:ASN:O | 2.44 | 0.55 |
| 1:1G:110:C:H3' | 1:1G:111:G:C8 | 2.42 | 0.55 |
| 1:1G:272:C:H2' | 1:1G:273:A:C8 | 2.41 | 0.55 |
| 1:1G:630:G:H3' | 1:1G:631:G:H5' | 1.87 | 0.55 |
| 1:1G:1252:A:H61 | 1:1G:1285:A:H61 | 1.53 | 0.55 |
| 4:32:13:ARG:HB3 | 4:32:38:TYR:O | 2.07 | 0.55 |
| 26:14:957:A:OP1 | 38:45:76:LYS:HD2 | 2.06 | 0.55 |
| 26:14:1815:A:OP2 | 29:19:54:ARG:NH2 | 2.30 | 0.55 |
| 26:14:2495:G:H2' | 26:14:2496:C:C6 | 2.42 | 0.55 |
| 34:69:47:LEU:HD23 | 34:69:48:GLU:N | 2.21 | 0.55 |
| 36:25:63:VAL:HB | 36:25:102:VAL:HG12 | 1.89 | 0.55 |
| 37:35:37:GLY:HA2 | 37:35:41:ARG:HH21 | 1.72 | 0.55 |
| 45:B5:29:TRP:CZ3 | 45:B5:78:LYS:HB2 | 2.42 | 0.55 |
| 45:B5:29:TRP:CZ3 | 45:B5:78:LYS:HE2 | 2.42 | 0.55 |
| 47:D5:55:HIS:HE2 | 47:D5:135:GLU:HG2 | 1.72 | 0.55 |
| 1:13:11:G:C6 | 1:13:12:U:C4 | 2.94 | 0.55 |
| 1:13:264:U:O2 | 17:8I:64:PRO:HG2 | 2.07 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:1007:C:O2 | 1:13:1022:G:N2 | 2.32 | 0.55 |
| 1:13:1071:C:H2' | 1:13:1072:G:C8 | 2.42 | 0.55 |
| 1:13:1128:C:H2' | 1:13:1139:G:C6 | 2.42 | 0.55 |
| 16:7I:5:ARG:NH2 | 16:7I:23:ASP:O | 2.40 | 0.55 |
| 20:BI:16:HIS:O | 20:BI:19:SER:N | 2.40 | 0.55 |
| 26:1H:94:G:H2' | 26:1H:95:G:O4' | 2.06 | 0.55 |
| 26:1H:280:C:C2 | 26:1H:361:G:N2 | 2.74 | 0.55 |
| 26:1H:2032:G:N2 | 30:21:146:THR:HG23 | 2.18 | 0.55 |
| 26:1H:2199:A:C4 | 26:1H:2205:C:C6 | 2.95 | 0.55 |
| 26:1H:2418:A:H2' | 26:1H:2419:U:O4' | 2.06 | 0.55 |
| 26:1H:2875:C:H2' | 26:1H:2876:G:O4' | 2.07 | 0.55 |
| 32:41:67:LYS:O | 32:41:67:LYS:HG2 | 2.07 | 0.55 |
| 37:78:6:LEU:O | 37:78:7:ARG:HG2 | 2.06 | 0.55 |
| 44:E8:29:LEU:HD12 | 44:E8:29:LEU:O | 2.06 | 0.55 |
| 47:H8:9:TYR:CE1 | 47:H8:35:ARG:HD2 | 2.40 | 0.55 |
| 51:L8:4:LEU:HD11 | 51:L8:39:ASP:OD2 | 2.06 | 0.55 |
| 1:1G:960:U:H4' | 1:1G:961:U:H5'' | 1.89 | 0.55 |
| 1:1G:1188:A:H4' | 14:5A:58:LYS:HD3 | 1.89 | 0.55 |
| 1:1G:1290:G:O3' | 7:62:37:ASN:ND2 | 2.39 | 0.55 |
| 4:32:119:GLN:O | 4:32:123:HIS:ND1 | 2.35 | 0.55 |
| 8:72:86:ILE:HG21 | 8:72:133:LEU:HD22 | 1.89 | 0.55 |
| 19:AA:14:HIS:NE2 | 19:AA:15:LEU:HG | 2.22 | 0.55 |
| 23:2L:54:G:H2' | 23:2L:55:5MU:C6 | 2.42 | 0.55 |
| 26:14:987:G:O2' | 26:14:1000:A:N3 | 2.37 | 0.55 |
| 26:14:1567:A:H2' | 29:19:86:PRO:HB3 | 1.89 | 0.55 |
| 26:14:2748:A:H2' | 26:14:2749:A:C8 | 2.42 | 0.55 |
| 32:49:73:ALA:HB3 | 32:49:84:LYS:HA | 1.89 | 0.55 |
| 37:35:95:VAL:HA | 37:35:99:LEU:HD23 | 1.87 | 0.55 |
| 47:D5:5:LEU:HD13 | 47:D5:6:LYS:H | 1.72 | 0.55 |
| 1:13:859:A:OP2 | 1:13:869:G:N2 | 2.37 | 0.55 |
| 1:13:1004:A:H5' | 1:13:1024:G:N7 | 2.22 | 0.55 |
| 1:13:1048:G:OP1 | 14:5I:4:LYS:HB2 | 2.07 | 0.55 |
| 8:7E:6:ILE:HB | 8:7E:85:ARG:NH1 | 2.20 | 0.55 |
| 17:8I:76:LEU:HD11 | 17:8I:79:SER:CB | 2.29 | 0.55 |
| 26:1H:1657:C:H2' | 26:1H:1658:C:H6 | 1.71 | 0.55 |
| 26:1H:2114:A:H5'' | 26:1H:2117:A:H5' | 1.87 | 0.55 |
| 28:71:46:LYS:O | 28:71:47:LEU:HD23 | 2.07 | 0.55 |
| 29:11:68:LYS:HD3 | 29:11:70:TRP:CZ2 | 2.41 | 0.55 |
| 31:31:9:ILE:HG12 | 31:31:20:LEU:O | 2.07 | 0.55 |
| 44:E8:76:VAL:HG21 | 44:E8:101:SER:HB3 | 1.89 | 0.55 |
| 1:1G:15:G:H2' | 1:1G:16:A:O4' | 2.06 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:1G:659:U:H2' | 1:1G:660:G:O4' | 2.07 | 0.55 |
| 1:1G:1534:A:H3' | 1:1G:1534:A:N3 | 2.22 | 0.55 |
| 3:22:45:LYS:HG3 | 3:22:46:GLU:HG3 | 1.88 | 0.55 |
| 5:42:91:LEU:HD22 | 5:42:120:THR:HG22 | 1.87 | 0.55 |
| 9:82:85:LEU:HD11 | 9:82:96:LEU:HD11 | 1.89 | 0.55 |
| 56:1L:25:C:C2 | 56:1L:26:A:H1' | 2.41 | 0.55 |
| 23:2L:53:G:N2 | 23:2L:63:C:O2 | 2.36 | 0.55 |
| 26:14:125:G:C5' | 54:L5:19:ARG:HD3 | 2.37 | 0.55 |
| 26:14:779:U:OP1 | 29:19:49:ILE:HG23 | 2.06 | 0.55 |
| 26:14:1203:G:OP2 | 26:14:1204:A:H2' | 2.07 | 0.55 |
| 26:14:1576:U:H2' | 26:14:1577:C:H6 | 1.71 | 0.55 |
| 26:14:2840:C:O2' | 39:55:91:GLN:OE1 | 2.23 | 0.55 |
| 27:1J:7:G:O2' | 40:65:38:GLN:NE2 | 2.40 | 0.55 |
| 29:19:85:ASP:HB2 | 29:19:92:ILE:HG12 | 1.88 | 0.55 |
| 31:39:165:ARG:HB3 | 31:39:165:ARG:HH11 | 1.71 | 0.55 |
| 33:59:54:ARG:HD2 | 33:59:56:SER:O | 2.06 | 0.55 |
| 37:35:71:VAL:CG1 | 37:35:72:PRO:HD3 | 2.33 | 0.55 |
| 38:45:57:HIS:CG | 38:45:117:ALA:HB2 | 2.42 | 0.55 |
| 54:L5:5:TRP:NE1 | 54:L5:7:PRO:HG3 | 2.22 | 0.55 |
| 1:13:64:G:O2' | 1:13:65:U:OP1 | 2.21 | 0.55 |
| 1:13:255:G:C5 | 1:13:256:U:C4 | 2.94 | 0.55 |
| 1:13:497:U:O2 | 1:13:497:U:H2' | 2.05 | 0.55 |
| 2:1E:237:ALA:O | 2:1E:239:VAL:HG23 | 2.07 | 0.55 |
| 3:2E:91:LEU:HB2 | 3:2E:99:VAL:HG21 | 1.89 | 0.55 |
| 26:1H:270(V):G:H2' | 26:1H:270(W):G:H8 | 1.72 | 0.55 |
| 26:1H:708:C:OP2 | 26:1H:708:C:H6 | 1.90 | 0.55 |
| 26:1H:1329:U:H5'' | 26:1H:1330:C:C5 | 2.41 | 0.55 |
| 26:1H:1434:A:H2' | 26:1H:1435:G:C8 | 2.42 | 0.55 |
| 26:1H:1899:G:H21 | 26:1H:1902:C:H5 | 1.55 | 0.55 |
| 28:71:62:VAL:HG12 | 28:71:163:PHE:HE1 | 1.71 | 0.55 |
| 36:68:13:ASN:ND2 | 36:68:97:ARG:HB2 | 2.22 | 0.55 |
| 1:1G:1055:A:N3 | 3:22:156:ARG:HD2 | 2.22 | 0.55 |
| 1:1G:1363:A:H4' | 1:1G:1364:U:H5'' | 1.88 | 0.55 |
| 13:4A:84:ILE:C | 13:4A:86:CYS:H | 2.10 | 0.55 |
| 20:BA:23:ARG:NH2 | 20:BA:27:LYS:HD2 | 2.21 | 0.55 |
| 26:14:7:G:H5' | 35:15:131:GLN:HE22 | 1.72 | 0.55 |
| 26:14:817:C:O2' | 26:14:839:U:OP1 | 2.20 | 0.55 |
| 26:14:1100:C:H2' | 26:14:1101:U:H5 | 1.71 | 0.55 |
| 26:14:1743:G:C2 | 26:14:1746:G:C8 | 2.95 | 0.55 |
| 26:14:2475:C:H5'' | 26:14:2476:A:H5'' | 1.88 | 0.55 |
| 29:19:71:ASP:N | 29:19:71:ASP:OD1 | 2.39 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 32:49:135:LEU:O | 32:49:136:ARG:HD2 | 2.07 | 0.55 |
| 34:69:82:ARG:O | 34:69:89:TYR:HD2 | 1.90 | 0.55 |
| 1:13:272:C:H2' | 1:13:273:A:H8 | 1.71 | 0.55 |
| 1:13:693:G:H2' | 1:13:694:A:C8 | 2.42 | 0.55 |
| 1:13:1151:A:H5' | 10:1I:41:PRO:HA | 1.89 | 0.55 |
| 5:4E:33:VAL:HG11 | 5:4E:109:ILE:HA | 1.89 | 0.55 |
| 5:4E:53:LEU:O | 5:4E:56:GLN:HB2 | 2.07 | 0.55 |
| 7:6E:143:ARG:HG2 | 24:3K:41:A:H5' | 1.88 | 0.55 |
| 25:4K:23:A:H2' | 25:4K:24:A:C4' | 2.37 | 0.55 |
| 26:1H:827:U:H5' | 26:1H:828:U:O5' | 2.07 | 0.55 |
| 26:1H:835:A:OP1 | 55:Q8:53:PRO:HG3 | 2.07 | 0.55 |
| 26:1H:860:U:C5 | 26:1H:917:A:C2 | 2.95 | 0.55 |
| 26:1H:1141:U:H6 | 35:58:63:THR:OG1 | 1.90 | 0.55 |
| 26:1H:1408:C:C2 | 26:1H:1595:G:N2 | 2.74 | 0.55 |
| 27:16:71:C:C2 | 27:16:72:G:C8 | 2.95 | 0.55 |
| 33:51:4:ILE:HG13 | 33:51:6:ARG:HD3 | 1.88 | 0.55 |
| 40:A8:18:ILE:HD13 | 40:A8:88:ASP:HA | 1.89 | 0.55 |
| 50:K8:33:MET:HG3 | 50:K8:36:ARG:NH2 | 2.22 | 0.55 |
| 1:1G:405:U:O4 | 4:32:2:GLY:N | 2.40 | 0.55 |
| 1:1G:1469:G:H2' | 1:1G:1470:G:C8 | 2.42 | 0.55 |
| 5:42:153:LYS:HE3 | 8:72:43:GLY:HA3 | 1.89 | 0.55 |
| 9:82:32:ASP:OD1 | 9:82:33:PHE:N | 2.39 | 0.55 |
| 13:4A:91:ARG:HB3 | 13:4A:96:LEU:H | 1.72 | 0.55 |
| 26:14:55:G:H2' | 26:14:56:A:H8 | 1.72 | 0.55 |
| 26:14:90:U:HO2' | 26:14:91:A:P | 2.30 | 0.55 |
| 26:14:631:A:H2' | 26:14:632:A:O4' | 2.06 | 0.55 |
| 26:14:871:U:OP1 | 38:45:5:ARG:HG2 | 2.07 | 0.55 |
| 26:14:1091:G:N2 | 26:14:1100:C:O2' | 2.39 | 0.55 |
| 26:14:1789:A:H2' | 26:14:1790:C:O4' | 2.07 | 0.55 |
| 27:1J:109:G:C6 | 27:1J:110:G:C5 | 2.95 | 0.55 |
| 34:69:72:LEU:HD21 | 34:69:107:VAL:HG21 | 1.89 | 0.55 |
| 42:85:112:ARG:NH1 | 43:95:47:VAL:HG13 | 2.22 | 0.55 |
| 48:E5:21:LEU:HD11 | 48:E5:41:ARG:NH1 | 2.21 | 0.55 |
| 53:J5:16:ARG:HG3 | 53:J5:17:ASP:N | 2.22 | 0.55 |
| 53:J5:45:VAL:HG22 | 53:J5:51:TYR:HD2 | 1.72 | 0.55 |
| 1:13:177:C:P | 20:BI:65:LYS:HZ3 | 2.25 | 0.54 |
| 1:13:1263:C:H2' | 1:13:1264:C:H6 | 1.71 | 0.54 |
| 5:4E:6:PHE:HD2 | 5:4E:63:ARG:HH11 | 1.54 | 0.54 |
| 5:4E:72:GLN:O | 5:4E:75:THR:HG22 | 2.06 | 0.54 |
| 9:8E:114:TYR:CE1 | 10:1I:59:SER:HA | 2.42 | 0.54 |
| 26:1H:972:G:H3' | 26:1H:973:A:H2' | 1.89 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:1H:1956:U:C2' | 26:1H:1957:C:H5' | 2.37 | 0.54 |
| 26:1H:2074:U:H2' | 26:1H:2075:U:C6 | 2.43 | 0.54 |
| 32:41:139:LEU:HA | 32:41:144:ILE:HB | 1.90 | 0.54 |
| 32:41:143:GLU:OE1 | 52:M8:26:SER:OG | 2.22 | 0.54 |
| 1:1G:453:A:H4' | 16:7A:72:ARG:HB2 | 1.88 | 0.54 |
| 2:12:22:LYS:HB3 | 2:12:24:TRP:NE1 | 2.22 | 0.54 |
| 4:32:4:TYR:CE2 | 4:32:11:LEU:HD11 | 2.42 | 0.54 |
| 5:42:74:GLY:HA3 | 5:42:116:THR:OG1 | 2.06 | 0.54 |
| 26:14:1858:G:H2' | 26:14:1883:G:H22 | 1.72 | 0.54 |
| 27:1J:19:G:N2 | 27:1J:64:C:O2 | 2.41 | 0.54 |
| 27:1J:22:U:H5' | 27:1J:23:G:OP2 | 2.07 | 0.54 |
| 54:L5:34:ARG:NH1 | 54:L5:39:ARG:HG3 | 2.22 | 0.54 |
| 1:13:431:A:H2' | 1:13:432:A:O4' | 2.07 | 0.54 |
| 1:13:486:U:H2' | 1:13:487:A:H8 | 1.71 | 0.54 |
| 1:13:1057:G:H4' | 3:2E:197:GLY:H | 1.71 | 0.54 |
| 1:13:1366:C:H2' | 1:13:1367:C:H6 | 1.72 | 0.54 |
| 4:3E:110:PHE:HE2 | 4:3E:148:VAL:HG23 | 1.72 | 0.54 |
| 10:1I:83:GLU:CD | 10:1I:83:GLU:H | 2.11 | 0.54 |
| 24:3K:5:C:H2' | 24:3K:6:G:O4' | 2.05 | 0.54 |
| 26:1H:7:G:N2 | 26:1H:2896:C:N3 | 2.54 | 0.54 |
| 26:1H:468:G:H5'' | 26:1H:469:G:OP2 | 2.08 | 0.54 |
| 26:1H:581:C:H2' | 26:1H:582:G:C8 | 2.42 | 0.54 |
| 26:1H:928:G:H2' | 26:1H:929:G:O4' | 2.05 | 0.54 |
| 26:1H:1997:G:C5' | 30:21:117:MET:CE | 2.86 | 0.54 |
| 29:11:85:ASP:HB2 | 29:11:92:ILE:HG12 | 1.89 | 0.54 |
| 35:58:1:MET:HE1 | 42:C8:95:LEU:HD21 | 1.88 | 0.54 |
| 38:88:112:GLU:H | 38:88:112:GLU:CD | 2.10 | 0.54 |
| 43:D8:37:VAL:HG12 | 43:D8:55:ALA:O | 2.07 | 0.54 |
| 1:1G:1220:G:H2' | 1:1G:1221:G:C8 | 2.42 | 0.54 |
| 1:1G:1368:G:P | 9:82:114:TYR:HB3 | 2.47 | 0.54 |
| 2:12:187:LEU:HA | 2:12:201:ILE:O | 2.07 | 0.54 |
| 10:1A:63:PHE:HD1 | 14:5A:57:ARG:O | 1.89 | 0.54 |
| 11:2A:98:LEU:O | 11:2A:101:SER:OG | 2.20 | 0.54 |
| 13:4A:37:THR:HG22 | 13:4A:55:ARG:NH1 | 2.23 | 0.54 |
| 19:AA:14:HIS:CE1 | 19:AA:15:LEU:HG | 2.42 | 0.54 |
| 57:3L:30:G:N2 | 57:3L:41:A:C8 | 2.76 | 0.54 |
| 26:14:2275:C:C6 | 26:14:2275:C:H5' | 2.42 | 0.54 |
| 26:14:2378:A:O2' | 40:65:23:ARG:HD2 | 2.07 | 0.54 |
| 34:69:79:ILE:O | 34:69:143:SER:HA | 2.06 | 0.54 |
| 47:D5:5:LEU:HD23 | 47:D5:47:VAL:HG21 | 1.89 | 0.54 |
| 1:13:329:A:C5 | 1:13:332:G:C6 | 2.96 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:484:G:O2' | 1:13:485:G:OP2 | 2.17 | 0.54 |
| 1:13:963:G:C2 | 10:1I:55:LYS:NZ | 2.74 | 0.54 |
| 1:13:1291:G:OP1 | 7:6E:37:ASN:OD1 | 2.25 | 0.54 |
| 2:1E:5:ILE:CD1 | 2:1E:6:THR:H | 2.20 | 0.54 |
| 4:3E:103:ASN:O | 4:3E:107:ARG:HG2 | 2.07 | 0.54 |
| 4:3E:122:ARG:NH1 | 4:3E:134:ASP:HB3 | 2.21 | 0.54 |
| 26:1H:1165:U:H5'' | 26:1H:1166:C:OP2 | 2.08 | 0.54 |
| 26:1H:1167:U:C2 | 26:1H:1183:G:N2 | 2.76 | 0.54 |
| 26:1H:1260:G:H2' | 26:1H:1261:C:C6 | 2.43 | 0.54 |
| 26:1H:1394:U:H4' | 26:1H:1603:A:H4' | 1.88 | 0.54 |
| 26:1H:2032:G:H21 | 30:21:146:THR:CG2 | 2.17 | 0.54 |
| 26:1H:2629:A:O2' | 26:1H:2630:G:H5'' | 2.07 | 0.54 |
| 30:21:31:CYS:SG | 30:21:51:PHE:HB2 | 2.46 | 0.54 |
| 31:31:136:THR:HG22 | 31:31:166:ALA:O | 2.07 | 0.54 |
| 34:61:41:GLU:HG2 | 34:61:42:SER:N | 2.23 | 0.54 |
| 39:98:100:LEU:HD11 | 39:98:113:LEU:HD13 | 1.89 | 0.54 |
| 40:A8:93:LYS:HG2 | 40:A8:95:HIS:HB2 | 1.88 | 0.54 |
| 40:A8:108:GLY:O | 40:A8:110:LEU:HG | 2.07 | 0.54 |
| 41:B8:62:THR:HA | 41:B8:74:ARG:O | 2.07 | 0.54 |
| 42:C8:104:GLN:HE22 | 43:D8:44:LYS:HB2 | 1.73 | 0.54 |
| 1:1G:191(F):U:H2' | 1:1G:191:G:C8 | 2.42 | 0.54 |
| 1:1G:570:G:H2' | 1:1G:571:U:C6 | 2.43 | 0.54 |
| 1:1G:1057:G:C6 | 1:1G:1204:A:C2 | 2.95 | 0.54 |
| 1:1G:1286:A:H5' | 21:1B:25:LYS:HD3 | 1.90 | 0.54 |
| 1:1G:1291:G:H5'' | 9:82:39:GLY:O | 2.06 | 0.54 |
| 1:1G:1453:G:HO2' | 1:1G:1454:G:P | 2.30 | 0.54 |
| 2:12:28:PHE:CZ | 2:12:189:ASP:HA | 2.42 | 0.54 |
| 2:12:130:ARG:O | 2:12:135:GLN:NE2 | 2.40 | 0.54 |
| 5:42:90:VAL:CG2 | 5:42:121:LYS:HB3 | 2.37 | 0.54 |
| 7:62:136:LYS:NZ | 7:62:137:LYS:HZ1 | 2.04 | 0.54 |
| 9:82:22:GLY:N | 9:82:58:HIS:O | 2.23 | 0.54 |
| 56:1L:69:A:H1' | 56:1L:70:C:O5' | 2.08 | 0.54 |
| 26:14:30:G:H2' | 26:14:31:C:C6 | 2.43 | 0.54 |
| 26:14:1053:C:H2' | 26:14:1054:A:H1' | 1.88 | 0.54 |
| 26:14:1752:C:P | 41:75:115:ARG:HH22 | 2.30 | 0.54 |
| 26:14:2118:U:H1' | 26:14:2147:G:H21 | 1.73 | 0.54 |
| 26:14:2525:G:N2 | 26:14:2539:C:C2 | 2.75 | 0.54 |
| 26:14:2734:A:H2' | 26:14:2735:G:O4' | 2.07 | 0.54 |
| 30:29:37:ARG:HD2 | 30:29:44:TYR:HE2 | 1.72 | 0.54 |
| 32:49:151:ALA:HB3 | 32:49:153:ARG:HH12 | 1.73 | 0.54 |
| 37:35:97:PRO:HD3 | 37:35:126:VAL:O | 2.08 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|--------------------|--------------------------|-------------------|
| 43:95:27:ALA:HB1 | 43:95:61:VAL:HG21 | 1.90 | 0.54 |
| 44:A5:15:ARG:O | 44:A5:19:LEU:HD22 | 2.08 | 0.54 |
| 48:E5:12:ASN:O | 48:E5:12:ASN:ND2 | 2.39 | 0.54 |
| 1:13:265:G:O2' | 17:8I:67:LYS:N | 2.40 | 0.54 |
| 1:13:923:A:OP1 | 5:4E:21:ALA:HB2 | 2.08 | 0.54 |
| 1:13:1286:A:N6 | 1:13:1355:G:OP1 | 2.41 | 0.54 |
| 1:13:1296:C:H5' | 13:4I:14:ARG:NH1 | 2.23 | 0.54 |
| 9:8E:27:THR:N | 9:8E:61:ALA:O | 2.24 | 0.54 |
| 11:2I:79:SER:OG | 11:2I:106:LYS:NZ | 2.25 | 0.54 |
| 12:3I:53:ARG:HG3 | 12:3I:53:ARG:NH1 | 2.21 | 0.54 |
| 18:9I:66:LEU:CG | 18:9I:70:ILE:HD11 | 2.38 | 0.54 |
| 19:AI:51:VAL:HG12 | 19:AI:52:TYR:H | 1.72 | 0.54 |
| 26:1H:287:C:H2' | 26:1H:288:C:C6 | 2.36 | 0.54 |
| 26:1H:2636:U:OP1 | 30:21:80:GLU:HG3 | 2.06 | 0.54 |
| 35:58:129:PRO:O | 35:58:134:ARG:NH1 | 2.40 | 0.54 |
| 48:I8:37:LEU:HD12 | 48:I8:60:PHE:HA | 1.90 | 0.54 |
| 1:1G:67:C:H2' | 1:1G:68:G:C8 | 2.43 | 0.54 |
| 1:1G:164:U:H2' | 1:1G:165:C:C6 | 2.42 | 0.54 |
| 1:1G:518:C:H5'' | 1:1G:519:C:C6 | 2.41 | 0.54 |
| 1:1G:1118:C:H1' | 1:1G:1179:A:C4 | 2.42 | 0.54 |
| 1:1G:1264:C:O2 | 1:1G:1272:G:N1 | 2.40 | 0.54 |
| 4:32:141:ARG:N | 4:32:144:ASP:OD2 | 2.39 | 0.54 |
| 5:42:80:ILE:HA | 8:72:104:ARG:NH1 | 2.22 | 0.54 |
| 13:4A:84:ILE:HD11 | 19:AA:65:ASN:OD1 | 2.08 | 0.54 |
| 16:7A:1:MET:HE2 | 16:7A:2:VAL:H | 1.70 | 0.54 |
| 23:2L:60:A:H2' | 23:2L:61:U:H5' | 1.89 | 0.54 |
| 26:14:642:G:H3' | 26:14:642:G:C8 | 2.42 | 0.54 |
| 26:14:1366:A:H2' | 26:14:1367:A:O4' | 2.06 | 0.54 |
| 26:14:1386:C:H2' | 26:14:1387:C:H6 | 1.71 | 0.54 |
| 26:14:1449(A):G:H2' | 26:14:1450:C:C6 | 2.43 | 0.54 |
| 26:14:2645:G:H3' | 26:14:2646:C:H5' | 1.89 | 0.54 |
| 27:1J:14:U:H5' | 27:1J:71:C:H1' | 1.89 | 0.54 |
| 29:19:130:ALA:HA | 29:19:192:THR:HA | 1.90 | 0.54 |
| 37:35:113:LYS:HD3 | 37:35:115:LEU:HD21 | 1.89 | 0.54 |
| 1:13:128:G:H4' | 17:8I:3:LYS:HD3 | 1.89 | 0.54 |
| 1:13:269:C:H2' | 1:13:270:A:H8 | 1.73 | 0.54 |
| 1:13:328:C:H4' | 1:13:329:A:C5' | 2.36 | 0.54 |
| 1:13:363:A:OP1 | 12:3I:33:ARG:HG3 | 2.07 | 0.54 |
| 1:13:517:G:H8 | 1:13:517:G:OP2 | 1.91 | 0.54 |
| 1:13:1122:U:C4 | 1:13:1123:A:N6 | 2.76 | 0.54 |
| 1:13:1200:C:H4' | 1:13:1201:A:H5'' | 1.88 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:13:1446:A:OP1 | 1:13:1446:A:H4' | 2.08 | 0.54 |
| 2:1E:51:LEU:HG | 2:1E:201:ILE:HD12 | 1.90 | 0.54 |
| 20:BI:83:ARG:O | 20:BI:87:LYS:HD3 | 2.07 | 0.54 |
| 26:1H:805:G:OP2 | 37:78:41:ARG:HG2 | 2.07 | 0.54 |
| 26:1H:1161:C:O2' | 43:D8:8:GLY:HA2 | 2.08 | 0.54 |
| 26:1H:2400:G:H2' | 26:1H:2401:U:C6 | 2.42 | 0.54 |
| 26:1H:2756:U:H4' | 26:1H:2757:A:OP1 | 2.06 | 0.54 |
| 27:16:18:G:H1 | 27:16:65:C:H42 | 1.52 | 0.54 |
| 33:51:157:TYR:O | 33:51:158:HIS:ND1 | 2.41 | 0.54 |
| 34:61:110:ASP:N | 34:61:130:TYR:OH | 2.39 | 0.54 |
| 38:88:5:ARG:HH21 | 38:88:6:ARG:NE | 2.05 | 0.54 |
| 39:98:10:LEU:O | 39:98:12:ARG:HB2 | 2.08 | 0.54 |
| 39:98:63:ARG:HH22 | 39:98:77:ARG:HG2 | 1.72 | 0.54 |
| 46:G8:85:VAL:N | 46:G8:96:ILE:O | 2.40 | 0.54 |
| 1:1G:23:C:OP2 | 1:1G:561:U:N3 | 2.28 | 0.54 |
| 1:1G:456:C:H42 | 1:1G:476:G:H1 | 1.56 | 0.54 |
| 1:1G:858:G:H8 | 1:1G:858:G:OP2 | 1.90 | 0.54 |
| 1:1G:865:A:H5' | 1:1G:1078:U:C5 | 2.42 | 0.54 |
| 1:1G:952:U:H4' | 1:1G:964:A:N1 | 2.22 | 0.54 |
| 1:1G:963:G:N3 | 10:1A:55:LYS:NZ | 2.48 | 0.54 |
| 1:1G:1050:G:N2 | 1:1G:1209:C:H1' | 2.21 | 0.54 |
| 1:1G:1381:U:H2' | 1:1G:1382:C:H5' | 1.89 | 0.54 |
| 13:4A:80:ARG:HH22 | 19:AA:66:MET:CE | 2.20 | 0.54 |
| 56:1L:26:A:H2' | 56:1L:27:G:H5' | 1.89 | 0.54 |
| 26:14:243:U:OP1 | 55:M5:6:THR:OG1 | 2.19 | 0.54 |
| 26:14:764:A:H2 | 29:19:219:PRO:HG3 | 1.72 | 0.54 |
| 26:14:813:U:C2 | 26:14:1195:G:N2 | 2.76 | 0.54 |
| 26:14:2143:C:N4 | 26:14:2144:U:O2 | 2.40 | 0.54 |
| 26:14:2290:G:C2 | 26:14:2343:C:O2 | 2.61 | 0.54 |
| 26:14:2498:C:OP2 | 61:14:3521:HOH:O | 2.19 | 0.54 |
| 26:14:2820:A:O5' | 39:55:4:LEU:HD23 | 2.06 | 0.54 |
| 27:1J:63:G:H2' | 27:1J:63:G:N3 | 2.22 | 0.54 |
| 46:C5:29:GLU:OE2 | 46:C5:38:ILE:HD12 | 2.08 | 0.54 |
| 47:D5:44:PHE:O | 47:D5:44:PHE:HD1 | 1.90 | 0.54 |
| 1:13:292:G:C5 | 1:13:293:G:H1' | 2.42 | 0.54 |
| 1:13:1358:U:P | 14:5I:35:ARG:HG3 | 2.48 | 0.54 |
| 26:1H:483:A:O2' | 46:G8:49:VAL:O | 2.22 | 0.54 |
| 26:1H:651:G:OP2 | 55:Q8:21:LYS:NZ | 2.39 | 0.54 |
| 26:1H:753:C:H2' | 26:1H:754:C:C6 | 2.42 | 0.54 |
| 26:1H:1346:G:C4 | 26:1H:1347:G:C8 | 2.96 | 0.54 |
| 26:1H:1580:A:H8 | 26:1H:1580:A:OP2 | 1.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:1997:G:C5' | 30:21:117:MET:HE2 | 2.38 | 0.54 |
| 26:1H:2579:C:H2' | 26:1H:2580:U:O4' | 2.07 | 0.54 |
| 27:16:73:A:H3' | 27:16:74:U:H6 | 1.72 | 0.54 |
| 32:41:4:ASP:OD1 | 32:41:5:VAL:N | 2.41 | 0.54 |
| 40:A8:69:VAL:HG13 | 40:A8:101:LEU:HD13 | 1.89 | 0.54 |
| 41:B8:42:ILE:HD12 | 41:B8:42:ILE:O | 2.07 | 0.54 |
| 43:D8:17:GLY:N | 43:D8:96:ILE:O | 2.32 | 0.54 |
| 45:F8:68:ARG:HH11 | 45:F8:69:TYR:HE1 | 1.56 | 0.54 |
| 52:M8:40:HIS:CE1 | 52:M8:45:GLY:HA3 | 2.42 | 0.54 |
| 1:1G:1372:U:H2' | 1:1G:1373:G:O4' | 2.08 | 0.54 |
| 1:1G:1392:G:H21 | 1:1G:1502:A:H8 | 1.54 | 0.54 |
| 4:32:173:TRP:CZ3 | 4:32:193:ASP:HB2 | 2.43 | 0.54 |
| 7:62:58:PRO:HA | 7:62:61:VAL:HG12 | 1.90 | 0.54 |
| 13:4A:61:GLU:HA | 13:4A:66:LEU:HD11 | 1.90 | 0.54 |
| 18:9A:51:LEU:HD22 | 18:9A:55:ARG:NH2 | 2.21 | 0.54 |
| 26:14:1364:G:N7 | 49:F5:2:SER:HB2 | 2.23 | 0.54 |
| 26:14:1590:U:H2' | 26:14:1591:G:H8 | 1.72 | 0.54 |
| 26:14:2494:G:H2' | 26:14:2495:G:H8 | 1.73 | 0.54 |
| 27:1J:78:A:C2 | 27:1J:99:A:C4 | 2.96 | 0.54 |
| 36:25:63:VAL:HG23 | 36:25:64:ARG:HG3 | 1.88 | 0.54 |
| 37:35:49:ARG:HD2 | 55:M5:60:LEU:HD13 | 1.90 | 0.54 |
| 42:85:98:LEU:HB2 | 42:85:102:GLU:HB2 | 1.89 | 0.54 |
| 1:13:718:G:C8 | 11:2I:116:HIS:HB3 | 2.42 | 0.54 |
| 1:13:734:G:C2 | 1:13:735:C:C2 | 2.96 | 0.54 |
| 1:13:859:A:H2' | 1:13:860:A:C8 | 2.42 | 0.54 |
| 4:3E:155:LEU:HB3 | 4:3E:158:ILE:HG13 | 1.90 | 0.54 |
| 16:7I:28:ARG:HG3 | 16:7I:29:ASP:N | 2.22 | 0.54 |
| 18:9I:31:LEU:HD23 | 18:9I:31:LEU:H | 1.71 | 0.54 |
| 23:2K:20:G:C4 | 23:2K:58:A:C2 | 2.95 | 0.54 |
| 26:1H:534:U:H2' | 26:1H:535:C:C6 | 2.43 | 0.54 |
| 26:1H:580:C:H2' | 26:1H:581:C:C6 | 2.42 | 0.54 |
| 26:1H:675:A:OP1 | 31:31:63:LYS:HE2 | 2.08 | 0.54 |
| 26:1H:918:A:H8 | 26:1H:918:A:O5' | 1.91 | 0.54 |
| 26:1H:1709:U:H1' | 26:1H:2860:A:N3 | 2.22 | 0.54 |
| 29:11:40:THR:HG23 | 29:11:41:GLY:N | 2.21 | 0.54 |
| 29:11:109:ASP:N | 29:11:196:VAL:O | 2.40 | 0.54 |
| 42:C8:84:LYS:HD3 | 42:C8:85:LYS:N | 2.22 | 0.54 |
| 47:H8:53:ILE:HG22 | 47:H8:71:VAL:HG13 | 1.90 | 0.54 |
| 1:1G:111:G:H8 | 1:1G:111:G:O5' | 1.90 | 0.54 |
| 1:1G:273:A:N6 | 1:1G:274:A:N6 | 2.55 | 0.54 |
| 1:1G:458:C:N4 | 1:1G:464:G:O6 | 2.41 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 1:1G:1013:G:O2' | 1:1G:1014:A:N7 | 2.37 | 0.54 |
| 5:42:8:GLU:HA | 5:42:34:VAL:HA | 1.90 | 0.54 |
| 57:3L:28:U:H3 | 57:3L:42:A:N6 | 2.06 | 0.54 |
| 26:14:834:C:OP2 | 61:14:3537:HOH:O | 2.18 | 0.54 |
| 26:14:991:C:O2 | 26:14:1164:G:C2 | 2.60 | 0.54 |
| 26:14:1970:A:OP1 | 26:14:1970:A:H4' | 2.08 | 0.54 |
| 41:75:42:ILE:O | 41:75:42:ILE:HG13 | 2.07 | 0.54 |
| 43:95:44:LYS:O | 43:95:46:VAL:HG12 | 2.07 | 0.54 |
| 1:13:38:G:C2 | 1:13:397:A:C2 | 2.95 | 0.54 |
| 1:13:266:G:C2 | 1:13:269:C:H5 | 2.25 | 0.54 |
| 1:13:346:G:H1' | 41:B8:41:ARG:NH2 | 2.23 | 0.54 |
| 1:13:1079:G:C6 | 1:13:1080:A:N6 | 2.76 | 0.54 |
| 1:13:1133:G:H2' | 1:13:1134:G:C8 | 2.43 | 0.54 |
| 1:13:1152:A:H2' | 1:13:1153:C:H6 | 1.73 | 0.54 |
| 1:13:1368:G:OP2 | 9:8E:112:LYS:HD2 | 2.07 | 0.54 |
| 2:1E:17:PHE:HB3 | 2:1E:44:LEU:HD11 | 1.89 | 0.54 |
| 5:4E:64:ARG:N | 5:4E:64:ARG:HD2 | 2.23 | 0.54 |
| 12:3I:53:ARG:HB3 | 12:3I:69:TYR:HE1 | 1.72 | 0.54 |
| 12:3I:70:ILE:HD13 | 12:3I:77:LEU:HD12 | 1.89 | 0.54 |
| 26:1H:863:A:H2 | 26:1H:914:C:N4 | 2.06 | 0.54 |
| 26:1H:930:U:H4' | 26:1H:931:G:O5' | 2.07 | 0.54 |
| 26:1H:1800:C:OP1 | 29:11:266:SER:OG | 2.15 | 0.54 |
| 26:1H:2126:A:O2' | 26:1H:2162:G:N2 | 2.41 | 0.54 |
| 26:1H:2169:A:OP1 | 26:1H:2171:A:N6 | 2.41 | 0.54 |
| 26:1H:2176:A:HO2' | 28:71:44:HIS:CE1 | 2.22 | 0.54 |
| 26:1H:2335:A:C8 | 26:1H:2337:G:C5 | 2.96 | 0.54 |
| 26:1H:2356:C:C5 | 26:1H:2357:U:C4 | 2.95 | 0.54 |
| 26:1H:2403:C:H2' | 26:1H:2404:C:H6 | 1.72 | 0.54 |
| 26:1H:2469:A:H2 | 26:1H:2481:G:N2 | 1.96 | 0.54 |
| 26:1H:2674:G:H4' | 36:68:30:ALA:HB2 | 1.90 | 0.54 |
| 30:21:38:THR:OG1 | 30:21:40:GLU:OE1 | 2.18 | 0.54 |
| 47:H8:124:ILE:HD12 | 47:H8:125:LEU:H | 1.71 | 0.54 |
| 49:J8:53:VAL:HB | 49:J8:58:ILE:HD13 | 1.88 | 0.54 |
| 1:1G:1521:G:H2' | 1:1G:1522:U:H6 | 1.73 | 0.54 |
| 3:22:29:TYR:CD1 | 3:22:29:TYR:C | 2.81 | 0.54 |
| 5:42:84:PHE:HD2 | 5:42:130:ASN:HB3 | 1.72 | 0.54 |
| 6:52:99:ALA:H | 18:9A:31:LEU:HD22 | 1.73 | 0.54 |
| 8:72:110:ALA:O | 8:72:121:ASP:N | 2.41 | 0.54 |
| 26:14:1048:A:N6 | 26:14:1112:G:O2' | 2.41 | 0.54 |
| 26:14:1567:A:O2' | 29:19:63:ARG:NH2 | 2.41 | 0.54 |
| 26:14:2262:U:O2' | 26:14:2263:C:H5' | 2.08 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:14:2357:U:OP1 | 48:E5:20:ARG:NH1 | 2.37 | 0.54 |
| 26:14:2447:G:H3' | 61:14:3557:HOH:O | 2.08 | 0.54 |
| 27:1J:44:G:O2' | 27:1J:48:A:N6 | 2.41 | 0.54 |
| 32:49:111:LEU:HD13 | 32:49:117:PHE:HE1 | 1.73 | 0.54 |
| 37:35:80:TYR:HA | 37:35:111:ARG:O | 2.08 | 0.54 |
| 45:B5:32:PRO:HA | 45:B5:77:LYS:HB2 | 1.89 | 0.54 |
| 1:13:488:C:H2' | 1:13:489:C:C6 | 2.42 | 0.54 |
| 1:13:1305:G:H21 | 1:13:1331:G:H2' | 1.72 | 0.54 |
| 1:13:1316:G:H22 | 1:13:1319:A:H5' | 1.73 | 0.54 |
| 4:3E:108:LEU:HD23 | 4:3E:110:PHE:CE1 | 2.43 | 0.54 |
| 4:3E:108:LEU:HB3 | 4:3E:110:PHE:CD1 | 2.43 | 0.54 |
| 17:8I:11:VAL:HG23 | 17:8I:20:THR:HB | 1.90 | 0.54 |
| 17:8I:59:ILE:HB | 17:8I:71:PHE:HD2 | 1.72 | 0.54 |
| 20:BI:73:HIS:HB3 | 20:BI:74:LYS:HG2 | 1.89 | 0.54 |
| 25:4K:12:A:C8 | 25:4K:14:A:OP1 | 2.61 | 0.54 |
| 26:1H:176:G:C2' | 26:1H:177:G:H5' | 2.38 | 0.54 |
| 26:1H:732:C:OP2 | 61:1H:3552:HOH:O | 2.18 | 0.54 |
| 26:1H:2019:A:C6 | 26:1H:2020:A:N7 | 2.76 | 0.54 |
| 26:1H:2290:G:C6 | 26:1H:2291:U:N3 | 2.76 | 0.54 |
| 30:21:37:ARG:HD3 | 30:21:42:ASP:OD2 | 2.08 | 0.54 |
| 38:88:5:ARG:HH21 | 38:88:6:ARG:HE | 1.55 | 0.54 |
| 42:C8:50:ARG:HH12 | 43:D8:72:VAL:HG23 | 1.72 | 0.54 |
| 1:1G:736:C:H2' | 1:1G:737:A:H8 | 1.71 | 0.54 |
| 1:1G:1151:A:H5' | 10:1A:41:PRO:HA | 1.90 | 0.54 |
| 5:42:146:ALA:HA | 5:42:149:GLU:HB2 | 1.89 | 0.54 |
| 11:2A:67:ASP:OD2 | 11:2A:71:LYS:NZ | 2.38 | 0.54 |
| 13:4A:39:ILE:HG22 | 13:4A:40:ASN:H | 1.73 | 0.54 |
| 23:2L:35:C:H2' | 23:2L:36:A:C8 | 2.42 | 0.54 |
| 26:14:139:G:H8 | 26:14:139:G:H5'' | 1.73 | 0.54 |
| 26:14:731:C:OP1 | 61:14:3538:HOH:O | 2.19 | 0.54 |
| 26:14:1857:G:C6 | 26:14:1858:G:C6 | 2.95 | 0.54 |
| 27:1J:84:C:OP1 | 51:H5:15:TYR:OH | 2.21 | 0.54 |
| 34:69:113:ARG:O | 34:69:131:LYS:HD3 | 2.08 | 0.54 |
| 1:13:11:G:C5 | 1:13:12:U:C5 | 2.96 | 0.54 |
| 1:13:578:C:OP1 | 61:13:1812:HOH:O | 2.18 | 0.54 |
| 1:13:599:C:O2' | 8:7E:129:VAL:O | 2.16 | 0.54 |
| 1:13:667:G:H4' | 15:6I:51:HIS:CE1 | 2.43 | 0.54 |
| 1:13:1041:A:H2' | 1:13:1042:G:O4' | 2.07 | 0.54 |
| 1:13:1285:A:H4' | 1:13:1286:A:H5' | 1.91 | 0.54 |
| 2:1E:84:GLU:HB3 | 2:1E:219:VAL:HG21 | 1.89 | 0.54 |
| 10:1I:8:LEU:O | 10:1I:69:ASN:HA | 2.08 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 23:2K:32:G:H2' | 23:2K:33:OMC:C6 | 2.43 | 0.54 |
| 26:1H:50:U:H3' | 26:1H:51:G:C5' | 2.38 | 0.54 |
| 26:1H:548:A:H2' | 26:1H:549:G:H5' | 1.90 | 0.54 |
| 26:1H:556:G:H2' | 26:1H:557:U:H6 | 1.73 | 0.54 |
| 26:1H:1496:A:H8 | 26:1H:1577:C:O2' | 1.91 | 0.54 |
| 26:1H:1953:A:N1 | 26:1H:2549:G:O2' | 2.41 | 0.54 |
| 26:1H:2209:C:O2 | 26:1H:2216:G:C2 | 2.61 | 0.54 |
| 26:1H:2749:A:OP2 | 33:51:4:ILE:HD11 | 2.06 | 0.54 |
| 32:41:47:LYS:NZ | 32:41:80:PHE:HD1 | 2.05 | 0.54 |
| 36:68:71:ARG:NH2 | 36:68:77:ILE:HG21 | 2.23 | 0.54 |
| 38:88:141:GLN:NE2 | 38:88:141:GLN:O | 2.39 | 0.54 |
| 40:A8:85:VAL:CG2 | 40:A8:112:PHE:CZ | 2.74 | 0.54 |
| 42:C8:81:HIS:CE1 | 42:C8:85:LYS:HE2 | 2.43 | 0.54 |
| 1:1G:19:C:OP1 | 5:42:125:SER:OG | 2.25 | 0.54 |
| 1:1G:45:U:H2' | 1:1G:46:G:C8 | 2.43 | 0.54 |
| 1:1G:222:U:C2 | 1:1G:223:U:C5 | 2.96 | 0.54 |
| 4:32:107:ARG:NH2 | 4:32:196:LEU:HD11 | 2.23 | 0.54 |
| 11:2A:17:GLY:N | 11:2A:77:MET:SD | 2.81 | 0.54 |
| 11:2A:19:ALA:HB3 | 11:2A:82:VAL:HG22 | 1.90 | 0.54 |
| 26:14:590:A:H2' | 26:14:591:C:C6 | 2.42 | 0.54 |
| 26:14:2075:U:OP1 | 29:19:244:ARG:CZ | 2.54 | 0.54 |
| 26:14:2113:U:C5 | 26:14:2114:A:H1' | 2.43 | 0.54 |
| 27:1J:52:A:N6 | 40:65:33:LYS:HG3 | 2.23 | 0.54 |
| 38:45:134:ARG:O | 38:45:136:ALA:HA | 2.07 | 0.54 |
| 42:85:95:LEU:O | 42:85:98:LEU:HG | 2.08 | 0.54 |
| 47:D5:51:ALA:HB1 | 47:D5:57:ILE:HG12 | 1.90 | 0.54 |
| 55:M5:22:VAL:O | 55:M5:50:LEU:HB2 | 2.06 | 0.54 |
| 1:13:401:C:OP2 | 4:3E:73:ARG:HD3 | 2.08 | 0.53 |
| 1:13:552:U:H4' | 12:3I:86:ARG:HG3 | 1.89 | 0.53 |
| 1:13:757:U:OP2 | 1:13:757:U:H6 | 1.91 | 0.53 |
| 1:13:1288:A:N1 | 1:13:1371:G:H1' | 2.23 | 0.53 |
| 2:1E:166:ASP:C | 2:1E:168:THR:H | 2.11 | 0.53 |
| 6:5E:44:GLY:HA2 | 6:5E:59:TYR:CE2 | 2.44 | 0.53 |
| 8:7E:68:ARG:HD2 | 8:7E:74:PRO:HB2 | 1.89 | 0.53 |
| 26:1H:459:U:H5'' | 54:P8:40:TRP:CD2 | 2.43 | 0.53 |
| 26:1H:516:C:OP1 | 53:N8:13:LYS:NZ | 2.32 | 0.53 |
| 26:1H:1026:U:H1' | 26:1H:1027:A:O5' | 2.08 | 0.53 |
| 26:1H:1556:C:H2' | 26:1H:1557:C:H6 | 1.73 | 0.53 |
| 26:1H:1756:G:H1' | 26:1H:1758:G:C2 | 2.43 | 0.53 |
| 26:1H:1869:G:H8 | 26:1H:1869:G:H5'' | 1.73 | 0.53 |
| 26:1H:2294:C:C4 | 26:1H:2295:C:C5 | 2.96 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 29:11:24:ILE:HD11 | 29:11:91:ARG:HD2 | 1.90 | 0.53 |
| 36:68:93:PRO:HG3 | 36:68:114:ILE:HG12 | 1.90 | 0.53 |
| 38:88:5:ARG:NH2 | 38:88:6:ARG:HE | 2.06 | 0.53 |
| 39:98:46:GLY:HA2 | 39:98:49:ASP:HB2 | 1.90 | 0.53 |
| 43:D8:1:MET:CE | 43:D8:43:GLU:HG2 | 2.38 | 0.53 |
| 1:1G:881:G:H2' | 1:1G:882:C:O4' | 2.09 | 0.53 |
| 1:1G:1169:A:H2' | 1:1G:1170:A:C8 | 2.43 | 0.53 |
| 1:1G:1326:C:H2' | 1:1G:1327:C:C6 | 2.43 | 0.53 |
| 1:1G:1502:A:H5' | 1:1G:1504:G:N7 | 2.24 | 0.53 |
| 2:12:131:PRO:O | 2:12:134:GLU:N | 2.40 | 0.53 |
| 4:32:98:GLU:O | 4:32:103:ASN:ND2 | 2.41 | 0.53 |
| 16:7A:20:VAL:HG11 | 16:7A:32:TYR:CE2 | 2.43 | 0.53 |
| 57:3L:41:A:C2 | 57:3L:42:A:C8 | 2.96 | 0.53 |
| 26:14:669:G:H2' | 26:14:669:G:N3 | 2.22 | 0.53 |
| 26:14:989:G:OP2 | 51:H5:11:SER:OG | 2.23 | 0.53 |
| 26:14:2733:A:H61 | 30:29:202:LYS:HB3 | 1.73 | 0.53 |
| 30:29:70:ALA:O | 30:29:72:VAL:N | 2.42 | 0.53 |
| 41:75:56:GLY:O | 41:75:59:THR:HG22 | 2.08 | 0.53 |
| 45:B5:55:ASN:HB2 | 45:B5:80:ILE:HG12 | 1.90 | 0.53 |
| 1:13:232:G:H2' | 1:13:233:C:H6 | 1.72 | 0.53 |
| 1:13:1263:C:H2' | 1:13:1264:C:C6 | 2.43 | 0.53 |
| 4:3E:185:PHE:CZ | 4:3E:188:LEU:HD23 | 2.44 | 0.53 |
| 9:8E:34:ASN:O | 9:8E:38:GLN:HB2 | 2.09 | 0.53 |
| 24:3K:15:G:N2 | 24:3K:21:A:N7 | 2.56 | 0.53 |
| 26:1H:338:G:H2' | 26:1H:339:U:H6 | 1.72 | 0.53 |
| 26:1H:933:A:H5' | 61:1H:3919:HOH:O | 2.08 | 0.53 |
| 26:1H:1339:G:H21 | 26:1H:1603:A:H1' | 1.73 | 0.53 |
| 26:1H:1550:C:H2' | 26:1H:1551:C:H6 | 1.72 | 0.53 |
| 30:21:166:THR:HG21 | 30:21:199:ARG:HH22 | 1.71 | 0.53 |
| 31:31:129:PHE:HA | 31:31:142:TRP:HE1 | 1.72 | 0.53 |
| 32:41:5:VAL:HG11 | 32:41:100:TRP:HB2 | 1.88 | 0.53 |
| 40:A8:88:ASP:OD1 | 40:A8:90:GLY:N | 2.41 | 0.53 |
| 48:I8:70:GLN:HG3 | 48:I8:80:HIS:HE2 | 1.73 | 0.53 |
| 1:1G:191:G:H1' | 20:BA:104:LEU:O | 2.08 | 0.53 |
| 1:1G:254:G:OP1 | 17:8A:67:LYS:O | 2.26 | 0.53 |
| 1:1G:458:C:H2' | 1:1G:464:G:C8 | 2.42 | 0.53 |
| 1:1G:910:C:OP2 | 12:3A:21:LYS:NZ | 2.39 | 0.53 |
| 3:22:61:ALA:C | 3:22:63:ASN:H | 2.11 | 0.53 |
| 4:32:128:VAL:HG13 | 4:32:144:ASP:HB3 | 1.90 | 0.53 |
| 5:42:35:GLY:HA3 | 5:42:41:VAL:HG12 | 1.89 | 0.53 |
| 18:9A:53:ARG:HH21 | 18:9A:60:ALA:N | 2.06 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|--------------------|--------------------------|-------------------|
| 56:1L:73:A:H3' | 56:1L:73:A:N3 | 2.23 | 0.53 |
| 26:14:55:G:H2' | 26:14:56:A:C8 | 2.44 | 0.53 |
| 26:14:871:U:H5'' | 38:45:69:PHE:CE2 | 2.43 | 0.53 |
| 26:14:1776:G:H2' | 26:14:1776:G:N3 | 2.23 | 0.53 |
| 30:29:6:GLY:O | 30:29:195:LEU:HD12 | 2.08 | 0.53 |
| 31:39:102:PRO:HB2 | 31:39:105:VAL:HG23 | 1.90 | 0.53 |
| 32:49:56:ALA:HB2 | 32:49:153:ARG:NE | 2.22 | 0.53 |
| 34:69:143:SER:OG | 34:69:145:VAL:N | 2.41 | 0.53 |
| 38:45:88:GLY:O | 38:45:89:ASN:ND2 | 2.40 | 0.53 |
| 1:13:1277:C:HO2' | 1:13:1279:A:H8 | 1.55 | 0.53 |
| 4:3E:60:GLU:OE2 | 4:3E:199:ASN:N | 2.40 | 0.53 |
| 5:4E:45:PHE:HD2 | 5:4E:47:LYS:HZ2 | 1.54 | 0.53 |
| 10:1I:49:VAL:CG2 | 14:5I:41:ARG:HB2 | 2.36 | 0.53 |
| 17:8I:40:LYS:HG2 | 17:8I:41:LYS:H | 1.73 | 0.53 |
| 26:1H:33:U:O2' | 26:1H:446:G:N2 | 2.41 | 0.53 |
| 26:1H:1858:G:H4' | 26:1H:1859:A:H5' | 1.90 | 0.53 |
| 26:1H:2124:G:H21 | 28:7I:217:THR:HG22 | 1.74 | 0.53 |
| 1:1G:197:A:H8 | 1:1G:198:G:C4 | 2.27 | 0.53 |
| 1:1G:1263:C:C2 | 1:1G:1273:G:N2 | 2.77 | 0.53 |
| 1:1G:1328:C:O2' | 13:4A:29:ARG:NE | 2.39 | 0.53 |
| 1:1G:1410:G:H2' | 1:1G:1411:C:H6 | 1.73 | 0.53 |
| 3:22:132:ARG:HH12 | 4:32:47:ARG:HH12 | 1.55 | 0.53 |
| 9:82:82:ALA:HA | 9:82:85:LEU:HG | 1.89 | 0.53 |
| 20:BA:33:ILE:O | 20:BA:37:SER:OG | 2.22 | 0.53 |
| 57:3L:11:C:H2' | 57:3L:12:U:H6 | 1.73 | 0.53 |
| 26:14:9:U:C5 | 26:14:2629:A:N6 | 2.76 | 0.53 |
| 26:14:795:C:H2' | 26:14:796:C:C6 | 2.43 | 0.53 |
| 26:14:1444(A):A:O2' | 26:14:1445:C:OP1 | 2.24 | 0.53 |
| 26:14:1899:G:O2' | 26:14:1900:A:P | 2.66 | 0.53 |
| 26:14:1973:G:H2' | 26:14:1974:C:C6 | 2.42 | 0.53 |
| 26:14:2190:G:H2' | 26:14:2191:G:C1' | 2.37 | 0.53 |
| 26:14:2862:G:H2' | 26:14:2863:C:H6 | 1.74 | 0.53 |
| 29:19:246:PRO:CA | 29:19:255:LYS:NZ | 2.70 | 0.53 |
| 30:29:13:ARG:HB3 | 30:29:22:PRO:HA | 1.89 | 0.53 |
| 30:29:81:ILE:O | 30:29:82:ARG:HB2 | 2.08 | 0.53 |
| 47:D5:4:ARG:NH1 | 47:D5:60:GLU:OE2 | 2.42 | 0.53 |
| 1:13:475:G:H2' | 1:13:476:G:H5' | 1.90 | 0.53 |
| 1:13:822:C:O2' | 1:13:823:G:H5' | 2.09 | 0.53 |
| 1:13:953:G:H1 | 1:13:1228:C:H42 | 1.57 | 0.53 |
| 1:13:1221:G:H4' | 19:AI:53:ASN:O | 2.08 | 0.53 |
| 1:13:1225:A:H5'' | 1:13:1226:C:OP2 | 2.08 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 2:1E:10:LEU:HD11 | 2:1E:217:ARG:NE | 2.23 | 0.53 |
| 4:3E:88:VAL:H | 5:4E:97:GLY:HA3 | 1.72 | 0.53 |
| 6:5E:67:MET:CE | 6:5E:75:LEU:HD12 | 2.38 | 0.53 |
| 22:1K:55:PSU:O5' | 22:1K:55:PSU:H6 | 1.91 | 0.53 |
| 26:1H:43:G:N2 | 26:1H:438:G:C4 | 2.77 | 0.53 |
| 26:1H:143:C:H4' | 45:F8:38:GLU:OE2 | 2.08 | 0.53 |
| 26:1H:807:U:O2' | 26:1H:808:G:H5' | 2.07 | 0.53 |
| 26:1H:1113:U:C5' | 33:51:2:SER:HB2 | 2.36 | 0.53 |
| 26:1H:1404:C:O2' | 26:1H:1405:U:H5' | 2.08 | 0.53 |
| 32:41:11:TYR:HA | 32:41:15:VAL:HB | 1.89 | 0.53 |
| 32:41:77:ILE:O | 32:41:81:LYS:O | 2.27 | 0.53 |
| 45:F8:26:TYR:O | 45:F8:81:VAL:HG12 | 2.08 | 0.53 |
| 1:1G:195:A:C6 | 1:1G:196:A:N1 | 2.76 | 0.53 |
| 1:1G:498:A:H4' | 1:1G:500:G:OP1 | 2.07 | 0.53 |
| 1:1G:523:A:N6 | 12:3A:92:ASP:HB2 | 2.20 | 0.53 |
| 1:1G:756:C:H2' | 1:1G:757:U:C6 | 2.44 | 0.53 |
| 1:1G:1097:C:O2' | 1:1G:1169:A:N3 | 2.40 | 0.53 |
| 1:1G:1099:G:C6 | 1:1G:1100:C:C4 | 2.96 | 0.53 |
| 1:1G:1290:G:H21 | 9:82:70:LYS:HE2 | 1.73 | 0.53 |
| 3:22:29:TYR:O | 3:22:29:TYR:HD1 | 1.92 | 0.53 |
| 5:42:93:PRO:HG3 | 8:72:105:ARG:HG3 | 1.90 | 0.53 |
| 12:3A:60:LEU:HB2 | 12:3A:64:TYR:HB3 | 1.91 | 0.53 |
| 23:2L:21:U:H2' | 23:2L:21:U:OP2 | 2.08 | 0.53 |
| 57:3L:48:C:C5 | 57:3L:59:A:H1' | 2.43 | 0.53 |
| 26:14:857:C:H4' | 48:E5:23:VAL:HG21 | 1.90 | 0.53 |
| 26:14:1790:C:H2' | 26:14:1791:A:C5 | 2.43 | 0.53 |
| 26:14:2685:G:OP2 | 41:75:51:ARG:NH2 | 2.40 | 0.53 |
| 26:14:2688:U:H1' | 26:14:2721:A:N6 | 2.23 | 0.53 |
| 26:14:2812:G:N2 | 26:14:2889:C:C2 | 2.77 | 0.53 |
| 27:1J:44:G:C2 | 27:1J:48:A:C2 | 2.97 | 0.53 |
| 29:19:89:SER:HB2 | 29:19:159:ALA:H | 1.72 | 0.53 |
| 30:29:50:GLY:HA2 | 30:29:78:LEU:HD23 | 1.90 | 0.53 |
| 30:29:166:THR:HG21 | 30:29:199:ARG:HH21 | 1.72 | 0.53 |
| 32:49:44:GLY:O | 32:49:47:LYS:HG3 | 2.08 | 0.53 |
| 43:95:71:LEU:O | 43:95:72:VAL:HG12 | 2.07 | 0.53 |
| 53:J5:41:PRO:O | 53:J5:44:THR:OG1 | 2.22 | 0.53 |
| 1:13:148:G:N2 | 1:13:175:C:N3 | 2.56 | 0.53 |
| 1:13:168:G:N2 | 1:13:169:C:H41 | 2.06 | 0.53 |
| 1:13:443:C:N4 | 1:13:491:G:H1 | 2.07 | 0.53 |
| 1:13:1013:G:N2 | 1:13:1016:A:OP2 | 2.40 | 0.53 |
| 1:13:1190:G:H5'' | 3:2E:176:HIS:NE2 | 2.23 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|-------------------|--------------------------|-------------------|
| 1:13:1502:A:H2 | 1:13:1505:G:N1 | 1.94 | 0.53 |
| 1:13:1510:U:H2' | 1:13:1511:G:C8 | 2.44 | 0.53 |
| 10:1I:16:LEU:HD23 | 10:1I:94:VAL:HG13 | 1.89 | 0.53 |
| 16:7I:74:LEU:HA | 16:7I:77:ALA:HB2 | 1.89 | 0.53 |
| 22:1K:11:C:H42 | 22:1K:25:C:H42 | 1.56 | 0.53 |
| 26:1H:548:A:N3 | 43:D8:21:ARG:NH1 | 2.56 | 0.53 |
| 26:1H:722:A:H2' | 26:1H:723:G:C8 | 2.44 | 0.53 |
| 26:1H:1021:A:C8 | 26:1H:1022:G:H5'' | 2.43 | 0.53 |
| 26:1H:1405:U:H2' | 26:1H:1406:U:H6 | 1.72 | 0.53 |
| 26:1H:1420:U:O2' | 26:1H:1421:G:OP1 | 2.25 | 0.53 |
| 26:1H:2057:A:H2' | 26:1H:2058:A:C8 | 2.43 | 0.53 |
| 26:1H:2359:C:OP1 | 55:Q8:52:LYS:HE2 | 2.08 | 0.53 |
| 26:1H:2362:G:OP1 | 55:Q8:44:LYS:NZ | 2.37 | 0.53 |
| 26:1H:2801:A:H5' | 26:1H:2895:U:O4' | 2.09 | 0.53 |
| 37:78:29:LYS:HG2 | 37:78:30:THR:H | 1.72 | 0.53 |
| 40:A8:18:ILE:O | 40:A8:21:THR:HG22 | 2.09 | 0.53 |
| 1:1G:674:G:N2 | 1:1G:717:C:O2 | 2.39 | 0.53 |
| 1:1G:803:G:C6 | 1:1G:804:U:C4 | 2.96 | 0.53 |
| 1:1G:1103:C:C2 | 1:1G:1104:G:C8 | 2.95 | 0.53 |
| 1:1G:1172:C:H2' | 1:1G:1173:G:C8 | 2.44 | 0.53 |
| 2:12:166:ASP:O | 2:12:170:GLU:N | 2.37 | 0.53 |
| 4:32:172:PRO:HB2 | 4:32:187:ARG:NH1 | 2.24 | 0.53 |
| 18:9A:22:VAL:C | 18:9A:24:ALA:H | 2.12 | 0.53 |
| 57:3L:6:G:N3 | 57:3L:68:G:H1' | 2.23 | 0.53 |
| 26:14:13:A:N1 | 26:14:525:U:H2' | 2.24 | 0.53 |
| 26:14:38:A:H2' | 26:14:39:C:C6 | 2.44 | 0.53 |
| 26:14:77:C:H42 | 26:14:109:G:H1 | 1.57 | 0.53 |
| 26:14:270(Q):C:H5'' | 34:69:45:LYS:HD3 | 1.90 | 0.53 |
| 26:14:370:G:OP1 | 26:14:403:U:N3 | 2.31 | 0.53 |
| 26:14:582:G:H2' | 26:14:583:G:C8 | 2.43 | 0.53 |
| 26:14:1509:C:H5'' | 26:14:1510:A:C8 | 2.44 | 0.53 |
| 26:14:1729:A:C5 | 26:14:1731:G:C6 | 2.97 | 0.53 |
| 31:39:125:LEU:HA | 31:39:194:MET:HB2 | 1.90 | 0.53 |
| 38:45:22:LYS:CG | 38:45:23:GLY:HA2 | 2.34 | 0.53 |
| 1:13:700:G:H4' | 1:13:704:A:H1' | 1.91 | 0.53 |
| 1:13:859:A:H2' | 1:13:860:A:H8 | 1.74 | 0.53 |
| 1:13:946:A:H2' | 1:13:947:G:C8 | 2.44 | 0.53 |
| 1:13:992:U:H4' | 1:13:993:G:O5' | 2.09 | 0.53 |
| 2:1E:168:THR:HA | 2:1E:171:ALA:HB2 | 1.90 | 0.53 |
| 6:5E:3:ARG:HD3 | 6:5E:64:GLN:OE1 | 2.09 | 0.53 |
| 12:3I:60:LEU:HB3 | 12:3I:64:TYR:HB2 | 1.91 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|--------------------|--------------------------|-------------------|
| 17:8I:22:LEU:HD11 | 17:8I:39:SER:HB3 | 1.90 | 0.53 |
| 24:3K:53:G:H1 | 24:3K:61:C:N4 | 2.06 | 0.53 |
| 26:1H:308:G:H5'' | 26:1H:309:G:OP2 | 2.08 | 0.53 |
| 26:1H:1188:U:C5' | 43:D8:79:VAL:HG22 | 2.39 | 0.53 |
| 26:1H:1677:A:H8 | 26:1H:1677:A:O5' | 1.92 | 0.53 |
| 28:71:22:ILE:HD12 | 28:71:193:ILE:HD11 | 1.90 | 0.53 |
| 31:31:179:GLU:H | 31:31:179:GLU:CD | 2.11 | 0.53 |
| 40:A8:111:GLU:O | 40:A8:112:PHE:CD1 | 2.62 | 0.53 |
| 42:C8:92:ARG:CD | 43:D8:11:GLN:HG3 | 2.24 | 0.53 |
| 48:I8:17:GLN:O | 48:I8:19:LYS:HD3 | 2.08 | 0.53 |
| 48:I8:37:LEU:HD11 | 48:I8:61:ALA:N | 2.24 | 0.53 |
| 1:1G:746:A:H2' | 1:1G:747:C:C6 | 2.43 | 0.53 |
| 1:1G:973:G:H1' | 10:1A:55:LYS:HG2 | 1.91 | 0.53 |
| 1:1G:1016:A:O2' | 1:1G:1217:C:O2' | 2.26 | 0.53 |
| 1:1G:1354:C:H2' | 1:1G:1355:G:C8 | 2.44 | 0.53 |
| 1:1G:1462:G:H2' | 1:1G:1463:C:C6 | 2.43 | 0.53 |
| 7:62:45:ASP:HA | 7:62:48:LYS:HE3 | 1.91 | 0.53 |
| 26:14:259:G:N2 | 26:14:621:A:H8 | 2.04 | 0.53 |
| 26:14:1001:A:H2' | 26:14:1002:G:O4' | 2.08 | 0.53 |
| 26:14:1576:U:H2' | 26:14:1577:C:C6 | 2.44 | 0.53 |
| 26:14:2441:C:OP2 | 26:14:2586:C:O2' | 2.19 | 0.53 |
| 26:14:2578:G:C5 | 30:29:140:SER:HB2 | 2.43 | 0.53 |
| 26:14:2689:U:P | 26:14:2719:G:H22 | 2.31 | 0.53 |
| 26:14:2784:C:O2 | 30:29:37:ARG:NH2 | 2.42 | 0.53 |
| 27:1J:3:C:N4 | 27:1J:117:G:H22 | 2.06 | 0.53 |
| 30:29:11:MET:SD | 30:29:24:THR:HG22 | 2.49 | 0.53 |
| 31:39:34:TRP:CZ3 | 37:35:8:PRO:HB3 | 2.44 | 0.53 |
| 37:35:3:LEU:HA | 37:35:6:LEU:HD23 | 1.89 | 0.53 |
| 1:13:26:A:N6 | 1:13:558:G:O2' | 2.40 | 0.53 |
| 1:13:452:A:O2' | 1:13:453:A:O4' | 2.24 | 0.53 |
| 1:13:1016:A:H8 | 1:13:1016:A:O5' | 1.92 | 0.53 |
| 1:13:1157:A:N6 | 1:13:1178:G:H21 | 2.06 | 0.53 |
| 1:13:1162:C:O5' | 1:13:1162:C:H6 | 1.92 | 0.53 |
| 9:8E:22:GLY:N | 9:8E:58:HIS:O | 2.35 | 0.53 |
| 22:1K:37:T6A:H2' | 22:1K:38:A:O4' | 2.09 | 0.53 |
| 24:3K:57:G:H1 | 26:1H:2112:G:H22 | 1.56 | 0.53 |
| 26:1H:562:U:O4 | 26:1H:2036:C:H1' | 2.08 | 0.53 |
| 26:1H:1545(A):A:H2' | 26:1H:1546:C:O4' | 2.09 | 0.53 |
| 26:1H:1567:A:OP1 | 29:11:60:ARG:NE | 2.42 | 0.53 |
| 26:1H:2832:U:H4' | 26:1H:2833:G:H5'' | 1.90 | 0.53 |
| 32:41:115:ARG:NH1 | 32:41:115:ARG:HB3 | 2.23 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 45:F8:49:VAL:HG12 | 45:F8:50:LYS:N | 2.22 | 0.53 |
| 46:G8:85:VAL:HG23 | 46:G8:96:ILE:CG1 | 2.24 | 0.53 |
| 47:H8:28:MET:O | 47:H8:35:ARG:N | 2.40 | 0.53 |
| 50:K8:34:GLU:O | 50:K8:38:GLN:HG3 | 2.08 | 0.53 |
| 1:1G:17:U:H2' | 1:1G:18:C:C6 | 2.44 | 0.53 |
| 1:1G:155:C:N4 | 1:1G:166:G:H1 | 2.06 | 0.53 |
| 1:1G:501:C:H2' | 1:1G:502:G:C8 | 2.44 | 0.53 |
| 1:1G:865:A:H5' | 1:1G:1078:U:H5 | 1.74 | 0.53 |
| 1:1G:1072:G:H2' | 1:1G:1073:U:O4' | 2.08 | 0.53 |
| 3:22:21:ARG:HB3 | 3:22:21:ARG:NH1 | 2.24 | 0.53 |
| 3:22:69:HIS:HD2 | 3:22:104:GLN:HB3 | 1.74 | 0.53 |
| 4:32:31:CYS:HA | 59:32:302:SF4:S2 | 2.49 | 0.53 |
| 20:BA:86:ARG:NH1 | 20:BA:86:ARG:HB2 | 2.23 | 0.53 |
| 26:14:195:A:H4' | 26:14:251:A:O2' | 2.08 | 0.53 |
| 26:14:921:G:C5 | 26:14:922:U:C4 | 2.97 | 0.53 |
| 26:14:1115:G:C5 | 26:14:1116:C:C4 | 2.97 | 0.53 |
| 26:14:1239:G:H2' | 26:14:1240:U:O4' | 2.08 | 0.53 |
| 26:14:1425:G:H2' | 26:14:1426:G:C8 | 2.43 | 0.53 |
| 26:14:1507:A:C4 | 26:14:1508:A:H1' | 2.44 | 0.53 |
| 26:14:2233:U:OP2 | 61:14:3536:HOH:O | 2.18 | 0.53 |
| 26:14:2402:C:H4' | 26:14:2402:C:OP1 | 2.08 | 0.53 |
| 26:14:2472:G:N1 | 26:14:2477:C:OP1 | 2.41 | 0.53 |
| 26:14:2734:A:C8 | 26:14:2735:G:C8 | 2.97 | 0.53 |
| 44:A5:20:VAL:CG2 | 44:A5:47:VAL:HG21 | 2.38 | 0.53 |
| 45:B5:36:LYS:HG3 | 45:B5:56:THR:HG23 | 1.91 | 0.53 |
| 45:B5:52:VAL:N | 45:B5:82:GLN:O | 2.42 | 0.53 |
| 1:13:46:G:H2' | 1:13:366:C:H5 | 1.73 | 0.53 |
| 1:13:393:A:OP2 | 16:7I:12:LYS:NZ | 2.20 | 0.53 |
| 1:13:558:G:H5'' | 1:13:559:A:OP2 | 2.09 | 0.53 |
| 2:1E:31:TYR:CB | 2:1E:42:ILE:HD11 | 2.38 | 0.53 |
| 3:2E:156:ARG:N | 3:2E:196:LEU:HD22 | 2.24 | 0.53 |
| 5:4E:67:VAL:O | 5:4E:69:VAL:HG23 | 2.09 | 0.53 |
| 6:5E:67:MET:SD | 6:5E:75:LEU:HD12 | 2.49 | 0.53 |
| 7:6E:5:ARG:CZ | 7:6E:7:ALA:HA | 2.38 | 0.53 |
| 20:BI:63:ILE:CG2 | 20:BI:77:ALA:HB1 | 2.39 | 0.53 |
| 22:1K:6:G:N2 | 22:1K:7:U:O4 | 2.41 | 0.53 |
| 26:1H:39:C:O2 | 31:31:46:ARG:NH2 | 2.42 | 0.53 |
| 26:1H:875:G:H2' | 26:1H:876:C:O4' | 2.07 | 0.53 |
| 26:1H:943:U:OP2 | 37:78:36:LYS:HG2 | 2.09 | 0.53 |
| 26:1H:1252:G:N3 | 42:C8:33:ARG:HD2 | 2.24 | 0.53 |
| 26:1H:1627:G:C2' | 26:1H:1628:G:H5' | 2.39 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:2126:A:H4' | 26:1H:2127:G:OP1 | 2.08 | 0.53 |
| 29:11:223:GLY:HA3 | 29:11:231:HIS:CE1 | 2.44 | 0.53 |
| 34:61:110:ASP:HB2 | 34:61:130:TYR:OH | 2.09 | 0.53 |
| 38:88:133:ARG:O | 38:88:134:ARG:HB2 | 2.09 | 0.53 |
| 44:E8:57:ASN:HA | 44:E8:61:ASN:HD22 | 1.74 | 0.53 |
| 1:1G:42:G:H2' | 1:1G:43:C:O4' | 2.08 | 0.53 |
| 2:12:58:ILE:HB | 2:12:221:LEU:CB | 2.38 | 0.53 |
| 8:72:35:ILE:O | 8:72:39:LEU:HD22 | 2.09 | 0.53 |
| 57:3L:25:C:H2' | 57:3L:26:A:O4' | 2.08 | 0.53 |
| 26:14:27:G:O2' | 26:14:28:A:OP2 | 2.24 | 0.53 |
| 26:14:320:A:H4' | 26:14:322:A:C8 | 2.44 | 0.53 |
| 26:14:1204:A:N1 | 26:14:1241:A:H2 | 2.06 | 0.53 |
| 26:14:1257:C:OP1 | 31:39:75:HIS:HE1 | 1.90 | 0.53 |
| 26:14:2275:C:H5' | 26:14:2275:C:H6 | 1.74 | 0.53 |
| 27:1J:65:C:H41 | 27:1J:108:C:C2' | 2.21 | 0.53 |
| 32:49:19:LEU:HG | 32:49:175:LEU:HD12 | 1.90 | 0.53 |
| 37:35:107:LYS:O | 37:35:109:GLY:N | 2.31 | 0.53 |
| 42:85:100:VAL:O | 42:85:101:ARG:HG2 | 2.08 | 0.53 |
| 43:95:39:LEU:H | 43:95:39:LEU:HD12 | 1.74 | 0.53 |
| 45:B5:21:PHE:CZ | 45:B5:92:LEU:HD23 | 2.44 | 0.53 |
| 46:C5:31:LEU:CD1 | 46:C5:36:ALA:HB3 | 2.37 | 0.53 |
| 48:E5:49:LYS:HB2 | 48:E5:82:ARG:NH1 | 2.24 | 0.53 |
| 53:J5:6:VAL:HG13 | 53:J5:7:PRO:HD2 | 1.89 | 0.53 |
| 55:M5:37:SER:OG | 55:M5:39:LYS:O | 2.27 | 0.53 |
| 2:1E:189:ASP:HB3 | 2:1E:205:ASP:H | 1.73 | 0.53 |
| 8:7E:8:ASP:O | 8:7E:12:ARG:HB2 | 2.09 | 0.53 |
| 13:4I:11:ARG:HG2 | 13:4I:46:LYS:HD2 | 1.89 | 0.53 |
| 23:2K:24:C:H2' | 23:2K:25:U:C6 | 2.43 | 0.53 |
| 26:1H:1257:C:OP1 | 31:31:75:HIS:HE1 | 1.92 | 0.53 |
| 26:1H:2399:G:H8 | 26:1H:2399:G:O5' | 1.92 | 0.53 |
| 26:1H:2715:C:H2' | 26:1H:2716:U:H6 | 1.74 | 0.53 |
| 31:31:197:ASP:O | 31:31:199:TRP:N | 2.42 | 0.53 |
| 32:41:151:ALA:O | 32:41:153:ARG:NH1 | 2.42 | 0.53 |
| 1:1G:261:U:OP2 | 20:BA:80:ARG:NH2 | 2.37 | 0.53 |
| 1:1G:458:C:N3 | 1:1G:474:G:N2 | 2.55 | 0.53 |
| 1:1G:557:G:H2' | 1:1G:558:G:O4' | 2.09 | 0.53 |
| 1:1G:668:G:C2' | 1:1G:669:U:H5' | 2.39 | 0.53 |
| 1:1G:977:A:H2' | 1:1G:978:A:H5' | 1.91 | 0.53 |
| 4:32:18:LYS:HG3 | 59:32:302:SF4:S1 | 2.49 | 0.53 |
| 6:52:53:ALA:HB3 | 6:52:86:ARG:HD3 | 1.91 | 0.53 |
| 7:62:148:ASN:O | 7:62:149:ARG:HD3 | 2.09 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 23:2L:20:G:C4 | 23:2L:58:A:C2 | 2.97 | 0.53 |
| 26:14:181:A:H2' | 26:14:182:A:C8 | 2.44 | 0.53 |
| 26:14:184:C:H2' | 26:14:185:U:C6 | 2.43 | 0.53 |
| 26:14:265:A:C8 | 26:14:266:G:H1' | 2.43 | 0.53 |
| 26:14:446:G:H8 | 61:14:3503:HOH:O | 1.92 | 0.53 |
| 26:14:597:U:H2' | 26:14:598:G:H8 | 1.73 | 0.53 |
| 26:14:660:G:H21 | 37:35:12:ALA:CA | 2.22 | 0.53 |
| 26:14:1568:G:P | 29:19:63:ARG:HH12 | 2.32 | 0.53 |
| 26:14:2056:G:C2 | 26:14:2057:A:C8 | 2.96 | 0.53 |
| 26:14:2349:G:OP2 | 55:M5:42:ARG:NH2 | 2.42 | 0.53 |
| 26:14:2453:A:H2' | 26:14:2454:G:O4' | 2.09 | 0.53 |
| 26:14:2805:G:H2' | 26:14:2807:G:O4' | 2.08 | 0.53 |
| 37:35:41:ARG:N | 37:35:41:ARG:HD2 | 2.24 | 0.53 |
| 38:45:81:VAL:HG23 | 38:45:82:ARG:H | 1.74 | 0.53 |
| 47:D5:80:ARG:HD2 | 47:D5:80:ARG:H | 1.74 | 0.53 |
| 1:13:963:G:H21 | 10:1I:55:LYS:NZ | 2.07 | 0.53 |
| 1:13:1070:U:OP1 | 5:4E:18:ARG:NH2 | 2.42 | 0.53 |
| 1:13:1368:G:H5'' | 9:8E:112:LYS:HB3 | 1.90 | 0.53 |
| 4:3E:150:GLU:OE1 | 4:3E:150:GLU:N | 2.42 | 0.53 |
| 16:7I:13:HIS:C | 16:7I:15:PRO:HD3 | 2.29 | 0.53 |
| 26:1H:141:A:OP2 | 26:1H:141(A):C:N4 | 2.37 | 0.53 |
| 26:1H:527:C:H4' | 26:1H:528:A:H5' | 1.90 | 0.53 |
| 26:1H:750:A:OP2 | 61:1H:3553:HOH:O | 2.19 | 0.53 |
| 26:1H:1553:A:HO2' | 26:1H:1554:A:H8 | 1.54 | 0.53 |
| 26:1H:1643:G:C5 | 26:1H:1644:C:C5 | 2.96 | 0.53 |
| 26:1H:2456:C:O5' | 26:1H:2456:C:H6 | 1.91 | 0.53 |
| 35:58:40:PRO:O | 42:C8:64:ARG:HG2 | 2.09 | 0.53 |
| 42:C8:74:LEU:HD12 | 42:C8:74:LEU:C | 2.29 | 0.53 |
| 42:C8:92:ARG:CZ | 43:D8:11:GLN:H | 2.22 | 0.53 |
| 49:J8:58:ILE:HG12 | 49:J8:87:PRO:HD3 | 1.91 | 0.53 |
| 55:Q8:49:VAL:HG12 | 55:Q8:49:VAL:O | 2.09 | 0.53 |
| 1:1G:1369:C:H2' | 1:1G:1370:G:C8 | 2.44 | 0.53 |
| 5:42:41:VAL:O | 5:42:67:VAL:HG12 | 2.09 | 0.53 |
| 13:4A:80:ARG:NH2 | 19:AA:65:ASN:HD22 | 2.05 | 0.53 |
| 16:7A:68:ASP:O | 16:7A:71:ARG:HB3 | 2.08 | 0.53 |
| 19:AA:56:GLN:OE1 | 19:AA:59:PRO:HD3 | 2.10 | 0.53 |
| 57:3L:12:U:C2 | 57:3L:13:C:H1' | 2.44 | 0.53 |
| 26:14:482:A:H5'' | 26:14:483:A:OP1 | 2.06 | 0.53 |
| 26:14:1161:C:H2' | 26:14:1162:G:C8 | 2.44 | 0.53 |
| 26:14:1419:A:H2' | 26:14:1421:G:C8 | 2.44 | 0.53 |
| 26:14:1812:A:O2' | 29:19:45:ASN:HB2 | 2.09 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:14:1995:U:H3' | 26:14:1996:C:H2' | 1.90 | 0.53 |
| 26:14:2101:G:N2 | 26:14:2189:U:O2 | 2.42 | 0.53 |
| 26:14:2134:A:C2 | 26:14:2158:A:H1' | 2.44 | 0.53 |
| 26:14:2311:A:H62 | 32:49:44:GLY:HA3 | 1.73 | 0.53 |
| 26:14:2320:A:H2' | 26:14:2333:A:H62 | 1.73 | 0.53 |
| 26:14:2335:A:C8 | 26:14:2337:G:C5 | 2.96 | 0.53 |
| 26:14:2356:C:C5 | 26:14:2357:U:C4 | 2.97 | 0.53 |
| 30:29:46:ALA:HB2 | 30:29:82:ARG:HA | 1.91 | 0.53 |
| 43:95:85:LYS:HD2 | 43:95:87:HIS:N | 2.24 | 0.53 |
| 1:13:1044:A:C5 | 1:13:1045:C:H1' | 2.45 | 0.52 |
| 1:13:1145:C:H5'' | 1:13:1146:A:OP1 | 2.09 | 0.52 |
| 1:13:1259:C:O2 | 1:13:1283:G:H1' | 2.09 | 0.52 |
| 1:13:1347:G:C6 | 9:8E:10:ARG:NH2 | 2.78 | 0.52 |
| 4:3E:115:ARG:NH2 | 61:3E:401:HOH:O | 2.43 | 0.52 |
| 17:8I:67:LYS:O | 17:8I:68:ARG:HB3 | 2.09 | 0.52 |
| 19:AI:41:VAL:HB | 19:AI:42:PRO:C | 2.28 | 0.52 |
| 22:1K:28:U:H3 | 22:1K:42:A:H61 | 1.57 | 0.52 |
| 22:1K:66:A:H3' | 22:1K:67:C:H5' | 1.91 | 0.52 |
| 26:1H:956:G:OP2 | 38:88:14:ARG:NH2 | 2.42 | 0.52 |
| 28:71:43:VAL:HG23 | 28:71:214:VAL:HG22 | 1.89 | 0.52 |
| 28:71:226:PRO:HD2 | 28:71:227:HIS:CE1 | 2.44 | 0.52 |
| 30:21:78:LEU:HD23 | 30:21:78:LEU:O | 2.09 | 0.52 |
| 41:B8:3:ARG:HG3 | 41:B8:7:ILE:N | 2.24 | 0.52 |
| 43:D8:21:ARG:NH2 | 43:D8:93:GLU:OE2 | 2.42 | 0.52 |
| 47:H8:69:THR:HG22 | 47:H8:90:VAL:HG22 | 1.90 | 0.52 |
| 1:1G:403:C:OP1 | 4:32:137:SER:OG | 2.27 | 0.52 |
| 1:1G:1071:C:C2 | 1:1G:1072:G:N7 | 2.77 | 0.52 |
| 2:12:51:LEU:O | 2:12:55:PHE:N | 2.38 | 0.52 |
| 4:32:101:LEU:HD23 | 4:32:121:VAL:CG1 | 2.39 | 0.52 |
| 4:32:146:ILE:H | 4:32:146:ILE:HD12 | 1.73 | 0.52 |
| 6:52:82:ARG:HB2 | 6:52:85:VAL:HG23 | 1.90 | 0.52 |
| 10:1A:34:VAL:HG13 | 10:1A:74:ILE:HG21 | 1.90 | 0.52 |
| 12:3A:20:LYS:HE3 | 12:3A:22:SER:N | 2.24 | 0.52 |
| 26:14:839:U:H2' | 26:14:840:C:H6 | 1.73 | 0.52 |
| 26:14:1000:A:C6 | 26:14:1001:A:N1 | 2.77 | 0.52 |
| 26:14:1210:A:H5' | 26:14:1212:G:H5' | 1.91 | 0.52 |
| 26:14:2839:G:H5' | 39:55:46:GLY:HA2 | 1.91 | 0.52 |
| 27:1J:4:C:H2' | 27:1J:5:C:C6 | 2.43 | 0.52 |
| 27:1J:9:G:H5' | 40:65:25:ARG:HH12 | 1.74 | 0.52 |
| 31:39:3:GLU:N | 31:39:24:LEU:HG | 2.24 | 0.52 |
| 32:49:15:VAL:HG12 | 32:49:19:LEU:CD1 | 2.39 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 34:69:14:ASP:OD1 | 34:69:15:VAL:N | 2.42 | 0.52 |
| 34:69:125:GLU:OE2 | 34:69:141:LYS:HB2 | 2.09 | 0.52 |
| 41:75:18:ASP:OD1 | 41:75:18:ASP:N | 2.41 | 0.52 |
| 1:13:1218:C:H2' | 1:13:1219:U:C6 | 2.43 | 0.52 |
| 1:13:1240:U:OP1 | 7:6E:119:ARG:NH2 | 2.42 | 0.52 |
| 1:13:1448:C:N4 | 1:13:1455:G:H1 | 2.05 | 0.52 |
| 5:4E:41:VAL:HG12 | 5:4E:42:GLY:N | 2.24 | 0.52 |
| 6:5E:42:GLU:OE1 | 6:5E:59:TYR:OH | 2.23 | 0.52 |
| 8:7E:40:ALA:HA | 8:7E:45:ILE:HG13 | 1.92 | 0.52 |
| 18:9I:29:PHE:HE1 | 18:9I:31:LEU:HB3 | 1.74 | 0.52 |
| 24:3K:7:U:H2' | 24:3K:49:G:H5' | 1.91 | 0.52 |
| 26:1H:2254:C:O5' | 26:1H:2254:C:H6 | 1.93 | 0.52 |
| 26:1H:2261:C:H1' | 26:1H:2388:A:N3 | 2.24 | 0.52 |
| 26:1H:2331:G:H4' | 48:I8:42:GLY:HA3 | 1.91 | 0.52 |
| 37:78:13:ASN:C | 37:78:15:ARG:H | 2.10 | 0.52 |
| 40:A8:95:HIS:O | 40:A8:98:VAL:HG23 | 2.09 | 0.52 |
| 44:E8:76:VAL:CG2 | 44:E8:101:SER:HB3 | 2.39 | 0.52 |
| 46:G8:62:GLU:O | 46:G8:63:LYS:HD2 | 2.08 | 0.52 |
| 1:1G:56:U:H2' | 1:1G:57:G:H8 | 1.74 | 0.52 |
| 1:1G:894:G:C6 | 1:1G:895:G:C5 | 2.97 | 0.52 |
| 1:1G:1067:A:H4' | 1:1G:1068:G:O5' | 2.08 | 0.52 |
| 2:12:174:VAL:HA | 2:12:177:ALA:HB3 | 1.91 | 0.52 |
| 10:1A:30:SER:HB3 | 10:1A:81:THR:HG22 | 1.91 | 0.52 |
| 26:14:558:G:P | 35:15:111:PRO:HD2 | 2.50 | 0.52 |
| 26:14:649:G:C5 | 26:14:650:C:C4 | 2.98 | 0.52 |
| 26:14:817:C:C5 | 26:14:818:G:N7 | 2.77 | 0.52 |
| 26:14:920:G:O2' | 26:14:921:G:H5' | 2.09 | 0.52 |
| 26:14:2437:U:HO2' | 26:14:2599:G:HO2' | 1.57 | 0.52 |
| 38:45:34:LEU:HD12 | 38:45:130:LYS:O | 2.09 | 0.52 |
| 40:65:74:ALA:HB1 | 40:65:107:GLU:HB2 | 1.92 | 0.52 |
| 1:13:15:G:H4' | 5:4E:24:ARG:HH12 | 1.74 | 0.52 |
| 1:13:110:C:H2' | 1:13:111:G:O4' | 2.09 | 0.52 |
| 1:13:1074:G:N3 | 1:13:1102:A:C2 | 2.77 | 0.52 |
| 1:13:1267:C:O2 | 21:1F:20:LYS:HE2 | 2.09 | 0.52 |
| 2:1E:10:LEU:HD11 | 2:1E:217:ARG:HE | 1.75 | 0.52 |
| 3:2E:129:ALA:HB3 | 3:2E:132:ARG:HG2 | 1.92 | 0.52 |
| 18:9I:38:GLU:HA | 18:9I:41:LYS:NZ | 2.24 | 0.52 |
| 19:AI:39:THR:HG23 | 19:AI:68:GLY:O | 2.09 | 0.52 |
| 22:1K:14:A:H62 | 22:1K:22:G:N2 | 2.08 | 0.52 |
| 23:2K:20:G:C5 | 23:2K:58:A:C2 | 2.97 | 0.52 |
| 26:1H:274:G:H2' | 26:1H:275:G:C1' | 2.39 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:1H:817:C:H3' | 61:1H:3534:HOH:O | 2.09 | 0.52 |
| 26:1H:821:A:H5'' | 26:1H:822:U:H6 | 1.74 | 0.52 |
| 26:1H:1161:C:H3' | 26:1H:1161:C:C6 | 2.45 | 0.52 |
| 26:1H:1266:G:O4' | 44:E8:15:ARG:NH2 | 2.42 | 0.52 |
| 26:1H:1638:C:H5'' | 26:1H:2710:C:O2' | 2.08 | 0.52 |
| 26:1H:1696:G:C6 | 26:1H:1697:G:C4 | 2.97 | 0.52 |
| 27:16:29:A:P | 40:A8:32:LEU:HD13 | 2.49 | 0.52 |
| 27:16:29:A:H5'' | 27:16:30:C:OP2 | 2.10 | 0.52 |
| 28:71:192:PHE:HD1 | 28:71:195:ALA:HB3 | 1.74 | 0.52 |
| 28:71:200:LYS:HA | 28:71:208:PHE:CE1 | 2.44 | 0.52 |
| 29:11:94:LEU:HD23 | 29:11:95:LEU:N | 2.24 | 0.52 |
| 31:31:62:ARG:HB3 | 31:31:62:ARG:CZ | 2.40 | 0.52 |
| 37:78:96:THR:C | 37:78:98:GLU:H | 2.13 | 0.52 |
| 39:98:48:VAL:HA | 39:98:51:LEU:HB2 | 1.91 | 0.52 |
| 41:B8:33:LYS:HG3 | 41:B8:82:LEU:O | 2.09 | 0.52 |
| 41:B8:125:ARG:HA | 41:B8:128:GLU:HG2 | 1.90 | 0.52 |
| 42:C8:75:ASN:HB3 | 42:C8:77:SER:N | 2.24 | 0.52 |
| 47:H8:7:ALA:HB3 | 47:H8:61:LEU:HB3 | 1.91 | 0.52 |
| 47:H8:61:LEU:HB2 | 47:H8:62:PRO:HD2 | 1.91 | 0.52 |
| 49:J8:91:LYS:C | 49:J8:93:GLU:H | 2.12 | 0.52 |
| 51:L8:31:LEU:HB3 | 51:L8:32:GLN:OE1 | 2.09 | 0.52 |
| 1:1G:744:C:O2' | 1:1G:851:G:N2 | 2.42 | 0.52 |
| 1:1G:1051:C:H2' | 1:1G:1052:U:C6 | 2.45 | 0.52 |
| 1:1G:1064:G:C8 | 1:1G:1066:C:C2 | 2.97 | 0.52 |
| 1:1G:1132:C:H2' | 1:1G:1133:G:H8 | 1.72 | 0.52 |
| 2:12:34:ALA:HB3 | 2:12:36:ARG:HD3 | 1.91 | 0.52 |
| 2:12:51:LEU:HD22 | 2:12:54:THR:HB | 1.91 | 0.52 |
| 4:32:24:GLU:HG2 | 4:32:25:ARG:H | 1.74 | 0.52 |
| 5:42:51:VAL:HB | 5:42:52:PRO:HD3 | 1.91 | 0.52 |
| 13:4A:81:LEU:CG | 13:4A:89:GLY:HA2 | 2.39 | 0.52 |
| 14:5A:17:LYS:HD2 | 14:5A:18:VAL:H | 1.73 | 0.52 |
| 26:14:631:A:O2' | 37:35:67:MET:HB3 | 2.09 | 0.52 |
| 26:14:1022:G:C6 | 26:14:1140:C:C4 | 2.97 | 0.52 |
| 26:14:1190:G:OP1 | 37:35:32:THR:HA | 2.10 | 0.52 |
| 26:14:2283:C:C2 | 26:14:2389:G:C2 | 2.98 | 0.52 |
| 26:14:2582:G:O2' | 26:14:2583:G:H5' | 2.09 | 0.52 |
| 26:14:2733:A:N6 | 30:29:202:LYS:HB3 | 2.24 | 0.52 |
| 26:14:2786:U:H5'' | 30:29:66:HIS:HB2 | 1.90 | 0.52 |
| 27:1J:46:A:H2' | 27:1J:47:C:H6 | 1.74 | 0.52 |
| 38:45:87:LYS:HB3 | 38:45:90:VAL:HG23 | 1.91 | 0.52 |
| 40:65:7:TYR:CZ | 40:65:91:PRO:HG3 | 2.45 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 43:95:14:VAL:HB | 43:95:96:ILE:HG21 | 1.91 | 0.52 |
| 55:M5:22:VAL:HG11 | 55:M5:58:ILE:HD11 | 1.90 | 0.52 |
| 55:M5:40:GLU:H | 55:M5:43:GLN:HB2 | 1.73 | 0.52 |
| 1:13:165:C:H2' | 1:13:166:G:H8 | 1.73 | 0.52 |
| 1:13:1497:G:H2' | 1:13:1498:U:H5' | 1.92 | 0.52 |
| 2:1E:5:ILE:N | 2:1E:8:LYS:HZ1 | 2.07 | 0.52 |
| 8:7E:17:THR:HG21 | 8:7E:80:ILE:HD11 | 1.91 | 0.52 |
| 19:AI:19:VAL:O | 19:AI:23:ASN:N | 2.30 | 0.52 |
| 26:1H:1290:C:H2' | 26:1H:1291:C:H6 | 1.73 | 0.52 |
| 26:1H:1931:U:H5' | 26:1H:1931:U:O2 | 2.10 | 0.52 |
| 26:1H:2105:C:H2' | 26:1H:2106:G:C8 | 2.44 | 0.52 |
| 26:1H:2298:A:H2' | 26:1H:2299:G:O4' | 2.09 | 0.52 |
| 26:1H:2309:A:C5 | 26:1H:2310:A:C8 | 2.97 | 0.52 |
| 26:1H:2789:C:H1' | 26:1H:2892:A:C2 | 2.44 | 0.52 |
| 27:16:54:G:H2' | 27:16:55:U:C6 | 2.42 | 0.52 |
| 34:61:113:ARG:HH12 | 34:61:132:PRO:HB3 | 1.73 | 0.52 |
| 1:1G:108:G:H5' | 1:1G:109:A:C5' | 2.40 | 0.52 |
| 1:1G:600:C:H2' | 1:1G:601:C:C6 | 2.41 | 0.52 |
| 1:1G:1273:G:H5'' | 1:1G:1274:G:N7 | 2.24 | 0.52 |
| 1:1G:1305:G:N2 | 1:1G:1331:G:H2' | 2.23 | 0.52 |
| 3:22:20:SER:OG | 3:22:36:ASP:OD2 | 2.25 | 0.52 |
| 5:42:52:PRO:O | 5:42:56:GLN:HG2 | 2.09 | 0.52 |
| 26:14:105:C:H2' | 26:14:106:C:C6 | 2.44 | 0.52 |
| 26:14:121:G:H8 | 26:14:121:G:O5' | 1.93 | 0.52 |
| 26:14:608:A:H2' | 26:14:609:A:O4' | 2.10 | 0.52 |
| 26:14:848:G:H2' | 26:14:849:A:H8 | 1.73 | 0.52 |
| 26:14:1427:A:H4' | 26:14:1428:C:O4' | 2.08 | 0.52 |
| 26:14:2054:A:H5'' | 26:14:2055:C:O5' | 2.10 | 0.52 |
| 26:14:2107:C:O2' | 26:14:2108:C:OP1 | 2.26 | 0.52 |
| 26:14:2786:U:O2 | 30:29:62:PRO:HB3 | 2.10 | 0.52 |
| 30:29:56:PRO:HD2 | 30:29:58:ARG:NH2 | 2.24 | 0.52 |
| 35:15:40:PRO:HB3 | 42:85:68:ALA:HB2 | 1.91 | 0.52 |
| 43:95:5:VAL:HB | 43:95:37:VAL:HG12 | 1.90 | 0.52 |
| 47:D5:25:PRO:O | 47:D5:85:HIS:HA | 2.09 | 0.52 |
| 1:13:828:A:H4' | 1:13:828:A:OP1 | 2.08 | 0.52 |
| 1:13:1207:G:C6 | 1:13:1208:C:C4 | 2.98 | 0.52 |
| 1:13:1379:G:O6 | 7:6E:2:ALA:N | 2.42 | 0.52 |
| 1:13:1440:C:H2' | 1:13:1441:G:O4' | 2.10 | 0.52 |
| 4:3E:8:VAL:CG1 | 4:3E:21:LEU:HB2 | 2.39 | 0.52 |
| 26:1H:419:C:H2' | 26:1H:420:C:O4' | 2.09 | 0.52 |
| 26:1H:673:C:H5'' | 31:31:81:PRO:HD2 | 1.91 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:686:G:H4' | 26:1H:687:C:OP2 | 2.09 | 0.52 |
| 26:1H:956:G:N2 | 26:1H:960:A:OP2 | 2.40 | 0.52 |
| 26:1H:1465:G:C4 | 26:1H:1466:G:C8 | 2.97 | 0.52 |
| 26:1H:2125:G:N3 | 26:1H:2173:A:N6 | 2.57 | 0.52 |
| 26:1H:2415:G:C2 | 26:1H:2416:C:C2 | 2.97 | 0.52 |
| 26:1H:2740:A:H2' | 26:1H:2741:A:C8 | 2.45 | 0.52 |
| 26:1H:2788:C:P | 30:21:61:ARG:HH12 | 2.31 | 0.52 |
| 31:31:6:VAL:HG11 | 31:31:119:ARG:HA | 1.92 | 0.52 |
| 42:C8:90:VAL:HG22 | 43:D8:39:LEU:HB3 | 1.90 | 0.52 |
| 44:E8:29:LEU:CD1 | 44:E8:51:LEU:HD21 | 2.39 | 0.52 |
| 1:1G:1015:A:H2' | 1:1G:1016:A:C8 | 2.45 | 0.52 |
| 1:1G:1244:C:H2' | 1:1G:1245:A:C8 | 2.44 | 0.52 |
| 2:12:24:TRP:HA | 2:12:191:ASP:HA | 1.92 | 0.52 |
| 8:72:120:THR:HG22 | 8:72:123:GLU:OE1 | 2.09 | 0.52 |
| 13:4A:59:TYR:O | 13:4A:63:THR:N | 2.43 | 0.52 |
| 15:6A:24:SER:OG | 15:6A:27:VAL:HG23 | 2.09 | 0.52 |
| 17:8A:81:ARG:HD2 | 17:8A:84:LEU:HD12 | 1.92 | 0.52 |
| 26:14:470:A:H2' | 26:14:471:A:O4' | 2.08 | 0.52 |
| 26:14:614:U:H4' | 26:14:615:G:OP1 | 2.10 | 0.52 |
| 26:14:618:G:H4' | 31:39:205:ARG:HH11 | 1.75 | 0.52 |
| 26:14:855:G:O2' | 48:E5:27:GLU:HG2 | 2.08 | 0.52 |
| 26:14:1169:G:C2 | 26:14:1170:G:H1' | 2.45 | 0.52 |
| 26:14:2338:G:N2 | 26:14:2339:G:C4 | 2.78 | 0.52 |
| 27:1J:116:G:H8 | 27:1J:116:G:OP2 | 1.91 | 0.52 |
| 31:39:52:LYS:HD3 | 31:39:56:GLU:O | 2.08 | 0.52 |
| 33:59:10:PRO:HG2 | 33:59:50:VAL:HG12 | 1.92 | 0.52 |
| 34:69:93:THR:O | 34:69:97:ILE:HG13 | 2.10 | 0.52 |
| 35:15:41:ASP:HB3 | 35:15:48:MET:HE3 | 1.91 | 0.52 |
| 46:C5:17:SER:HA | 46:C5:71:LYS:HD2 | 1.90 | 0.52 |
| 1:13:160:A:N6 | 1:13:343:U:HO2' | 2.07 | 0.52 |
| 1:13:636:U:H2' | 1:13:637:G:C8 | 2.45 | 0.52 |
| 1:13:1112:C:O2 | 3:2E:179:ARG:HG2 | 2.10 | 0.52 |
| 9:8E:112:LYS:CA | 9:8E:119:ALA:HB2 | 2.28 | 0.52 |
| 9:8E:118:LYS:O | 9:8E:119:ALA:HB3 | 2.09 | 0.52 |
| 16:7I:79:VAL:HB | 16:7I:80:PHE:CD2 | 2.45 | 0.52 |
| 19:AI:12:ASP:HB2 | 19:AI:35:SER:OG | 2.09 | 0.52 |
| 19:AI:50:ALA:HA | 19:AI:58:VAL:O | 2.10 | 0.52 |
| 23:2K:19:G:C2 | 23:2K:59:A:C5 | 2.97 | 0.52 |
| 26:1H:934:G:H2' | 26:1H:935:C:C6 | 2.44 | 0.52 |
| 26:1H:1354:A:H2' | 26:1H:1355:G:O4' | 2.09 | 0.52 |
| 26:1H:1680:U:O2 | 26:1H:1763:G:H3' | 2.10 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:2126:A:H62 | 26:1H:2163:C:H1' | 1.75 | 0.52 |
| 26:1H:2212:A:H1' | 26:1H:2215:G:C5 | 2.45 | 0.52 |
| 26:1H:2233:U:H2' | 26:1H:2234:G:C8 | 2.45 | 0.52 |
| 26:1H:2350:C:H5' | 55:Q8:46:ARG:HH12 | 1.74 | 0.52 |
| 26:1H:2412:A:H2' | 26:1H:2413:G:O4' | 2.09 | 0.52 |
| 28:71:192:PHE:CD1 | 28:71:196:LEU:HD22 | 2.45 | 0.52 |
| 29:11:31:LYS:C | 29:11:35:LYS:NZ | 2.62 | 0.52 |
| 29:11:43:ARG:HD2 | 29:11:43:ARG:H | 1.75 | 0.52 |
| 31:31:119:ARG:HB3 | 31:31:119:ARG:CZ | 2.39 | 0.52 |
| 32:41:37:VAL:HG13 | 32:41:159:VAL:HG12 | 1.92 | 0.52 |
| 32:41:170:ARG:HH22 | 32:41:181:ARG:C | 2.12 | 0.52 |
| 38:88:14:ARG:HG2 | 38:88:41:TRP:HH2 | 1.74 | 0.52 |
| 47:H8:30:ASN:HA | 47:H8:89:PHE:CE1 | 2.45 | 0.52 |
| 1:1G:1279:A:O2' | 1:1G:1281:U:OP2 | 2.20 | 0.52 |
| 3:22:29:TYR:C | 3:22:29:TYR:HD1 | 2.13 | 0.52 |
| 3:22:91:LEU:HB2 | 3:22:99:VAL:HG12 | 1.92 | 0.52 |
| 5:42:27:ARG:HH11 | 5:42:47:LYS:NZ | 2.07 | 0.52 |
| 10:1A:61:GLU:OE1 | 14:5A:58:LYS:HD2 | 2.09 | 0.52 |
| 26:14:920:G:H2' | 26:14:921:G:H8 | 1.74 | 0.52 |
| 26:14:1420:U:HO2' | 26:14:1421:G:P | 2.32 | 0.52 |
| 26:14:1499:C:H2' | 26:14:1500:G:C8 | 2.45 | 0.52 |
| 26:14:1567:A:H5' | 29:19:58:HIS:ND1 | 2.25 | 0.52 |
| 26:14:1607:C:N4 | 26:14:1621:U:H2' | 2.25 | 0.52 |
| 26:14:1729:A:H2' | 26:14:1731:G:H22 | 1.74 | 0.52 |
| 26:14:2102:U:H3 | 26:14:2187:G:H1 | 1.55 | 0.52 |
| 26:14:2252:G:H2' | 26:14:2253:G:O4' | 2.10 | 0.52 |
| 26:14:2360:A:H2' | 26:14:2361:A:O4' | 2.10 | 0.52 |
| 26:14:2365:G:OP1 | 48:E5:54:GLY:HA2 | 2.09 | 0.52 |
| 27:1J:14:U:H4' | 27:1J:70:C:O2 | 2.09 | 0.52 |
| 30:29:15:PHE:CD2 | 41:75:81:PRO:HD3 | 2.45 | 0.52 |
| 30:29:112:GLY:O | 30:29:159:HIS:HA | 2.09 | 0.52 |
| 32:49:18:GLU:O | 32:49:22:ARG:N | 2.42 | 0.52 |
| 32:49:161:THR:CG2 | 32:49:163:ALA:H | 2.19 | 0.52 |
| 34:69:97:ILE:O | 34:69:100:ALA:HB3 | 2.10 | 0.52 |
| 44:A5:88:ARG:HG2 | 44:A5:88:ARG:HH11 | 1.74 | 0.52 |
| 1:13:12:U:O2' | 1:13:526:C:H4' | 2.10 | 0.52 |
| 1:13:377:G:OP1 | 16:7I:3:LYS:HD2 | 2.10 | 0.52 |
| 1:13:968:A:H4' | 1:13:969:A:OP2 | 2.10 | 0.52 |
| 1:13:1002:G:C2 | 1:13:1003:G:H1' | 2.44 | 0.52 |
| 16:7I:28:ARG:HG3 | 16:7I:29:ASP:OD1 | 2.09 | 0.52 |
| 19:AI:29:ARG:HH12 | 19:AI:31:ILE:HG23 | 1.74 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 23:2K:59:A:H4' | 23:2K:60:A:OP1 | 2.07 | 0.52 |
| 26:1H:425:G:H2' | 26:1H:426:C:C6 | 2.44 | 0.52 |
| 26:1H:588:U:C2 | 26:1H:589:C:C5 | 2.98 | 0.52 |
| 26:1H:768:G:O2' | 26:1H:1379:A:N6 | 2.42 | 0.52 |
| 26:1H:1176:G:H3' | 26:1H:1177:A:C4 | 2.45 | 0.52 |
| 26:1H:1396:U:O2 | 26:1H:1396:U:H2' | 2.10 | 0.52 |
| 26:1H:2315:G:H5'' | 26:1H:2316:C:OP2 | 2.08 | 0.52 |
| 26:1H:2680:C:O2' | 26:1H:2681:C:H5' | 2.10 | 0.52 |
| 27:16:65:C:H5'' | 27:16:66:A:OP2 | 2.10 | 0.52 |
| 29:11:27:THR:C | 29:11:29:PRO:CD | 2.78 | 0.52 |
| 30:21:116:VAL:HG23 | 30:21:120:TRP:CD1 | 2.38 | 0.52 |
| 32:41:41:GLN:O | 32:41:89:GLY:HA3 | 2.10 | 0.52 |
| 1:1G:924:C:N4 | 1:1G:925:G:O6 | 2.42 | 0.52 |
| 1:1G:1007:C:H2' | 1:1G:1008:C:H6 | 1.74 | 0.52 |
| 1:1G:1014:A:H5'' | 19:AA:15:LEU:HD21 | 1.92 | 0.52 |
| 1:1G:1217:C:H5'' | 14:5A:9:LYS:NZ | 2.25 | 0.52 |
| 1:1G:1369:C:OP1 | 14:5A:61:TRP:NE1 | 2.41 | 0.52 |
| 26:14:270(L):U:O2 | 34:69:50:ARG:HD3 | 2.10 | 0.52 |
| 26:14:460:A:H62 | 26:14:469:G:H21 | 1.56 | 0.52 |
| 26:14:470:A:H8 | 26:14:470:A:C5' | 2.21 | 0.52 |
| 26:14:528:A:H2 | 26:14:2043:C:C5' | 2.23 | 0.52 |
| 26:14:806:C:P | 37:35:41:ARG:NH2 | 2.83 | 0.52 |
| 26:14:919:G:C4 | 26:14:920:G:C8 | 2.97 | 0.52 |
| 26:14:921:G:C6 | 26:14:922:U:C4 | 2.98 | 0.52 |
| 26:14:1582:C:O2' | 26:14:1586:A:H8 | 1.93 | 0.52 |
| 26:14:2590:A:OP2 | 29:19:237:GLU:HB3 | 2.10 | 0.52 |
| 31:39:11:VAL:HG23 | 31:39:13:SER:H | 1.75 | 0.52 |
| 32:49:3:LEU:HA | 32:49:8:LYS:NZ | 2.24 | 0.52 |
| 32:49:42:GLY:O | 32:49:43:LEU:HD13 | 2.10 | 0.52 |
| 37:35:138:LEU:C | 37:35:138:LEU:HD13 | 2.30 | 0.52 |
| 40:65:69:VAL:CG2 | 40:65:101:LEU:HD13 | 2.40 | 0.52 |
| 46:C5:8:LYS:HE2 | 46:C5:95:LYS:NZ | 2.25 | 0.52 |
| 1:13:130:A:OP2 | 17:8I:63:ARG:NH2 | 2.42 | 0.52 |
| 1:13:407:G:O4' | 4:3E:119:GLN:NE2 | 2.43 | 0.52 |
| 1:13:977:A:O2' | 1:13:979:C:OP2 | 2.13 | 0.52 |
| 1:13:1252:A:H2' | 1:13:1253:G:C8 | 2.44 | 0.52 |
| 2:1E:219:VAL:O | 2:1E:223:ILE:HG12 | 2.09 | 0.52 |
| 19:AI:18:LYS:HZ1 | 19:AI:22:LEU:HB2 | 1.74 | 0.52 |
| 23:2K:48:U:O2' | 23:2K:49:C:OP2 | 2.25 | 0.52 |
| 26:1H:273:G:H1 | 26:1H:364:C:H42 | 1.58 | 0.52 |
| 26:1H:1187:G:OP2 | 61:1H:3554:HOH:O | 2.19 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:1H:1288:U:O2' | 26:1H:1647:G:N2 | 2.43 | 0.52 |
| 26:1H:1444:G:N2 | 26:1H:1548:C:C2 | 2.78 | 0.52 |
| 26:1H:2408:U:O5' | 26:1H:2408:U:H6 | 1.93 | 0.52 |
| 32:41:47:LYS:HD2 | 32:41:81:LYS:CB | 2.38 | 0.52 |
| 39:98:97:VAL:HA | 39:98:113:LEU:O | 2.09 | 0.52 |
| 1:1G:147:G:H1 | 1:1G:175:C:H42 | 1.56 | 0.52 |
| 1:1G:618:C:H5' | 1:1G:619:U:H5'' | 1.92 | 0.52 |
| 1:1G:1248:A:N3 | 9:82:70:LYS:NZ | 2.53 | 0.52 |
| 1:1G:1368:G:OP1 | 9:82:114:TYR:HB3 | 2.10 | 0.52 |
| 5:42:57:LYS:HA | 5:42:60:TYR:HD2 | 1.74 | 0.52 |
| 17:8A:99:SER:OG | 17:8A:100:LYS:N | 2.43 | 0.52 |
| 26:14:14:A:H5'' | 26:14:15:G:OP2 | 2.10 | 0.52 |
| 26:14:329:G:O6 | 46:C5:19:LYS:HE3 | 2.10 | 0.52 |
| 26:14:545:G:H2' | 26:14:547:A:OP2 | 2.10 | 0.52 |
| 26:14:930:U:H1' | 26:14:931:G:C6 | 2.44 | 0.52 |
| 26:14:2572:A:N7 | 30:29:144:ARG:CD | 2.71 | 0.52 |
| 26:14:2577:A:H5' | 53:J5:3:LYS:HD2 | 1.92 | 0.52 |
| 30:29:41:LYS:HG3 | 30:29:42:ASP:N | 2.24 | 0.52 |
| 36:25:47:ILE:HG23 | 36:25:48:PRO:HD2 | 1.90 | 0.52 |
| 36:25:97:ARG:HG2 | 36:25:98:VAL:N | 2.23 | 0.52 |
| 37:35:85:LEU:HA | 37:35:88:LEU:HD23 | 1.91 | 0.52 |
| 41:75:80:SER:OG | 41:75:83:ILE:HG13 | 2.09 | 0.52 |
| 46:C5:61:ILE:HG22 | 46:C5:62:GLU:HG3 | 1.91 | 0.52 |
| 55:M5:58:ILE:O | 55:M5:62:LEU:HD12 | 2.09 | 0.52 |
| 1:13:119:A:C8 | 1:13:288:A:C2 | 2.97 | 0.52 |
| 1:13:232:G:H2' | 1:13:233:C:C6 | 2.45 | 0.52 |
| 1:13:939:G:H5' | 7:6E:102:ARG:CZ | 2.40 | 0.52 |
| 1:13:1248:A:O2' | 9:8E:70:LYS:NZ | 2.40 | 0.52 |
| 2:1E:174:VAL:HG13 | 2:1E:184:VAL:HG11 | 1.91 | 0.52 |
| 6:5E:22:GLU:O | 6:5E:26:ILE:HG13 | 2.10 | 0.52 |
| 20:BI:71:THR:HG22 | 20:BI:72:LEU:N | 2.18 | 0.52 |
| 26:1H:298:G:OP1 | 46:G8:85:VAL:HA | 2.09 | 0.52 |
| 26:1H:592:G:N2 | 55:Q8:4:MET:HE1 | 2.21 | 0.52 |
| 26:1H:609(A):G:H2' | 26:1H:610:C:C6 | 2.45 | 0.52 |
| 26:1H:1164:G:H2' | 26:1H:1165:U:C6 | 2.45 | 0.52 |
| 26:1H:1606:G:H5'' | 26:1H:1607:C:OP1 | 2.10 | 0.52 |
| 26:1H:2212:A:H1' | 26:1H:2215:G:C4 | 2.45 | 0.52 |
| 26:1H:2259:G:C2 | 26:1H:2282:G:N1 | 2.78 | 0.52 |
| 26:1H:2698:U:H2' | 26:1H:2699:C:C6 | 2.44 | 0.52 |
| 50:K8:33:MET:O | 50:K8:37:PHE:HD1 | 1.93 | 0.52 |
| 1:1G:868:C:H2' | 1:1G:869:G:O4' | 2.09 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:1G:1126:U:C4 | 1:1G:1281:U:C6 | 2.98 | 0.52 |
| 1:1G:1161:C:O2' | 1:1G:1162:C:H5' | 2.10 | 0.52 |
| 1:1G:1295:G:O2' | 13:4A:14:ARG:NH1 | 2.43 | 0.52 |
| 6:52:83:ASP:OD1 | 6:52:83:ASP:N | 2.42 | 0.52 |
| 8:72:11:THR:HG23 | 8:72:14:ARG:NH1 | 2.25 | 0.52 |
| 11:2A:21:ILE:HA | 11:2A:30:VAL:HG12 | 1.90 | 0.52 |
| 13:4A:29:ARG:HD2 | 13:4A:64:TRP:HH2 | 1.75 | 0.52 |
| 16:7A:21:VAL:O | 16:7A:32:TYR:HB2 | 2.10 | 0.52 |
| 57:3L:42:A:H2' | 57:3L:42:A:N3 | 2.25 | 0.52 |
| 26:14:748:G:O6 | 26:14:751:A:H5'' | 2.09 | 0.52 |
| 30:29:117:MET:HA | 30:29:122:PHE:H | 1.75 | 0.52 |
| 32:49:27:ASN:HB3 | 32:49:30:GLU:HG3 | 1.92 | 0.52 |
| 40:65:27:SER:HA | 40:65:88:ASP:HB2 | 1.91 | 0.52 |
| 1:13:57:G:C5 | 1:13:58:C:C4 | 2.98 | 0.52 |
| 1:13:266:G:N2 | 1:13:269:C:H5 | 2.08 | 0.52 |
| 1:13:406:G:H5' | 4:3E:5:ILE:HD13 | 1.91 | 0.52 |
| 1:13:876:G:H1' | 8:7E:11:THR:HG21 | 1.91 | 0.52 |
| 3:2E:16:ARG:HD2 | 3:2E:54:ARG:NH1 | 2.25 | 0.52 |
| 3:2E:107:GLN:OE1 | 3:2E:107:GLN:N | 2.30 | 0.52 |
| 13:4I:3:ARG:HD3 | 13:4I:7:VAL:HG13 | 1.91 | 0.52 |
| 24:3K:45:G:C8 | 24:3K:46:G:N7 | 2.78 | 0.52 |
| 24:3K:59:A:N7 | 24:3K:60:U:C4 | 2.78 | 0.52 |
| 26:1H:1196:C:O4' | 26:1H:1227:A:C2 | 2.63 | 0.52 |
| 26:1H:1242:A:N1 | 37:78:4:SER:OG | 2.36 | 0.52 |
| 26:1H:1705:G:H2' | 26:1H:1706:U:H5' | 1.91 | 0.52 |
| 26:1H:2399:G:H1 | 26:1H:2417:C:N4 | 2.06 | 0.52 |
| 28:71:5:LYS:HB3 | 28:71:8:ARG:HH11 | 1.75 | 0.52 |
| 31:31:116:ASP:OD1 | 31:31:119:ARG:NH2 | 2.42 | 0.52 |
| 37:78:31:ALA:O | 37:78:33:ARG:HG3 | 2.10 | 0.52 |
| 43:D8:9:GLY:O | 43:D8:10:LYS:HG3 | 2.09 | 0.52 |
| 46:G8:9:LYS:HA | 46:G8:27:VAL:HG23 | 1.92 | 0.52 |
| 1:1G:142:G:H2' | 1:1G:143:A:H8 | 1.75 | 0.52 |
| 1:1G:427:U:H3' | 1:1G:428:G:H2' | 1.91 | 0.52 |
| 1:1G:740:U:H2' | 1:1G:741:G:H8 | 1.75 | 0.52 |
| 1:1G:1057:G:N1 | 1:1G:1204:A:N3 | 2.58 | 0.52 |
| 1:1G:1170:A:C6 | 1:1G:1171:G:H1' | 2.45 | 0.52 |
| 8:72:31:PHE:HZ | 8:72:134:ILE:HD11 | 1.75 | 0.52 |
| 9:82:118:LYS:NZ | 9:82:118:LYS:HB3 | 2.25 | 0.52 |
| 26:14:389:G:H8 | 26:14:389:G:O5' | 1.93 | 0.52 |
| 26:14:674:G:O2' | 31:39:74:ARG:HD3 | 2.10 | 0.52 |
| 26:14:1590:U:H2' | 26:14:1591:G:C8 | 2.45 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:14:2438:U:O3' | 26:14:2439:A:H3' | 2.10 | 0.52 |
| 26:14:2720:U:N3 | 26:14:2873:A:H2 | 2.07 | 0.52 |
| 26:14:2723:C:O5' | 26:14:2723:C:H6 | 1.92 | 0.52 |
| 27:1J:70:C:H2' | 27:1J:71:C:H6 | 1.75 | 0.52 |
| 29:19:96:HIS:CD2 | 29:19:102:LYS:HG2 | 2.45 | 0.52 |
| 39:55:58:GLY:HA2 | 39:55:80:PHE:CE2 | 2.45 | 0.52 |
| 1:13:560:U:H4' | 1:13:561:U:H5'' | 1.92 | 0.51 |
| 1:13:622:A:H3' | 1:13:623:C:H6 | 1.75 | 0.51 |
| 1:13:629:G:O5' | 1:13:629:G:H8 | 1.93 | 0.51 |
| 1:13:1277:C:O2' | 1:13:1279:A:H1' | 2.10 | 0.51 |
| 2:1E:72:GLY:HA2 | 2:1E:165:VAL:HG22 | 1.91 | 0.51 |
| 3:2E:82:GLU:HA | 3:2E:85:ARG:HB3 | 1.92 | 0.51 |
| 4:3E:165:MET:SD | 4:3E:168:ARG:NH1 | 2.83 | 0.51 |
| 13:4I:23:TYR:CZ | 13:4I:71:ARG:HG2 | 2.45 | 0.51 |
| 26:1H:1437:C:H2' | 26:1H:1438:U:H6 | 1.75 | 0.51 |
| 26:1H:1728:G:H5'' | 26:1H:1728:G:N3 | 2.24 | 0.51 |
| 26:1H:1936:A:C8 | 26:1H:1940:U:O2 | 2.64 | 0.51 |
| 28:7I:186:ALA:HA | 28:7I:189:ILE:HB | 1.92 | 0.51 |
| 30:2I:20:ALA:O | 30:2I:21:VAL:HG22 | 2.10 | 0.51 |
| 37:78:61:ARG:HH11 | 37:78:61:ARG:HG3 | 1.75 | 0.51 |
| 43:D8:46:VAL:HG22 | 43:D8:52:VAL:HG11 | 1.92 | 0.51 |
| 47:H8:125:LEU:HG | 47:H8:164:ALA:HB3 | 1.92 | 0.51 |
| 49:J8:92:LYS:HA | 49:J8:95:LEU:HD12 | 1.92 | 0.51 |
| 1:1G:115:G:H1' | 1:1G:116:A:N7 | 2.24 | 0.51 |
| 1:1G:176:C:OP1 | 20:BA:29:LYS:NZ | 2.41 | 0.51 |
| 1:1G:475:G:H5' | 1:1G:476:G:OP2 | 2.10 | 0.51 |
| 1:1G:837:G:H2' | 1:1G:838:G:O4' | 2.09 | 0.51 |
| 1:1G:841:U:O2' | 1:1G:842:C:H5'' | 2.10 | 0.51 |
| 1:1G:1014:A:H2' | 1:1G:1015:A:C8 | 2.45 | 0.51 |
| 1:1G:1258:G:H2' | 1:1G:1259:C:C6 | 2.41 | 0.51 |
| 1:1G:1280:A:O5' | 10:1A:40:LEU:HD21 | 2.10 | 0.51 |
| 1:1G:1342:C:O2' | 9:82:124:GLN:HA | 2.11 | 0.51 |
| 3:22:106:VAL:HB | 3:22:109:PRO:HB3 | 1.92 | 0.51 |
| 4:32:11:LEU:O | 4:32:15:GLU:HB2 | 2.11 | 0.51 |
| 4:32:19:LEU:HB2 | 4:32:21:LEU:CD1 | 2.39 | 0.51 |
| 4:32:119:GLN:HG3 | 4:32:123:HIS:CE1 | 2.44 | 0.51 |
| 7:62:111:ARG:NH2 | 7:62:122:HIS:HB3 | 2.24 | 0.51 |
| 9:82:119:ALA:O | 9:82:120:ARG:HB2 | 2.10 | 0.51 |
| 26:14:6:A:N7 | 26:14:2899:G:N2 | 2.58 | 0.51 |
| 26:14:142:G:H2' | 26:14:143:C:C6 | 2.45 | 0.51 |
| 26:14:2064:C:H2' | 26:14:2065:C:H6 | 1.71 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 29:19:177:LEU:HD12 | 29:19:181:GLU:HG2 | 1.91 | 0.51 |
| 31:39:129:PHE:HA | 31:39:142:TRP:NE1 | 2.25 | 0.51 |
| 45:B5:12:VAL:HG12 | 45:B5:29:TRP:CE2 | 2.45 | 0.51 |
| 1:13:445:G:H2' | 1:13:446:G:H8 | 1.75 | 0.51 |
| 1:13:625:G:H4' | 16:7I:16:HIS:CB | 2.40 | 0.51 |
| 1:13:955:U:H1' | 1:13:1227:A:N6 | 2.26 | 0.51 |
| 1:13:1348:U:H3 | 1:13:1374:A:H2 | 1.57 | 0.51 |
| 6:5E:35:ALA:HB1 | 6:5E:65:VAL:HG21 | 1.91 | 0.51 |
| 26:1H:125:G:H3' | 54:P8:19:ARG:HD3 | 1.92 | 0.51 |
| 26:1H:234:C:C2 | 26:1H:235:U:C5 | 2.98 | 0.51 |
| 26:1H:278:A:H3' | 26:1H:279:C:C6 | 2.46 | 0.51 |
| 26:1H:333:G:C8 | 26:1H:333:G:O5' | 2.64 | 0.51 |
| 26:1H:438:G:H2' | 26:1H:439:G:H8 | 1.74 | 0.51 |
| 26:1H:543:C:N4 | 26:1H:550:G:H1 | 2.06 | 0.51 |
| 26:1H:749:C:H5'' | 61:1H:3553:HOH:O | 2.09 | 0.51 |
| 26:1H:1529:A:C8 | 26:1H:1530:G:C8 | 2.99 | 0.51 |
| 26:1H:1831:G:H2' | 26:1H:1832:C:C6 | 2.45 | 0.51 |
| 28:71:10:LEU:HB3 | 28:71:32:LEU:HD22 | 1.92 | 0.51 |
| 30:21:105:THR:HG22 | 30:21:106:GLY:H | 1.74 | 0.51 |
| 31:31:116:ASP:O | 31:31:120:GLU:HG3 | 2.09 | 0.51 |
| 37:78:125:VAL:O | 37:78:144:GLU:HB2 | 2.09 | 0.51 |
| 50:K8:18:PRO:O | 50:K8:21:LEU:HB2 | 2.10 | 0.51 |
| 1:1G:984:C:H42 | 1:1G:1221:G:H1 | 1.58 | 0.51 |
| 1:1G:1084:G:C5 | 1:1G:1085:U:C4 | 2.97 | 0.51 |
| 2:12:32:ILE:HD11 | 2:12:40:HIS:HB3 | 1.93 | 0.51 |
| 4:32:57:ARG:HE | 4:32:205:GLU:HG2 | 1.73 | 0.51 |
| 57:3L:59:A:H3' | 57:3L:60:U:O4' | 2.11 | 0.51 |
| 26:14:686:G:H5'' | 54:L5:11:LYS:HE2 | 1.91 | 0.51 |
| 26:14:817:C:H3' | 26:14:818:G:H8 | 1.74 | 0.51 |
| 26:14:878:A:H5'' | 26:14:900:A:C6 | 2.45 | 0.51 |
| 26:14:2143:C:H2' | 26:14:2144:U:C4' | 2.41 | 0.51 |
| 26:14:2306:C:H3' | 26:14:2307:G:H5'' | 1.91 | 0.51 |
| 26:14:2402:C:H5' | 26:14:2403:C:OP2 | 2.10 | 0.51 |
| 27:1J:102:G:H21 | 47:D5:73:GLN:NE2 | 2.08 | 0.51 |
| 34:69:77:LEU:HD12 | 34:69:78:THR:N | 2.25 | 0.51 |
| 35:15:128:HIS:HB2 | 35:15:129:PRO:HD2 | 1.91 | 0.51 |
| 37:35:100:LEU:O | 37:35:103:ALA:N | 2.44 | 0.51 |
| 43:95:70:ILE:N | 43:95:86:GLY:O | 2.39 | 0.51 |
| 1:13:598:U:H4' | 8:7E:94:TYR:CD2 | 2.45 | 0.51 |
| 1:13:1118:C:H42 | 1:13:1155:G:H1 | 1.59 | 0.51 |
| 8:7E:87:SER:CB | 8:7E:93:VAL:H | 2.23 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 22:1K:66:A:H3' | 22:1K:67:C:C5' | 2.40 | 0.51 |
| 24:3K:72:C:H5' | 24:3K:73:A:OP2 | 2.10 | 0.51 |
| 26:1H:270(U):C:H2' | 26:1H:270(V):G:H8 | 1.75 | 0.51 |
| 26:1H:599:G:O5' | 37:78:9:ASN:ND2 | 2.43 | 0.51 |
| 26:1H:654:A:C2 | 26:1H:654(A):A:H3' | 2.45 | 0.51 |
| 26:1H:1425:G:N2 | 26:1H:1573:G:N7 | 2.58 | 0.51 |
| 26:1H:1468:C:H2' | 26:1H:1469:A:C8 | 2.45 | 0.51 |
| 26:1H:2115:G:H4' | 26:1H:2166:G:H1' | 1.92 | 0.51 |
| 26:1H:2713:A:H3' | 26:1H:2714:G:H5'' | 1.92 | 0.51 |
| 42:C8:88:ILE:C | 42:C8:90:VAL:H | 2.13 | 0.51 |
| 46:G8:55:TYR:HE1 | 46:G8:61:ILE:HD11 | 1.75 | 0.51 |
| 47:H8:136:PHE:O | 47:H8:137:ILE:HD12 | 2.10 | 0.51 |
| 49:J8:23:LYS:HB3 | 49:J8:29:GLY:HA3 | 1.91 | 0.51 |
| 53:N8:40:LYS:HZ3 | 53:N8:47:PRO:N | 2.09 | 0.51 |
| 55:Q8:51:ALA:HB1 | 55:Q8:52:LYS:CG | 2.40 | 0.51 |
| 1:1G:96:G:C6 | 1:1G:97:U:C4 | 2.98 | 0.51 |
| 1:1G:1052:U:H5'' | 1:1G:1053:G:OP2 | 2.10 | 0.51 |
| 1:1G:1263:C:H3' | 1:1G:1264:C:C6 | 2.45 | 0.51 |
| 2:12:44:LEU:O | 2:12:47:THR:OG1 | 2.25 | 0.51 |
| 13:4A:97:PRO:HA | 13:4A:110:ARG:NE | 2.24 | 0.51 |
| 14:5A:17:LYS:NZ | 14:5A:18:VAL:HG13 | 2.26 | 0.51 |
| 16:7A:49:LEU:HD12 | 16:7A:50:LYS:H | 1.76 | 0.51 |
| 23:2L:24:C:C2 | 23:2L:25:U:C5 | 2.98 | 0.51 |
| 26:14:829:A:H4' | 61:14:3835:HOH:O | 2.10 | 0.51 |
| 26:14:955:C:OP1 | 38:45:85:LYS:NZ | 2.26 | 0.51 |
| 26:14:1762:A:N6 | 61:14:3583:HOH:O | 2.43 | 0.51 |
| 26:14:1838:C:N4 | 26:14:1898:U:H2' | 2.25 | 0.51 |
| 26:14:2001:A:H2' | 26:14:2002:G:C8 | 2.45 | 0.51 |
| 26:14:2306:C:C2 | 26:14:2307:G:C2 | 2.98 | 0.51 |
| 26:14:2660:A:H8 | 26:14:2660:A:OP1 | 1.93 | 0.51 |
| 26:14:2844:G:N7 | 61:14:3564:HOH:O | 2.34 | 0.51 |
| 30:29:46:ALA:CB | 30:29:82:ARG:HA | 2.40 | 0.51 |
| 30:29:57:LYS:HA | 30:29:59:VAL:HG13 | 1.93 | 0.51 |
| 40:65:69:VAL:HG23 | 40:65:101:LEU:HD13 | 1.92 | 0.51 |
| 47:D5:7:ALA:O | 47:D5:8:TYR:CG | 2.63 | 0.51 |
| 47:D5:10:ARG:HB3 | 47:D5:36:LYS:HG3 | 1.92 | 0.51 |
| 50:G5:64:LEU:O | 50:G5:64:LEU:HD23 | 2.10 | 0.51 |
| 1:13:195:A:H5' | 1:13:196:A:OP2 | 2.10 | 0.51 |
| 2:1E:6:THR:CB | 2:1E:221:LEU:HD21 | 2.41 | 0.51 |
| 6:5E:48:LEU:HB2 | 6:5E:56:PRO:O | 2.10 | 0.51 |
| 8:7E:85:ARG:HG3 | 8:7E:86:ILE:O | 2.11 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 10:1I:92:THR:HG23 | 10:1I:93:GLY:H | 1.74 | 0.51 |
| 13:4I:12:ASN:ND2 | 13:4I:13:LYS:H | 2.06 | 0.51 |
| 18:9I:52:PRO:O | 18:9I:56:THR:HG22 | 2.10 | 0.51 |
| 22:1K:28:U:H3 | 22:1K:42:A:N6 | 2.09 | 0.51 |
| 26:1H:384:U:H2' | 26:1H:385:C:H6 | 1.76 | 0.51 |
| 26:1H:575:A:OP2 | 26:1H:2055:C:N4 | 2.35 | 0.51 |
| 26:1H:1443:G:H8 | 26:1H:1443:G:O5' | 1.92 | 0.51 |
| 26:1H:1448:G:H1 | 26:1H:1463:C:H42 | 1.58 | 0.51 |
| 26:1H:1479:G:C2 | 26:1H:1480:G:C4 | 2.99 | 0.51 |
| 26:1H:1598:C:O2' | 26:1H:1599:C:H5' | 2.10 | 0.51 |
| 26:1H:1790:C:H2' | 26:1H:1791:A:C4 | 2.45 | 0.51 |
| 26:1H:1998:G:O2' | 26:1H:1999:C:H5' | 2.10 | 0.51 |
| 26:1H:2065:C:H2' | 26:1H:2066:C:C6 | 2.45 | 0.51 |
| 26:1H:2392:A:H2 | 26:1H:2424:C:N4 | 2.01 | 0.51 |
| 31:31:29:ASN:H | 31:31:112:MET:CE | 2.23 | 0.51 |
| 33:51:15:VAL:HG12 | 33:51:29:PRO:HD2 | 1.91 | 0.51 |
| 34:61:127:VAL:HG12 | 34:61:139:GLN:HB3 | 1.91 | 0.51 |
| 36:68:75:SER:HB2 | 41:B8:74:ARG:HH12 | 1.76 | 0.51 |
| 38:88:78:PRO:O | 38:88:79:LEU:HB3 | 2.10 | 0.51 |
| 51:L8:26:LEU:HD21 | 51:L8:46:ASN:HB3 | 1.92 | 0.51 |
| 1:1G:652:U:C5 | 1:1G:752:G:N3 | 2.79 | 0.51 |
| 1:1G:828:A:H2' | 1:1G:829:G:O4' | 2.10 | 0.51 |
| 1:1G:830:G:N2 | 1:1G:857:C:O2 | 2.44 | 0.51 |
| 1:1G:980:C:H3' | 1:1G:981:U:C6 | 2.46 | 0.51 |
| 1:1G:1387:G:H2' | 1:1G:1388:C:C6 | 2.46 | 0.51 |
| 2:12:61:LEU:HD11 | 2:12:157:ARG:HH22 | 1.75 | 0.51 |
| 2:12:71:VAL:HB | 2:12:165:VAL:HG22 | 1.93 | 0.51 |
| 2:12:73:THR:HG21 | 2:12:97:TRP:N | 2.25 | 0.51 |
| 4:32:61:LYS:HD2 | 4:32:61:LYS:C | 2.31 | 0.51 |
| 4:32:88:VAL:HG22 | 5:42:96:PRO:HB2 | 1.93 | 0.51 |
| 5:42:144:THR:OG1 | 5:42:147:ASP:HB2 | 2.10 | 0.51 |
| 6:52:50:TYR:OH | 18:9A:74:ARG:O | 2.22 | 0.51 |
| 7:62:69:VAL:HG21 | 7:62:104:LEU:HD11 | 1.91 | 0.51 |
| 26:14:309:G:H4' | 46:C5:18:GLY:HA3 | 1.92 | 0.51 |
| 26:14:1512:G:H2' | 26:14:1513:C:C6 | 2.46 | 0.51 |
| 26:14:2507:C:H2' | 26:14:2508:G:O4' | 2.10 | 0.51 |
| 27:1J:20:C:N4 | 27:1J:63:G:H1 | 2.09 | 0.51 |
| 30:29:65:GLY:O | 30:29:68:ALA:HB2 | 2.10 | 0.51 |
| 31:39:177:ALA:HB1 | 31:39:178:PRO:HD2 | 1.92 | 0.51 |
| 37:35:33:ARG:O | 37:35:36:LYS:NZ | 2.43 | 0.51 |
| 40:65:5:THR:N | 40:65:8:GLU:OE2 | 2.44 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 45:B5:29:TRP:CH2 | 45:B5:78:LYS:HE2 | 2.45 | 0.51 |
| 45:B5:49:VAL:HB | 45:B5:83:VAL:HG21 | 1.92 | 0.51 |
| 1:13:128:G:H5' | 17:8I:2:PRO:O | 2.09 | 0.51 |
| 1:13:644:G:H2' | 1:13:645:C:O4' | 2.11 | 0.51 |
| 1:13:663:A:H2' | 1:13:664:G:O4' | 2.09 | 0.51 |
| 1:13:1113:C:H2' | 1:13:1114:C:C6 | 2.44 | 0.51 |
| 1:13:1157:A:N6 | 1:13:1178:G:N3 | 2.59 | 0.51 |
| 1:13:1167:A:H8 | 1:13:1167:A:OP1 | 1.94 | 0.51 |
| 3:2E:14:ILE:HD12 | 3:2E:15:THR:H | 1.75 | 0.51 |
| 7:6E:150:ALA:HB2 | 11:2I:50:TYR:OH | 2.10 | 0.51 |
| 15:6I:35:ARG:HA | 15:6I:38:ARG:HB2 | 1.92 | 0.51 |
| 20:BI:36:LEU:HD13 | 20:BI:39:LYS:HD3 | 1.92 | 0.51 |
| 26:1H:49:A:H4' | 26:1H:50:U:H5'' | 1.92 | 0.51 |
| 26:1H:382:G:H5'' | 26:1H:383:U:OP2 | 2.09 | 0.51 |
| 26:1H:461:C:O2' | 26:1H:462:C:H5' | 2.10 | 0.51 |
| 26:1H:638:G:H2' | 26:1H:639:U:C6 | 2.45 | 0.51 |
| 26:1H:701:G:H2' | 26:1H:702:G:H5' | 1.92 | 0.51 |
| 26:1H:1026:U:HO2' | 26:1H:1027:A:H5'' | 1.75 | 0.51 |
| 26:1H:1299:G:H3' | 26:1H:1639:U:O4 | 2.10 | 0.51 |
| 26:1H:1387:C:O2 | 26:1H:1388:G:C8 | 2.63 | 0.51 |
| 26:1H:2393:A:H2' | 26:1H:2394:C:C6 | 2.46 | 0.51 |
| 29:11:68:LYS:HB3 | 29:11:70:TRP:CZ3 | 2.45 | 0.51 |
| 33:51:157:TYR:H | 33:51:170:ARG:HA | 1.76 | 0.51 |
| 42:C8:52:ARG:HA | 42:C8:55:ARG:HG3 | 1.92 | 0.51 |
| 42:C8:58:ARG:HA | 42:C8:61:TRP:CE3 | 2.46 | 0.51 |
| 52:M8:15:ILE:O | 52:M8:33:VAL:HB | 2.11 | 0.51 |
| 54:P8:5:TRP:NE1 | 54:P8:7:PRO:HG3 | 2.25 | 0.51 |
| 1:1G:411:A:H62 | 1:1G:413:G:N2 | 2.07 | 0.51 |
| 2:12:86:GLU:HG2 | 2:12:92:TYR:HE2 | 1.76 | 0.51 |
| 2:12:215:LEU:H | 2:12:215:LEU:HD12 | 1.75 | 0.51 |
| 3:22:29:TYR:OH | 3:22:33:LEU:CD2 | 2.53 | 0.51 |
| 7:62:102:ARG:O | 7:62:106:GLN:HG2 | 2.10 | 0.51 |
| 26:14:244:A:C2 | 26:14:255:A:C4 | 2.98 | 0.51 |
| 26:14:2351:G:O6 | 55:M5:39:LYS:HG3 | 2.10 | 0.51 |
| 26:14:2579:C:C4' | 30:29:134:ILE:HG12 | 2.41 | 0.51 |
| 27:1J:44:G:H1' | 27:1J:47:C:H42 | 1.75 | 0.51 |
| 30:29:119:ARG:HD3 | 30:29:120:TRP:NE1 | 2.25 | 0.51 |
| 34:69:124:GLY:O | 34:69:142:VAL:HG22 | 2.11 | 0.51 |
| 36:25:7:TYR:CZ | 36:25:44:LYS:HG3 | 2.46 | 0.51 |
| 38:45:12:GLN:HG2 | 38:45:73:PRO:HD2 | 1.93 | 0.51 |
| 41:75:50:ILE:HD11 | 41:75:102:ILE:HD11 | 1.93 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 46:C5:48:ALA:HB3 | 46:C5:59:GLY:CA | 2.38 | 0.51 |
| 1:13:119:A:N7 | 1:13:288:A:C2 | 2.78 | 0.51 |
| 1:13:155:C:H2' | 1:13:156:G:H8 | 1.74 | 0.51 |
| 1:13:186(A):C:O2 | 20:BI:105:SER:HB3 | 2.11 | 0.51 |
| 1:13:1118:C:H1' | 1:13:1179:A:C5 | 2.45 | 0.51 |
| 2:1E:98:LEU:HB2 | 2:1E:101:MET:HG3 | 1.93 | 0.51 |
| 9:8E:79:LEU:O | 9:8E:83:ARG:HG3 | 2.11 | 0.51 |
| 15:6I:81:LEU:O | 15:6I:85:LEU:HB2 | 2.11 | 0.51 |
| 24:3K:33:U:H2' | 24:3K:34:U:O5' | 2.10 | 0.51 |
| 26:1H:1475:G:C2 | 26:1H:1519:G:C2 | 2.98 | 0.51 |
| 26:1H:2060:A:OP2 | 31:31:71:GLY:HA2 | 2.10 | 0.51 |
| 26:1H:2154:G:O2' | 26:1H:2155:G:H8 | 1.94 | 0.51 |
| 26:1H:2620:C:H2' | 26:1H:2621:A:O4' | 2.10 | 0.51 |
| 26:1H:2830:G:H5'' | 26:1H:2830:G:H8 | 1.74 | 0.51 |
| 45:F8:52:VAL:HG23 | 45:F8:82:GLN:HB3 | 1.92 | 0.51 |
| 47:H8:30:ASN:HA | 47:H8:89:PHE:HE1 | 1.76 | 0.51 |
| 1:1G:254:G:N2 | 17:8A:16:GLN:OE1 | 2.42 | 0.51 |
| 1:1G:363:A:C6 | 12:3A:31:PRO:HD2 | 2.46 | 0.51 |
| 1:1G:828:A:H5'' | 1:1G:859:A:N1 | 2.26 | 0.51 |
| 1:1G:1127:G:H2' | 1:1G:1127:G:N3 | 2.26 | 0.51 |
| 1:1G:1219:U:P | 14:5A:19:ARG:HH12 | 2.33 | 0.51 |
| 1:1G:1342:C:H1' | 9:82:124:GLN:HG3 | 1.92 | 0.51 |
| 2:12:95:GLN:HB2 | 2:12:148:TYR:HA | 1.92 | 0.51 |
| 5:42:118:ILE:HG12 | 5:42:119:LEU:H | 1.75 | 0.51 |
| 6:52:4:TYR:HB2 | 6:52:65:VAL:HG23 | 1.93 | 0.51 |
| 12:3A:100:ILE:CG2 | 12:3A:101:VAL:H | 2.19 | 0.51 |
| 26:14:995:C:C6 | 42:85:57:PHE:HE2 | 2.28 | 0.51 |
| 26:14:1299:G:C5 | 26:14:1639:U:C5 | 2.98 | 0.51 |
| 26:14:2464:C:H2' | 26:14:2465:C:O4' | 2.11 | 0.51 |
| 27:1J:1:U:H3 | 27:1J:119:A:H2 | 1.57 | 0.51 |
| 30:29:35:GLN:HE21 | 30:29:41:LYS:NZ | 2.07 | 0.51 |
| 30:29:55:ASN:HD22 | 30:29:75:VAL:HG13 | 1.74 | 0.51 |
| 38:45:26:TYR:OH | 47:D5:78:LYS:HD2 | 2.10 | 0.51 |
| 1:13:919:A:O2' | 1:13:920:U:H5' | 2.10 | 0.51 |
| 2:1E:161:ALA:O | 2:1E:162:ILE:HD13 | 2.10 | 0.51 |
| 7:6E:45:ASP:O | 7:6E:49:ILE:HG12 | 2.10 | 0.51 |
| 22:1K:10:G:H1 | 22:1K:26:A:H2' | 1.76 | 0.51 |
| 26:1H:107:C:H2' | 26:1H:108:U:C6 | 2.45 | 0.51 |
| 26:1H:270(F):U:H2' | 26:1H:270(G):C:C6 | 2.46 | 0.51 |
| 26:1H:612:G:O2' | 26:1H:616:A:N1 | 2.41 | 0.51 |
| 26:1H:1438:U:O2' | 26:1H:1439:A:H5' | 2.10 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:1639:U:O2' | 26:1H:1640:C:H5' | 2.10 | 0.51 |
| 26:1H:1897:G:H2' | 26:1H:1898:U:O4' | 2.11 | 0.51 |
| 26:1H:2061:G:C2 | 26:1H:2063:C:C4 | 2.99 | 0.51 |
| 26:1H:2266:A:H4' | 26:1H:2267:A:N3 | 2.26 | 0.51 |
| 26:1H:2680:C:H5' | 30:21:189:PRO:HA | 1.92 | 0.51 |
| 38:88:58:PHE:HZ | 38:88:106:VAL:HG11 | 1.76 | 0.51 |
| 38:88:103:MET:HB2 | 38:88:104:PHE:CD2 | 2.46 | 0.51 |
| 41:B8:27:THR:HA | 41:B8:48:ILE:HA | 1.93 | 0.51 |
| 47:H8:10:ARG:HG3 | 47:H8:36:LYS:HB3 | 1.91 | 0.51 |
| 47:H8:152:ALA:CB | 47:H8:169:GLU:H | 2.20 | 0.51 |
| 1:1G:56:U:H2' | 1:1G:57:G:C8 | 2.45 | 0.51 |
| 1:1G:437:U:OP1 | 4:32:155:LEU:HD11 | 2.11 | 0.51 |
| 1:1G:1068:G:N7 | 1:1G:1094:G:C8 | 2.78 | 0.51 |
| 1:1G:1281:U:H3' | 1:1G:1282:C:C5 | 2.45 | 0.51 |
| 2:12:22:LYS:HG2 | 2:12:24:TRP:CZ2 | 2.45 | 0.51 |
| 2:12:91:PRO:CG | 2:12:154:LEU:HB2 | 2.38 | 0.51 |
| 2:12:107:THR:HG22 | 2:12:110:GLN:NE2 | 2.26 | 0.51 |
| 13:4A:56:LEU:HA | 13:4A:59:TYR:HB3 | 1.92 | 0.51 |
| 26:14:5:A:N6 | 26:14:2629:A:O2' | 2.37 | 0.51 |
| 26:14:35:G:H2' | 26:14:36:G:O4' | 2.11 | 0.51 |
| 26:14:994:C:OP1 | 42:85:53:ARG:NH2 | 2.43 | 0.51 |
| 26:14:1665:A:H1' | 36:25:1:MET:HG2 | 1.91 | 0.51 |
| 26:14:2137:C:N4 | 26:14:2155:G:H1 | 2.06 | 0.51 |
| 26:14:2292:C:P | 40:65:17:ARG:HH21 | 2.34 | 0.51 |
| 26:14:2628:C:H1' | 26:14:2781:A:H2' | 1.92 | 0.51 |
| 31:39:110:LEU:CD2 | 31:39:181:LEU:HD12 | 2.40 | 0.51 |
| 34:69:6:LEU:HD23 | 34:69:34:GLY:O | 2.09 | 0.51 |
| 38:45:134:ARG:N | 38:45:135:ASP:OD1 | 2.44 | 0.51 |
| 49:F5:8:SER:HB3 | 49:F5:66:HIS:CD2 | 2.46 | 0.51 |
| 1:13:825:G:O2' | 8:7E:12:ARG:NH1 | 2.44 | 0.51 |
| 1:13:1305:G:OP2 | 1:13:1305:G:C8 | 2.64 | 0.51 |
| 1:13:1363:A:H1' | 1:13:1365:G:N7 | 2.26 | 0.51 |
| 2:1E:6:THR:HA | 2:1E:221:LEU:HD21 | 1.93 | 0.51 |
| 4:3E:31:CYS:C | 4:3E:33:MET:H | 2.14 | 0.51 |
| 5:4E:150:ARG:CZ | 5:4E:150:ARG:HB2 | 2.41 | 0.51 |
| 9:8E:95:LYS:O | 9:8E:96:LEU:HD12 | 2.10 | 0.51 |
| 15:6I:6:GLU:HA | 15:6I:9:GLN:HB2 | 1.92 | 0.51 |
| 26:1H:532:A:OP1 | 26:1H:561:G:N2 | 2.37 | 0.51 |
| 26:1H:852:G:O2' | 26:1H:853:G:H5' | 2.11 | 0.51 |
| 32:41:97:ASP:H | 32:41:100:TRP:HD1 | 1.59 | 0.51 |
| 35:58:15:LEU:HD13 | 35:58:16:ILE:N | 2.25 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|-------------------|--------------------------|-------------------|
| 40:A8:43:GLU:HB2 | 48:I8:49:LYS:HE2 | 1.93 | 0.51 |
| 41:B8:107:ASP:O | 41:B8:111:ARG:NH1 | 2.44 | 0.51 |
| 43:D8:47:VAL:HG22 | 43:D8:48:GLY:N | 2.25 | 0.51 |
| 46:G8:76:CYS:HB2 | 46:G8:82:PRO:HG3 | 1.93 | 0.51 |
| 47:H8:137:ILE:HG21 | 47:H8:155:LEU:HB3 | 1.91 | 0.51 |
| 1:1G:186(A):C:H5'' | 20:BA:86:ARG:NH2 | 2.26 | 0.51 |
| 1:1G:261:U:N3 | 1:1G:264:U:OP2 | 2.39 | 0.51 |
| 1:1G:375:U:OP1 | 16:7A:69:THR:OG1 | 2.24 | 0.51 |
| 1:1G:604:G:H2' | 1:1G:605:U:O4' | 2.11 | 0.51 |
| 1:1G:1167:A:H2' | 1:1G:1169:A:O4' | 2.11 | 0.51 |
| 1:1G:1261:A:H61 | 1:1G:1274:G:H1' | 1.75 | 0.51 |
| 1:1G:1314:C:H2' | 1:1G:1315:U:C6 | 2.45 | 0.51 |
| 1:1G:1359:C:O2' | 1:1G:1361:G:N7 | 2.38 | 0.51 |
| 4:32:4:TYR:HE2 | 4:32:11:LEU:HD11 | 1.75 | 0.51 |
| 5:42:91:LEU:CD2 | 5:42:120:THR:HG22 | 2.41 | 0.51 |
| 6:52:96:PRO:HB3 | 18:9A:30:ASP:CG | 2.31 | 0.51 |
| 7:62:15:ASP:OD1 | 7:62:16:LEU:N | 2.43 | 0.51 |
| 12:3A:45:PRO:HD3 | 12:3A:51:ALA:O | 2.10 | 0.51 |
| 16:7A:53:VAL:HG13 | 16:7A:79:VAL:HG13 | 1.93 | 0.51 |
| 23:2L:2:G:C2 | 23:2L:3:C:C5 | 2.99 | 0.51 |
| 26:14:363(B):G:C2 | 26:14:363(C):G:C4 | 2.99 | 0.51 |
| 26:14:660:G:H21 | 37:35:12:ALA:HB2 | 1.75 | 0.51 |
| 26:14:777:A:C2 | 26:14:778:G:C4 | 2.99 | 0.51 |
| 26:14:1219:G:H1 | 26:14:1230:C:H42 | 1.59 | 0.51 |
| 26:14:1716:U:H2' | 26:14:1717:G:C8 | 2.46 | 0.51 |
| 27:1J:52:A:N6 | 40:65:33:LYS:HE2 | 2.26 | 0.51 |
| 40:65:10:ARG:NH2 | 40:65:91:PRO:HB2 | 2.24 | 0.51 |
| 41:75:50:ILE:HD11 | 41:75:102:ILE:CD1 | 2.41 | 0.51 |
| 43:95:95:LEU:HD22 | 43:95:97:LYS:HD3 | 1.92 | 0.51 |
| 46:C5:43:ASN:HA | 46:C5:63:LYS:O | 2.11 | 0.51 |
| 1:13:126:G:N2 | 1:13:235:C:O2 | 2.37 | 0.51 |
| 1:13:1250:A:O3' | 9:8E:67:GLY:HA2 | 2.11 | 0.51 |
| 1:13:1367:C:H5' | 10:1I:60:ARG:NH1 | 2.26 | 0.51 |
| 7:6E:22:LEU:HB3 | 7:6E:62:PHE:HE2 | 1.75 | 0.51 |
| 15:6I:78:TYR:CZ | 15:6I:82:ILE:HD11 | 2.46 | 0.51 |
| 22:1K:17:U:O2' | 22:1K:57:G:N2 | 2.40 | 0.51 |
| 24:3K:33:U:H2' | 24:3K:34:U:C3' | 2.39 | 0.51 |
| 26:1H:355:G:H2' | 26:1H:356:G:C8 | 2.46 | 0.51 |
| 26:1H:654(S):G:HO2' | 26:1H:654(T):A:H8 | 1.59 | 0.51 |
| 26:1H:1138:G:H21 | 35:58:106:MET:CE | 2.24 | 0.51 |
| 26:1H:1392:A:C6 | 26:1H:1393:A:C6 | 2.98 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:1468:C:H2' | 26:1H:1469:A:H8 | 1.75 | 0.51 |
| 26:1H:2652:C:H2' | 26:1H:2653:U:O4' | 2.11 | 0.51 |
| 27:16:12:C:OP2 | 27:16:12:C:C6 | 2.64 | 0.51 |
| 27:16:44:G:C2 | 27:16:48:A:C2 | 2.98 | 0.51 |
| 32:41:96:ARG:HB2 | 32:41:96:ARG:NH1 | 2.23 | 0.51 |
| 39:98:29:LEU:N | 39:98:29:LEU:CD1 | 2.74 | 0.51 |
| 44:E8:19:LEU:HB3 | 53:N8:25:LEU:HD11 | 1.91 | 0.51 |
| 47:H8:128:VAL:HG12 | 47:H8:161:VAL:HB | 1.93 | 0.51 |
| 53:N8:16:ARG:NH1 | 53:N8:17:ASP:OD1 | 2.44 | 0.51 |
| 1:1G:277:C:H5' | 17:8A:68:ARG:NH1 | 2.26 | 0.51 |
| 1:1G:332:G:C2 | 1:1G:333:G:C8 | 2.99 | 0.51 |
| 1:1G:1137:C:H1' | 1:1G:1138:G:N2 | 2.26 | 0.51 |
| 1:1G:1401:G:C2 | 1:1G:1402:C:H1' | 2.46 | 0.51 |
| 57:3L:30:G:H2' | 57:3L:31:A:C8 | 2.46 | 0.51 |
| 26:14:19:C:H2' | 26:14:20:C:H6 | 1.75 | 0.51 |
| 26:14:260:G:C6 | 26:14:261:G:C8 | 2.99 | 0.51 |
| 26:14:363(E):U:H5' | 26:14:363(F):A:OP2 | 2.11 | 0.51 |
| 26:14:677:A:H2' | 26:14:678:C:C6 | 2.45 | 0.51 |
| 26:14:1116:C:H2' | 26:14:1117:G:C8 | 2.45 | 0.51 |
| 26:14:1180:C:H2' | 26:14:1181:C:C6 | 2.46 | 0.51 |
| 26:14:1341:U:OP2 | 26:14:1394:U:O2' | 2.17 | 0.51 |
| 26:14:2266:A:H5' | 26:14:2267:A:C5 | 2.46 | 0.51 |
| 26:14:2298:A:H62 | 26:14:2318:G:H8 | 1.57 | 0.51 |
| 26:14:2864:G:OP1 | 41:75:119:LYS:HD3 | 2.11 | 0.51 |
| 26:14:2887:U:H2' | 26:14:2888:C:H6 | 1.75 | 0.51 |
| 30:29:81:ILE:HG22 | 30:29:82:ARG:N | 2.26 | 0.51 |
| 41:75:3:ARG:CG | 41:75:6:LEU:H | 2.24 | 0.51 |
| 46:C5:81:LYS:HG3 | 46:C5:99:CYS:HB2 | 1.91 | 0.51 |
| 1:13:626:U:C2 | 1:13:627:G:C8 | 2.99 | 0.51 |
| 1:13:804:U:H5'' | 1:13:805:C:OP2 | 2.11 | 0.51 |
| 1:13:807:A:H2' | 1:13:808:C:C6 | 2.46 | 0.51 |
| 1:13:1118:C:OP1 | 9:8E:9:ARG:HD3 | 2.11 | 0.51 |
| 7:6E:23:VAL:O | 7:6E:27:ILE:N | 2.32 | 0.51 |
| 11:2I:33:THR:HA | 11:2I:39:PRO:HA | 1.92 | 0.51 |
| 22:1K:14:A:N6 | 22:1K:22:G:H2' | 2.25 | 0.51 |
| 24:3K:37:A:H2' | 24:3K:38:A:O4' | 2.11 | 0.51 |
| 26:1H:7:G:O5' | 26:1H:7:G:H8 | 1.94 | 0.51 |
| 26:1H:1029:A:H5'' | 38:88:128:LYS:HE2 | 1.94 | 0.51 |
| 26:1H:1472:A:H2' | 26:1H:1473:G:O4' | 2.11 | 0.51 |
| 26:1H:1910:G:O2' | 26:1H:1911:U:H5' | 2.11 | 0.51 |
| 26:1H:2156:G:H3' | 26:1H:2157:G:N2 | 2.26 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:2461:C:H2' | 26:1H:2462:U:H6 | 1.76 | 0.51 |
| 26:1H:2599:G:N7 | 29:11:236:GLY:HA3 | 2.25 | 0.51 |
| 27:16:15:A:H4' | 27:16:15:A:OP1 | 2.10 | 0.51 |
| 34:61:9:LEU:O | 34:61:10:GLU:HG3 | 2.11 | 0.51 |
| 34:61:62:LYS:O | 34:61:66:GLU:OE1 | 2.29 | 0.51 |
| 35:58:78:TYR:CD1 | 35:58:78:TYR:N | 2.78 | 0.51 |
| 38:88:32:TYR:O | 38:88:105:GLU:HA | 2.11 | 0.51 |
| 39:98:117:VAL:O | 39:98:118:GLU:HB2 | 2.09 | 0.51 |
| 41:B8:29:ARG:NH1 | 41:B8:46:GLU:OE2 | 2.44 | 0.51 |
| 41:B8:101:PHE:O | 41:B8:105:LEU:HD13 | 2.11 | 0.51 |
| 54:P8:16:HIS:HB2 | 54:P8:44:PRO:HG2 | 1.92 | 0.51 |
| 1:1G:35:G:C2 | 1:1G:550:G:N3 | 2.79 | 0.51 |
| 1:1G:87:A:C5 | 1:1G:88:C:C4 | 2.99 | 0.51 |
| 1:1G:103:C:C4 | 1:1G:104:G:N7 | 2.79 | 0.51 |
| 1:1G:192:U:O4' | 20:BA:103:GLY:HA2 | 2.11 | 0.51 |
| 1:1G:235:C:H5' | 17:8A:70:ARG:HG2 | 1.92 | 0.51 |
| 4:32:191:ARG:NH2 | 4:32:194:LEU:O | 2.44 | 0.51 |
| 26:14:273(F):C:N4 | 26:14:275:G:N7 | 2.59 | 0.51 |
| 26:14:481:G:P | 46:C5:47:LYS:HD3 | 2.50 | 0.51 |
| 26:14:1375:C:H2' | 26:14:1376:C:H6 | 1.76 | 0.51 |
| 26:14:1753:G:O3' | 41:75:96:ARG:NH1 | 2.44 | 0.51 |
| 26:14:1801:G:OP2 | 29:19:154:LYS:NZ | 2.44 | 0.51 |
| 26:14:1819:A:H5'' | 29:19:161:THR:HG21 | 1.92 | 0.51 |
| 26:14:1992:G:C8 | 26:14:1992:G:O5' | 2.64 | 0.51 |
| 26:14:2615:U:C2 | 53:J5:7:PRO:HA | 2.46 | 0.51 |
| 26:14:2786:U:H4' | 30:29:63:LEU:O | 2.10 | 0.51 |
| 26:14:2850:A:C2 | 26:14:2851:A:C4 | 2.99 | 0.51 |
| 26:14:2861:G:H2' | 26:14:2862:G:C8 | 2.45 | 0.51 |
| 32:49:129:GLY:HA2 | 32:49:166:ASP:HA | 1.92 | 0.51 |
| 34:69:44:LEU:O | 34:69:48:GLU:HB3 | 2.11 | 0.51 |
| 34:69:144:VAL:O | 34:69:145:VAL:HG12 | 2.10 | 0.51 |
| 43:95:79:VAL:O | 43:95:80:GLN:CG | 2.59 | 0.51 |
| 47:D5:128:VAL:HG22 | 47:D5:129:SER:H | 1.76 | 0.51 |
| 49:F5:87:PRO:HA | 49:F5:90:ILE:CG2 | 2.41 | 0.51 |
| 1:13:191(C):G:H2' | 1:13:191(D):U:O4' | 2.12 | 0.50 |
| 1:13:240:C:H2' | 1:13:241:C:C6 | 2.45 | 0.50 |
| 1:13:306:G:H3' | 61:13:1804:HOH:O | 2.11 | 0.50 |
| 1:13:321:A:N7 | 1:13:328:C:C6 | 2.79 | 0.50 |
| 1:13:704:A:N3 | 1:13:704:A:H2' | 2.25 | 0.50 |
| 1:13:1117:G:O3' | 9:8E:104:ARG:HD3 | 2.11 | 0.50 |
| 2:1E:97:TRP:HH2 | 2:1E:176:GLU:OE2 | 1.94 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 3:2E:124:ILE:HG21 | 3:2E:196:LEU:HD12 | 1.93 | 0.50 |
| 11:2I:99:GLN:HG3 | 11:2I:105:VAL:HG11 | 1.93 | 0.50 |
| 17:8I:52:LYS:HE3 | 17:8I:55:ASP:OD1 | 2.11 | 0.50 |
| 20:BI:83:ARG:HB3 | 20:BI:87:LYS:NZ | 2.25 | 0.50 |
| 23:2K:54:G:H2' | 23:2K:55:5MU:C6 | 2.46 | 0.50 |
| 26:1H:51:G:H5' | 26:1H:51:G:C8 | 2.46 | 0.50 |
| 26:1H:259:G:H21 | 26:1H:621:A:H8 | 1.59 | 0.50 |
| 26:1H:550:G:H2' | 26:1H:551:G:H8 | 1.75 | 0.50 |
| 26:1H:634:C:H2' | 26:1H:635:C:C6 | 2.46 | 0.50 |
| 26:1H:2110:G:C6 | 26:1H:2120:G:C8 | 2.99 | 0.50 |
| 26:1H:2591:C:H2' | 26:1H:2592:G:H8 | 1.74 | 0.50 |
| 26:1H:2627:G:N2 | 26:1H:2777:G:OP2 | 2.44 | 0.50 |
| 27:16:49:C:O5' | 27:16:49:C:H6 | 1.94 | 0.50 |
| 33:51:144:VAL:O | 33:51:148:ILE:HG12 | 2.10 | 0.50 |
| 33:51:155:SER:HB2 | 33:51:156:ALA:C | 2.32 | 0.50 |
| 38:88:64:ILE:HG12 | 38:88:106:VAL:HG12 | 1.93 | 0.50 |
| 38:88:109:VAL:HG22 | 38:88:113:GLN:OE1 | 2.10 | 0.50 |
| 1:1G:256:U:H3 | 1:1G:270:A:H61 | 1.58 | 0.50 |
| 1:1G:716:A:N3 | 11:2A:118:GLY:HA2 | 2.26 | 0.50 |
| 1:1G:757:U:O2' | 1:1G:879:C:H1' | 2.11 | 0.50 |
| 1:1G:1224:G:C2 | 1:1G:1322:C:H4' | 2.46 | 0.50 |
| 2:12:178:ARG:HD3 | 2:12:196:LEU:O | 2.12 | 0.50 |
| 4:32:61:LYS:HZ3 | 4:32:206:PHE:HE2 | 1.54 | 0.50 |
| 13:4A:40:ASN:OD1 | 13:4A:41:PRO:HD2 | 2.10 | 0.50 |
| 26:14:1028:A:N6 | 26:14:1125:G:H2' | 2.27 | 0.50 |
| 26:14:2165:G:H3' | 26:14:2166:G:C5' | 2.40 | 0.50 |
| 26:14:2831:G:P | 30:29:58:ARG:HH11 | 2.33 | 0.50 |
| 32:49:63:ILE:HG22 | 32:49:143:GLU:HB2 | 1.93 | 0.50 |
| 32:49:136:ARG:NH1 | 32:49:154:GLY:C | 2.65 | 0.50 |
| 34:69:123:LEU:HA | 34:69:142:VAL:HG21 | 1.94 | 0.50 |
| 38:45:37:LEU:HD11 | 38:45:130:LYS:HB3 | 1.93 | 0.50 |
| 40:65:7:TYR:O | 40:65:11:LYS:HB2 | 2.11 | 0.50 |
| 42:85:92:ARG:C | 42:85:94:ASN:N | 2.63 | 0.50 |
| 1:13:376:G:H1 | 1:13:387:U:H3 | 1.59 | 0.50 |
| 1:13:555:C:H2' | 1:13:556:C:C6 | 2.46 | 0.50 |
| 1:13:606:G:N2 | 1:13:630:G:N7 | 2.57 | 0.50 |
| 1:13:871:U:O2' | 1:13:872:A:H5'' | 2.12 | 0.50 |
| 1:13:1064:G:H4' | 1:13:1065:U:OP1 | 2.10 | 0.50 |
| 2:1E:189:ASP:CG | 2:1E:205:ASP:CG | 2.65 | 0.50 |
| 2:1E:189:ASP:HB3 | 2:1E:205:ASP:OD1 | 2.07 | 0.50 |
| 4:3E:108:LEU:HB3 | 4:3E:110:PHE:HD1 | 1.75 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|---------------------|--------------------------|-------------------|
| 23:2K:44:A:C2 | 23:2K:45:A:C4 | 2.99 | 0.50 |
| 26:1H:354:G:H2' | 26:1H:355:G:C8 | 2.46 | 0.50 |
| 26:1H:1591:G:H2' | 26:1H:1592:C:H6 | 1.73 | 0.50 |
| 26:1H:1949:G:H1 | 26:1H:1957:C:H42 | 1.58 | 0.50 |
| 26:1H:2470:G:N2 | 26:1H:2480:C:O2 | 2.43 | 0.50 |
| 32:41:6:ALA:HB3 | 52:M8:23:GLU:HG3 | 1.94 | 0.50 |
| 34:61:77:LEU:HG | 34:61:101:LEU:HD13 | 1.93 | 0.50 |
| 41:B8:74:ARG:HD3 | 41:B8:76:PHE:CZ | 2.46 | 0.50 |
| 1:1G:292:G:H8 | 1:1G:292:G:O5' | 1.94 | 0.50 |
| 1:1G:814:A:N7 | 1:1G:816:A:C4 | 2.79 | 0.50 |
| 1:1G:1261:A:N1 | 1:1G:1274:G:O2' | 2.44 | 0.50 |
| 1:1G:1362:C:H2' | 1:1G:1362(A):C:H5'' | 1.93 | 0.50 |
| 4:32:25:ARG:HH21 | 4:32:30:LYS:HB2 | 1.76 | 0.50 |
| 6:52:7:ASN:HD21 | 18:9A:34:TYR:HE1 | 1.57 | 0.50 |
| 6:52:24:GLU:HB3 | 6:52:28:ARG:NH1 | 2.26 | 0.50 |
| 26:14:94:G:N3 | 50:G5:47:ASN:ND2 | 2.60 | 0.50 |
| 26:14:274:G:H2' | 26:14:275:G:O4' | 2.10 | 0.50 |
| 26:14:2621:A:P | 30:29:119:ARG:HH22 | 2.35 | 0.50 |
| 43:95:75:PHE:CE2 | 43:95:81:TYR:CE1 | 3.00 | 0.50 |
| 54:L5:34:ARG:HH11 | 54:L5:39:ARG:HG3 | 1.76 | 0.50 |
| 1:13:4:U:O2' | 1:13:5:U:OP1 | 2.25 | 0.50 |
| 1:13:672:U:H2' | 1:13:673:G:C8 | 2.47 | 0.50 |
| 1:13:746:A:C5 | 1:13:747:C:C5 | 3.00 | 0.50 |
| 13:4I:65:LYS:O | 13:4I:66:LEU:HD23 | 2.10 | 0.50 |
| 16:7I:58:TYR:O | 16:7I:62:VAL:HG22 | 2.11 | 0.50 |
| 26:1H:34:C:HO2' | 26:1H:35:G:P | 2.35 | 0.50 |
| 26:1H:67:U:H2' | 26:1H:68:G:H8 | 1.75 | 0.50 |
| 26:1H:1385:G:O2' | 26:1H:1396:U:C6 | 2.63 | 0.50 |
| 26:1H:1389:G:C2 | 26:1H:1399:C:O2 | 2.65 | 0.50 |
| 26:1H:1919:A:H5'' | 26:1H:1920:C:OP2 | 2.11 | 0.50 |
| 26:1H:2070:G:C2 | 26:1H:2442:C:C2 | 2.99 | 0.50 |
| 26:1H:2590:A:H2' | 26:1H:2591:C:C6 | 2.46 | 0.50 |
| 26:1H:2615:U:H2' | 26:1H:2616:C:H6 | 1.76 | 0.50 |
| 27:16:15:A:H1' | 27:16:109:G:N9 | 2.26 | 0.50 |
| 28:71:22:ILE:O | 28:71:26:ALA:N | 2.44 | 0.50 |
| 32:41:94:LEU:HA | 32:41:98:ARG:NH1 | 2.26 | 0.50 |
| 40:A8:67:ARG:O | 40:A8:71:ARG:HG3 | 2.11 | 0.50 |
| 41:B8:50:ILE:HG13 | 41:B8:102:ILE:HD11 | 1.93 | 0.50 |
| 43:D8:76:LYS:HB2 | 43:D8:81:TYR:HD1 | 1.76 | 0.50 |
| 45:F8:8:ILE:CD1 | 45:F8:43:VAL:HG22 | 2.41 | 0.50 |
| 46:G8:87:LYS:HD2 | 46:G8:89:PHE:HD2 | 1.76 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 52:M8:43:TYR:CE2 | 52:M8:44:THR:HG23 | 2.46 | 0.50 |
| 1:1G:825:G:H1 | 1:1G:875:C:H42 | 1.58 | 0.50 |
| 1:1G:998(A):C:H1' | 1:1G:1042:G:N1 | 2.27 | 0.50 |
| 1:1G:1081:G:N7 | 5:42:47:LYS:NZ | 2.59 | 0.50 |
| 1:1G:1281:U:H3' | 1:1G:1282:C:H5 | 1.76 | 0.50 |
| 1:1G:1452:C:C6 | 1:1G:1452:C:OP1 | 2.65 | 0.50 |
| 13:4A:52:GLU:HA | 13:4A:55:ARG:HH21 | 1.76 | 0.50 |
| 20:BA:14:LYS:HG3 | 20:BA:17:ARG:NH2 | 2.26 | 0.50 |
| 21:1B:9:ARG:HG3 | 21:1B:10:ARG:N | 2.25 | 0.50 |
| 26:14:929:G:C8 | 26:14:929:G:H3' | 2.46 | 0.50 |
| 26:14:1657:C:H2' | 26:14:1658:C:C6 | 2.46 | 0.50 |
| 26:14:2260:C:O2' | 26:14:2261:C:H5' | 2.11 | 0.50 |
| 26:14:2295:C:H5 | 40:65:13:ARG:NH2 | 2.08 | 0.50 |
| 26:14:2615:U:H2' | 26:14:2616:C:H6 | 1.77 | 0.50 |
| 26:14:2773:C:OP1 | 30:29:166:THR:OG1 | 2.29 | 0.50 |
| 26:14:2849:U:H1' | 26:14:2866:U:O2 | 2.10 | 0.50 |
| 32:49:106:LEU:O | 32:49:110:ALA:HB3 | 2.11 | 0.50 |
| 1:13:592:G:H2' | 1:13:593:G:H8 | 1.76 | 0.50 |
| 1:13:983:A:C2 | 1:13:984:C:C6 | 2.99 | 0.50 |
| 2:1E:27:LYS:HZ1 | 2:1E:195:ASP:HB2 | 1.77 | 0.50 |
| 2:1E:59:GLU:HB2 | 2:1E:221:LEU:HD12 | 1.92 | 0.50 |
| 5:4E:110:LEU:HD13 | 5:4E:118:ILE:HG21 | 1.92 | 0.50 |
| 8:7E:87:SER:HB2 | 8:7E:93:VAL:CG2 | 2.42 | 0.50 |
| 19:AI:41:VAL:HA | 19:AI:44:MET:H | 1.77 | 0.50 |
| 24:3K:59:A:H5'' | 24:3K:60:U:H6 | 1.75 | 0.50 |
| 26:1H:207:A:H2' | 26:1H:208:C:O4' | 2.12 | 0.50 |
| 26:1H:426:C:H2' | 26:1H:427:U:C6 | 2.46 | 0.50 |
| 26:1H:1344:G:H4' | 26:1H:1384:A:C5 | 2.46 | 0.50 |
| 26:1H:1388:G:H2' | 26:1H:1389:G:H8 | 1.76 | 0.50 |
| 26:1H:1420:U:HO2' | 26:1H:1421:G:P | 2.34 | 0.50 |
| 26:1H:1564:C:O2' | 26:1H:1565:C:H5' | 2.11 | 0.50 |
| 31:31:78:ILE:HA | 31:31:83:PHE:CD2 | 2.46 | 0.50 |
| 31:31:196:LEU:O | 31:31:200:GLU:HB2 | 2.11 | 0.50 |
| 34:61:88:ILE:O | 34:61:121:LYS:NZ | 2.43 | 0.50 |
| 35:58:128:HIS:HB2 | 35:58:129:PRO:HD2 | 1.94 | 0.50 |
| 37:78:122:PRO:HA | 37:78:142:GLY:HA3 | 1.94 | 0.50 |
| 38:88:54:MET:O | 38:88:57:HIS:N | 2.44 | 0.50 |
| 40:A8:39:ILE:O | 40:A8:39:ILE:HG22 | 2.12 | 0.50 |
| 1:1G:35:G:C2 | 1:1G:550:G:C2 | 2.99 | 0.50 |
| 1:1G:243:A:H4' | 1:1G:244:U:C5' | 2.39 | 0.50 |
| 1:1G:294:U:OP1 | 1:1G:610:G:O2' | 2.19 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:1G:303:A:H2' | 1:1G:304:U:O4' | 2.11 | 0.50 |
| 1:1G:373:A:N3 | 1:1G:374:A:C8 | 2.78 | 0.50 |
| 1:1G:409:G:C2 | 1:1G:410:G:H1' | 2.45 | 0.50 |
| 1:1G:740:U:OP2 | 15:6A:2:PRO:HA | 2.12 | 0.50 |
| 1:1G:882:C:OP2 | 12:3A:13:LYS:NZ | 2.40 | 0.50 |
| 1:1G:904:C:C4 | 1:1G:905:U:C5 | 2.99 | 0.50 |
| 1:1G:1010:G:N2 | 1:1G:1019:C:O2 | 2.28 | 0.50 |
| 1:1G:1088:G:H2' | 1:1G:1089:G:O4' | 2.11 | 0.50 |
| 3:22:55:VAL:HG22 | 3:22:68:VAL:HG13 | 1.94 | 0.50 |
| 3:22:88:ARG:HB3 | 3:22:101:LEU:HD12 | 1.93 | 0.50 |
| 4:32:173:TRP:CD1 | 4:32:174:LEU:HG | 2.46 | 0.50 |
| 5:42:141:GLN:HA | 5:42:143:ARG:NH2 | 2.27 | 0.50 |
| 7:62:62:PHE:HA | 7:62:124:LEU:HD22 | 1.92 | 0.50 |
| 12:3A:117:ARG:NH2 | 12:3A:124:LYS:HB2 | 2.26 | 0.50 |
| 13:4A:66:LEU:CA | 13:4A:70:LEU:HB2 | 2.42 | 0.50 |
| 13:4A:86:CYS:O | 13:4A:89:GLY:N | 2.29 | 0.50 |
| 26:14:6:A:H2' | 26:14:6:A:N3 | 2.26 | 0.50 |
| 26:14:239:U:H2' | 26:14:240:G:O4' | 2.11 | 0.50 |
| 26:14:459:U:H4' | 54:L5:40:TRP:CZ3 | 2.47 | 0.50 |
| 26:14:929:G:H8 | 26:14:929:G:O5' | 1.94 | 0.50 |
| 26:14:2184:G:H2' | 26:14:2185:C:C6 | 2.46 | 0.50 |
| 26:14:2305:A:C2 | 26:14:2306:C:H1' | 2.47 | 0.50 |
| 30:29:60:ASN:OD1 | 30:29:61:ARG:N | 2.44 | 0.50 |
| 34:69:6:LEU:H | 34:69:36:ALA:HA | 1.75 | 0.50 |
| 34:69:69:LYS:HG2 | 34:69:136:VAL:HB | 1.94 | 0.50 |
| 36:25:24:VAL:HA | 36:25:39:ILE:HG22 | 1.92 | 0.50 |
| 40:65:85:VAL:H | 40:65:110:LEU:HA | 1.77 | 0.50 |
| 41:75:24:PRO:HA | 41:75:49:VAL:HG23 | 1.93 | 0.50 |
| 41:75:27:THR:HG23 | 41:75:89:VAL:HG13 | 1.93 | 0.50 |
| 54:L5:19:ARG:HG2 | 54:L5:19:ARG:HH11 | 1.77 | 0.50 |
| 1:13:606:G:H5'' | 1:13:607:A:H5' | 1.92 | 0.50 |
| 1:13:640:A:O2' | 8:7E:116:LYS:NZ | 2.40 | 0.50 |
| 1:13:1266:G:N2 | 1:13:1269:A:OP2 | 2.44 | 0.50 |
| 1:13:1449:C:H42 | 1:13:1454:G:H1 | 1.57 | 0.50 |
| 13:4I:7:VAL:H | 32:4I:115:ARG:HH12 | 1.60 | 0.50 |
| 24:3K:6:G:H1' | 24:3K:68:G:N2 | 2.26 | 0.50 |
| 24:3K:10:G:O6 | 24:3K:25:C:N4 | 2.26 | 0.50 |
| 26:1H:270(U):C:H2' | 26:1H:270(V):G:C8 | 2.47 | 0.50 |
| 26:1H:455:C:N3 | 26:1H:473:G:H5' | 2.26 | 0.50 |
| 26:1H:775:G:C4 | 26:1H:794:G:C8 | 2.99 | 0.50 |
| 26:1H:916:G:H2' | 26:1H:917:A:H5'' | 1.93 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:1025:G:C4 | 26:1H:1135:C:H1' | 2.46 | 0.50 |
| 26:1H:2684:U:H1' | 36:68:70:LYS:HE2 | 1.91 | 0.50 |
| 26:1H:2690:C:H5'' | 26:1H:2872:G:H21 | 1.76 | 0.50 |
| 28:71:15:ASP:OD1 | 28:71:17:ASN:ND2 | 2.45 | 0.50 |
| 29:11:29:PRO:C | 29:11:30:GLU:HG2 | 2.31 | 0.50 |
| 29:11:242:ARG:O | 29:11:244:ARG:HG2 | 2.11 | 0.50 |
| 30:21:16:ARG:HH21 | 30:21:173:VAL:HG13 | 1.77 | 0.50 |
| 30:21:23:VAL:HA | 30:21:184:VAL:O | 2.12 | 0.50 |
| 31:31:32:LEU:HD21 | 31:31:105:VAL:HG13 | 1.93 | 0.50 |
| 32:41:109:VAL:HG21 | 52:M8:14:ILE:HD13 | 1.93 | 0.50 |
| 33:51:6:ARG:HA | 33:51:66:GLY:HA2 | 1.92 | 0.50 |
| 49:J8:78:LYS:HD3 | 49:J8:78:LYS:N | 2.25 | 0.50 |
| 53:N8:40:LYS:NZ | 53:N8:46:CYS:HB2 | 2.26 | 0.50 |
| 1:1G:517:G:H1 | 1:1G:533:A:P | 2.35 | 0.50 |
| 1:1G:578:C:H42 | 1:1G:763:G:H1 | 1.60 | 0.50 |
| 1:1G:1064:G:OP2 | 1:1G:1386:G:H4' | 2.12 | 0.50 |
| 1:1G:1141:C:H2' | 1:1G:1142:G:C8 | 2.46 | 0.50 |
| 2:12:187:LEU:HD13 | 2:12:204:ASN:H | 1.77 | 0.50 |
| 3:22:47:LEU:HB3 | 3:22:52:LEU:HD13 | 1.94 | 0.50 |
| 4:32:163:GLU:O | 4:32:166:LYS:HB2 | 2.12 | 0.50 |
| 5:42:83:GLU:HA | 5:42:88:LYS:HA | 1.93 | 0.50 |
| 5:42:99:GLY:O | 5:42:117:ASP:HA | 2.12 | 0.50 |
| 12:3A:28:LYS:HD2 | 12:3A:33:ARG:NH1 | 2.26 | 0.50 |
| 13:4A:58:GLU:O | 13:4A:62:ASN:HB2 | 2.12 | 0.50 |
| 14:5A:21:TYR:HE2 | 14:5A:23:ARG:HE | 1.58 | 0.50 |
| 20:BA:50:GLU:N | 20:BA:100:ILE:HG12 | 2.26 | 0.50 |
| 23:2L:76:C:H2' | 23:2L:77:A:C8 | 2.47 | 0.50 |
| 26:14:353:G:H2' | 26:14:354:G:C8 | 2.47 | 0.50 |
| 26:14:860:U:H1' | 26:14:2268:A:H5' | 1.93 | 0.50 |
| 26:14:978:G:H5'' | 26:14:979:G:OP2 | 2.11 | 0.50 |
| 26:14:1437:C:H2' | 26:14:1438:U:H6 | 1.77 | 0.50 |
| 26:14:1568:G:OP1 | 29:19:63:ARG:NH1 | 2.34 | 0.50 |
| 26:14:2025:C:H2' | 26:14:2026:C:C6 | 2.47 | 0.50 |
| 29:19:12:SER:O | 29:19:16:MET:HB2 | 2.12 | 0.50 |
| 30:29:68:ALA:C | 30:29:70:ALA:N | 2.62 | 0.50 |
| 34:69:50:ARG:O | 34:69:54:GLN:NE2 | 2.43 | 0.50 |
| 39:55:33:ARG:HA | 39:55:115:GLU:HA | 1.93 | 0.50 |
| 40:65:23:ARG:NH2 | 40:65:84:GLN:HB3 | 2.26 | 0.50 |
| 42:85:76:TYR:O | 42:85:80:ILE:HG12 | 2.12 | 0.50 |
| 44:A5:50:VAL:HG22 | 44:A5:105:VAL:HG23 | 1.93 | 0.50 |
| 1:13:604:G:C6 | 1:13:605:U:N3 | 2.80 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 1:13:652:U:C4 | 1:13:752:G:N3 | 2.79 | 0.50 |
| 1:13:1080:A:H5' | 5:4E:14:ARG:NH2 | 2.27 | 0.50 |
| 1:13:1410:G:C4 | 1:13:1491:G:N2 | 2.80 | 0.50 |
| 2:1E:105:PHE:HZ | 2:1E:156:LYS:HA | 1.76 | 0.50 |
| 4:3E:52:SER:O | 4:3E:56:VAL:HG23 | 2.12 | 0.50 |
| 6:5E:95:GLU:OE2 | 6:5E:95:GLU:N | 2.36 | 0.50 |
| 11:2I:78:GLN:O | 11:2I:103:LEU:HA | 2.12 | 0.50 |
| 16:7I:9:PHE:CE1 | 16:7I:18:ARG:HG3 | 2.47 | 0.50 |
| 20:BI:26:ASN:HB2 | 20:BI:71:THR:OG1 | 2.12 | 0.50 |
| 20:BI:49:ALA:HB3 | 20:BI:99:LEU:HD22 | 1.93 | 0.50 |
| 26:1H:356:G:H2' | 26:1H:357:A:H8 | 1.77 | 0.50 |
| 26:1H:1142(A):A:C4 | 26:1H:1144:G:C8 | 2.99 | 0.50 |
| 26:1H:1171:G:C8 | 26:1H:1174:A:N1 | 2.80 | 0.50 |
| 26:1H:1652:A:OP1 | 39:98:8:ARG:NH1 | 2.45 | 0.50 |
| 26:1H:1952:A:C6 | 36:68:22:ILE:HG23 | 2.47 | 0.50 |
| 26:1H:2243:U:O2' | 26:1H:2244:U:H5' | 2.11 | 0.50 |
| 26:1H:2564:A:C2 | 26:1H:2647:U:H4' | 2.47 | 0.50 |
| 26:1H:2862:G:H2' | 26:1H:2863:C:H6 | 1.76 | 0.50 |
| 31:31:153:SER:HB2 | 31:31:190:GLU:H | 1.75 | 0.50 |
| 34:61:26:ALA:HA | 34:61:30:LEU:HB2 | 1.93 | 0.50 |
| 35:58:103:VAL:O | 35:58:106:MET:N | 2.45 | 0.50 |
| 36:68:76:ALA:HB3 | 41:B8:75:ILE:HB | 1.92 | 0.50 |
| 42:C8:69:CYS:SG | 42:C8:79:PHE:HD2 | 2.34 | 0.50 |
| 47:H8:85:HIS:HE1 | 47:H8:87:ASP:OD1 | 1.93 | 0.50 |
| 47:H8:93:ASP:C | 47:H8:94:GLU:HG3 | 2.30 | 0.50 |
| 1:1G:15:G:C5 | 1:1G:1396:A:C2 | 3.00 | 0.50 |
| 1:1G:448:A:OP2 | 1:1G:485:G:N2 | 2.39 | 0.50 |
| 1:1G:450:G:N7 | 1:1G:481:G:C6 | 2.80 | 0.50 |
| 1:1G:740:U:H2' | 1:1G:741:G:C8 | 2.46 | 0.50 |
| 1:1G:882:C:H2' | 1:1G:883:C:H6 | 1.76 | 0.50 |
| 1:1G:1129:C:OP1 | 1:1G:1130:A:H8 | 1.94 | 0.50 |
| 2:12:126:GLU:HA | 2:12:128:GLU:HB2 | 1.94 | 0.50 |
| 4:32:100:ARG:NH1 | 4:32:102:ASP:OD2 | 2.43 | 0.50 |
| 26:14:176:G:C2' | 26:14:177:G:H5' | 2.41 | 0.50 |
| 26:14:919:G:H2' | 26:14:920:G:H8 | 1.75 | 0.50 |
| 26:14:1453:A:O2' | 26:14:1454:U:H2' | 2.11 | 0.50 |
| 26:14:1519:G:C6 | 26:14:1520:U:C4 | 3.00 | 0.50 |
| 26:14:1542:G:H3' | 26:14:1543:A:H5'' | 1.93 | 0.50 |
| 26:14:1667:G:H8 | 26:14:1667:G:OP2 | 1.94 | 0.50 |
| 26:14:1826:G:H2' | 26:14:1827:C:H6 | 1.74 | 0.50 |
| 26:14:2074:U:H2' | 26:14:2075:U:C6 | 2.47 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:14:2682:U:H5' | 30:29:11:MET:HB3 | 1.92 | 0.50 |
| 26:14:2832:U:H3' | 26:14:2833:G:H8 | 1.77 | 0.50 |
| 27:1J:39:A:C2' | 27:1J:40:U:H5' | 2.42 | 0.50 |
| 27:1J:115:G:H8 | 27:1J:115:G:OP2 | 1.95 | 0.50 |
| 30:29:90:THR:HG23 | 30:29:90:THR:O | 2.12 | 0.50 |
| 45:B5:75:ASP:C | 45:B5:76:ARG:HG3 | 2.31 | 0.50 |
| 45:B5:84:ALA:O | 45:B5:87:GLN:HG3 | 2.11 | 0.50 |
| 46:C5:14:LEU:HD23 | 46:C5:15:VAL:N | 2.27 | 0.50 |
| 47:D5:53:ILE:HA | 47:D5:70:LEU:HD22 | 1.94 | 0.50 |
| 1:13:766:A:OP2 | 61:13:1814:HOH:O | 2.20 | 0.50 |
| 1:13:1176:A:N6 | 1:13:1177:G:N7 | 2.59 | 0.50 |
| 1:13:1291:G:O3' | 9:8E:39:GLY:HA3 | 2.11 | 0.50 |
| 1:13:1469:G:H2' | 1:13:1470:G:H8 | 1.74 | 0.50 |
| 26:1H:244:A:H4' | 37:78:74:GLU:HB2 | 1.94 | 0.50 |
| 26:1H:690:G:O2' | 29:11:43:ARG:NH2 | 2.45 | 0.50 |
| 26:1H:782:A:H5' | 26:1H:783:A:C2 | 2.47 | 0.50 |
| 26:1H:862:G:H5' | 27:16:79:C:H4' | 1.94 | 0.50 |
| 26:1H:1392:A:N6 | 26:1H:1393:A:N6 | 2.60 | 0.50 |
| 26:1H:1488:G:C5 | 26:1H:1489:U:C5 | 3.00 | 0.50 |
| 27:16:24:G:N7 | 27:16:56:G:H2' | 2.27 | 0.50 |
| 27:16:33:G:O2' | 27:16:34:U:H5' | 2.11 | 0.50 |
| 28:71:190:ARG:NH2 | 28:71:228:SER:OXT | 2.37 | 0.50 |
| 33:51:54:ARG:HE | 33:51:57:ASP:HA | 1.77 | 0.50 |
| 39:98:30:THR:OG1 | 39:98:75:LEU:HD12 | 2.12 | 0.50 |
| 39:98:37:THR:HA | 39:98:111:LEU:HA | 1.93 | 0.50 |
| 42:C8:95:LEU:HD22 | 43:D8:4:ILE:HG12 | 1.94 | 0.50 |
| 1:1G:1004:A:C2 | 1:1G:1024:G:H8 | 2.30 | 0.50 |
| 5:42:92:LYS:HG2 | 5:42:93:PRO:HD2 | 1.94 | 0.50 |
| 7:62:101:LEU:O | 7:62:105:VAL:HG23 | 2.11 | 0.50 |
| 9:82:48:GLU:HA | 9:82:51:ARG:HG3 | 1.93 | 0.50 |
| 13:4A:91:ARG:HD2 | 13:4A:96:LEU:HB3 | 1.94 | 0.50 |
| 15:6A:33:THR:HG21 | 15:6A:85:LEU:HD22 | 1.94 | 0.50 |
| 26:14:1475:G:C2 | 26:14:1476:C:C2 | 3.00 | 0.50 |
| 26:14:2302:G:H2' | 26:14:2303:G:O4' | 2.11 | 0.50 |
| 26:14:2647:U:O2 | 26:14:2673:G:N2 | 2.41 | 0.50 |
| 29:19:28:GLU:CD | 29:19:28:GLU:C | 2.70 | 0.50 |
| 31:39:141:ALA:O | 31:39:144:LYS:N | 2.38 | 0.50 |
| 40:65:7:TYR:CE1 | 40:65:91:PRO:HG3 | 2.46 | 0.50 |
| 1:13:620:C:H5'' | 61:13:1859:HOH:O | 2.10 | 0.50 |
| 1:13:859:A:H2' | 1:13:860:A:O4' | 2.11 | 0.50 |
| 2:1E:21:ARG:HG2 | 2:1E:38:GLY:O | 2.12 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 19:AI:41:VAL:HG23 | 19:AI:42:PRO:HA | 1.94 | 0.50 |
| 26:1H:14:A:C8 | 26:1H:15:G:C8 | 3.00 | 0.50 |
| 26:1H:415:A:H2' | 26:1H:416:C:O4' | 2.11 | 0.50 |
| 26:1H:773:U:C4' | 29:11:47:GLY:HA3 | 2.41 | 0.50 |
| 26:1H:1210:A:OP1 | 26:1H:1211:U:O2' | 2.18 | 0.50 |
| 26:1H:1471:A:OP2 | 26:1H:1521:G:N1 | 2.28 | 0.50 |
| 26:1H:1556:C:H2' | 26:1H:1557:C:C6 | 2.46 | 0.50 |
| 26:1H:1627:G:H2' | 26:1H:1628:G:H5' | 1.94 | 0.50 |
| 26:1H:2048:G:C2 | 26:1H:2621:A:C2 | 2.99 | 0.50 |
| 26:1H:2695:C:H2' | 26:1H:2696:U:C6 | 2.46 | 0.50 |
| 28:71:66:HIS:CE1 | 28:71:184:LYS:HD2 | 2.47 | 0.50 |
| 36:68:104:ARG:HH22 | 41:B8:43:GLN:NE2 | 2.08 | 0.50 |
| 49:J8:71:TYR:O | 49:J8:74:VAL:HG12 | 2.11 | 0.50 |
| 52:M8:46:GLN:HA | 52:M8:47:GLN:OE1 | 2.11 | 0.50 |
| 1:1G:79:G:H1 | 1:1G:90:C:H42 | 1.58 | 0.50 |
| 1:1G:532:A:N1 | 3:22:156:ARG:NH1 | 2.60 | 0.50 |
| 1:1G:580:U:H2' | 1:1G:581:G:O4' | 2.12 | 0.50 |
| 1:1G:827:U:O5' | 1:1G:827:U:H6 | 1.95 | 0.50 |
| 1:1G:876:G:H1' | 8:72:11:THR:HG21 | 1.93 | 0.50 |
| 1:1G:1145:C:H5'' | 1:1G:1146:A:OP1 | 2.10 | 0.50 |
| 1:1G:1194:U:H4' | 5:42:22:GLY:O | 2.12 | 0.50 |
| 1:1G:1206:G:H4' | 3:22:192:THR:O | 2.12 | 0.50 |
| 3:22:180:ALA:O | 3:22:181:ASN:HB3 | 2.12 | 0.50 |
| 6:52:72:VAL:HG13 | 6:52:73:ASN:N | 2.27 | 0.50 |
| 7:62:136:LYS:HZ2 | 7:62:137:LYS:NZ | 2.09 | 0.50 |
| 9:82:112:LYS:N | 9:82:113:LYS:HZ3 | 2.09 | 0.50 |
| 11:2A:59:TYR:CZ | 11:2A:63:LEU:HD21 | 2.46 | 0.50 |
| 16:7A:5:ARG:HE | 16:7A:22:THR:HG21 | 1.76 | 0.50 |
| 56:1L:22:G:N7 | 56:1L:48:C:N4 | 2.59 | 0.50 |
| 26:14:49:A:H5'' | 26:14:51:G:O4' | 2.11 | 0.50 |
| 26:14:792:G:O2' | 26:14:2440:C:N3 | 2.38 | 0.50 |
| 26:14:2469:A:O2' | 38:45:56:ARG:HG2 | 2.12 | 0.50 |
| 32:49:15:VAL:CG1 | 32:49:175:LEU:HB3 | 2.39 | 0.50 |
| 34:69:2:LYS:HA | 34:69:20:ASP:HA | 1.94 | 0.50 |
| 44:A5:78:GLU:OE1 | 44:A5:99:ARG:HD3 | 2.11 | 0.50 |
| 46:C5:36:ALA:HB1 | 46:C5:66:PRO:HB3 | 1.93 | 0.50 |
| 46:C5:82:PRO:CB | 46:C5:97:ARG:HB3 | 2.41 | 0.50 |
| 1:13:1304:G:N2 | 1:13:1332:A:OP2 | 2.43 | 0.50 |
| 1:13:1309:G:OP2 | 13:4I:99:ARG:NE | 2.45 | 0.50 |
| 6:5E:15:ASP:OD1 | 6:5E:17:SER:N | 2.45 | 0.50 |
| 22:1K:17:U:HO2' | 22:1K:57:G:H1 | 1.58 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 24:3K:61:C:H1' | 28:71:52:ARG:NH1 | 2.19 | 0.50 |
| 26:1H:444:C:OP1 | 31:31:45:ARG:NH2 | 2.45 | 0.50 |
| 26:1H:2053:G:OP1 | 30:21:144:ARG:HG2 | 2.12 | 0.50 |
| 26:1H:2341:G:H2' | 26:1H:2342:C:C6 | 2.47 | 0.50 |
| 32:41:106:LEU:HD12 | 32:41:110:ALA:HB3 | 1.93 | 0.50 |
| 33:51:107:VAL:HB | 33:51:152:ARG:HG3 | 1.93 | 0.50 |
| 49:J8:60:PHE:HE2 | 49:J8:91:LYS:NZ | 2.10 | 0.50 |
| 1:1G:339:C:H2' | 1:1G:340:U:H6 | 1.77 | 0.50 |
| 1:1G:456:C:N4 | 1:1G:476:G:H1 | 2.09 | 0.50 |
| 1:1G:457:C:H2' | 1:1G:458:C:C6 | 2.47 | 0.50 |
| 1:1G:1255:G:O3' | 1:1G:1258:G:H1' | 2.12 | 0.50 |
| 7:62:64:GLN:NE2 | 7:62:128:ALA:O | 2.32 | 0.50 |
| 13:4A:11:ARG:HG3 | 13:4A:12:ASN:N | 2.27 | 0.50 |
| 20:BA:69:GLY:O | 20:BA:73:HIS:CD2 | 2.64 | 0.50 |
| 26:14:2019:A:OP2 | 53:J5:9:LYS:NZ | 2.45 | 0.50 |
| 26:14:2068:U:C4 | 26:14:2430:A:H2 | 2.29 | 0.50 |
| 26:14:2547:U:O2 | 36:25:23:ARG:NH2 | 2.42 | 0.50 |
| 26:14:2758:A:C2 | 26:14:2759:G:H1' | 2.46 | 0.50 |
| 26:14:2861:G:H2' | 26:14:2862:G:H8 | 1.77 | 0.50 |
| 37:35:92:GLU:HG2 | 37:35:123:LEU:HD21 | 1.94 | 0.50 |
| 39:55:24:GLN:HB3 | 39:55:44:LEU:HD11 | 1.93 | 0.50 |
| 47:D5:44:PHE:CZ | 47:D5:86:VAL:HG21 | 2.47 | 0.50 |
| 51:H5:6:VAL:O | 51:H5:34:GLU:HA | 2.12 | 0.50 |
| 1:13:21:G:OP1 | 61:13:1813:HOH:O | 2.20 | 0.49 |
| 1:13:793:U:H5' | 1:13:794:A:H5'' | 1.93 | 0.49 |
| 2:1E:215:LEU:H | 2:1E:215:LEU:HD22 | 1.76 | 0.49 |
| 11:2I:32:ILE:HD12 | 11:2I:72:ALA:HB2 | 1.94 | 0.49 |
| 22:1K:44:U:H3' | 22:1K:48:C:H41 | 1.76 | 0.49 |
| 26:1H:270(N):G:H5' | 26:1H:270(O):U:O4 | 2.11 | 0.49 |
| 26:1H:574:C:N3 | 30:21:145:LYS:HE3 | 2.26 | 0.49 |
| 26:1H:1022:G:N2 | 26:1H:1023:U:O4 | 2.40 | 0.49 |
| 26:1H:1262:A:N3 | 53:N8:10:LYS:HE3 | 2.27 | 0.49 |
| 26:1H:1643:G:C6 | 26:1H:1644:C:C4 | 3.00 | 0.49 |
| 31:31:182:ASN:ND2 | 31:31:185:ASP:OD2 | 2.32 | 0.49 |
| 32:41:174:GLU:O | 32:41:177:GLY:N | 2.38 | 0.49 |
| 33:51:11:VAL:HG23 | 33:51:76:VAL:HG11 | 1.93 | 0.49 |
| 34:61:102:SER:O | 34:61:106:GLY:HA2 | 2.11 | 0.49 |
| 37:78:63:PRO:HB3 | 55:Q8:30:ARG:HE | 1.77 | 0.49 |
| 37:78:91:PHE:N | 37:78:91:PHE:CD1 | 2.80 | 0.49 |
| 38:88:2:LEU:H | 38:88:2:LEU:HD12 | 1.77 | 0.49 |
| 1:1G:1003:G:N2 | 1:1G:1037:C:O2 | 2.34 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:1G:1306:A:C6 | 1:1G:1307:U:C2 | 3.00 | 0.49 |
| 2:12:72:GLY:O | 2:12:78:GLN:HA | 2.11 | 0.49 |
| 3:22:120:VAL:HA | 3:22:123:GLN:HG3 | 1.94 | 0.49 |
| 18:9A:62:GLU:O | 18:9A:66:LEU:N | 2.42 | 0.49 |
| 26:14:71:A:H3' | 26:14:71:A:P | 2.51 | 0.49 |
| 26:14:360:G:H8 | 26:14:360:G:OP2 | 1.94 | 0.49 |
| 26:14:528:A:C2 | 26:14:2043:C:H4' | 2.47 | 0.49 |
| 26:14:819:A:C4 | 26:14:1189:A:C2 | 3.00 | 0.49 |
| 26:14:944:G:H5'' | 26:14:945:A:O5' | 2.11 | 0.49 |
| 26:14:1222:C:C2 | 26:14:1229(A):G:C2 | 3.00 | 0.49 |
| 26:14:1424:G:OP1 | 29:19:33:LEU:HD12 | 2.12 | 0.49 |
| 26:14:2115:G:C2 | 26:14:2116:G:N7 | 2.80 | 0.49 |
| 26:14:2115:G:O2' | 26:14:2171:A:N6 | 2.45 | 0.49 |
| 26:14:2185:C:H2' | 26:14:2186:G:C8 | 2.47 | 0.49 |
| 26:14:2513:G:O2' | 30:29:151:TYR:HE2 | 1.95 | 0.49 |
| 26:14:2655:G:N2 | 26:14:2665:A:OP2 | 2.44 | 0.49 |
| 26:14:2820:A:C6 | 39:55:4:LEU:HD11 | 2.47 | 0.49 |
| 30:29:34:VAL:CG1 | 30:29:64:LYS:HE3 | 2.42 | 0.49 |
| 34:69:77:LEU:HA | 34:69:141:LYS:H | 1.77 | 0.49 |
| 35:15:121:LYS:HB3 | 35:15:123:TYR:CE2 | 2.46 | 0.49 |
| 37:35:63:PRO:CG | 55:M5:25:MET:HB3 | 2.42 | 0.49 |
| 47:D5:40:ASP:OD1 | 47:D5:43:GLU:HG2 | 2.12 | 0.49 |
| 50:G5:24:LEU:HD23 | 50:G5:24:LEU:O | 2.11 | 0.49 |
| 51:H5:39:ASP:O | 51:H5:44:ARG:NH1 | 2.45 | 0.49 |
| 1:13:659:U:H2' | 1:13:660:G:H8 | 1.75 | 0.49 |
| 1:13:805:C:O2' | 1:13:806:C:H5' | 2.12 | 0.49 |
| 1:13:1333:A:H2' | 1:13:1334:G:O4' | 2.11 | 0.49 |
| 1:13:1464:G:H2' | 1:13:1465:C:C6 | 2.47 | 0.49 |
| 2:1E:184:VAL:C | 2:1E:185:ILE:HD13 | 2.33 | 0.49 |
| 16:7I:53:VAL:HG13 | 16:7I:79:VAL:HG22 | 1.94 | 0.49 |
| 20:BI:64:ASP:HA | 20:BI:67:ALA:HB3 | 1.93 | 0.49 |
| 23:2K:69:C:H2' | 23:2K:70:C:C6 | 2.46 | 0.49 |
| 26:1H:654(N):G:N7 | 26:1H:654(P):G:N2 | 2.59 | 0.49 |
| 26:1H:1491:G:H2' | 26:1H:1492:G:C8 | 2.47 | 0.49 |
| 26:1H:1621:U:O4 | 61:1H:3555:HOH:O | 2.19 | 0.49 |
| 26:1H:2358:G:C5 | 26:1H:2359:C:C5 | 3.00 | 0.49 |
| 40:A8:35:ILE:HD11 | 40:A8:101:LEU:HD23 | 1.94 | 0.49 |
| 40:A8:58:LEU:HD23 | 40:A8:58:LEU:H | 1.76 | 0.49 |
| 46:G8:29:GLU:HB3 | 46:G8:38:ILE:HG22 | 1.94 | 0.49 |
| 49:J8:72:GLU:O | 49:J8:76:ARG:HG2 | 2.13 | 0.49 |
| 52:M8:13:ARG:HA | 52:M8:24:THR:HG21 | 1.93 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:1G:233:C:H2' | 1:1G:234:C:C6 | 2.47 | 0.49 |
| 1:1G:1149:C:H2' | 1:1G:1150:U:O4' | 2.11 | 0.49 |
| 1:1G:1326:C:H2' | 1:1G:1327:C:H6 | 1.76 | 0.49 |
| 1:1G:1365:G:H2' | 1:1G:1366:C:H6 | 1.76 | 0.49 |
| 6:52:22:GLU:O | 6:52:26:ILE:HG13 | 2.12 | 0.49 |
| 6:52:97:PHE:HB2 | 18:9A:32:ARG:HG3 | 1.94 | 0.49 |
| 7:62:136:LYS:HZ3 | 7:62:137:LYS:HZ1 | 1.58 | 0.49 |
| 14:5A:45:ARG:O | 14:5A:49:HIS:NE2 | 2.46 | 0.49 |
| 16:7A:74:LEU:HD13 | 16:7A:79:VAL:HG21 | 1.94 | 0.49 |
| 19:AA:22:LEU:O | 19:AA:22:LEU:HD13 | 2.12 | 0.49 |
| 26:14:81:G:N2 | 26:14:105:C:O2 | 2.43 | 0.49 |
| 26:14:323:G:HO2' | 26:14:1205:U:H3 | 1.53 | 0.49 |
| 26:14:603:A:H8 | 26:14:604:G:H1' | 1.75 | 0.49 |
| 26:14:734:A:O2' | 26:14:1635:G:H5' | 2.11 | 0.49 |
| 26:14:993:G:H1' | 43:95:89:GLN:NE2 | 2.27 | 0.49 |
| 26:14:1231:G:H8 | 26:14:1231:G:O5' | 1.95 | 0.49 |
| 26:14:1520:U:H2' | 26:14:1521:G:O4' | 2.12 | 0.49 |
| 26:14:2104:G:H2' | 26:14:2105:C:C6 | 2.47 | 0.49 |
| 26:14:2716:U:H2' | 26:14:2717:G:H8 | 1.76 | 0.49 |
| 26:14:2785:C:H2' | 26:14:2786:U:O4' | 2.12 | 0.49 |
| 48:E5:44:ARG:O | 48:E5:45:PHE:CD1 | 2.65 | 0.49 |
| 51:H5:10:LYS:NZ | 51:H5:15:TYR:OH | 2.37 | 0.49 |
| 1:13:540:G:H2' | 1:13:541:G:O4' | 2.11 | 0.49 |
| 1:13:590:C:OP1 | 8:7E:30:ARG:N | 2.32 | 0.49 |
| 1:13:882:C:O2' | 1:13:883:C:H5' | 2.12 | 0.49 |
| 1:13:909:A:O5' | 1:13:909:A:H8 | 1.95 | 0.49 |
| 1:13:1299:A:H2' | 1:13:1301:U:C6 | 2.46 | 0.49 |
| 1:13:1329:A:N7 | 21:1F:7:ARG:NH2 | 2.60 | 0.49 |
| 2:1E:94:ASN:OD1 | 2:1E:95:GLN:N | 2.43 | 0.49 |
| 7:6E:16:LEU:HD11 | 9:8E:42:ARG:CA | 2.39 | 0.49 |
| 16:7I:38:TYR:CE2 | 16:7I:50:LYS:HD2 | 2.47 | 0.49 |
| 16:7I:51:VAL:HG12 | 16:7I:52:ASP:C | 2.33 | 0.49 |
| 17:8I:52:LYS:HG2 | 17:8I:55:ASP:OD1 | 2.13 | 0.49 |
| 22:1K:8:U:H2' | 22:1K:22:G:O6 | 2.13 | 0.49 |
| 22:1K:15:G:N7 | 22:1K:59:A:O2' | 2.39 | 0.49 |
| 23:2K:63:C:H2' | 23:2K:64:G:C8 | 2.47 | 0.49 |
| 26:1H:217:G:H2' | 26:1H:218:A:C8 | 2.47 | 0.49 |
| 26:1H:581:C:OP1 | 42:C8:33:ARG:HG3 | 2.13 | 0.49 |
| 26:1H:651:G:H4' | 55:Q8:18:ALA:HB3 | 1.94 | 0.49 |
| 26:1H:724:U:H2' | 26:1H:725:G:O4' | 2.12 | 0.49 |
| 26:1H:960:A:C8 | 26:1H:962:G:C8 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:992:C:C2 | 26:1H:993:G:C8 | 3.00 | 0.49 |
| 26:1H:1288:U:H4' | 26:1H:1289:C:OP2 | 2.13 | 0.49 |
| 26:1H:1635:G:H2' | 26:1H:1636:C:C6 | 2.47 | 0.49 |
| 26:1H:2171:A:O2' | 26:1H:2172:U:O4' | 2.21 | 0.49 |
| 26:1H:2275:C:C6 | 26:1H:2275:C:H5' | 2.47 | 0.49 |
| 26:1H:2544:G:H8 | 26:1H:2544:G:O5' | 1.96 | 0.49 |
| 26:1H:2593:U:O2' | 26:1H:2594:C:H5' | 2.12 | 0.49 |
| 28:71:66:HIS:NE2 | 28:71:187:ASP:HB3 | 2.26 | 0.49 |
| 29:11:155:LEU:O | 29:11:156:ALA:HB3 | 2.12 | 0.49 |
| 31:31:191:ARG:HB3 | 31:31:191:ARG:HH11 | 1.78 | 0.49 |
| 34:61:83:ALA:HB2 | 34:61:144:VAL:HG23 | 1.94 | 0.49 |
| 34:61:92:VAL:HG13 | 34:61:120:ILE:HG23 | 1.94 | 0.49 |
| 37:78:59:LEU:HB2 | 55:Q8:58:ILE:HD12 | 1.94 | 0.49 |
| 38:88:35:VAL:CG1 | 38:88:130:LYS:HB3 | 2.42 | 0.49 |
| 43:D8:1:MET:SD | 43:D8:43:GLU:CD | 2.91 | 0.49 |
| 44:E8:70:TYR:N | 44:E8:70:TYR:CD1 | 2.81 | 0.49 |
| 46:G8:20:TYR:HB3 | 46:G8:42:VAL:CG2 | 2.42 | 0.49 |
| 1:1G:69:G:C2 | 1:1G:73:G:C8 | 3.00 | 0.49 |
| 1:1G:396:G:C2 | 1:1G:398:C:C4 | 3.00 | 0.49 |
| 1:1G:401:C:O2' | 1:1G:621:A:N3 | 2.43 | 0.49 |
| 1:1G:1224:G:N2 | 1:1G:1322:C:H4' | 2.27 | 0.49 |
| 3:22:29:TYR:CD1 | 3:22:33:LEU:CB | 2.90 | 0.49 |
| 6:52:44:GLY:HA2 | 6:52:59:TYR:CE1 | 2.47 | 0.49 |
| 12:3A:20:LYS:CD | 12:3A:21:LYS:N | 2.69 | 0.49 |
| 26:14:945:A:H2 | 61:14:3846:HOH:O | 1.94 | 0.49 |
| 26:14:1033:U:H3' | 26:14:1033:U:H6 | 1.78 | 0.49 |
| 26:14:1126:A:H8 | 26:14:1126:A:O5' | 1.95 | 0.49 |
| 26:14:1384:A:N3 | 26:14:1405:U:H1' | 2.27 | 0.49 |
| 26:14:1915:U:H2' | 26:14:1916:A:H5' | 1.94 | 0.49 |
| 29:19:36:PRO:HD2 | 29:19:62:TYR:O | 2.12 | 0.49 |
| 29:19:132:PRO:HG3 | 29:19:190:TYR:CE1 | 2.47 | 0.49 |
| 37:35:39:LYS:HA | 37:35:45:LEU:HD13 | 1.94 | 0.49 |
| 38:45:25:ASP:HA | 38:45:67:ARG:CZ | 2.42 | 0.49 |
| 46:C5:84:ARG:O | 46:C5:85:VAL:HG13 | 2.13 | 0.49 |
| 48:E5:28:GLY:HA2 | 48:E5:66:VAL:HG13 | 1.94 | 0.49 |
| 55:M5:60:LEU:HD12 | 55:M5:61:LEU:N | 2.27 | 0.49 |
| 1:13:346:G:H8 | 41:B8:41:ARG:NH1 | 2.10 | 0.49 |
| 1:13:475:G:C2' | 1:13:476:G:H5' | 2.43 | 0.49 |
| 1:13:632:A:H2' | 1:13:633:G:O4' | 2.12 | 0.49 |
| 1:13:1074:G:H2' | 1:13:1075:C:C6 | 2.48 | 0.49 |
| 1:13:1128:C:H5' | 9:8E:16:ARG:CZ | 2.43 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|----------------------|--------------------|--------------------------|-------------------|
| 2:1E:21:ARG:HD3 | 2:1E:22:LYS:HB2 | 1.93 | 0.49 |
| 8:7E:97:VAL:HG21 | 8:7E:128:GLY:HA2 | 1.95 | 0.49 |
| 12:3I:66:VAL:HG22 | 12:3I:67:THR:N | 2.28 | 0.49 |
| 26:1H:270(J):G:C5 | 26:1H:270(K):C:H1' | 2.47 | 0.49 |
| 26:1H:270(L):U:O2 | 34:61:50:ARG:HG2 | 2.13 | 0.49 |
| 26:1H:1296:G:O2' | 26:1H:1297:C:H5' | 2.13 | 0.49 |
| 26:1H:1442:G:C2 | 26:1H:1550:C:O2 | 2.66 | 0.49 |
| 26:1H:1672:C:C2' | 26:1H:1673:U:H5' | 2.42 | 0.49 |
| 26:1H:2457:U:C2' | 26:1H:2458:G:H5' | 2.43 | 0.49 |
| 26:1H:2683:C:H5'' | 26:1H:2684:U:OP2 | 2.13 | 0.49 |
| 26:1H:2842:G:C4 | 26:1H:2876:G:N2 | 2.81 | 0.49 |
| 43:D8:39:LEU:O | 43:D8:40:LEU:CD2 | 2.60 | 0.49 |
| 43:D8:93:GLU:O | 43:D8:94:LEU:HD23 | 2.11 | 0.49 |
| 51:L8:7:LYS:HA | 51:L8:33:GLN:O | 2.12 | 0.49 |
| 1:1G:286:G:H2' | 1:1G:287:U:H6 | 1.78 | 0.49 |
| 1:1G:428:G:C8 | 1:1G:430:A:C5 | 3.01 | 0.49 |
| 1:1G:433:C:H2' | 1:1G:434:U:H6 | 1.77 | 0.49 |
| 1:1G:512:U:H2' | 1:1G:513:C:C6 | 2.47 | 0.49 |
| 1:1G:841:U:H3' | 1:1G:841:U:C6 | 2.47 | 0.49 |
| 1:1G:1498:U:O2' | 1:1G:1499:A:OP2 | 2.18 | 0.49 |
| 4:32:160:GLN:O | 4:32:163:GLU:N | 2.44 | 0.49 |
| 8:72:86:ILE:HG13 | 8:72:135:CYS:HA | 1.95 | 0.49 |
| 8:72:109:ILE:HG22 | 8:72:137:VAL:HB | 1.93 | 0.49 |
| 9:82:97:LYS:C | 9:82:100:GLY:H | 2.16 | 0.49 |
| 12:3A:6:THR:HG23 | 12:3A:9:GLN:OE1 | 2.12 | 0.49 |
| 23:2L:23:G:H2' | 23:2L:24:C:H6 | 1.77 | 0.49 |
| 26:14:389:G:H1 | 37:35:71:VAL:HG12 | 1.76 | 0.49 |
| 26:14:782:A:N7 | 29:19:221:VAL:HG21 | 2.26 | 0.49 |
| 26:14:1444(A):A:HO2' | 26:14:1445:C:P | 2.35 | 0.49 |
| 26:14:1796:U:H2' | 26:14:1797:C:H6 | 1.77 | 0.49 |
| 26:14:2286:A:H4' | 26:14:2287:A:O4' | 2.13 | 0.49 |
| 26:14:2419:U:H2' | 26:14:2420:C:C6 | 2.48 | 0.49 |
| 40:65:56:LEU:O | 40:65:58:LEU:HG | 2.12 | 0.49 |
| 42:85:95:LEU:HD11 | 43:95:11:GLN:O | 2.13 | 0.49 |
| 1:13:455:C:H2' | 1:13:456:C:H5' | 1.94 | 0.49 |
| 1:13:590:C:H2' | 1:13:591:U:C6 | 2.47 | 0.49 |
| 1:13:1064:G:H21 | 1:13:1190:G:H1' | 1.78 | 0.49 |
| 1:13:1173:G:H2' | 1:13:1174:G:O4' | 2.13 | 0.49 |
| 2:1E:87:ARG:HH11 | 2:1E:219:VAL:HB | 1.77 | 0.49 |
| 2:1E:187:LEU:HD23 | 2:1E:201:ILE:HG22 | 1.93 | 0.49 |
| 3:2E:91:LEU:HB3 | 3:2E:99:VAL:HG11 | 1.94 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 6:5E:86:ARG:O | 6:5E:87:ARG:HG2 | 2.12 | 0.49 |
| 8:7E:120:THR:H | 8:7E:123:GLU:HG3 | 1.77 | 0.49 |
| 26:1H:270(G):C:H2' | 26:1H:270(H):C:O4' | 2.13 | 0.49 |
| 26:1H:322:A:H5' | 26:1H:340:A:C1' | 2.41 | 0.49 |
| 26:1H:878:A:H61 | 26:1H:899:A:H1' | 1.76 | 0.49 |
| 26:1H:973:A:H8 | 26:1H:973:A:OP1 | 1.95 | 0.49 |
| 26:1H:996:A:C5 | 26:1H:1160:G:N2 | 2.81 | 0.49 |
| 26:1H:1429:G:H2' | 26:1H:1430:C:C6 | 2.47 | 0.49 |
| 26:1H:1685:C:O2 | 26:1H:1704:G:N2 | 2.46 | 0.49 |
| 26:1H:2310:A:H4' | 26:1H:2310:A:OP1 | 2.12 | 0.49 |
| 30:21:15:PHE:CD1 | 41:B8:81:PRO:HD2 | 2.48 | 0.49 |
| 31:31:179:GLU:CD | 31:31:179:GLU:N | 2.66 | 0.49 |
| 32:41:66:GLN:NE2 | 32:41:92:VAL:HG23 | 2.28 | 0.49 |
| 36:68:68:GLU:CD | 36:68:68:GLU:H | 2.16 | 0.49 |
| 40:A8:69:VAL:HA | 40:A8:72:ALA:HB3 | 1.95 | 0.49 |
| 55:Q8:14:VAL:HG22 | 55:Q8:15:LYS:N | 2.26 | 0.49 |
| 1:1G:219:C:H2' | 1:1G:220:G:O4' | 2.13 | 0.49 |
| 1:1G:412:A:O2' | 1:1G:413:G:OP2 | 2.22 | 0.49 |
| 1:1G:617:G:H4' | 16:7A:44:THR:HB | 1.94 | 0.49 |
| 1:1G:854:G:N1 | 1:1G:855:G:N7 | 2.61 | 0.49 |
| 1:1G:1529:G:H3' | 1:1G:1529:G:OP2 | 2.12 | 0.49 |
| 3:22:22:TRP:HH2 | 3:22:32:LEU:HB3 | 1.78 | 0.49 |
| 3:22:151:VAL:HA | 3:22:199:LYS:O | 2.12 | 0.49 |
| 7:62:27:ILE:HD11 | 7:62:43:PHE:CD2 | 2.45 | 0.49 |
| 12:3A:60:LEU:HB2 | 12:3A:64:TYR:HB2 | 1.94 | 0.49 |
| 18:9A:22:VAL:HG22 | 18:9A:23:LYS:N | 2.26 | 0.49 |
| 56:1L:2:G:H2' | 56:1L:2:G:N3 | 2.27 | 0.49 |
| 26:14:198:C:H5' | 26:14:2244:U:OP1 | 2.13 | 0.49 |
| 26:14:383:U:H2' | 26:14:385:C:H5 | 1.77 | 0.49 |
| 26:14:637:A:H4' | 26:14:638:G:O5' | 2.12 | 0.49 |
| 26:14:1036:G:P | 33:59:59:ARG:HB2 | 2.52 | 0.49 |
| 26:14:1210:A:H5' | 26:14:1212:G:C5' | 2.43 | 0.49 |
| 26:14:1684:C:C2 | 26:14:1705:G:N2 | 2.81 | 0.49 |
| 26:14:2718:G:C6 | 26:14:2719:G:C5 | 3.00 | 0.49 |
| 26:14:2757:A:C2 | 33:59:67:LEU:HD22 | 2.47 | 0.49 |
| 27:1J:13:A:H5'' | 27:1J:15:A:C6 | 2.48 | 0.49 |
| 27:1J:42:C:O4' | 32:49:69:ALA:HB2 | 2.12 | 0.49 |
| 36:25:49:ARG:HA | 36:25:53:LYS:CE | 2.43 | 0.49 |
| 36:25:96:THR:HG23 | 36:25:97:ARG:H | 1.77 | 0.49 |
| 37:35:90:ARG:HG3 | 37:35:91:PHE:CD2 | 2.48 | 0.49 |
| 37:35:125:VAL:N | 37:35:145:PRO:HD2 | 2.26 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:143:A:H2 | 1:13:220:G:H22 | 1.60 | 0.49 |
| 1:13:976:G:C8 | 1:13:1358:U:O2 | 2.66 | 0.49 |
| 2:1E:209:ARG:HD2 | 2:1E:239:VAL:HG13 | 1.94 | 0.49 |
| 5:4E:148:VAL:HG21 | 8:7E:107:LEU:CD2 | 2.42 | 0.49 |
| 9:8E:25:LYS:HD3 | 9:8E:60:ASP:OD2 | 2.13 | 0.49 |
| 26:1H:49:A:N7 | 26:1H:120:U:C5 | 2.72 | 0.49 |
| 26:1H:363:G:O2' | 26:1H:363(A):A:H5' | 2.13 | 0.49 |
| 26:1H:404:C:H1' | 26:1H:405:U:OP2 | 2.13 | 0.49 |
| 26:1H:1047:G:HO2' | 26:1H:1048:A:H8 | 1.59 | 0.49 |
| 26:1H:1179:C:H2' | 26:1H:1180:C:C6 | 2.47 | 0.49 |
| 26:1H:1587:A:H2' | 26:1H:1588:C:C6 | 2.47 | 0.49 |
| 26:1H:1990:C:H2' | 26:1H:1991:U:C6 | 2.48 | 0.49 |
| 26:1H:2024:G:H2' | 26:1H:2025:C:H6 | 1.78 | 0.49 |
| 26:1H:2503:A:H4' | 26:1H:2504:U:OP1 | 2.11 | 0.49 |
| 26:1H:2886:G:N2 | 26:1H:2887:U:C2 | 2.81 | 0.49 |
| 30:21:171:GLU:OE2 | 30:21:185:LYS:NZ | 2.42 | 0.49 |
| 34:61:47:LEU:O | 34:61:51:ILE:N | 2.45 | 0.49 |
| 37:78:46:LYS:O | 37:78:47:ASP:HB3 | 2.12 | 0.49 |
| 41:B8:5:ALA:HA | 41:B8:8:LYS:HE2 | 1.95 | 0.49 |
| 41:B8:110:ILE:HG13 | 41:B8:111:ARG:N | 2.27 | 0.49 |
| 46:G8:20:TYR:HB3 | 46:G8:42:VAL:HG22 | 1.95 | 0.49 |
| 1:1G:434:U:H2' | 1:1G:435:C:C6 | 2.48 | 0.49 |
| 1:1G:1298:C:O2' | 1:1G:1299:A:OP2 | 2.29 | 0.49 |
| 1:1G:1349:A:OP2 | 9:82:118:LYS:NZ | 2.44 | 0.49 |
| 3:22:18:TRP:HE1 | 14:5A:54:PRO:HA | 1.78 | 0.49 |
| 3:22:36:ASP:HA | 3:22:39:ILE:HD12 | 1.95 | 0.49 |
| 7:62:146:GLU:CD | 7:62:147:ALA:H | 2.15 | 0.49 |
| 12:3A:55:VAL:HG23 | 12:3A:69:TYR:HA | 1.95 | 0.49 |
| 57:3L:22:G:N2 | 57:3L:23:A:N7 | 2.61 | 0.49 |
| 26:14:270(Z):U:O3' | 26:14:271(A):C:H6 | 1.94 | 0.49 |
| 26:14:459:U:H2' | 26:14:460:A:C8 | 2.48 | 0.49 |
| 26:14:602:G:OP2 | 26:14:602:G:H8 | 1.96 | 0.49 |
| 26:14:609(A):G:H2' | 26:14:610:C:C6 | 2.47 | 0.49 |
| 26:14:947:G:N2 | 26:14:971:C:C2 | 2.80 | 0.49 |
| 26:14:1925:C:H2' | 26:14:1926:U:H5' | 1.94 | 0.49 |
| 26:14:2119:A:C4 | 26:14:2171:A:H2 | 2.31 | 0.49 |
| 26:14:2305:A:H1' | 32:49:136:ARG:HD3 | 1.95 | 0.49 |
| 26:14:2323:G:H2' | 26:14:2324:C:O4' | 2.12 | 0.49 |
| 26:14:2365:G:H2' | 26:14:2366:A:C8 | 2.47 | 0.49 |
| 26:14:2412:A:C2 | 26:14:2413:G:H1' | 2.48 | 0.49 |
| 26:14:2776:A:H4' | 26:14:2777:G:O5' | 2.13 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 27:1J:34:U:O4 | 27:1J:44:G:H2' | 2.12 | 0.49 |
| 30:29:102:VAL:CA | 30:29:201:THR:HG23 | 2.42 | 0.49 |
| 37:35:3:LEU:H | 37:35:3:LEU:HD12 | 1.77 | 0.49 |
| 44:A5:20:VAL:HG21 | 44:A5:44:ALA:H | 1.77 | 0.49 |
| 1:13:632:A:C8 | 1:13:633:G:C8 | 3.01 | 0.49 |
| 1:13:652:U:O2' | 1:13:653:A:O5' | 2.28 | 0.49 |
| 1:13:991:U:C4 | 1:13:1212:U:H1' | 2.48 | 0.49 |
| 1:13:1123:A:O2' | 10:1I:38:ILE:N | 2.39 | 0.49 |
| 1:13:1195:C:H5'' | 1:13:1196:U:O5' | 2.12 | 0.49 |
| 1:13:1442:G:N7 | 1:13:1446:A:C4 | 2.80 | 0.49 |
| 1:13:1442:G:C2' | 1:13:1443:G:H5' | 2.41 | 0.49 |
| 5:4E:104:ALA:HA | 5:4E:107:ARG:HG2 | 1.94 | 0.49 |
| 22:1K:54:5MU:H71 | 22:1K:54:5MU:OP2 | 2.13 | 0.49 |
| 24:3K:59:A:H5'' | 24:3K:60:U:C6 | 2.48 | 0.49 |
| 26:1H:536:A:H2' | 26:1H:537:C:C6 | 2.48 | 0.49 |
| 26:1H:660:G:O3' | 31:31:38:ARG:NH2 | 2.46 | 0.49 |
| 26:1H:937:U:H2' | 26:1H:938:G:O4' | 2.11 | 0.49 |
| 26:1H:1124:C:H2' | 26:1H:1125:G:O4' | 2.12 | 0.49 |
| 26:1H:1130:U:O2 | 30:21:149:ARG:NH2 | 2.41 | 0.49 |
| 26:1H:1317:A:H2' | 26:1H:1318:C:C6 | 2.47 | 0.49 |
| 26:1H:1320:C:H4' | 26:1H:1321:A:OP1 | 2.12 | 0.49 |
| 26:1H:1442:G:H1 | 26:1H:1549:C:N4 | 2.10 | 0.49 |
| 26:1H:2655:G:O2' | 26:1H:2664:G:O6 | 2.21 | 0.49 |
| 28:71:58:VAL:HG13 | 28:71:199:HIS:HB3 | 1.95 | 0.49 |
| 30:21:45:THR:O | 30:21:83:ASP:N | 2.45 | 0.49 |
| 35:58:6:PRO:HG3 | 35:58:41:ASP:HB2 | 1.93 | 0.49 |
| 41:B8:57:PHE:CE1 | 41:B8:79:HIS:HB2 | 2.47 | 0.49 |
| 47:H8:68:PRO:O | 47:H8:91:LEU:HD22 | 2.13 | 0.49 |
| 52:M8:16:CYS:SG | 52:M8:36:CYS:HB2 | 2.52 | 0.49 |
| 1:1G:222:U:H2' | 1:1G:223:U:C6 | 2.47 | 0.49 |
| 1:1G:957:U:H1' | 1:1G:960:U:H5 | 1.77 | 0.49 |
| 1:1G:1043:C:O5' | 1:1G:1043:C:H6 | 1.95 | 0.49 |
| 1:1G:1120:G:O6 | 1:1G:1152:A:N6 | 2.46 | 0.49 |
| 1:1G:1238:A:H62 | 1:1G:1299:A:N6 | 2.11 | 0.49 |
| 3:22:22:TRP:CH2 | 3:22:32:LEU:HB3 | 2.47 | 0.49 |
| 9:82:18:PHE:O | 9:82:19:LEU:HD23 | 2.13 | 0.49 |
| 13:4A:67:GLU:HG3 | 13:4A:68:GLY:N | 2.28 | 0.49 |
| 26:14:469:G:C6 | 54:L5:39:ARG:NH1 | 2.81 | 0.49 |
| 26:14:523:C:H5'' | 26:14:541:C:O2' | 2.13 | 0.49 |
| 26:14:925:C:H2' | 26:14:926:A:C8 | 2.47 | 0.49 |
| 26:14:1035:U:H2' | 26:14:1036:G:C8 | 2.48 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:14:1562:A:H8 | 26:14:1562:A:O5' | 1.94 | 0.49 |
| 26:14:1568:G:H4' | 29:19:59:LYS:HD2 | 1.95 | 0.49 |
| 26:14:1659:U:C4 | 26:14:1660:C:C5 | 3.01 | 0.49 |
| 26:14:1777:U:O2' | 26:14:1778:U:H5' | 2.11 | 0.49 |
| 30:29:3:GLY:HA3 | 30:29:81:ILE:HD12 | 1.93 | 0.49 |
| 31:39:89:VAL:O | 31:39:90:PHE:C | 2.49 | 0.49 |
| 33:59:53:GLU:HA | 33:59:65:HIS:HE1 | 1.77 | 0.49 |
| 44:A5:16:LYS:O | 44:A5:19:LEU:HD23 | 2.12 | 0.49 |
| 1:13:113:G:O4' | 1:13:354:G:H4' | 2.12 | 0.49 |
| 1:13:487:A:H5'' | 1:13:488:C:OP2 | 2.13 | 0.49 |
| 1:13:640:A:O2' | 8:7E:115:SER:HB2 | 2.12 | 0.49 |
| 1:13:1182:G:H8 | 1:13:1182:G:O5' | 1.94 | 0.49 |
| 1:13:1236:A:H5'' | 1:13:1236:A:H8 | 1.77 | 0.49 |
| 26:1H:924:C:H2' | 26:1H:925:C:C6 | 2.47 | 0.49 |
| 26:1H:1412:A:H2' | 26:1H:1413:G:C8 | 2.47 | 0.49 |
| 26:1H:1443:G:N2 | 26:1H:1549:C:C2 | 2.81 | 0.49 |
| 26:1H:1788:C:OP1 | 29:11:222:ARG:NH2 | 2.46 | 0.49 |
| 26:1H:1817:G:C5 | 26:1H:1818:U:C5 | 3.01 | 0.49 |
| 26:1H:2175:C:H1' | 28:71:218:MET:HA | 1.94 | 0.49 |
| 26:1H:2683:C:O2 | 36:68:70:LYS:NZ | 2.45 | 0.49 |
| 27:16:78:A:C2 | 27:16:99:A:C4 | 3.00 | 0.49 |
| 29:11:123:ALA:HB3 | 29:11:131:LEU:HG | 1.94 | 0.49 |
| 34:61:110:ASP:HB3 | 34:61:112:LYS:N | 2.28 | 0.49 |
| 37:78:124:LYS:HA | 37:78:143:GLY:O | 2.12 | 0.49 |
| 41:B8:51:ARG:HB2 | 41:B8:98:LYS:CD | 2.42 | 0.49 |
| 47:H8:98:MET:O | 47:H8:125:LEU:HA | 2.13 | 0.49 |
| 48:I8:24:LYS:O | 48:I8:25:ARG:NH1 | 2.45 | 0.49 |
| 1:1G:402:G:H8 | 1:1G:402:G:O5' | 1.96 | 0.49 |
| 1:1G:1124:G:H2' | 1:1G:1145:C:C5 | 2.48 | 0.49 |
| 1:1G:1346:A:H2' | 7:62:10:ARG:HH22 | 1.78 | 0.49 |
| 2:12:84:GLU:OE1 | 2:12:216:SER:HB3 | 2.13 | 0.49 |
| 7:62:93:PRO:CG | 7:62:94:ARG:HH21 | 2.26 | 0.49 |
| 8:72:97:VAL:HG22 | 8:72:129:VAL:O | 2.13 | 0.49 |
| 12:3A:42:THR:HG22 | 12:3A:54:LYS:HA | 1.95 | 0.49 |
| 26:14:28:A:C2 | 26:14:513:A:C8 | 3.00 | 0.49 |
| 26:14:142:G:OP1 | 26:14:1598:C:H1' | 2.13 | 0.49 |
| 26:14:309:G:O3' | 46:C5:18:GLY:HA3 | 2.11 | 0.49 |
| 26:14:535:C:C2' | 26:14:536:A:H5' | 2.42 | 0.49 |
| 26:14:1328:G:H2' | 26:14:1330:C:C5 | 2.47 | 0.49 |
| 26:14:1644:C:O2' | 26:14:1645:G:H5' | 2.12 | 0.49 |
| 26:14:1727:U:H3 | 26:14:1733:G:H1 | 1.61 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:2032:G:O2' | 30:29:145:LYS:NZ | 2.46 | 0.49 |
| 26:14:2579:C:H4' | 30:29:134:ILE:HG12 | 1.94 | 0.49 |
| 26:14:2636:U:H4' | 30:29:80:GLU:OE2 | 2.13 | 0.49 |
| 26:14:2741:A:H8 | 26:14:2741:A:O5' | 1.95 | 0.49 |
| 32:49:99:MET:O | 32:49:103:LEU:HG | 2.13 | 0.49 |
| 32:49:107:LEU:HD11 | 32:49:178:PHE:CE1 | 2.48 | 0.49 |
| 33:59:76:VAL:HG12 | 33:59:77:LYS:HD2 | 1.93 | 0.49 |
| 34:69:54:GLN:HA | 34:69:57:ARG:HB3 | 1.94 | 0.49 |
| 40:65:5:THR:O | 40:65:8:GLU:N | 2.44 | 0.49 |
| 41:75:53:ARG:NH1 | 41:75:60:THR:HG23 | 2.27 | 0.49 |
| 42:85:27:LEU:HD12 | 42:85:31:SER:HB3 | 1.94 | 0.49 |
| 43:95:30:GLY:N | 43:95:61:VAL:HB | 2.28 | 0.49 |
| 50:G5:24:LEU:HD22 | 50:G5:60:LEU:HD21 | 1.94 | 0.49 |
| 1:13:1367:C:OP2 | 9:8E:112:LYS:NZ | 2.43 | 0.49 |
| 1:13:1392:G:C5 | 1:13:1393:U:C5 | 3.01 | 0.49 |
| 4:3E:162:LEU:HA | 4:3E:162:LEU:HD23 | 1.61 | 0.49 |
| 9:8E:55:ALA:O | 9:8E:56:LEU:HD23 | 2.13 | 0.49 |
| 22:1K:5:C:H2' | 22:1K:68:G:H1 | 1.77 | 0.49 |
| 22:1K:34:U8U:S2 | 25:4K:21:A:C2 | 3.06 | 0.49 |
| 24:3K:50:C:H2' | 24:3K:51:A:C8 | 2.48 | 0.49 |
| 26:1H:17:G:H2' | 26:1H:18:C:C6 | 2.48 | 0.49 |
| 26:1H:1113:U:H5' | 33:51:2:SER:N | 2.28 | 0.49 |
| 26:1H:1176:G:C8 | 26:1H:1177:A:N1 | 2.80 | 0.49 |
| 26:1H:2205:C:H2' | 26:1H:2206:C:H6 | 1.78 | 0.49 |
| 28:71:214:VAL:HG23 | 28:71:224:ILE:HG12 | 1.94 | 0.49 |
| 29:11:72:LYS:HG2 | 29:11:103:ARG:NH2 | 2.28 | 0.49 |
| 31:31:152:GLU:HG3 | 31:31:191:ARG:HD2 | 1.93 | 0.49 |
| 34:61:56:LYS:O | 34:61:60:GLU:HB3 | 2.12 | 0.49 |
| 40:A8:100:ALA:HA | 40:A8:103:GLU:HG2 | 1.94 | 0.49 |
| 42:C8:88:ILE:C | 42:C8:90:VAL:N | 2.66 | 0.49 |
| 48:I8:41:ARG:NE | 48:I8:41:ARG:HA | 2.26 | 0.49 |
| 1:1G:262:A:C6 | 1:1G:263:A:C6 | 3.01 | 0.49 |
| 1:1G:281:G:H8 | 1:1G:281:G:OP2 | 1.95 | 0.49 |
| 1:1G:416:G:H1 | 1:1G:427:U:H3 | 1.61 | 0.49 |
| 1:1G:464:G:N2 | 1:1G:467:G:C8 | 2.80 | 0.49 |
| 1:1G:492:G:H2' | 1:1G:493:G:C8 | 2.48 | 0.49 |
| 1:1G:539:A:H2' | 1:1G:540:G:H8 | 1.76 | 0.49 |
| 1:1G:692:U:H2' | 1:1G:693:G:H3' | 1.93 | 0.49 |
| 1:1G:1006:C:H2' | 1:1G:1007:C:C6 | 2.48 | 0.49 |
| 1:1G:1124:G:N7 | 1:1G:1145:C:H2' | 2.28 | 0.49 |
| 1:1G:1291:G:H4' | 9:82:40:LEU:HD22 | 1.95 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 3:22:28:GLN:O | 3:22:32:LEU:HB2 | 2.13 | 0.49 |
| 4:32:20:TYR:HA | 4:32:26:CYS:SG | 2.52 | 0.49 |
| 4:32:94:LEU:O | 4:32:97:LEU:N | 2.46 | 0.49 |
| 5:42:31:LEU:CD2 | 5:42:45:PHE:HB3 | 2.31 | 0.49 |
| 16:7A:53:VAL:HA | 16:7A:56:ALA:HB3 | 1.95 | 0.49 |
| 23:2L:13:C:O2' | 26:14:1924:C:H4' | 2.12 | 0.49 |
| 26:14:248:G:H2' | 61:14:3560:HOH:O | 2.11 | 0.49 |
| 26:14:753:C:OP2 | 26:14:753:C:H6 | 1.96 | 0.49 |
| 26:14:866:A:H5'' | 26:14:867:C:OP2 | 2.13 | 0.49 |
| 26:14:1005:C:N4 | 26:14:1143:A:N3 | 2.61 | 0.49 |
| 26:14:1062:G:N7 | 26:14:1071:G:O2' | 2.45 | 0.49 |
| 26:14:1412:A:C6 | 26:14:1413:G:C6 | 3.00 | 0.49 |
| 26:14:2233:U:H2' | 26:14:2234:G:O4' | 2.13 | 0.49 |
| 30:29:15:PHE:CE2 | 41:75:80:SER:HA | 2.48 | 0.49 |
| 32:49:32:PRO:HB2 | 32:49:172:LEU:HD22 | 1.94 | 0.49 |
| 32:49:136:ARG:CZ | 32:49:154:GLY:N | 2.74 | 0.49 |
| 39:55:24:GLN:OE1 | 39:55:36:THR:HG21 | 2.11 | 0.49 |
| 41:75:91:ARG:NH1 | 41:75:124:ASP:OD1 | 2.46 | 0.49 |
| 54:L5:5:TRP:CD1 | 54:L5:7:PRO:HG3 | 2.47 | 0.49 |
| 1:13:116:A:H61 | 1:13:313:A:H1' | 1.78 | 0.49 |
| 1:13:454:C:H3' | 1:13:455:C:C6 | 2.48 | 0.49 |
| 1:13:735:C:H2' | 1:13:736:C:C6 | 2.46 | 0.49 |
| 1:13:939:G:H2' | 1:13:940:C:C6 | 2.47 | 0.49 |
| 1:13:1079:G:H2' | 1:13:1080:A:C8 | 2.47 | 0.49 |
| 1:13:1206:G:O4' | 3:2E:194:GLY:HA2 | 2.13 | 0.49 |
| 1:13:1347:G:N7 | 9:8E:10:ARG:NH2 | 2.48 | 0.49 |
| 2:1E:71:VAL:HG23 | 2:1E:164:VAL:HA | 1.94 | 0.49 |
| 4:3E:107:ARG:HH11 | 4:3E:114:ARG:HH22 | 1.61 | 0.49 |
| 5:4E:80:ILE:HG12 | 5:4E:81:GLU:N | 2.28 | 0.49 |
| 6:5E:97:PHE:HB2 | 18:9I:32:ARG:HH11 | 1.77 | 0.49 |
| 9:8E:9:ARG:HB3 | 9:8E:14:VAL:HG13 | 1.93 | 0.49 |
| 13:4I:47:ASP:O | 13:4I:48:LEU:HB3 | 2.13 | 0.49 |
| 22:1K:2:G:N1 | 22:1K:3:G:O6 | 2.46 | 0.49 |
| 26:1H:134:C:H2' | 26:1H:135:G:O4' | 2.13 | 0.49 |
| 26:1H:141:A:H8 | 26:1H:1595:G:H21 | 1.61 | 0.49 |
| 26:1H:744:G:H5' | 61:1H:3703:HOH:O | 2.12 | 0.49 |
| 26:1H:784:A:O4' | 29:11:227:ASN:ND2 | 2.45 | 0.49 |
| 26:1H:796:C:H2' | 26:1H:797:C:C6 | 2.47 | 0.49 |
| 26:1H:805:G:H4' | 26:1H:806:C:OP2 | 2.13 | 0.49 |
| 26:1H:1674:G:N3 | 26:1H:1676:A:N6 | 2.61 | 0.49 |
| 26:1H:1717:G:H2' | 26:1H:1718:G:C8 | 2.48 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:1H:2309:A:C6 | 26:1H:2310:A:C8 | 3.00 | 0.49 |
| 26:1H:2667:C:H2' | 26:1H:2668:G:O4' | 2.13 | 0.49 |
| 29:11:35:LYS:HB3 | 29:11:35:LYS:HE3 | 1.35 | 0.49 |
| 33:51:153:LYS:HB2 | 33:51:155:SER:N | 2.27 | 0.49 |
| 39:98:94:TYR:CD1 | 39:98:94:TYR:N | 2.80 | 0.49 |
| 42:C8:50:ARG:NH1 | 43:D8:72:VAL:HG23 | 2.28 | 0.49 |
| 1:1G:630:G:H5' | 1:1G:631:G:OP2 | 2.13 | 0.49 |
| 1:1G:867:G:H2' | 1:1G:868:C:C6 | 2.46 | 0.49 |
| 1:1G:1058:G:H1 | 1:1G:1199:U:H3 | 1.60 | 0.49 |
| 1:1G:1142:G:H2' | 1:1G:1143:G:O4' | 2.13 | 0.49 |
| 1:1G:1263:C:C2 | 1:1G:1273:G:C2 | 3.01 | 0.49 |
| 15:6A:56:LEU:O | 15:6A:60:VAL:HG23 | 2.12 | 0.49 |
| 56:1L:8:U:H2' | 56:1L:22:G:H1 | 1.78 | 0.49 |
| 26:14:139:G:N2 | 26:14:141:A:N1 | 2.53 | 0.49 |
| 26:14:302:C:H2' | 26:14:303:U:C6 | 2.47 | 0.49 |
| 26:14:583:G:OP2 | 42:85:10:ARG:HD2 | 2.13 | 0.49 |
| 26:14:1060:U:H4' | 26:14:1061:U:H3' | 1.94 | 0.49 |
| 26:14:1210:A:H5' | 26:14:1212:G:O4' | 2.13 | 0.49 |
| 26:14:1949:G:H2' | 26:14:1950:G:O4' | 2.12 | 0.49 |
| 26:14:2472:G:C4 | 26:14:2475:C:N4 | 2.81 | 0.49 |
| 32:49:19:LEU:HG | 32:49:175:LEU:CD1 | 2.43 | 0.49 |
| 32:49:29:TRP:O | 32:49:33:ARG:NH1 | 2.46 | 0.49 |
| 34:69:76:THR:HG23 | 34:69:77:LEU:N | 2.28 | 0.49 |
| 41:75:42:ILE:HD12 | 41:75:44:ASP:OD1 | 2.13 | 0.49 |
| 1:13:265:G:H5'' | 17:8I:65:ILE:O | 2.13 | 0.48 |
| 1:13:454:C:OP1 | 16:7I:71:ARG:HD3 | 2.12 | 0.48 |
| 1:13:736:C:O2 | 1:13:737:A:C8 | 2.65 | 0.48 |
| 2:1E:6:THR:HG22 | 2:1E:221:LEU:HD11 | 1.95 | 0.48 |
| 4:3E:70:ILE:HG23 | 4:3E:75:PHE:HB2 | 1.94 | 0.48 |
| 4:3E:80:GLU:O | 4:3E:84:LYS:HG2 | 2.13 | 0.48 |
| 4:3E:142:PRO:HA | 4:3E:185:PHE:HD1 | 1.78 | 0.48 |
| 4:3E:162:LEU:HD12 | 4:3E:181:MET:HE2 | 1.94 | 0.48 |
| 11:2I:48:ILE:HG12 | 11:2I:63:LEU:HB2 | 1.95 | 0.48 |
| 15:6I:6:GLU:OE2 | 15:6I:6:GLU:N | 2.33 | 0.48 |
| 22:1K:64:G:H2' | 22:1K:65:C:O4' | 2.13 | 0.48 |
| 26:1H:534:U:H5' | 42:C8:42:ALA:HB1 | 1.94 | 0.48 |
| 26:1H:963:U:H2' | 26:1H:964:C:C6 | 2.48 | 0.48 |
| 26:1H:1283:G:N2 | 26:1H:1286:A:OP2 | 2.45 | 0.48 |
| 26:1H:1533:C:H3' | 26:1H:1534:G:H5'' | 1.95 | 0.48 |
| 26:1H:1533:C:H6 | 26:1H:1534:G:H5'' | 1.78 | 0.48 |
| 26:1H:1543:A:H1' | 26:1H:1544:C:H5'' | 1.94 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:2324:C:H5'' | 26:1H:2325:G:H5' | 1.95 | 0.48 |
| 30:21:36:ARG:NH1 | 30:21:85:ASN:OD1 | 2.45 | 0.48 |
| 30:21:147:PRO:HB2 | 30:21:149:ARG:HG3 | 1.95 | 0.48 |
| 36:68:7:TYR:CZ | 36:68:44:LYS:HG3 | 2.48 | 0.48 |
| 38:88:66:ILE:O | 38:88:67:ARG:HB2 | 2.13 | 0.48 |
| 44:E8:73:ALA:O | 44:E8:74:ALA:HB2 | 2.13 | 0.48 |
| 44:E8:86:LEU:C | 44:E8:86:LEU:HD12 | 2.33 | 0.48 |
| 46:G8:55:TYR:N | 46:G8:56:PRO:HD3 | 2.28 | 0.48 |
| 1:1G:162:A:O5' | 1:1G:162:A:H8 | 1.96 | 0.48 |
| 1:1G:246:A:C5 | 1:1G:279:A:C6 | 3.01 | 0.48 |
| 1:1G:323:U:H4' | 20:BA:22:ARG:HB2 | 1.94 | 0.48 |
| 1:1G:440:A:H3' | 1:1G:442:C:H6 | 1.77 | 0.48 |
| 1:1G:738:C:H4' | 6:52:69:GLU:O | 2.13 | 0.48 |
| 1:1G:1037:C:H2' | 1:1G:1038:C:C6 | 2.48 | 0.48 |
| 1:1G:1123:A:H4' | 10:1A:36:GLY:CA | 2.41 | 0.48 |
| 1:1G:1217:C:H5'' | 14:5A:9:LYS:HZ1 | 1.77 | 0.48 |
| 1:1G:1223:C:OP2 | 1:1G:1224:G:H2' | 2.13 | 0.48 |
| 1:1G:1309:G:C2 | 1:1G:1329:A:C2 | 3.00 | 0.48 |
| 4:32:190:ASP:OD1 | 4:32:191:ARG:N | 2.46 | 0.48 |
| 9:82:96:LEU:H | 9:82:96:LEU:HD12 | 1.78 | 0.48 |
| 18:9A:53:ARG:NH2 | 18:9A:60:ALA:H | 2.10 | 0.48 |
| 26:14:901:A:H2' | 26:14:901:A:N3 | 2.26 | 0.48 |
| 26:14:1005:C:N3 | 26:14:1143:A:C4 | 2.81 | 0.48 |
| 26:14:2020:A:OP1 | 42:85:27:LEU:HD23 | 2.13 | 0.48 |
| 26:14:2611:U:H2' | 53:J5:2:ALA:O | 2.13 | 0.48 |
| 26:14:2647:U:H2' | 26:14:2648:C:H6 | 1.78 | 0.48 |
| 27:1J:18:G:N2 | 27:1J:108:C:N3 | 2.61 | 0.48 |
| 31:39:146:ALA:HB3 | 31:39:148:LEU:HB2 | 1.95 | 0.48 |
| 1:13:571:U:O2' | 1:13:918:A:OP1 | 2.28 | 0.48 |
| 1:13:1116:C:H42 | 1:13:1184:G:H1 | 1.59 | 0.48 |
| 1:13:1405:G:O4' | 1:13:1519:A:H4' | 2.13 | 0.48 |
| 1:13:1423:G:OP1 | 36:68:49:ARG:NH2 | 2.47 | 0.48 |
| 1:13:1499:A:O2' | 1:13:1500:A:H5' | 2.12 | 0.48 |
| 2:1E:208:ILE:HA | 2:1E:211:ILE:HD12 | 1.94 | 0.48 |
| 3:2E:175:LEU:HD21 | 3:2E:201:TYR:CE2 | 2.48 | 0.48 |
| 4:3E:167:GLY:HA2 | 29:19:135:PHE:CZ | 2.48 | 0.48 |
| 17:8I:31:LEU:HG | 17:8I:32:TYR:CE1 | 2.48 | 0.48 |
| 20:BI:53:LEU:HB2 | 20:BI:100:ILE:HG22 | 1.94 | 0.48 |
| 23:2K:20:G:N2 | 32:41:78:SER:OG | 2.45 | 0.48 |
| 24:3K:15:G:H2' | 24:3K:59:A:N6 | 2.27 | 0.48 |
| 24:3K:68:G:C2 | 24:3K:69:A:C5 | 3.00 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:153:C:H2' | 26:1H:154:G:C8 | 2.47 | 0.48 |
| 26:1H:270(N):G:OP1 | 34:61:57:ARG:NH1 | 2.46 | 0.48 |
| 26:1H:1045:A:OP1 | 26:1H:1046:A:H3' | 2.13 | 0.48 |
| 26:1H:1268:A:H2' | 26:1H:1269:A:O4' | 2.13 | 0.48 |
| 26:1H:2098:U:H2' | 26:1H:2099:U:O4' | 2.14 | 0.48 |
| 26:1H:2213:U:H1' | 49:J8:52:ARG:CZ | 2.43 | 0.48 |
| 26:1H:2632:A:H2' | 26:1H:2633:G:C8 | 2.48 | 0.48 |
| 26:1H:2641:G:OP1 | 35:58:74:ARG:NE | 2.46 | 0.48 |
| 26:1H:2720:U:O2 | 26:1H:2720:U:H2' | 2.14 | 0.48 |
| 26:1H:2879:C:O2 | 26:1H:2881:C:N4 | 2.42 | 0.48 |
| 31:31:23:ASP:CG | 31:31:24:LEU:H | 2.16 | 0.48 |
| 37:78:112:LEU:O | 37:78:128:HIS:HB2 | 2.12 | 0.48 |
| 42:C8:90:VAL:HA | 43:D8:39:LEU:HD13 | 1.94 | 0.48 |
| 51:L8:31:LEU:O | 51:L8:32:GLN:HB2 | 2.13 | 0.48 |
| 53:N8:37:LYS:HD2 | 53:N8:37:LYS:C | 2.34 | 0.48 |
| 55:Q8:21:LYS:HD3 | 55:Q8:49:VAL:CG1 | 2.44 | 0.48 |
| 1:1G:757:U:H2' | 1:1G:758:G:O4' | 2.12 | 0.48 |
| 1:1G:1071:C:H5'' | 5:42:49:PRO:HG3 | 1.95 | 0.48 |
| 1:1G:1158:C:N3 | 1:1G:1160:G:C4 | 2.81 | 0.48 |
| 1:1G:1441:G:H5'' | 1:1G:1442:G:H5' | 1.95 | 0.48 |
| 3:22:18:TRP:HZ2 | 14:5A:56:VAL:H | 1.61 | 0.48 |
| 3:22:29:TYR:O | 3:22:33:LEU:N | 2.36 | 0.48 |
| 6:52:2:ARG:HB3 | 6:52:4:TYR:CE2 | 2.48 | 0.48 |
| 56:1L:63:U:O2' | 26:14:2482:G:O3' | 2.31 | 0.48 |
| 26:14:458:G:H5' | 54:L5:40:TRP:HE1 | 1.77 | 0.48 |
| 26:14:511:U:H3' | 26:14:512:G:H5'' | 1.95 | 0.48 |
| 26:14:1921:G:H2' | 26:14:1922:G:H8 | 1.78 | 0.48 |
| 26:14:2051:A:H4' | 30:29:141:ILE:HG12 | 1.95 | 0.48 |
| 26:14:2113:U:C4 | 26:14:2114:A:H1' | 2.48 | 0.48 |
| 26:14:2415:G:C2 | 26:14:2416:C:C2 | 3.01 | 0.48 |
| 26:14:2461:C:H2' | 26:14:2462:U:H6 | 1.77 | 0.48 |
| 26:14:2768:C:H2' | 26:14:2769:C:O4' | 2.13 | 0.48 |
| 30:29:72:VAL:HG23 | 30:29:74:PRO:HG3 | 1.93 | 0.48 |
| 37:35:138:LEU:HD13 | 37:35:138:LEU:O | 2.13 | 0.48 |
| 40:65:43:GLU:HB2 | 48:E5:49:LYS:NZ | 2.28 | 0.48 |
| 45:B5:12:VAL:HG23 | 45:B5:17:ALA:HB2 | 1.94 | 0.48 |
| 1:13:52:G:O2' | 1:13:53:A:H5' | 2.13 | 0.48 |
| 1:13:407:G:H2' | 1:13:408:A:C8 | 2.47 | 0.48 |
| 1:13:542:G:H5' | 4:3E:41:GLY:HA3 | 1.95 | 0.48 |
| 1:13:1128:C:H5' | 9:8E:16:ARG:NH2 | 2.28 | 0.48 |
| 1:13:1157:A:C6 | 1:13:1181:G:C8 | 3.00 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 3:2E:129:ALA:HB3 | 3:2E:132:ARG:HE | 1.78 | 0.48 |
| 3:2E:130:VAL:O | 3:2E:134:ILE:HG12 | 2.13 | 0.48 |
| 4:3E:191:ARG:HH12 | 4:3E:196:LEU:H | 1.61 | 0.48 |
| 8:7E:87:SER:HB2 | 8:7E:93:VAL:HG23 | 1.96 | 0.48 |
| 10:1I:25:GLU:OE2 | 10:1I:25:GLU:N | 2.46 | 0.48 |
| 19:AI:41:VAL:H | 19:AI:44:MET:HG3 | 1.78 | 0.48 |
| 19:AI:69:HIS:HB2 | 19:AI:74:PHE:HZ | 1.76 | 0.48 |
| 26:1H:1168:G:H2' | 26:1H:1169:G:O4' | 2.13 | 0.48 |
| 26:1H:1759:A:C5' | 26:1H:2715:C:H1' | 2.43 | 0.48 |
| 26:1H:1800:C:P | 29:11:264:LYS:HZ3 | 2.36 | 0.48 |
| 26:1H:1925:C:C2' | 26:1H:1926:U:H5' | 2.43 | 0.48 |
| 26:1H:2131:G:H5' | 26:1H:2133:G:O5' | 2.13 | 0.48 |
| 26:1H:2248:C:H2' | 26:1H:2249:U:O4' | 2.14 | 0.48 |
| 26:1H:2592:G:H2' | 26:1H:2593:U:H5' | 1.95 | 0.48 |
| 26:1H:2838:G:C6 | 26:1H:2839:G:C5 | 3.02 | 0.48 |
| 27:16:12:C:H2' | 48:18:73:GLY:HA3 | 1.95 | 0.48 |
| 29:11:75:ILE:H | 29:11:75:ILE:HD12 | 1.78 | 0.48 |
| 30:21:31:CYS:HB3 | 30:21:49:LEU:HD23 | 1.96 | 0.48 |
| 33:51:86:GLU:O | 33:51:131:VAL:O | 2.29 | 0.48 |
| 37:78:39:LYS:HA | 37:78:45:LEU:HD13 | 1.95 | 0.48 |
| 37:78:113:LYS:HA | 37:78:129:ALA:O | 2.12 | 0.48 |
| 38:88:42:ILE:HD13 | 38:88:97:VAL:HB | 1.94 | 0.48 |
| 39:98:101:ALA:HB2 | 53:N8:44:THR:HB | 1.95 | 0.48 |
| 49:J8:60:PHE:HE2 | 49:J8:91:LYS:HZ1 | 1.58 | 0.48 |
| 1:1G:854:G:C2 | 1:1G:855:G:C8 | 3.00 | 0.48 |
| 1:1G:922:G:N3 | 1:1G:1398:A:H2 | 2.11 | 0.48 |
| 1:1G:979:C:H3' | 1:1G:980:C:C5' | 2.41 | 0.48 |
| 1:1G:997:U:H2' | 1:1G:998:G:H8 | 1.76 | 0.48 |
| 1:1G:1073:U:H2' | 1:1G:1074:G:C8 | 2.48 | 0.48 |
| 7:62:115:ARG:HB2 | 7:62:118:VAL:HG13 | 1.94 | 0.48 |
| 9:82:79:LEU:O | 9:82:82:ALA:HB3 | 2.13 | 0.48 |
| 11:2A:100:ALA:O | 11:2A:102:GLY:N | 2.47 | 0.48 |
| 12:3A:70:ILE:HG21 | 12:3A:75:HIS:CD2 | 2.48 | 0.48 |
| 13:4A:50:GLU:HG3 | 13:4A:53:VAL:HB | 1.96 | 0.48 |
| 23:2L:37:U:H2' | 23:2L:38:A:O4' | 2.13 | 0.48 |
| 26:14:1015:G:O2' | 26:14:1016:G:H5' | 2.13 | 0.48 |
| 27:1J:99:A:C4 | 27:1J:100:G:C8 | 3.01 | 0.48 |
| 29:19:242:ARG:HH11 | 29:19:242:ARG:N | 2.09 | 0.48 |
| 32:49:151:ALA:HB3 | 32:49:153:ARG:NH1 | 2.27 | 0.48 |
| 46:C5:82:PRO:HG3 | 46:C5:97:ARG:HB3 | 1.95 | 0.48 |
| 47:D5:98:MET:O | 47:D5:125:LEU:HA | 2.13 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 1:13:664:G:N2 | 1:13:741:G:H1 | 2.06 | 0.48 |
| 1:13:823:G:C6 | 1:13:878:G:N1 | 2.81 | 0.48 |
| 1:13:1159:U:O4' | 1:13:1182:G:N2 | 2.46 | 0.48 |
| 5:4E:11:ILE:HG23 | 5:4E:33:VAL:HG23 | 1.95 | 0.48 |
| 6:5E:20:ALA:HA | 6:5E:23:LYS:HE2 | 1.95 | 0.48 |
| 9:8E:59:PHE:HZ | 9:8E:88:TYR:CE1 | 2.31 | 0.48 |
| 13:4I:13:LYS:C | 13:4I:44:ARG:NH1 | 2.67 | 0.48 |
| 15:6I:39:LEU:HD13 | 15:6I:56:LEU:HB2 | 1.96 | 0.48 |
| 23:2K:16:C:O2' | 23:2K:62:C:OP1 | 2.32 | 0.48 |
| 25:4K:18:G:H4' | 25:4K:19:A:OP2 | 2.13 | 0.48 |
| 26:1H:322:A:H3' | 31:31:169:ASN:OD1 | 2.14 | 0.48 |
| 26:1H:654(A):A:C2 | 26:1H:654(T):A:N1 | 2.82 | 0.48 |
| 26:1H:871:U:OP2 | 38:88:5:ARG:NH1 | 2.46 | 0.48 |
| 26:1H:1051:G:H2' | 26:1H:1051:G:N3 | 2.27 | 0.48 |
| 26:1H:1403:C:O2 | 26:1H:1403:C:H2' | 2.13 | 0.48 |
| 26:1H:1470:G:O2' | 26:1H:1522:G:O6 | 2.31 | 0.48 |
| 26:1H:2248:C:C5 | 26:1H:2249:U:C4 | 3.01 | 0.48 |
| 26:1H:2817:G:C4 | 26:1H:2830:G:N2 | 2.81 | 0.48 |
| 32:41:135:LEU:HD13 | 32:41:140:ILE:HD11 | 1.94 | 0.48 |
| 32:41:153:ARG:HD3 | 32:41:153:ARG:N | 2.29 | 0.48 |
| 34:61:95:LYS:HA | 34:61:111:PRO:HG3 | 1.96 | 0.48 |
| 43:D8:48:GLY:O | 43:D8:49:THR:OG1 | 2.32 | 0.48 |
| 47:H8:93:ASP:O | 47:H8:94:GLU:HG3 | 2.14 | 0.48 |
| 49:J8:85:LEU:HD12 | 49:J8:88:LYS:HG3 | 1.96 | 0.48 |
| 53:N8:40:LYS:HE2 | 53:N8:47:PRO:HG2 | 1.95 | 0.48 |
| 1:1G:953:G:C6 | 1:1G:954:G:C4 | 3.01 | 0.48 |
| 1:1G:1199:U:H5' | 10:1A:54:PHE:CE2 | 2.49 | 0.48 |
| 1:1G:1352:C:OP1 | 21:1B:3:LYS:NZ | 2.44 | 0.48 |
| 3:22:73:PRO:HA | 3:22:76:VAL:HG13 | 1.95 | 0.48 |
| 4:32:108:LEU:HG | 4:32:110:PHE:HE1 | 1.77 | 0.48 |
| 5:42:61:TYR:HA | 5:42:64:ARG:HG3 | 1.95 | 0.48 |
| 23:2L:63:C:H2' | 23:2L:64:G:C8 | 2.49 | 0.48 |
| 23:2L:73:A:C6 | 23:2L:74:A:C6 | 3.01 | 0.48 |
| 26:14:481:G:OP2 | 46:C5:47:LYS:HB2 | 2.13 | 0.48 |
| 26:14:1358:G:N1 | 26:14:1372:U:OP2 | 2.25 | 0.48 |
| 26:14:1545:A:H2' | 26:14:1545(A):A:O4' | 2.12 | 0.48 |
| 26:14:1783:A:H5' | 26:14:2608:G:H4' | 1.95 | 0.48 |
| 26:14:2507:C:H5'' | 26:14:2573:C:N4 | 2.29 | 0.48 |
| 26:14:2840:C:H4' | 39:55:53:HIS:CE1 | 2.49 | 0.48 |
| 30:29:38:THR:O | 30:29:42:ASP:N | 2.44 | 0.48 |
| 33:59:144:VAL:HG12 | 33:59:147:ASN:HB2 | 1.95 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 55:M5:50:LEU:HG | 55:M5:51:ALA:N | 2.28 | 0.48 |
| 1:13:49:U:N3 | 1:13:361:G:N2 | 2.62 | 0.48 |
| 1:13:112:G:OP1 | 16:7I:27:LYS:HD2 | 2.13 | 0.48 |
| 1:13:340:U:H2' | 1:13:341:C:O4' | 2.13 | 0.48 |
| 1:13:417:C:H2' | 1:13:418:C:H6 | 1.78 | 0.48 |
| 1:13:1478:C:H2' | 1:13:1479:C:C6 | 2.48 | 0.48 |
| 5:4E:24:ARG:HG3 | 5:4E:26:PHE:CE1 | 2.48 | 0.48 |
| 5:4E:64:ARG:HD2 | 5:4E:64:ARG:H | 1.77 | 0.48 |
| 11:2I:59:TYR:O | 11:2I:62:GLN:HB3 | 2.13 | 0.48 |
| 11:2I:125:PHE:N | 11:2I:125:PHE:CD1 | 2.81 | 0.48 |
| 19:AI:67:VAL:HG23 | 19:AI:68:GLY:H | 1.78 | 0.48 |
| 24:3K:3:G:O5' | 24:3K:3:G:H8 | 1.95 | 0.48 |
| 26:1H:753:C:OP2 | 26:1H:753:C:H6 | 1.95 | 0.48 |
| 26:1H:1021:A:H2' | 26:1H:1023:U:H5' | 1.94 | 0.48 |
| 26:1H:1196:C:H2' | 26:1H:1197:G:O4' | 2.14 | 0.48 |
| 26:1H:1295:C:O4' | 39:98:23:ASN:ND2 | 2.28 | 0.48 |
| 26:1H:1378:A:O2' | 26:1H:1380:G:N7 | 2.38 | 0.48 |
| 26:1H:1651:G:H1 | 26:1H:2006:C:H42 | 1.60 | 0.48 |
| 26:1H:2016:U:H1' | 53:N8:6:VAL:HG13 | 1.95 | 0.48 |
| 26:1H:2246:G:H2' | 26:1H:2247:A:C8 | 2.49 | 0.48 |
| 26:1H:2262:U:H4' | 26:1H:2328:A:C2 | 2.49 | 0.48 |
| 26:1H:2518:A:C5' | 26:1H:2518:A:C8 | 2.97 | 0.48 |
| 26:1H:2849:U:H1' | 26:1H:2866:U:O2 | 2.14 | 0.48 |
| 27:16:12:C:O2' | 48:I8:74:ARG:HG2 | 2.14 | 0.48 |
| 29:11:205:VAL:O | 29:11:205:VAL:HG12 | 2.13 | 0.48 |
| 47:H8:9:TYR:HE1 | 47:H8:35:ARG:HD2 | 1.79 | 0.48 |
| 49:J8:90:ILE:HD13 | 49:J8:90:ILE:HG21 | 1.57 | 0.48 |
| 50:K8:63:VAL:O | 50:K8:66:GLU:HG3 | 2.14 | 0.48 |
| 52:M8:15:ILE:HG12 | 52:M8:33:VAL:H | 1.78 | 0.48 |
| 1:1G:81:G:N1 | 1:1G:89:U:N3 | 2.54 | 0.48 |
| 1:1G:135:C:O2 | 16:7A:1:MET:HB3 | 2.12 | 0.48 |
| 1:1G:390:C:O2' | 16:7A:28:ARG:NH1 | 2.47 | 0.48 |
| 1:1G:1329:A:O2' | 13:4A:24:GLY:HA2 | 2.12 | 0.48 |
| 1:1G:1472:U:H2' | 1:1G:1473:A:O4' | 2.13 | 0.48 |
| 2:12:174:VAL:HG12 | 2:12:178:ARG:HG2 | 1.95 | 0.48 |
| 3:22:59:ARG:HD2 | 3:22:64:VAL:HG23 | 1.94 | 0.48 |
| 4:32:31:CYS:HB2 | 4:32:33:MET:N | 2.28 | 0.48 |
| 9:82:50:LEU:HD21 | 9:82:85:LEU:HB2 | 1.94 | 0.48 |
| 10:1A:33:GLN:OE1 | 10:1A:75:ILE:HG21 | 2.13 | 0.48 |
| 12:3A:85:ILE:HD11 | 12:3A:98:TYR:HB2 | 1.96 | 0.48 |
| 15:6A:39:LEU:HD12 | 15:6A:56:LEU:HB2 | 1.94 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 16:7A:81:ARG:HG3 | 16:7A:83:GLU:OE1 | 2.13 | 0.48 |
| 26:14:311:A:C8 | 26:14:332:A:N7 | 2.82 | 0.48 |
| 26:14:392:C:H5'' | 26:14:409:C:H5'' | 1.95 | 0.48 |
| 26:14:455:C:N3 | 26:14:473:G:H5' | 2.29 | 0.48 |
| 26:14:558:G:OP2 | 35:15:111:PRO:HD2 | 2.14 | 0.48 |
| 26:14:796:C:H2' | 26:14:797:C:H6 | 1.78 | 0.48 |
| 26:14:878:A:H5'' | 26:14:900:A:H61 | 1.76 | 0.48 |
| 26:14:997:G:C2 | 26:14:998:C:C6 | 3.02 | 0.48 |
| 26:14:1188:U:H5' | 43:95:79:VAL:HB | 1.95 | 0.48 |
| 26:14:1432:C:H2' | 26:14:1433:U:O4' | 2.13 | 0.48 |
| 26:14:1751:C:H2' | 26:14:1752:C:H6 | 1.76 | 0.48 |
| 26:14:1754:C:H2' | 26:14:1755:A:C8 | 2.48 | 0.48 |
| 26:14:1794:U:O2' | 26:14:1795:C:H5' | 2.13 | 0.48 |
| 26:14:2080:G:H5' | 49:F5:35:THR:OG1 | 2.12 | 0.48 |
| 27:1J:42:C:O2 | 32:49:93:THR:N | 2.41 | 0.48 |
| 37:35:90:ARG:HG3 | 37:35:91:PHE:H | 1.78 | 0.48 |
| 38:45:21:THR:CG2 | 38:45:24:GLY:H | 2.27 | 0.48 |
| 44:A5:29:LEU:HD13 | 44:A5:51:LEU:HD21 | 1.96 | 0.48 |
| 46:C5:43:ASN:HB2 | 46:C5:62:GLU:O | 2.13 | 0.48 |
| 48:E5:12:ASN:HA | 48:E5:14:ARG:NH2 | 2.25 | 0.48 |
| 1:13:37:U:O2' | 1:13:500:G:H4' | 2.12 | 0.48 |
| 1:13:105:G:H2' | 1:13:106:C:C6 | 2.48 | 0.48 |
| 1:13:269:C:H2' | 1:13:270:A:C8 | 2.48 | 0.48 |
| 1:13:407:G:OP1 | 4:3E:115:ARG:NH1 | 2.47 | 0.48 |
| 1:13:976:G:H5' | 1:13:1358:U:O2' | 2.13 | 0.48 |
| 1:13:1447:G:H8 | 1:13:1447:G:O5' | 1.97 | 0.48 |
| 1:13:1499:A:H2' | 1:13:1500:A:H8 | 1.78 | 0.48 |
| 9:8E:108:VAL:HG12 | 9:8E:109:VAL:H | 1.78 | 0.48 |
| 13:4I:82:MET:C | 13:4I:84:ILE:N | 2.66 | 0.48 |
| 22:1K:29:U:H2' | 22:1K:30:G:C8 | 2.48 | 0.48 |
| 26:1H:275:G:N7 | 26:1H:363:G:C6 | 2.82 | 0.48 |
| 26:1H:806:C:O2 | 26:1H:2444:G:O2' | 2.30 | 0.48 |
| 26:1H:1259:G:O2' | 26:1H:1260:G:H5' | 2.13 | 0.48 |
| 26:1H:1548:C:O2' | 26:1H:1549:C:H5' | 2.13 | 0.48 |
| 26:1H:1668:A:H4' | 26:1H:1669:A:O5' | 2.13 | 0.48 |
| 26:1H:2367:G:H2' | 26:1H:2368:C:C6 | 2.48 | 0.48 |
| 26:1H:2884:U:C2 | 26:1H:2885:C:C6 | 3.02 | 0.48 |
| 27:16:10:C:H2' | 27:16:11:C:H6 | 1.78 | 0.48 |
| 28:71:15:ASP:OD1 | 28:71:18:LYS:HB2 | 2.14 | 0.48 |
| 30:21:34:VAL:HG22 | 30:21:48:GLN:HB3 | 1.95 | 0.48 |
| 30:21:105:THR:HB | 30:21:197:ILE:HG23 | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 31:31:6:VAL:HG12 | 31:31:7:TYR:H | 1.79 | 0.48 |
| 41:B8:107:ASP:O | 41:B8:110:ILE:HG12 | 2.13 | 0.48 |
| 43:D8:10:LYS:NZ | 43:D8:23:GLU:OE1 | 2.46 | 0.48 |
| 50:K8:33:MET:O | 50:K8:37:PHE:CD1 | 2.66 | 0.48 |
| 1:1G:419:C:N4 | 1:1G:424:G:H1 | 2.11 | 0.48 |
| 1:1G:431:A:H2' | 1:1G:431:A:N3 | 2.29 | 0.48 |
| 1:1G:1267:C:O2 | 21:1B:20:LYS:HE3 | 2.13 | 0.48 |
| 1:1G:1288:A:H4' | 21:1B:13:ILE:HD13 | 1.94 | 0.48 |
| 4:32:18:LYS:HB2 | 4:32:33:MET:HE2 | 1.94 | 0.48 |
| 4:32:20:TYR:HD1 | 4:32:26:CYS:HB3 | 1.77 | 0.48 |
| 11:2A:114:VAL:HG23 | 11:2A:115:PRO:HD2 | 1.96 | 0.48 |
| 15:6A:83:GLU:OE1 | 15:6A:84:LYS:NZ | 2.42 | 0.48 |
| 57:3L:8:U:H3 | 57:3L:14:A:H61 | 1.61 | 0.48 |
| 26:14:265:A:H4' | 26:14:266:G:O5' | 2.12 | 0.48 |
| 26:14:531:C:C5 | 26:14:2035:G:C2 | 3.01 | 0.48 |
| 26:14:648:G:O4' | 26:14:2351:G:H5'' | 2.14 | 0.48 |
| 26:14:1449:A:H5' | 26:14:1449(A):G:OP2 | 2.13 | 0.48 |
| 26:14:2637:U:H5' | 30:29:44:TYR:CD1 | 2.49 | 0.48 |
| 26:14:2844:G:C6 | 26:14:2845:G:C4 | 3.01 | 0.48 |
| 27:1J:14:U:O3' | 27:1J:107:U:O2' | 2.31 | 0.48 |
| 27:1J:16:G:H2' | 27:1J:17:C:H6 | 1.77 | 0.48 |
| 27:1J:109:G:C6 | 27:1J:110:G:C6 | 3.01 | 0.48 |
| 31:39:6:VAL:HG23 | 31:39:124:LEU:HA | 1.95 | 0.48 |
| 36:25:4:PRO:O | 36:25:5:GLN:CB | 2.61 | 0.48 |
| 37:35:11:GLY:C | 37:35:13:ASN:H | 2.16 | 0.48 |
| 37:35:138:LEU:HD11 | 37:35:143:GLY:C | 2.33 | 0.48 |
| 40:65:33:LYS:HB3 | 40:65:34:HIS:CD2 | 2.49 | 0.48 |
| 47:D5:158:PRO:HD2 | 47:D5:161:VAL:HG22 | 1.96 | 0.48 |
| 51:H5:3:ARG:O | 51:H5:58:VAL:HG13 | 2.12 | 0.48 |
| 53:J5:20:ARG:O | 53:J5:23:HIS:HB2 | 2.14 | 0.48 |
| 1:13:150:C:H2' | 1:13:151:A:H8 | 1.79 | 0.48 |
| 1:13:277:C:H5'' | 17:8I:68:ARG:NH2 | 2.28 | 0.48 |
| 1:13:332:G:H2' | 1:13:333:G:H8 | 1.78 | 0.48 |
| 1:13:438:G:H5' | 4:3E:123:HIS:ND1 | 2.29 | 0.48 |
| 1:13:1176:A:H3' | 1:13:1177:G:H5'' | 1.96 | 0.48 |
| 4:3E:107:ARG:CZ | 4:3E:194:LEU:HD22 | 2.44 | 0.48 |
| 5:4E:137:GLU:HA | 5:4E:140:ARG:HD3 | 1.95 | 0.48 |
| 11:2I:108:ILE:O | 18:9I:86:VAL:HA | 2.14 | 0.48 |
| 24:3K:65:C:H2' | 24:3K:66:A:H8 | 1.76 | 0.48 |
| 26:1H:67:U:N3 | 26:1H:74:A:H2 | 2.11 | 0.48 |
| 26:1H:531:C:H4' | 26:1H:532:A:H5'' | 1.95 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:859:G:O2' | 26:1H:916:G:O6 | 2.28 | 0.48 |
| 26:1H:1211:U:H3' | 26:1H:1212:G:H5' | 1.95 | 0.48 |
| 26:1H:1387:C:O2 | 26:1H:1387:C:H2' | 2.14 | 0.48 |
| 26:1H:2185:C:N4 | 26:1H:2186:G:O6 | 2.46 | 0.48 |
| 26:1H:2876:G:O5' | 41:B8:2:ASN:HB3 | 2.13 | 0.48 |
| 32:41:142:PRO:O | 52:M8:31:ILE:HG21 | 2.14 | 0.48 |
| 34:61:11:ASN:O | 34:61:12:LEU:HB3 | 2.13 | 0.48 |
| 41:B8:26:ASP:CG | 41:B8:120:ARG:HH22 | 2.16 | 0.48 |
| 43:D8:34:GLU:HG2 | 43:D8:56:SER:HB3 | 1.94 | 0.48 |
| 46:G8:96:ILE:HB | 46:G8:101:LYS:HG2 | 1.95 | 0.48 |
| 50:K8:42:GLY:C | 50:K8:44:LEU:N | 2.65 | 0.48 |
| 55:Q8:14:VAL:HG22 | 55:Q8:15:LYS:H | 1.77 | 0.48 |
| 1:1G:175:C:H2' | 1:1G:176:C:O4' | 2.13 | 0.48 |
| 1:1G:501:C:H2' | 1:1G:502:G:H8 | 1.79 | 0.48 |
| 1:1G:548:G:H2' | 1:1G:549:C:C6 | 2.49 | 0.48 |
| 1:1G:766:A:H2' | 1:1G:767:A:O4' | 2.14 | 0.48 |
| 1:1G:838:G:N2 | 1:1G:842:C:H1' | 2.29 | 0.48 |
| 1:1G:976:G:OP1 | 14:5A:29:ARG:NH1 | 2.46 | 0.48 |
| 3:22:111:LEU:HG | 3:22:141:VAL:HG13 | 1.96 | 0.48 |
| 9:82:112:LYS:HD3 | 9:82:113:LYS:N | 2.29 | 0.48 |
| 26:14:11:G:H1' | 26:14:2801:A:O3' | 2.14 | 0.48 |
| 26:14:528:A:O2' | 26:14:529:A:H5' | 2.12 | 0.48 |
| 26:14:957:A:C4' | 38:45:76:LYS:CE | 2.91 | 0.48 |
| 27:1J:21:G:H1 | 27:1J:62:C:H42 | 1.62 | 0.48 |
| 29:19:84:TYR:HE1 | 29:19:86:PRO:HB3 | 1.78 | 0.48 |
| 29:19:175:LEU:HD12 | 29:19:185:VAL:HG21 | 1.95 | 0.48 |
| 29:19:255:LYS:HD3 | 29:19:255:LYS:N | 2.14 | 0.48 |
| 30:29:131:ALA:O | 30:29:132:HIS:C | 2.52 | 0.48 |
| 31:39:25:PRO:C | 31:39:27:GLU:N | 2.67 | 0.48 |
| 31:39:89:VAL:HG12 | 31:39:90:PHE:N | 2.27 | 0.48 |
| 31:39:198:ALA:O | 31:39:201:VAL:HG12 | 2.12 | 0.48 |
| 34:69:29:TYR:O | 34:69:33:ARG:HB2 | 2.13 | 0.48 |
| 36:25:101:PRO:HB3 | 36:25:122:LEU:HD12 | 1.96 | 0.48 |
| 42:85:91:ASP:C | 42:85:92:ARG:HG3 | 2.33 | 0.48 |
| 45:B5:18:TYR:C | 45:B5:20:GLY:N | 2.65 | 0.48 |
| 45:B5:51:VAL:HG13 | 45:B5:81:VAL:HG23 | 1.95 | 0.48 |
| 49:F5:18:ILE:HG12 | 49:F5:37:ILE:CD1 | 2.43 | 0.48 |
| 1:13:380:G:N2 | 1:13:384:G:C5 | 2.81 | 0.48 |
| 1:13:767:A:H8 | 1:13:767:A:O5' | 1.96 | 0.48 |
| 1:13:1481:U:H2' | 1:13:1482:G:C8 | 2.47 | 0.48 |
| 24:3K:5:C:H1' | 24:3K:69:A:N1 | 2.28 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:11:G:H2' | 26:1H:12:U:H5' | 1.94 | 0.48 |
| 26:1H:139:G:N3 | 26:1H:141:A:N1 | 2.61 | 0.48 |
| 26:1H:671:C:OP1 | 37:78:42:SER:O | 2.32 | 0.48 |
| 26:1H:740:U:H2' | 26:1H:741:G:C8 | 2.49 | 0.48 |
| 26:1H:1044:G:O2' | 26:1H:1111:A:N6 | 2.35 | 0.48 |
| 26:1H:1341:U:H4' | 26:1H:1342:A:OP2 | 2.13 | 0.48 |
| 26:1H:1636:C:H2' | 26:1H:1637:A:C8 | 2.49 | 0.48 |
| 26:1H:2125:G:OP1 | 28:71:40:THR:HG21 | 2.13 | 0.48 |
| 26:1H:2532:G:O2' | 26:1H:2657:A:N1 | 2.42 | 0.48 |
| 26:1H:2683:C:O2' | 30:21:13:ARG:NH1 | 2.46 | 0.48 |
| 26:1H:2818:G:N2 | 26:1H:2829:C:C2 | 2.81 | 0.48 |
| 27:16:14:U:OP2 | 27:16:70:C:O2' | 2.18 | 0.48 |
| 28:71:184:LYS:HA | 28:71:187:ASP:HB2 | 1.95 | 0.48 |
| 35:58:69:GLN:HE21 | 35:58:69:GLN:HB3 | 1.31 | 0.48 |
| 41:B8:8:LYS:O | 41:B8:11:GLU:HB2 | 2.13 | 0.48 |
| 45:F8:52:VAL:HG22 | 45:F8:82:GLN:O | 2.13 | 0.48 |
| 1:1G:737:A:H2' | 1:1G:738:C:H6 | 1.78 | 0.48 |
| 1:1G:1275:A:H2' | 1:1G:1276:G:C8 | 2.49 | 0.48 |
| 1:1G:1462:G:H2' | 1:1G:1463:C:H6 | 1.77 | 0.48 |
| 2:12:115:LEU:HB2 | 2:12:145:LEU:HD23 | 1.95 | 0.48 |
| 3:22:59:ARG:HB3 | 3:22:64:VAL:HA | 1.94 | 0.48 |
| 5:42:57:LYS:HA | 5:42:60:TYR:CD2 | 2.48 | 0.48 |
| 7:62:145:ALA:O | 7:62:146:GLU:HB3 | 2.13 | 0.48 |
| 8:72:31:PHE:HZ | 8:72:134:ILE:CD1 | 2.27 | 0.48 |
| 13:4A:91:ARG:HB3 | 13:4A:96:LEU:O | 2.14 | 0.48 |
| 57:3L:69:A:H2' | 57:3L:70:C:C6 | 2.49 | 0.48 |
| 26:14:270(E):G:N3 | 26:14:270(V):G:C2 | 2.82 | 0.48 |
| 26:14:863:A:O2' | 26:14:864:G:H5' | 2.14 | 0.48 |
| 26:14:1188:U:C2' | 26:14:1189:A:H5' | 2.44 | 0.48 |
| 26:14:1443:G:N2 | 26:14:1549:C:N3 | 2.62 | 0.48 |
| 26:14:1826:G:H4' | 29:19:242:ARG:HH21 | 1.79 | 0.48 |
| 26:14:2271:G:H2' | 26:14:2272:U:C6 | 2.49 | 0.48 |
| 26:14:2415:G:C4' | 37:35:67:MET:H | 2.08 | 0.48 |
| 26:14:2489:G:C6 | 26:14:2490:G:N7 | 2.82 | 0.48 |
| 26:14:2569:G:C2 | 26:14:2570:G:C8 | 3.02 | 0.48 |
| 26:14:2814:C:H5'' | 26:14:2815:C:OP2 | 2.14 | 0.48 |
| 31:39:47:GLY:HA3 | 31:39:95:ARG:O | 2.13 | 0.48 |
| 32:49:170:ARG:NH2 | 32:49:180:PHE:HB2 | 2.28 | 0.48 |
| 38:45:21:THR:HG22 | 38:45:24:GLY:H | 1.79 | 0.48 |
| 43:95:58:VAL:HB | 43:95:98:GLU:HG3 | 1.95 | 0.48 |
| 46:C5:91:GLU:HG3 | 46:C5:92:ASN:N | 2.28 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:13:243:A:H4' | 1:13:244:U:H3' | 1.96 | 0.48 |
| 1:13:851:G:H2' | 1:13:852:G:C8 | 2.48 | 0.48 |
| 1:13:973:G:OP1 | 10:11:57:LYS:HD3 | 2.13 | 0.48 |
| 1:13:1150:U:O4 | 1:13:1151:A:N6 | 2.47 | 0.48 |
| 1:13:1276:G:H2' | 1:13:1277:C:C6 | 2.48 | 0.48 |
| 1:13:1348:U:C2 | 1:13:1349:A:C8 | 3.00 | 0.48 |
| 2:1E:133:LYS:HD2 | 2:1E:134:GLU:H | 1.79 | 0.48 |
| 3:2E:155:GLY:O | 3:2E:157:ILE:HG13 | 2.13 | 0.48 |
| 4:3E:128:VAL:HB | 4:3E:133:VAL:HG21 | 1.94 | 0.48 |
| 5:4E:36:ASP:OD1 | 5:4E:38:GLN:N | 2.47 | 0.48 |
| 5:4E:74:GLY:O | 5:4E:115:VAL:HA | 2.14 | 0.48 |
| 13:4I:106:ASN:O | 13:4I:106:ASN:ND2 | 2.46 | 0.48 |
| 14:5I:24:CYS:HB2 | 14:5I:40:CYS:HB3 | 1.95 | 0.48 |
| 15:6I:41:GLU:OE2 | 15:6I:41:GLU:N | 2.47 | 0.48 |
| 16:7I:11:SER:HB2 | 16:7I:14:ASN:HB3 | 1.96 | 0.48 |
| 17:8I:40:LYS:HG2 | 17:8I:41:LYS:N | 2.29 | 0.48 |
| 20:BI:29:LYS:C | 20:BI:33:ILE:HG12 | 2.35 | 0.48 |
| 26:1H:195:A:N7 | 26:1H:197:A:OP1 | 2.47 | 0.48 |
| 26:1H:910:A:C6 | 26:1H:911:A:C6 | 3.01 | 0.48 |
| 26:1H:1166:C:O2 | 26:1H:1184:G:C2 | 2.67 | 0.48 |
| 26:1H:1257:C:H4' | 31:31:83:PHE:HD1 | 1.72 | 0.48 |
| 26:1H:1642:G:O2' | 26:1H:1643:G:H5' | 2.14 | 0.48 |
| 26:1H:1833:U:H2' | 26:1H:1834:U:H6 | 1.78 | 0.48 |
| 26:1H:2151:G:H2' | 26:1H:2152:G:C8 | 2.49 | 0.48 |
| 26:1H:2263:C:H41 | 48:I8:15:ASP:HA | 1.78 | 0.48 |
| 26:1H:2479:G:O5' | 26:1H:2479:G:H8 | 1.97 | 0.48 |
| 26:1H:2678:C:H2' | 26:1H:2679:A:O4' | 2.14 | 0.48 |
| 26:1H:2865:U:H5'' | 26:1H:2866:U:H2' | 1.96 | 0.48 |
| 29:11:9:TYR:CZ | 29:11:13:ARG:HG2 | 2.49 | 0.48 |
| 32:41:49:ASP:OD1 | 32:41:51:ARG:HG3 | 2.14 | 0.48 |
| 35:58:55:VAL:HB | 35:58:126:PRO:HA | 1.94 | 0.48 |
| 35:58:67:LEU:HA | 35:58:87:LEU:HD12 | 1.96 | 0.48 |
| 37:78:59:LEU:HD21 | 55:Q8:10:ALA:HB2 | 1.95 | 0.48 |
| 1:1G:224:C:H2' | 1:1G:225:C:C6 | 2.49 | 0.48 |
| 1:1G:1004:A:N1 | 1:1G:1006:C:H1' | 2.29 | 0.48 |
| 1:1G:1259:C:N4 | 1:1G:1260:C:O2 | 2.47 | 0.48 |
| 1:1G:1300:G:O2' | 1:1G:1301:U:O5' | 2.31 | 0.48 |
| 15:6A:67:LEU:HB3 | 15:6A:78:TYR:HE2 | 1.79 | 0.48 |
| 26:14:581:C:H2' | 26:14:582:G:H8 | 1.78 | 0.48 |
| 26:14:1225:C:H4' | 43:95:85:LYS:CG | 2.44 | 0.48 |
| 26:14:1906:G:N2 | 26:14:1925:C:O2 | 2.47 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:2533:A:O5' | 26:14:2533:A:H8 | 1.97 | 0.48 |
| 27:1J:42:C:N4 | 27:1J:43:C:C4 | 2.82 | 0.48 |
| 27:1J:44:G:H1' | 27:1J:47:C:N4 | 2.29 | 0.48 |
| 35:15:103:VAL:HG12 | 35:15:107:LEU:HD11 | 1.96 | 0.48 |
| 40:65:55:ALA:HA | 40:65:57:LYS:NZ | 2.29 | 0.48 |
| 43:95:76:LYS:HD2 | 43:95:80:GLN:O | 2.14 | 0.48 |
| 46:C5:76:CYS:SG | 46:C5:97:ARG:HG3 | 2.53 | 0.48 |
| 47:D5:27:VAL:O | 47:D5:88:PHE:HB2 | 2.14 | 0.48 |
| 1:13:985:C:C2 | 1:13:1221:G:N2 | 2.81 | 0.48 |
| 1:13:1285:A:O5' | 1:13:1285:A:C8 | 2.61 | 0.48 |
| 1:13:1432:G:OP1 | 41:B8:107:ASP:HB2 | 2.13 | 0.48 |
| 2:1E:45:GLN:O | 2:1E:49:GLU:HG2 | 2.14 | 0.48 |
| 4:3E:47:ARG:HG3 | 4:3E:47:ARG:O | 2.14 | 0.48 |
| 4:3E:162:LEU:HD12 | 4:3E:181:MET:CE | 2.44 | 0.48 |
| 9:8E:92:TYR:O | 9:8E:96:LEU:HB2 | 2.14 | 0.48 |
| 10:1I:40:LEU:HB3 | 10:1I:41:PRO:HD2 | 1.95 | 0.48 |
| 22:1K:12:U:O4 | 22:1K:25:C:N4 | 2.46 | 0.48 |
| 26:1H:321:G:O4' | 31:31:165:ARG:HD3 | 2.14 | 0.48 |
| 26:1H:2266:A:H4' | 26:1H:2267:A:C4 | 2.49 | 0.48 |
| 26:1H:2392:A:OP2 | 55:Q8:31:HIS:ND1 | 2.38 | 0.48 |
| 29:11:43:ARG:HG2 | 29:11:43:ARG:HH11 | 1.79 | 0.48 |
| 30:21:105:THR:HG21 | 30:21:164:ARG:NH1 | 2.29 | 0.48 |
| 32:41:111:LEU:HD22 | 32:41:117:PHE:CZ | 2.49 | 0.48 |
| 33:51:136:ILE:HG22 | 33:51:136:ILE:O | 2.13 | 0.48 |
| 46:G8:89:PHE:CD1 | 46:G8:90:LEU:N | 2.81 | 0.48 |
| 47:H8:58:VAL:O | 47:H8:59:LEU:HB2 | 2.13 | 0.48 |
| 47:H8:125:LEU:HG | 47:H8:164:ALA:CB | 2.43 | 0.48 |
| 1:1G:828:A:C2 | 1:1G:859:A:O4' | 2.67 | 0.48 |
| 2:12:74:LYS:HE3 | 2:12:169:LYS:HD2 | 1.95 | 0.48 |
| 3:22:58:GLU:O | 3:22:65:ALA:N | 2.42 | 0.48 |
| 3:22:147:LYS:HB2 | 3:22:203:PHE:CD1 | 2.48 | 0.48 |
| 4:32:31:CYS:O | 59:32:302:SF4:S4 | 2.72 | 0.48 |
| 7:62:136:LYS:CE | 7:62:137:LYS:HZ3 | 2.26 | 0.48 |
| 10:1A:54:PHE:O | 10:1A:55:LYS:HG3 | 2.13 | 0.48 |
| 57:3L:13:C:H2' | 57:3L:14:A:N7 | 2.28 | 0.48 |
| 26:14:270(F):U:H2' | 26:14:270(G):C:C6 | 2.48 | 0.48 |
| 26:14:361:G:H2' | 26:14:362:U:O2 | 2.13 | 0.48 |
| 26:14:1161:C:H2' | 26:14:1162:G:H8 | 1.79 | 0.48 |
| 26:14:2037:G:H2' | 26:14:2038:G:C8 | 2.49 | 0.48 |
| 26:14:2143:C:N3 | 26:14:2144:U:H1' | 2.29 | 0.48 |
| 26:14:2637:U:C4 | 26:14:2638:G:C6 | 3.01 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 27:1J:63:G:C2 | 27:1J:64:C:C2 | 3.02 | 0.48 |
| 29:19:181:GLU:HG3 | 29:19:272:ALA:CB | 2.43 | 0.48 |
| 31:39:170:LEU:HD22 | 31:39:172:TRP:HE1 | 1.79 | 0.48 |
| 42:85:92:ARG:HD2 | 43:95:11:GLN:HB2 | 1.96 | 0.48 |
| 1:13:192:U:H1' | 20:BI:103:GLY:HA2 | 1.96 | 0.47 |
| 1:13:280:C:H4' | 1:13:281:G:OP2 | 2.13 | 0.47 |
| 1:13:1051:C:H2' | 1:13:1052:U:C6 | 2.49 | 0.47 |
| 2:1E:27:LYS:NZ | 2:1E:195:ASP:HB2 | 2.29 | 0.47 |
| 3:2E:16:ARG:HH22 | 3:2E:183:ASP:HA | 1.79 | 0.47 |
| 12:3I:117:ARG:O | 12:3I:119:LYS:O | 2.32 | 0.47 |
| 26:1H:55:G:N3 | 26:1H:56:A:C8 | 2.82 | 0.47 |
| 26:1H:189:G:OP2 | 49:J8:14:VAL:HG21 | 2.14 | 0.47 |
| 26:1H:996:A:H4' | 42:C8:92:ARG:CG | 2.43 | 0.47 |
| 26:1H:1155:A:O2' | 26:1H:1156:A:H2' | 2.14 | 0.47 |
| 26:1H:1567:A:C5' | 29:11:58:HIS:ND1 | 2.77 | 0.47 |
| 26:1H:2843:G:O2' | 26:1H:2844:G:H5' | 2.14 | 0.47 |
| 29:11:96:HIS:CD2 | 29:11:102:LYS:HE2 | 2.49 | 0.47 |
| 35:58:127:ASP:O | 35:58:128:HIS:HB3 | 2.13 | 0.47 |
| 38:88:55:VAL:HG12 | 38:88:64:ILE:HD12 | 1.95 | 0.47 |
| 46:G8:5:MET:HE1 | 46:G8:32:PRO:HA | 1.96 | 0.47 |
| 48:I8:41:ARG:HA | 48:I8:41:ARG:HE | 1.79 | 0.47 |
| 49:J8:18:ILE:HG12 | 49:J8:37:ILE:HG12 | 1.96 | 0.47 |
| 52:M8:40:HIS:ND1 | 52:M8:40:HIS:O | 2.46 | 0.47 |
| 1:1G:99:C:H2' | 1:1G:101:A:C8 | 2.49 | 0.47 |
| 1:1G:468:A:N6 | 1:1G:474:G:N3 | 2.62 | 0.47 |
| 1:1G:929:G:H1 | 1:1G:1388:C:N4 | 2.11 | 0.47 |
| 1:1G:1190:G:P | 3:22:5:ILE:HG13 | 2.55 | 0.47 |
| 1:1G:1329:A:P | 13:4A:28:ALA:HB3 | 2.54 | 0.47 |
| 2:12:130:ARG:HB2 | 2:12:135:GLN:HE21 | 1.79 | 0.47 |
| 2:12:178:ARG:HD2 | 2:12:184:VAL:HG21 | 1.96 | 0.47 |
| 17:8A:88:TYR:CA | 17:8A:91:ARG:HD2 | 2.42 | 0.47 |
| 20:BA:54:LYS:HA | 20:BA:57:ARG:NH2 | 2.28 | 0.47 |
| 23:2L:32:G:H5'' | 23:2L:33:OMC:OP2 | 2.14 | 0.47 |
| 57:3L:44:U:O4 | 57:3L:45:G:C5 | 2.66 | 0.47 |
| 26:14:275:G:O6 | 26:14:363:G:C5 | 2.67 | 0.47 |
| 26:14:363(C):G:H2' | 26:14:363(D):G:H8 | 1.79 | 0.47 |
| 26:14:566:U:OP1 | 37:35:29:LYS:HD2 | 2.14 | 0.47 |
| 26:14:574:C:H1' | 26:14:2055:C:C6 | 2.49 | 0.47 |
| 26:14:675:A:OP1 | 31:39:63:LYS:HE2 | 2.14 | 0.47 |
| 26:14:952:G:C6 | 26:14:966:G:C6 | 3.02 | 0.47 |
| 26:14:962:G:C2 | 26:14:963:U:C2 | 3.02 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:14:996:A:H4' | 42:85:92:ARG:CZ | 2.44 | 0.47 |
| 26:14:1225:C:O2' | 43:95:85:LYS:N | 2.36 | 0.47 |
| 26:14:1337:G:H2' | 26:14:1338:G:H8 | 1.79 | 0.47 |
| 26:14:2483:C:O2 | 38:45:124:LYS:HE3 | 2.14 | 0.47 |
| 26:14:2698:U:H2' | 26:14:2699:C:C6 | 2.49 | 0.47 |
| 27:1J:2:C:H2' | 27:1J:3:C:C6 | 2.48 | 0.47 |
| 30:29:31:CYS:HB2 | 30:29:91:VAL:HG22 | 1.96 | 0.47 |
| 36:25:102:VAL:HB | 36:25:106:LEU:HD12 | 1.96 | 0.47 |
| 39:55:30:THR:HG22 | 39:55:31:HIS:ND1 | 2.28 | 0.47 |
| 1:13:292:G:N7 | 1:13:293:G:H1' | 2.29 | 0.47 |
| 1:13:604:G:H2' | 1:13:605:U:O4' | 2.14 | 0.47 |
| 1:13:749:C:H2' | 1:13:750:G:C8 | 2.47 | 0.47 |
| 1:13:1455:G:H5' | 20:BI:32:ALA:HB2 | 1.95 | 0.47 |
| 2:1E:178:ARG:NH1 | 2:1E:196:LEU:O | 2.42 | 0.47 |
| 4:3E:101:LEU:O | 4:3E:105:VAL:HG23 | 2.14 | 0.47 |
| 5:4E:145:LYS:HD3 | 5:4E:146:ALA:N | 2.24 | 0.47 |
| 15:6I:15:PHE:CD1 | 15:6I:84:LYS:HE2 | 2.49 | 0.47 |
| 26:1H:311:A:C2 | 26:1H:331:A:H5'' | 2.44 | 0.47 |
| 26:1H:571:A:H5' | 26:1H:2030:A:N7 | 2.29 | 0.47 |
| 26:1H:1429:G:C2' | 26:1H:1430:C:H5' | 2.44 | 0.47 |
| 26:1H:1743:G:C2 | 26:1H:1746:G:C8 | 3.01 | 0.47 |
| 26:1H:2116:G:H21 | 26:1H:2117:A:H62 | 1.61 | 0.47 |
| 26:1H:2801:A:H2' | 26:1H:2802:G:O4' | 2.13 | 0.47 |
| 29:11:106:ILE:O | 29:11:108:PRO:HD3 | 2.14 | 0.47 |
| 30:21:84:PHE:CZ | 30:21:86:PRO:HB3 | 2.48 | 0.47 |
| 39:98:55:ALA:HA | 39:98:80:PHE:CE2 | 2.48 | 0.47 |
| 43:D8:59:ALA:HB2 | 43:D8:96:ILE:HD13 | 1.96 | 0.47 |
| 45:F8:23:GLU:H | 45:F8:23:GLU:HG2 | 1.50 | 0.47 |
| 46:G8:33:LYS:HD3 | 46:G8:33:LYS:H | 1.78 | 0.47 |
| 55:Q8:45:GLY:O | 55:Q8:46:ARG:C | 2.51 | 0.47 |
| 1:1G:114:U:H2' | 1:1G:115:G:H8 | 1.72 | 0.47 |
| 1:1G:382:A:H2' | 1:1G:383:A:H8 | 1.76 | 0.47 |
| 1:1G:447:G:H2' | 1:1G:485:G:N2 | 2.29 | 0.47 |
| 1:1G:591:U:H2' | 1:1G:592:G:C8 | 2.49 | 0.47 |
| 1:1G:683:G:N2 | 1:1G:707:C:O2 | 2.41 | 0.47 |
| 1:1G:1056:U:OP1 | 3:22:163:ALA:HB3 | 2.13 | 0.47 |
| 1:1G:1321:C:H3' | 1:1G:1322:C:H5'' | 1.95 | 0.47 |
| 1:1G:1357:A:H4' | 10:1A:47:PHE:CZ | 2.49 | 0.47 |
| 2:12:147:LYS:HD2 | 2:12:148:TYR:CZ | 2.49 | 0.47 |
| 5:42:9:LYS:HB3 | 5:42:112:LEU:HD11 | 1.97 | 0.47 |
| 16:7A:18:ARG:HA | 16:7A:38:TYR:HA | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 18:9A:32:ARG:HA | 18:9A:69:THR:HG21 | 1.95 | 0.47 |
| 18:9A:66:LEU:O | 18:9A:70:ILE:HG13 | 2.14 | 0.47 |
| 56:1L:43:U:H5 | 56:1L:44:U:C2 | 2.32 | 0.47 |
| 56:1L:51:A:H2' | 56:1L:52:G:H8 | 1.78 | 0.47 |
| 23:2L:16:C:O2' | 23:2L:62:C:OP1 | 2.24 | 0.47 |
| 23:2L:48:U:H1' | 23:2L:49:C:P | 2.53 | 0.47 |
| 26:14:182:A:N3 | 26:14:433:C:O2' | 2.43 | 0.47 |
| 26:14:322:A:H3' | 31:39:169:ASN:OD1 | 2.13 | 0.47 |
| 26:14:335:C:H2' | 26:14:336:C:C6 | 2.49 | 0.47 |
| 26:14:521:G:H2' | 26:14:522:G:H8 | 1.79 | 0.47 |
| 26:14:535:C:O2' | 26:14:536:A:H5' | 2.13 | 0.47 |
| 26:14:649:G:C6 | 26:14:650:C:C4 | 3.02 | 0.47 |
| 26:14:995:C:C6 | 42:85:57:PHE:CE2 | 3.01 | 0.47 |
| 26:14:1570:A:H2' | 26:14:1571:A:C8 | 2.49 | 0.47 |
| 26:14:2155:G:O6 | 26:14:2156:G:N1 | 2.47 | 0.47 |
| 26:14:2636:U:O2' | 30:29:44:TYR:CZ | 2.67 | 0.47 |
| 37:35:124:LYS:HB3 | 37:35:145:PRO:HD3 | 1.96 | 0.47 |
| 39:55:38:VAL:HG12 | 39:55:42:LYS:HD2 | 1.96 | 0.47 |
| 45:B5:29:TRP:HA | 45:B5:29:TRP:CE3 | 2.48 | 0.47 |
| 46:C5:89:PHE:CG | 46:C5:89:PHE:O | 2.67 | 0.47 |
| 55:M5:31:HIS:CD2 | 55:M5:32:LEU:HB2 | 2.49 | 0.47 |
| 1:13:42:G:O2' | 1:13:622:A:N1 | 2.40 | 0.47 |
| 1:13:625:G:C4' | 16:7I:16:HIS:HD1 | 2.27 | 0.47 |
| 1:13:673:G:H5'' | 6:5E:87:ARG:NH1 | 2.29 | 0.47 |
| 1:13:1003:G:O3' | 1:13:1004:A:H4' | 2.14 | 0.47 |
| 1:13:1142:G:H2' | 1:13:1143:G:O4' | 2.14 | 0.47 |
| 1:13:1216:G:H8 | 1:13:1216:G:O5' | 1.97 | 0.47 |
| 2:1E:105:PHE:CZ | 2:1E:156:LYS:HA | 2.49 | 0.47 |
| 9:8E:10:ARG:CZ | 9:8E:11:LYS:HE2 | 2.45 | 0.47 |
| 10:1I:7:LYS:O | 10:1I:8:LEU:HD23 | 2.14 | 0.47 |
| 11:2I:107:SER:O | 11:2I:108:ILE:HG13 | 2.14 | 0.47 |
| 13:4I:99:ARG:O | 13:4I:101:GLN:HG3 | 2.14 | 0.47 |
| 18:9I:58:LEU:HG | 18:9I:62:GLU:CB | 2.44 | 0.47 |
| 19:AI:5:LEU:HB3 | 19:AI:10:PHE:CE1 | 2.49 | 0.47 |
| 19:AI:52:TYR:HA | 19:AI:56:GLN:O | 2.13 | 0.47 |
| 24:3K:48:C:H6 | 24:3K:59:A:HO2' | 1.62 | 0.47 |
| 26:1H:242:G:C8 | 55:Q8:3:LYS:HE3 | 2.49 | 0.47 |
| 26:1H:1208:C:C4 | 26:1H:1209:G:N7 | 2.82 | 0.47 |
| 26:1H:1682:G:C6 | 26:1H:1683:C:N3 | 2.82 | 0.47 |
| 26:1H:2001:A:H2' | 26:1H:2002:G:O4' | 2.13 | 0.47 |
| 26:1H:2352:A:C4 | 26:1H:2366:A:C2 | 3.02 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:1H:2636:U:P | 30:21:79:ARG:HA | 2.54 | 0.47 |
| 28:71:213:TYR:HA | 28:71:223:ARG:HA | 1.94 | 0.47 |
| 31:31:177:ALA:HB1 | 31:31:178:PRO:HD2 | 1.96 | 0.47 |
| 37:78:147:LEU:HD12 | 37:78:147:LEU:N | 2.29 | 0.47 |
| 39:98:4:LEU:HA | 39:98:4:LEU:HD23 | 1.47 | 0.47 |
| 45:F8:34:ALA:HA | 45:F8:38:GLU:OE1 | 2.14 | 0.47 |
| 1:1G:41:G:H2' | 1:1G:42:G:C8 | 2.49 | 0.47 |
| 1:1G:1057:G:H5'' | 3:22:154:SER:OG | 2.14 | 0.47 |
| 1:1G:1126:U:H1' | 1:1G:1127:G:P | 2.54 | 0.47 |
| 1:1G:1166:G:H1' | 1:1G:1171:G:N2 | 2.29 | 0.47 |
| 1:1G:1232:U:H2' | 1:1G:1233:G:O4' | 2.14 | 0.47 |
| 1:1G:1442:G:H1 | 1:1G:1461:G:H21 | 1.61 | 0.47 |
| 2:12:53:ARG:HB3 | 2:12:57:PHE:CZ | 2.50 | 0.47 |
| 8:72:86:ILE:HD12 | 8:72:133:LEU:HD22 | 1.96 | 0.47 |
| 26:14:593:G:H1 | 26:14:664:C:H42 | 1.62 | 0.47 |
| 26:14:1262:A:P | 44:A5:99:ARG:HH12 | 2.37 | 0.47 |
| 26:14:1443:G:N2 | 26:14:1549:C:C2 | 2.82 | 0.47 |
| 26:14:2418:A:OP2 | 55:M5:29:LYS:NZ | 2.43 | 0.47 |
| 26:14:2482:G:H2' | 26:14:2483:C:O4' | 2.14 | 0.47 |
| 26:14:2747:G:O3' | 33:59:70:THR:HG21 | 2.14 | 0.47 |
| 26:14:2786:U:O2' | 30:29:63:LEU:N | 2.46 | 0.47 |
| 31:39:114:VAL:HG21 | 31:39:202:PHE:CZ | 2.50 | 0.47 |
| 34:69:61:ARG:O | 34:69:65:ALA:N | 2.48 | 0.47 |
| 34:69:101:LEU:HB2 | 34:69:105:HIS:HB2 | 1.97 | 0.47 |
| 34:69:129:THR:HA | 34:69:137:PRO:HA | 1.96 | 0.47 |
| 41:75:99:LEU:HD22 | 41:75:101:PHE:HE1 | 1.79 | 0.47 |
| 46:C5:18:GLY:O | 46:C5:20:TYR:N | 2.48 | 0.47 |
| 48:E5:24:LYS:N | 48:E5:37:LEU:O | 2.31 | 0.47 |
| 49:F5:29:GLY:C | 49:F5:31:GLY:H | 2.18 | 0.47 |
| 49:F5:86:SER:N | 49:F5:87:PRO:HD2 | 2.29 | 0.47 |
| 1:13:11:G:C6 | 1:13:12:U:C5 | 3.03 | 0.47 |
| 1:13:49:U:O2' | 1:13:50:A:OP1 | 2.27 | 0.47 |
| 1:13:136:C:H42 | 1:13:227:G:H1 | 1.63 | 0.47 |
| 1:13:692:U:H2' | 1:13:693:G:H3' | 1.97 | 0.47 |
| 1:13:881:G:P | 12:3I:12:ARG:NH2 | 2.87 | 0.47 |
| 1:13:947:G:H2' | 1:13:948:C:H6 | 1.77 | 0.47 |
| 1:13:954:G:H2' | 1:13:955:U:C6 | 2.49 | 0.47 |
| 1:13:967:C:O5' | 1:13:967:C:H6 | 1.97 | 0.47 |
| 1:13:1225:A:H2' | 1:13:1225:A:N3 | 2.29 | 0.47 |
| 1:13:1274:G:H2' | 1:13:1275:A:H8 | 1.78 | 0.47 |
| 2:1E:70:PHE:H | 2:1E:92:TYR:HA | 1.79 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 2:1E:73:THR:HA | 2:1E:96:ARG:HH22 | 1.77 | 0.47 |
| 3:2E:47:LEU:HD12 | 3:2E:76:VAL:HG12 | 1.95 | 0.47 |
| 5:4E:93:PRO:HG2 | 8:7E:105:ARG:HD2 | 1.96 | 0.47 |
| 5:4E:126:ARG:HH11 | 5:4E:126:ARG:CG | 2.26 | 0.47 |
| 6:5E:20:ALA:HA | 6:5E:23:LYS:HB3 | 1.97 | 0.47 |
| 13:4I:34:LEU:HD13 | 13:4I:41:PRO:HB3 | 1.97 | 0.47 |
| 13:4I:60:VAL:HG13 | 13:4I:64:TRP:HE1 | 1.79 | 0.47 |
| 13:4I:67:GLU:O | 13:4I:68:GLY:C | 2.53 | 0.47 |
| 26:1H:65:C:H5' | 45:F8:71:GLY:HA3 | 1.96 | 0.47 |
| 26:1H:677:A:H2' | 26:1H:677:A:N3 | 2.29 | 0.47 |
| 26:1H:907:U:C4' | 38:88:101:ARG:HH22 | 2.28 | 0.47 |
| 26:1H:1133:U:O2 | 26:1H:1137:G:H5'' | 2.14 | 0.47 |
| 26:1H:1778:U:H2' | 26:1H:1784:A:H62 | 1.79 | 0.47 |
| 26:1H:1901:A:OP2 | 26:1H:1901:A:H4' | 2.14 | 0.47 |
| 26:1H:1903:G:OP1 | 29:11:241:PRO:HB2 | 2.14 | 0.47 |
| 26:1H:2048:G:C6 | 26:1H:2049:G:C5 | 3.03 | 0.47 |
| 26:1H:2556:C:H2' | 26:1H:2557:G:O4' | 2.14 | 0.47 |
| 26:1H:2579:C:C4 | 26:1H:2580:U:C5 | 3.02 | 0.47 |
| 29:11:70:TRP:CD1 | 29:11:70:TRP:C | 2.87 | 0.47 |
| 30:21:169:ASN:CA | 30:21:201:THR:HG21 | 2.39 | 0.47 |
| 31:31:39:TRP:O | 31:31:43:LYS:HG2 | 2.15 | 0.47 |
| 31:31:201:VAL:O | 31:31:205:ARG:N | 2.45 | 0.47 |
| 32:41:178:PHE:O | 32:41:180:PHE:HD2 | 1.96 | 0.47 |
| 46:G8:93:GLY:O | 46:G8:94:LYS:HB2 | 2.14 | 0.47 |
| 1:1G:108:G:P | 1:1G:326:G:H22 | 2.37 | 0.47 |
| 1:1G:138:G:C2 | 1:1G:226:G:C2 | 3.03 | 0.47 |
| 1:1G:537:G:H5'' | 12:3A:113:ARG:NH1 | 2.29 | 0.47 |
| 1:1G:667:G:H8 | 1:1G:667:G:O5' | 1.98 | 0.47 |
| 1:1G:837:G:C2 | 1:1G:838:G:H1' | 2.49 | 0.47 |
| 1:1G:1017:G:H2' | 1:1G:1018:C:C5 | 2.49 | 0.47 |
| 1:1G:1095:U:OP1 | 1:1G:1108:G:C2 | 2.67 | 0.47 |
| 1:1G:1385:G:C2 | 1:1G:1386:G:C8 | 3.03 | 0.47 |
| 2:12:97:TRP:CZ3 | 2:12:99:GLY:HA2 | 2.45 | 0.47 |
| 9:82:78:LYS:HD3 | 9:82:79:LEU:HB2 | 1.95 | 0.47 |
| 56:1L:73:A:H5' | 56:1L:74:C:OP1 | 2.14 | 0.47 |
| 26:14:278:A:OP2 | 26:14:278:A:H2' | 2.14 | 0.47 |
| 26:14:722:A:H3' | 26:14:723:G:C8 | 2.49 | 0.47 |
| 26:14:847:U:H5' | 26:14:848:G:OP2 | 2.14 | 0.47 |
| 26:14:1431:U:H2' | 26:14:1432:C:C6 | 2.49 | 0.47 |
| 26:14:1486:A:H2' | 26:14:1487:G:H8 | 1.78 | 0.47 |
| 26:14:1925:C:C2' | 26:14:1926:U:H5' | 2.44 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:14:2355:C:H5'' | 26:14:2356:C:OP2 | 2.13 | 0.47 |
| 26:14:2674:G:H4' | 36:25:30:ALA:HB2 | 1.96 | 0.47 |
| 26:14:2781:A:H5'' | 26:14:2782:G:H5' | 1.96 | 0.47 |
| 31:39:83:PHE:O | 31:39:84:VAL:HB | 2.13 | 0.47 |
| 32:49:56:ALA:HA | 32:49:59:GLU:HB3 | 1.97 | 0.47 |
| 33:59:56:SER:O | 33:59:61:HIS:HB2 | 2.13 | 0.47 |
| 38:45:116:GLU:OE2 | 38:45:119:ARG:NE | 2.42 | 0.47 |
| 39:55:101:ALA:HB2 | 53:J5:44:THR:HB | 1.97 | 0.47 |
| 1:13:310:G:OP2 | 16:7I:27:LYS:NZ | 2.33 | 0.47 |
| 1:13:468:A:H3' | 1:13:474:G:C8 | 2.50 | 0.47 |
| 1:13:1113:C:O2' | 1:13:1114:C:H5' | 2.14 | 0.47 |
| 1:13:1347:G:H22 | 1:13:1373:G:H2' | 1.78 | 0.47 |
| 1:13:1442:G:H1 | 1:13:1461:G:H21 | 1.63 | 0.47 |
| 3:2E:58:GLU:HB2 | 3:2E:65:ALA:CB | 2.39 | 0.47 |
| 5:4E:82:VAL:HG11 | 5:4E:137:GLU:HB2 | 1.97 | 0.47 |
| 10:1I:63:PHE:HE1 | 14:5I:58:LYS:HG2 | 1.79 | 0.47 |
| 26:1H:6:A:H1' | 35:58:131:GLN:HB3 | 1.96 | 0.47 |
| 26:1H:8:A:O5' | 26:1H:8:A:H8 | 1.97 | 0.47 |
| 26:1H:445:C:OP1 | 42:C8:2:PRO:HA | 2.13 | 0.47 |
| 26:1H:618:G:H2' | 26:1H:618(A):C:H6 | 1.79 | 0.47 |
| 26:1H:743:G:O3' | 61:1H:3556:HOH:O | 2.19 | 0.47 |
| 26:1H:747:U:O2 | 26:1H:2014:A:H1' | 2.15 | 0.47 |
| 26:1H:996:A:C6 | 26:1H:1160:G:C2 | 3.02 | 0.47 |
| 26:1H:1466:G:H2' | 26:1H:1547:C:N4 | 2.29 | 0.47 |
| 26:1H:1678:G:N2 | 26:1H:1989:G:N2 | 2.63 | 0.47 |
| 26:1H:2024:G:H2' | 26:1H:2025:C:C6 | 2.49 | 0.47 |
| 26:1H:2052:G:H4' | 30:21:143:ASN:O | 2.15 | 0.47 |
| 28:7I:62:VAL:HG12 | 28:7I:163:PHE:CE1 | 2.48 | 0.47 |
| 29:11:43:ARG:HD2 | 29:11:43:ARG:N | 2.30 | 0.47 |
| 30:21:33:VAL:HG12 | 30:21:89:ASP:HA | 1.97 | 0.47 |
| 32:41:170:ARG:NH2 | 32:41:180:PHE:HB3 | 2.21 | 0.47 |
| 34:61:68:LEU:CA | 34:61:71:ILE:HG22 | 2.39 | 0.47 |
| 36:68:2:ILE:HG22 | 36:68:3:GLN:N | 2.29 | 0.47 |
| 36:68:50:GLY:O | 36:68:53:LYS:NZ | 2.48 | 0.47 |
| 40:A8:66:ALA:HA | 40:A8:69:VAL:CG1 | 2.41 | 0.47 |
| 45:F8:55:ASN:HB2 | 45:F8:80:ILE:HG23 | 1.96 | 0.47 |
| 53:N8:40:LYS:HZ3 | 53:N8:46:CYS:C | 2.18 | 0.47 |
| 55:Q8:46:ARG:HB2 | 55:Q8:47:LYS:HB2 | 1.96 | 0.47 |
| 1:1G:1086:U:H2' | 1:1G:1087:G:O4' | 2.14 | 0.47 |
| 1:1G:1315:U:C2' | 1:1G:1316:G:H5' | 2.45 | 0.47 |
| 2:12:19:HIS:NE2 | 2:12:204:ASN:HB3 | 2.30 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 56:1L:29:U:H3 | 56:1L:41:A:H61 | 1.62 | 0.47 |
| 26:14:841:A:H61 | 26:14:937:U:H3 | 1.62 | 0.47 |
| 26:14:896:A:H5' | 26:14:897:C:C6 | 2.50 | 0.47 |
| 26:14:1012:U:O4 | 35:15:25:ARG:HA | 2.14 | 0.47 |
| 26:14:2166:G:O2' | 26:14:2168:G:OP2 | 2.20 | 0.47 |
| 26:14:2494:G:C5 | 26:14:2495:G:N7 | 2.83 | 0.47 |
| 26:14:2516:G:C6 | 26:14:2517:C:N4 | 2.82 | 0.47 |
| 26:14:2889:C:H3' | 26:14:2891:G:C8 | 2.49 | 0.47 |
| 30:29:55:ASN:HB2 | 30:29:58:ARG:NH2 | 2.28 | 0.47 |
| 31:39:9:ILE:O | 31:39:128:ALA:HB2 | 2.14 | 0.47 |
| 39:55:33:ARG:HD3 | 39:55:113:LEU:HD11 | 1.96 | 0.47 |
| 47:D5:93:ASP:H | 47:D5:130:PRO:HG2 | 1.79 | 0.47 |
| 47:D5:158:PRO:CG | 47:D5:161:VAL:HG22 | 2.43 | 0.47 |
| 53:J5:41:PRO:HG2 | 53:J5:44:THR:OG1 | 2.14 | 0.47 |
| 53:J5:45:VAL:HG22 | 53:J5:51:TYR:CD2 | 2.49 | 0.47 |
| 55:M5:60:LEU:HD12 | 55:M5:60:LEU:C | 2.35 | 0.47 |
| 1:13:15:G:H4' | 5:4E:24:ARG:NH1 | 2.30 | 0.47 |
| 1:13:321:A:C2 | 1:13:333:G:N2 | 2.83 | 0.47 |
| 1:13:622:A:H3' | 1:13:623:C:C6 | 2.49 | 0.47 |
| 1:13:665:A:N3 | 1:13:732:C:H2' | 2.30 | 0.47 |
| 1:13:806:C:H2' | 1:13:807:A:H8 | 1.79 | 0.47 |
| 1:13:1060:C:O2' | 10:1I:56:HIS:ND1 | 2.47 | 0.47 |
| 1:13:1163:C:H2' | 1:13:1164:G:H8 | 1.80 | 0.47 |
| 1:13:1181:G:O2' | 1:13:1184:G:H5' | 2.14 | 0.47 |
| 1:13:1315:U:H2' | 1:13:1316:G:O4' | 2.14 | 0.47 |
| 4:3E:101:LEU:HB2 | 4:3E:138:TYR:HB3 | 1.97 | 0.47 |
| 22:1K:44:U:H3' | 22:1K:48:C:N4 | 2.30 | 0.47 |
| 24:3K:27:G:N1 | 24:3K:43:U:O4 | 2.41 | 0.47 |
| 26:1H:1178:C:H4' | 26:1H:1179:C:OP1 | 2.14 | 0.47 |
| 26:1H:1346:G:H2' | 26:1H:1347:G:H8 | 1.79 | 0.47 |
| 26:1H:1486:A:O2' | 26:1H:1487:G:H5' | 2.14 | 0.47 |
| 26:1H:1753:G:H2' | 26:1H:1755:A:OP2 | 2.13 | 0.47 |
| 26:1H:2128:C:H2' | 26:1H:2129:C:C6 | 2.50 | 0.47 |
| 26:1H:2428:G:H21 | 37:78:61:ARG:HH12 | 1.62 | 0.47 |
| 26:1H:2795:G:N1 | 26:1H:2802:G:N7 | 2.62 | 0.47 |
| 27:16:55:U:H2' | 27:16:56:G:H8 | 1.80 | 0.47 |
| 27:16:66:A:C2 | 27:16:108:C:C5 | 3.01 | 0.47 |
| 28:71:13:LYS:HD3 | 28:71:13:LYS:HA | 1.67 | 0.47 |
| 33:51:67:LEU:O | 33:51:71:LEU:HD13 | 2.15 | 0.47 |
| 34:61:71:ILE:HG23 | 34:61:72:LEU:HD13 | 1.96 | 0.47 |
| 35:58:4:TYR:CE2 | 42:C8:100:VAL:HG11 | 2.49 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 35:58:40:PRO:HB3 | 42:C8:68:ALA:HB2 | 1.97 | 0.47 |
| 35:58:73:THR:HG22 | 35:58:84:LYS:HG2 | 1.96 | 0.47 |
| 42:C8:14:HIS:O | 42:C8:18:LEU:HD12 | 2.15 | 0.47 |
| 46:G8:87:LYS:HD3 | 46:G8:88:LYS:H | 1.80 | 0.47 |
| 47:H8:44:PHE:CD1 | 47:H8:44:PHE:C | 2.88 | 0.47 |
| 55:Q8:40:GLU:O | 55:Q8:43:GLN:N | 2.46 | 0.47 |
| 1:1G:176:C:H2' | 1:1G:177:C:H6 | 1.80 | 0.47 |
| 1:1G:410:G:H21 | 1:1G:432:A:H62 | 1.61 | 0.47 |
| 1:1G:519:C:H2' | 1:1G:520:A:O4' | 2.15 | 0.47 |
| 1:1G:574:A:HO2' | 1:1G:882:C:HO2' | 1.63 | 0.47 |
| 1:1G:854:G:H3' | 1:1G:871:U:O4 | 2.14 | 0.47 |
| 1:1G:1184:G:P | 1:1G:1184:G:H8 | 2.38 | 0.47 |
| 1:1G:1255:G:N2 | 1:1G:1283:G:H1' | 2.28 | 0.47 |
| 3:22:47:LEU:HD23 | 3:22:68:VAL:HG11 | 1.95 | 0.47 |
| 3:22:72:LYS:NZ | 3:22:75:VAL:HG23 | 2.29 | 0.47 |
| 11:2A:16:SER:HA | 11:2A:79:SER:O | 2.14 | 0.47 |
| 57:3L:68:G:N2 | 57:3L:69:A:C4 | 2.83 | 0.47 |
| 26:14:282:A:C6 | 26:14:284:U:C2 | 3.02 | 0.47 |
| 26:14:928:G:N7 | 61:14:3566:HOH:O | 2.35 | 0.47 |
| 26:14:1024:G:C8 | 26:14:1025:G:H2' | 2.48 | 0.47 |
| 26:14:1310:G:H1 | 26:14:1604:C:N4 | 2.08 | 0.47 |
| 26:14:1454:U:OP1 | 39:55:77:ARG:HD3 | 2.13 | 0.47 |
| 26:14:2199:A:C8 | 26:14:2205:C:C5 | 3.02 | 0.47 |
| 26:14:2631:G:O6 | 26:14:2632:A:N6 | 2.48 | 0.47 |
| 30:29:105:THR:HG21 | 30:29:164:ARG:HE | 1.79 | 0.47 |
| 30:29:117:MET:HA | 30:29:122:PHE:N | 2.30 | 0.47 |
| 32:49:115:ARG:NH2 | 32:49:137:GLU:OE2 | 2.48 | 0.47 |
| 32:49:127:GLY:HA2 | 32:49:166:ASP:CG | 2.35 | 0.47 |
| 36:25:68:GLU:OE2 | 36:25:78:ARG:NH1 | 2.48 | 0.47 |
| 38:45:18:LYS:H | 38:45:98:LYS:HZ3 | 1.62 | 0.47 |
| 41:75:91:ARG:NH1 | 41:75:124:ASP:CG | 2.67 | 0.47 |
| 41:75:107:ASP:OD2 | 41:75:109:GLU:HB2 | 2.15 | 0.47 |
| 1:13:233:C:H2' | 1:13:234:C:C6 | 2.44 | 0.47 |
| 1:13:590:C:H2' | 1:13:591:U:H6 | 1.80 | 0.47 |
| 1:13:936:C:H2' | 1:13:937:A:H5' | 1.96 | 0.47 |
| 1:13:953:G:C6 | 1:13:954:G:C4 | 3.03 | 0.47 |
| 1:13:1011:G:H2' | 1:13:1012:U:O4' | 2.15 | 0.47 |
| 1:13:1178:G:H2' | 1:13:1180:A:OP2 | 2.14 | 0.47 |
| 1:13:1412:C:C2 | 1:13:1489:G:N2 | 2.83 | 0.47 |
| 2:1E:161:ALA:C | 2:1E:162:ILE:HD13 | 2.34 | 0.47 |
| 3:2E:18:TRP:NE1 | 14:5I:55:GLY:N | 2.63 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|--------------------|--------------------------|-------------------|
| 5:4E:148:VAL:O | 5:4E:151:LEU:HB2 | 2.14 | 0.47 |
| 6:5E:69:GLU:O | 6:5E:72:VAL:HG12 | 2.14 | 0.47 |
| 8:7E:133:LEU:HD23 | 8:7E:134:ILE:N | 2.29 | 0.47 |
| 9:8E:53:VAL:HG21 | 9:8E:92:TYR:CD2 | 2.49 | 0.47 |
| 11:2I:17:GLY:O | 11:2I:80:VAL:HA | 2.15 | 0.47 |
| 12:3I:110:VAL:HG21 | 12:3I:120:TYR:HB3 | 1.97 | 0.47 |
| 15:6I:18:PHE:CZ | 15:6I:21:ASP:HB2 | 2.49 | 0.47 |
| 16:7I:21:VAL:HG23 | 16:7I:34:GLU:H | 1.79 | 0.47 |
| 18:9I:34:TYR:HA | 18:9I:69:THR:HG23 | 1.96 | 0.47 |
| 24:3K:48:C:C5 | 24:3K:59:A:H1' | 2.49 | 0.47 |
| 25:4K:13:A:H2' | 25:4K:14:A:O4' | 2.14 | 0.47 |
| 26:1H:247:G:H4' | 26:1H:386:G:C5 | 2.49 | 0.47 |
| 26:1H:340:A:H2' | 26:1H:341:G:O4' | 2.14 | 0.47 |
| 26:1H:705:A:H5'' | 26:1H:706:A:OP2 | 2.15 | 0.47 |
| 26:1H:784:A:N6 | 29:11:229:VAL:HG11 | 2.29 | 0.47 |
| 26:1H:880:G:O2' | 26:1H:881:G:OP1 | 2.31 | 0.47 |
| 26:1H:919:G:H4' | 27:16:81:G:H4' | 1.96 | 0.47 |
| 26:1H:993:G:H2' | 26:1H:994:C:C6 | 2.50 | 0.47 |
| 26:1H:1018:C:C2' | 26:1H:1019:U:H5' | 2.45 | 0.47 |
| 26:1H:1260:G:H2' | 26:1H:1261:C:H6 | 1.79 | 0.47 |
| 26:1H:1449(A):G:H2' | 26:1H:1450:C:C6 | 2.50 | 0.47 |
| 26:1H:1523:U:C2 | 26:1H:1524:G:C8 | 3.02 | 0.47 |
| 26:1H:1817:G:C6 | 26:1H:1818:U:C4 | 3.02 | 0.47 |
| 26:1H:2118:U:O4' | 26:1H:2147:G:N2 | 2.48 | 0.47 |
| 26:1H:2182:G:H2' | 26:1H:2183:C:O4' | 2.14 | 0.47 |
| 26:1H:2572:A:N7 | 30:21:144:ARG:HD2 | 2.29 | 0.47 |
| 26:1H:2835:A:C5 | 26:1H:2878:U:C5 | 3.02 | 0.47 |
| 29:11:26:LYS:HB2 | 29:11:83:GLU:HG2 | 1.96 | 0.47 |
| 29:11:92:ILE:HD12 | 29:11:104:TYR:CE1 | 2.50 | 0.47 |
| 29:11:226:MET:HB3 | 29:11:230:ASP:HB2 | 1.96 | 0.47 |
| 30:21:61:ARG:O | 30:21:63:LEU:HD22 | 2.15 | 0.47 |
| 31:31:47:GLY:HA3 | 31:31:95:ARG:O | 2.14 | 0.47 |
| 31:31:178:PRO:HG2 | 31:31:179:GLU:OE1 | 2.15 | 0.47 |
| 32:41:113:ARG:NE | 52:M8:34:GLU:OE1 | 2.33 | 0.47 |
| 34:61:1:MET:HB3 | 34:61:21:VAL:O | 2.14 | 0.47 |
| 34:61:75:LEU:HD21 | 34:61:105:HIS:ND1 | 2.30 | 0.47 |
| 36:68:49:ARG:C | 36:68:53:LYS:HZ3 | 2.18 | 0.47 |
| 37:78:19:VAL:CG2 | 37:78:20:GLY:HA3 | 2.44 | 0.47 |
| 37:78:84:ASN:ND2 | 37:78:115:LEU:HD12 | 2.30 | 0.47 |
| 39:98:44:LEU:HD21 | 39:98:48:VAL:HG13 | 1.96 | 0.47 |
| 41:B8:3:ARG:O | 41:B8:4:GLY:C | 2.52 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 46:G8:82:PRO:HG3 | 46:G8:97:ARG:HB3 | 1.96 | 0.47 |
| 47:H8:4:ARG:HD3 | 47:H8:60:GLU:OE2 | 2.15 | 0.47 |
| 48:I8:11:ARG:O | 48:I8:14:ARG:NH2 | 2.48 | 0.47 |
| 55:Q8:29:LYS:O | 55:Q8:30:ARG:CG | 2.63 | 0.47 |
| 1:1G:321:A:C2 | 1:1G:333:G:C2 | 3.03 | 0.47 |
| 1:1G:500:G:H2' | 1:1G:501:C:C6 | 2.50 | 0.47 |
| 1:1G:582:U:C2 | 1:1G:760:G:C6 | 3.03 | 0.47 |
| 1:1G:624:C:O3' | 16:7A:10:GLY:HA2 | 2.14 | 0.47 |
| 1:1G:859:A:H2' | 1:1G:860:A:O4' | 2.15 | 0.47 |
| 1:1G:1043:C:H2' | 1:1G:1044:A:H8 | 1.78 | 0.47 |
| 1:1G:1116:C:H2' | 1:1G:1117:G:H8 | 1.75 | 0.47 |
| 1:1G:1134:G:C2 | 1:1G:1135:U:H1' | 2.50 | 0.47 |
| 1:1G:1489:G:H2' | 1:1G:1490:C:C6 | 2.49 | 0.47 |
| 1:1G:1500:A:OP1 | 1:1G:1508:G:OP1 | 2.33 | 0.47 |
| 2:12:188:ALA:HB1 | 2:12:192:SER:HB2 | 1.95 | 0.47 |
| 4:32:12:CYS:HB3 | 4:32:33:MET:HG3 | 1.97 | 0.47 |
| 4:32:61:LYS:HD2 | 4:32:62:GLN:N | 2.29 | 0.47 |
| 4:32:107:ARG:HH11 | 4:32:173:TRP:HZ2 | 1.62 | 0.47 |
| 4:32:158:ILE:O | 4:32:159:ARG:C | 2.52 | 0.47 |
| 6:52:12:PRO:HB3 | 6:52:58:GLY:HA2 | 1.95 | 0.47 |
| 6:52:20:ALA:HA | 6:52:23:LYS:CD | 2.45 | 0.47 |
| 12:3A:8:ASN:ND2 | 17:8A:34:LYS:HE2 | 2.30 | 0.47 |
| 12:3A:20:LYS:HE2 | 12:3A:20:LYS:C | 2.35 | 0.47 |
| 12:3A:41:ARG:HG2 | 12:3A:42:THR:N | 2.27 | 0.47 |
| 17:8A:19:VAL:HG22 | 17:8A:44:ALA:HB3 | 1.95 | 0.47 |
| 20:BA:73:HIS:O | 20:BA:76:ALA:HB3 | 2.14 | 0.47 |
| 56:1L:1:G:H22 | 56:1L:72:C:H42 | 1.62 | 0.47 |
| 56:1L:15:G:O2' | 56:1L:16:U:H5'' | 2.15 | 0.47 |
| 23:2L:51:U:H2' | 23:2L:52:C:C5 | 2.50 | 0.47 |
| 57:3L:13:C:H2' | 57:3L:14:A:C8 | 2.49 | 0.47 |
| 57:3L:15:G:C6 | 57:3L:48:C:N4 | 2.79 | 0.47 |
| 57:3L:71:C:H2' | 57:3L:72:C:H6 | 1.78 | 0.47 |
| 26:14:107:C:H2' | 26:14:108:U:C6 | 2.48 | 0.47 |
| 26:14:141(A):C:H2' | 26:14:142:G:O4' | 2.14 | 0.47 |
| 26:14:142:G:C1' | 45:B5:37:THR:HG21 | 2.44 | 0.47 |
| 26:14:548:A:C4 | 26:14:549:G:H1' | 2.49 | 0.47 |
| 26:14:581:C:H2' | 26:14:582:G:C8 | 2.49 | 0.47 |
| 26:14:699:A:H2' | 26:14:700:G:O4' | 2.14 | 0.47 |
| 26:14:1048:A:C5' | 26:14:1109:C:H42 | 2.27 | 0.47 |
| 26:14:1142:U:O2 | 26:14:1142:U:H2' | 2.15 | 0.47 |
| 26:14:1202:C:N3 | 26:14:1243:G:N2 | 2.59 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:1247:A:OP1 | 31:39:95:ARG:NH2 | 2.48 | 0.47 |
| 26:14:1356:G:H2' | 26:14:1357:U:O4' | 2.13 | 0.47 |
| 26:14:1608:A:H1' | 26:14:1610:A:OP2 | 2.14 | 0.47 |
| 26:14:2250:G:N3 | 26:14:2250:G:H5'' | 2.29 | 0.47 |
| 26:14:2255:G:C5 | 26:14:2256:G:C8 | 3.03 | 0.47 |
| 26:14:2262:U:C2' | 26:14:2263:C:H5' | 2.45 | 0.47 |
| 26:14:2308:G:H3' | 26:14:2310:A:OP2 | 2.15 | 0.47 |
| 26:14:2522:U:HO2' | 26:14:2647:U:H5'' | 1.78 | 0.47 |
| 26:14:2791:C:H2' | 26:14:2792:G:H8 | 1.80 | 0.47 |
| 26:14:2820:A:C5 | 39:55:4:LEU:HD11 | 2.50 | 0.47 |
| 27:1J:76:G:H2' | 27:1J:77:U:O4' | 2.15 | 0.47 |
| 31:39:168:ARG:HG3 | 31:39:175:THR:HG21 | 1.95 | 0.47 |
| 33:59:9:ILE:HA | 33:59:52:VAL:HB | 1.97 | 0.47 |
| 36:25:14:THR:HG21 | 36:25:86:ILE:HD12 | 1.97 | 0.47 |
| 38:45:26:TYR:OH | 47:D5:78:LYS:HB3 | 2.15 | 0.47 |
| 40:65:30:ARG:HD2 | 40:65:97:ARG:HB2 | 1.96 | 0.47 |
| 40:65:109:GLY:O | 40:65:111:GLU:N | 2.31 | 0.47 |
| 42:85:72:HIS:ND1 | 42:85:110:VAL:HG21 | 2.30 | 0.47 |
| 43:95:21:ARG:HH22 | 43:95:65:GLY:C | 2.15 | 0.47 |
| 43:95:85:LYS:HD2 | 43:95:87:HIS:CA | 2.45 | 0.47 |
| 48:E5:51:VAL:N | 48:E5:62:LEU:HD12 | 2.30 | 0.47 |
| 55:M5:39:LYS:HG2 | 55:M5:40:GLU:N | 2.30 | 0.47 |
| 1:13:22:G:H2' | 1:13:23:C:C6 | 2.50 | 0.47 |
| 1:13:758:G:H8 | 1:13:758:G:O5' | 1.98 | 0.47 |
| 1:13:1029:G:H1' | 1:13:1032(A):G:H21 | 1.80 | 0.47 |
| 1:13:1074:G:H2' | 1:13:1075:C:H6 | 1.79 | 0.47 |
| 1:13:1330:U:O4 | 1:13:1331:G:N2 | 2.47 | 0.47 |
| 4:3E:47:ARG:NH2 | 4:3E:49:ARG:HG2 | 2.30 | 0.47 |
| 16:7I:49:LEU:HD22 | 16:7I:73:LEU:HD22 | 1.97 | 0.47 |
| 26:1H:6:A:C2 | 26:1H:7:G:C4 | 3.02 | 0.47 |
| 26:1H:34:C:O2' | 26:1H:35:G:P | 2.72 | 0.47 |
| 26:1H:255:A:H1' | 26:1H:384:U:C6 | 2.50 | 0.47 |
| 26:1H:270(N):G:O2' | 26:1H:270(O):U:H3' | 2.15 | 0.47 |
| 26:1H:304:G:C2 | 26:1H:314:A:C2 | 3.03 | 0.47 |
| 26:1H:721:C:H2' | 26:1H:722:A:H8 | 1.80 | 0.47 |
| 26:1H:846:C:C4 | 26:1H:930:U:C4 | 3.02 | 0.47 |
| 26:1H:1023:U:OP2 | 26:1H:1024:G:N7 | 2.48 | 0.47 |
| 26:1H:1144:G:C6 | 26:1H:1145:C:C4 | 3.01 | 0.47 |
| 26:1H:1177:A:H4' | 26:1H:1178:C:O5' | 2.15 | 0.47 |
| 26:1H:1263:U:H2' | 26:1H:1264:G:O4' | 2.14 | 0.47 |
| 26:1H:1283:G:H8 | 26:1H:1283:G:O5' | 1.97 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:1359:A:C2 | 26:1H:1372:U:O4 | 2.68 | 0.47 |
| 26:1H:1454:U:H5 | 26:1H:2702:U:O4 | 1.97 | 0.47 |
| 26:1H:1567:A:C8 | 29:11:84:TYR:CE2 | 3.03 | 0.47 |
| 26:1H:1718:G:N3 | 26:1H:1725:G:C8 | 2.83 | 0.47 |
| 26:1H:2094:G:OP1 | 34:61:22:LYS:HG3 | 2.15 | 0.47 |
| 26:1H:2199:A:C4 | 26:1H:2205:C:C5 | 3.03 | 0.47 |
| 26:1H:2820:A:C4 | 39:98:4:LEU:HD11 | 2.50 | 0.47 |
| 30:21:111:ARG:HD2 | 30:21:160:TYR:CE2 | 2.50 | 0.47 |
| 31:31:7:TYR:O | 31:31:21:ALA:HA | 2.14 | 0.47 |
| 31:31:45:ARG:HD3 | 31:31:97:TYR:CD2 | 2.50 | 0.47 |
| 31:31:101:LEU:HA | 31:31:101:LEU:HD23 | 1.57 | 0.47 |
| 36:68:52:VAL:HG13 | 36:68:94:ARG:NH1 | 2.30 | 0.47 |
| 39:98:12:ARG:HG2 | 39:98:16:HIS:CG | 2.50 | 0.47 |
| 45:F8:8:ILE:HD11 | 45:F8:43:VAL:HG22 | 1.96 | 0.47 |
| 46:G8:54:LYS:O | 46:G8:55:TYR:CD2 | 2.67 | 0.47 |
| 48:I8:53:MET:HG3 | 48:I8:59:LEU:HD21 | 1.93 | 0.47 |
| 51:L8:7:LYS:HB2 | 51:L8:34:GLU:HG2 | 1.97 | 0.47 |
| 2:12:47:THR:HG23 | 2:12:201:ILE:HG23 | 1.97 | 0.47 |
| 2:12:185:ILE:HG23 | 2:12:199:TYR:O | 2.14 | 0.47 |
| 5:42:61:TYR:HA | 5:42:64:ARG:CG | 2.45 | 0.47 |
| 5:42:71:LEU:HD21 | 5:42:115:VAL:HG22 | 1.97 | 0.47 |
| 13:4A:48:LEU:HD12 | 13:4A:52:GLU:HB3 | 1.96 | 0.47 |
| 16:7A:26:ARG:HG3 | 16:7A:31:LYS:O | 2.14 | 0.47 |
| 26:14:133:C:H42 | 26:14:146:G:H1 | 1.61 | 0.47 |
| 26:14:363:G:H2' | 26:14:363(A):A:O4' | 2.13 | 0.47 |
| 26:14:909:A:C8 | 26:14:912:C:N4 | 2.83 | 0.47 |
| 26:14:1013:C:H42 | 26:14:1149:G:H1 | 1.61 | 0.47 |
| 26:14:1056:G:H21 | 26:14:1103:A:H62 | 1.63 | 0.47 |
| 26:14:1389:G:H2' | 26:14:1390:U:C6 | 2.50 | 0.47 |
| 26:14:1861:G:H1 | 26:14:1881:C:H42 | 1.61 | 0.47 |
| 26:14:2228:G:C6 | 26:14:2229:C:C4 | 3.02 | 0.47 |
| 26:14:2472:G:H1 | 26:14:2477:C:P | 2.38 | 0.47 |
| 26:14:2788:C:O2' | 26:14:2809:A:N3 | 2.46 | 0.47 |
| 26:14:2807:G:H22 | 26:14:2892:A:N6 | 2.12 | 0.47 |
| 27:1J:70:C:H2' | 27:1J:71:C:O4' | 2.14 | 0.47 |
| 30:29:101:ARG:CZ | 30:29:171:GLU:HB2 | 2.45 | 0.47 |
| 32:49:170:ARG:HH22 | 32:49:180:PHE:HB2 | 1.79 | 0.47 |
| 36:25:78:ARG:HH21 | 41:75:103:ARG:NH2 | 2.13 | 0.47 |
| 40:65:34:HIS:C | 40:65:97:ARG:HH22 | 2.18 | 0.47 |
| 41:75:11:GLU:N | 41:75:11:GLU:CD | 2.67 | 0.47 |
| 42:85:66:ASN:CB | 42:85:76:TYR:HB2 | 2.40 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 46:C5:61:ILE:HG22 | 46:C5:62:GLU:H | 1.80 | 0.47 |
| 46:C5:73:ARG:CZ | 46:C5:74:PRO:HD2 | 2.45 | 0.47 |
| 51:H5:5:LYS:HE3 | 51:H5:57:GLU:HB2 | 1.96 | 0.47 |
| 1:13:667:G:H8 | 1:13:667:G:O5' | 1.97 | 0.47 |
| 1:13:814:A:N7 | 1:13:816:A:C4 | 2.83 | 0.47 |
| 1:13:818:G:HO2' | 1:13:820:U:H6 | 1.60 | 0.47 |
| 1:13:1179:A:O2' | 9:8E:103:THR:HG23 | 2.14 | 0.47 |
| 1:13:1501:C:N4 | 1:13:1504:G:C2 | 2.83 | 0.47 |
| 1:13:1509:C:H2' | 1:13:1510:U:O4' | 2.15 | 0.47 |
| 2:1E:217:ARG:O | 2:1E:220:ASP:HB2 | 2.14 | 0.47 |
| 4:3E:22:LYS:HB2 | 4:3E:26:CYS:SG | 2.55 | 0.47 |
| 7:6E:13:GLN:O | 7:6E:24:THR:HG21 | 2.15 | 0.47 |
| 9:8E:53:VAL:HG21 | 9:8E:92:TYR:CG | 2.50 | 0.47 |
| 9:8E:70:LYS:O | 9:8E:74:ILE:HG13 | 2.14 | 0.47 |
| 11:2I:124:LYS:HE3 | 11:2I:125:PHE:HE1 | 1.80 | 0.47 |
| 24:3K:1:G:N3 | 24:3K:1:G:H2' | 2.28 | 0.47 |
| 26:1H:251:A:C5 | 26:1H:252:G:H1' | 2.50 | 0.47 |
| 26:1H:459:U:H4' | 54:P8:40:TRP:CZ3 | 2.50 | 0.47 |
| 26:1H:831:G:N2 | 37:78:53:GLY:O | 2.48 | 0.47 |
| 26:1H:918:A:N3 | 27:16:80:U:O2' | 2.38 | 0.47 |
| 26:1H:1264:G:OP1 | 53:N8:19:ARG:NH1 | 2.46 | 0.47 |
| 26:1H:1496:A:H5' | 26:1H:1497:U:P | 2.55 | 0.47 |
| 26:1H:1640:C:H2' | 26:1H:1641:A:O4' | 2.15 | 0.47 |
| 26:1H:2753:A:H8 | 26:1H:2753:A:O5' | 1.98 | 0.47 |
| 31:31:110:LEU:HD12 | 31:31:110:LEU:HA | 1.67 | 0.47 |
| 32:41:81:LYS:NZ | 32:41:81:LYS:H | 2.13 | 0.47 |
| 35:58:87:LEU:O | 35:58:91:LEU:HD23 | 2.15 | 0.47 |
| 37:78:27:HIS:ND1 | 37:78:27:HIS:N | 2.62 | 0.47 |
| 38:88:21:THR:HA | 47:H8:78:LYS:HD3 | 1.96 | 0.47 |
| 45:F8:8:ILE:O | 50:K8:36:ARG:NH2 | 2.48 | 0.47 |
| 46:G8:20:TYR:CE2 | 46:G8:43:ASN:HA | 2.50 | 0.47 |
| 49:J8:85:LEU:HA | 49:J8:85:LEU:HD13 | 1.59 | 0.47 |
| 1:1G:131:C:H2' | 1:1G:132:C:C6 | 2.50 | 0.47 |
| 1:1G:855:G:OP2 | 1:1G:871:U:N3 | 2.44 | 0.47 |
| 1:1G:1261:A:C2 | 1:1G:1275:A:H1' | 2.50 | 0.47 |
| 2:12:17:PHE:CE2 | 2:12:41:ILE:HD11 | 2.50 | 0.47 |
| 4:32:25:ARG:NH2 | 4:32:30:LYS:HB2 | 2.30 | 0.47 |
| 5:42:34:VAL:HG21 | 5:42:63:ARG:HE | 1.78 | 0.47 |
| 5:42:118:ILE:HG12 | 5:42:119:LEU:N | 2.29 | 0.47 |
| 7:62:70:LYS:O | 7:62:138:LYS:HE2 | 2.15 | 0.47 |
| 9:82:17:VAL:HG22 | 9:82:63:ILE:HG12 | 1.97 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 9:82:113:LYS:H | 9:82:119:ALA:HB1 | 1.79 | 0.47 |
| 26:14:86:C:C2 | 26:14:87:C:C5 | 3.02 | 0.47 |
| 26:14:363(F):A:OP2 | 26:14:363(F):A:H8 | 1.97 | 0.47 |
| 26:14:669:G:N3 | 26:14:669:G:C2' | 2.78 | 0.47 |
| 26:14:977:G:H5' | 26:14:1155:A:H4' | 1.97 | 0.47 |
| 26:14:1285:G:C5 | 26:14:1329:U:C4 | 3.03 | 0.47 |
| 26:14:1562:A:H2' | 26:14:1563:G:O4' | 2.15 | 0.47 |
| 26:14:1753:G:N2 | 26:14:1755:A:H3' | 2.30 | 0.47 |
| 26:14:1817:G:OP1 | 29:19:88:ARG:NH2 | 2.42 | 0.47 |
| 26:14:2495:G:H2' | 26:14:2496:C:H6 | 1.80 | 0.47 |
| 26:14:2865:U:C4 | 26:14:2866:U:C4 | 3.03 | 0.47 |
| 27:1J:73:A:C4 | 27:1J:104:A:C2 | 3.03 | 0.47 |
| 29:19:10:THR:OG1 | 29:19:13:ARG:HB2 | 2.15 | 0.47 |
| 30:29:66:HIS:ND1 | 30:29:67:PHE:N | 2.62 | 0.47 |
| 31:39:170:LEU:HD22 | 31:39:172:TRP:NE1 | 2.30 | 0.47 |
| 32:49:76:SER:HG | 32:49:84:LYS:H | 1.60 | 0.47 |
| 34:69:29:TYR:C | 34:69:32:PRO:HD2 | 2.34 | 0.47 |
| 35:15:58:ASP:OD1 | 35:15:58:ASP:N | 2.48 | 0.47 |
| 36:25:104:ARG:HD2 | 41:75:36:GLU:HB2 | 1.96 | 0.47 |
| 1:13:155:C:H2' | 1:13:156:G:C8 | 2.50 | 0.47 |
| 1:13:186(F):C:H5'' | 1:13:187:C:OP2 | 2.14 | 0.47 |
| 1:13:198:G:H2' | 1:13:199:G:H8 | 1.79 | 0.47 |
| 1:13:1409:C:H2' | 1:13:1410:G:C8 | 2.50 | 0.47 |
| 4:3E:78:LEU:HB3 | 4:3E:93:PHE:CE1 | 2.50 | 0.47 |
| 4:3E:131:ARG:O | 4:3E:133:VAL:HG23 | 2.15 | 0.47 |
| 4:3E:166:LYS:HB2 | 4:3E:178:VAL:HG11 | 1.97 | 0.47 |
| 7:6E:15:ASP:OD1 | 7:6E:16:LEU:N | 2.48 | 0.47 |
| 11:2I:21:ILE:HD12 | 11:2I:84:VAL:HG12 | 1.96 | 0.47 |
| 13:4I:40:ASN:HB3 | 13:4I:43:THR:OG1 | 2.15 | 0.47 |
| 26:1H:7:G:H1 | 26:1H:2896:C:N4 | 2.13 | 0.47 |
| 26:1H:286:C:H2' | 26:1H:287:C:H6 | 1.78 | 0.47 |
| 26:1H:848:G:H2' | 26:1H:849:A:H8 | 1.76 | 0.47 |
| 26:1H:1005:C:H2' | 26:1H:1006:C:C6 | 2.50 | 0.47 |
| 26:1H:1021:A:OP2 | 35:58:65:LYS:NZ | 2.47 | 0.47 |
| 26:1H:1024:G:C6 | 26:1H:1025:G:C6 | 3.03 | 0.47 |
| 26:1H:1225:C:O2' | 43:D8:85:LYS:HA | 2.15 | 0.47 |
| 26:1H:1356:G:H2' | 26:1H:1357:U:C6 | 2.50 | 0.47 |
| 26:1H:1753:G:OP1 | 41:B8:95:ARG:NE | 2.41 | 0.47 |
| 26:1H:1997:G:H5' | 30:21:117:MET:CE | 2.44 | 0.47 |
| 26:1H:2510:C:H2' | 26:1H:2511:U:C6 | 2.50 | 0.47 |
| 29:11:26:LYS:HD2 | 29:11:29:PRO:CB | 2.42 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 30:21:105:THR:HB | 30:21:197:ILE:CG2 | 2.44 | 0.47 |
| 34:61:117:GLU:OE1 | 34:61:117:GLU:N | 2.33 | 0.47 |
| 39:98:10:LEU:O | 39:98:11:ASN:C | 2.53 | 0.47 |
| 45:F8:27:THR:HB | 45:F8:80:ILE:HB | 1.97 | 0.47 |
| 47:H8:11:GLU:O | 47:H8:36:LYS:HE3 | 2.15 | 0.47 |
| 1:1G:38:G:O2' | 1:1G:39:G:H5'' | 2.15 | 0.47 |
| 1:1G:967:C:H2' | 1:1G:968:A:C8 | 2.48 | 0.47 |
| 1:1G:1325:C:P | 21:1B:15:ARG:HH21 | 2.37 | 0.47 |
| 2:12:24:TRP:N | 2:12:24:TRP:CD1 | 2.82 | 0.47 |
| 2:12:82:ARG:HD2 | 2:12:94:ASN:HD22 | 1.80 | 0.47 |
| 15:6A:39:LEU:CD1 | 15:6A:56:LEU:HB2 | 2.44 | 0.47 |
| 23:2L:9:G:O4' | 23:2L:47:G7M:H1' | 2.15 | 0.47 |
| 26:14:8:A:H2' | 26:14:9:U:C5 | 2.50 | 0.47 |
| 26:14:341:G:C6 | 26:14:342:G:C5 | 3.03 | 0.47 |
| 26:14:937:U:H6 | 26:14:937:U:O5' | 1.98 | 0.47 |
| 26:14:1423:G:H2' | 26:14:1424:G:H8 | 1.80 | 0.47 |
| 26:14:2340:G:H2' | 26:14:2341:G:C8 | 2.50 | 0.47 |
| 26:14:2630:G:H3' | 26:14:2631:G:H8 | 1.79 | 0.47 |
| 27:1J:5:C:H42 | 27:1J:115:G:H1 | 1.63 | 0.47 |
| 27:1J:101:A:OP2 | 27:1J:101:A:H8 | 1.98 | 0.47 |
| 29:19:255:LYS:HD3 | 29:19:255:LYS:O | 2.15 | 0.47 |
| 30:29:98:PRO:HB3 | 30:29:173:VAL:O | 2.15 | 0.47 |
| 30:29:134:ILE:O | 30:29:134:ILE:CD1 | 2.58 | 0.47 |
| 30:29:165:VAL:O | 30:29:189:PRO:HG2 | 2.15 | 0.47 |
| 37:35:86:LYS:HG3 | 37:35:87:ASP:H | 1.79 | 0.47 |
| 38:45:26:TYR:HA | 38:45:102:VAL:HG21 | 1.96 | 0.47 |
| 40:65:26:LEU:O | 40:65:88:ASP:HB2 | 2.14 | 0.47 |
| 40:65:93:LYS:O | 40:65:98:VAL:HG21 | 2.15 | 0.47 |
| 44:A5:37:ARG:HG2 | 44:A5:38:TYR:CD1 | 2.50 | 0.47 |
| 46:C5:17:SER:O | 46:C5:21:LYS:HB2 | 2.15 | 0.47 |
| 1:13:22:G:C6 | 1:13:23:C:C4 | 3.03 | 0.46 |
| 1:13:724:G:O2' | 1:13:725:G:H5' | 2.15 | 0.46 |
| 1:13:922:G:C6 | 1:13:923:A:C6 | 3.02 | 0.46 |
| 1:13:988:G:C2 | 1:13:1218:C:O2 | 2.69 | 0.46 |
| 1:13:1014:A:H4' | 19:AI:14:HIS:CG | 2.50 | 0.46 |
| 1:13:1117:G:H5'' | 9:8E:104:ARG:CZ | 2.45 | 0.46 |
| 1:13:1152:A:H2' | 1:13:1153:C:C6 | 2.50 | 0.46 |
| 1:13:1263:C:O2' | 1:13:1264:C:H5' | 2.15 | 0.46 |
| 4:3E:144:ASP:O | 4:3E:184:LYS:HA | 2.15 | 0.46 |
| 12:3I:85:ILE:HA | 12:3I:85:ILE:HD13 | 1.64 | 0.46 |
| 15:6I:3:ILE:HG22 | 15:6I:38:ARG:HG3 | 1.95 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 15:6I:17:ARG:HA | 15:6I:17:ARG:NE | 2.29 | 0.46 |
| 24:3K:74:C:H2' | 24:3K:75:C:C6 | 2.50 | 0.46 |
| 26:1H:931:G:C4 | 26:1H:933:A:C8 | 3.04 | 0.46 |
| 26:1H:986:C:O2' | 26:1H:987:G:H5' | 2.15 | 0.46 |
| 26:1H:1534:G:H2' | 26:1H:1535:U:O4' | 2.15 | 0.46 |
| 26:1H:1641:A:N6 | 26:1H:1642:G:C2 | 2.82 | 0.46 |
| 26:1H:1682:G:C6 | 26:1H:1683:C:C4 | 3.04 | 0.46 |
| 26:1H:1761:C:N4 | 26:1H:1762:A:H62 | 2.13 | 0.46 |
| 26:1H:2553:G:H5'' | 26:1H:2554:U:OP2 | 2.15 | 0.46 |
| 26:1H:2784:C:O2 | 30:21:37:ARG:NH1 | 2.47 | 0.46 |
| 27:16:50:G:OP1 | 40:A8:63:THR:HG23 | 2.14 | 0.46 |
| 30:21:7:VAL:O | 30:21:26:ILE:HG13 | 2.15 | 0.46 |
| 30:21:166:THR:CG2 | 30:21:199:ARG:HH22 | 2.28 | 0.46 |
| 31:31:16:GLY:HA3 | 31:31:18:ARG:HG3 | 1.97 | 0.46 |
| 32:41:125:PHE:CD1 | 32:41:131:TYR:HB2 | 2.50 | 0.46 |
| 33:51:156:ALA:O | 33:51:157:TYR:HB2 | 2.15 | 0.46 |
| 37:78:82:GLY:HA2 | 37:78:113:LYS:O | 2.14 | 0.46 |
| 39:98:79:LEU:HA | 39:98:83:ILE:HB | 1.97 | 0.46 |
| 44:E8:29:LEU:HD13 | 44:E8:51:LEU:HD21 | 1.97 | 0.46 |
| 48:I8:23:VAL:HG13 | 48:I8:38:VAL:CG2 | 2.41 | 0.46 |
| 52:M8:38:LYS:HA | 52:M8:40:HIS:HB3 | 1.96 | 0.46 |
| 53:N8:40:LYS:HG3 | 53:N8:47:PRO:HD2 | 1.97 | 0.46 |
| 1:1G:186(C):G:H2' | 1:1G:186(D):C:O4' | 2.15 | 0.46 |
| 1:1G:546:G:OP1 | 4:32:73:ARG:HB2 | 2.16 | 0.46 |
| 1:1G:555:C:H2' | 1:1G:556:C:C6 | 2.50 | 0.46 |
| 1:1G:635:G:C2 | 1:1G:636:U:C2 | 3.03 | 0.46 |
| 1:1G:1138:G:C6 | 1:1G:1140:C:H1' | 2.50 | 0.46 |
| 2:12:17:PHE:CZ | 2:12:42:ILE:HG23 | 2.50 | 0.46 |
| 4:32:107:ARG:HG2 | 4:32:174:LEU:CD1 | 2.46 | 0.46 |
| 4:32:110:PHE:HD1 | 4:32:110:PHE:H | 1.63 | 0.46 |
| 6:52:14:LEU:HB2 | 6:52:18:GLN:OE1 | 2.15 | 0.46 |
| 11:2A:32:ILE:HD11 | 11:2A:68:ALA:HB1 | 1.98 | 0.46 |
| 12:3A:47:LYS:CG | 12:3A:48:PRO:HD2 | 2.45 | 0.46 |
| 13:4A:55:ARG:HA | 13:4A:58:GLU:HB3 | 1.97 | 0.46 |
| 20:BA:67:ALA:HB2 | 20:BA:77:ALA:HB2 | 1.95 | 0.46 |
| 57:3L:33:U:H2' | 57:3L:35:U:OP2 | 2.15 | 0.46 |
| 26:14:272:G:H2' | 26:14:273:G:O4' | 2.15 | 0.46 |
| 26:14:396:G:H8 | 26:14:396:G:O5' | 1.98 | 0.46 |
| 26:14:399:G:O6 | 26:14:400:G:C2 | 2.68 | 0.46 |
| 26:14:588:U:H2' | 26:14:589:C:C6 | 2.50 | 0.46 |
| 26:14:829:A:N7 | 26:14:2248:C:H5' | 2.30 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:14:1392:A:N6 | 26:14:1393:A:N6 | 2.63 | 0.46 |
| 26:14:1655:A:H3' | 26:14:1656:C:H6 | 1.80 | 0.46 |
| 26:14:2168:G:N3 | 26:14:2168:G:H3' | 2.30 | 0.46 |
| 26:14:2577:A:H2' | 26:14:2614:A:N6 | 2.30 | 0.46 |
| 27:1J:7:G:OP2 | 27:1J:7:G:H8 | 1.98 | 0.46 |
| 27:1J:65:C:H41 | 27:1J:108:C:H2' | 1.79 | 0.46 |
| 29:19:16:MET:HE1 | 29:19:208:LYS:HE2 | 1.96 | 0.46 |
| 29:19:31:LYS:HZ1 | 29:19:33:LEU:HB2 | 1.79 | 0.46 |
| 35:15:30:ILE:O | 35:15:34:LEU:CD2 | 2.63 | 0.46 |
| 35:15:50:ASP:O | 35:15:52:VAL:HG23 | 2.15 | 0.46 |
| 36:25:7:TYR:CD1 | 36:25:20:MET:HB2 | 2.50 | 0.46 |
| 42:85:90:VAL:O | 42:85:92:ARG:N | 2.48 | 0.46 |
| 46:C5:38:ILE:HG12 | 46:C5:66:PRO:HA | 1.96 | 0.46 |
| 47:D5:19:ARG:NH1 | 47:D5:84:GLU:HB2 | 2.29 | 0.46 |
| 1:13:64:G:H21 | 1:13:67:C:N4 | 2.13 | 0.46 |
| 1:13:187:C:O2 | 1:13:191(A):G:C2 | 2.68 | 0.46 |
| 1:13:1178:G:H5'' | 9:8E:93:ARG:HH22 | 1.80 | 0.46 |
| 1:13:1182:G:O5' | 1:13:1182:G:C8 | 2.68 | 0.46 |
| 1:13:1288:A:O2' | 1:13:1289:A:H5' | 2.15 | 0.46 |
| 1:13:1315:U:C5 | 1:13:1316:G:C5 | 3.03 | 0.46 |
| 2:1E:102:LEU:HB3 | 2:1E:180:LEU:HD12 | 1.96 | 0.46 |
| 2:1E:169:LYS:NZ | 2:1E:191:ASP:OD2 | 2.38 | 0.46 |
| 3:2E:120:VAL:O | 3:2E:122:GLU:N | 2.49 | 0.46 |
| 8:7E:34:GLU:HB3 | 8:7E:118:VAL:HG21 | 1.97 | 0.46 |
| 8:7E:39:LEU:HB3 | 8:7E:45:ILE:HG12 | 1.95 | 0.46 |
| 8:7E:112:LEU:HB2 | 8:7E:133:LEU:HA | 1.97 | 0.46 |
| 8:7E:118:VAL:C | 8:7E:119:LEU:HD23 | 2.36 | 0.46 |
| 9:8E:26:VAL:HG22 | 9:8E:61:ALA:HB3 | 1.97 | 0.46 |
| 13:4I:16:ASP:OD1 | 13:4I:16:ASP:N | 2.48 | 0.46 |
| 14:5I:23:ARG:HD2 | 14:5I:28:GLY:O | 2.16 | 0.46 |
| 14:5I:29:ARG:HD3 | 14:5I:40:CYS:HB2 | 1.97 | 0.46 |
| 17:8I:55:ASP:HB3 | 17:8I:57:VAL:HG13 | 1.97 | 0.46 |
| 18:9I:22:VAL:HA | 18:9I:25:THR:OG1 | 2.16 | 0.46 |
| 22:1K:75:C:H2' | 22:1K:76:A:C4 | 2.50 | 0.46 |
| 26:1H:265:A:H1' | 26:1H:266:G:O4' | 2.15 | 0.46 |
| 26:1H:482:A:H5'' | 26:1H:483:A:OP1 | 2.15 | 0.46 |
| 26:1H:686:G:H8 | 54:P8:6:GLN:O | 1.98 | 0.46 |
| 26:1H:962:G:C2 | 26:1H:963:U:C2 | 3.02 | 0.46 |
| 26:1H:1522:G:H2' | 26:1H:1523:U:O4' | 2.16 | 0.46 |
| 26:1H:1568:G:H5'' | 29:11:61:LEU:HD23 | 1.97 | 0.46 |
| 26:1H:1586:A:H3' | 26:1H:1587:A:H8 | 1.81 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:1647:G:P | 26:1H:1647:G:H3' | 2.55 | 0.46 |
| 26:1H:2017:U:O2 | 53:N8:10:LYS:HB2 | 2.15 | 0.46 |
| 26:1H:2068:U:O4 | 26:1H:2430:A:C2 | 2.68 | 0.46 |
| 26:1H:2227:A:C5 | 26:1H:2228:G:N7 | 2.84 | 0.46 |
| 26:1H:2358:G:H2' | 26:1H:2359:C:H6 | 1.81 | 0.46 |
| 26:1H:2518:A:H8 | 26:1H:2518:A:H5' | 1.80 | 0.46 |
| 30:21:134:ILE:C | 30:21:134:ILE:HD12 | 2.36 | 0.46 |
| 31:31:95:ARG:HG3 | 31:31:97:TYR:CE1 | 2.50 | 0.46 |
| 32:41:59:GLU:O | 32:41:63:ILE:HG23 | 2.16 | 0.46 |
| 32:41:67:LYS:H | 32:41:67:LYS:CD | 2.24 | 0.46 |
| 32:41:94:LEU:HA | 32:41:98:ARG:HH12 | 1.80 | 0.46 |
| 37:78:64:LYS:HZ2 | 37:78:68:GLN:HG3 | 1.81 | 0.46 |
| 40:A8:62:LYS:H | 40:A8:62:LYS:HG2 | 1.39 | 0.46 |
| 1:1G:246:A:C4 | 1:1G:279:A:N6 | 2.84 | 0.46 |
| 1:1G:369:C:O2' | 1:1G:370:C:H5' | 2.15 | 0.46 |
| 1:1G:892:A:O2' | 1:1G:1415:G:H4' | 2.15 | 0.46 |
| 1:1G:1262:C:H2' | 1:1G:1263:C:O4' | 2.16 | 0.46 |
| 3:22:139:GLN:NE2 | 3:22:139:GLN:O | 2.48 | 0.46 |
| 4:32:13:ARG:C | 4:32:15:GLU:H | 2.18 | 0.46 |
| 4:32:191:ARG:HA | 4:32:191:ARG:HE | 1.81 | 0.46 |
| 6:52:72:VAL:HG13 | 6:52:73:ASN:H | 1.80 | 0.46 |
| 9:82:56:LEU:HD23 | 9:82:56:LEU:H | 1.80 | 0.46 |
| 26:14:107:C:C2 | 26:14:108:U:C5 | 3.03 | 0.46 |
| 26:14:190:A:OP2 | 49:F5:39:LYS:NZ | 2.47 | 0.46 |
| 26:14:740:U:H5'' | 26:14:1784:A:H3' | 1.97 | 0.46 |
| 26:14:853:G:O2' | 26:14:854:G:H5' | 2.15 | 0.46 |
| 26:14:1702:G:H2' | 26:14:1703:G:O4' | 2.15 | 0.46 |
| 26:14:1783:A:C2 | 26:14:2587:A:C5 | 3.03 | 0.46 |
| 26:14:1786:A:H2 | 26:14:2606:C:H1' | 1.79 | 0.46 |
| 26:14:2340:G:H2' | 26:14:2341:G:H8 | 1.80 | 0.46 |
| 26:14:2378:A:H4' | 40:65:23:ARG:NH1 | 2.25 | 0.46 |
| 26:14:2512:C:H1' | 30:29:140:SER:O | 2.15 | 0.46 |
| 36:25:10:VAL:HG12 | 36:25:17:ARG:C | 2.36 | 0.46 |
| 37:35:7:ARG:HB2 | 37:35:7:ARG:CZ | 2.43 | 0.46 |
| 37:35:63:PRO:HD3 | 55:M5:27:THR:HG22 | 1.97 | 0.46 |
| 38:45:35:VAL:HG12 | 38:45:36:ALA:N | 2.29 | 0.46 |
| 40:65:95:HIS:N | 40:65:99:LYS:HB2 | 2.30 | 0.46 |
| 41:75:88:ILE:HD13 | 41:75:91:ARG:NH2 | 2.29 | 0.46 |
| 41:75:126:ALA:HA | 41:75:129:ARG:CD | 2.42 | 0.46 |
| 47:D5:29:TYR:O | 47:D5:89:PHE:HA | 2.15 | 0.46 |
| 47:D5:69:THR:CG2 | 47:D5:90:VAL:HG22 | 2.44 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:784:C:H2' | 1:13:785:G:O4' | 2.15 | 0.46 |
| 1:13:1074:G:C4 | 1:13:1102:A:C2 | 3.03 | 0.46 |
| 1:13:1322:C:H5'' | 13:4I:100:GLY:HA2 | 1.97 | 0.46 |
| 1:13:1483:A:H8 | 1:13:1483:A:O5' | 1.98 | 0.46 |
| 2:1E:30:ARG:HD3 | 2:1E:31:TYR:CE1 | 2.50 | 0.46 |
| 13:4I:82:MET:O | 13:4I:84:ILE:N | 2.45 | 0.46 |
| 19:AI:18:LYS:NZ | 19:AI:22:LEU:HB2 | 2.30 | 0.46 |
| 20:BI:46:GLU:HB2 | 20:BI:48:LYS:HG3 | 1.97 | 0.46 |
| 20:BI:67:ALA:HA | 20:BI:72:LEU:O | 2.15 | 0.46 |
| 23:2K:16:C:H5'' | 23:2K:17:C:C4 | 2.50 | 0.46 |
| 26:1H:270(V):G:H2' | 26:1H:270(W):G:O4' | 2.15 | 0.46 |
| 26:1H:447:A:C8 | 26:1H:473:G:C6 | 3.03 | 0.46 |
| 26:1H:475:U:C4 | 26:1H:481:G:O6 | 2.68 | 0.46 |
| 26:1H:654(S):G:O2' | 26:1H:654(T):A:H8 | 1.97 | 0.46 |
| 26:1H:768:G:H2' | 26:1H:769:G:H8 | 1.80 | 0.46 |
| 26:1H:1805:U:O2 | 29:11:50:THR:HB | 2.15 | 0.46 |
| 26:1H:2029:G:H2' | 26:1H:2031:A:OP1 | 2.16 | 0.46 |
| 26:1H:2055:C:H5'' | 26:1H:2055:C:H6 | 1.80 | 0.46 |
| 26:1H:2799:A:H5'' | 26:1H:2801:A:O5' | 2.16 | 0.46 |
| 27:16:27:C:H5'' | 40:A8:54:LEU:HD21 | 1.97 | 0.46 |
| 30:21:111:ARG:HD2 | 30:21:160:TYR:CD2 | 2.49 | 0.46 |
| 33:51:80:SER:O | 33:51:81:GLU:CD | 2.54 | 0.46 |
| 43:D8:33:VAL:O | 43:D8:58:VAL:HA | 2.15 | 0.46 |
| 44:E8:35:ILE:HG23 | 53:N8:28:PRO:HD2 | 1.97 | 0.46 |
| 44:E8:58:ALA:CB | 44:E8:64:MET:HG3 | 2.45 | 0.46 |
| 44:E8:62:HIS:HB2 | 44:E8:64:MET:HG2 | 1.97 | 0.46 |
| 1:1G:216:G:O2' | 1:1G:217:C:O4' | 2.32 | 0.46 |
| 1:1G:464:G:C6 | 1:1G:466:C:H5' | 2.50 | 0.46 |
| 1:1G:988:G:C6 | 1:1G:989:C:C4 | 3.04 | 0.46 |
| 1:1G:1065:U:H6 | 1:1G:1190:G:H21 | 1.64 | 0.46 |
| 1:1G:1286:A:H5' | 21:1B:25:LYS:CD | 2.45 | 0.46 |
| 1:1G:1292:U:P | 9:82:39:GLY:HA3 | 2.54 | 0.46 |
| 1:1G:1350:A:H2' | 1:1G:1351:U:O4' | 2.16 | 0.46 |
| 1:1G:1478:C:H2' | 1:1G:1479:C:H6 | 1.81 | 0.46 |
| 6:52:1:MET:HB3 | 6:52:66:GLU:HG3 | 1.97 | 0.46 |
| 6:52:19:LEU:O | 6:52:23:LYS:HG3 | 2.16 | 0.46 |
| 7:62:109:ASN:HA | 7:62:119:ARG:NH1 | 2.31 | 0.46 |
| 11:2A:61:ALA:HB2 | 11:2A:90:GLY:HA3 | 1.97 | 0.46 |
| 16:7A:67:THR:HG22 | 16:7A:68:ASP:N | 2.27 | 0.46 |
| 23:2L:19:G:O2' | 23:2L:20:G:H5' | 2.15 | 0.46 |
| 57:3L:70:C:C2' | 57:3L:71:C:H5' | 2.40 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|--------------------|--------------------------|-------------------|
| 26:14:235:U:H2' | 26:14:236:C:C6 | 2.50 | 0.46 |
| 26:14:536:A:H2' | 26:14:537:C:C6 | 2.51 | 0.46 |
| 26:14:691:C:O4' | 29:19:43:ARG:NH2 | 2.48 | 0.46 |
| 26:14:860:U:C2 | 26:14:2268:A:C8 | 3.04 | 0.46 |
| 26:14:871:U:OP1 | 38:45:5:ARG:NH1 | 2.48 | 0.46 |
| 26:14:1024:G:H8 | 26:14:1024:G:O5' | 1.98 | 0.46 |
| 26:14:1224:G:OP2 | 43:95:66:ARG:NH2 | 2.49 | 0.46 |
| 26:14:1444(A):A:H2' | 26:14:1444(A):A:N3 | 2.30 | 0.46 |
| 26:14:1540:G:C2 | 26:14:1541:U:C2 | 3.03 | 0.46 |
| 26:14:1654:A:H1' | 26:14:2823:A:H5' | 1.98 | 0.46 |
| 26:14:2536:G:C6 | 26:14:2537:U:C4 | 3.04 | 0.46 |
| 26:14:2648:C:H2' | 26:14:2649:U:O4' | 2.15 | 0.46 |
| 26:14:2846:G:C5 | 26:14:2847:U:C4 | 3.04 | 0.46 |
| 29:19:132:PRO:HD3 | 29:19:190:TYR:CE2 | 2.49 | 0.46 |
| 30:29:54:GLN:N | 30:29:74:PRO:HB3 | 2.29 | 0.46 |
| 35:15:90:MET:HG3 | 35:15:98:VAL:HG12 | 1.98 | 0.46 |
| 36:25:22:ILE:HB | 36:25:40:VAL:O | 2.15 | 0.46 |
| 38:45:20:ALA:HA | 38:45:99:PRO:HG2 | 1.97 | 0.46 |
| 39:55:58:GLY:HA2 | 39:55:80:PHE:HE2 | 1.80 | 0.46 |
| 41:75:99:LEU:HD22 | 41:75:101:PHE:CE1 | 2.50 | 0.46 |
| 42:85:98:LEU:CB | 42:85:102:GLU:HB2 | 2.45 | 0.46 |
| 1:13:626:U:H2' | 1:13:627:G:H8 | 1.80 | 0.46 |
| 1:13:736:C:C2 | 1:13:737:A:N7 | 2.84 | 0.46 |
| 1:13:1221:G:C6 | 1:13:1222:G:C5 | 3.03 | 0.46 |
| 1:13:1260:C:H3' | 1:13:1260:C:H6 | 1.80 | 0.46 |
| 4:3E:64:LEU:HD13 | 4:3E:198:VAL:HG21 | 1.97 | 0.46 |
| 6:5E:23:LYS:HA | 6:5E:26:ILE:HD12 | 1.97 | 0.46 |
| 6:5E:67:MET:HE1 | 6:5E:75:LEU:HD12 | 1.97 | 0.46 |
| 8:7E:12:ARG:HE | 8:7E:26:VAL:HA | 1.80 | 0.46 |
| 9:8E:29:ASN:OD1 | 9:8E:65:VAL:N | 2.47 | 0.46 |
| 11:2I:116:HIS:N | 11:2I:116:HIS:CD2 | 2.83 | 0.46 |
| 13:4I:23:TYR:CD1 | 13:4I:67:GLU:HB3 | 2.50 | 0.46 |
| 15:6I:17:ARG:HG2 | 15:6I:26:GLU:HG3 | 1.98 | 0.46 |
| 18:9I:29:PHE:CE1 | 18:9I:31:LEU:HB3 | 2.51 | 0.46 |
| 20:BI:30:LYS:HZ2 | 20:BI:33:ILE:HB | 1.79 | 0.46 |
| 24:3K:44:U:H2' | 24:3K:45:G:O3' | 2.15 | 0.46 |
| 26:1H:15:G:C2 | 26:1H:16:G:C8 | 3.04 | 0.46 |
| 26:1H:357:A:H2' | 26:1H:358:U:H6 | 1.80 | 0.46 |
| 26:1H:620:G:OP2 | 26:1H:620:G:N2 | 2.33 | 0.46 |
| 26:1H:708:C:OP2 | 26:1H:708:C:C6 | 2.68 | 0.46 |
| 26:1H:1260:G:C6 | 26:1H:1261:C:C4 | 3.03 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:1463:C:O5' | 26:1H:1463:C:H6 | 1.99 | 0.46 |
| 26:1H:2110:G:C5 | 26:1H:2120:G:C8 | 3.03 | 0.46 |
| 26:1H:2369:A:H2' | 26:1H:2370:G:H8 | 1.80 | 0.46 |
| 26:1H:2854:G:H2' | 26:1H:2855:C:C6 | 2.50 | 0.46 |
| 27:16:30:C:OP2 | 40:A8:32:LEU:HD11 | 2.14 | 0.46 |
| 27:16:66:A:C2 | 27:16:108:C:C4 | 3.03 | 0.46 |
| 29:11:2:ALA:HA | 29:11:20:ASP:CB | 2.45 | 0.46 |
| 29:11:83:GLU:OE2 | 29:11:104:TYR:OH | 2.28 | 0.46 |
| 29:11:113:VAL:O | 29:11:113:VAL:HG13 | 2.16 | 0.46 |
| 30:21:55:ASN:HB3 | 30:21:58:ARG:HD2 | 1.97 | 0.46 |
| 31:31:164:ARG:HG3 | 31:31:175:THR:OG1 | 2.15 | 0.46 |
| 31:31:179:GLU:N | 31:31:179:GLU:OE1 | 2.38 | 0.46 |
| 37:78:120:ALA:CB | 37:78:138:LEU:HA | 2.46 | 0.46 |
| 38:88:11:LYS:HE2 | 38:88:88:GLY:O | 2.15 | 0.46 |
| 38:88:19:GLY:O | 38:88:21:THR:OG1 | 2.22 | 0.46 |
| 41:B8:65:LYS:O | 41:B8:72:VAL:N | 2.39 | 0.46 |
| 42:C8:93:LYS:H | 42:C8:93:LYS:HG3 | 1.49 | 0.46 |
| 1:1G:673:G:H2' | 1:1G:674:G:C8 | 2.51 | 0.46 |
| 1:1G:848:C:N3 | 1:1G:849:C:C4 | 2.83 | 0.46 |
| 1:1G:1004:A:H2' | 1:1G:1005:A:C2 | 2.51 | 0.46 |
| 1:1G:1305:G:O2' | 1:1G:1306:A:H8 | 1.98 | 0.46 |
| 3:22:36:ASP:OD1 | 3:22:57:ILE:HG21 | 2.14 | 0.46 |
| 3:22:59:ARG:NH2 | 3:22:97:LYS:NZ | 2.63 | 0.46 |
| 4:32:31:CYS:HB2 | 4:32:33:MET:O | 2.16 | 0.46 |
| 4:32:111:ALA:HB1 | 4:32:116:GLN:OE1 | 2.16 | 0.46 |
| 7:62:20:ASP:HB3 | 7:62:23:VAL:HB | 1.98 | 0.46 |
| 7:62:99:LEU:HD13 | 7:62:103:TRP:CZ2 | 2.50 | 0.46 |
| 13:4A:34:LEU:HG | 13:4A:35:GLU:H | 1.81 | 0.46 |
| 14:5A:17:LYS:HZ3 | 14:5A:18:VAL:HG13 | 1.79 | 0.46 |
| 57:3L:21:A:H2' | 57:3L:22:G:C8 | 2.51 | 0.46 |
| 25:4L:21:A:N6 | 25:4L:22:A:C6 | 2.83 | 0.46 |
| 26:14:592:G:H1 | 26:14:665:C:H42 | 1.63 | 0.46 |
| 26:14:928:G:H2' | 26:14:929:G:O4' | 2.15 | 0.46 |
| 26:14:1564:C:C2' | 26:14:1565:C:H5' | 2.45 | 0.46 |
| 26:14:1845:G:C2' | 26:14:1846:G:H5' | 2.45 | 0.46 |
| 26:14:1886:C:OP2 | 26:14:1886:C:H6 | 1.98 | 0.46 |
| 26:14:2116:G:N1 | 26:14:2117:A:N6 | 2.63 | 0.46 |
| 27:1J:104:A:OP1 | 47:D5:72:ARG:NH1 | 2.48 | 0.46 |
| 29:19:25:THR:OG1 | 29:19:26:LYS:N | 2.47 | 0.46 |
| 29:19:223:GLY:HA2 | 29:19:231:HIS:CD2 | 2.51 | 0.46 |
| 29:19:255:LYS:N | 29:19:255:LYS:HD2 | 2.30 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 31:39:141:ALA:O | 31:39:144:LYS:HB2 | 2.15 | 0.46 |
| 37:35:3:LEU:O | 37:35:6:LEU:HD23 | 2.15 | 0.46 |
| 37:35:47:ASP:HB3 | 37:35:50:ARG:H | 1.81 | 0.46 |
| 37:35:114:ILE:HD11 | 37:35:130:PHE:HD2 | 1.80 | 0.46 |
| 38:45:48:GLU:O | 38:45:52:VAL:HG23 | 2.15 | 0.46 |
| 42:85:24:TYR:O | 42:85:29:SER:HB3 | 2.15 | 0.46 |
| 46:C5:12:THR:HA | 46:C5:26:LYS:HA | 1.98 | 0.46 |
| 47:D5:166:SER:O | 47:D5:168:GLU:N | 2.45 | 0.46 |
| 1:13:413:G:O6 | 4:3E:35:ARG:HD3 | 2.15 | 0.46 |
| 1:13:477:G:H2' | 1:13:478:A:H8 | 1.79 | 0.46 |
| 1:13:1042:G:O2' | 26:14:2137:C:O2 | 2.34 | 0.46 |
| 1:13:1288:A:H2' | 1:13:1289:A:O4' | 2.15 | 0.46 |
| 1:13:1301:U:O2 | 1:13:1301:U:H2' | 2.14 | 0.46 |
| 1:13:1434:A:H2' | 1:13:1435:G:O4' | 2.15 | 0.46 |
| 2:1E:234:PRO:HB2 | 2:1E:236:TYR:N | 2.30 | 0.46 |
| 3:2E:70:VAL:N | 3:2E:106:VAL:HG23 | 2.30 | 0.46 |
| 7:6E:139:GLU:O | 7:6E:142:GLU:N | 2.49 | 0.46 |
| 13:4I:9:ILE:HD13 | 13:4I:11:ARG:HH22 | 1.81 | 0.46 |
| 13:4I:65:LYS:HG2 | 13:4I:70:LEU:HA | 1.97 | 0.46 |
| 15:6I:18:PHE:CE1 | 15:6I:21:ASP:HB2 | 2.50 | 0.46 |
| 24:3K:36:U:H2' | 24:3K:37:A:O4' | 2.15 | 0.46 |
| 26:1H:592:G:O2' | 55:Q8:4:MET:HB2 | 2.15 | 0.46 |
| 26:1H:616:A:C4 | 31:31:180:GLY:HA2 | 2.50 | 0.46 |
| 26:1H:654(A):A:H2 | 26:1H:654(T):A:N1 | 2.13 | 0.46 |
| 26:1H:754:C:H2' | 26:1H:755:C:C6 | 2.51 | 0.46 |
| 26:1H:974(A):C:H4' | 26:1H:975:G:C5' | 2.46 | 0.46 |
| 26:1H:1388:G:H2' | 26:1H:1389:G:C8 | 2.51 | 0.46 |
| 26:1H:2028:U:H2' | 26:1H:2029:G:O4' | 2.16 | 0.46 |
| 26:1H:2259:G:N1 | 26:1H:2282:G:C6 | 2.84 | 0.46 |
| 27:16:63:G:C2 | 27:16:64:C:C2 | 3.03 | 0.46 |
| 28:71:6:ARG:HG2 | 28:71:34:THR:HG21 | 1.97 | 0.46 |
| 28:71:39:GLU:O | 28:71:178:ALA:HB2 | 2.15 | 0.46 |
| 28:71:192:PHE:HA | 28:71:195:ALA:HB3 | 1.98 | 0.46 |
| 34:61:2:LYS:HE2 | 34:61:2:LYS:HB3 | 1.48 | 0.46 |
| 34:61:48:GLU:O | 34:61:52:ARG:HG3 | 2.15 | 0.46 |
| 35:58:121:LYS:HB3 | 35:58:123:TYR:HE1 | 1.81 | 0.46 |
| 38:88:16:ARG:HE | 38:88:16:ARG:HB3 | 1.34 | 0.46 |
| 40:A8:78:LEU:HD12 | 40:A8:108:GLY:CA | 2.45 | 0.46 |
| 40:A8:83:LYS:HA | 40:A8:109:GLY:HA2 | 1.96 | 0.46 |
| 41:B8:2:ASN:OD1 | 41:B8:2:ASN:N | 2.48 | 0.46 |
| 1:1G:87:A:O2' | 1:1G:88:C:H5'' | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 1:1G:238:G:C6 | 1:1G:239:U:C4 | 3.04 | 0.46 |
| 1:1G:240:C:O5' | 1:1G:240:C:H6 | 1.98 | 0.46 |
| 1:1G:273:A:C5 | 1:1G:274:A:N7 | 2.83 | 0.46 |
| 1:1G:889:A:N6 | 1:1G:907:A:H5'' | 2.30 | 0.46 |
| 1:1G:924:C:O2' | 1:1G:1502:A:N6 | 2.49 | 0.46 |
| 1:1G:1259:C:N4 | 1:1G:1275:A:H61 | 2.10 | 0.46 |
| 1:1G:1272:G:C5 | 1:1G:1273:G:C8 | 3.03 | 0.46 |
| 1:1G:1298:C:H41 | 7:62:114:ARG:HB3 | 1.80 | 0.46 |
| 3:22:9:GLY:HA2 | 3:22:12:LEU:HB2 | 1.96 | 0.46 |
| 4:32:105:VAL:HG13 | 4:32:110:PHE:HB2 | 1.97 | 0.46 |
| 4:32:201:GLN:O | 4:32:205:GLU:HB2 | 2.15 | 0.46 |
| 7:62:3:ARG:H | 7:62:3:ARG:HG2 | 1.61 | 0.46 |
| 8:72:104:ARG:HB3 | 8:72:108:GLY:N | 2.28 | 0.46 |
| 9:82:73:GLN:O | 9:82:77:ILE:HG13 | 2.16 | 0.46 |
| 12:3A:7:ILE:O | 12:3A:10:LEU:N | 2.49 | 0.46 |
| 13:4A:84:ILE:HG23 | 19:AA:74:PHE:CE1 | 2.51 | 0.46 |
| 57:3L:15:G:H1' | 57:3L:59:A:H61 | 1.81 | 0.46 |
| 57:3L:76:A:H8 | 26:14:2394:C:N4 | 2.14 | 0.46 |
| 26:14:43:G:H1' | 26:14:438:G:N2 | 2.30 | 0.46 |
| 26:14:746:A:OP1 | 26:14:2612:C:C6 | 2.68 | 0.46 |
| 26:14:774:A:H2 | 26:14:787:U:HO2' | 1.60 | 0.46 |
| 26:14:1167:U:H2' | 26:14:1168:G:C8 | 2.50 | 0.46 |
| 26:14:1946:U:H2' | 26:14:1947:C:C6 | 2.50 | 0.46 |
| 26:14:2107:C:N3 | 26:14:2182:G:N2 | 2.64 | 0.46 |
| 26:14:2134:A:H2' | 26:14:2134:A:N3 | 2.31 | 0.46 |
| 26:14:2304:G:N2 | 26:14:2313:C:N4 | 2.64 | 0.46 |
| 26:14:2646:C:H2' | 26:14:2647:U:O4' | 2.15 | 0.46 |
| 29:19:260:ARG:HH12 | 29:19:267:SER:HB3 | 1.79 | 0.46 |
| 30:29:33:VAL:HG12 | 30:29:89:ASP:H | 1.81 | 0.46 |
| 30:29:36:ARG:HH22 | 30:29:88:GLY:CA | 2.28 | 0.46 |
| 31:39:28:ILE:O | 31:39:29:ASN:C | 2.49 | 0.46 |
| 31:39:88:VAL:HG23 | 31:39:89:VAL:O | 2.15 | 0.46 |
| 33:59:166:GLY:O | 33:59:167:GLU:HG2 | 2.16 | 0.46 |
| 35:15:91:LEU:O | 35:15:95:PRO:HB3 | 2.15 | 0.46 |
| 44:A5:88:ARG:NH1 | 44:A5:88:ARG:HG2 | 2.31 | 0.46 |
| 47:D5:52:SER:O | 47:D5:52:SER:OG | 2.25 | 0.46 |
| 47:D5:52:SER:C | 47:D5:54:HIS:H | 2.18 | 0.46 |
| 1:13:247:G:C4 | 1:13:248:C:C5 | 3.04 | 0.46 |
| 1:13:691:G:H1 | 11:2I:51:LYS:HZ1 | 1.62 | 0.46 |
| 1:13:835:U:H3 | 1:13:851:G:H1 | 1.63 | 0.46 |
| 1:13:1318:A:H1' | 19:AI:37:ARG:NE | 2.29 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:1409:C:H2' | 1:13:1410:G:H8 | 1.80 | 0.46 |
| 5:4E:146:ALA:HB1 | 5:4E:150:ARG:HH22 | 1.80 | 0.46 |
| 8:7E:14:ARG:HG2 | 8:7E:18:ARG:HH21 | 1.81 | 0.46 |
| 9:8E:28:VAL:HA | 9:8E:63:ILE:O | 2.15 | 0.46 |
| 18:9I:36:ASN:OD1 | 18:9I:36:ASN:N | 2.39 | 0.46 |
| 19:AI:69:HIS:HB2 | 19:AI:74:PHE:CZ | 2.51 | 0.46 |
| 26:1H:719:C:H2' | 26:1H:720:C:H6 | 1.80 | 0.46 |
| 26:1H:794:G:H2' | 26:1H:795:C:C6 | 2.51 | 0.46 |
| 26:1H:945:A:C4 | 26:1H:2448:A:C2 | 3.04 | 0.46 |
| 26:1H:1202:C:N4 | 26:1H:1203:G:C6 | 2.84 | 0.46 |
| 27:16:15:A:OP1 | 27:16:15:A:C4' | 2.64 | 0.46 |
| 27:16:44:G:N1 | 27:16:48:A:C2 | 2.84 | 0.46 |
| 32:41:168:GLU:H | 32:41:168:GLU:HG3 | 1.38 | 0.46 |
| 35:58:57:ALA:O | 35:58:58:ASP:OD2 | 2.33 | 0.46 |
| 47:H8:59:LEU:HA | 47:H8:59:LEU:HD23 | 1.49 | 0.46 |
| 1:1G:73:G:C2 | 1:1G:99:C:O2 | 2.69 | 0.46 |
| 1:1G:103:C:OP2 | 20:BA:17:ARG:NH2 | 2.49 | 0.46 |
| 1:1G:200:G:H1 | 1:1G:217:C:H42 | 1.63 | 0.46 |
| 1:1G:364:A:H61 | 12:3A:28:LYS:HZ2 | 1.61 | 0.46 |
| 1:1G:475:G:OP1 | 16:7A:81:ARG:NH2 | 2.49 | 0.46 |
| 1:1G:590:C:O2 | 1:1G:649:G:N2 | 2.45 | 0.46 |
| 1:1G:888:G:H3' | 1:1G:889:A:H2' | 1.97 | 0.46 |
| 1:1G:1086:U:H2' | 1:1G:1087:G:C8 | 2.45 | 0.46 |
| 1:1G:1145:C:H4' | 1:1G:1146:A:O5' | 2.16 | 0.46 |
| 1:1G:1205:U:H4' | 3:22:195:VAL:HG13 | 1.96 | 0.46 |
| 4:32:63:LYS:HE3 | 4:32:63:LYS:HB2 | 1.83 | 0.46 |
| 18:9A:22:VAL:HG12 | 18:9A:55:ARG:O | 2.16 | 0.46 |
| 23:2L:54:G:H2' | 23:2L:55:5MU:H6 | 1.80 | 0.46 |
| 26:14:154:G:N1 | 26:14:155:C:H1' | 2.31 | 0.46 |
| 26:14:639:U:H2' | 26:14:640:C:C6 | 2.51 | 0.46 |
| 26:14:674:G:H1' | 31:39:74:ARG:CD | 2.45 | 0.46 |
| 26:14:1889:A:H2' | 26:14:1890:A:O4' | 2.16 | 0.46 |
| 26:14:2197:U:H1' | 26:14:2198:A:C8 | 2.51 | 0.46 |
| 26:14:2331:G:H4' | 48:E5:43:THR:N | 2.29 | 0.46 |
| 27:1J:66:A:C6 | 27:1J:108:C:C5 | 3.03 | 0.46 |
| 30:29:23:VAL:HA | 30:29:184:VAL:O | 2.15 | 0.46 |
| 32:49:153:ARG:HD3 | 32:49:153:ARG:N | 2.31 | 0.46 |
| 33:59:9:ILE:HB | 33:59:10:PRO:CD | 2.44 | 0.46 |
| 33:59:65:HIS:O | 33:59:68:THR:N | 2.49 | 0.46 |
| 34:69:72:LEU:HD21 | 34:69:107:VAL:HG11 | 1.97 | 0.46 |
| 45:B5:80:ILE:O | 45:B5:80:ILE:HG13 | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 46:C5:99:CYS:SG | 46:C5:100:ALA:N | 2.88 | 0.46 |
| 50:G5:32:LEU:HA | 50:G5:53:LEU:HD13 | 1.97 | 0.46 |
| 1:13:131:C:H2' | 1:13:131:C:O2 | 2.16 | 0.46 |
| 1:13:725:G:O2' | 1:13:726:C:H5' | 2.16 | 0.46 |
| 1:13:748:C:H6 | 1:13:748:C:O5' | 1.99 | 0.46 |
| 1:13:1338:G:C6 | 1:13:1339:A:C6 | 3.03 | 0.46 |
| 5:4E:102:ALA:HA | 5:4E:120:THR:OG1 | 2.15 | 0.46 |
| 7:6E:88:PRO:HB3 | 7:6E:145:ALA:O | 2.15 | 0.46 |
| 11:2I:34:ASP:HB3 | 11:2I:40:ILE:HD11 | 1.98 | 0.46 |
| 19:AI:58:VAL:HG11 | 19:AI:75:ALA:HB1 | 1.97 | 0.46 |
| 26:1H:270(J):G:C6 | 26:1H:270(K):C:H1' | 2.51 | 0.46 |
| 26:1H:323:G:H2' | 31:31:169:ASN:ND2 | 2.31 | 0.46 |
| 26:1H:442:G:H4' | 31:31:46:ARG:HG3 | 1.98 | 0.46 |
| 26:1H:996:A:H4' | 42:C8:92:ARG:HG2 | 1.97 | 0.46 |
| 26:1H:1567:A:H5' | 29:11:58:HIS:ND1 | 2.30 | 0.46 |
| 26:1H:1670:C:H3' | 26:1H:1671:U:C6 | 2.51 | 0.46 |
| 26:1H:1728:G:O6 | 26:1H:1730:U:H5' | 2.15 | 0.46 |
| 26:1H:1827:C:H2' | 26:1H:1828:G:H5' | 1.96 | 0.46 |
| 26:1H:1929:G:H5'' | 26:1H:1929:G:N3 | 2.30 | 0.46 |
| 26:1H:1930:G:O2' | 26:1H:1931:U:P | 2.74 | 0.46 |
| 26:1H:2144:U:O2' | 26:1H:2148:G:N2 | 2.48 | 0.46 |
| 29:11:231:HIS:CD2 | 29:11:249:PRO:HA | 2.51 | 0.46 |
| 31:31:160:ASN:CG | 31:31:163:VAL:HG23 | 2.35 | 0.46 |
| 34:61:71:ILE:HG23 | 34:61:72:LEU:N | 2.31 | 0.46 |
| 37:78:96:THR:O | 37:78:98:GLU:N | 2.44 | 0.46 |
| 41:B8:26:ASP:HB2 | 41:B8:90:GLN:O | 2.14 | 0.46 |
| 43:D8:43:GLU:HA | 43:D8:43:GLU:OE2 | 2.16 | 0.46 |
| 46:G8:43:ASN:HB2 | 46:G8:67:LEU:HD11 | 1.97 | 0.46 |
| 51:L8:6:VAL:O | 51:L8:34:GLU:HA | 2.16 | 0.46 |
| 1:1G:709:G:H2' | 1:1G:710:G:C8 | 2.50 | 0.46 |
| 1:1G:749:C:O2' | 1:1G:750:G:H5' | 2.15 | 0.46 |
| 1:1G:949:A:C6 | 1:1G:1233:G:C2 | 3.03 | 0.46 |
| 1:1G:1229:A:H2' | 1:1G:1230:C:C6 | 2.50 | 0.46 |
| 1:1G:1329:A:H4' | 13:4A:24:GLY:HA2 | 1.97 | 0.46 |
| 1:1G:1350:A:C2 | 1:1G:1351:U:C2 | 3.03 | 0.46 |
| 1:1G:1399:C:H4' | 1:1G:1400:C:O5' | 2.16 | 0.46 |
| 5:42:105:VAL:HG21 | 5:42:128:PRO:HB3 | 1.97 | 0.46 |
| 6:52:42:GLU:OE1 | 6:52:59:TYR:HE1 | 1.99 | 0.46 |
| 9:82:121:ARG:NH1 | 9:82:122:ALA:O | 2.49 | 0.46 |
| 26:14:28:A:O2' | 26:14:29:U:H5' | 2.16 | 0.46 |
| 26:14:111:A:C2 | 26:14:112:U:C2 | 3.03 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:569:U:H5' | 26:14:946:G:H1' | 1.98 | 0.46 |
| 26:14:589:C:H5'' | 31:39:95:ARG:HH12 | 1.79 | 0.46 |
| 26:14:761:A:C8 | 61:14:3569:HOH:O | 2.68 | 0.46 |
| 26:14:1665:A:H2' | 26:14:1666:G:O4' | 2.16 | 0.46 |
| 26:14:2187:G:C6 | 26:14:2188:C:C4 | 3.03 | 0.46 |
| 29:19:11:PRO:O | 29:19:12:SER:OG | 2.18 | 0.46 |
| 32:49:5:VAL:HG12 | 32:49:104:GLU:OE1 | 2.15 | 0.46 |
| 32:49:20:ILE:H | 32:49:20:ILE:HG13 | 1.63 | 0.46 |
| 34:69:116:LEU:HD21 | 34:69:119:PRO:HA | 1.97 | 0.46 |
| 37:35:15:ARG:HG3 | 37:35:16:ARG:NH1 | 2.30 | 0.46 |
| 38:45:74:TYR:O | 38:45:89:ASN:HA | 2.15 | 0.46 |
| 1:13:344:A:H8 | 1:13:346:G:O6 | 1.98 | 0.46 |
| 1:13:643:C:H2' | 1:13:644:G:H8 | 1.80 | 0.46 |
| 1:13:720:C:C4 | 1:13:721:G:C5 | 3.04 | 0.46 |
| 1:13:928:G:C2 | 1:13:1390:U:O2 | 2.69 | 0.46 |
| 1:13:1111:A:H8 | 1:13:1111:A:O5' | 1.99 | 0.46 |
| 1:13:1128:C:H1' | 1:13:1146:A:H61 | 1.81 | 0.46 |
| 1:13:1207:G:C5 | 1:13:1208:C:C5 | 3.03 | 0.46 |
| 1:13:1289:A:N1 | 1:13:1371:G:O2' | 2.39 | 0.46 |
| 6:5E:14:LEU:HB3 | 6:5E:18:GLN:HB3 | 1.98 | 0.46 |
| 8:7E:45:ILE:HB | 8:7E:47:GLY:H | 1.80 | 0.46 |
| 10:1I:26:ALA:N | 10:1I:29:ARG:HH21 | 2.14 | 0.46 |
| 15:6I:64:ARG:HH12 | 15:6I:68:ARG:NH2 | 2.14 | 0.46 |
| 17:8I:13:ASP:HA | 17:8I:19:VAL:HG12 | 1.97 | 0.46 |
| 26:1H:270(I):G:H21 | 26:1H:270(R):G:H1' | 1.80 | 0.46 |
| 26:1H:443:A:C6 | 31:31:45:ARG:HD2 | 2.51 | 0.46 |
| 26:1H:579:G:H2' | 26:1H:580:C:C6 | 2.50 | 0.46 |
| 26:1H:582:G:H2' | 26:1H:583:G:H8 | 1.80 | 0.46 |
| 26:1H:1257:C:O2' | 31:31:83:PHE:HA | 2.16 | 0.46 |
| 26:1H:1337:G:H2' | 26:1H:1338:G:C8 | 2.49 | 0.46 |
| 26:1H:1359:A:N1 | 26:1H:1372:U:C4 | 2.83 | 0.46 |
| 26:1H:1418:G:H8 | 26:1H:1418:G:O5' | 1.99 | 0.46 |
| 26:1H:1442:G:C2 | 26:1H:1443:G:C4 | 3.03 | 0.46 |
| 26:1H:1592:C:H2' | 26:1H:1593:G:H8 | 1.81 | 0.46 |
| 26:1H:1692:U:O2 | 26:1H:1696:G:C2 | 2.68 | 0.46 |
| 26:1H:1796:U:H2' | 26:1H:1797:C:C6 | 2.50 | 0.46 |
| 26:1H:2174:C:H2' | 28:71:218:MET:SD | 2.56 | 0.46 |
| 26:1H:2315:G:C5' | 26:1H:2316:C:OP2 | 2.64 | 0.46 |
| 37:78:83:VAL:HG12 | 37:78:112:LEU:HD21 | 1.97 | 0.46 |
| 39:98:2:ARG:NH2 | 39:98:5:LYS:O | 2.49 | 0.46 |
| 39:98:42:LYS:HA | 39:98:45:ARG:HD2 | 1.97 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 41:B8:48:ILE:HD13 | 41:B8:114:LEU:HD12 | 1.98 | 0.46 |
| 41:B8:50:ILE:CD1 | 41:B8:64:ARG:HB3 | 2.46 | 0.46 |
| 1:1G:195:A:N6 | 1:1G:196:A:N1 | 2.63 | 0.46 |
| 1:1G:250:A:H5' | 1:1G:250:A:N3 | 2.31 | 0.46 |
| 1:1G:550:G:C6 | 1:1G:551:U:C4 | 3.04 | 0.46 |
| 1:1G:742:G:H2' | 1:1G:743:U:O4' | 2.15 | 0.46 |
| 1:1G:746:A:H4' | 1:1G:837:G:O2' | 2.16 | 0.46 |
| 1:1G:804:U:H5'' | 1:1G:805:C:OP2 | 2.16 | 0.46 |
| 1:1G:818:G:H1' | 1:1G:820:U:H5 | 1.80 | 0.46 |
| 1:1G:942:G:H2' | 1:1G:943:U:H6 | 1.80 | 0.46 |
| 1:1G:1219:U:H3' | 1:1G:1220:G:H8 | 1.79 | 0.46 |
| 1:1G:1414:U:H2' | 1:1G:1415:G:H8 | 1.77 | 0.46 |
| 5:42:76:ILE:HG23 | 5:42:142:LEU:HD13 | 1.97 | 0.46 |
| 9:82:24:GLY:HA2 | 9:82:59:PHE:O | 2.16 | 0.46 |
| 16:7A:20:VAL:HG12 | 16:7A:35:LYS:HA | 1.98 | 0.46 |
| 56:1L:18:G:H1' | 56:1L:19:G:H5' | 1.98 | 0.46 |
| 26:14:753:C:OP2 | 26:14:753:C:C6 | 2.69 | 0.46 |
| 26:14:1356:G:C5 | 26:14:1357:U:C5 | 3.04 | 0.46 |
| 26:14:1542:G:O5' | 26:14:1543:A:H5'' | 2.16 | 0.46 |
| 26:14:1716:U:H2' | 26:14:1717:G:H8 | 1.79 | 0.46 |
| 26:14:1782:C:H1' | 26:14:2609:U:O4' | 2.15 | 0.46 |
| 26:14:2006:C:O2' | 26:14:2823:A:N3 | 2.44 | 0.46 |
| 26:14:2120:G:C2 | 26:14:2121:G:C8 | 3.04 | 0.46 |
| 26:14:2557:G:H2' | 26:14:2558:C:C6 | 2.51 | 0.46 |
| 26:14:2831:G:OP1 | 30:29:58:ARG:NH1 | 2.41 | 0.46 |
| 27:1J:46:A:C8 | 27:1J:47:C:C5 | 3.04 | 0.46 |
| 29:19:37:LEU:HD12 | 29:19:37:LEU:C | 2.36 | 0.46 |
| 31:39:178:PRO:HB2 | 31:39:201:VAL:HG11 | 1.98 | 0.46 |
| 32:49:47:LYS:HD3 | 32:49:81:LYS:HG3 | 1.97 | 0.46 |
| 34:69:117:GLU:H | 34:69:117:GLU:CD | 2.19 | 0.46 |
| 36:25:13:ASN:C | 36:25:15:GLY:H | 2.19 | 0.46 |
| 37:35:63:PRO:HD3 | 55:M5:27:THR:CG2 | 2.46 | 0.46 |
| 1:13:104:G:C2 | 1:13:105:G:C8 | 3.03 | 0.46 |
| 1:13:708:C:OP1 | 11:2I:85:ARG:NH2 | 2.35 | 0.46 |
| 1:13:1080:A:H5' | 5:4E:14:ARG:HH21 | 1.81 | 0.46 |
| 1:13:1160:G:N3 | 1:13:1160:G:H2' | 2.30 | 0.46 |
| 1:13:1317:C:P | 14:5I:17:LYS:HE3 | 2.56 | 0.46 |
| 1:13:1377:A:H2' | 7:6E:7:ALA:CB | 2.46 | 0.46 |
| 2:1E:183:PRO:HA | 2:1E:198:ASP:OD2 | 2.16 | 0.46 |
| 5:4E:57:LYS:HA | 5:4E:60:TYR:HB3 | 1.98 | 0.46 |
| 9:8E:59:PHE:HZ | 9:8E:88:TYR:CD1 | 2.34 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 16:7I:50:LYS:HG2 | 16:7I:51:VAL:N | 2.31 | 0.46 |
| 26:1H:66:C:O2' | 26:1H:67:U:H5' | 2.16 | 0.46 |
| 26:1H:768:G:H2' | 26:1H:769:G:C8 | 2.51 | 0.46 |
| 26:1H:1279:G:N2 | 26:1H:1292:U:C2 | 2.84 | 0.46 |
| 26:1H:1503:U:C5 | 26:1H:1504:C:H5 | 2.33 | 0.46 |
| 26:1H:2013:A:H2' | 26:1H:2014:A:H5' | 1.98 | 0.46 |
| 26:1H:2130:U:O2 | 26:1H:2134:A:O2' | 2.31 | 0.46 |
| 26:1H:2443:C:O2' | 26:1H:2444:G:H5' | 2.14 | 0.46 |
| 26:1H:2564:A:OP1 | 26:1H:2648:C:H4' | 2.16 | 0.46 |
| 31:31:138:GLU:O | 31:31:141:ALA:N | 2.37 | 0.46 |
| 33:51:125:VAL:HG22 | 33:51:131:VAL:HG23 | 1.97 | 0.46 |
| 35:58:94:HIS:C | 35:58:95:PRO:O | 2.54 | 0.46 |
| 39:98:103:ARG:NH1 | 44:E8:40:ASN:OD1 | 2.49 | 0.46 |
| 46:G8:94:LYS:HA | 46:G8:94:LYS:HD2 | 1.58 | 0.46 |
| 49:J8:52:ARG:NH2 | 49:J8:55:GLY:O | 2.48 | 0.46 |
| 1:1G:10:A:N3 | 1:1G:10:A:H2' | 2.30 | 0.46 |
| 1:1G:407:G:O4' | 4:32:119:GLN:NE2 | 2.49 | 0.46 |
| 1:1G:424:G:H8 | 1:1G:424:G:O5' | 1.99 | 0.46 |
| 1:1G:864:A:P | 1:1G:864:A:H8 | 2.38 | 0.46 |
| 1:1G:1186:G:C2 | 1:1G:1187:G:H1' | 2.50 | 0.46 |
| 1:1G:1420:C:O5' | 1:1G:1420:C:H6 | 1.99 | 0.46 |
| 2:12:185:ILE:CG1 | 2:12:199:TYR:HB2 | 2.46 | 0.46 |
| 4:32:89:THR:HB | 5:42:97:GLY:O | 2.15 | 0.46 |
| 4:32:173:TRP:HB2 | 4:32:187:ARG:O | 2.16 | 0.46 |
| 5:42:30:ALA:O | 5:42:45:PHE:HB2 | 2.16 | 0.46 |
| 5:42:107:ARG:O | 5:42:111:GLU:N | 2.44 | 0.46 |
| 12:3A:88:GLY:O | 12:3A:99:HIS:HD2 | 1.98 | 0.46 |
| 13:4A:29:ARG:HD2 | 13:4A:64:TRP:CH2 | 2.50 | 0.46 |
| 13:4A:61:GLU:OE1 | 32:49:113:ARG:NH2 | 2.48 | 0.46 |
| 16:7A:36:ILE:CG1 | 16:7A:36:ILE:O | 2.64 | 0.46 |
| 56:1L:54:5MU:H6 | 56:1L:54:5MU:O5' | 1.99 | 0.46 |
| 26:14:155:C:N3 | 26:14:171:G:C2 | 2.84 | 0.46 |
| 26:14:748:G:H3' | 61:14:3589:HOH:O | 2.16 | 0.46 |
| 26:14:1198:U:H2' | 26:14:1199:U:C5 | 2.49 | 0.46 |
| 26:14:1480:G:C6 | 26:14:1482:U:C4 | 3.04 | 0.46 |
| 32:49:103:LEU:HB3 | 32:49:178:PHE:CE2 | 2.51 | 0.46 |
| 32:49:123:ASN:O | 32:49:123:ASN:ND2 | 2.41 | 0.46 |
| 36:25:64:ARG:HB2 | 36:25:83:ALA:HB3 | 1.96 | 0.46 |
| 43:95:85:LYS:HB3 | 43:95:87:HIS:N | 2.30 | 0.46 |
| 45:B5:26:TYR:HB3 | 45:B5:92:LEU:HD22 | 1.98 | 0.46 |
| 54:L5:24:THR:O | 54:L5:28:ARG:HG3 | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:13:837:G:C2 | 1:13:850:U:O2 | 2.69 | 0.46 |
| 1:13:1178:G:H8 | 9:8E:97:LYS:NZ | 2.14 | 0.46 |
| 2:1E:114:ARG:HE | 2:1E:118:LEU:HD21 | 1.81 | 0.46 |
| 4:3E:20:TYR:CE2 | 6:52:15:ASP:HB2 | 2.51 | 0.46 |
| 4:3E:79:PHE:CZ | 4:3E:204:ILE:HA | 2.51 | 0.46 |
| 5:4E:15:ARG:NH1 | 25:4K:25:A:H1' | 2.31 | 0.46 |
| 8:7E:81:HIS:HB2 | 8:7E:138:TRP:CE3 | 2.51 | 0.46 |
| 15:6I:24:SER:HB3 | 15:6I:27:VAL:HG23 | 1.98 | 0.46 |
| 26:1H:356:G:H2' | 26:1H:357:A:C8 | 2.51 | 0.46 |
| 26:1H:569:U:H5'' | 26:1H:821:A:C2 | 2.50 | 0.46 |
| 26:1H:836:G:H3' | 26:1H:837:C:H6 | 1.81 | 0.46 |
| 26:1H:1453:A:O2' | 26:1H:1454:U:H2' | 2.16 | 0.46 |
| 26:1H:1652:A:N6 | 39:98:11:ASN:OD1 | 2.49 | 0.46 |
| 26:1H:2016:U:OP1 | 61:1H:3557:HOH:O | 2.21 | 0.46 |
| 26:1H:2321:G:H5'' | 26:1H:2322:A:OP2 | 2.16 | 0.46 |
| 33:51:9:ILE:HB | 33:51:49:VAL:HB | 1.98 | 0.46 |
| 41:B8:107:ASP:OD1 | 41:B8:109:GLU:HB2 | 2.15 | 0.46 |
| 42:C8:92:ARG:HD3 | 42:C8:94:ASN:HB3 | 1.97 | 0.46 |
| 44:E8:58:ALA:HB1 | 44:E8:64:MET:CG | 2.46 | 0.46 |
| 47:H8:10:ARG:HD3 | 47:H8:38:TYR:HB3 | 1.97 | 0.46 |
| 49:J8:81:LYS:HD3 | 49:J8:81:LYS:HA | 1.35 | 0.46 |
| 55:Q8:37:SER:C | 55:Q8:39:LYS:N | 2.68 | 0.46 |
| 1:1G:4:U:H4' | 1:1G:5:U:OP1 | 2.16 | 0.46 |
| 1:1G:538:G:H5'' | 12:3A:114:LYS:HB2 | 1.98 | 0.46 |
| 1:1G:836:G:C6 | 1:1G:851:G:C6 | 3.04 | 0.46 |
| 1:1G:862:C:H1' | 1:1G:874:G:H5'' | 1.96 | 0.46 |
| 1:1G:1002:G:C6 | 1:1G:1003:G:H1' | 2.50 | 0.46 |
| 1:1G:1076:C:N4 | 1:1G:1081:G:H1 | 2.07 | 0.46 |
| 1:1G:1128:C:H5'' | 9:82:16:ARG:NH2 | 2.23 | 0.46 |
| 1:1G:1240:U:N3 | 7:62:32:ARG:HG3 | 2.32 | 0.46 |
| 1:1G:1263:C:H3' | 1:1G:1264:C:H6 | 1.80 | 0.46 |
| 1:1G:1490:C:H2' | 1:1G:1491:G:O4' | 2.16 | 0.46 |
| 3:22:61:ALA:O | 3:22:63:ASN:N | 2.49 | 0.46 |
| 5:42:103:GLY:C | 5:42:106:PRO:HD2 | 2.36 | 0.46 |
| 12:3A:27:LEU:HD12 | 12:3A:33:ARG:HG2 | 1.98 | 0.46 |
| 16:7A:45:THR:O | 16:7A:48:TRP:HD1 | 1.99 | 0.46 |
| 20:BA:60:GLU:OE1 | 20:BA:85:MET:HE1 | 2.15 | 0.46 |
| 26:14:26:G:C6 | 26:14:27:G:N1 | 2.84 | 0.46 |
| 26:14:210:C:H2' | 26:14:211:A:C8 | 2.51 | 0.46 |
| 26:14:807:U:H2' | 26:14:808:G:O5' | 2.16 | 0.46 |
| 26:14:1799:G:O6 | 29:19:178:PRO:HD2 | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 27:1J:74:U:H2' | 27:1J:75:G:C8 | 2.51 | 0.46 |
| 31:39:7:TYR:HE2 | 31:39:10:PRO:HG2 | 1.81 | 0.46 |
| 32:49:31:VAL:O | 32:49:33:ARG:HG3 | 2.16 | 0.46 |
| 34:69:101:LEU:HD23 | 34:69:101:LEU:H | 1.81 | 0.46 |
| 38:45:102:VAL:O | 38:45:102:VAL:HG12 | 2.16 | 0.46 |
| 43:95:71:LEU:HA | 43:95:71:LEU:HD13 | 1.51 | 0.46 |
| 50:G5:33:MET:HG3 | 50:G5:37:PHE:HE1 | 1.80 | 0.46 |
| 1:13:131:C:O2' | 1:13:262:A:N3 | 2.35 | 0.45 |
| 1:13:168:G:H21 | 1:13:169:C:H5 | 1.63 | 0.45 |
| 1:13:186(B):C:H4' | 20:BI:89:ARG:NH1 | 2.30 | 0.45 |
| 1:13:476:G:H2' | 1:13:477:G:C8 | 2.51 | 0.45 |
| 1:13:895:G:H2' | 1:13:896:C:C6 | 2.51 | 0.45 |
| 1:13:963:G:H4' | 61:13:1858:HOH:O | 2.16 | 0.45 |
| 1:13:1128:C:H2' | 1:13:1139:G:O6 | 2.17 | 0.45 |
| 1:13:1175:G:H2' | 1:13:1176:A:C8 | 2.51 | 0.45 |
| 2:1E:30:ARG:HD3 | 2:1E:31:TYR:CZ | 2.52 | 0.45 |
| 8:7E:34:GLU:OE2 | 8:7E:37:ARG:HD3 | 2.15 | 0.45 |
| 8:7E:86:ILE:HG22 | 8:7E:87:SER:N | 2.27 | 0.45 |
| 12:3I:24:VAL:HB | 12:3I:27:LEU:HD12 | 1.97 | 0.45 |
| 12:3I:66:VAL:HG21 | 12:3I:98:TYR:CE1 | 2.51 | 0.45 |
| 13:4I:14:ARG:HD3 | 13:4I:16:ASP:OD1 | 2.15 | 0.45 |
| 26:1H:152:G:H2' | 26:1H:153:C:C6 | 2.51 | 0.45 |
| 26:1H:442:G:C4 | 26:1H:444:C:C5 | 3.04 | 0.45 |
| 26:1H:459:U:H2' | 26:1H:460:A:C8 | 2.51 | 0.45 |
| 26:1H:479:A:HO2' | 26:1H:481:G:H8 | 1.60 | 0.45 |
| 26:1H:528:A:N1 | 26:1H:2042:A:H2' | 2.31 | 0.45 |
| 26:1H:606:U:H4' | 26:1H:658:C:H4' | 1.98 | 0.45 |
| 26:1H:880:G:H8 | 26:1H:895:U:O4 | 1.99 | 0.45 |
| 26:1H:1337:G:C4 | 26:1H:1338:G:C8 | 3.05 | 0.45 |
| 26:1H:1401:G:H2' | 26:1H:1402:C:H6 | 1.78 | 0.45 |
| 26:1H:1753:G:N1 | 26:1H:1756:G:C2 | 2.84 | 0.45 |
| 26:1H:2151:G:H2' | 26:1H:2152:G:H8 | 1.81 | 0.45 |
| 26:1H:2166:G:O2' | 26:1H:2168:G:OP2 | 2.31 | 0.45 |
| 26:1H:2572:A:N7 | 30:21:145:LYS:HB2 | 2.31 | 0.45 |
| 26:1H:2593:U:H2' | 26:1H:2594:C:C6 | 2.52 | 0.45 |
| 28:71:181:PRO:O | 28:71:185:LEU:HB2 | 2.17 | 0.45 |
| 29:11:63:ARG:HG2 | 29:11:92:ILE:HD13 | 1.98 | 0.45 |
| 32:41:96:ARG:HH11 | 32:41:96:ARG:CB | 2.23 | 0.45 |
| 33:51:4:ILE:CG1 | 33:51:6:ARG:HD3 | 2.45 | 0.45 |
| 33:51:126:PRO:HG2 | 33:51:130:ARG:NH1 | 2.27 | 0.45 |
| 34:61:124:GLY:H | 34:61:142:VAL:HG23 | 1.81 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 35:58:17:ASP:O | 35:58:56:ASN:HB2 | 2.16 | 0.45 |
| 37:78:49:ARG:HH12 | 37:78:50:ARG:HH22 | 1.64 | 0.45 |
| 40:A8:26:LEU:CD2 | 40:A8:87:PHE:HD1 | 2.28 | 0.45 |
| 40:A8:61:ASN:O | 40:A8:65:VAL:HG23 | 2.16 | 0.45 |
| 1:1G:57:G:C6 | 1:1G:58:C:C4 | 3.05 | 0.45 |
| 1:1G:160:A:H2' | 1:1G:161:A:O4' | 2.15 | 0.45 |
| 1:1G:596:C:H2' | 1:1G:597:G:H8 | 1.79 | 0.45 |
| 1:1G:942:G:C2 | 1:1G:1342:C:C2 | 3.04 | 0.45 |
| 1:1G:951:G:N2 | 1:1G:1231:G:C4 | 2.84 | 0.45 |
| 1:1G:1016:A:O5' | 14:5A:15:LYS:NZ | 2.47 | 0.45 |
| 1:1G:1068:G:N3 | 1:1G:1191:A:C2 | 2.84 | 0.45 |
| 1:1G:1275:A:H2' | 1:1G:1276:G:H8 | 1.81 | 0.45 |
| 1:1G:1298:C:H4' | 1:1G:1299:A:C5 | 2.51 | 0.45 |
| 6:52:97:PHE:CB | 18:9A:32:ARG:HG3 | 2.45 | 0.45 |
| 8:72:20:TYR:HA | 8:72:65:TYR:CZ | 2.51 | 0.45 |
| 15:6A:10:LYS:O | 15:6A:13:GLN:HB2 | 2.16 | 0.45 |
| 17:8A:9:VAL:O | 17:8A:21:VAL:HA | 2.17 | 0.45 |
| 18:9A:30:ASP:HB3 | 18:9A:33:ASP:HB2 | 1.96 | 0.45 |
| 23:2L:23:G:H2' | 23:2L:24:C:C6 | 2.51 | 0.45 |
| 57:3L:76:A:C8 | 26:14:2394:C:N4 | 2.84 | 0.45 |
| 26:14:194:G:H2' | 26:14:195:A:O4' | 2.15 | 0.45 |
| 26:14:676:A:H1' | 26:14:2443:C:H1' | 1.97 | 0.45 |
| 26:14:708:C:H42 | 26:14:723:G:H1 | 1.64 | 0.45 |
| 26:14:901:A:H3' | 26:14:902:C:C6 | 2.51 | 0.45 |
| 26:14:1963:U:OP2 | 26:14:1963:U:H4' | 2.15 | 0.45 |
| 26:14:2120:G:N3 | 26:14:2120:G:H2' | 2.31 | 0.45 |
| 26:14:2256:G:H2' | 26:14:2257:U:O4' | 2.17 | 0.45 |
| 27:1J:15:A:H1' | 27:1J:109:G:C4 | 2.52 | 0.45 |
| 27:1J:93:C:C4 | 27:1J:94:C:C5 | 3.04 | 0.45 |
| 27:1J:117:G:N1 | 27:1J:118:G:N7 | 2.63 | 0.45 |
| 31:39:83:PHE:C | 31:39:85:GLY:H | 2.19 | 0.45 |
| 31:39:182:ASN:HD21 | 31:39:185:ASP:CG | 2.19 | 0.45 |
| 32:49:106:LEU:HA | 32:49:110:ALA:HB3 | 1.98 | 0.45 |
| 35:15:91:LEU:HA | 35:15:91:LEU:HD23 | 1.57 | 0.45 |
| 37:35:52:GLU:CD | 37:35:52:GLU:H | 2.15 | 0.45 |
| 41:75:91:ARG:HB2 | 41:75:121:ILE:HG12 | 1.99 | 0.45 |
| 45:B5:67:GLY:C | 45:B5:69:TYR:H | 2.19 | 0.45 |
| 1:13:186:C:O2' | 20:BI:85:MET:SD | 2.69 | 0.45 |
| 1:13:373:A:C2 | 1:13:482:A:C6 | 3.04 | 0.45 |
| 1:13:678:U:H2' | 1:13:679:C:C6 | 2.51 | 0.45 |
| 1:13:690:G:H2' | 1:13:691:G:O4' | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:1072:G:C6 | 1:13:1073:U:C4 | 3.04 | 0.45 |
| 4:3E:110:PHE:CE2 | 4:3E:148:VAL:HG23 | 2.50 | 0.45 |
| 5:4E:10:MET:CB | 5:4E:32:VAL:HG22 | 2.45 | 0.45 |
| 5:4E:45:PHE:CE2 | 5:4E:47:LYS:HE3 | 2.52 | 0.45 |
| 5:4E:144:THR:HG22 | 5:4E:145:LYS:HD2 | 1.97 | 0.45 |
| 5:4E:152:ARG:HA | 8:7E:64:LYS:HE2 | 1.98 | 0.45 |
| 8:7E:60:ARG:HH11 | 8:7E:60:ARG:HB2 | 1.80 | 0.45 |
| 9:8E:40:LEU:HD11 | 9:8E:70:LYS:HB3 | 1.97 | 0.45 |
| 11:2I:78:GLN:O | 11:2I:103:LEU:HD12 | 2.16 | 0.45 |
| 23:2K:16:C:H2' | 23:2K:17:C:C5 | 2.51 | 0.45 |
| 24:3K:19:G:H1 | 26:1H:2112:G:H1' | 1.81 | 0.45 |
| 26:1H:67:U:H2' | 26:1H:68:G:C8 | 2.52 | 0.45 |
| 26:1H:74:A:H5'' | 26:1H:74:A:C8 | 2.51 | 0.45 |
| 26:1H:343:C:C2' | 26:1H:344:G:H5' | 2.46 | 0.45 |
| 26:1H:618:G:H2' | 26:1H:618(A):C:C6 | 2.51 | 0.45 |
| 26:1H:1003:G:N2 | 26:1H:1004:C:C2 | 2.84 | 0.45 |
| 26:1H:1003:G:C2 | 26:1H:1004:C:C4 | 3.05 | 0.45 |
| 26:1H:1655:A:H3' | 26:1H:1656:C:H6 | 1.81 | 0.45 |
| 26:1H:1690:A:C8 | 26:1H:1691:C:C6 | 3.05 | 0.45 |
| 26:1H:2392:A:C8 | 37:78:61:ARG:HD2 | 2.51 | 0.45 |
| 26:1H:2729:G:H2' | 26:1H:2730:C:C6 | 2.52 | 0.45 |
| 26:1H:2746:U:O4' | 33:51:139:GLN:HG2 | 2.16 | 0.45 |
| 26:1H:2821:A:H2' | 26:1H:2822:G:O4' | 2.16 | 0.45 |
| 27:16:4:C:N4 | 27:16:116:G:H1 | 2.12 | 0.45 |
| 29:11:30:GLU:HG3 | 29:11:63:ARG:CZ | 2.46 | 0.45 |
| 30:21:47:VAL:O | 30:21:80:GLU:HA | 2.16 | 0.45 |
| 30:21:175:VAL:HG12 | 30:21:177:PRO:HD3 | 1.98 | 0.45 |
| 31:31:139:PHE:HB2 | 31:31:166:ALA:HB1 | 1.97 | 0.45 |
| 41:B8:12:SER:OG | 41:B8:15:VAL:HG13 | 2.17 | 0.45 |
| 46:G8:36:ALA:HB1 | 46:G8:67:LEU:O | 2.16 | 0.45 |
| 52:M8:14:ILE:HG23 | 52:M8:21:VAL:HB | 1.97 | 0.45 |
| 1:1G:317:G:H1 | 1:1G:336:C:N4 | 2.14 | 0.45 |
| 1:1G:638:G:H2' | 1:1G:639:G:H8 | 1.81 | 0.45 |
| 1:1G:646:U:H2' | 1:1G:647:C:C6 | 2.51 | 0.45 |
| 1:1G:690:G:H2' | 1:1G:691:G:O4' | 2.16 | 0.45 |
| 1:1G:722:A:C8 | 1:1G:724:G:H1' | 2.51 | 0.45 |
| 1:1G:882:C:O2' | 1:1G:883:C:H5' | 2.16 | 0.45 |
| 1:1G:1081:G:H2' | 1:1G:1082:G:C8 | 2.51 | 0.45 |
| 1:1G:1099:G:C6 | 1:1G:1100:C:N3 | 2.84 | 0.45 |
| 1:1G:1217:C:H2' | 1:1G:1218:C:C2 | 2.50 | 0.45 |
| 1:1G:1224:G:H22 | 1:1G:1323:G:H5' | 1.81 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:1G:1237:C:OP1 | 1:1G:1238:A:H1' | 2.16 | 0.45 |
| 1:1G:1349:A:H2' | 1:1G:1350:A:O4' | 2.15 | 0.45 |
| 1:1G:1489:G:H2' | 1:1G:1490:C:O4' | 2.15 | 0.45 |
| 2:12:87:ARG:HH22 | 2:12:216:SER:HB2 | 1.82 | 0.45 |
| 4:32:13:ARG:HD2 | 4:32:38:TYR:O | 2.16 | 0.45 |
| 7:62:16:LEU:HD21 | 9:82:45:ALA:HB2 | 1.98 | 0.45 |
| 8:72:8:ASP:O | 8:72:12:ARG:N | 2.43 | 0.45 |
| 12:3A:12:ARG:HH11 | 12:3A:12:ARG:HD3 | 1.63 | 0.45 |
| 13:4A:67:GLU:HG3 | 13:4A:68:GLY:H | 1.80 | 0.45 |
| 15:6A:84:LYS:HE2 | 15:6A:84:LYS:HB2 | 1.77 | 0.45 |
| 16:7A:1:MET:HE2 | 16:7A:2:VAL:N | 2.31 | 0.45 |
| 20:BA:97:ALA:HA | 20:BA:98:PRO:HD3 | 1.71 | 0.45 |
| 23:2L:54:G:C2 | 23:2L:55:5MU:C2 | 3.05 | 0.45 |
| 57:3L:56:C:H2' | 57:3L:57:G:C8 | 2.50 | 0.45 |
| 26:14:214:G:H4' | 26:14:214:G:OP1 | 2.15 | 0.45 |
| 26:14:1586:A:C2 | 26:14:1587:A:C5 | 3.05 | 0.45 |
| 26:14:1992:G:O5' | 26:14:1992:G:H8 | 1.98 | 0.45 |
| 26:14:2108:C:OP1 | 26:14:2151:G:H5' | 2.17 | 0.45 |
| 26:14:2137:C:C4 | 26:14:2138:C:C4 | 3.05 | 0.45 |
| 26:14:2313:C:O4' | 32:49:40:ASN:ND2 | 2.49 | 0.45 |
| 26:14:2784:C:H2' | 26:14:2785:C:C6 | 2.51 | 0.45 |
| 26:14:2888:C:H2' | 26:14:2889:C:C6 | 2.51 | 0.45 |
| 30:29:13:ARG:HH22 | 41:75:77:PRO:HB3 | 1.81 | 0.45 |
| 32:49:96:ARG:C | 32:49:98:ARG:H | 2.19 | 0.45 |
| 34:69:76:THR:HG21 | 34:69:140:LEU:HD13 | 1.97 | 0.45 |
| 36:25:96:THR:O | 36:25:117:LEU:HD21 | 2.16 | 0.45 |
| 42:85:70:ARG:CZ | 42:85:75:ASN:HB3 | 2.47 | 0.45 |
| 1:13:452:A:O2' | 16:7I:72:ARG:HG3 | 2.16 | 0.45 |
| 1:13:658:G:C6 | 1:13:659:U:C4 | 3.05 | 0.45 |
| 1:13:929:G:C6 | 1:13:930:C:C4 | 3.04 | 0.45 |
| 1:13:1199:U:H5' | 10:1I:54:PHE:CE2 | 2.52 | 0.45 |
| 16:7I:28:ARG:HG3 | 16:7I:29:ASP:H | 1.79 | 0.45 |
| 23:2K:64:G:O5' | 23:2K:64:G:H8 | 1.99 | 0.45 |
| 26:1H:661:C:O2' | 37:78:13:ASN:HA | 2.17 | 0.45 |
| 26:1H:744:G:H1 | 26:1H:753:C:H42 | 1.64 | 0.45 |
| 26:1H:900:A:H2' | 26:1H:901:A:C8 | 2.51 | 0.45 |
| 26:1H:1534:G:H21 | 26:1H:1538:G:N2 | 2.14 | 0.45 |
| 26:1H:1536:A:H5'' | 26:1H:1537:C:H5 | 1.81 | 0.45 |
| 26:1H:1604:C:C5' | 61:1H:4029:HOH:O | 2.61 | 0.45 |
| 26:1H:1680:U:O2' | 26:1H:1763:G:N7 | 2.35 | 0.45 |
| 26:1H:1993:U:H4' | 30:21:128:SER:HB3 | 1.98 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:1H:2287:A:N3 | 26:1H:2289:G:C8 | 2.84 | 0.45 |
| 26:1H:2820:A:P | 39:98:2:ARG:HH12 | 2.39 | 0.45 |
| 27:16:52:A:N6 | 40:A8:33:LYS:HD2 | 2.30 | 0.45 |
| 28:71:215:THR:OG1 | 28:71:219:GLY:O | 2.35 | 0.45 |
| 31:31:40:GLN:OE1 | 31:31:184:TYR:HB2 | 2.16 | 0.45 |
| 36:68:8:LEU:HD13 | 36:68:8:LEU:HA | 1.76 | 0.45 |
| 37:78:18:ARG:O | 37:78:19:VAL:O | 2.33 | 0.45 |
| 38:88:32:TYR:CE1 | 38:88:133:ARG:HD3 | 2.47 | 0.45 |
| 40:A8:88:ASP:O | 40:A8:89:ARG:CG | 2.65 | 0.45 |
| 41:B8:12:SER:CB | 41:B8:15:VAL:HG13 | 2.47 | 0.45 |
| 41:B8:19:LEU:HD23 | 41:B8:19:LEU:HA | 1.68 | 0.45 |
| 41:B8:66:VAL:HA | 41:B8:71:GLY:HA2 | 1.97 | 0.45 |
| 42:C8:49:HIS:HA | 42:C8:52:ARG:HG2 | 1.97 | 0.45 |
| 42:C8:80:ILE:O | 42:C8:84:LYS:N | 2.44 | 0.45 |
| 49:J8:40:ARG:NH2 | 49:J8:41:ARG:O | 2.49 | 0.45 |
| 50:K8:63:VAL:HA | 50:K8:66:GLU:HG2 | 1.99 | 0.45 |
| 53:N8:9:LYS:HD3 | 53:N8:9:LYS:HA | 1.84 | 0.45 |
| 55:Q8:38:GLY:O | 55:Q8:42:ARG:HB3 | 2.16 | 0.45 |
| 1:1G:153:C:H42 | 1:1G:168:G:H1 | 1.63 | 0.45 |
| 1:1G:186:C:N4 | 1:1G:186(A):C:H41 | 2.14 | 0.45 |
| 1:1G:389:A:H5' | 1:1G:390:C:OP2 | 2.17 | 0.45 |
| 1:1G:998(A):C:H1' | 1:1G:1042:G:H1 | 1.81 | 0.45 |
| 1:1G:1072:G:C2 | 1:1G:1073:U:C2 | 3.04 | 0.45 |
| 4:32:121:VAL:O | 4:32:134:ASP:HA | 2.17 | 0.45 |
| 5:42:89:ILE:HD12 | 5:42:122:GLU:HA | 1.99 | 0.45 |
| 9:82:46:ALA:HB2 | 9:82:74:ILE:CG2 | 2.47 | 0.45 |
| 19:AA:56:GLN:HE22 | 19:AA:59:PRO:CG | 2.28 | 0.45 |
| 26:14:90:U:O2' | 26:14:91:A:H8 | 1.98 | 0.45 |
| 26:14:111:A:C6 | 26:14:112:U:C4 | 3.04 | 0.45 |
| 26:14:142:G:H1' | 45:B5:37:THR:CG2 | 2.45 | 0.45 |
| 26:14:259:G:N2 | 26:14:621:A:C8 | 2.81 | 0.45 |
| 26:14:671:C:OP1 | 37:35:42:SER:O | 2.33 | 0.45 |
| 26:14:928:G:C2 | 26:14:929:G:H1' | 2.52 | 0.45 |
| 26:14:1040:C:H5'' | 47:D5:46:LYS:NZ | 2.32 | 0.45 |
| 26:14:1144:G:C6 | 26:14:1145:C:N4 | 2.84 | 0.45 |
| 26:14:1729:A:C6 | 26:14:1731:G:C5 | 3.04 | 0.45 |
| 26:14:1767:C:C2' | 26:14:1768:U:H5' | 2.47 | 0.45 |
| 26:14:2173:A:HO2' | 26:14:2174:C:P | 2.36 | 0.45 |
| 26:14:2261:C:O2' | 26:14:2262:U:H5' | 2.17 | 0.45 |
| 26:14:2680:C:H5' | 30:29:189:PRO:HA | 1.99 | 0.45 |
| 29:19:146:GLU:HB2 | 29:19:189:CYS:HB3 | 1.98 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 31:39:192:LEU:O | 31:39:193:VAL:HG23 | 2.15 | 0.45 |
| 35:15:56:ASN:HA | 35:15:58:ASP:OD1 | 2.16 | 0.45 |
| 36:25:13:ASN:C | 36:25:15:GLY:N | 2.69 | 0.45 |
| 36:25:17:ARG:HG2 | 36:25:47:ILE:HD13 | 1.98 | 0.45 |
| 41:75:61:PHE:N | 41:75:61:PHE:CD1 | 2.84 | 0.45 |
| 42:85:65:ILE:O | 42:85:68:ALA:N | 2.49 | 0.45 |
| 43:95:61:VAL:HG12 | 43:95:62:LEU:O | 2.16 | 0.45 |
| 46:C5:42:VAL:HG12 | 46:C5:67:LEU:CD2 | 2.46 | 0.45 |
| 48:E5:48:GLY:HA3 | 48:E5:80:HIS:CE1 | 2.51 | 0.45 |
| 1:13:181:G:N2 | 1:13:183:G:H22 | 2.14 | 0.45 |
| 1:13:189:U:C2 | 17:8I:72:ARG:NH1 | 2.85 | 0.45 |
| 1:13:1320:C:O2 | 19:AI:36:ARG:NH2 | 2.46 | 0.45 |
| 1:13:1347:G:N2 | 1:13:1373:G:H2' | 2.31 | 0.45 |
| 4:3E:148:VAL:HG12 | 4:3E:149:ALA:O | 2.16 | 0.45 |
| 12:3I:86:ARG:HH11 | 12:3I:86:ARG:HD3 | 1.60 | 0.45 |
| 19:AI:18:LYS:NZ | 19:AI:22:LEU:HD13 | 2.27 | 0.45 |
| 22:1K:60:U:H3' | 22:1K:61:C:C5 | 2.51 | 0.45 |
| 26:1H:78:A:C2 | 26:1H:109:G:C2 | 3.04 | 0.45 |
| 26:1H:611:C:H2' | 26:1H:612:G:O4' | 2.16 | 0.45 |
| 26:1H:633:A:H2' | 26:1H:634:C:H5' | 1.97 | 0.45 |
| 26:1H:902:C:O2' | 26:1H:903:C:H5' | 2.16 | 0.45 |
| 26:1H:1230:C:H2' | 26:1H:1231:G:H8 | 1.79 | 0.45 |
| 26:1H:1439:A:C8 | 26:1H:1440:G:C8 | 3.05 | 0.45 |
| 26:1H:1812:A:O2' | 29:11:45:ASN:N | 2.45 | 0.45 |
| 26:1H:2058:A:C6 | 26:1H:2059:A:N6 | 2.84 | 0.45 |
| 26:1H:2745:C:O2 | 33:51:139:GLN:NE2 | 2.49 | 0.45 |
| 31:31:64:ILE:HD12 | 31:31:64:ILE:HA | 1.57 | 0.45 |
| 31:31:192:LEU:HD23 | 31:31:193:VAL:H | 1.82 | 0.45 |
| 32:41:111:LEU:HB3 | 32:41:117:PHE:CE2 | 2.50 | 0.45 |
| 37:78:2:LYS:HE2 | 37:78:2:LYS:HB2 | 1.80 | 0.45 |
| 44:E8:80:PRO:HD2 | 44:E8:100:THR:HG21 | 1.98 | 0.45 |
| 45:F8:29:TRP:CZ3 | 45:F8:78:LYS:HD3 | 2.52 | 0.45 |
| 46:G8:61:ILE:HG21 | 46:G8:63:LYS:HD3 | 1.96 | 0.45 |
| 47:H8:101:PRO:O | 47:H8:102:LEU:HD23 | 2.16 | 0.45 |
| 48:I8:36:ILE:C | 48:I8:36:ILE:HD12 | 2.36 | 0.45 |
| 55:Q8:6:THR:HG23 | 55:Q8:64:TYR:CD2 | 2.36 | 0.45 |
| 1:1G:66:G:C2 | 1:1G:67:C:C6 | 3.04 | 0.45 |
| 1:1G:364:A:H61 | 12:3A:28:LYS:NZ | 2.14 | 0.45 |
| 1:1G:456:C:N3 | 1:1G:476:G:N2 | 2.60 | 0.45 |
| 1:1G:830:G:H2' | 1:1G:831:U:O4' | 2.16 | 0.45 |
| 1:1G:992:U:H4' | 1:1G:993:G:O5' | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 1:1G:1047:G:H1 | 1:1G:1210:C:H42 | 1.64 | 0.45 |
| 1:1G:1184:G:H8 | 1:1G:1184:G:O5' | 1.99 | 0.45 |
| 1:1G:1370:G:O2' | 1:1G:1371:G:H5' | 2.16 | 0.45 |
| 2:12:73:THR:HG21 | 2:12:97:TRP:H | 1.81 | 0.45 |
| 4:32:45:GLN:O | 4:32:46:LYS:HG3 | 2.17 | 0.45 |
| 4:32:61:LYS:HE3 | 4:32:62:GLN:HG2 | 1.99 | 0.45 |
| 9:82:86:VAL:CG1 | 9:82:90:PRO:HA | 2.46 | 0.45 |
| 13:4A:96:LEU:HD13 | 13:4A:97:PRO:CD | 2.46 | 0.45 |
| 18:9A:84:LYS:HD3 | 18:9A:84:LYS:N | 2.25 | 0.45 |
| 26:14:104:U:H3' | 26:14:105:C:H6 | 1.81 | 0.45 |
| 26:14:241:A:H5' | 26:14:243:U:O4' | 2.17 | 0.45 |
| 26:14:315:G:C5 | 26:14:316:C:C5 | 3.04 | 0.45 |
| 26:14:654(A):A:H2' | 26:14:654(T):A:C6 | 2.51 | 0.45 |
| 26:14:686:G:N2 | 26:14:788:A:H61 | 2.15 | 0.45 |
| 26:14:1478:G:C2 | 26:14:1479:G:C8 | 3.04 | 0.45 |
| 26:14:1668:A:C8 | 26:14:1674:G:C6 | 3.05 | 0.45 |
| 26:14:1697:G:OP2 | 26:14:1698:A:O2' | 2.23 | 0.45 |
| 26:14:1785:A:H4' | 26:14:1982:C:O2' | 2.15 | 0.45 |
| 26:14:2115:G:N2 | 26:14:2116:G:O6 | 2.50 | 0.45 |
| 26:14:2593:U:H2' | 26:14:2594:C:C6 | 2.50 | 0.45 |
| 26:14:2716:U:H2' | 26:14:2717:G:C8 | 2.51 | 0.45 |
| 29:19:145:VAL:HG22 | 29:19:191:ALA:HB1 | 1.98 | 0.45 |
| 30:29:39:PRO:HA | 30:29:43:GLY:CA | 2.47 | 0.45 |
| 31:39:63:LYS:HA | 31:39:76:GLY:O | 2.16 | 0.45 |
| 32:49:103:LEU:HG | 32:49:103:LEU:H | 1.31 | 0.45 |
| 34:69:60:GLU:HG3 | 34:69:61:ARG:N | 2.30 | 0.45 |
| 35:15:36:GLY:H | 35:15:42:TRP:HZ3 | 1.64 | 0.45 |
| 36:25:50:GLY:H | 36:25:53:LYS:HE3 | 1.82 | 0.45 |
| 39:55:97:VAL:HA | 39:55:113:LEU:O | 2.16 | 0.45 |
| 44:A5:23:LEU:HD12 | 44:A5:23:LEU:HA | 1.71 | 0.45 |
| 1:13:303:A:C6 | 1:13:304:U:C4 | 3.04 | 0.45 |
| 1:13:474:G:C4 | 1:13:475:G:C8 | 3.04 | 0.45 |
| 1:13:621:A:H2' | 1:13:622:A:O4' | 2.16 | 0.45 |
| 1:13:1239:A:H4' | 1:13:1240:U:H5'' | 1.98 | 0.45 |
| 1:13:1318:A:H1' | 19:AI:37:ARG:HH21 | 1.81 | 0.45 |
| 1:13:1349:A:C2 | 1:13:1350:A:H1' | 2.52 | 0.45 |
| 2:1E:97:TRP:CH2 | 2:1E:176:GLU:OE2 | 2.69 | 0.45 |
| 4:3E:36:ARG:HB3 | 4:3E:38:TYR:CZ | 2.52 | 0.45 |
| 4:3E:90:GLY:O | 4:3E:93:PHE:HB3 | 2.16 | 0.45 |
| 5:4E:69:VAL:O | 5:4E:71:LEU:HD12 | 2.17 | 0.45 |
| 17:8I:53:LEU:HB3 | 17:8I:82:MET:SD | 2.56 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 23:2K:73:A:C6 | 23:2K:74:A:C6 | 3.05 | 0.45 |
| 26:1H:52:A:H2' | 26:1H:53:A:O4' | 2.16 | 0.45 |
| 26:1H:71:A:H4' | 26:1H:72:U:H5'' | 1.99 | 0.45 |
| 26:1H:488:G:N2 | 26:1H:492:A:OP2 | 2.49 | 0.45 |
| 26:1H:566:U:H4' | 26:1H:809:G:OP2 | 2.17 | 0.45 |
| 26:1H:709:U:H2' | 26:1H:710:G:C8 | 2.51 | 0.45 |
| 26:1H:771:G:N7 | 61:1H:3622:HOH:O | 2.35 | 0.45 |
| 26:1H:803:U:C4 | 26:1H:804:A:N7 | 2.85 | 0.45 |
| 26:1H:916:G:C2' | 26:1H:917:A:H5'' | 2.47 | 0.45 |
| 26:1H:1042:G:H1 | 26:1H:1113:U:H3 | 1.64 | 0.45 |
| 26:1H:1416:G:H2' | 26:1H:1417:C:C5 | 2.51 | 0.45 |
| 26:1H:1420:U:O2' | 26:1H:1421:G:P | 2.74 | 0.45 |
| 26:1H:1515:C:H2' | 26:1H:1516:U:C6 | 2.51 | 0.45 |
| 26:1H:1815:A:C5 | 26:1H:1817:G:C6 | 3.03 | 0.45 |
| 26:1H:2139:C:N4 | 26:1H:2152:G:H1 | 2.14 | 0.45 |
| 26:1H:2379:G:O2' | 40:A8:17:ARG:NH1 | 2.50 | 0.45 |
| 26:1H:2663:G:H3' | 26:1H:2664:G:H8 | 1.82 | 0.45 |
| 27:16:116:G:H2' | 27:16:117:G:O4' | 2.17 | 0.45 |
| 29:11:83:GLU:OE2 | 29:11:104:TYR:CE1 | 2.69 | 0.45 |
| 30:21:17:ASP:C | 30:21:19:ARG:H | 2.19 | 0.45 |
| 34:61:7:GLU:HA | 34:61:15:VAL:HG22 | 1.99 | 0.45 |
| 42:C8:108:GLU:HG3 | 43:D8:44:LYS:HE2 | 1.98 | 0.45 |
| 45:F8:24:GLY:H | 45:F8:82:GLN:HE22 | 1.65 | 0.45 |
| 46:G8:89:PHE:HD1 | 46:G8:90:LEU:N | 2.14 | 0.45 |
| 50:K8:57:ILE:HG22 | 50:K8:61:LEU:HD12 | 1.97 | 0.45 |
| 53:N8:40:LYS:HE2 | 53:N8:47:PRO:CD | 2.47 | 0.45 |
| 1:1G:54:C:O2 | 1:1G:357:G:N2 | 2.36 | 0.45 |
| 1:1G:983:A:H2 | 1:1G:984:C:C6 | 2.34 | 0.45 |
| 1:1G:1359:C:H5' | 14:5A:22:THR:OG1 | 2.16 | 0.45 |
| 1:1G:1368:G:H5' | 9:82:112:LYS:HD2 | 1.98 | 0.45 |
| 4:32:108:LEU:HD21 | 4:32:183:GLY:HA3 | 1.99 | 0.45 |
| 7:62:65:ALA:HB1 | 7:62:127:ALA:HB3 | 1.99 | 0.45 |
| 7:62:69:VAL:HG21 | 7:62:104:LEU:CD1 | 2.46 | 0.45 |
| 9:82:19:LEU:HB2 | 9:82:87:GLN:OE1 | 2.15 | 0.45 |
| 11:2A:51:LYS:HB3 | 11:2A:51:LYS:HE2 | 1.77 | 0.45 |
| 17:8A:76:LEU:HD11 | 17:8A:79:SER:HB3 | 1.98 | 0.45 |
| 26:14:213:A:H5'' | 26:14:214:G:OP2 | 2.17 | 0.45 |
| 26:14:307:G:O2' | 26:14:309:G:N7 | 2.40 | 0.45 |
| 26:14:441:U:H2' | 26:14:442:G:C8 | 2.52 | 0.45 |
| 26:14:571:A:H5' | 26:14:2030:A:N7 | 2.32 | 0.45 |
| 26:14:860:U:C1' | 26:14:2268:A:H5' | 2.47 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:950:G:C6 | 26:14:951:C:C4 | 3.04 | 0.45 |
| 26:14:1505:C:H2' | 26:14:1506:C:C6 | 2.51 | 0.45 |
| 26:14:1680:U:H2' | 26:14:1681:G:O4' | 2.16 | 0.45 |
| 26:14:2021:C:OP1 | 53:J5:12:SER:OG | 2.27 | 0.45 |
| 26:14:2219:G:OP1 | 29:19:172:TYR:OH | 2.32 | 0.45 |
| 26:14:2256:G:C5 | 26:14:2257:U:C5 | 3.05 | 0.45 |
| 26:14:2582:G:C2 | 26:14:2583:G:C8 | 3.04 | 0.45 |
| 26:14:2636:U:H3 | 26:14:2782:G:H1 | 1.63 | 0.45 |
| 29:19:177:LEU:HD23 | 29:19:177:LEU:HA | 1.70 | 0.45 |
| 30:29:102:VAL:HB | 30:29:199:ARG:O | 2.17 | 0.45 |
| 32:49:37:VAL:O | 32:49:94:LEU:HB2 | 2.16 | 0.45 |
| 32:49:143:GLU:N | 32:49:143:GLU:OE2 | 2.50 | 0.45 |
| 34:69:130:TYR:C | 34:69:131:LYS:HD2 | 2.36 | 0.45 |
| 35:15:93:THR:HG22 | 35:15:94:HIS:CE1 | 2.51 | 0.45 |
| 46:C5:9:LYS:HG2 | 46:C5:10:GLY:N | 2.32 | 0.45 |
| 47:D5:80:ARG:HD2 | 47:D5:80:ARG:N | 2.32 | 0.45 |
| 1:13:509:A:H5' | 4:3E:54:TYR:HD2 | 1.82 | 0.45 |
| 1:13:830:G:H2' | 1:13:831:U:O4' | 2.17 | 0.45 |
| 1:13:963:G:N2 | 10:1I:55:LYS:NZ | 2.65 | 0.45 |
| 1:13:1497:G:C2' | 1:13:1498:U:H5' | 2.47 | 0.45 |
| 1:13:1507:A:OP2 | 25:4K:12:A:H2 | 1.99 | 0.45 |
| 6:5E:72:VAL:HG13 | 6:5E:73:ASN:N | 2.32 | 0.45 |
| 7:6E:17:VAL:HG13 | 7:6E:18:TYR:H | 1.82 | 0.45 |
| 10:1I:54:PHE:CZ | 10:1I:55:LYS:NZ | 2.80 | 0.45 |
| 12:3I:117:ARG:CZ | 12:3I:117:ARG:HB2 | 2.45 | 0.45 |
| 13:4I:9:ILE:HB | 32:4I:146:TYR:HE2 | 1.81 | 0.45 |
| 13:4I:35:GLU:C | 13:4I:38:GLY:H | 2.17 | 0.45 |
| 15:6I:39:LEU:O | 15:6I:42:HIS:N | 2.49 | 0.45 |
| 15:6I:63:ARG:HG2 | 15:6I:67:LEU:HD12 | 1.98 | 0.45 |
| 16:7I:21:VAL:HG23 | 16:7I:33:ILE:HB | 1.97 | 0.45 |
| 20:BI:35:THR:HG22 | 20:BI:38:LYS:NZ | 2.31 | 0.45 |
| 20:BI:49:ALA:O | 20:BI:52:ALA:N | 2.50 | 0.45 |
| 20:BI:59:ALA:O | 20:BI:62:LEU:N | 2.49 | 0.45 |
| 24:3K:33:U:C2' | 24:3K:34:U:O5' | 2.64 | 0.45 |
| 26:1H:116:C:H2' | 26:1H:117:G:C8 | 2.51 | 0.45 |
| 26:1H:270(N):G:H21 | 34:6I:50:ARG:HH22 | 1.65 | 0.45 |
| 26:1H:321:G:H5'' | 31:3I:136:THR:HG23 | 1.98 | 0.45 |
| 26:1H:329:G:H8 | 26:1H:329:G:OP1 | 2.00 | 0.45 |
| 26:1H:850:C:H5'' | 51:L8:18:ASP:HB2 | 1.98 | 0.45 |
| 26:1H:1048:A:H5' | 26:1H:1049:C:OP2 | 2.17 | 0.45 |
| 26:1H:2061:G:N2 | 26:1H:2063:C:C2 | 2.84 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:2177:C:O4' | 28:71:44:HIS:CD2 | 2.70 | 0.45 |
| 26:1H:2330:G:H2' | 26:1H:2331:G:O4' | 2.16 | 0.45 |
| 26:1H:2653:U:C4 | 26:1H:2654:A:C5 | 3.05 | 0.45 |
| 28:71:14:VAL:HG13 | 28:71:222:VAL:HB | 1.98 | 0.45 |
| 28:71:212:VAL:CG2 | 28:71:226:PRO:HG3 | 2.43 | 0.45 |
| 29:11:30:GLU:CD | 29:11:63:ARG:HE | 2.15 | 0.45 |
| 32:41:21:ARG:HH11 | 32:41:22:ARG:HG3 | 1.82 | 0.45 |
| 32:41:110:ALA:HA | 32:41:140:ILE:O | 2.17 | 0.45 |
| 37:78:24:GLY:O | 37:78:25:SER:HB3 | 2.16 | 0.45 |
| 44:E8:70:TYR:N | 44:E8:70:TYR:HD1 | 2.14 | 0.45 |
| 46:G8:9:LYS:HA | 46:G8:27:VAL:CG2 | 2.46 | 0.45 |
| 46:G8:94:LYS:CG | 46:G8:95:LYS:N | 2.78 | 0.45 |
| 49:J8:93:GLU:OE2 | 49:J8:94:LEU:CD1 | 2.64 | 0.45 |
| 52:M8:47:GLN:OE1 | 52:M8:47:GLN:N | 2.50 | 0.45 |
| 1:1G:445:G:N2 | 1:1G:490:G:N3 | 2.65 | 0.45 |
| 1:1G:615:C:H2' | 1:1G:616:G:C8 | 2.52 | 0.45 |
| 1:1G:631:G:O5' | 8:72:98:LYS:NZ | 2.47 | 0.45 |
| 1:1G:715:A:H2' | 1:1G:716:A:C8 | 2.52 | 0.45 |
| 1:1G:1010:G:H2' | 1:1G:1011:G:C8 | 2.51 | 0.45 |
| 1:1G:1256:A:P | 3:22:27:LYS:HZ1 | 2.37 | 0.45 |
| 1:1G:1419:G:C6 | 1:1G:1482:G:C2 | 3.05 | 0.45 |
| 2:12:16:HIS:N | 2:12:16:HIS:CD2 | 2.84 | 0.45 |
| 4:32:82:ALA:HB1 | 4:32:89:THR:HA | 1.99 | 0.45 |
| 4:32:82:ALA:HB3 | 4:32:89:THR:HG23 | 1.98 | 0.45 |
| 7:62:146:GLU:CG | 7:62:147:ALA:H | 2.29 | 0.45 |
| 9:82:69:GLY:O | 9:82:72:GLY:N | 2.45 | 0.45 |
| 13:4A:34:LEU:HG | 13:4A:35:GLU:N | 2.32 | 0.45 |
| 26:14:270(X):G:O6 | 26:14:270(Y):G:N1 | 2.50 | 0.45 |
| 26:14:814:C:OP1 | 43:95:83:ARG:HG2 | 2.16 | 0.45 |
| 26:14:816:C:H2' | 26:14:817:C:C6 | 2.52 | 0.45 |
| 26:14:1090:U:N3 | 26:14:1102:C:O2 | 2.47 | 0.45 |
| 26:14:1418:G:H8 | 26:14:1418:G:O5' | 1.99 | 0.45 |
| 26:14:1668:A:O2' | 26:14:1674:G:N7 | 2.37 | 0.45 |
| 26:14:1910:G:H1 | 26:14:1920:C:H42 | 1.65 | 0.45 |
| 26:14:2180:U:H2' | 26:14:2181:G:C8 | 2.51 | 0.45 |
| 26:14:2766:G:H5'' | 26:14:2767:C:OP2 | 2.16 | 0.45 |
| 27:1J:21:G:H1 | 27:1J:62:C:N4 | 2.15 | 0.45 |
| 29:19:73:VAL:O | 29:19:75:ILE:HG13 | 2.17 | 0.45 |
| 29:19:118:VAL:HG22 | 29:19:119:ALA:N | 2.32 | 0.45 |
| 29:19:133:LEU:HD13 | 29:19:173:VAL:HG21 | 1.98 | 0.45 |
| 29:19:261:LYS:HE3 | 29:19:263:ARG:NH2 | 2.32 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 30:29:53:PRO:CA | 30:29:74:PRO:HB3 | 2.45 | 0.45 |
| 42:85:83:LEU:HD21 | 42:85:113:ALA:HB2 | 1.98 | 0.45 |
| 45:B5:12:VAL:HG22 | 45:B5:27:THR:O | 2.17 | 0.45 |
| 47:D5:39:VAL:HG21 | 47:D5:44:PHE:CD2 | 2.51 | 0.45 |
| 48:E5:46:LYS:HA | 48:E5:47:PRO:HD3 | 1.65 | 0.45 |
| 1:13:54:C:N4 | 1:13:353:A:OP2 | 2.38 | 0.45 |
| 1:13:112:G:C2 | 1:13:330:C:N4 | 2.85 | 0.45 |
| 1:13:192:U:C1' | 20:BI:103:GLY:HA2 | 2.46 | 0.45 |
| 1:13:221:C:H2' | 1:13:222:U:C6 | 2.47 | 0.45 |
| 1:13:355:C:H2' | 1:13:356:A:O4' | 2.17 | 0.45 |
| 1:13:734:G:C6 | 1:13:735:C:C4 | 3.04 | 0.45 |
| 1:13:1304:G:C5 | 1:13:1305:G:C6 | 3.04 | 0.45 |
| 1:13:1442:G:C6 | 1:13:1446:A:C6 | 3.05 | 0.45 |
| 2:1E:88:ALA:HB2 | 2:1E:219:VAL:HG13 | 1.99 | 0.45 |
| 2:1E:208:ILE:HA | 2:1E:211:ILE:CD1 | 2.46 | 0.45 |
| 9:8E:47:LEU:H | 9:8E:47:LEU:CD2 | 2.28 | 0.45 |
| 11:2I:73:MET:HE1 | 11:2I:102:GLY:HA3 | 1.98 | 0.45 |
| 13:4I:34:LEU:HD23 | 13:4I:39:ILE:HB | 1.98 | 0.45 |
| 13:4I:39:ILE:CD1 | 13:4I:56:LEU:HD22 | 2.47 | 0.45 |
| 26:1H:250:G:C6 | 26:1H:251:A:C6 | 3.05 | 0.45 |
| 26:1H:569:U:C4 | 26:1H:570:G:C6 | 3.04 | 0.45 |
| 26:1H:863:A:H2' | 26:1H:864:G:H8 | 1.81 | 0.45 |
| 26:1H:992:C:H2' | 26:1H:993:G:C8 | 2.50 | 0.45 |
| 26:1H:2108:C:H2' | 26:1H:2109:U:O4' | 2.16 | 0.45 |
| 26:1H:2453:A:H2' | 26:1H:2454:G:O4' | 2.17 | 0.45 |
| 26:1H:2848:G:H8 | 41:B8:97:ALA:HB2 | 1.80 | 0.45 |
| 28:71:193:ILE:HD13 | 28:71:226:PRO:O | 2.17 | 0.45 |
| 29:11:108:PRO:HA | 29:11:196:VAL:O | 2.17 | 0.45 |
| 30:21:35:GLN:CG | 30:21:36:ARG:N | 2.79 | 0.45 |
| 31:31:134:GLY:HA3 | 31:31:162:LEU:O | 2.17 | 0.45 |
| 33:51:30:LYS:HZ2 | 33:51:81:GLU:H | 1.63 | 0.45 |
| 33:51:109:PHE:CE1 | 33:51:152:ARG:NH2 | 2.83 | 0.45 |
| 37:78:62:LEU:O | 55:Q8:13:ARG:HD3 | 2.17 | 0.45 |
| 37:78:91:PHE:N | 37:78:91:PHE:HD1 | 2.15 | 0.45 |
| 40:A8:106:ARG:NH1 | 40:A8:106:ARG:O | 2.48 | 0.45 |
| 46:G8:21:LYS:HB3 | 46:G8:21:LYS:HE2 | 1.70 | 0.45 |
| 46:G8:88:LYS:HD3 | 46:G8:88:LYS:HA | 1.77 | 0.45 |
| 1:1G:123:C:OP1 | 1:1G:312:C:H5' | 2.16 | 0.45 |
| 1:1G:619:U:C2 | 4:32:135:LEU:HD21 | 2.52 | 0.45 |
| 1:1G:959:A:H5'' | 1:1G:960:U:OP2 | 2.17 | 0.45 |
| 1:1G:989:C:H6 | 1:1G:989:C:OP2 | 2.00 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:1G:1078:U:H1' | 5:42:130:ASN:OD1 | 2.16 | 0.45 |
| 1:1G:1127:G:H2' | 1:1G:1128:C:H6 | 1.82 | 0.45 |
| 1:1G:1240:U:O2' | 1:1G:1241:G:OP1 | 2.33 | 0.45 |
| 1:1G:1345:U:H4' | 1:1G:1346:A:H5'' | 1.98 | 0.45 |
| 1:1G:1348:U:OP2 | 1:1G:1373:G:N1 | 2.47 | 0.45 |
| 1:1G:1357:A:N7 | 1:1G:1358:U:N3 | 2.65 | 0.45 |
| 1:1G:1359:C:H1' | 1:1G:1362:C:H41 | 1.81 | 0.45 |
| 3:22:59:ARG:HB3 | 3:22:64:VAL:HG23 | 1.98 | 0.45 |
| 3:22:190:ARG:O | 3:22:190:ARG:HG2 | 2.16 | 0.45 |
| 4:32:50:ARG:HH11 | 5:42:10:MET:HE2 | 1.82 | 0.45 |
| 8:72:51:VAL:HG11 | 8:72:60:ARG:HE | 1.80 | 0.45 |
| 14:5A:22:THR:O | 14:5A:29:ARG:HG2 | 2.16 | 0.45 |
| 16:7A:48:TRP:CE3 | 16:7A:49:LEU:HB2 | 2.52 | 0.45 |
| 20:BA:39:LYS:O | 20:BA:43:LEU:HG | 2.17 | 0.45 |
| 56:1L:9:A:H4' | 56:1L:10:G:OP2 | 2.16 | 0.45 |
| 26:14:2:G:N3 | 26:14:2:G:H2' | 2.31 | 0.45 |
| 26:14:227:A:C2 | 26:14:2407:G:H1' | 2.52 | 0.45 |
| 26:14:275:G:N2 | 26:14:276:A:H62 | 2.15 | 0.45 |
| 26:14:353:G:N3 | 26:14:354:G:C8 | 2.85 | 0.45 |
| 26:14:360:G:H2' | 26:14:361:G:C8 | 2.51 | 0.45 |
| 26:14:725:G:C6 | 26:14:726:G:C6 | 3.04 | 0.45 |
| 26:14:853:G:H2' | 26:14:854:G:H8 | 1.79 | 0.45 |
| 26:14:1389:G:H2' | 26:14:1390:U:H6 | 1.82 | 0.45 |
| 26:14:1412:A:H2' | 26:14:1413:G:C8 | 2.52 | 0.45 |
| 26:14:2190:G:N3 | 26:14:2191:G:H1' | 2.31 | 0.45 |
| 26:14:2209:C:O2 | 26:14:2216:G:C2 | 2.70 | 0.45 |
| 26:14:2786:U:H5'' | 30:29:66:HIS:CD2 | 2.52 | 0.45 |
| 27:1J:10:C:C4 | 27:1J:11:C:C5 | 3.05 | 0.45 |
| 27:1J:15:A:H1' | 27:1J:109:G:N9 | 2.32 | 0.45 |
| 27:1J:99:A:C5 | 27:1J:100:G:N7 | 2.85 | 0.45 |
| 29:19:236:GLY:O | 29:19:237:GLU:O | 2.35 | 0.45 |
| 30:29:7:VAL:HG12 | 30:29:8:LYS:H | 1.82 | 0.45 |
| 30:29:37:ARG:HA | 30:29:42:ASP:OD2 | 2.16 | 0.45 |
| 31:39:23:ASP:N | 31:39:23:ASP:OD1 | 2.49 | 0.45 |
| 37:35:47:ASP:HB3 | 37:35:48:PRO:CA | 2.47 | 0.45 |
| 37:35:79:ARG:HG2 | 37:35:110:TYR:CB | 2.37 | 0.45 |
| 46:C5:82:PRO:HB3 | 46:C5:99:CYS:HB3 | 1.97 | 0.45 |
| 46:C5:104:GLY:HA2 | 46:C5:105:ALA:HA | 1.78 | 0.45 |
| 49:F5:25:LYS:HA | 49:F5:29:GLY:HA2 | 1.98 | 0.45 |
| 1:13:11:G:C2 | 1:13:24:U:O2 | 2.70 | 0.45 |
| 1:13:510:A:H5'' | 1:13:511:C:P | 2.57 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:790:A:H8 | 1:13:790:A:O5' | 2.00 | 0.45 |
| 1:13:986:A:H2' | 1:13:987:G:O4' | 2.17 | 0.45 |
| 5:4E:15:ARG:HH12 | 25:4K:24:A:H2 | 1.65 | 0.45 |
| 11:2I:27:ASN:OD1 | 11:2I:28:THR:N | 2.49 | 0.45 |
| 24:3K:12:U:H2' | 24:3K:13:C:O4' | 2.16 | 0.45 |
| 26:1H:7:G:H1 | 26:1H:2896:C:H42 | 1.63 | 0.45 |
| 26:1H:662:G:H5' | 37:78:15:ARG:HA | 1.99 | 0.45 |
| 26:1H:1343:G:H2' | 26:1H:1384:A:C2 | 2.51 | 0.45 |
| 26:1H:1382:G:H8 | 26:1H:1382:G:O5' | 2.00 | 0.45 |
| 26:1H:1729:A:C5 | 26:1H:1731:G:C5 | 3.05 | 0.45 |
| 26:1H:2065:C:H2' | 26:1H:2066:C:H6 | 1.81 | 0.45 |
| 26:1H:2226:C:H5' | 26:1H:2227:A:OP2 | 2.17 | 0.45 |
| 26:1H:2376:A:H2' | 26:1H:2377:A:O4' | 2.17 | 0.45 |
| 26:1H:2401:U:H2' | 26:1H:2402:C:H5'' | 1.98 | 0.45 |
| 26:1H:2663:G:C2 | 26:1H:2664:G:H1' | 2.51 | 0.45 |
| 29:11:31:LYS:HD2 | 29:11:31:LYS:HA | 1.85 | 0.45 |
| 30:21:54:GLN:O | 30:21:55:ASN:ND2 | 2.50 | 0.45 |
| 34:61:29:TYR:CE1 | 34:61:33:ARG:NE | 2.85 | 0.45 |
| 36:68:18:LYS:N | 36:68:18:LYS:HD2 | 2.32 | 0.45 |
| 39:98:104:ARG:HB3 | 39:98:107:ASP:HB3 | 1.97 | 0.45 |
| 40:A8:88:ASP:O | 40:A8:90:GLY:N | 2.50 | 0.45 |
| 1:1G:32:A:C2 | 1:1G:33:A:C4 | 3.04 | 0.45 |
| 1:1G:49:U:C2 | 1:1G:361:G:N2 | 2.84 | 0.45 |
| 1:1G:325:A:H2' | 1:1G:326:G:O4' | 2.16 | 0.45 |
| 1:1G:486:U:H2' | 1:1G:487:A:C8 | 2.52 | 0.45 |
| 1:1G:493:G:H2' | 1:1G:494:U:C6 | 2.52 | 0.45 |
| 1:1G:502:G:H4' | 1:1G:550:G:H4' | 1.99 | 0.45 |
| 1:1G:595:G:H1' | 1:1G:596:C:C5 | 2.50 | 0.45 |
| 1:1G:750:G:C2 | 1:1G:751:U:C6 | 3.05 | 0.45 |
| 1:1G:1081:G:H5'' | 5:42:18:ARG:HG3 | 1.98 | 0.45 |
| 1:1G:1206:G:C6 | 1:1G:1207:G:C6 | 3.04 | 0.45 |
| 1:1G:1509:C:H2' | 1:1G:1510:U:O4' | 2.16 | 0.45 |
| 4:32:150:GLU:HG2 | 4:32:151:LYS:N | 2.32 | 0.45 |
| 5:42:27:ARG:NH1 | 5:42:47:LYS:HZ3 | 2.13 | 0.45 |
| 5:42:78:HIS:HB2 | 8:72:104:ARG:HG3 | 1.99 | 0.45 |
| 12:3A:83:VAL:HG22 | 12:3A:100:ILE:HG23 | 1.99 | 0.45 |
| 13:4A:56:LEU:O | 13:4A:60:VAL:HG22 | 2.17 | 0.45 |
| 16:7A:3:LYS:O | 16:7A:21:VAL:HA | 2.16 | 0.45 |
| 23:2L:41:C:H2' | 23:2L:42:C:H6 | 1.80 | 0.45 |
| 57:3L:5:C:H2' | 57:3L:6:G:C8 | 2.51 | 0.45 |
| 26:14:184:C:H2' | 26:14:185:U:H6 | 1.81 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:473:G:O2' | 26:14:474:G:H5' | 2.16 | 0.45 |
| 26:14:522:G:H2' | 26:14:523:C:C6 | 2.51 | 0.45 |
| 26:14:761:A:N7 | 61:14:3569:HOH:O | 2.36 | 0.45 |
| 26:14:795:C:H2' | 26:14:796:C:H6 | 1.82 | 0.45 |
| 26:14:812:C:H5'' | 26:14:1250:G:O2' | 2.17 | 0.45 |
| 26:14:840:C:H42 | 26:14:938:G:H1 | 1.63 | 0.45 |
| 26:14:860:U:C5 | 26:14:916:G:N2 | 2.85 | 0.45 |
| 26:14:1140:C:H4' | 26:14:1143:A:C6 | 2.52 | 0.45 |
| 26:14:1674:G:H1' | 26:14:1676:A:N6 | 2.31 | 0.45 |
| 26:14:1728:G:C2 | 26:14:1730:U:OP2 | 2.69 | 0.45 |
| 26:14:2228:G:C5 | 26:14:2229:C:C4 | 3.05 | 0.45 |
| 26:14:2312:U:H5'' | 32:49:74:LYS:NZ | 2.32 | 0.45 |
| 29:19:145:VAL:HG13 | 29:19:191:ALA:HB2 | 1.98 | 0.45 |
| 31:39:39:TRP:HB2 | 31:39:99:TYR:HE1 | 1.82 | 0.45 |
| 32:49:73:ALA:HB2 | 32:49:82:LEU:HD22 | 1.98 | 0.45 |
| 32:49:73:ALA:HB2 | 32:49:82:LEU:CD2 | 2.47 | 0.45 |
| 32:49:105:LYS:HZ2 | 32:49:106:LEU:HD11 | 1.82 | 0.45 |
| 36:25:68:GLU:HB3 | 36:25:78:ARG:HB3 | 1.98 | 0.45 |
| 37:35:11:GLY:O | 37:35:12:ALA:HB3 | 2.17 | 0.45 |
| 37:35:127:ALA:HB3 | 37:35:130:PHE:CZ | 2.51 | 0.45 |
| 39:55:12:ARG:HG2 | 39:55:16:HIS:ND1 | 2.32 | 0.45 |
| 41:75:24:PRO:HD3 | 41:75:52:ILE:HD12 | 1.99 | 0.45 |
| 44:A5:69:LEU:HA | 44:A5:108:GLY:O | 2.17 | 0.45 |
| 50:G5:22:GLU:O | 50:G5:25:VAL:HG22 | 2.17 | 0.45 |
| 1:13:101:A:H2' | 1:13:102:G:H8 | 1.82 | 0.45 |
| 1:13:119:A:C8 | 1:13:288:A:N1 | 2.85 | 0.45 |
| 1:13:223:U:H2' | 1:13:224:C:O4' | 2.17 | 0.45 |
| 1:13:300:A:C8 | 1:13:300:A:H3' | 2.52 | 0.45 |
| 1:13:536:C:H2' | 1:13:537:G:H8 | 1.82 | 0.45 |
| 1:13:581:G:O2' | 1:13:582:U:H5' | 2.17 | 0.45 |
| 1:13:612:C:C2 | 1:13:629:G:N2 | 2.85 | 0.45 |
| 1:13:737:A:O2' | 1:13:738:C:H5' | 2.16 | 0.45 |
| 1:13:912:C:O2' | 1:13:913:A:H5' | 2.17 | 0.45 |
| 1:13:937:A:C2' | 1:13:938:A:H5' | 2.47 | 0.45 |
| 1:13:1053:G:O6 | 1:13:1199:U:H2' | 2.17 | 0.45 |
| 1:13:1347:G:C5 | 9:8E:10:ARG:NH2 | 2.85 | 0.45 |
| 1:13:1360:A:H2' | 1:13:1361:G:C8 | 2.52 | 0.45 |
| 1:13:1366:C:H2' | 1:13:1367:C:C6 | 2.50 | 0.45 |
| 4:3E:126:ILE:HG22 | 4:3E:127:THR:N | 2.32 | 0.45 |
| 9:8E:33:PHE:CE1 | 9:8E:37:PHE:HD2 | 2.35 | 0.45 |
| 24:3K:3:G:H2' | 24:3K:4:U:C6 | 2.52 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:394:A:O2' | 26:1H:395:U:H5' | 2.17 | 0.45 |
| 26:1H:507:A:H5'' | 26:1H:508:G:H3' | 1.98 | 0.45 |
| 26:1H:619:G:H3' | 26:1H:620:G:N2 | 2.32 | 0.45 |
| 26:1H:621:A:O4' | 26:1H:621:A:N3 | 2.48 | 0.45 |
| 26:1H:654(O):G:C8 | 26:1H:654(P):G:N3 | 2.85 | 0.45 |
| 26:1H:660:G:H2' | 26:1H:661:C:O4' | 2.16 | 0.45 |
| 26:1H:669:G:C2 | 26:1H:801:G:C6 | 3.05 | 0.45 |
| 26:1H:836:G:H3' | 26:1H:837:C:C6 | 2.52 | 0.45 |
| 26:1H:872:A:C2 | 26:1H:906:G:C4 | 3.05 | 0.45 |
| 26:1H:1162:G:C6 | 26:1H:1163:G:C5 | 3.05 | 0.45 |
| 26:1H:1427:A:H4' | 26:1H:1428:C:O4' | 2.17 | 0.45 |
| 26:1H:1551:C:C2 | 26:1H:1552:G:C8 | 3.05 | 0.45 |
| 26:1H:1920:C:O2 | 26:1H:1920:C:H2' | 2.16 | 0.45 |
| 26:1H:2131:G:O4' | 26:1H:2133:G:H4' | 2.16 | 0.45 |
| 26:1H:2320:A:H8 | 26:1H:2321:G:C6 | 2.35 | 0.45 |
| 26:1H:2689:U:H5'' | 26:1H:2713:A:C2 | 2.52 | 0.45 |
| 26:1H:2797:U:H5'' | 26:1H:2798:C:OP2 | 2.16 | 0.45 |
| 31:31:6:VAL:HG21 | 31:31:119:ARG:HB2 | 1.99 | 0.45 |
| 31:31:89:VAL:HG12 | 31:31:90:PHE:CD2 | 2.52 | 0.45 |
| 37:78:84:ASN:HA | 37:78:115:LEU:O | 2.16 | 0.45 |
| 37:78:106:LEU:O | 37:78:106:LEU:HD22 | 2.17 | 0.45 |
| 39:98:44:LEU:O | 39:98:45:ARG:C | 2.55 | 0.45 |
| 43:D8:65:GLY:HA3 | 43:D8:91:TYR:CD1 | 2.51 | 0.45 |
| 44:E8:58:ALA:CA | 44:E8:64:MET:HG3 | 2.47 | 0.45 |
| 49:J8:84:GLY:O | 49:J8:87:PRO:HD2 | 2.17 | 0.45 |
| 1:1G:45:U:H2' | 1:1G:46:G:H8 | 1.82 | 0.45 |
| 1:1G:328:C:H4' | 1:1G:329:A:H5'' | 1.98 | 0.45 |
| 1:1G:623:C:H2' | 1:1G:624:C:H5' | 1.98 | 0.45 |
| 1:1G:973:G:H1' | 10:1A:55:LYS:CG | 2.47 | 0.45 |
| 1:1G:1431:C:H42 | 1:1G:1469:G:H1 | 1.64 | 0.45 |
| 1:1G:1436:U:H2' | 1:1G:1437:C:O4' | 2.17 | 0.45 |
| 3:22:11:ARG:CZ | 3:22:182:ILE:HD11 | 2.46 | 0.45 |
| 3:22:12:LEU:HD23 | 3:22:12:LEU:O | 2.17 | 0.45 |
| 4:32:26:CYS:HA | 59:32:302:SF4:S1 | 2.57 | 0.45 |
| 10:1A:33:GLN:O | 10:1A:74:ILE:HD12 | 2.17 | 0.45 |
| 12:3A:20:LYS:CD | 12:3A:20:LYS:C | 2.85 | 0.45 |
| 12:3A:47:LYS:HG3 | 12:3A:48:PRO:HD2 | 1.98 | 0.45 |
| 17:8A:45:HIS:O | 17:8A:73:VAL:HG12 | 2.17 | 0.45 |
| 23:2L:14:A:C4 | 23:2L:23:G:C2 | 3.04 | 0.45 |
| 26:14:90:U:O2' | 26:14:91:A:P | 2.74 | 0.45 |
| 26:14:205:G:O2' | 26:14:206:U:P | 2.75 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:14:544:C:O5' | 26:14:544:C:H6 | 2.00 | 0.45 |
| 26:14:997:G:O2' | 26:14:998:C:H5' | 2.17 | 0.45 |
| 26:14:1048:A:H5' | 26:14:1109:C:H42 | 1.81 | 0.45 |
| 26:14:1246:A:OP1 | 37:35:15:ARG:HD2 | 2.17 | 0.45 |
| 26:14:1475:G:C2 | 26:14:1519:G:C2 | 3.05 | 0.45 |
| 26:14:1909:C:H2' | 26:14:1910:G:C8 | 2.52 | 0.45 |
| 26:14:2516:G:C6 | 26:14:2517:C:C4 | 3.05 | 0.45 |
| 26:14:2788:C:OP1 | 30:29:61:ARG:NH1 | 2.50 | 0.45 |
| 26:14:2846:G:H2' | 26:14:2847:U:O4' | 2.17 | 0.45 |
| 31:39:3:GLU:O | 31:39:19:GLU:HG3 | 2.16 | 0.45 |
| 31:39:155:LEU:HB2 | 31:39:189:THR:HG21 | 1.99 | 0.45 |
| 32:49:103:LEU:HB3 | 32:49:178:PHE:HE2 | 1.82 | 0.45 |
| 38:45:75:THR:HA | 38:45:89:ASN:CA | 2.43 | 0.45 |
| 41:75:21:GLU:O | 41:75:91:ARG:NH2 | 2.49 | 0.45 |
| 49:F5:52:ARG:HD2 | 49:F5:57:GLU:CG | 2.47 | 0.45 |
| 49:F5:91:LYS:HG3 | 49:F5:92:LYS:N | 2.31 | 0.45 |
| 51:H5:18:ASP:OD1 | 51:H5:18:ASP:N | 2.49 | 0.45 |
| 1:13:216:G:H2' | 1:13:217:C:O4' | 2.17 | 0.45 |
| 1:13:266:G:N2 | 1:13:269:C:C5 | 2.85 | 0.45 |
| 1:13:359:U:H2' | 1:13:360:A:H8 | 1.81 | 0.45 |
| 1:13:691:G:H1 | 11:2I:51:LYS:NZ | 2.15 | 0.45 |
| 1:13:739:C:O2 | 15:6I:42:HIS:HE1 | 1.99 | 0.45 |
| 1:13:872:A:C5 | 1:13:874:G:C8 | 3.04 | 0.45 |
| 1:13:1071:C:H2' | 1:13:1072:G:H8 | 1.81 | 0.45 |
| 1:13:1503:A:H61 | 25:4K:11:U:H2' | 1.82 | 0.45 |
| 5:4E:11:ILE:CD1 | 5:4E:31:LEU:HD13 | 2.36 | 0.45 |
| 7:6E:29:LYS:HB3 | 7:6E:105:VAL:HG21 | 1.99 | 0.45 |
| 8:7E:86:ILE:HG12 | 8:7E:135:CYS:HA | 1.99 | 0.45 |
| 9:8E:38:GLN:HG2 | 9:8E:39:GLY:N | 2.31 | 0.45 |
| 13:4I:3:ARG:HB3 | 13:4I:9:ILE:CG1 | 2.46 | 0.45 |
| 19:AI:18:LYS:HZ1 | 19:AI:22:LEU:CD1 | 2.26 | 0.45 |
| 23:2K:10:G:N2 | 23:2K:27:G:H1' | 2.32 | 0.45 |
| 26:1H:270(C):C:N4 | 26:1H:270(W):G:H1 | 2.11 | 0.45 |
| 26:1H:273(B):C:H6 | 26:1H:273(B):C:O5' | 2.00 | 0.45 |
| 26:1H:566:U:P | 37:78:29:LYS:HZ2 | 2.39 | 0.45 |
| 26:1H:663:G:OP1 | 37:78:17:LYS:HG2 | 2.17 | 0.45 |
| 26:1H:1170:G:C6 | 26:1H:1171:G:N7 | 2.85 | 0.45 |
| 26:1H:1268:A:C2 | 26:1H:2013:A:C4 | 3.05 | 0.45 |
| 26:1H:1833:U:H2' | 26:1H:1834:U:C6 | 2.52 | 0.45 |
| 26:1H:2040:C:H2' | 26:1H:2041:U:O4' | 2.16 | 0.45 |
| 26:1H:2129:C:H2' | 26:1H:2130:U:H4' | 1.98 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:1H:2133:G:N3 | 26:1H:2157:G:N1 | 2.64 | 0.45 |
| 26:1H:2348:U:O4 | 26:1H:2382:G:C2 | 2.70 | 0.45 |
| 26:1H:2422:A:N7 | 55:Q8:31:HIS:HE1 | 2.15 | 0.45 |
| 26:1H:2728:U:H2' | 26:1H:2729:G:H8 | 1.83 | 0.45 |
| 27:16:18:G:H1 | 27:16:65:C:N4 | 2.14 | 0.45 |
| 32:41:139:LEU:HD22 | 32:41:146:TYR:HB2 | 1.99 | 0.45 |
| 33:51:69:ARG:HH11 | 33:51:73:ALA:HB2 | 1.82 | 0.45 |
| 34:61:41:GLU:CG | 34:61:42:SER:N | 2.79 | 0.45 |
| 40:A8:16:ASN:O | 40:A8:17:ARG:C | 2.54 | 0.45 |
| 41:B8:3:ARG:HB2 | 41:B8:6:LEU:CB | 2.35 | 0.45 |
| 41:B8:125:ARG:HA | 41:B8:128:GLU:CG | 2.46 | 0.45 |
| 1:1G:371:G:H1 | 1:1G:390:C:N4 | 2.14 | 0.45 |
| 1:1G:755:G:H2' | 1:1G:756:C:C6 | 2.51 | 0.45 |
| 1:1G:957:U:H2' | 1:1G:958:A:H3' | 1.97 | 0.45 |
| 1:1G:1004:A:H3' | 1:1G:1004:A:N3 | 2.32 | 0.45 |
| 1:1G:1077:G:H8 | 1:1G:1077:G:O5' | 1.99 | 0.45 |
| 1:1G:1099:G:C5 | 1:1G:1100:C:C4 | 3.05 | 0.45 |
| 2:12:27:LYS:HB2 | 2:12:27:LYS:HE3 | 1.69 | 0.45 |
| 4:32:28:SER:HB2 | 4:32:29:PRO:HA | 1.99 | 0.45 |
| 6:52:10:LEU:HB2 | 6:52:59:TYR:HB3 | 1.98 | 0.45 |
| 16:7A:4:ILE:HG22 | 16:7A:70:ALA:HB1 | 1.99 | 0.45 |
| 18:9A:41:LYS:O | 18:9A:41:LYS:HD3 | 2.16 | 0.45 |
| 26:14:372:G:H3' | 49:F5:66:HIS:CE1 | 2.52 | 0.45 |
| 26:14:469:G:O6 | 54:L5:39:ARG:NH1 | 2.50 | 0.45 |
| 26:14:1246:A:OP2 | 37:35:15:ARG:HD3 | 2.16 | 0.45 |
| 26:14:1466:G:N3 | 26:14:1466:G:H2' | 2.32 | 0.45 |
| 26:14:1570:A:H8 | 26:14:1570:A:O5' | 1.99 | 0.45 |
| 26:14:2022:U:OP2 | 53:J5:15:ARG:NH2 | 2.50 | 0.45 |
| 26:14:2062:A:O2' | 26:14:2063:C:P | 2.75 | 0.45 |
| 26:14:2275:C:H1' | 38:45:83:MET:HG2 | 1.99 | 0.45 |
| 26:14:2391:G:O6 | 26:14:2425:A:H8 | 2.00 | 0.45 |
| 26:14:2496:C:O2' | 26:14:2497:A:H5' | 2.17 | 0.45 |
| 26:14:2557:G:H2' | 26:14:2558:C:H6 | 1.82 | 0.45 |
| 26:14:2749:A:H1' | 33:59:63:SER:HA | 1.99 | 0.45 |
| 26:14:2849:U:H4' | 26:14:2868:A:C2 | 2.51 | 0.45 |
| 30:29:35:GLN:NE2 | 30:29:37:ARG:HE | 2.14 | 0.45 |
| 30:29:120:TRP:CD1 | 30:29:155:LYS:HB3 | 2.52 | 0.45 |
| 32:49:33:ARG:H | 32:49:162:THR:CG2 | 2.30 | 0.45 |
| 37:35:63:PRO:HG2 | 55:M5:25:MET:CB | 2.47 | 0.45 |
| 37:35:92:GLU:HA | 37:35:123:LEU:CD2 | 2.47 | 0.45 |
| 40:65:17:ARG:O | 40:65:17:ARG:HD3 | 2.17 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 40:65:83:LYS:HB2 | 40:65:83:LYS:HE2 | 1.48 | 0.45 |
| 42:85:49:HIS:HA | 42:85:52:ARG:HB3 | 1.98 | 0.45 |
| 43:95:67:GLY:O | 43:95:88:ARG:HD2 | 2.16 | 0.45 |
| 1:13:132:C:N3 | 1:13:231:G:N2 | 2.64 | 0.44 |
| 1:13:191:G:C2 | 1:13:192:U:C2 | 3.06 | 0.44 |
| 1:13:221:C:C6 | 1:13:222:U:H5 | 2.35 | 0.44 |
| 1:13:553:A:H5'' | 12:3I:24:VAL:HG21 | 1.99 | 0.44 |
| 1:13:556:C:H2' | 1:13:557:G:H8 | 1.82 | 0.44 |
| 1:13:588:G:H5'' | 8:7E:5:PRO:HG3 | 1.99 | 0.44 |
| 1:13:740:U:H4' | 15:6I:39:LEU:HD23 | 1.99 | 0.44 |
| 2:1E:67:THR:OG1 | 2:1E:155:LEU:HD23 | 2.17 | 0.44 |
| 4:3E:165:MET:HA | 4:3E:168:ARG:HD3 | 1.98 | 0.44 |
| 7:6E:15:ASP:O | 7:6E:19:GLY:HA2 | 2.17 | 0.44 |
| 10:1I:44:VAL:HG21 | 10:1I:66:ARG:HH21 | 1.83 | 0.44 |
| 13:4I:27:LYS:HA | 13:4I:31:LYS:HZ3 | 1.81 | 0.44 |
| 14:5I:12:ARG:C | 14:5I:14:PRO:HD2 | 2.37 | 0.44 |
| 22:1K:17:U:C2 | 22:1K:58:A:C2 | 3.05 | 0.44 |
| 22:1K:27:G:H2' | 22:1K:28:U:C6 | 2.51 | 0.44 |
| 24:3K:34:U:H6 | 24:3K:34:U:P | 2.40 | 0.44 |
| 26:1H:270(E):G:C2 | 26:1H:270(V):G:C6 | 3.05 | 0.44 |
| 26:1H:814:C:H41 | 37:78:25:SER:HA | 1.82 | 0.44 |
| 26:1H:1191:G:OP1 | 37:78:32:THR:OG1 | 2.35 | 0.44 |
| 26:1H:1346:G:C5 | 26:1H:1347:G:N7 | 2.85 | 0.44 |
| 26:1H:1465:G:N3 | 26:1H:1466:G:C8 | 2.85 | 0.44 |
| 26:1H:2829:C:H5' | 30:21:76:ARG:HH22 | 1.82 | 0.44 |
| 30:21:55:ASN:HB3 | 30:21:58:ARG:H | 1.81 | 0.44 |
| 30:21:108:SER:O | 30:21:162:ALA:HA | 2.18 | 0.44 |
| 31:31:114:VAL:HG21 | 31:31:202:PHE:CZ | 2.52 | 0.44 |
| 32:41:83:ARG:HD3 | 32:41:83:ARG:HA | 1.86 | 0.44 |
| 32:41:120:LEU:HD23 | 32:41:120:LEU:HA | 1.72 | 0.44 |
| 36:68:49:ARG:CA | 36:68:53:LYS:HZ3 | 2.31 | 0.44 |
| 36:68:104:ARG:HH22 | 41:B8:43:GLN:HE22 | 1.65 | 0.44 |
| 49:J8:78:LYS:HD3 | 49:J8:78:LYS:O | 2.17 | 0.44 |
| 53:N8:31:VAL:HB | 53:N8:42:PRO:HG3 | 1.98 | 0.44 |
| 1:1G:345:C:O3' | 41:75:41:ARG:NH2 | 2.50 | 0.44 |
| 1:1G:536:C:H2' | 1:1G:537:G:C8 | 2.52 | 0.44 |
| 1:1G:1290:G:C4 | 1:1G:1291:G:C8 | 3.04 | 0.44 |
| 2:12:104:ASN:OD1 | 2:12:107:THR:OG1 | 2.35 | 0.44 |
| 5:42:76:ILE:HG12 | 5:42:118:ILE:CD1 | 2.47 | 0.44 |
| 15:6A:13:GLN:HB3 | 15:6A:14:GLU:H | 1.38 | 0.44 |
| 23:2L:44:A:C2 | 23:2L:45:A:C8 | 3.05 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------|--------------------|--------------------------|-------------------|
| 26:14:260:G:C6 | 26:14:261:G:N7 | 2.84 | 0.44 |
| 26:14:265:A:H1' | 26:14:266:G:O4' | 2.17 | 0.44 |
| 26:14:656:G:H2' | 26:14:657:U:O4' | 2.16 | 0.44 |
| 26:14:662:G:OP1 | 37:35:15:ARG:CZ | 2.65 | 0.44 |
| 26:14:825:C:C2' | 26:14:826:U:H5' | 2.47 | 0.44 |
| 26:14:848:G:C2 | 26:14:849:A:C5 | 3.05 | 0.44 |
| 26:14:1191:G:OP1 | 37:35:18:ARG:NH2 | 2.50 | 0.44 |
| 26:14:1465:G:H5' | 26:14:1528:A:O2' | 2.17 | 0.44 |
| 26:14:1551:C:C5 | 26:14:1552:G:N7 | 2.85 | 0.44 |
| 26:14:1630(A):C:H2' | 61:14:3542:HOH:O | 2.17 | 0.44 |
| 26:14:1902:C:H5' | 29:19:246:PRO:HD3 | 1.99 | 0.44 |
| 26:14:1999:C:H4' | 26:14:2723:C:O2 | 2.17 | 0.44 |
| 26:14:2117:A:C8 | 26:14:2118:U:H5 | 2.35 | 0.44 |
| 26:14:2126:A:N1 | 26:14:2163:C:H1' | 2.32 | 0.44 |
| 26:14:2516:G:O2' | 26:14:2517:C:H5' | 2.17 | 0.44 |
| 27:1J:117:G:C2 | 27:1J:118:G:N7 | 2.85 | 0.44 |
| 30:29:52:LEU:HB3 | 30:29:75:VAL:HG23 | 1.99 | 0.44 |
| 34:69:73:GLU:HG3 | 34:69:136:VAL:HG23 | 1.98 | 0.44 |
| 34:69:88:ILE:HD11 | 34:69:122:GLU:O | 2.17 | 0.44 |
| 38:45:27:VAL:HG12 | 47:D5:81:ARG:NH2 | 2.33 | 0.44 |
| 39:55:116:LEU:HA | 39:55:116:LEU:HD23 | 1.68 | 0.44 |
| 40:65:54:LEU:C | 40:65:56:LEU:H | 2.18 | 0.44 |
| 40:65:102:ALA:O | 40:65:105:ALA:N | 2.49 | 0.44 |
| 51:H5:55:ARG:O | 51:H5:55:ARG:HG3 | 2.15 | 0.44 |
| 1:13:559:A:H4' | 1:13:560:U:O3' | 2.17 | 0.44 |
| 1:13:575:G:C4 | 1:13:881:G:C2 | 3.06 | 0.44 |
| 1:13:1027:C:C2 | 1:13:1028:C:H5 | 2.35 | 0.44 |
| 1:13:1156:G:H2' | 1:13:1157:A:H5'' | 2.00 | 0.44 |
| 1:13:1274:G:H2' | 1:13:1275:A:C8 | 2.51 | 0.44 |
| 1:13:1501:C:C5 | 1:13:1504:G:C5 | 3.05 | 0.44 |
| 2:1E:69:LEU:HD13 | 2:1E:70:PHE:N | 2.31 | 0.44 |
| 4:3E:79:PHE:HE2 | 4:3E:204:ILE:HA | 1.82 | 0.44 |
| 8:7E:6:ILE:HD12 | 8:7E:6:ILE:H | 1.82 | 0.44 |
| 12:3I:60:LEU:HD12 | 12:3I:62:SER:OG | 2.17 | 0.44 |
| 15:6I:8:LYS:HB2 | 15:6I:8:LYS:HE3 | 1.83 | 0.44 |
| 23:2K:1:C:H3' | 23:2K:2:G:C8 | 2.53 | 0.44 |
| 23:2K:73:A:N6 | 23:2K:74:A:C6 | 2.85 | 0.44 |
| 26:1H:244:A:O2' | 37:78:73:GLY:HA3 | 2.17 | 0.44 |
| 26:1H:821:A:H5'' | 26:1H:822:U:C6 | 2.52 | 0.44 |
| 26:1H:863:A:H2' | 26:1H:864:G:C8 | 2.52 | 0.44 |
| 26:1H:1478:G:C2 | 26:1H:1479:G:C8 | 3.05 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:1479:G:C6 | 26:1H:1480:G:C5 | 3.05 | 0.44 |
| 26:1H:1682:G:C5 | 26:1H:1683:C:C4 | 3.05 | 0.44 |
| 26:1H:2355:C:H5'' | 26:1H:2356:C:OP2 | 2.16 | 0.44 |
| 26:1H:2600:A:C6 | 26:1H:2601:C:N4 | 2.86 | 0.44 |
| 26:1H:2718:G:C6 | 26:1H:2719:G:C5 | 3.05 | 0.44 |
| 26:1H:2747:G:O6 | 26:1H:2755:C:H5'' | 2.16 | 0.44 |
| 26:1H:2829:C:H5' | 30:21:76:ARG:NH2 | 2.33 | 0.44 |
| 27:16:70:C:N3 | 27:16:71:C:C5 | 2.85 | 0.44 |
| 28:71:44:HIS:HE1 | 28:71:215:THR:HG22 | 1.82 | 0.44 |
| 29:11:64:ILE:HG21 | 29:11:64:ILE:HD13 | 1.72 | 0.44 |
| 32:41:108:ASN:OD1 | 32:41:108:ASN:N | 2.50 | 0.44 |
| 33:51:126:PRO:O | 33:51:127:GLU:HG2 | 2.16 | 0.44 |
| 34:61:93:THR:OG1 | 34:61:95:LYS:HB3 | 2.18 | 0.44 |
| 36:68:4:PRO:O | 36:68:5:GLN:CB | 2.65 | 0.44 |
| 38:88:130:LYS:NZ | 47:H8:81:ARG:HG2 | 2.31 | 0.44 |
| 42:C8:31:SER:O | 42:C8:32:PHE:C | 2.53 | 0.44 |
| 43:D8:36:PRO:HA | 43:D8:37:VAL:HA | 1.69 | 0.44 |
| 43:D8:37:VAL:HB | 43:D8:51:VAL:CG2 | 2.48 | 0.44 |
| 43:D8:76:LYS:HB2 | 43:D8:81:TYR:CD1 | 2.53 | 0.44 |
| 47:H8:138:GLU:CD | 47:H8:138:GLU:N | 2.70 | 0.44 |
| 1:1G:25:C:H2' | 1:1G:26:A:H8 | 1.82 | 0.44 |
| 1:1G:134:A:H61 | 16:7A:25:ARG:NH1 | 2.16 | 0.44 |
| 1:1G:318:G:C2 | 1:1G:336:C:N3 | 2.85 | 0.44 |
| 1:1G:359:U:H2' | 1:1G:360:A:H8 | 1.80 | 0.44 |
| 1:1G:411:A:H2' | 1:1G:413:G:H5' | 1.99 | 0.44 |
| 1:1G:665:A:H1' | 1:1G:733:A:O4' | 2.16 | 0.44 |
| 1:1G:719:C:C5 | 1:1G:720:C:C4 | 3.05 | 0.44 |
| 1:1G:799:G:C6 | 1:1G:800:G:C4 | 3.05 | 0.44 |
| 1:1G:1321:C:O5' | 1:1G:1321:C:H6 | 2.00 | 0.44 |
| 1:1G:1416:G:N2 | 1:1G:1485:U:H1' | 2.32 | 0.44 |
| 2:12:71:VAL:HG21 | 2:12:164:VAL:HA | 1.99 | 0.44 |
| 2:12:88:ALA:HB2 | 2:12:219:VAL:HG12 | 1.99 | 0.44 |
| 4:32:32:ALA:HA | 4:32:35:ARG:HD3 | 1.99 | 0.44 |
| 4:32:59:ARG:HA | 4:32:62:GLN:HB2 | 1.99 | 0.44 |
| 12:3A:83:VAL:HG21 | 12:3A:100:ILE:HD13 | 1.98 | 0.44 |
| 16:7A:34:GLU:CD | 16:7A:55:ARG:HH11 | 2.20 | 0.44 |
| 56:1L:17:U:H6 | 56:1L:17:U:H5' | 1.82 | 0.44 |
| 56:1L:58:A:C6 | 56:1L:61:C:C4 | 3.05 | 0.44 |
| 57:3L:63:U:O5' | 57:3L:63:U:H6 | 2.00 | 0.44 |
| 26:14:89:G:H5'' | 26:14:90:U:OP2 | 2.18 | 0.44 |
| 26:14:271(B):G:N7 | 26:14:421:U:H2' | 2.33 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:14:1037:G:H2' | 26:14:1037:G:N3 | 2.32 | 0.44 |
| 26:14:1655:A:H1' | 30:29:113:PHE:CD1 | 2.52 | 0.44 |
| 26:14:2324:C:H5'' | 26:14:2325:G:C5' | 2.46 | 0.44 |
| 26:14:2432:A:C8 | 49:F5:33:LYS:HD2 | 2.52 | 0.44 |
| 26:14:2577:A:OP2 | 53:J5:3:LYS:NZ | 2.36 | 0.44 |
| 30:29:202:LYS:HD2 | 30:29:202:LYS:N | 2.32 | 0.44 |
| 32:49:17:PRO:HA | 32:49:20:ILE:HD12 | 1.99 | 0.44 |
| 32:49:136:ARG:HD2 | 32:49:136:ARG:HA | 1.30 | 0.44 |
| 33:59:53:GLU:HA | 33:59:65:HIS:CE1 | 2.52 | 0.44 |
| 34:69:29:TYR:O | 34:69:32:PRO:HD2 | 2.17 | 0.44 |
| 35:15:28:THR:HG22 | 35:15:29:LYS:HD2 | 1.99 | 0.44 |
| 35:15:45:ASN:OD1 | 35:15:46:VAL:HG23 | 2.17 | 0.44 |
| 35:15:137:LYS:HA | 35:15:137:LYS:HD3 | 1.69 | 0.44 |
| 36:25:68:GLU:HA | 36:25:78:ARG:HB3 | 1.98 | 0.44 |
| 36:25:71:ARG:NH2 | 36:25:77:ILE:HG21 | 2.32 | 0.44 |
| 37:35:39:LYS:HB2 | 37:35:45:LEU:CD1 | 2.47 | 0.44 |
| 38:45:25:ASP:O | 38:45:26:TYR:CD1 | 2.70 | 0.44 |
| 39:55:34:ILE:O | 39:55:113:LEU:HD12 | 2.17 | 0.44 |
| 43:95:37:VAL:HG21 | 43:95:57:VAL:HG12 | 1.99 | 0.44 |
| 47:D5:67:LEU:HA | 47:D5:68:PRO:HD3 | 1.90 | 0.44 |
| 49:F5:87:PRO:HA | 49:F5:90:ILE:HG23 | 1.99 | 0.44 |
| 1:13:73:G:N3 | 1:13:73:G:H5'' | 2.32 | 0.44 |
| 1:13:130:A:N7 | 17:8I:63:ARG:HB2 | 2.32 | 0.44 |
| 1:13:140:A:C6 | 1:13:141:A:C5 | 3.05 | 0.44 |
| 1:13:243:A:H4' | 1:13:244:U:H5'' | 2.00 | 0.44 |
| 1:13:321:A:N7 | 1:13:328:C:O2' | 2.46 | 0.44 |
| 1:13:348:G:C2 | 1:13:349:A:C8 | 3.05 | 0.44 |
| 1:13:1064:G:N2 | 1:13:1190:G:H1' | 2.33 | 0.44 |
| 1:13:1349:A:H2' | 1:13:1350:A:C8 | 2.53 | 0.44 |
| 2:1E:142:LEU:HD11 | 2:1E:146:GLN:NE2 | 2.32 | 0.44 |
| 4:3E:12:CYS:SG | 4:3E:18:LYS:HA | 2.57 | 0.44 |
| 4:3E:201:GLN:O | 4:3E:204:ILE:HB | 2.17 | 0.44 |
| 26:1H:142:G:C1' | 45:F8:37:THR:HG21 | 2.45 | 0.44 |
| 26:1H:274:G:C4 | 26:1H:274:G:OP1 | 2.71 | 0.44 |
| 26:1H:325:G:O2' | 26:1H:326:G:H5' | 2.17 | 0.44 |
| 26:1H:444:C:H4' | 31:31:49:ALA:HB2 | 1.98 | 0.44 |
| 26:1H:462:C:C4 | 26:1H:463:G:N7 | 2.86 | 0.44 |
| 26:1H:778:G:C5 | 26:1H:779:U:C4 | 3.05 | 0.44 |
| 26:1H:806:C:H2' | 26:1H:807:U:H6 | 1.82 | 0.44 |
| 26:1H:821:A:H2' | 26:1H:946:G:H5'' | 1.99 | 0.44 |
| 26:1H:1466:G:N3 | 26:1H:1547:C:N4 | 2.66 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:1536:A:H3' | 26:1H:1537:C:C6 | 2.42 | 0.44 |
| 26:1H:1817:G:C6 | 26:1H:1818:U:C5 | 3.05 | 0.44 |
| 26:1H:2126:A:N6 | 26:1H:2163:C:H1' | 2.32 | 0.44 |
| 28:71:43:VAL:HB | 28:71:214:VAL:HG13 | 1.98 | 0.44 |
| 34:61:21:VAL:HG22 | 34:61:22:LYS:N | 2.32 | 0.44 |
| 41:B8:7:ILE:O | 41:B8:10:VAL:N | 2.48 | 0.44 |
| 47:H8:67:LEU:HD22 | 47:H8:90:VAL:HG11 | 1.99 | 0.44 |
| 1:1G:475:G:C4 | 1:1G:476:G:C8 | 3.05 | 0.44 |
| 1:1G:576:G:N2 | 1:1G:759:A:OP1 | 2.44 | 0.44 |
| 1:1G:718:G:H5' | 11:2A:117:ASN:HB2 | 1.99 | 0.44 |
| 1:1G:825:G:N2 | 1:1G:875:C:N3 | 2.52 | 0.44 |
| 1:1G:884:U:H4' | 1:1G:885:G:H5'' | 1.99 | 0.44 |
| 1:1G:986:A:C6 | 1:1G:1220:G:N2 | 2.85 | 0.44 |
| 1:1G:1418:A:H2 | 26:14:1948:G:N3 | 2.14 | 0.44 |
| 2:12:173:ALA:O | 2:12:176:GLU:N | 2.48 | 0.44 |
| 7:62:18:TYR:CE2 | 7:62:59:LEU:HB2 | 2.52 | 0.44 |
| 7:62:115:ARG:O | 7:62:119:ARG:HG3 | 2.18 | 0.44 |
| 13:4A:17:VAL:HA | 13:4A:20:THR:OG1 | 2.17 | 0.44 |
| 18:9A:43:PHE:O | 18:9A:51:LEU:HG | 2.17 | 0.44 |
| 23:2L:12:G:H1' | 26:14:1923:U:O2' | 2.16 | 0.44 |
| 26:14:2:G:H5'' | 26:14:2897:U:OP1 | 2.17 | 0.44 |
| 26:14:29:U:H2' | 26:14:30:G:C8 | 2.51 | 0.44 |
| 26:14:668:G:H2' | 26:14:670:A:H62 | 1.81 | 0.44 |
| 26:14:735:A:H3' | 26:14:736:C:C6 | 2.52 | 0.44 |
| 26:14:1241:A:N6 | 26:14:1242:A:N1 | 2.65 | 0.44 |
| 26:14:1914:C:H2' | 26:14:1915:U:O4' | 2.17 | 0.44 |
| 26:14:1936:A:C8 | 26:14:1940:U:O2 | 2.70 | 0.44 |
| 26:14:2148:G:H2' | 26:14:2149:G:H8 | 1.82 | 0.44 |
| 26:14:2295:C:C5 | 40:65:13:ARG:NH2 | 2.86 | 0.44 |
| 26:14:2305:A:C5 | 32:49:136:ARG:CZ | 3.01 | 0.44 |
| 26:14:2525:G:H1 | 26:14:2538:C:H42 | 1.63 | 0.44 |
| 26:14:2563:U:H4' | 36:25:28:SER:HA | 1.99 | 0.44 |
| 26:14:2663:G:C5 | 26:14:2664:G:C5 | 3.06 | 0.44 |
| 29:19:85:ASP:HB2 | 29:19:92:ILE:CG1 | 2.47 | 0.44 |
| 29:19:246:PRO:O | 29:19:254:THR:HG22 | 2.17 | 0.44 |
| 36:25:8:LEU:HD13 | 36:25:82:ASN:HB3 | 1.99 | 0.44 |
| 42:85:92:ARG:CD | 43:95:11:GLN:HB2 | 2.48 | 0.44 |
| 49:F5:87:PRO:O | 49:F5:88:LYS:C | 2.55 | 0.44 |
| 1:13:75:C:O2 | 1:13:95:G:H2' | 2.17 | 0.44 |
| 1:13:222:U:H2' | 1:13:223:U:C6 | 2.52 | 0.44 |
| 1:13:1182:G:H4' | 1:13:1183:A:C5' | 2.47 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:1366:C:O2' | 10:1I:60:ARG:NH1 | 2.46 | 0.44 |
| 1:13:1468:A:H8 | 1:13:1468:A:O5' | 2.01 | 0.44 |
| 4:3E:31:CYS:C | 4:3E:33:MET:N | 2.71 | 0.44 |
| 4:3E:192:GLU:OE1 | 4:3E:192:GLU:N | 2.42 | 0.44 |
| 5:4E:35:GLY:H | 5:4E:112:LEU:HD13 | 1.83 | 0.44 |
| 6:5E:75:LEU:HD22 | 6:5E:79:LEU:HG | 2.00 | 0.44 |
| 17:8I:8:GLY:O | 17:8I:21:VAL:HG13 | 2.18 | 0.44 |
| 20:BI:87:LYS:O | 20:BI:90:GLN:N | 2.50 | 0.44 |
| 23:2K:50:G:H1 | 23:2K:66:C:H42 | 1.63 | 0.44 |
| 26:1H:270(O):U:O2 | 34:61:52:ARG:NH2 | 2.51 | 0.44 |
| 26:1H:336:C:OP1 | 46:G8:83:THR:HG23 | 2.17 | 0.44 |
| 26:1H:1336:A:H2' | 26:1H:1337:G:C8 | 2.53 | 0.44 |
| 26:1H:1717:G:H2' | 26:1H:1718:G:H8 | 1.82 | 0.44 |
| 26:1H:1956:U:C3' | 26:1H:1957:C:H5' | 2.47 | 0.44 |
| 26:1H:2131:G:C5 | 26:1H:2134:A:H1' | 2.52 | 0.44 |
| 26:1H:2394:C:H2' | 26:1H:2395:C:H6 | 1.83 | 0.44 |
| 27:16:45:A:H3' | 27:16:46:A:H8 | 1.83 | 0.44 |
| 27:16:90:C:P | 38:88:16:ARG:HH21 | 2.40 | 0.44 |
| 28:71:22:ILE:CD1 | 28:71:193:ILE:HD11 | 2.47 | 0.44 |
| 28:71:65:PRO:HG2 | 28:71:66:HIS:CD2 | 2.51 | 0.44 |
| 29:11:36:PRO:C | 29:11:37:LEU:HD23 | 2.38 | 0.44 |
| 32:41:142:PRO:HG2 | 32:41:143:GLU:OE2 | 2.17 | 0.44 |
| 33:51:154:PRO:HB2 | 33:51:163:TYR:CE2 | 2.52 | 0.44 |
| 33:51:157:TYR:CE1 | 33:51:171:LEU:HB3 | 2.52 | 0.44 |
| 35:58:39:ARG:HH21 | 35:58:41:ASP:CG | 2.16 | 0.44 |
| 40:A8:26:LEU:HD23 | 40:A8:87:PHE:HD1 | 1.82 | 0.44 |
| 44:E8:2:GLU:HB2 | 44:E8:107:LEU:O | 2.17 | 0.44 |
| 47:H8:39:VAL:HG21 | 47:H8:44:PHE:CD2 | 2.52 | 0.44 |
| 1:1G:1:U:H5' | 1:1G:630:G:O2' | 2.17 | 0.44 |
| 1:1G:27:G:H2' | 1:1G:28:G:O4' | 2.18 | 0.44 |
| 1:1G:107:G:C2 | 1:1G:108:G:H1' | 2.52 | 0.44 |
| 1:1G:236:G:OP1 | 17:8A:40:LYS:NZ | 2.51 | 0.44 |
| 1:1G:255:G:O6 | 1:1G:270:A:N6 | 2.51 | 0.44 |
| 1:1G:512:U:H2' | 1:1G:513:C:H6 | 1.83 | 0.44 |
| 1:1G:560:U:OP2 | 61:1G:1706:HOH:O | 2.21 | 0.44 |
| 1:1G:736:C:H5'' | 18:9A:72:ARG:HE | 1.81 | 0.44 |
| 1:1G:914:A:C6 | 1:1G:915:A:C5 | 3.06 | 0.44 |
| 1:1G:980:C:H2' | 14:5A:21:TYR:CD1 | 2.52 | 0.44 |
| 1:1G:1242:C:C5' | 21:1B:10:ARG:HH12 | 2.31 | 0.44 |
| 1:1G:1433:A:OP2 | 1:1G:1467:G:N1 | 2.38 | 0.44 |
| 1:1G:1452:C:H4' | 1:1G:1453:G:C5' | 2.47 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:1G:1512:U:H2' | 1:1G:1513:A:C8 | 2.52 | 0.44 |
| 2:12:95:GLN:HB3 | 2:12:148:TYR:CD1 | 2.52 | 0.44 |
| 20:BA:61:SER:OG | 20:BA:65:LYS:HD2 | 2.16 | 0.44 |
| 56:1L:76:A:O2' | 26:14:2506:U:O2' | 2.13 | 0.44 |
| 23:2L:9:G:C2 | 23:2L:47:G7M:C5 | 3.01 | 0.44 |
| 23:2L:22:A:H2' | 23:2L:47:G7M:H1 | 1.83 | 0.44 |
| 26:14:143:C:H2' | 26:14:144:C:H6 | 1.82 | 0.44 |
| 26:14:288:C:H2' | 26:14:289:A:C8 | 2.53 | 0.44 |
| 26:14:816:C:N4 | 26:14:1192:G:C6 | 2.85 | 0.44 |
| 26:14:1291:C:H2' | 26:14:1292:U:H6 | 1.81 | 0.44 |
| 26:14:2296:U:OP2 | 40:65:9:ARG:NH1 | 2.37 | 0.44 |
| 26:14:2820:A:HO2' | 26:14:2821:A:P | 2.41 | 0.44 |
| 26:14:2857:G:N2 | 26:14:2861:G:C5 | 2.85 | 0.44 |
| 29:19:123:ALA:HB3 | 29:19:131:LEU:HG | 2.00 | 0.44 |
| 35:15:87:LEU:HD23 | 35:15:87:LEU:O | 2.18 | 0.44 |
| 36:25:20:MET:HG2 | 36:25:21:CYS:O | 2.16 | 0.44 |
| 37:35:30:THR:HG21 | 37:35:35:HIS:H | 1.83 | 0.44 |
| 37:35:84:ASN:ND2 | 37:35:117:GLU:HB2 | 2.29 | 0.44 |
| 39:55:8:ARG:NH1 | 39:55:39:PRO:HB3 | 2.33 | 0.44 |
| 43:95:48:GLY:HA2 | 43:95:51:VAL:C | 2.38 | 0.44 |
| 45:B5:66:LEU:HD23 | 45:B5:66:LEU:HA | 1.77 | 0.44 |
| 47:D5:33:LEU:HA | 47:D5:33:LEU:HD12 | 1.72 | 0.44 |
| 1:13:402:G:C6 | 1:13:403:C:C4 | 3.05 | 0.44 |
| 1:13:468:A:O3' | 16:7I:80:PHE:HD1 | 2.01 | 0.44 |
| 1:13:1118:C:OP1 | 9:8E:104:ARG:HD2 | 2.17 | 0.44 |
| 1:13:1195:C:H5'' | 1:13:1196:U:P | 2.58 | 0.44 |
| 1:13:1285:A:H4' | 1:13:1286:A:C5' | 2.48 | 0.44 |
| 1:13:1326:C:H2' | 1:13:1327:C:C6 | 2.53 | 0.44 |
| 3:2E:29:TYR:CZ | 14:5I:54:PRO:HG2 | 2.53 | 0.44 |
| 3:2E:124:ILE:HG12 | 3:2E:130:VAL:HG22 | 2.00 | 0.44 |
| 5:4E:35:GLY:HA3 | 5:4E:112:LEU:HB3 | 2.00 | 0.44 |
| 26:1H:458:G:O2' | 54:P8:39:ARG:HD3 | 2.18 | 0.44 |
| 26:1H:494:G:O2' | 26:1H:495:G:H5' | 2.18 | 0.44 |
| 26:1H:863:A:H2 | 26:1H:914:C:H41 | 1.63 | 0.44 |
| 26:1H:991:C:H42 | 26:1H:1163:G:H1 | 1.63 | 0.44 |
| 26:1H:2543:G:H2' | 26:1H:2544:G:C8 | 2.53 | 0.44 |
| 29:11:18:VAL:HG12 | 29:11:19:ALA:N | 2.32 | 0.44 |
| 30:21:65:GLY:HA2 | 30:21:70:ALA:HB1 | 1.99 | 0.44 |
| 32:41:62:LEU:HD12 | 32:41:62:LEU:HA | 1.75 | 0.44 |
| 33:51:12:PRO:HG2 | 33:51:13:LYS:HG2 | 1.98 | 0.44 |
| 40:A8:108:GLY:C | 40:A8:110:LEU:HG | 2.38 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 42:C8:24:TYR:HE2 | 42:C8:39:LEU:CD2 | 2.30 | 0.44 |
| 46:G8:71:LYS:HE3 | 46:G8:71:LYS:HB2 | 1.68 | 0.44 |
| 47:H8:7:ALA:O | 47:H8:8:TYR:CD1 | 2.71 | 0.44 |
| 50:K8:15:LYS:HD3 | 50:K8:15:LYS:HA | 1.76 | 0.44 |
| 51:L8:35:ARG:HA | 51:L8:35:ARG:HD2 | 1.76 | 0.44 |
| 1:1G:265:G:O3' | 17:8A:66:SER:HA | 2.18 | 0.44 |
| 1:1G:324:G:N1 | 1:1G:327:A:OP2 | 2.47 | 0.44 |
| 1:1G:449:C:H2' | 1:1G:450:G:O4' | 2.18 | 0.44 |
| 1:1G:616:G:H2' | 1:1G:617:G:H8 | 1.83 | 0.44 |
| 1:1G:654:G:C6 | 1:1G:753:A:C8 | 3.06 | 0.44 |
| 1:1G:885:G:H1 | 1:1G:912:C:H42 | 1.66 | 0.44 |
| 1:1G:1446:A:C2 | 41:75:118:ARG:HD2 | 2.52 | 0.44 |
| 7:62:45:ASP:HB3 | 7:62:117:ALA:CB | 2.47 | 0.44 |
| 7:62:111:ARG:HH21 | 7:62:122:HIS:HB3 | 1.82 | 0.44 |
| 7:62:136:LYS:HD3 | 7:62:137:LYS:HZ3 | 1.82 | 0.44 |
| 20:BA:89:ARG:O | 20:BA:93:GLU:HG2 | 2.18 | 0.44 |
| 26:14:57:C:O5' | 26:14:57:C:H6 | 2.00 | 0.44 |
| 26:14:74:A:H4' | 26:14:75:G:O5' | 2.18 | 0.44 |
| 26:14:284:U:H2' | 26:14:285:C:C6 | 2.53 | 0.44 |
| 26:14:540:G:H2' | 26:14:541:C:C6 | 2.52 | 0.44 |
| 26:14:677:A:H2' | 26:14:678:C:H6 | 1.82 | 0.44 |
| 26:14:729:G:OP2 | 29:19:13:ARG:NH1 | 2.51 | 0.44 |
| 26:14:847:U:H5' | 26:14:929:G:H1 | 1.81 | 0.44 |
| 26:14:1003:G:N2 | 26:14:1153:C:C2 | 2.85 | 0.44 |
| 26:14:1357:U:H2' | 26:14:1358:G:O4' | 2.18 | 0.44 |
| 26:14:1638:C:H5'' | 26:14:2710:C:O2' | 2.18 | 0.44 |
| 26:14:1753:G:N1 | 26:14:1756:G:C2 | 2.86 | 0.44 |
| 26:14:1798:U:H5' | 29:19:259:THR:OG1 | 2.18 | 0.44 |
| 26:14:1858:G:O2' | 26:14:1884:A:N6 | 2.51 | 0.44 |
| 26:14:1921:G:H2' | 26:14:1922:G:C8 | 2.53 | 0.44 |
| 26:14:2331:G:N3 | 26:14:2336:A:H2 | 2.15 | 0.44 |
| 26:14:2469:A:C2 | 26:14:2470:G:C5 | 3.05 | 0.44 |
| 26:14:2542:A:H1' | 26:14:2543:G:C8 | 2.52 | 0.44 |
| 27:1J:42:C:N4 | 32:49:91:ARG:HH12 | 2.16 | 0.44 |
| 29:19:102:LYS:O | 29:19:103:ARG:HG2 | 2.17 | 0.44 |
| 30:29:26:ILE:O | 30:29:27:LEU:HB3 | 2.17 | 0.44 |
| 30:29:64:LYS:C | 30:29:66:HIS:N | 2.70 | 0.44 |
| 30:29:81:ILE:HG21 | 30:29:84:PHE:CD2 | 2.53 | 0.44 |
| 31:39:36:VAL:HG11 | 31:39:183:VAL:CG2 | 2.45 | 0.44 |
| 32:49:105:LYS:HD2 | 32:49:141:PHE:CE2 | 2.53 | 0.44 |
| 36:25:73:ASP:OD2 | 41:75:32:TYR:OH | 2.14 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 40:65:80:LEU:HB2 | 40:65:82:ILE:HG13 | 2.00 | 0.44 |
| 47:D5:99:TYR:HA | 47:D5:124:ILE:O | 2.17 | 0.44 |
| 1:13:118:U:H3' | 1:13:288:A:H61 | 1.83 | 0.44 |
| 1:13:161:A:H2' | 1:13:162:A:C8 | 2.53 | 0.44 |
| 1:13:247:G:C5 | 1:13:248:C:C5 | 3.05 | 0.44 |
| 1:13:436:C:H2' | 1:13:437:U:H6 | 1.82 | 0.44 |
| 1:13:636:U:H2' | 1:13:637:G:H8 | 1.83 | 0.44 |
| 1:13:726:C:O2' | 1:13:727:G:H5' | 2.18 | 0.44 |
| 1:13:734:G:C6 | 1:13:735:C:N3 | 2.85 | 0.44 |
| 1:13:735:C:O2' | 1:13:736:C:H5' | 2.17 | 0.44 |
| 1:13:769:G:H4' | 1:13:1513:A:H4' | 1.98 | 0.44 |
| 1:13:1022:G:H2' | 1:13:1023:G:O4' | 2.17 | 0.44 |
| 1:13:1401:G:C2 | 1:13:1402:C:H1' | 2.53 | 0.44 |
| 3:2E:72:LYS:HD3 | 3:2E:75:VAL:CG2 | 2.47 | 0.44 |
| 5:4E:143:ARG:HE | 8:7E:77:GLU:CD | 2.21 | 0.44 |
| 6:5E:17:SER:O | 6:5E:21:LEU:N | 2.50 | 0.44 |
| 9:8E:33:PHE:HE1 | 9:8E:37:PHE:HD2 | 1.65 | 0.44 |
| 9:8E:47:LEU:HG | 9:8E:47:LEU:O | 2.18 | 0.44 |
| 10:1I:8:LEU:HD22 | 10:1I:96:ILE:HG22 | 1.98 | 0.44 |
| 13:4I:13:LYS:C | 13:4I:44:ARG:HH11 | 2.21 | 0.44 |
| 14:5I:53:LEU:HD23 | 14:5I:53:LEU:HA | 1.56 | 0.44 |
| 16:7I:21:VAL:O | 16:7I:33:ILE:N | 2.47 | 0.44 |
| 18:9I:26:LEU:HD13 | 18:9I:39:VAL:HG13 | 1.99 | 0.44 |
| 26:1H:322:A:P | 31:31:168:ARG:HH21 | 2.41 | 0.44 |
| 26:1H:683:C:O5' | 26:1H:683:C:H6 | 2.01 | 0.44 |
| 26:1H:775:G:C5 | 26:1H:794:G:C8 | 3.05 | 0.44 |
| 26:1H:993:G:H2' | 26:1H:994:C:H6 | 1.83 | 0.44 |
| 26:1H:1188:U:H5' | 43:D8:79:VAL:HG22 | 1.99 | 0.44 |
| 26:1H:1448:G:H1' | 26:1H:1528:A:H62 | 1.83 | 0.44 |
| 26:1H:1496:A:H5' | 26:1H:1497:U:OP1 | 2.17 | 0.44 |
| 26:1H:1638:C:H4' | 26:1H:2710:C:O2 | 2.18 | 0.44 |
| 26:1H:1982:C:OP2 | 61:1H:3560:HOH:O | 2.21 | 0.44 |
| 26:1H:2474:C:H3' | 26:1H:2475:C:C6 | 2.53 | 0.44 |
| 26:1H:2635:C:H5'' | 30:21:78:LEU:HA | 1.99 | 0.44 |
| 27:16:81:G:O6 | 27:16:95:U:O2 | 2.36 | 0.44 |
| 33:51:32:GLU:O | 33:51:33:LEU:HD23 | 2.18 | 0.44 |
| 35:58:87:LEU:O | 35:58:87:LEU:HD22 | 2.18 | 0.44 |
| 36:68:80:ASP:HB2 | 41:B8:70:VAL:HG13 | 1.99 | 0.44 |
| 37:78:19:VAL:CB | 37:78:20:GLY:HA3 | 2.46 | 0.44 |
| 40:A8:15:ARG:HD3 | 40:A8:15:ARG:HA | 1.61 | 0.44 |
| 41:B8:16:ARG:NH1 | 41:B8:18:ASP:OD2 | 2.51 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 44:E8:34:ASN:ND2 | 53:N8:39:MET:HG3 | 2.32 | 0.44 |
| 45:F8:29:TRP:CZ3 | 45:F8:78:LYS:HB3 | 2.53 | 0.44 |
| 45:F8:66:LEU:HD12 | 45:F8:66:LEU:HA | 1.57 | 0.44 |
| 46:G8:55:TYR:CE1 | 46:G8:61:ILE:HD11 | 2.53 | 0.44 |
| 52:M8:42:PHE:N | 52:M8:47:GLN:NE2 | 2.65 | 0.44 |
| 1:1G:27:G:H8 | 1:1G:27:G:O5' | 2.01 | 0.44 |
| 1:1G:105:G:C6 | 1:1G:106:C:C4 | 3.06 | 0.44 |
| 1:1G:165:C:H2' | 1:1G:166:G:C8 | 2.53 | 0.44 |
| 1:1G:195:A:H62 | 1:1G:196:A:H61 | 1.65 | 0.44 |
| 1:1G:197:A:C6 | 1:1G:221:C:H4' | 2.53 | 0.44 |
| 1:1G:287:U:H2' | 1:1G:288:A:C8 | 2.53 | 0.44 |
| 1:1G:515:G:C6 | 1:1G:516:U:N3 | 2.85 | 0.44 |
| 1:1G:540:G:C6 | 1:1G:541:G:C5 | 3.06 | 0.44 |
| 1:1G:577:G:O2' | 1:1G:578:C:H5' | 2.17 | 0.44 |
| 1:1G:791:G:C6 | 1:1G:792:A:N7 | 2.85 | 0.44 |
| 1:1G:952:U:H2' | 1:1G:953:G:O4' | 2.18 | 0.44 |
| 1:1G:974:A:H5' | 1:1G:974:A:N3 | 2.32 | 0.44 |
| 1:1G:1054:C:OP1 | 1:1G:1197:G:P | 2.75 | 0.44 |
| 3:22:32:LEU:HD22 | 3:22:59:ARG:HH12 | 1.81 | 0.44 |
| 3:22:97:LYS:HE2 | 3:22:97:LYS:HB3 | 1.63 | 0.44 |
| 5:42:146:ALA:HB1 | 5:42:150:ARG:HH21 | 1.82 | 0.44 |
| 8:72:36:LEU:O | 8:72:39:LEU:N | 2.51 | 0.44 |
| 8:72:109:ILE:HG12 | 8:72:110:ALA:H | 1.82 | 0.44 |
| 12:3A:52:LEU:HD12 | 12:3A:54:LYS:HZ1 | 1.82 | 0.44 |
| 23:2L:53:G:H2' | 23:2L:54:G:H8 | 1.83 | 0.44 |
| 26:14:548:A:H2' | 26:14:549:G:H4' | 1.99 | 0.44 |
| 26:14:986:C:C2' | 26:14:987:G:H5' | 2.47 | 0.44 |
| 26:14:1212:G:H1' | 26:14:1236:G:N2 | 2.32 | 0.44 |
| 26:14:1247:A:C2 | 26:14:1249:U:C6 | 3.06 | 0.44 |
| 26:14:1526:G:H2' | 26:14:1527:G:O4' | 2.18 | 0.44 |
| 26:14:1726:G:H2' | 26:14:1727:U:O4' | 2.18 | 0.44 |
| 26:14:1946:U:H2' | 26:14:1947:C:H6 | 1.82 | 0.44 |
| 26:14:2062:A:HO2' | 26:14:2063:C:P | 2.38 | 0.44 |
| 26:14:2079:U:O3' | 49:F5:35:THR:OG1 | 2.23 | 0.44 |
| 26:14:2353:G:H5'' | 48:E5:32:ARG:NH2 | 2.33 | 0.44 |
| 27:1J:92:G:O2' | 27:1J:93:C:H5' | 2.18 | 0.44 |
| 32:49:119:GLY:CA | 32:49:181:ARG:HB2 | 2.46 | 0.44 |
| 37:35:119:GLU:HA | 37:35:137:LYS:NZ | 2.33 | 0.44 |
| 45:B5:84:ALA:HB3 | 45:B5:87:GLN:HE21 | 1.83 | 0.44 |
| 1:13:103:C:H2' | 1:13:104:G:C8 | 2.52 | 0.44 |
| 1:13:453:A:C6 | 1:13:454:C:C4 | 3.06 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:626:U:N3 | 1:13:627:G:N7 | 2.66 | 0.44 |
| 2:1E:6:THR:HG22 | 2:1E:224:GLN:HE22 | 1.81 | 0.44 |
| 3:2E:63:ASN:HA | 3:2E:98:ASN:OD1 | 2.18 | 0.44 |
| 3:2E:156:ARG:H | 3:2E:196:LEU:HD22 | 1.83 | 0.44 |
| 5:4E:143:ARG:NE | 8:7E:77:GLU:OE1 | 2.46 | 0.44 |
| 26:1H:82:G:H5' | 26:1H:296:C:H5' | 1.99 | 0.44 |
| 26:1H:355:G:H2' | 26:1H:356:G:H8 | 1.82 | 0.44 |
| 26:1H:431:U:O2' | 26:1H:432:A:H5' | 2.17 | 0.44 |
| 26:1H:1108:U:C2 | 26:1H:1109:C:N4 | 2.86 | 0.44 |
| 26:1H:2147:G:C5 | 26:1H:2148:G:H1' | 2.53 | 0.44 |
| 26:1H:2579:C:O5' | 26:1H:2579:C:H6 | 2.01 | 0.44 |
| 26:1H:2760:C:O2' | 26:1H:2761:G:H5' | 2.18 | 0.44 |
| 26:1H:2782:G:C8 | 26:1H:2782:G:O5' | 2.71 | 0.44 |
| 28:71:36:LYS:HE2 | 28:71:36:LYS:HB2 | 1.64 | 0.44 |
| 29:11:233:HIS:CD2 | 29:11:233:HIS:N | 2.86 | 0.44 |
| 29:11:245:PRO:CG | 29:11:253:GLN:HE21 | 2.30 | 0.44 |
| 36:68:86:ILE:HG22 | 36:68:94:ARG:HD2 | 2.00 | 0.44 |
| 49:J8:93:GLU:CG | 49:J8:94:LEU:N | 2.81 | 0.44 |
| 53:N8:22:HIS:ND1 | 53:N8:22:HIS:N | 2.66 | 0.44 |
| 1:1G:56:U:O4 | 1:1G:352:C:N4 | 2.49 | 0.44 |
| 1:1G:427:U:O4 | 1:1G:428:G:C6 | 2.70 | 0.44 |
| 1:1G:1053:G:H4' | 1:1G:1054:C:O5' | 2.18 | 0.44 |
| 1:1G:1134:G:N1 | 1:1G:1135:U:C2 | 2.85 | 0.44 |
| 1:1G:1234:C:N4 | 1:1G:1235:U:O4 | 2.51 | 0.44 |
| 2:12:105:PHE:O | 2:12:109:SER:N | 2.46 | 0.44 |
| 7:62:93:PRO:CD | 7:62:94:ARG:HH21 | 2.31 | 0.44 |
| 8:72:35:ILE:HG23 | 8:72:111:ILE:HD12 | 1.98 | 0.44 |
| 8:72:65:TYR:HA | 8:72:79:VAL:HG23 | 2.00 | 0.44 |
| 13:4A:33:ALA:O | 13:4A:37:THR:HB | 2.18 | 0.44 |
| 23:2L:48:U:H1' | 23:2L:49:C:O5' | 2.17 | 0.44 |
| 26:14:39:C:H2' | 26:14:40:C:C6 | 2.53 | 0.44 |
| 26:14:140:A:C6 | 26:14:141:A:N6 | 2.86 | 0.44 |
| 26:14:182:A:H2' | 26:14:183:C:O4' | 2.18 | 0.44 |
| 26:14:270(E):G:H2' | 26:14:270(F):U:C6 | 2.52 | 0.44 |
| 26:14:867:C:C5 | 26:14:868:U:C4 | 3.02 | 0.44 |
| 26:14:1198:U:C2 | 26:14:1199:U:C5 | 3.05 | 0.44 |
| 26:14:1279:G:H4' | 39:55:31:HIS:CD2 | 2.52 | 0.44 |
| 26:14:1710:C:H4' | 26:14:2858:C:O2 | 2.17 | 0.44 |
| 26:14:2297:C:C6 | 26:14:2333:A:N1 | 2.86 | 0.44 |
| 26:14:2305:A:C6 | 32:49:136:ARG:CZ | 3.01 | 0.44 |
| 31:39:161:GLU:HG3 | 31:39:162:LEU:N | 2.33 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 33:59:149:ARG:HH12 | 33:59:163:TYR:HB3 | 1.83 | 0.44 |
| 37:35:37:GLY:O | 37:35:40:SER:OG | 2.33 | 0.44 |
| 37:35:47:ASP:HB3 | 37:35:48:PRO:HA | 1.99 | 0.44 |
| 45:B5:29:TRP:HZ3 | 45:B5:78:LYS:HB2 | 1.80 | 0.44 |
| 1:13:171:A:C2 | 1:13:172:A:C4 | 3.05 | 0.44 |
| 1:13:384:G:H2' | 1:13:385:C:C6 | 2.53 | 0.44 |
| 1:13:465:A:C8 | 1:13:467:G:C6 | 3.06 | 0.44 |
| 1:13:1219:U:H2' | 1:13:1220:G:C8 | 2.53 | 0.44 |
| 1:13:1219:U:H2' | 1:13:1220:G:H8 | 1.83 | 0.44 |
| 2:1E:234:PRO:CB | 2:1E:236:TYR:HD2 | 2.31 | 0.44 |
| 4:3E:78:LEU:HB3 | 4:3E:93:PHE:HE1 | 1.83 | 0.44 |
| 4:3E:153:ARG:HB3 | 4:3E:181:MET:SD | 2.57 | 0.44 |
| 7:6E:155:ARG:HG3 | 7:6E:155:ARG:HH21 | 1.82 | 0.44 |
| 13:4I:84:ILE:HD11 | 19:AI:66:MET:HG2 | 1.98 | 0.44 |
| 23:2K:38:A:C4 | 23:2K:39:A:C8 | 3.05 | 0.44 |
| 26:1H:1485:G:C2 | 26:1H:1486:A:C4 | 3.06 | 0.44 |
| 26:1H:1693:U:H4' | 26:1H:1694:C:OP2 | 2.17 | 0.44 |
| 26:1H:2309:A:C8 | 26:1H:2309:A:H3' | 2.53 | 0.44 |
| 26:1H:2450:A:C2 | 26:1H:2451:A:C4 | 3.06 | 0.44 |
| 26:1H:2636:U:H2' | 26:1H:2637:U:C5 | 2.53 | 0.44 |
| 26:1H:2863:C:H2' | 26:1H:2864:G:C8 | 2.53 | 0.44 |
| 27:16:37:C:C2' | 27:16:38:C:H5' | 2.48 | 0.44 |
| 29:11:28:GLU:N | 29:11:29:PRO:HD3 | 2.32 | 0.44 |
| 29:11:236:GLY:O | 29:11:237:GLU:O | 2.36 | 0.44 |
| 32:41:18:GLU:HG3 | 32:41:22:ARG:HD3 | 2.00 | 0.44 |
| 32:41:106:LEU:HG | 32:41:107:LEU:HD23 | 2.00 | 0.44 |
| 33:51:3:ARG:NE | 33:51:3:ARG:HA | 2.33 | 0.44 |
| 35:58:121:LYS:HB3 | 35:58:123:TYR:CE1 | 2.53 | 0.44 |
| 41:B8:110:ILE:HG13 | 41:B8:111:ARG:H | 1.81 | 0.44 |
| 42:C8:92:ARG:HB3 | 43:D8:11:GLN:NE2 | 2.33 | 0.44 |
| 1:1G:186(C):G:C2 | 1:1G:191(E):G:C2 | 3.06 | 0.44 |
| 1:1G:452:A:O2' | 1:1G:453:A:O5' | 2.36 | 0.44 |
| 1:1G:625:G:H2' | 1:1G:626:U:C6 | 2.53 | 0.44 |
| 1:1G:777:A:C6 | 1:1G:778:G:C5 | 3.06 | 0.44 |
| 1:1G:980:C:H3' | 1:1G:981:U:H6 | 1.83 | 0.44 |
| 1:1G:1243:C:H5'' | 21:1B:8:THR:OG1 | 2.18 | 0.44 |
| 1:1G:1342:C:H2' | 1:1G:1343:G:H8 | 1.83 | 0.44 |
| 2:12:81:VAL:O | 2:12:85:ALA:HB2 | 2.17 | 0.44 |
| 3:22:76:VAL:O | 3:22:84:ILE:HB | 2.17 | 0.44 |
| 3:22:130:VAL:HG13 | 3:22:134:ILE:CD1 | 2.48 | 0.44 |
| 6:52:81:ILE:HG23 | 6:52:82:ARG:HG3 | 1.98 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 11:2A:103:LEU:HA | 11:2A:103:LEU:HD12 | 1.63 | 0.44 |
| 26:14:186:G:H2' | 26:14:187:G:H8 | 1.83 | 0.44 |
| 26:14:768:G:H2' | 26:14:769:G:H8 | 1.83 | 0.44 |
| 26:14:1159:U:O2' | 26:14:1160:G:H5' | 2.17 | 0.44 |
| 26:14:1729:A:C2' | 26:14:1730:U:H5'' | 2.47 | 0.44 |
| 26:14:1858:G:H2' | 26:14:1883:G:N2 | 2.33 | 0.44 |
| 26:14:2115:G:H4' | 26:14:2166:G:H1' | 2.00 | 0.44 |
| 26:14:2198:A:C2 | 34:69:29:TYR:HB2 | 2.53 | 0.44 |
| 26:14:2355:C:H1' | 48:E5:36:ILE:HD11 | 2.00 | 0.44 |
| 26:14:2465:C:O2 | 26:14:2486:G:C2 | 2.70 | 0.44 |
| 27:1J:20:C:N4 | 27:1J:21:G:C6 | 2.86 | 0.44 |
| 30:29:55:ASN:O | 30:29:57:LYS:N | 2.43 | 0.44 |
| 30:29:70:ALA:O | 30:29:72:VAL:HG22 | 2.18 | 0.44 |
| 30:29:195:LEU:HD12 | 30:29:195:LEU:HA | 1.72 | 0.44 |
| 32:49:15:VAL:HG12 | 32:49:19:LEU:HD11 | 1.99 | 0.44 |
| 34:69:52:ARG:HA | 34:69:55:ALA:HB3 | 1.99 | 0.44 |
| 40:65:24:LEU:HD12 | 40:65:41:ASP:HB2 | 2.00 | 0.44 |
| 43:95:95:LEU:HD23 | 43:95:96:ILE:N | 2.33 | 0.44 |
| 45:B5:26:TYR:OH | 45:B5:88:LYS:HA | 2.17 | 0.44 |
| 47:D5:28:MET:HB2 | 47:D5:35:ARG:O | 2.17 | 0.44 |
| 50:G5:8:LYS:HG2 | 50:G5:9:GLN:N | 2.33 | 0.44 |
| 1:13:116:A:H2' | 1:13:117:G:O4' | 2.17 | 0.44 |
| 1:13:186(C):G:C5 | 1:13:191(E):G:C2 | 3.06 | 0.44 |
| 1:13:277:C:H2' | 1:13:278:G:C8 | 2.52 | 0.44 |
| 1:13:618:C:H5'' | 1:13:619:U:H5'' | 2.00 | 0.44 |
| 1:13:821:G:C2 | 1:13:880:C:N3 | 2.86 | 0.44 |
| 1:13:843:U:O2 | 1:13:843:U:H2' | 2.18 | 0.44 |
| 1:13:868:C:H2' | 1:13:869:G:O4' | 2.18 | 0.44 |
| 1:13:900:A:H8 | 1:13:900:A:O5' | 2.01 | 0.44 |
| 1:13:1120:G:H2' | 1:13:1121:U:C6 | 2.52 | 0.44 |
| 1:13:1340:A:OP1 | 24:3K:35:U:OP1 | 2.35 | 0.44 |
| 4:3E:57:ARG:HG2 | 4:3E:202:LEU:HD22 | 2.00 | 0.44 |
| 7:6E:20:ASP:HB3 | 7:6E:23:VAL:HG23 | 2.00 | 0.44 |
| 17:8I:65:ILE:HB | 17:8I:69:LYS:HB3 | 2.00 | 0.44 |
| 26:1H:297:C:H5'' | 46:G8:86:ARG:CG | 2.43 | 0.44 |
| 26:1H:320:A:H4' | 26:1H:322:A:N7 | 2.33 | 0.44 |
| 26:1H:360:G:H2' | 26:1H:361:G:C8 | 2.53 | 0.44 |
| 26:1H:363:G:C2 | 26:1H:363(A):A:C8 | 3.06 | 0.44 |
| 26:1H:381:G:C4 | 26:1H:394:A:C2 | 3.06 | 0.44 |
| 26:1H:395:U:H1' | 26:1H:396:G:N7 | 2.33 | 0.44 |
| 26:1H:529:A:H8 | 26:1H:530:G:C6 | 2.35 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:1H:604:G:OP2 | 37:78:90:ARG:NH2 | 2.48 | 0.44 |
| 26:1H:864:G:O2' | 26:1H:865:C:H5' | 2.18 | 0.44 |
| 26:1H:1559:G:O2' | 26:1H:1560:G:H5' | 2.17 | 0.44 |
| 26:1H:1757:U:O2' | 26:1H:1758:G:OP1 | 2.33 | 0.44 |
| 26:1H:2232:U:P | 49:J8:40:ARG:HH12 | 2.41 | 0.44 |
| 26:1H:2634:G:H2' | 26:1H:2635:C:O4' | 2.17 | 0.44 |
| 26:1H:2862:G:O2' | 26:1H:2863:C:H5' | 2.18 | 0.44 |
| 27:16:89:G:C6 | 27:16:89(A):A:C6 | 3.05 | 0.44 |
| 29:11:5:LYS:C | 29:11:6:PHE:CD1 | 2.92 | 0.44 |
| 29:11:162:SER:HB3 | 29:11:195:ALA:HA | 2.00 | 0.44 |
| 31:31:29:ASN:H | 31:31:112:MET:HE1 | 1.83 | 0.44 |
| 34:61:86:THR:HA | 34:61:123:LEU:HD13 | 2.00 | 0.44 |
| 34:61:113:ARG:NH1 | 34:61:132:PRO:HB3 | 2.33 | 0.44 |
| 35:58:48:MET:O | 35:58:48:MET:HE2 | 2.03 | 0.44 |
| 38:88:2:LEU:HD12 | 38:88:2:LEU:N | 2.33 | 0.44 |
| 48:I8:53:MET:HA | 48:I8:58:THR:O | 2.18 | 0.44 |
| 1:1G:1085:U:H5' | 1:1G:1094:G:H21 | 1.82 | 0.44 |
| 1:1G:1243:C:O5' | 1:1G:1243:C:H6 | 2.01 | 0.44 |
| 1:1G:1322:C:O2' | 1:1G:1323:G:H5' | 2.17 | 0.44 |
| 1:1G:1369:C:P | 14:5A:61:TRP:HE1 | 2.41 | 0.44 |
| 2:12:155:LEU:HD22 | 2:12:157:ARG:HB2 | 2.00 | 0.44 |
| 4:32:49:ARG:HG2 | 4:32:50:ARG:H | 1.83 | 0.44 |
| 4:32:64:LEU:HB2 | 4:32:198:VAL:HG11 | 2.00 | 0.44 |
| 5:42:37:ARG:HG2 | 5:42:112:LEU:HA | 2.00 | 0.44 |
| 7:62:18:TYR:CD2 | 7:62:59:LEU:HB2 | 2.53 | 0.44 |
| 10:1A:50:ILE:HD13 | 10:1A:60:ARG:HD2 | 2.00 | 0.44 |
| 12:3A:20:LYS:CE | 12:3A:21:LYS:C | 2.84 | 0.44 |
| 13:4A:63:THR:HG22 | 13:4A:64:TRP:CG | 2.52 | 0.44 |
| 14:5A:21:TYR:CE2 | 14:5A:23:ARG:HB2 | 2.52 | 0.44 |
| 14:5A:27:CYS:SG | 14:5A:40:CYS:HB2 | 2.58 | 0.44 |
| 23:2L:20:G:O4' | 23:2L:58:A:H2 | 2.00 | 0.44 |
| 26:14:121:G:O5' | 26:14:121:G:C8 | 2.70 | 0.44 |
| 26:14:599:G:H8 | 26:14:599:G:H5'' | 1.83 | 0.44 |
| 26:14:948:G:C2 | 26:14:970:C:O2 | 2.71 | 0.44 |
| 26:14:1021:A:H8 | 26:14:1021:A:H3' | 1.83 | 0.44 |
| 26:14:1059:G:H2' | 26:14:1060:U:C5 | 2.53 | 0.44 |
| 26:14:1184:G:C6 | 26:14:1185:C:C4 | 3.05 | 0.44 |
| 26:14:1252:G:C2 | 42:85:33:ARG:HD2 | 2.53 | 0.44 |
| 26:14:1482:U:H3 | 26:14:1512:G:H1 | 1.65 | 0.44 |
| 26:14:1651:G:N2 | 26:14:2007:C:C2 | 2.86 | 0.44 |
| 26:14:1666:G:OP1 | 36:25:66:LYS:HD3 | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:1993:U:H4' | 30:29:128:SER:OG | 2.17 | 0.44 |
| 26:14:2210:G:H5' | 26:14:2211:G:C6 | 2.53 | 0.44 |
| 26:14:2601:C:H2' | 26:14:2603:G:C8 | 2.53 | 0.44 |
| 26:14:2707:G:O3' | 39:55:68:ARG:HG2 | 2.18 | 0.44 |
| 26:14:2712:U:O2' | 26:14:2712(A):A:P | 2.76 | 0.44 |
| 26:14:2720:U:O2 | 26:14:2720:U:H2' | 2.18 | 0.44 |
| 29:19:69:ARG:NH2 | 29:19:128:GLY:O | 2.51 | 0.44 |
| 32:49:82:LEU:HD23 | 32:49:82:LEU:HA | 1.72 | 0.44 |
| 34:69:122:GLU:HG3 | 34:69:123:LEU:H | 1.83 | 0.44 |
| 46:C5:2:ARG:HA | 46:C5:2:ARG:CZ | 2.48 | 0.44 |
| 49:F5:53:VAL:HB | 49:F5:74:VAL:HG23 | 1.99 | 0.44 |
| 1:13:150:C:H2' | 1:13:151:A:C8 | 2.53 | 0.43 |
| 1:13:241:C:C2 | 1:13:286:G:C2 | 3.05 | 0.43 |
| 1:13:323:U:C5' | 20:BI:23:ARG:HB2 | 2.47 | 0.43 |
| 1:13:452:A:H2' | 1:13:453:A:C8 | 2.53 | 0.43 |
| 1:13:491:G:C4 | 1:13:492:G:C8 | 3.06 | 0.43 |
| 1:13:603:U:H2' | 1:13:604:G:C8 | 2.53 | 0.43 |
| 1:13:613:C:N4 | 1:13:627:G:H1 | 2.00 | 0.43 |
| 1:13:837:G:H1 | 1:13:849:C:H42 | 1.66 | 0.43 |
| 3:2E:152:ILE:HB | 3:2E:199:LYS:HB2 | 2.00 | 0.43 |
| 5:4E:145:LYS:HD3 | 5:4E:145:LYS:N | 2.33 | 0.43 |
| 11:2I:83:ILE:HA | 11:2I:109:VAL:HG23 | 2.00 | 0.43 |
| 22:1K:10:G:H22 | 22:1K:26:A:C2' | 2.30 | 0.43 |
| 22:1K:74:C:N4 | 26:1H:2507:C:O2' | 2.51 | 0.43 |
| 23:2K:57:C:H2' | 23:2K:58:A:C8 | 2.53 | 0.43 |
| 24:3K:57:G:H5'' | 24:3K:58:A:OP2 | 2.18 | 0.43 |
| 26:1H:1049:C:N3 | 26:1H:2751:G:O6 | 2.50 | 0.43 |
| 26:1H:1319:G:C6 | 26:1H:1320:C:N4 | 2.86 | 0.43 |
| 26:1H:1470:G:N2 | 26:1H:1521:G:H3' | 2.32 | 0.43 |
| 26:1H:2131:G:H5'' | 26:1H:2132:U:OP1 | 2.18 | 0.43 |
| 26:1H:2331:G:C4' | 48:I8:42:GLY:HA3 | 2.48 | 0.43 |
| 26:1H:2725:A:C4 | 26:1H:2727:G:C8 | 3.05 | 0.43 |
| 29:11:67:PHE:HB3 | 29:11:153:ALA:H | 1.82 | 0.43 |
| 31:31:52:LYS:HB3 | 31:31:57:VAL:HG23 | 1.99 | 0.43 |
| 32:41:28:VAL:O | 32:41:31:VAL:HG22 | 2.18 | 0.43 |
| 32:41:35:GLU:OE1 | 32:41:35:GLU:HA | 2.18 | 0.43 |
| 32:41:67:LYS:HD2 | 52:M8:6:HIS:HB2 | 2.00 | 0.43 |
| 34:61:29:TYR:C | 34:61:32:PRO:HD2 | 2.39 | 0.43 |
| 36:68:106:LEU:HD23 | 36:68:106:LEU:HA | 1.53 | 0.43 |
| 40:A8:106:ARG:HH11 | 40:A8:106:ARG:C | 2.20 | 0.43 |
| 45:F8:4:ALA:H | 45:F8:7:VAL:HG23 | 1.83 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 47:H8:158:PRO:O | 47:H8:161:VAL:HG22 | 2.17 | 0.43 |
| 51:L8:47:VAL:HG11 | 51:L8:56:VAL:HG11 | 1.99 | 0.43 |
| 54:P8:24:THR:HG23 | 54:P8:27:GLY:HA3 | 2.00 | 0.43 |
| 1:1G:49:U:O4' | 12:3A:28:LYS:NZ | 2.48 | 0.43 |
| 1:1G:129(A):G:C2 | 1:1G:191(A):G:C8 | 3.06 | 0.43 |
| 1:1G:197:A:H8 | 1:1G:198:G:N9 | 2.16 | 0.43 |
| 1:1G:243:A:C2 | 1:1G:245:C:C2 | 3.07 | 0.43 |
| 1:1G:338:A:H2' | 1:1G:339:C:C6 | 2.53 | 0.43 |
| 1:1G:1089:G:C6 | 1:1G:1090:U:C2 | 3.05 | 0.43 |
| 1:1G:1239:A:O2' | 1:1G:1298:C:N4 | 2.51 | 0.43 |
| 2:12:55:PHE:CE1 | 2:12:221:LEU:HD11 | 2.53 | 0.43 |
| 3:22:12:LEU:CD2 | 3:22:18:TRP:CZ3 | 3.01 | 0.43 |
| 3:22:92:ALA:HB2 | 3:22:99:VAL:HG13 | 2.00 | 0.43 |
| 3:22:152:ILE:HG23 | 3:22:167:TRP:HB3 | 2.00 | 0.43 |
| 4:32:101:LEU:HA | 4:32:101:LEU:HD12 | 1.73 | 0.43 |
| 9:82:71:SER:O | 9:82:74:ILE:HB | 2.18 | 0.43 |
| 11:2A:96:ARG:O | 11:2A:99:GLN:N | 2.50 | 0.43 |
| 16:7A:40:ASP:HB3 | 16:7A:48:TRP:HB2 | 1.98 | 0.43 |
| 57:3L:22:G:N2 | 57:3L:23:A:C8 | 2.86 | 0.43 |
| 26:14:110:G:C2 | 26:14:111:A:C8 | 3.06 | 0.43 |
| 26:14:189:G:OP2 | 49:F5:39:LYS:HE2 | 2.18 | 0.43 |
| 26:14:654:A:N3 | 26:14:654:A:H2' | 2.33 | 0.43 |
| 26:14:729:G:H2' | 26:14:1775:U:H1' | 2.00 | 0.43 |
| 26:14:1015:G:H2' | 26:14:1016:G:H8 | 1.83 | 0.43 |
| 26:14:1088:A:N3 | 26:14:1088:A:H2' | 2.33 | 0.43 |
| 26:14:1187:G:O5' | 26:14:1187:G:C8 | 2.60 | 0.43 |
| 26:14:1266:G:OP2 | 53:J5:20:ARG:NE | 2.32 | 0.43 |
| 26:14:1282:U:H2' | 26:14:1283:G:O4' | 2.17 | 0.43 |
| 26:14:1298:C:N4 | 26:14:1299:G:C6 | 2.86 | 0.43 |
| 26:14:1637:A:OP2 | 61:14:3539:HOH:O | 2.21 | 0.43 |
| 26:14:1927:A:H2' | 26:14:1928:A:C8 | 2.53 | 0.43 |
| 26:14:2575:C:H2' | 26:14:2578:G:O6 | 2.18 | 0.43 |
| 26:14:2643:G:H2' | 26:14:2644:G:O4' | 2.18 | 0.43 |
| 29:19:132:PRO:HG3 | 29:19:190:TYR:CZ | 2.52 | 0.43 |
| 30:29:36:ARG:HA | 30:29:36:ARG:HD2 | 1.78 | 0.43 |
| 30:29:54:GLN:H | 30:29:74:PRO:CB | 2.30 | 0.43 |
| 30:29:55:ASN:HD22 | 30:29:75:VAL:CG1 | 2.30 | 0.43 |
| 30:29:61:ARG:HA | 30:29:63:LEU:HD23 | 2.00 | 0.43 |
| 31:39:40:GLN:NE2 | 31:39:182:ASN:HB2 | 2.31 | 0.43 |
| 32:49:15:VAL:HG13 | 32:49:175:LEU:HD13 | 2.00 | 0.43 |
| 33:59:152:ARG:H | 33:59:162:ILE:HD12 | 1.81 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 41:75:88:ILE:HG21 | 41:75:91:ARG:NH2 | 2.33 | 0.43 |
| 42:85:98:LEU:HD12 | 42:85:98:LEU:O | 2.18 | 0.43 |
| 43:95:34:GLU:HG2 | 43:95:58:VAL:HG22 | 2.00 | 0.43 |
| 46:C5:29:GLU:OE1 | 46:C5:30:VAL:N | 2.51 | 0.43 |
| 46:C5:42:VAL:O | 46:C5:65:ALA:N | 2.37 | 0.43 |
| 46:C5:73:ARG:NE | 46:C5:74:PRO:HD2 | 2.33 | 0.43 |
| 49:F5:94:LEU:HA | 49:F5:94:LEU:HD23 | 1.68 | 0.43 |
| 1:13:282:A:C4 | 1:13:283:C:C6 | 3.06 | 0.43 |
| 1:13:358:U:H2' | 1:13:359:U:O4' | 2.17 | 0.43 |
| 1:13:509:A:H5'' | 4:3E:55:ALA:HB2 | 2.00 | 0.43 |
| 1:13:834:C:C2 | 1:13:853:G:C2 | 3.05 | 0.43 |
| 1:13:942:G:C2 | 1:13:943:U:C6 | 3.06 | 0.43 |
| 1:13:1183:A:O2' | 1:13:1184:G:OP1 | 2.31 | 0.43 |
| 1:13:1455:G:O5' | 1:13:1455:G:C8 | 2.71 | 0.43 |
| 2:1E:108:ILE:HD12 | 2:1E:108:ILE:HA | 1.77 | 0.43 |
| 4:3E:19:LEU:CB | 4:3E:21:LEU:HD11 | 2.43 | 0.43 |
| 4:3E:107:ARG:HH22 | 4:3E:194:LEU:CD2 | 2.30 | 0.43 |
| 5:4E:12:LEU:HG | 5:4E:13:ILE:N | 2.33 | 0.43 |
| 19:AI:4:SER:O | 19:AI:5:LEU:HD23 | 2.18 | 0.43 |
| 24:3K:76:A:O2' | 26:1H:2394:C:N3 | 2.51 | 0.43 |
| 26:1H:34:C:OP2 | 26:1H:34:C:C2 | 2.71 | 0.43 |
| 26:1H:66:C:C4 | 26:1H:67:U:C4 | 3.05 | 0.43 |
| 26:1H:214:G:H4' | 26:1H:214:G:OP1 | 2.18 | 0.43 |
| 26:1H:247:G:O2' | 26:1H:250:G:N7 | 2.47 | 0.43 |
| 26:1H:511:U:C5 | 26:1H:512:G:C5 | 3.05 | 0.43 |
| 26:1H:956:G:H2' | 26:1H:957:A:H2' | 2.00 | 0.43 |
| 26:1H:1022:G:O2' | 26:1H:1023:U:OP2 | 2.30 | 0.43 |
| 26:1H:1372:U:H2' | 26:1H:1373:A:C8 | 2.53 | 0.43 |
| 26:1H:1534:G:N1 | 26:1H:1539:G:N3 | 2.60 | 0.43 |
| 26:1H:1643:G:C4 | 26:1H:1644:C:C6 | 3.06 | 0.43 |
| 26:1H:1831:G:C4 | 26:1H:1975:G:N2 | 2.86 | 0.43 |
| 26:1H:2133:G:C8 | 26:1H:2156:G:C5 | 3.06 | 0.43 |
| 26:1H:2148:G:C4 | 26:1H:2149:G:C8 | 3.05 | 0.43 |
| 26:1H:2210:G:H2' | 26:1H:2211:G:C5 | 2.53 | 0.43 |
| 26:1H:2518:A:C5' | 26:1H:2518:A:H8 | 2.30 | 0.43 |
| 26:1H:2638:G:P | 30:21:82:ARG:HH21 | 2.42 | 0.43 |
| 29:11:232:PRO:HB3 | 29:11:244:ARG:NH1 | 2.33 | 0.43 |
| 32:41:53:LEU:O | 32:41:56:ALA:N | 2.51 | 0.43 |
| 37:78:36:LYS:HE2 | 37:78:39:LYS:HB3 | 2.00 | 0.43 |
| 37:78:57:THR:OG1 | 37:78:60:MET:HB2 | 2.18 | 0.43 |
| 37:78:108:LYS:C | 37:78:110:TYR:H | 2.21 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 42:C8:61:TRP:O | 42:C8:65:ILE:HG13 | 2.18 | 0.43 |
| 44:E8:34:ASN:HD22 | 53:N8:39:MET:HB2 | 1.83 | 0.43 |
| 46:G8:43:ASN:CB | 46:G8:67:LEU:HD11 | 2.48 | 0.43 |
| 47:H8:137:ILE:HG21 | 47:H8:155:LEU:HD13 | 2.00 | 0.43 |
| 47:H8:138:GLU:OE2 | 47:H8:156:LYS:HG2 | 2.18 | 0.43 |
| 49:J8:46:LEU:HA | 49:J8:46:LEU:HD12 | 1.78 | 0.43 |
| 1:1G:116:A:O5' | 1:1G:116:A:H8 | 2.01 | 0.43 |
| 1:1G:264:U:O2' | 17:8A:63:ARG:HG2 | 2.18 | 0.43 |
| 1:1G:375:U:O2' | 16:7A:6:LEU:O | 2.35 | 0.43 |
| 1:1G:603:U:H2' | 1:1G:604:G:C8 | 2.53 | 0.43 |
| 1:1G:707:C:H2' | 1:1G:708:C:C6 | 2.53 | 0.43 |
| 1:1G:878:G:H5' | 8:72:89:PRO:HG2 | 1.99 | 0.43 |
| 1:1G:1084:G:H2' | 1:1G:1085:U:C6 | 2.53 | 0.43 |
| 4:32:19:LEU:HD12 | 4:32:21:LEU:HD11 | 2.00 | 0.43 |
| 6:52:30:LEU:HB3 | 6:52:35:ALA:HB3 | 2.00 | 0.43 |
| 7:62:65:ALA:CB | 7:62:124:LEU:HD23 | 2.47 | 0.43 |
| 10:1A:78:ASN:ND2 | 10:1A:81:THR:HG23 | 2.32 | 0.43 |
| 12:3A:45:PRO:HB2 | 12:3A:92:ASP:HB3 | 2.01 | 0.43 |
| 15:6A:78:TYR:HD1 | 15:6A:79:ARG:HG3 | 1.83 | 0.43 |
| 57:3L:14:A:H2' | 57:3L:14:A:N3 | 2.32 | 0.43 |
| 57:3L:71:C:H2' | 57:3L:72:C:H5'' | 1.99 | 0.43 |
| 26:14:528:A:N1 | 26:14:2042:A:H2' | 2.33 | 0.43 |
| 26:14:1171:G:O6 | 26:14:1176:G:H1' | 2.18 | 0.43 |
| 26:14:1487:G:N2 | 26:14:1503:U:O2 | 2.51 | 0.43 |
| 26:14:1802:A:N1 | 26:14:1822:G:H1' | 2.33 | 0.43 |
| 26:14:1885:A:H5' | 26:14:1886:C:OP2 | 2.18 | 0.43 |
| 26:14:2104:G:H2' | 26:14:2105:C:H6 | 1.82 | 0.43 |
| 26:14:2443:C:OP1 | 31:39:68:LYS:HG2 | 2.18 | 0.43 |
| 26:14:2526:G:H5' | 26:14:2742:C:O2' | 2.17 | 0.43 |
| 26:14:2745:C:O2' | 33:59:143:GLN:O | 2.25 | 0.43 |
| 29:19:65:ILE:HD11 | 29:19:67:PHE:CE1 | 2.53 | 0.43 |
| 30:29:57:LYS:HZ3 | 30:29:57:LYS:HG2 | 1.51 | 0.43 |
| 30:29:63:LEU:HA | 30:29:63:LEU:HD13 | 1.75 | 0.43 |
| 32:49:36:LYS:HE2 | 32:49:95:ARG:HH22 | 1.83 | 0.43 |
| 34:69:123:LEU:HA | 34:69:142:VAL:CG2 | 2.49 | 0.43 |
| 35:15:13:TRP:O | 35:15:135:PRO:HD2 | 2.17 | 0.43 |
| 37:35:8:PRO:HG2 | 37:35:13:ASN:HD22 | 1.83 | 0.43 |
| 39:55:107:ASP:OD1 | 39:55:107:ASP:C | 2.57 | 0.43 |
| 45:B5:21:PHE:N | 45:B5:21:PHE:CD1 | 2.86 | 0.43 |
| 46:C5:15:VAL:HG23 | 46:C5:72:VAL:HG12 | 2.00 | 0.43 |
| 46:C5:82:PRO:HB3 | 46:C5:99:CYS:CB | 2.48 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 50:G5:63:VAL:O | 50:G5:66:GLU:HG2 | 2.17 | 0.43 |
| 1:13:130:A:OP2 | 17:8I:63:ARG:NE | 2.51 | 0.43 |
| 1:13:373:A:C4 | 1:13:374:A:C8 | 3.07 | 0.43 |
| 1:13:396:G:C2 | 1:13:398:C:C4 | 3.05 | 0.43 |
| 1:13:413:G:N2 | 1:13:428:G:HI' | 2.33 | 0.43 |
| 1:13:1028(B):C:H3' | 1:13:1029:G:C5' | 2.48 | 0.43 |
| 2:1E:105:PHE:HZ | 2:1E:156:LYS:HD3 | 1.83 | 0.43 |
| 5:4E:11:ILE:HG12 | 5:4E:31:LEU:HB3 | 2.00 | 0.43 |
| 6:5E:22:GLU:O | 6:5E:25:ILE:HG22 | 2.18 | 0.43 |
| 7:6E:111:ARG:HD2 | 7:6E:123:GLU:HB2 | 1.99 | 0.43 |
| 9:8E:9:ARG:HA | 9:8E:76:ALA:HB1 | 1.99 | 0.43 |
| 12:3I:60:LEU:HD12 | 12:3I:62:SER:H | 1.83 | 0.43 |
| 14:5I:23:ARG:HD3 | 14:5I:30:ALA:HB2 | 2.01 | 0.43 |
| 21:1F:9:ARG:NH1 | 21:1F:22:ARG:HA | 2.34 | 0.43 |
| 24:3K:9:A:N3 | 24:3K:46:G:N2 | 2.66 | 0.43 |
| 26:1H:1161:C:H3' | 26:1H:1161:C:H6 | 1.83 | 0.43 |
| 26:1H:1316:U:H2' | 26:1H:1317:A:C8 | 2.54 | 0.43 |
| 26:1H:1475:G:N2 | 26:1H:1476:C:O2 | 2.51 | 0.43 |
| 26:1H:1510:A:OP1 | 26:1H:1511:A:H5' | 2.18 | 0.43 |
| 26:1H:1603:A:OP1 | 26:1H:1604:C:OP2 | 2.36 | 0.43 |
| 31:31:103:LYS:HA | 31:31:106:ARG:HD3 | 2.00 | 0.43 |
| 31:31:138:GLU:O | 31:31:139:PHE:C | 2.56 | 0.43 |
| 36:68:104:ARG:NH1 | 41:B8:36:GLU:OE1 | 2.51 | 0.43 |
| 41:B8:125:ARG:O | 41:B8:129:ARG:N | 2.31 | 0.43 |
| 50:K8:2:LYS:HA | 50:K8:3:LEU:HA | 1.81 | 0.43 |
| 53:N8:33:CYS:SG | 53:N8:46:CYS:HB3 | 2.58 | 0.43 |
| 53:N8:40:LYS:CG | 53:N8:47:PRO:HD2 | 2.48 | 0.43 |
| 1:1G:176:C:O2' | 1:1G:177:C:H5' | 2.18 | 0.43 |
| 1:1G:192:U:H4' | 20:BA:103:GLY:HA2 | 2.00 | 0.43 |
| 1:1G:1055:A:C5 | 1:1G:1206:G:C2 | 3.05 | 0.43 |
| 1:1G:1319:A:H61 | 1:1G:1361:G:N2 | 2.16 | 0.43 |
| 2:12:28:PHE:CE1 | 2:12:31:TYR:HE1 | 2.37 | 0.43 |
| 4:32:90:GLY:O | 4:32:93:PHE:HB3 | 2.18 | 0.43 |
| 5:42:15:ARG:HG2 | 5:42:26:PHE:HD2 | 1.83 | 0.43 |
| 6:52:94:GLN:HB3 | 18:9A:32:ARG:HD2 | 2.00 | 0.43 |
| 7:62:12:LEU:HD11 | 7:62:25:ALA:HB2 | 2.00 | 0.43 |
| 8:72:25:ASP:OD2 | 8:72:60:ARG:NH1 | 2.51 | 0.43 |
| 12:3A:102:ARG:HB3 | 12:3A:108:ALA:O | 2.18 | 0.43 |
| 57:3L:67:C:H3' | 57:3L:68:G:H8 | 1.83 | 0.43 |
| 26:14:82:G:N1 | 26:14:103:A:OP2 | 2.44 | 0.43 |
| 26:14:198:C:H4' | 26:14:2243:U:O2' | 2.18 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:14:516:C:H6 | 26:14:516:C:O5' | 2.01 | 0.43 |
| 26:14:943:U:OP2 | 37:35:36:LYS:CG | 2.67 | 0.43 |
| 26:14:1128:A:O2' | 26:14:2490:G:OP1 | 2.30 | 0.43 |
| 26:14:1572:A:H2' | 26:14:1573:G:O4' | 2.17 | 0.43 |
| 26:14:2262:U:H4' | 26:14:2328:A:C2 | 2.54 | 0.43 |
| 26:14:2626:C:H2' | 26:14:2627:G:O4' | 2.19 | 0.43 |
| 29:19:25:THR:O | 29:19:27:THR:O | 2.36 | 0.43 |
| 29:19:106:ILE:O | 29:19:108:PRO:HD3 | 2.18 | 0.43 |
| 32:49:114:ILE:HG13 | 32:49:117:PHE:HD1 | 1.81 | 0.43 |
| 32:49:141:PHE:C | 32:49:143:GLU:H | 2.22 | 0.43 |
| 34:69:13:GLY:HA3 | 34:69:17:GLN:OE1 | 2.18 | 0.43 |
| 37:35:59:LEU:O | 37:35:59:LEU:HD22 | 2.18 | 0.43 |
| 38:45:4:PRO:CG | 38:45:71:ASP:HA | 2.48 | 0.43 |
| 38:45:19:GLY:O | 38:45:98:LYS:HB3 | 2.18 | 0.43 |
| 40:65:14:VAL:HG21 | 40:65:89:ARG:HH11 | 1.83 | 0.43 |
| 40:65:106:ARG:O | 40:65:107:GLU:CD | 2.56 | 0.43 |
| 42:85:74:LEU:HB2 | 42:85:78:THR:OG1 | 2.18 | 0.43 |
| 45:B5:18:TYR:C | 45:B5:20:GLY:H | 2.22 | 0.43 |
| 46:C5:30:VAL:O | 46:C5:36:ALA:O | 2.36 | 0.43 |
| 47:D5:60:GLU:HA | 47:D5:67:LEU:H | 1.83 | 0.43 |
| 50:G5:16:LEU:O | 50:G5:21:LEU:HG | 2.18 | 0.43 |
| 50:G5:18:PRO:O | 50:G5:21:LEU:HB2 | 2.18 | 0.43 |
| 1:13:223:U:H2' | 1:13:224:C:C6 | 2.54 | 0.43 |
| 1:13:931:C:O2 | 1:13:1387:G:C2 | 2.71 | 0.43 |
| 1:13:975:A:H5' | 1:13:975:A:H8 | 1.84 | 0.43 |
| 1:13:1299:A:C2' | 1:13:1301:U:H1' | 2.48 | 0.43 |
| 2:1E:86:GLU:C | 2:1E:89:GLY:H | 2.22 | 0.43 |
| 3:2E:11:ARG:HB3 | 3:2E:14:ILE:O | 2.18 | 0.43 |
| 8:7E:51:VAL:HG11 | 8:7E:60:ARG:HH11 | 1.83 | 0.43 |
| 14:5I:39:LEU:HD11 | 14:5I:47:LEU:HD12 | 2.00 | 0.43 |
| 16:7I:43:LYS:HA | 16:7I:48:TRP:CB | 2.47 | 0.43 |
| 22:1K:1:G:H3' | 22:1K:2:G:H8 | 1.84 | 0.43 |
| 26:1H:25:U:H2' | 26:1H:26:G:C8 | 2.53 | 0.43 |
| 26:1H:566:U:OP1 | 37:78:29:LYS:HD2 | 2.19 | 0.43 |
| 26:1H:1263:U:C4 | 26:1H:1264:G:C6 | 3.06 | 0.43 |
| 26:1H:1329:U:H3' | 26:1H:1330:C:H6 | 1.81 | 0.43 |
| 26:1H:1380:G:N2 | 26:1H:1570:A:C2 | 2.87 | 0.43 |
| 26:1H:1782:C:O4' | 26:1H:2609:U:C2 | 2.71 | 0.43 |
| 26:1H:1817:G:O2' | 26:1H:1818:U:H5' | 2.18 | 0.43 |
| 26:1H:1853:A:N1 | 26:1H:2087:G:H1' | 2.33 | 0.43 |
| 26:1H:1992:G:N2 | 26:1H:1996:C:O2' | 2.50 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:1H:2119:A:C2 | 26:1H:2171:A:N3 | 2.86 | 0.43 |
| 26:1H:2227:A:N7 | 26:1H:2228:G:N7 | 2.66 | 0.43 |
| 26:1H:2518:A:C8 | 26:1H:2518:A:H5'' | 2.54 | 0.43 |
| 33:51:84:SER:O | 33:51:85:LYS:HB2 | 2.19 | 0.43 |
| 38:88:139:GLU:OE1 | 47:H8:122:ARG:NH1 | 2.50 | 0.43 |
| 43:D8:83:ARG:HD3 | 43:D8:83:ARG:HA | 1.61 | 0.43 |
| 45:F8:77:LYS:HG2 | 45:F8:78:LYS:N | 2.33 | 0.43 |
| 53:N8:40:LYS:HE2 | 53:N8:47:PRO:CG | 2.48 | 0.43 |
| 53:N8:49:CYS:SG | 53:N8:49:CYS:O | 2.77 | 0.43 |
| 1:1G:15:G:C6 | 1:1G:1396:A:C2 | 3.07 | 0.43 |
| 1:1G:17:U:H1' | 1:1G:1080:A:H1' | 1.99 | 0.43 |
| 1:1G:52:G:C4 | 1:1G:53:A:C8 | 3.07 | 0.43 |
| 1:1G:784:C:H2' | 1:1G:785:G:O4' | 2.18 | 0.43 |
| 1:1G:995:C:O2' | 1:1G:996:A:H5' | 2.17 | 0.43 |
| 1:1G:1129:C:N4 | 1:1G:1142:G:N7 | 2.65 | 0.43 |
| 1:1G:1140:C:H2' | 1:1G:1141:C:C6 | 2.53 | 0.43 |
| 1:1G:1145:C:H4' | 1:1G:1146:A:H8 | 1.84 | 0.43 |
| 1:1G:1170:A:N6 | 1:1G:1171:G:N3 | 2.67 | 0.43 |
| 4:32:126:ILE:HG22 | 4:32:127:THR:N | 2.33 | 0.43 |
| 4:32:173:TRP:HZ3 | 4:32:193:ASP:HB2 | 1.82 | 0.43 |
| 4:32:179:GLU:N | 4:32:181:MET:H | 2.16 | 0.43 |
| 5:42:35:GLY:CA | 5:42:41:VAL:HG12 | 2.47 | 0.43 |
| 5:42:81:GLU:O | 5:42:81:GLU:HG3 | 2.19 | 0.43 |
| 9:82:14:VAL:H | 9:82:65:VAL:HG23 | 1.84 | 0.43 |
| 13:4A:53:VAL:O | 13:4A:57:ARG:HG2 | 2.18 | 0.43 |
| 16:7A:57:ARG:HH21 | 16:7A:79:VAL:C | 2.19 | 0.43 |
| 19:AA:66:MET:SD | 19:AA:69:HIS:CE1 | 3.12 | 0.43 |
| 23:2L:5:G:H8 | 23:2L:5:G:O5' | 2.02 | 0.43 |
| 26:14:929:G:C8 | 26:14:929:G:C3' | 3.01 | 0.43 |
| 26:14:957:A:C5' | 38:45:76:LYS:HE2 | 2.47 | 0.43 |
| 26:14:1021:A:H3' | 26:14:1021:A:C8 | 2.54 | 0.43 |
| 26:14:1093:G:H2' | 26:14:1093:G:N3 | 2.33 | 0.43 |
| 26:14:1286:A:N6 | 26:14:1329:U:O2' | 2.49 | 0.43 |
| 26:14:1530:G:H1 | 26:14:1541:U:H3 | 1.66 | 0.43 |
| 26:14:1712:C:H2' | 26:14:1716:U:O4' | 2.18 | 0.43 |
| 26:14:1973:G:H2' | 26:14:1974:C:H6 | 1.83 | 0.43 |
| 26:14:1999:C:H5'' | 26:14:2723:C:O2' | 2.19 | 0.43 |
| 26:14:2019:A:N6 | 26:14:2020:A:C5 | 2.86 | 0.43 |
| 26:14:2056:G:O3' | 53:J5:8:LYS:NZ | 2.52 | 0.43 |
| 26:14:2162:G:C2' | 26:14:2163:C:H5' | 2.47 | 0.43 |
| 26:14:2327:A:H2' | 26:14:2328:A:H8 | 1.79 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 27:1J:40:U:C2 | 27:1J:43:C:OP2 | 2.72 | 0.43 |
| 27:1J:43:C:H4' | 32:49:66:GLN:OE1 | 2.17 | 0.43 |
| 31:39:122:LYS:HA | 31:39:191:ARG:NH2 | 2.33 | 0.43 |
| 34:69:44:LEU:HD23 | 34:69:44:LEU:HA | 1.79 | 0.43 |
| 36:25:21:CYS:SG | 36:25:22:ILE:N | 2.91 | 0.43 |
| 37:35:86:LYS:HG3 | 37:35:87:ASP:N | 2.33 | 0.43 |
| 40:65:27:SER:HB3 | 40:65:38:GLN:HB2 | 2.00 | 0.43 |
| 43:95:57:VAL:HG23 | 43:95:99:ILE:N | 2.30 | 0.43 |
| 43:95:72:VAL:O | 43:95:72:VAL:HG13 | 2.18 | 0.43 |
| 46:C5:52:SER:HA | 46:C5:55:TYR:C | 2.37 | 0.43 |
| 47:D5:80:ARG:HB2 | 47:D5:82:ARG:HG2 | 2.00 | 0.43 |
| 49:F5:72:GLU:OE2 | 49:F5:76:ARG:NH2 | 2.52 | 0.43 |
| 55:M5:59:LYS:O | 55:M5:62:LEU:N | 2.35 | 0.43 |
| 1:13:276:G:O6 | 1:13:277:C:N4 | 2.51 | 0.43 |
| 1:13:792:A:H4' | 1:13:793:U:O5' | 2.19 | 0.43 |
| 1:13:925:G:H1 | 1:13:1391:U:H3 | 1.64 | 0.43 |
| 1:13:1072:G:C6 | 1:13:1073:U:N3 | 2.86 | 0.43 |
| 1:13:1406:U:O2 | 1:13:1517:G:N2 | 2.49 | 0.43 |
| 2:1E:21:ARG:HD3 | 2:1E:21:ARG:C | 2.38 | 0.43 |
| 4:3E:31:CYS:O | 4:3E:33:MET:N | 2.51 | 0.43 |
| 6:5E:19:LEU:O | 6:5E:23:LYS:N | 2.40 | 0.43 |
| 8:7E:98:LYS:H | 8:7E:98:LYS:CD | 2.24 | 0.43 |
| 9:8E:9:ARG:N | 9:8E:9:ARG:HD2 | 2.34 | 0.43 |
| 15:6I:32:LEU:O | 15:6I:33:THR:C | 2.54 | 0.43 |
| 17:8I:22:LEU:HD12 | 17:8I:40:LYS:O | 2.18 | 0.43 |
| 26:1H:217:G:H3' | 61:1H:3564:HOH:O | 2.18 | 0.43 |
| 26:1H:1205:U:H4' | 26:1H:1206:G:OP2 | 2.18 | 0.43 |
| 26:1H:1320:C:O2' | 26:1H:1329:U:OP2 | 2.28 | 0.43 |
| 26:1H:1475:G:C2 | 26:1H:1476:C:C2 | 3.06 | 0.43 |
| 26:1H:1536:A:H5'' | 26:1H:1537:C:C5 | 2.53 | 0.43 |
| 26:1H:1759:A:H4' | 26:1H:2715:C:O4' | 2.18 | 0.43 |
| 26:1H:1777:U:O2' | 26:1H:1778:U:H5' | 2.17 | 0.43 |
| 26:1H:1931:U:H2' | 26:1H:1932:A:O4' | 2.19 | 0.43 |
| 26:1H:2111:C:N3 | 26:1H:2118:U:O2' | 2.49 | 0.43 |
| 26:1H:2183:C:H2' | 26:1H:2184:G:H8 | 1.83 | 0.43 |
| 26:1H:2306:C:H3' | 26:1H:2307:G:H5' | 1.98 | 0.43 |
| 26:1H:2309:A:H3' | 26:1H:2309:A:H8 | 1.83 | 0.43 |
| 26:1H:2532:G:H2' | 26:1H:2533:A:O4' | 2.19 | 0.43 |
| 32:41:132:ASN:OD1 | 32:41:132:ASN:N | 2.51 | 0.43 |
| 34:61:124:GLY:H | 34:61:142:VAL:CG2 | 2.31 | 0.43 |
| 37:78:19:VAL:HG23 | 37:78:20:GLY:HA3 | 1.99 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 37:78:80:TYR:CE1 | 37:78:111:ARG:HD3 | 2.52 | 0.43 |
| 41:B8:55:ASN:N | 41:B8:59:THR:HG22 | 2.34 | 0.43 |
| 41:B8:99:LEU:HD12 | 41:B8:99:LEU:O | 2.19 | 0.43 |
| 45:F8:14:SER:O | 45:F8:17:ALA:N | 2.51 | 0.43 |
| 45:F8:25:LYS:HA | 45:F8:81:VAL:O | 2.19 | 0.43 |
| 46:G8:43:ASN:O | 46:G8:64:GLU:HA | 2.18 | 0.43 |
| 55:Q8:51:ALA:HB1 | 55:Q8:52:LYS:HG3 | 2.00 | 0.43 |
| 1:1G:200:G:H1 | 1:1G:217:C:N4 | 2.16 | 0.43 |
| 1:1G:235:C:H5' | 17:8A:70:ARG:CG | 2.49 | 0.43 |
| 1:1G:566:G:H8 | 1:1G:566:G:OP1 | 2.01 | 0.43 |
| 1:1G:571:U:O2 | 1:1G:918:A:H5' | 2.18 | 0.43 |
| 1:1G:867:G:O2' | 1:1G:868:C:H5' | 2.17 | 0.43 |
| 1:1G:1012:U:H3 | 1:1G:1017:G:H1 | 1.66 | 0.43 |
| 1:1G:1182:G:H5' | 1:1G:1183:A:H5' | 2.00 | 0.43 |
| 1:1G:1186:G:O3' | 9:82:113:LYS:HE3 | 2.18 | 0.43 |
| 1:1G:1329:A:H5'' | 13:4A:25:ILE:C | 2.39 | 0.43 |
| 7:62:136:LYS:NZ | 7:62:137:LYS:HZ3 | 2.14 | 0.43 |
| 17:8A:3:LYS:HB3 | 17:8A:61:GLU:HB3 | 2.00 | 0.43 |
| 17:8A:56:VAL:O | 17:8A:77:VAL:N | 2.43 | 0.43 |
| 57:3L:49:G:N3 | 57:3L:49:G:H2' | 2.32 | 0.43 |
| 26:14:289:A:H3' | 26:14:290:G:C8 | 2.49 | 0.43 |
| 26:14:363(B):G:H2' | 26:14:363(C):G:C8 | 2.54 | 0.43 |
| 26:14:432:A:H2' | 26:14:433:C:O4' | 2.19 | 0.43 |
| 26:14:747:U:O2 | 26:14:2014:A:H1' | 2.18 | 0.43 |
| 26:14:1769:G:O2' | 26:14:1958:C:H5'' | 2.19 | 0.43 |
| 26:14:2027:G:H1' | 26:14:2037:G:N2 | 2.33 | 0.43 |
| 26:14:2459:A:C4 | 26:14:2460:U:C6 | 3.06 | 0.43 |
| 26:14:2857:G:C2 | 26:14:2861:G:C6 | 3.06 | 0.43 |
| 27:1J:24:G:H4' | 27:1J:25:A:H8 | 1.82 | 0.43 |
| 30:29:100:GLU:O | 30:29:172:VAL:HG23 | 2.18 | 0.43 |
| 31:39:83:PHE:O | 31:39:85:GLY:N | 2.50 | 0.43 |
| 31:39:144:LYS:HA | 31:39:144:LYS:HD3 | 1.49 | 0.43 |
| 34:69:7:GLU:HG2 | 34:69:8:PRO:CD | 2.46 | 0.43 |
| 37:35:138:LEU:HG | 37:35:144:GLU:HG2 | 2.01 | 0.43 |
| 44:A5:15:ARG:O | 44:A5:19:LEU:CD2 | 2.67 | 0.43 |
| 47:D5:137:ILE:HG23 | 47:D5:156:LYS:N | 2.33 | 0.43 |
| 49:F5:37:ILE:HD12 | 49:F5:37:ILE:HA | 1.59 | 0.43 |
| 1:13:108:G:P | 1:13:326:G:H22 | 2.42 | 0.43 |
| 1:13:137:C:H2' | 1:13:138:G:O4' | 2.19 | 0.43 |
| 1:13:153:C:N4 | 1:13:168:G:H22 | 2.16 | 0.43 |
| 1:13:163:C:OP2 | 1:13:163:C:H6 | 2.02 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:192:U:H2' | 1:13:193:C:H6 | 1.83 | 0.43 |
| 1:13:643:C:H2' | 1:13:644:G:C8 | 2.53 | 0.43 |
| 1:13:687:A:C6 | 1:13:704:A:N7 | 2.86 | 0.43 |
| 1:13:927:G:H2' | 1:13:928:G:O4' | 2.19 | 0.43 |
| 1:13:1226:C:H4' | 19:AI:80:TYR:CZ | 2.52 | 0.43 |
| 1:13:1417:G:C6 | 1:13:1482:G:C6 | 3.07 | 0.43 |
| 1:13:1512:U:H2' | 1:13:1513:A:C8 | 2.54 | 0.43 |
| 3:2E:60:ALA:H | 3:2E:63:ASN:HB3 | 1.84 | 0.43 |
| 4:3E:107:ARG:NH1 | 4:3E:114:ARG:HH22 | 2.17 | 0.43 |
| 4:3E:172:PRO:HB2 | 4:3E:187:ARG:NH1 | 2.32 | 0.43 |
| 4:3E:201:GLN:O | 4:3E:205:GLU:HG3 | 2.19 | 0.43 |
| 7:6E:28:ASN:O | 7:6E:31:MET:HB3 | 2.18 | 0.43 |
| 8:7E:121:ASP:OD2 | 8:7E:125:ARG:NH2 | 2.51 | 0.43 |
| 11:2I:122:LYS:H | 11:2I:122:LYS:HG3 | 1.60 | 0.43 |
| 14:5I:48:ALA:HA | 14:5I:53:LEU:HB2 | 1.99 | 0.43 |
| 16:7I:21:VAL:HG21 | 16:7I:34:GLU:HG2 | 2.01 | 0.43 |
| 22:1K:22:G:H2' | 22:1K:22:G:N3 | 2.33 | 0.43 |
| 24:3K:34:U:O2 | 24:3K:35:U:H5' | 2.19 | 0.43 |
| 26:1H:51:G:N3 | 26:1H:119:A:C2 | 2.87 | 0.43 |
| 26:1H:127:A:H5'' | 26:1H:128:C:C6 | 2.54 | 0.43 |
| 26:1H:375:C:H2' | 26:1H:376:C:C6 | 2.54 | 0.43 |
| 26:1H:511:U:H5'' | 26:1H:512:G:OP2 | 2.19 | 0.43 |
| 26:1H:533:G:N2 | 42:C8:45:TYR:CE2 | 2.86 | 0.43 |
| 26:1H:817:C:O2' | 26:1H:839:U:H5'' | 2.18 | 0.43 |
| 26:1H:991:C:H2' | 26:1H:992:C:H6 | 1.84 | 0.43 |
| 26:1H:1339:G:N2 | 26:1H:1603:A:H1' | 2.33 | 0.43 |
| 26:1H:1523:U:H2' | 26:1H:1524:G:O4' | 2.19 | 0.43 |
| 26:1H:1686:C:H2' | 26:1H:1687:G:O4' | 2.19 | 0.43 |
| 26:1H:1779:U:OP2 | 26:1H:1784:A:N6 | 2.46 | 0.43 |
| 26:1H:1931:U:O2 | 26:1H:1931:U:O4' | 2.36 | 0.43 |
| 26:1H:2227:A:C6 | 26:1H:2228:G:C5 | 3.06 | 0.43 |
| 26:1H:2294:C:H5'' | 40:A8:13:ARG:HH12 | 1.83 | 0.43 |
| 26:1H:2547:U:H2' | 26:1H:2548:G:C8 | 2.54 | 0.43 |
| 26:1H:2812:G:C2 | 26:1H:2813:A:C4 | 3.06 | 0.43 |
| 26:1H:2848:G:C8 | 41:B8:97:ALA:HB2 | 2.54 | 0.43 |
| 28:71:163:PHE:HE2 | 28:71:199:HIS:CE1 | 2.36 | 0.43 |
| 29:11:79:VAL:O | 29:11:113:VAL:HG23 | 2.18 | 0.43 |
| 29:11:93:ALA:HB3 | 29:11:105:ILE:HG22 | 2.00 | 0.43 |
| 32:41:32:PRO:HB2 | 32:41:172:LEU:HD22 | 2.01 | 0.43 |
| 32:41:35:GLU:HG3 | 32:41:36:LYS:CB | 2.44 | 0.43 |
| 37:78:63:PRO:CB | 55:Q8:30:ARG:HH21 | 2.26 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 40:A8:71:ARG:HE | 40:A8:106:ARG:HH22 | 1.65 | 0.43 |
| 42:C8:57:PHE:O | 42:C8:60:LEU:N | 2.51 | 0.43 |
| 45:F8:10:ALA:HB1 | 45:F8:11:PRO:HD2 | 2.00 | 0.43 |
| 47:H8:94:GLU:O | 47:H8:130:PRO:HD3 | 2.18 | 0.43 |
| 50:K8:33:MET:HG2 | 50:K8:37:PHE:HE1 | 1.84 | 0.43 |
| 1:1G:17:U:C4 | 1:1G:18:C:N4 | 2.87 | 0.43 |
| 1:1G:615:C:H2' | 1:1G:616:G:H8 | 1.83 | 0.43 |
| 1:1G:788:U:H2' | 1:1G:789:U:O4' | 2.18 | 0.43 |
| 1:1G:1088:G:C6 | 1:1G:1089:G:C5 | 3.06 | 0.43 |
| 1:1G:1126:U:H5' | 1:1G:1127:G:N7 | 2.33 | 0.43 |
| 1:1G:1267:C:O2 | 1:1G:1267:C:H2' | 2.18 | 0.43 |
| 1:1G:1297:C:H4' | 1:1G:1298:C:H5' | 2.01 | 0.43 |
| 1:1G:1372:U:C4 | 1:1G:1373:G:C4 | 3.07 | 0.43 |
| 2:12:105:PHE:HA | 2:12:108:ILE:HG22 | 2.01 | 0.43 |
| 4:32:173:TRP:CB | 4:32:187:ARG:HG2 | 2.49 | 0.43 |
| 5:42:79:GLU:HA | 5:42:91:LEU:O | 2.18 | 0.43 |
| 7:62:141:VAL:HA | 7:62:142:GLU:CB | 2.48 | 0.43 |
| 10:1A:63:PHE:CD1 | 14:5A:56:VAL:HG13 | 2.53 | 0.43 |
| 13:4A:44:ARG:CB | 13:4A:46:LYS:HG2 | 2.45 | 0.43 |
| 26:14:76:C:O3' | 50:G5:59:ARG:HG3 | 2.18 | 0.43 |
| 26:14:900:A:C2' | 26:14:901:A:H8 | 2.20 | 0.43 |
| 26:14:1286:A:H61 | 26:14:1329:U:HO2' | 1.64 | 0.43 |
| 26:14:1287:A:C5 | 26:14:1288:U:C4 | 3.06 | 0.43 |
| 26:14:1964:G:H4' | 26:14:1965:C:OP2 | 2.17 | 0.43 |
| 26:14:2459:A:C4 | 26:14:2460:U:C5 | 3.06 | 0.43 |
| 26:14:2611:U:H3' | 26:14:2611:U:OP2 | 2.19 | 0.43 |
| 26:14:2687:U:O5' | 26:14:2687:U:H6 | 2.02 | 0.43 |
| 26:14:2836:U:C4 | 26:14:2883:A:N6 | 2.86 | 0.43 |
| 27:1J:29:A:OP1 | 40:65:31:SER:HA | 2.19 | 0.43 |
| 30:29:96:PHE:O | 30:29:175:VAL:HG11 | 2.19 | 0.43 |
| 30:29:173:VAL:N | 30:29:183:LEU:O | 2.27 | 0.43 |
| 31:39:53:THR:CG2 | 31:39:55:GLY:H | 2.15 | 0.43 |
| 31:39:116:ASP:O | 31:39:120:GLU:HG2 | 2.18 | 0.43 |
| 31:39:165:ARG:HG2 | 31:39:168:ARG:NH1 | 2.33 | 0.43 |
| 33:59:152:ARG:HG3 | 33:59:153:LYS:HG3 | 1.99 | 0.43 |
| 37:35:59:LEU:HD21 | 55:M5:10:ALA:HA | 2.00 | 0.43 |
| 41:75:30:VAL:HG12 | 41:75:86:ILE:HD12 | 2.01 | 0.43 |
| 46:C5:61:ILE:HG22 | 46:C5:62:GLU:N | 2.33 | 0.43 |
| 47:D5:44:PHE:HE1 | 47:D5:48:PHE:CD2 | 2.37 | 0.43 |
| 48:E5:63:VAL:HG12 | 48:E5:64:ASP:N | 2.30 | 0.43 |
| 1:13:183:G:H2' | 1:13:184:G:C8 | 2.54 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:263:A:OP2 | 20:BI:79:ARG:NH1 | 2.50 | 0.43 |
| 1:13:565:U:H3' | 1:13:566:G:H2' | 2.01 | 0.43 |
| 1:13:736:C:OP1 | 18:9I:72:ARG:NE | 2.52 | 0.43 |
| 1:13:818:G:C2 | 1:13:820:U:O2' | 2.67 | 0.43 |
| 1:13:1202:G:C2 | 14:5I:42:ILE:HG21 | 2.54 | 0.43 |
| 1:13:1285:A:H8 | 1:13:1285:A:P | 2.41 | 0.43 |
| 1:13:1511:G:H2' | 1:13:1512:U:O4' | 2.18 | 0.43 |
| 2:1E:185:ILE:CD1 | 2:1E:199:TYR:HD2 | 2.31 | 0.43 |
| 3:2E:26:LYS:H | 3:2E:26:LYS:HG3 | 1.62 | 0.43 |
| 7:6E:111:ARG:H | 7:6E:111:ARG:HG3 | 1.57 | 0.43 |
| 8:7E:1:MET:HG3 | 8:7E:2:LEU:N | 2.32 | 0.43 |
| 10:1I:48:THR:HG1 | 10:1I:62:HIS:CE1 | 2.36 | 0.43 |
| 15:6I:32:LEU:HD11 | 15:6I:62:GLN:HG3 | 2.00 | 0.43 |
| 18:9I:38:GLU:HA | 18:9I:41:LYS:HZ2 | 1.84 | 0.43 |
| 26:1H:36:G:C5 | 26:1H:37:C:C5 | 3.07 | 0.43 |
| 26:1H:394:A:C6 | 26:1H:395:U:N3 | 2.86 | 0.43 |
| 26:1H:662:G:OP1 | 37:78:15:ARG:HB3 | 2.18 | 0.43 |
| 26:1H:924:C:C4 | 26:1H:925:C:C4 | 3.07 | 0.43 |
| 26:1H:943:U:OP2 | 37:78:36:LYS:CG | 2.66 | 0.43 |
| 26:1H:968:G:C6 | 26:1H:969:U:C4 | 3.07 | 0.43 |
| 26:1H:1168:G:C2 | 26:1H:1182:A:C2 | 3.07 | 0.43 |
| 26:1H:1463:C:C4 | 26:1H:1464:C:C5 | 3.06 | 0.43 |
| 26:1H:1537:C:H2' | 26:1H:1538:G:H4' | 2.01 | 0.43 |
| 26:1H:1690:A:H3' | 26:1H:1691:C:H6 | 1.83 | 0.43 |
| 26:1H:1889:A:H2' | 26:1H:1890:A:O4' | 2.18 | 0.43 |
| 26:1H:2081:C:C5 | 26:1H:2237:G:N2 | 2.87 | 0.43 |
| 26:1H:2310:A:H3' | 26:1H:2310:A:N3 | 2.34 | 0.43 |
| 26:1H:2428:G:N2 | 37:78:61:ARG:HH22 | 2.16 | 0.43 |
| 26:1H:2663:G:H2' | 26:1H:2664:G:O4' | 2.18 | 0.43 |
| 26:1H:2888:C:O2' | 26:1H:2889:C:H5' | 2.18 | 0.43 |
| 27:16:52:A:C6 | 40:A8:33:LYS:HD2 | 2.53 | 0.43 |
| 27:16:75:G:H21 | 47:H8:85:HIS:HE1 | 1.65 | 0.43 |
| 28:71:5:LYS:HB3 | 28:71:8:ARG:NH1 | 2.33 | 0.43 |
| 29:11:68:LYS:HB3 | 29:11:70:TRP:CH2 | 2.53 | 0.43 |
| 30:21:26:ILE:CD1 | 30:21:196:VAL:HG21 | 2.49 | 0.43 |
| 32:41:111:LEU:HA | 32:41:114:ILE:HD12 | 1.99 | 0.43 |
| 33:51:135:GLY:HA3 | 33:51:141:VAL:HG22 | 2.00 | 0.43 |
| 35:58:16:ILE:HB | 35:58:54:VAL:HG22 | 2.01 | 0.43 |
| 40:A8:24:LEU:HD12 | 40:A8:41:ASP:HB2 | 1.99 | 0.43 |
| 43:D8:89:GLN:HG3 | 43:D8:90:PRO:HD2 | 2.01 | 0.43 |
| 1:1G:376:G:H5'' | 16:7A:5:ARG:HD2 | 2.01 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:1G:570:G:C4 | 1:1G:571:U:C5 | 3.07 | 0.43 |
| 1:1G:872:A:O2' | 1:1G:873:A:H5'' | 2.18 | 0.43 |
| 1:1G:963:G:H21 | 10:1A:55:LYS:CE | 2.30 | 0.43 |
| 1:1G:991:U:H5 | 1:1G:1212:U:H1' | 1.84 | 0.43 |
| 1:1G:1084:G:C8 | 1:1G:1085:U:C6 | 3.06 | 0.43 |
| 1:1G:1178:G:N3 | 1:1G:1180:A:C8 | 2.86 | 0.43 |
| 1:1G:1179:A:H2' | 1:1G:1180:A:O4' | 2.18 | 0.43 |
| 1:1G:1305:G:H5'' | 21:1B:4:GLY:HA3 | 1.99 | 0.43 |
| 1:1G:1354:C:H2' | 1:1G:1355:G:H8 | 1.82 | 0.43 |
| 2:12:82:ARG:HH22 | 2:12:150:SER:CB | 2.32 | 0.43 |
| 2:12:219:VAL:O | 2:12:222:ILE:HG22 | 2.19 | 0.43 |
| 3:22:71:ALA:O | 3:22:73:PRO:HD3 | 2.19 | 0.43 |
| 4:32:189:PRO:HB2 | 4:32:194:LEU:CD2 | 2.48 | 0.43 |
| 5:42:8:GLU:HB3 | 5:42:34:VAL:HG23 | 2.00 | 0.43 |
| 6:52:68:PRO:HG2 | 6:52:71:ARG:HB2 | 2.01 | 0.43 |
| 9:82:54:ASP:OD1 | 9:82:54:ASP:N | 2.52 | 0.43 |
| 11:2A:57:THR:HG22 | 11:2A:59:TYR:H | 1.82 | 0.43 |
| 11:2A:100:ALA:C | 11:2A:102:GLY:H | 2.22 | 0.43 |
| 20:BA:86:ARG:HB2 | 20:BA:86:ARG:CZ | 2.49 | 0.43 |
| 26:14:34:C:H1' | 26:14:35:G:P | 2.58 | 0.43 |
| 26:14:234:C:C2 | 26:14:235:U:C5 | 3.07 | 0.43 |
| 26:14:335:C:H2' | 26:14:336:C:H6 | 1.82 | 0.43 |
| 26:14:774:A:HO2' | 26:14:775:G:P | 2.42 | 0.43 |
| 26:14:1431:U:H2' | 26:14:1432:C:H6 | 1.84 | 0.43 |
| 26:14:1487:G:C4 | 26:14:1488:G:C8 | 3.06 | 0.43 |
| 26:14:1503:U:H2' | 26:14:1504:C:C6 | 2.53 | 0.43 |
| 26:14:1652:A:OP1 | 39:55:8:ARG:NH1 | 2.51 | 0.43 |
| 26:14:2263:C:O2' | 26:14:2264:C:H5' | 2.18 | 0.43 |
| 26:14:2674:G:H2' | 26:14:2675:A:C8 | 2.54 | 0.43 |
| 26:14:2862:G:H2' | 26:14:2863:C:C6 | 2.52 | 0.43 |
| 27:1J:42:C:H4' | 32:49:67:LYS:HG3 | 2.01 | 0.43 |
| 27:1J:57:A:N3 | 32:49:29:TRP:HB3 | 2.34 | 0.43 |
| 31:39:4:VAL:HG21 | 31:39:17:ARG:NH2 | 2.33 | 0.43 |
| 31:39:117:ARG:HB3 | 31:39:123:LEU:HD23 | 2.00 | 0.43 |
| 32:49:98:ARG:O | 32:49:102:PHE:HB2 | 2.19 | 0.43 |
| 32:49:152:LEU:O | 32:49:152:LEU:HD23 | 2.19 | 0.43 |
| 33:59:52:VAL:O | 33:59:53:GLU:HB2 | 2.18 | 0.43 |
| 39:55:83:ILE:HD13 | 39:55:83:ILE:HG21 | 1.86 | 0.43 |
| 41:75:11:GLU:HB2 | 41:75:12:SER:OG | 2.18 | 0.43 |
| 42:85:90:VAL:HG22 | 43:95:39:LEU:HD23 | 2.00 | 0.43 |
| 43:95:30:GLY:H | 43:95:61:VAL:HB | 1.83 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 47:D5:18:LEU:O | 47:D5:21:ALA:HB3 | 2.19 | 0.43 |
| 55:M5:40:GLU:HA | 55:M5:43:GLN:CB | 2.47 | 0.43 |
| 1:13:1:U:N3 | 1:13:629:G:C2 | 2.87 | 0.43 |
| 1:13:109:A:C6 | 1:13:326:G:C5 | 3.06 | 0.43 |
| 1:13:232:G:C4 | 1:13:233:C:C5 | 3.06 | 0.43 |
| 1:13:282:A:N3 | 1:13:282:A:H2' | 2.32 | 0.43 |
| 1:13:458:C:C4 | 1:13:475:G:N1 | 2.86 | 0.43 |
| 1:13:1077:G:N3 | 1:13:1081:G:C2 | 2.87 | 0.43 |
| 1:13:1097:C:O2' | 1:13:1169:A:N3 | 2.39 | 0.43 |
| 1:13:1486:G:H2' | 1:13:1487:G:O4' | 2.18 | 0.43 |
| 2:1E:6:THR:HG22 | 2:1E:221:LEU:HD21 | 2.00 | 0.43 |
| 4:3E:155:LEU:O | 4:3E:157:LEU:N | 2.51 | 0.43 |
| 6:5E:37:VAL:HG22 | 6:5E:63:TYR:HD2 | 1.83 | 0.43 |
| 9:8E:49:PRO:HA | 9:8E:52:ALA:HB3 | 1.99 | 0.43 |
| 23:2K:13:C:H4' | 26:1H:1924:C:O2' | 2.18 | 0.43 |
| 26:1H:274:G:N3 | 26:1H:276:A:N1 | 2.66 | 0.43 |
| 26:1H:466:A:O4' | 26:1H:683:C:H4' | 2.18 | 0.43 |
| 26:1H:774:A:H2 | 26:1H:787:U:O2' | 2.01 | 0.43 |
| 26:1H:918:A:O2' | 27:16:96:G:N2 | 2.42 | 0.43 |
| 26:1H:1166:C:O2 | 26:1H:1184:G:N2 | 2.51 | 0.43 |
| 26:1H:1277:G:C2 | 26:1H:1294:U:O2 | 2.72 | 0.43 |
| 26:1H:1297:C:N3 | 26:1H:1298:C:C5 | 2.86 | 0.43 |
| 26:1H:1642:G:C2' | 26:1H:1643:G:H5' | 2.49 | 0.43 |
| 26:1H:1783:A:C2 | 26:1H:2587:A:C5 | 3.07 | 0.43 |
| 26:1H:2019:A:O4' | 42:C8:34:LYS:HD2 | 2.18 | 0.43 |
| 26:1H:2461:C:H42 | 26:1H:2489:G:H1 | 1.65 | 0.43 |
| 26:1H:2675:A:H4' | 36:68:29:ASN:ND2 | 2.34 | 0.43 |
| 26:1H:2740:A:C6 | 26:1H:2764:A:C8 | 3.06 | 0.43 |
| 26:1H:2843:G:H1 | 26:1H:2874:C:H42 | 1.65 | 0.43 |
| 29:11:30:GLU:CD | 29:11:63:ARG:HH21 | 2.22 | 0.43 |
| 30:21:119:ARG:HB3 | 30:21:120:TRP:CD1 | 2.54 | 0.43 |
| 32:41:125:PHE:HA | 32:41:130:ASN:O | 2.19 | 0.43 |
| 32:41:138:GLN:HE21 | 32:41:149:VAL:HG12 | 1.84 | 0.43 |
| 35:58:73:THR:HA | 35:58:83:LYS:O | 2.19 | 0.43 |
| 37:78:14:LYS:O | 37:78:15:ARG:O | 2.37 | 0.43 |
| 39:98:44:LEU:O | 39:98:47:PHE:N | 2.38 | 0.43 |
| 40:A8:67:ARG:HG2 | 40:A8:71:ARG:CZ | 2.49 | 0.43 |
| 44:E8:38:TYR:OH | 53:N8:47:PRO:HG2 | 2.19 | 0.43 |
| 47:H8:163:LEU:HD22 | 47:H8:165:VAL:H | 1.83 | 0.43 |
| 52:M8:13:ARG:NH1 | 52:M8:22:ILE:O | 2.52 | 0.43 |
| 1:1G:34:C:H2' | 1:1G:35:G:C8 | 2.53 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:1G:186:C:H1' | 20:BA:81:LYS:HE2 | 2.00 | 0.43 |
| 1:1G:397:A:H5' | 1:1G:398:C:OP1 | 2.19 | 0.43 |
| 1:1G:889:A:H4' | 1:1G:890:G:OP1 | 2.19 | 0.43 |
| 1:1G:981:U:H6 | 1:1G:981:U:O5' | 2.01 | 0.43 |
| 1:1G:1007:C:H2' | 1:1G:1008:C:C6 | 2.53 | 0.43 |
| 1:1G:1316:G:N2 | 1:1G:1318:A:C8 | 2.86 | 0.43 |
| 1:1G:1359:C:P | 14:5A:22:THR:HG21 | 2.59 | 0.43 |
| 1:1G:1442:G:O2' | 1:1G:1443:G:OP1 | 2.30 | 0.43 |
| 1:1G:1466:C:C2' | 1:1G:1467:G:H5' | 2.48 | 0.43 |
| 2:12:137:ARG:HG3 | 2:12:138:LEU:N | 2.33 | 0.43 |
| 6:52:17:SER:O | 6:52:21:LEU:HB2 | 2.19 | 0.43 |
| 7:62:106:GLN:HG2 | 7:62:106:GLN:H | 1.61 | 0.43 |
| 12:3A:6:THR:HG23 | 12:3A:6:THR:H | 1.56 | 0.43 |
| 12:3A:81:SER:HB2 | 12:3A:106:ASP:OD2 | 2.18 | 0.43 |
| 20:BA:50:GLU:HA | 20:BA:100:ILE:HG21 | 1.99 | 0.43 |
| 26:14:99:U:C2 | 26:14:102:G:N2 | 2.87 | 0.43 |
| 26:14:117:G:C6 | 26:14:119:A:C6 | 3.07 | 0.43 |
| 26:14:125:G:H1' | 54:L5:13:ALA:HB1 | 2.01 | 0.43 |
| 26:14:191:A:C2 | 26:14:192:C:C2 | 3.07 | 0.43 |
| 26:14:263:C:C4 | 26:14:264:C:C5 | 3.07 | 0.43 |
| 26:14:582:G:H2' | 26:14:583:G:H8 | 1.84 | 0.43 |
| 26:14:735:A:H3' | 26:14:736:C:H6 | 1.84 | 0.43 |
| 26:14:776:G:C8 | 26:14:793:A:C2 | 3.07 | 0.43 |
| 26:14:1416:G:H2' | 26:14:1417:C:C6 | 2.54 | 0.43 |
| 26:14:2119:A:C4 | 26:14:2171:A:C2 | 3.06 | 0.43 |
| 26:14:2295:C:H41 | 40:65:13:ARG:HH21 | 1.66 | 0.43 |
| 26:14:2439:A:C8 | 26:14:2439:A:C5' | 3.02 | 0.43 |
| 26:14:2462:U:H2' | 26:14:2463:C:C6 | 2.54 | 0.43 |
| 26:14:2488:A:O5' | 26:14:2488:A:C8 | 2.66 | 0.43 |
| 26:14:2542:A:C8 | 26:14:2544:G:O6 | 2.72 | 0.43 |
| 26:14:2579:C:O2' | 30:29:134:ILE:HD11 | 2.18 | 0.43 |
| 27:1J:99:A:C6 | 27:1J:100:G:C5 | 3.07 | 0.43 |
| 34:69:49:ALA:HA | 34:69:52:ARG:HH11 | 1.84 | 0.43 |
| 36:25:22:ILE:HG23 | 36:25:22:ILE:HD12 | 1.60 | 0.43 |
| 38:45:39:PRO:HA | 38:45:97:VAL:O | 2.19 | 0.43 |
| 41:75:3:ARG:NE | 41:75:5:ALA:HB3 | 2.33 | 0.43 |
| 43:95:60:GLU:HG2 | 43:95:61:VAL:N | 2.33 | 0.43 |
| 45:B5:52:VAL:HG12 | 45:B5:82:GLN:HG3 | 2.00 | 0.43 |
| 46:C5:73:ARG:HH22 | 46:C5:83:THR:HA | 1.82 | 0.43 |
| 48:E5:43:THR:O | 48:E5:45:PHE:N | 2.52 | 0.43 |
| 51:H5:8:LEU:HB2 | 51:H5:28:LEU:HD13 | 2.01 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 53:J5:33:CYS:SG | 53:J5:46:CYS:HB2 | 2.59 | 0.43 |
| 54:L5:34:ARG:HG2 | 54:L5:39:ARG:HG3 | 2.00 | 0.43 |
| 1:13:147:G:N1 | 1:13:148:G:N3 | 2.67 | 0.43 |
| 1:13:171:A:H2' | 1:13:172:A:C8 | 2.53 | 0.43 |
| 1:13:193:C:H4' | 20:BI:61:SER:HB2 | 2.01 | 0.43 |
| 1:13:464:G:O6 | 1:13:466:C:H4' | 2.18 | 0.43 |
| 1:13:1172:C:O2' | 1:13:1173:G:H5' | 2.19 | 0.43 |
| 2:1E:27:LYS:NZ | 2:1E:193:ASP:OD2 | 2.52 | 0.43 |
| 4:3E:98:GLU:HG3 | 4:3E:103:ASN:ND2 | 2.34 | 0.43 |
| 8:7E:87:SER:OG | 8:7E:92:ARG:HA | 2.19 | 0.43 |
| 9:8E:86:VAL:HG12 | 9:8E:86:VAL:O | 2.19 | 0.43 |
| 13:4I:13:LYS:HB3 | 13:4I:14:ARG:H | 1.71 | 0.43 |
| 20:BI:26:ASN:HA | 20:BI:29:LYS:HB2 | 2.01 | 0.43 |
| 21:1F:5:ASP:O | 21:1F:8:THR:HG22 | 2.19 | 0.43 |
| 26:1H:36:G:N1 | 26:1H:445:C:C4 | 2.87 | 0.43 |
| 26:1H:37:C:H2' | 26:1H:38:A:C8 | 2.54 | 0.43 |
| 26:1H:146:G:C6 | 26:1H:147:U:C4 | 3.06 | 0.43 |
| 26:1H:270(I):G:H1 | 26:1H:270(Q):C:H42 | 1.67 | 0.43 |
| 26:1H:624:C:O5' | 26:1H:624:C:H6 | 2.02 | 0.43 |
| 26:1H:1332:G:H5' | 26:1H:1332:G:C8 | 2.53 | 0.43 |
| 26:1H:1423:G:H2' | 26:1H:1424:G:H8 | 1.83 | 0.43 |
| 26:1H:1884:A:H2' | 26:1H:1885:A:O4' | 2.18 | 0.43 |
| 26:1H:2588:G:OP1 | 61:1H:3562:HOH:O | 2.21 | 0.43 |
| 26:1H:2683:C:C5 | 26:1H:2684:U:C5 | 3.07 | 0.43 |
| 26:1H:2822:G:O6 | 39:98:2:ARG:HG3 | 2.19 | 0.43 |
| 27:16:45:A:H5'' | 27:16:46:A:OP2 | 2.19 | 0.43 |
| 29:11:35:LYS:HD2 | 29:11:35:LYS:O | 2.19 | 0.43 |
| 30:21:24:THR:O | 30:21:184:VAL:HG22 | 2.19 | 0.43 |
| 31:31:24:LEU:HG | 31:31:115:ALA:HB2 | 2.00 | 0.43 |
| 32:41:47:LYS:HB3 | 32:41:47:LYS:HE2 | 1.69 | 0.43 |
| 32:41:122:PRO:HG3 | 32:41:181:ARG:HB2 | 2.00 | 0.43 |
| 38:88:118:LEU:HA | 38:88:118:LEU:HD23 | 1.61 | 0.43 |
| 38:88:133:ARG:HB3 | 38:88:134:ARG:H | 1.54 | 0.43 |
| 43:D8:4:ILE:HD12 | 43:D8:40:LEU:HG | 1.99 | 0.43 |
| 46:G8:104:GLY:H | 46:G8:105:ALA:HB3 | 1.84 | 0.43 |
| 1:1G:310:G:OP2 | 16:7A:27:LYS:HD3 | 2.19 | 0.43 |
| 1:1G:1011:G:N2 | 1:1G:1019:C:O2 | 2.51 | 0.43 |
| 1:1G:1104:G:C6 | 1:1G:1105:A:C5 | 3.07 | 0.43 |
| 3:22:20:SER:HB2 | 3:22:40:ARG:NH2 | 2.28 | 0.43 |
| 3:22:153:VAL:O | 3:22:165:THR:HG23 | 2.19 | 0.43 |
| 5:42:12:LEU:HD11 | 5:42:14:ARG:HG2 | 2.01 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 6:52:91:VAL:HG12 | 6:52:92:LYS:O | 2.19 | 0.43 |
| 7:62:45:ASP:HB3 | 7:62:117:ALA:HB1 | 2.00 | 0.43 |
| 9:82:10:ARG:HH11 | 9:82:10:ARG:HG3 | 1.82 | 0.43 |
| 11:2A:59:TYR:O | 11:2A:63:LEU:HD23 | 2.19 | 0.43 |
| 23:2L:41:C:H2' | 23:2L:42:C:C6 | 2.53 | 0.43 |
| 26:14:10:G:C2 | 26:14:2629:A:N7 | 2.86 | 0.43 |
| 26:14:21:A:C2 | 26:14:520:G:C2 | 3.06 | 0.43 |
| 26:14:57:C:H2' | 26:14:58:G:O4' | 2.19 | 0.43 |
| 26:14:128:C:H6 | 26:14:128:C:H5'' | 1.83 | 0.43 |
| 26:14:199:A:HO2' | 26:14:200:U:H6 | 1.65 | 0.43 |
| 26:14:493:G:H2' | 26:14:494:G:O4' | 2.19 | 0.43 |
| 26:14:635:C:H2' | 26:14:636:G:O4' | 2.19 | 0.43 |
| 26:14:943:U:P | 37:35:36:LYS:HG3 | 2.59 | 0.43 |
| 26:14:1011:G:C2 | 26:14:1151:G:C2 | 3.06 | 0.43 |
| 26:14:1152:C:H4' | 42:85:77:SER:HA | 2.01 | 0.43 |
| 26:14:1279:G:C4' | 39:55:31:HIS:CD2 | 3.02 | 0.43 |
| 26:14:1826:G:H4' | 29:19:242:ARG:NH2 | 2.34 | 0.43 |
| 26:14:2136:C:C2 | 26:14:2137:C:C4 | 3.07 | 0.43 |
| 26:14:2233:U:H2' | 26:14:2234:G:C8 | 2.54 | 0.43 |
| 26:14:2244:U:O5' | 26:14:2244:U:H6 | 2.02 | 0.43 |
| 26:14:2571:C:C4 | 26:14:2574:G:C8 | 3.07 | 0.43 |
| 26:14:2630:G:H3' | 26:14:2631:G:C8 | 2.53 | 0.43 |
| 26:14:2647:U:H2' | 26:14:2648:C:C6 | 2.53 | 0.43 |
| 30:29:25:VAL:CG1 | 30:29:26:ILE:N | 2.72 | 0.43 |
| 31:39:32:LEU:HD23 | 31:39:32:LEU:O | 2.19 | 0.43 |
| 32:49:67:LYS:HD2 | 32:49:68:PRO:HD2 | 2.00 | 0.43 |
| 32:49:98:ARG:HA | 32:49:101:ILE:HG22 | 2.00 | 0.43 |
| 36:25:98:VAL:HG12 | 36:25:117:LEU:HG | 1.99 | 0.43 |
| 40:65:59:LYS:HD2 | 40:65:59:LYS:HA | 1.84 | 0.43 |
| 48:E5:47:PRO:HB3 | 48:E5:51:VAL:O | 2.19 | 0.43 |
| 1:13:64:G:H3' | 1:13:65:U:C5' | 2.49 | 0.43 |
| 1:13:439:A:H8 | 1:13:439:A:H5'' | 1.83 | 0.43 |
| 1:13:479:C:C4 | 1:13:480:U:C4 | 3.07 | 0.43 |
| 1:13:953:G:H2' | 1:13:954:G:O4' | 2.18 | 0.43 |
| 1:13:1136:U:H2' | 1:13:1138:G:O6 | 2.18 | 0.43 |
| 1:13:1164:G:C6 | 1:13:1165:C:C4 | 3.07 | 0.43 |
| 2:1E:28:PHE:CD2 | 2:1E:190:THR:HG22 | 2.54 | 0.43 |
| 2:1E:91:PRO:HG3 | 2:1E:154:LEU:HB2 | 2.00 | 0.43 |
| 4:3E:19:LEU:HD23 | 4:3E:21:LEU:HD21 | 2.01 | 0.43 |
| 4:3E:165:MET:SD | 4:3E:168:ARG:HD3 | 2.59 | 0.43 |
| 12:3I:58:VAL:O | 12:3I:65:GLU:HA | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 12:3I:62:SER:HB2 | 12:3I:64:TYR:CD1 | 2.54 | 0.43 |
| 15:6I:5:LYS:O | 15:6I:8:LYS:HG2 | 2.19 | 0.43 |
| 16:7I:69:THR:O | 16:7I:69:THR:OG1 | 2.34 | 0.43 |
| 22:1K:34:U8U:O5' | 22:1K:34:U8U:H6 | 2.18 | 0.43 |
| 24:3K:17:U:O4 | 24:3K:19:G:C4 | 2.72 | 0.43 |
| 26:1H:136:G:H2' | 26:1H:137:C:C6 | 2.54 | 0.43 |
| 26:1H:302:C:OP1 | 46:G8:81:LYS:HG2 | 2.19 | 0.43 |
| 26:1H:469:G:O6 | 54:P8:37:LYS:HE2 | 2.19 | 0.43 |
| 26:1H:861:A:C2 | 26:1H:917:A:C5 | 3.07 | 0.43 |
| 26:1H:1028:A:N3 | 26:1H:2486:G:O2' | 2.46 | 0.43 |
| 26:1H:1045:A:O2' | 26:1H:1047:G:C5 | 2.68 | 0.43 |
| 26:1H:1394:U:H3' | 26:1H:1394:U:H6 | 1.84 | 0.43 |
| 26:1H:1525:G:C2 | 26:1H:1526:G:C4 | 3.07 | 0.43 |
| 26:1H:2031:A:C6 | 26:1H:2498:C:H1' | 2.54 | 0.43 |
| 26:1H:2227:A:C5 | 26:1H:2228:G:C5 | 3.06 | 0.43 |
| 26:1H:2887:U:H2' | 26:1H:2888:C:C6 | 2.54 | 0.43 |
| 27:16:10:C:H2' | 27:16:11:C:C6 | 2.54 | 0.43 |
| 27:16:28:C:OP1 | 40:A8:36:TYR:OH | 2.24 | 0.43 |
| 28:71:23:ASP:CG | 28:71:190:ARG:HH12 | 2.21 | 0.43 |
| 28:71:37:PHE:CG | 28:71:38:ASP:N | 2.87 | 0.43 |
| 38:88:54:MET:HE3 | 38:88:64:ILE:HD13 | 2.01 | 0.43 |
| 39:98:25:ALA:O | 39:98:26:LYS:C | 2.55 | 0.43 |
| 39:98:30:THR:HG22 | 39:98:31:HIS:ND1 | 2.33 | 0.43 |
| 40:A8:29:PHE:O | 40:A8:36:TYR:HD1 | 2.02 | 0.43 |
| 41:B8:19:LEU:HD22 | 41:B8:86:ILE:HG22 | 2.00 | 0.43 |
| 41:B8:24:PRO:HD3 | 41:B8:52:ILE:CD1 | 2.44 | 0.43 |
| 43:D8:14:VAL:HB | 43:D8:96:ILE:HG13 | 2.00 | 0.43 |
| 47:H8:33:LEU:HD12 | 47:H8:33:LEU:HA | 1.89 | 0.43 |
| 1:1G:37:U:H2' | 1:1G:38:G:C8 | 2.45 | 0.43 |
| 1:1G:825:G:H2' | 1:1G:826:C:O4' | 2.18 | 0.43 |
| 1:1G:1205:U:O2' | 3:22:195:VAL:HG22 | 2.19 | 0.43 |
| 1:1G:1230:C:H5' | 23:2L:31:G:H5'' | 2.01 | 0.43 |
| 1:1G:1300:G:C5 | 1:1G:1334:G:C6 | 3.07 | 0.43 |
| 1:1G:1333:A:H2' | 1:1G:1334:G:O4' | 2.18 | 0.43 |
| 1:1G:1347:G:N2 | 1:1G:1373:G:C8 | 2.87 | 0.43 |
| 1:1G:1453:G:H1 | 20:BA:54:LYS:NZ | 2.17 | 0.43 |
| 1:1G:1455:G:H5' | 20:BA:32:ALA:HB2 | 1.99 | 0.43 |
| 2:12:72:GLY:HA3 | 2:12:81:VAL:HG21 | 2.01 | 0.43 |
| 2:12:95:GLN:HB3 | 2:12:148:TYR:HD1 | 1.84 | 0.43 |
| 9:82:36:TYR:HD2 | 9:82:37:PHE:CE1 | 2.37 | 0.43 |
| 14:5A:17:LYS:HD2 | 14:5A:18:VAL:N | 2.33 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 17:8A:6:LEU:HD23 | 17:8A:6:LEU:HA | 1.71 | 0.43 |
| 57:3L:30:G:C5 | 57:3L:31:A:N7 | 2.87 | 0.43 |
| 26:14:414:C:H4' | 26:14:1879:C:O2 | 2.18 | 0.43 |
| 26:14:459:U:H4' | 54:L5:40:TRP:CH2 | 2.54 | 0.43 |
| 26:14:480:A:OP2 | 46:C5:46:LYS:HE3 | 2.19 | 0.43 |
| 26:14:534:U:H5' | 42:85:42:ALA:HB1 | 2.00 | 0.43 |
| 26:14:606:U:H4' | 26:14:658:C:H4' | 2.00 | 0.43 |
| 26:14:907:U:C2' | 26:14:908:C:H5' | 2.49 | 0.43 |
| 26:14:973:A:O4' | 26:14:1188:U:C6 | 2.72 | 0.43 |
| 26:14:1222:C:O5' | 26:14:1222:C:H6 | 2.01 | 0.43 |
| 26:14:1540:G:H2' | 26:14:1541:U:C6 | 2.53 | 0.43 |
| 26:14:1819:A:H4' | 26:14:1820:U:O5' | 2.18 | 0.43 |
| 26:14:1820:U:H4' | 26:14:1821:A:OP2 | 2.19 | 0.43 |
| 26:14:1849:G:H2' | 26:14:1850:G:C8 | 2.54 | 0.43 |
| 26:14:2075:U:OP2 | 29:19:244:ARG:NH2 | 2.51 | 0.43 |
| 26:14:2276:G:C2 | 26:14:2277:G:C8 | 3.07 | 0.43 |
| 26:14:2331:G:O2' | 48:E5:43:THR:HG22 | 2.19 | 0.43 |
| 27:1J:12:C:OP2 | 27:1J:12:C:C6 | 2.71 | 0.43 |
| 31:39:7:TYR:CD1 | 31:39:18:ARG:HD3 | 2.53 | 0.43 |
| 32:49:120:LEU:HB2 | 32:49:179:PRO:O | 2.19 | 0.43 |
| 39:55:10:LEU:O | 39:55:12:ARG:NH1 | 2.52 | 0.43 |
| 39:55:55:ALA:HB2 | 39:55:79:LEU:CD1 | 2.49 | 0.43 |
| 43:95:49:THR:OG1 | 43:95:50:PRO:HD2 | 2.19 | 0.43 |
| 46:C5:52:SER:HA | 46:C5:55:TYR:O | 2.19 | 0.43 |
| 46:C5:82:PRO:CG | 46:C5:97:ARG:HB3 | 2.48 | 0.43 |
| 53:J5:11:THR:HG23 | 53:J5:15:ARG:HB3 | 2.00 | 0.43 |
| 53:J5:37:LYS:HD3 | 53:J5:38:ALA:HA | 2.00 | 0.43 |
| 54:L5:13:ALA:O | 54:L5:17:GLY:HA3 | 2.19 | 0.43 |
| 55:M5:36:LYS:HB2 | 55:M5:41:ILE:HD11 | 2.00 | 0.43 |
| 1:13:57:G:H2' | 1:13:58:C:H6 | 1.81 | 0.42 |
| 1:13:162:A:H2 | 1:13:348:G:H4' | 1.84 | 0.42 |
| 1:13:170:U:O2' | 1:13:171:A:H5' | 2.19 | 0.42 |
| 1:13:247:G:C4 | 1:13:248:C:H5 | 2.37 | 0.42 |
| 1:13:403:C:O3' | 4:3E:122:ARG:HD3 | 2.18 | 0.42 |
| 1:13:1037:C:O2' | 1:13:1038:C:O4' | 2.37 | 0.42 |
| 1:13:1072:G:C5 | 1:13:1073:U:C4 | 3.06 | 0.42 |
| 2:1E:28:PHE:CE1 | 2:1E:194:PRO:HD3 | 2.54 | 0.42 |
| 3:2E:18:TRP:HB3 | 3:2E:20:SER:O | 2.19 | 0.42 |
| 4:3E:77:ASN:HA | 4:3E:80:GLU:OE2 | 2.18 | 0.42 |
| 4:3E:94:LEU:HD23 | 4:3E:94:LEU:HA | 1.77 | 0.42 |
| 4:3E:161:ASN:O | 4:3E:165:MET:HB2 | 2.18 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 6:5E:75:LEU:CD2 | 6:5E:79:LEU:HG | 2.48 | 0.42 |
| 7:6E:78:ARG:O | 7:6E:85:TYR:N | 2.42 | 0.42 |
| 8:7E:36:LEU:HA | 8:7E:39:LEU:HB2 | 2.01 | 0.42 |
| 9:8E:10:ARG:HD3 | 9:8E:11:LYS:N | 2.34 | 0.42 |
| 9:8E:29:ASN:OD1 | 9:8E:64:THR:HA | 2.19 | 0.42 |
| 10:1I:47:PHE:CZ | 14:5I:37:PHE:CE1 | 3.06 | 0.42 |
| 15:6I:11:VAL:O | 15:6I:15:PHE:HD2 | 2.02 | 0.42 |
| 19:AI:15:LEU:HD23 | 19:AI:15:LEU:H | 1.84 | 0.42 |
| 23:2K:47:G7M:O2' | 23:2K:48:U:C6 | 2.72 | 0.42 |
| 24:3K:24:G:C6 | 24:3K:25:C:C4 | 3.06 | 0.42 |
| 26:1H:242:G:C5' | 55:Q8:64:TYR:CZ | 3.02 | 0.42 |
| 26:1H:270(N):G:H21 | 34:61:50:ARG:NH2 | 2.17 | 0.42 |
| 26:1H:557:U:H2' | 26:1H:558:G:H8 | 1.84 | 0.42 |
| 26:1H:782:A:N7 | 29:11:221:VAL:HG11 | 2.34 | 0.42 |
| 26:1H:901:A:N3 | 26:1H:901:A:H2' | 2.33 | 0.42 |
| 26:1H:1026:U:O2' | 26:1H:1027:A:C5' | 2.67 | 0.42 |
| 26:1H:1443:G:O5' | 26:1H:1443:G:C8 | 2.72 | 0.42 |
| 26:1H:1550:C:C5 | 26:1H:1551:C:H5 | 2.37 | 0.42 |
| 26:1H:1675:C:H2' | 26:1H:1676:A:O4' | 2.18 | 0.42 |
| 26:1H:1680:U:H2' | 26:1H:1681:G:O4' | 2.19 | 0.42 |
| 26:1H:2129:C:C4 | 26:1H:2130:U:C2 | 3.07 | 0.42 |
| 26:1H:2227:A:H5'' | 29:11:263:ARG:HB3 | 2.01 | 0.42 |
| 27:16:42:C:O2 | 32:41:92:VAL:HA | 2.19 | 0.42 |
| 29:11:29:PRO:O | 29:11:30:GLU:CG | 2.64 | 0.42 |
| 29:11:48:ARG:O | 29:11:50:THR:HG23 | 2.19 | 0.42 |
| 29:11:70:TRP:O | 29:11:73:VAL:HG23 | 2.19 | 0.42 |
| 30:21:69:LYS:HG2 | 30:21:89:ASP:OD1 | 2.19 | 0.42 |
| 31:31:77:ASP:N | 31:31:77:ASP:OD1 | 2.50 | 0.42 |
| 34:61:78:THR:HG22 | 34:61:141:LYS:HG3 | 2.00 | 0.42 |
| 35:58:86:PRO:HG2 | 35:58:89:LYS:HB2 | 2.00 | 0.42 |
| 38:88:31:ASP:O | 38:88:133:ARG:O | 2.37 | 0.42 |
| 38:88:34:LEU:HA | 38:88:34:LEU:HD12 | 1.79 | 0.42 |
| 39:98:41:ALA:O | 39:98:42:LYS:C | 2.57 | 0.42 |
| 40:A8:106:ARG:HD2 | 40:A8:107:GLU:N | 2.34 | 0.42 |
| 42:C8:90:VAL:HG12 | 42:C8:91:ASP:HA | 2.01 | 0.42 |
| 49:J8:53:VAL:HG22 | 49:J8:74:VAL:HG23 | 2.01 | 0.42 |
| 50:K8:5:GLU:O | 50:K8:9:GLN:N | 2.42 | 0.42 |
| 50:K8:55:ARG:O | 50:K8:58:ALA:HB3 | 2.18 | 0.42 |
| 1:1G:489:C:H2' | 1:1G:490:G:C8 | 2.54 | 0.42 |
| 1:1G:922:G:N2 | 1:1G:1398:A:H2 | 2.17 | 0.42 |
| 1:1G:1301:U:O2 | 1:1G:1301:U:H2' | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:1G:1402:C:H2' | 1:1G:1403:C:O4' | 2.19 | 0.42 |
| 1:1G:1493:A:H2' | 26:14:1913:A:N6 | 2.31 | 0.42 |
| 2:12:127:ILE:CG2 | 2:12:135:GLN:HE22 | 2.30 | 0.42 |
| 4:32:111:ALA:HB3 | 4:32:117:ALA:HB2 | 2.01 | 0.42 |
| 5:42:70:PRO:HB3 | 5:42:144:THR:HG22 | 2.01 | 0.42 |
| 5:42:93:PRO:HG2 | 8:72:105:ARG:NE | 2.33 | 0.42 |
| 8:72:93:VAL:O | 8:72:132:GLU:HA | 2.19 | 0.42 |
| 20:BA:50:GLU:HA | 20:BA:100:ILE:CG2 | 2.48 | 0.42 |
| 26:14:86:C:H2' | 26:14:87:C:H6 | 1.84 | 0.42 |
| 26:14:136:G:H5'' | 26:14:137:C:OP2 | 2.19 | 0.42 |
| 26:14:569:U:C4 | 26:14:570:G:C6 | 3.06 | 0.42 |
| 26:14:778:G:C5 | 26:14:779:U:C4 | 3.07 | 0.42 |
| 26:14:852:G:H2' | 26:14:853:G:H8 | 1.84 | 0.42 |
| 26:14:1475:G:C2 | 26:14:1519:G:N3 | 2.87 | 0.42 |
| 26:14:1547:C:O2 | 26:14:1547:C:H2' | 2.19 | 0.42 |
| 26:14:1805:U:O2 | 29:19:50:THR:HB | 2.19 | 0.42 |
| 26:14:1812:A:H2' | 26:14:1813:G:C8 | 2.53 | 0.42 |
| 26:14:1817:G:H5'' | 29:19:88:ARG:NH2 | 2.34 | 0.42 |
| 26:14:1926:U:H2' | 26:14:1928:A:OP2 | 2.19 | 0.42 |
| 26:14:2305:A:N9 | 32:49:136:ARG:HD3 | 2.33 | 0.42 |
| 26:14:2505:G:O6 | 53:J5:3:LYS:NZ | 2.46 | 0.42 |
| 27:1J:2:C:H2' | 27:1J:3:C:H5 | 1.82 | 0.42 |
| 29:19:118:VAL:HG22 | 29:19:119:ALA:H | 1.84 | 0.42 |
| 30:29:27:LEU:HA | 30:29:181:LEU:HD12 | 2.01 | 0.42 |
| 35:15:93:THR:O | 35:15:94:HIS:C | 2.57 | 0.42 |
| 36:25:105:GLU:OE1 | 36:25:105:GLU:N | 2.47 | 0.42 |
| 38:45:98:LYS:HB3 | 38:45:99:PRO:HD2 | 2.00 | 0.42 |
| 40:65:23:ARG:NH2 | 40:65:84:GLN:OE1 | 2.40 | 0.42 |
| 42:85:92:ARG:HE | 43:95:11:GLN:HG3 | 1.84 | 0.42 |
| 1:13:429:U:H3' | 4:3E:9:CYS:SG | 2.59 | 0.42 |
| 1:13:558:G:H2' | 1:13:559:A:C2 | 2.53 | 0.42 |
| 1:13:770:C:N4 | 61:13:1831:HOH:O | 2.43 | 0.42 |
| 1:13:1074:G:O2' | 1:13:1075:C:H5' | 2.19 | 0.42 |
| 1:13:1124:G:O2' | 10:1I:38:ILE:HD12 | 2.19 | 0.42 |
| 1:13:1163:C:H2' | 1:13:1164:G:C8 | 2.54 | 0.42 |
| 1:13:1336:C:H4' | 1:13:1337:G:O5' | 2.20 | 0.42 |
| 1:13:1346:A:C4 | 7:6E:10:ARG:NH2 | 2.81 | 0.42 |
| 1:13:1486:G:H2' | 1:13:1487:G:C1' | 2.49 | 0.42 |
| 6:5E:10:LEU:HD22 | 6:5E:61:LEU:HD11 | 2.01 | 0.42 |
| 6:5E:96:PRO:HB3 | 18:9I:30:ASP:CG | 2.40 | 0.42 |
| 10:1I:47:PHE:CZ | 14:5I:37:PHE:HE1 | 2.36 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 12:3I:83:VAL:HG13 | 12:3I:100:ILE:HG23 | 2.00 | 0.42 |
| 20:BI:57:ARG:HH22 | 20:BI:100:ILE:HD13 | 1.84 | 0.42 |
| 22:1K:43:U:H2' | 22:1K:44:U:C5 | 2.54 | 0.42 |
| 22:1K:50:C:C5 | 22:1K:51:A:H1' | 2.53 | 0.42 |
| 24:3K:24:G:C6 | 24:3K:25:C:N4 | 2.87 | 0.42 |
| 24:3K:64:G:H2' | 24:3K:65:C:O4' | 2.19 | 0.42 |
| 26:1H:270(T):G:H2' | 26:1H:270(U):C:C6 | 2.54 | 0.42 |
| 26:1H:545:G:H2' | 26:1H:546:C:H5'' | 2.01 | 0.42 |
| 26:1H:646:A:C8 | 26:1H:647:G:H1' | 2.53 | 0.42 |
| 26:1H:662:G:C5' | 37:78:15:ARG:HA | 2.49 | 0.42 |
| 26:1H:684:G:C2 | 26:1H:774:A:C2 | 3.07 | 0.42 |
| 26:1H:1287:A:C5 | 26:1H:1288:U:C4 | 3.06 | 0.42 |
| 26:1H:1397:U:H3' | 26:1H:1398:C:C5 | 2.54 | 0.42 |
| 26:1H:2227:A:N6 | 26:1H:2228:G:C6 | 2.87 | 0.42 |
| 26:1H:2259:G:C2 | 26:1H:2282:G:C6 | 3.07 | 0.42 |
| 26:1H:2336:A:H61 | 48:I8:43:THR:HG21 | 1.84 | 0.42 |
| 26:1H:2820:A:HO2' | 26:1H:2821:A:P | 2.41 | 0.42 |
| 27:16:99:A:H3' | 61:16:303:HOH:O | 2.17 | 0.42 |
| 31:31:24:LEU:HD21 | 31:31:114:VAL:HG12 | 2.01 | 0.42 |
| 32:41:109:VAL:HG13 | 52:M8:33:VAL:CG2 | 2.49 | 0.42 |
| 34:61:21:VAL:HG21 | 34:61:25:TYR:CD2 | 2.53 | 0.42 |
| 35:58:82:LEU:HA | 35:58:82:LEU:HD12 | 1.82 | 0.42 |
| 42:C8:30:LYS:HA | 42:C8:30:LYS:HD3 | 1.84 | 0.42 |
| 42:C8:98:LEU:O | 42:C8:100:VAL:N | 2.52 | 0.42 |
| 45:F8:8:ILE:HD11 | 45:F8:43:VAL:CG2 | 2.49 | 0.42 |
| 52:M8:36:CYS:HB3 | 52:M8:39:CYS:CB | 2.48 | 0.42 |
| 1:1G:197:A:C8 | 1:1G:198:G:C4 | 3.05 | 0.42 |
| 1:1G:362:G:O2' | 1:1G:364:A:N7 | 2.46 | 0.42 |
| 1:1G:431:A:H5'' | 1:1G:432:A:OP2 | 2.19 | 0.42 |
| 1:1G:509:A:C8 | 1:1G:509:A:H3' | 2.54 | 0.42 |
| 1:1G:1195:C:H2' | 1:1G:1197:G:O4' | 2.19 | 0.42 |
| 1:1G:1372:U:OP1 | 9:82:72:GLY:N | 2.52 | 0.42 |
| 1:1G:1466:C:H2' | 1:1G:1467:G:O4' | 2.19 | 0.42 |
| 2:12:70:PHE:CE1 | 2:12:162:ILE:HG22 | 2.53 | 0.42 |
| 4:32:43:HIS:HA | 4:32:46:LYS:HD2 | 2.01 | 0.42 |
| 8:72:36:LEU:HD11 | 8:72:59:LEU:HD13 | 2.00 | 0.42 |
| 8:72:81:HIS:HB3 | 8:72:138:TRP:CZ3 | 2.54 | 0.42 |
| 8:72:83:ILE:HD11 | 8:72:135:CYS:HB2 | 2.00 | 0.42 |
| 9:82:86:VAL:HG13 | 9:82:90:PRO:HA | 2.00 | 0.42 |
| 12:3A:20:LYS:HD2 | 12:3A:20:LYS:C | 2.40 | 0.42 |
| 13:4A:11:ARG:HG3 | 13:4A:12:ASN:HB2 | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 16:7A:20:VAL:HG11 | 16:7A:32:TYR:CD2 | 2.54 | 0.42 |
| 56:1L:52:G:N2 | 56:1L:63:U:H3 | 2.17 | 0.42 |
| 23:2L:26:C:H2' | 23:2L:27:G:O4' | 2.19 | 0.42 |
| 57:3L:47:U:H5' | 57:3L:48:C:OP1 | 2.19 | 0.42 |
| 26:14:341:G:H2' | 26:14:342:G:O4' | 2.18 | 0.42 |
| 26:14:559:G:H2' | 26:14:560:C:O4' | 2.18 | 0.42 |
| 26:14:1043:C:C2' | 26:14:1044:G:H5' | 2.48 | 0.42 |
| 26:14:1056:G:N2 | 26:14:1102:C:H41 | 2.16 | 0.42 |
| 26:14:1138:G:C5 | 26:14:1139:G:H1' | 2.53 | 0.42 |
| 26:14:1183:G:O2' | 51:H5:29:ARG:NH2 | 2.52 | 0.42 |
| 26:14:1340:U:C2 | 26:14:1603:A:O4' | 2.72 | 0.42 |
| 26:14:1363:C:H2' | 26:14:1364:G:C8 | 2.54 | 0.42 |
| 26:14:1519:G:C6 | 26:14:1520:U:N3 | 2.87 | 0.42 |
| 26:14:1832:C:N4 | 26:14:1833:U:C4 | 2.87 | 0.42 |
| 26:14:2196:C:O2' | 26:14:2197:U:H5' | 2.19 | 0.42 |
| 26:14:2303:G:C2' | 26:14:2304:G:H5' | 2.50 | 0.42 |
| 26:14:2416:C:N4 | 26:14:2417:C:N4 | 2.67 | 0.42 |
| 26:14:2854:G:C2 | 26:14:2864:G:C2 | 3.07 | 0.42 |
| 27:1J:77:U:H4' | 47:D5:84:GLU:OE2 | 2.19 | 0.42 |
| 29:19:44:ASN:HB3 | 29:19:45:ASN:C | 2.40 | 0.42 |
| 29:19:175:LEU:HA | 29:19:175:LEU:HD23 | 1.66 | 0.42 |
| 29:19:218:ARG:HG2 | 29:19:219:PRO:HD2 | 2.01 | 0.42 |
| 34:69:78:THR:O | 34:69:78:THR:HG22 | 2.19 | 0.42 |
| 35:15:47:ALA:HB2 | 35:15:112:LEU:HD21 | 2.00 | 0.42 |
| 37:35:139:LYS:HA | 37:35:142:GLY:O | 2.19 | 0.42 |
| 39:55:2:ARG:NH2 | 39:55:5:LYS:O | 2.38 | 0.42 |
| 39:55:113:LEU:HD12 | 39:55:113:LEU:HA | 1.79 | 0.42 |
| 42:85:14:HIS:ND1 | 42:85:32:PHE:CD2 | 2.87 | 0.42 |
| 55:M5:34:TRP:HA | 55:M5:34:TRP:CE3 | 2.53 | 0.42 |
| 1:13:66:G:O4' | 1:13:173:U:C4 | 2.73 | 0.42 |
| 1:13:160:A:N1 | 1:13:343:U:H4' | 2.34 | 0.42 |
| 1:13:252:U:H5' | 1:13:253:U:OP2 | 2.19 | 0.42 |
| 1:13:291:C:C2 | 1:13:310:G:C2 | 3.07 | 0.42 |
| 1:13:375:U:O3' | 16:7I:6:LEU:HB2 | 2.19 | 0.42 |
| 1:13:953:G:N7 | 13:4I:104:ARG:NH2 | 2.67 | 0.42 |
| 1:13:963:G:N2 | 1:13:972:C:N3 | 2.53 | 0.42 |
| 1:13:1187:G:O5' | 9:8E:113:LYS:NZ | 2.50 | 0.42 |
| 2:1E:180:LEU:HD23 | 2:1E:180:LEU:HA | 1.57 | 0.42 |
| 2:1E:200:ILE:O | 2:1E:201:ILE:HD13 | 2.20 | 0.42 |
| 2:1E:211:ILE:H | 2:1E:211:ILE:HG13 | 1.61 | 0.42 |
| 3:2E:45:LYS:HB2 | 3:2E:46:GLU:OE2 | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:3E:157:LEU:HD12 | 4:3E:161:ASN:ND2 | 2.26 | 0.42 |
| 10:1I:15:THR:O | 10:1I:19:SER:N | 2.32 | 0.42 |
| 11:2I:48:ILE:HD12 | 11:2I:48:ILE:HA | 1.76 | 0.42 |
| 11:2I:59:TYR:O | 11:2I:63:LEU:HD12 | 2.19 | 0.42 |
| 14:5I:47:LEU:HA | 14:5I:47:LEU:HD23 | 1.68 | 0.42 |
| 16:7I:20:VAL:HG11 | 16:7I:32:TYR:HB3 | 2.02 | 0.42 |
| 24:3K:19:G:H21 | 24:3K:57:G:H22 | 1.66 | 0.42 |
| 26:1H:48:G:C6 | 26:1H:178:G:O6 | 2.71 | 0.42 |
| 26:1H:270(P):C:O2 | 34:6I:50:ARG:NH2 | 2.50 | 0.42 |
| 26:1H:406:G:C6 | 26:1H:407:G:C5 | 3.07 | 0.42 |
| 26:1H:468:G:C6 | 26:1H:469:G:C4 | 3.07 | 0.42 |
| 26:1H:587:C:OP2 | 37:78:21:ARG:NH2 | 2.52 | 0.42 |
| 26:1H:1115:G:H2' | 26:1H:1116:C:O4' | 2.19 | 0.42 |
| 26:1H:1322:A:C2' | 26:1H:1323:U:H5' | 2.49 | 0.42 |
| 26:1H:1751:C:H2' | 26:1H:1752:C:C6 | 2.54 | 0.42 |
| 26:1H:1843:C:H5' | 29:11:253:GLN:OE1 | 2.19 | 0.42 |
| 26:1H:1899:G:N2 | 26:1H:1902:C:C5 | 2.87 | 0.42 |
| 26:1H:1925:C:O2' | 26:1H:1926:U:H5' | 2.19 | 0.42 |
| 26:1H:2056:G:C2 | 26:1H:2057:A:C8 | 3.06 | 0.42 |
| 26:1H:2250:G:C5 | 38:88:83:MET:HB3 | 2.53 | 0.42 |
| 26:1H:2427:C:OP1 | 26:1H:2428:G:OP1 | 2.37 | 0.42 |
| 28:7I:22:ILE:HD13 | 28:7I:189:ILE:CG2 | 2.41 | 0.42 |
| 31:3I:6:VAL:HG12 | 31:3I:7:TYR:N | 2.33 | 0.42 |
| 37:78:45:LEU:HB3 | 37:78:46:LYS:H | 1.58 | 0.42 |
| 39:98:41:ALA:O | 39:98:43:GLU:N | 2.53 | 0.42 |
| 40:A8:15:ARG:NE | 40:A8:88:ASP:OD2 | 2.52 | 0.42 |
| 40:A8:41:ASP:OD2 | 40:A8:44:LYS:HB2 | 2.19 | 0.42 |
| 42:C8:11:ARG:O | 42:C8:15:LYS:HG3 | 2.19 | 0.42 |
| 44:E8:11:ARG:O | 44:E8:42:ARG:NH1 | 2.48 | 0.42 |
| 46:G8:87:LYS:H | 46:G8:94:LYS:HG2 | 1.84 | 0.42 |
| 46:G8:104:GLY:N | 46:G8:105:ALA:HB3 | 2.34 | 0.42 |
| 47:H8:166:SER:HA | 47:H8:167:PRO:HD3 | 1.87 | 0.42 |
| 51:L8:8:LEU:HA | 51:L8:8:LEU:HD23 | 1.64 | 0.42 |
| 55:Q8:57:ARG:O | 55:Q8:59:LYS:N | 2.52 | 0.42 |
| 1:1G:75:C:H2' | 1:1G:76:G:O4' | 2.19 | 0.42 |
| 1:1G:408:A:H4' | 4:32:112:VAL:HG11 | 2.00 | 0.42 |
| 1:1G:666:G:N2 | 1:1G:740:U:O2 | 2.50 | 0.42 |
| 1:1G:848:C:N4 | 1:1G:849:C:N4 | 2.68 | 0.42 |
| 1:1G:925:G:H1' | 1:1G:1502:A:C8 | 2.54 | 0.42 |
| 1:1G:998:G:H22 | 1:1G:1043:C:H42 | 1.67 | 0.42 |
| 4:32:207:TYR:O | 4:32:209:ARG:HG2 | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 8:72:122:ARG:HB2 | 8:72:123:GLU:OE2 | 2.20 | 0.42 |
| 9:82:43:ALA:HA | 9:82:74:ILE:HD13 | 2.00 | 0.42 |
| 10:1A:82:ILE:O | 10:1A:85:LEU:HG | 2.19 | 0.42 |
| 12:3A:58:VAL:N | 12:3A:66:VAL:O | 2.39 | 0.42 |
| 14:5A:21:TYR:HB2 | 61:5A:203:HOH:O | 2.19 | 0.42 |
| 17:8A:63:ARG:HG2 | 17:8A:64:PRO:HD2 | 2.01 | 0.42 |
| 26:14:19:C:H2' | 26:14:20:C:C6 | 2.53 | 0.42 |
| 26:14:780:G:C2 | 26:14:782:A:C2 | 3.07 | 0.42 |
| 26:14:869:G:N2 | 26:14:870:A:H1' | 2.34 | 0.42 |
| 26:14:959:A:C6 | 26:14:960:A:N1 | 2.87 | 0.42 |
| 26:14:1006:C:C2 | 26:14:1138:G:N2 | 2.87 | 0.42 |
| 26:14:1009:A:OP1 | 35:15:37:LYS:NZ | 2.45 | 0.42 |
| 26:14:1029:A:H8 | 26:14:1029:A:O5' | 2.03 | 0.42 |
| 26:14:1071:G:H21 | 26:14:1090:U:P | 2.42 | 0.42 |
| 26:14:1139:G:O2' | 26:14:1143:A:N1 | 2.45 | 0.42 |
| 26:14:1416:G:N2 | 26:14:1582:C:O2 | 2.52 | 0.42 |
| 26:14:1428:C:O2' | 26:14:1429:G:H5' | 2.19 | 0.42 |
| 26:14:1945:G:C4 | 26:14:1946:U:C5 | 3.07 | 0.42 |
| 26:14:2230:G:H4' | 49:F5:43:TYR:HB2 | 2.01 | 0.42 |
| 26:14:2323:G:H8 | 26:14:2323:G:O5' | 2.02 | 0.42 |
| 26:14:2516:G:C5 | 26:14:2517:C:C4 | 3.07 | 0.42 |
| 26:14:2516:G:O6 | 26:14:2517:C:N4 | 2.53 | 0.42 |
| 26:14:2776:A:OP1 | 26:14:2776:A:H3' | 2.19 | 0.42 |
| 26:14:2791:C:N4 | 26:14:2793:G:H22 | 2.17 | 0.42 |
| 26:14:2831:G:O2' | 26:14:2883:A:H2' | 2.18 | 0.42 |
| 29:19:242:ARG:HG3 | 29:19:246:PRO:HG3 | 2.01 | 0.42 |
| 33:59:167:GLU:OE1 | 33:59:169:VAL:HG22 | 2.20 | 0.42 |
| 35:15:23:LEU:HA | 35:15:60:ILE:HD11 | 2.01 | 0.42 |
| 47:D5:7:ALA:O | 47:D5:62:PRO:HD3 | 2.19 | 0.42 |
| 47:D5:48:PHE:CE2 | 47:D5:52:SER:HA | 2.54 | 0.42 |
| 50:G5:31:GLU:O | 50:G5:35:LEU:HD23 | 2.20 | 0.42 |
| 1:13:254:G:H2' | 1:13:255:G:O4' | 2.20 | 0.42 |
| 1:13:279:A:C5 | 17:8I:98:LEU:HD12 | 2.54 | 0.42 |
| 1:13:487:A:H2' | 1:13:487:A:N3 | 2.34 | 0.42 |
| 1:13:607:A:H2' | 1:13:608:A:C8 | 2.54 | 0.42 |
| 1:13:615:C:C2 | 1:13:616:G:C8 | 3.08 | 0.42 |
| 1:13:692:U:H1' | 1:13:694:A:N7 | 2.34 | 0.42 |
| 1:13:965:A:C2 | 1:13:969:A:C2 | 3.07 | 0.42 |
| 1:13:1009:G:N2 | 1:13:1010:G:H1' | 2.34 | 0.42 |
| 1:13:1216:G:H2' | 1:13:1217:C:C6 | 2.53 | 0.42 |
| 1:13:1244:C:O5' | 1:13:1244:C:H6 | 2.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:1345:U:C5 | 1:13:1377:A:C2 | 3.07 | 0.42 |
| 4:3E:173:TRP:CE3 | 4:3E:193:ASP:HB3 | 2.54 | 0.42 |
| 5:4E:10:MET:HB2 | 5:4E:32:VAL:HG22 | 2.01 | 0.42 |
| 5:4E:33:VAL:CG1 | 5:4E:112:LEU:HD12 | 2.50 | 0.42 |
| 5:4E:136:MET:O | 5:4E:140:ARG:HD2 | 2.19 | 0.42 |
| 13:4I:15:VAL:HG22 | 13:4I:45:VAL:HB | 2.01 | 0.42 |
| 18:9I:26:LEU:HD12 | 18:9I:29:PHE:CE2 | 2.54 | 0.42 |
| 20:BI:11:SER:HA | 20:BI:13:LEU:HG | 2.01 | 0.42 |
| 26:1H:11:G:C2' | 26:1H:12:U:H5' | 2.48 | 0.42 |
| 26:1H:592:G:N3 | 55:Q8:4:MET:HE3 | 2.34 | 0.42 |
| 26:1H:1120:G:H2' | 26:1H:1121:C:C6 | 2.54 | 0.42 |
| 26:1H:1163:G:C2 | 26:1H:1164:G:C8 | 3.07 | 0.42 |
| 26:1H:1211:U:H3' | 26:1H:1212:G:C5' | 2.50 | 0.42 |
| 26:1H:1639:U:H4' | 26:1H:2699:C:H4' | 2.01 | 0.42 |
| 26:1H:2093:G:C6 | 26:1H:2225:A:C8 | 3.08 | 0.42 |
| 26:1H:2133:G:H8 | 26:1H:2156:G:C5 | 2.37 | 0.42 |
| 26:1H:2392:A:H1' | 37:78:61:ARG:HD2 | 2.01 | 0.42 |
| 27:16:110:G:C5 | 27:16:111:U:C5 | 3.08 | 0.42 |
| 29:11:201:HIS:O | 29:11:204:ILE:HG12 | 2.18 | 0.42 |
| 31:31:155:LEU:HD13 | 31:31:185:ASP:HB3 | 2.02 | 0.42 |
| 32:41:47:LYS:HG2 | 32:41:48:GLU:N | 2.35 | 0.42 |
| 40:A8:61:ASN:ND2 | 40:A8:61:ASN:C | 2.72 | 0.42 |
| 43:D8:87:HIS:NE2 | 43:D8:89:GLN:OE1 | 2.52 | 0.42 |
| 44:E8:1:MET:SD | 44:E8:62:HIS:HB3 | 2.59 | 0.42 |
| 45:F8:26:TYR:HB3 | 45:F8:92:LEU:HD12 | 2.00 | 0.42 |
| 50:K8:37:PHE:O | 50:K8:41:ILE:HG22 | 2.19 | 0.42 |
| 52:M8:22:ILE:O | 52:M8:24:THR:HG23 | 2.19 | 0.42 |
| 52:M8:40:HIS:O | 52:M8:40:HIS:CG | 2.72 | 0.42 |
| 1:1G:78:G:H2' | 1:1G:79:G:O4' | 2.19 | 0.42 |
| 1:1G:134:A:H1' | 1:1G:325:A:C5 | 2.54 | 0.42 |
| 1:1G:578:C:C1' | 1:1G:729:A:H1' | 2.50 | 0.42 |
| 1:1G:673:G:H5'' | 6:52:87:ARG:CZ | 2.49 | 0.42 |
| 1:1G:750:G:O3' | 15:6A:18:PHE:HZ | 2.02 | 0.42 |
| 1:1G:786:G:C2 | 1:1G:797:C:O2 | 2.72 | 0.42 |
| 1:1G:894:G:H2' | 1:1G:895:G:O4' | 2.20 | 0.42 |
| 1:1G:962:C:H2' | 1:1G:963:G:O4' | 2.19 | 0.42 |
| 1:1G:1157:A:N7 | 1:1G:1181:G:H1' | 2.33 | 0.42 |
| 1:1G:1256:A:N6 | 1:1G:1277:C:H3' | 2.34 | 0.42 |
| 2:12:98:LEU:HD23 | 2:12:98:LEU:HA | 1.93 | 0.42 |
| 4:32:57:ARG:HH21 | 4:32:205:GLU:HG2 | 1.83 | 0.42 |
| 5:42:36:ASP:CG | 5:42:38:GLN:HB2 | 2.39 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 11:2A:67:ASP:O | 11:2A:71:LYS:HG3 | 2.19 | 0.42 |
| 14:5A:25:VAL:O | 14:5A:26:ARG:HG2 | 2.19 | 0.42 |
| 16:7A:23:ASP:OD1 | 16:7A:25:ARG:HG3 | 2.20 | 0.42 |
| 23:2L:52:C:H2' | 23:2L:53:G:O4' | 2.19 | 0.42 |
| 26:14:350:U:H2' | 26:14:351:G:O4' | 2.19 | 0.42 |
| 26:14:540:G:C6 | 26:14:541:C:C4 | 3.07 | 0.42 |
| 26:14:822:U:O2' | 26:14:823:G:H5' | 2.19 | 0.42 |
| 26:14:1025:G:H8 | 26:14:1025:G:OP1 | 2.02 | 0.42 |
| 26:14:1101:U:H2' | 26:14:1102:C:H4' | 2.00 | 0.42 |
| 26:14:1107:G:N2 | 26:14:1108:U:H1' | 2.35 | 0.42 |
| 26:14:1278:A:H2' | 26:14:1279:G:H8 | 1.82 | 0.42 |
| 26:14:1386:C:C2 | 26:14:1387:C:C5 | 3.07 | 0.42 |
| 26:14:1490:A:O2' | 26:14:1491:G:O5' | 2.27 | 0.42 |
| 26:14:1531:C:H2' | 26:14:1532:C:C6 | 2.54 | 0.42 |
| 26:14:2228:G:C6 | 26:14:2229:C:N3 | 2.88 | 0.42 |
| 26:14:2789:C:H2' | 26:14:2790:A:O4' | 2.19 | 0.42 |
| 29:19:37:LEU:H | 29:19:37:LEU:HG | 1.13 | 0.42 |
| 29:19:94:LEU:HD23 | 29:19:94:LEU:HA | 1.66 | 0.42 |
| 30:29:76:ARG:O | 30:29:78:LEU:N | 2.53 | 0.42 |
| 31:39:81:PRO:HB3 | 31:39:87:GLY:O | 2.18 | 0.42 |
| 31:39:155:LEU:HD23 | 31:39:186:ILE:HD13 | 2.01 | 0.42 |
| 32:49:59:GLU:OE1 | 32:49:153:ARG:NH2 | 2.52 | 0.42 |
| 34:69:66:GLU:HA | 34:69:69:LYS:HB3 | 2.02 | 0.42 |
| 34:69:127:VAL:HA | 34:69:138:ILE:O | 2.18 | 0.42 |
| 36:25:10:VAL:HG12 | 36:25:17:ARG:O | 2.19 | 0.42 |
| 40:65:99:LYS:O | 40:65:103:GLU:HG3 | 2.19 | 0.42 |
| 41:75:133:GLU:HB3 | 41:75:137:LYS:NZ | 2.34 | 0.42 |
| 1:13:484:G:H5' | 1:13:486:U:O4' | 2.20 | 0.42 |
| 1:13:730:G:C6 | 1:13:731:G:H1' | 2.54 | 0.42 |
| 1:13:964:A:N3 | 1:13:969:A:O2' | 2.37 | 0.42 |
| 1:13:976:G:N7 | 1:13:1358:U:C2 | 2.87 | 0.42 |
| 1:13:991:U:H4' | 1:13:992:U:H5'' | 2.02 | 0.42 |
| 1:13:1269:A:C2 | 1:13:1313:U:O4' | 2.72 | 0.42 |
| 6:5E:91:VAL:HG12 | 6:5E:92:LYS:O | 2.18 | 0.42 |
| 7:6E:46:ALA:HB2 | 7:6E:117:ALA:HB1 | 2.01 | 0.42 |
| 15:6I:9:GLN:HA | 15:6I:12:ILE:HD12 | 2.00 | 0.42 |
| 19:AI:41:VAL:HG12 | 19:AI:44:MET:CB | 2.49 | 0.42 |
| 26:1H:241:A:H5' | 26:1H:243:U:O4' | 2.19 | 0.42 |
| 26:1H:654:A:H2' | 26:1H:654(A):A:H8 | 1.83 | 0.42 |
| 26:1H:718:A:C8 | 26:1H:719:C:C6 | 3.07 | 0.42 |
| 26:1H:764:A:H5' | 29:11:210:GLY:HA2 | 2.00 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:1336:A:H2' | 26:1H:1337:G:H8 | 1.83 | 0.42 |
| 26:1H:1458:C:H4' | 26:1H:1459:G:O4' | 2.20 | 0.42 |
| 26:1H:1533:C:N3 | 26:1H:1534:G:C2 | 2.88 | 0.42 |
| 26:1H:2163:C:H4' | 26:1H:2172:U:OP2 | 2.19 | 0.42 |
| 26:1H:2175:C:OP2 | 28:71:3:HIS:ND1 | 2.53 | 0.42 |
| 26:1H:2320:A:H8 | 26:1H:2321:G:O6 | 2.03 | 0.42 |
| 26:1H:2323:G:H2' | 26:1H:2324:C:O4' | 2.18 | 0.42 |
| 26:1H:2532:G:H8 | 26:1H:2532:G:O5' | 2.03 | 0.42 |
| 26:1H:2592:G:C6 | 26:1H:2593:U:C4 | 3.08 | 0.42 |
| 26:1H:2617:C:C2 | 26:1H:2618:G:C8 | 3.07 | 0.42 |
| 26:1H:2682:U:H5' | 26:1H:2682:U:H6 | 1.83 | 0.42 |
| 28:71:58:VAL:CG1 | 28:71:199:HIS:HB3 | 2.49 | 0.42 |
| 30:21:60:ASN:OD1 | 30:21:61:ARG:N | 2.52 | 0.42 |
| 30:21:102:VAL:C | 30:21:201:THR:HG23 | 2.39 | 0.42 |
| 31:31:53:THR:O | 31:31:55:GLY:N | 2.52 | 0.42 |
| 32:41:130:ASN:OD1 | 32:41:160:VAL:HG13 | 2.20 | 0.42 |
| 33:51:5:GLY:HA2 | 33:51:8:PRO:HD3 | 2.01 | 0.42 |
| 33:51:101:ARG:HH12 | 33:51:122:THR:HA | 1.84 | 0.42 |
| 35:58:9:VAL:HG21 | 35:58:48:MET:HB2 | 2.01 | 0.42 |
| 37:78:39:LYS:HB2 | 37:78:45:LEU:CD1 | 2.50 | 0.42 |
| 37:78:120:ALA:HB1 | 37:78:138:LEU:HA | 2.01 | 0.42 |
| 41:B8:39:ARG:HE | 41:B8:39:ARG:HB2 | 1.60 | 0.42 |
| 47:H8:28:MET:O | 47:H8:34:ASN:HA | 2.19 | 0.42 |
| 47:H8:99:TYR:CE1 | 47:H8:125:LEU:HB2 | 2.54 | 0.42 |
| 48:I8:29:GLN:O | 48:I8:67:VAL:HG12 | 2.20 | 0.42 |
| 48:I8:49:LYS:O | 48:I8:50:ASN:HB2 | 2.20 | 0.42 |
| 48:I8:51:VAL:N | 48:I8:62:LEU:HD12 | 2.34 | 0.42 |
| 51:L8:8:LEU:HD13 | 51:L8:31:LEU:HD23 | 2.01 | 0.42 |
| 54:P8:24:THR:O | 54:P8:28:ARG:HG3 | 2.19 | 0.42 |
| 1:1G:51:A:N3 | 1:1G:116:A:H1' | 2.35 | 0.42 |
| 1:1G:427:U:O4 | 1:1G:428:G:N1 | 2.52 | 0.42 |
| 1:1G:437:U:C4 | 1:1G:438:G:C6 | 3.07 | 0.42 |
| 1:1G:591:U:OP2 | 8:72:30:ARG:HD3 | 2.18 | 0.42 |
| 1:1G:860:A:N6 | 1:1G:861:G:C2 | 2.87 | 0.42 |
| 1:1G:957:U:H2' | 1:1G:959:A:OP2 | 2.19 | 0.42 |
| 1:1G:1238:A:N6 | 1:1G:1299:A:H61 | 2.14 | 0.42 |
| 1:1G:1263:C:H2' | 1:1G:1264:C:O4' | 2.19 | 0.42 |
| 1:1G:1317:C:C5 | 14:5A:16:PHE:HB3 | 2.55 | 0.42 |
| 1:1G:1359:C:H4' | 61:5A:201:HOH:O | 2.20 | 0.42 |
| 2:12:172:ILE:H | 2:12:172:ILE:HD12 | 1.85 | 0.42 |
| 3:22:11:ARG:O | 3:22:14:ILE:O | 2.38 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:32:207:TYR:O | 4:32:209:ARG:N | 2.52 | 0.42 |
| 8:72:11:THR:OG1 | 8:72:14:ARG:NH2 | 2.48 | 0.42 |
| 13:4A:11:ARG:NH1 | 32:49:147:ASP:OD2 | 2.52 | 0.42 |
| 14:5A:13:THR:N | 14:5A:14:PRO:HD3 | 2.35 | 0.42 |
| 57:3L:9:A:N1 | 57:3L:21:A:H2 | 2.17 | 0.42 |
| 26:14:318:C:H2' | 26:14:319:C:H6 | 1.84 | 0.42 |
| 26:14:396:G:O2' | 49:F5:43:TYR:O | 2.33 | 0.42 |
| 26:14:642:G:C8 | 26:14:642:G:C3' | 3.02 | 0.42 |
| 26:14:777:A:C2 | 26:14:778:G:C5 | 3.08 | 0.42 |
| 26:14:953:A:N1 | 26:14:954:G:C5 | 2.86 | 0.42 |
| 26:14:1514:U:O2' | 26:14:1515:C:H5' | 2.20 | 0.42 |
| 26:14:1762:A:N3 | 26:14:1762:A:C2' | 2.83 | 0.42 |
| 26:14:1912:A:N7 | 26:14:1918:A:C2 | 2.87 | 0.42 |
| 26:14:2050:C:H1' | 30:29:156:MET:CE | 2.50 | 0.42 |
| 26:14:2079:U:H2' | 26:14:2080:G:O4' | 2.20 | 0.42 |
| 26:14:2312:U:OP1 | 32:49:74:LYS:HG3 | 2.19 | 0.42 |
| 27:1J:27:C:O3' | 40:65:36:TYR:OH | 2.32 | 0.42 |
| 32:49:105:LYS:HD2 | 32:49:141:PHE:CD2 | 2.55 | 0.42 |
| 37:35:120:ALA:H | 37:35:137:LYS:HZ2 | 1.68 | 0.42 |
| 49:F5:62:VAL:HG21 | 49:F5:70:VAL:HG21 | 2.02 | 0.42 |
| 49:F5:69:LYS:HE2 | 49:F5:95:LEU:HD11 | 2.02 | 0.42 |
| 55:M5:30:ARG:HA | 55:M5:30:ARG:HD3 | 1.94 | 0.42 |
| 55:M5:33:ASN:O | 55:M5:34:TRP:C | 2.56 | 0.42 |
| 1:13:171:A:H2' | 1:13:171:A:N3 | 2.35 | 0.42 |
| 1:13:450:G:N7 | 1:13:481:G:C6 | 2.87 | 0.42 |
| 1:13:676:A:H5'' | 11:2I:113:PRO:HB3 | 2.01 | 0.42 |
| 1:13:971:G:P | 1:13:1231:G:H21 | 2.42 | 0.42 |
| 1:13:1084:G:C8 | 1:13:1085:U:C5 | 3.07 | 0.42 |
| 2:1E:156:LYS:HA | 2:1E:156:LYS:HD3 | 1.75 | 0.42 |
| 4:3E:192:GLU:N | 4:3E:192:GLU:CD | 2.72 | 0.42 |
| 7:6E:69:VAL:O | 7:6E:69:VAL:HG12 | 2.19 | 0.42 |
| 8:7E:103:VAL:HG21 | 8:7E:110:ALA:HB2 | 2.02 | 0.42 |
| 20:BI:57:ARG:NH1 | 20:BI:102:GLY:HA2 | 2.34 | 0.42 |
| 21:1F:10:ARG:HH21 | 21:1F:13:ILE:HD12 | 1.85 | 0.42 |
| 22:1K:2:G:C2 | 22:1K:3:G:O6 | 2.72 | 0.42 |
| 22:1K:12:U:H3 | 22:1K:24:G:N2 | 2.18 | 0.42 |
| 22:1K:41:A:H2' | 22:1K:41:A:N3 | 2.34 | 0.42 |
| 24:3K:4:U:H3 | 24:3K:69:A:N6 | 2.05 | 0.42 |
| 26:1H:104:U:C2' | 26:1H:105:C:H5' | 2.49 | 0.42 |
| 26:1H:182:A:H2' | 26:1H:183:C:C6 | 2.54 | 0.42 |
| 26:1H:270(R):G:C2 | 26:1H:270(S):G:C6 | 3.07 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:1H:360:G:H2' | 26:1H:361:G:O4' | 2.20 | 0.42 |
| 26:1H:380:U:C2 | 26:1H:381:G:C8 | 3.08 | 0.42 |
| 26:1H:534:U:H2' | 26:1H:535:C:H6 | 1.84 | 0.42 |
| 26:1H:562:U:C4 | 26:1H:2036:C:O4' | 2.73 | 0.42 |
| 26:1H:638:G:C5 | 26:1H:651:G:C2 | 3.07 | 0.42 |
| 26:1H:1204:A:C2 | 26:1H:1241:A:N1 | 2.88 | 0.42 |
| 26:1H:1252:G:O4' | 42:C8:33:ARG:HD3 | 2.20 | 0.42 |
| 26:1H:1363:C:H42 | 26:1H:1368:G:H1 | 1.67 | 0.42 |
| 26:1H:1420:U:H6 | 26:1H:1420:U:H2' | 1.65 | 0.42 |
| 26:1H:1442:G:H2' | 26:1H:1443:G:C8 | 2.54 | 0.42 |
| 26:1H:1510:A:H1' | 26:1H:1512:G:O6 | 2.20 | 0.42 |
| 26:1H:1670:C:H3' | 26:1H:1671:U:H6 | 1.84 | 0.42 |
| 26:1H:2119:A:N1 | 26:1H:2170:A:H2' | 2.35 | 0.42 |
| 26:1H:2321:G:N3 | 26:1H:2321:G:H2' | 2.33 | 0.42 |
| 26:1H:2331:G:H4' | 48:I8:43:THR:H | 1.84 | 0.42 |
| 26:1H:2358:G:C4 | 26:1H:2359:C:C6 | 3.08 | 0.42 |
| 26:1H:2629:A:N1 | 26:1H:2801:A:H4' | 2.35 | 0.42 |
| 29:11:89:SER:HB2 | 29:11:159:ALA:CB | 2.49 | 0.42 |
| 31:31:18:ARG:O | 31:31:19:GLU:HG2 | 2.20 | 0.42 |
| 31:31:199:TRP:CD1 | 31:31:199:TRP:C | 2.93 | 0.42 |
| 32:41:81:LYS:HA | 32:41:81:LYS:HD3 | 1.84 | 0.42 |
| 33:51:12:PRO:HB3 | 33:51:48:GLY:HA2 | 2.01 | 0.42 |
| 33:51:94:TYR:CE2 | 33:51:160:LYS:HB3 | 2.55 | 0.42 |
| 41:B8:20:PRO:HG2 | 41:B8:86:ILE:O | 2.20 | 0.42 |
| 47:H8:29:TYR:O | 47:H8:89:PHE:HA | 2.19 | 0.42 |
| 48:I8:48:GLY:N | 48:I8:79:VAL:O | 2.51 | 0.42 |
| 48:I8:72:ARG:HB3 | 48:I8:75:LEU:HB2 | 2.00 | 0.42 |
| 50:K8:8:LYS:HA | 50:K8:11:GLU:HB3 | 2.02 | 0.42 |
| 1:1G:8:A:N7 | 4:32:209:ARG:HA | 2.35 | 0.42 |
| 1:1G:410:G:N1 | 1:1G:431:A:OP2 | 2.48 | 0.42 |
| 1:1G:428:G:O4' | 1:1G:430:A:C8 | 2.73 | 0.42 |
| 1:1G:799:G:H3' | 1:1G:800:G:C8 | 2.54 | 0.42 |
| 1:1G:973:G:H5'' | 1:1G:974:A:H3' | 2.01 | 0.42 |
| 5:42:136:MET:H | 5:42:136:MET:HG2 | 1.71 | 0.42 |
| 9:82:112:LYS:HD3 | 9:82:112:LYS:C | 2.39 | 0.42 |
| 12:3A:58:VAL:O | 12:3A:65:GLU:HA | 2.20 | 0.42 |
| 12:3A:90:VAL:O | 12:3A:92:ASP:N | 2.52 | 0.42 |
| 15:6A:24:SER:O | 15:6A:28:GLN:HG3 | 2.18 | 0.42 |
| 17:8A:16:GLN:HA | 17:8A:49:GLU:OE2 | 2.19 | 0.42 |
| 26:14:375:C:H2' | 26:14:376:C:C6 | 2.54 | 0.42 |
| 26:14:587:C:C5 | 26:14:671:C:H1' | 2.55 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 26:14:740:U:O4' | 26:14:1981:A:C4 | 2.72 | 0.42 |
| 26:14:744:G:OP1 | 30:29:132:HIS:HA | 2.19 | 0.42 |
| 26:14:1278:A:O2' | 39:55:34:ILE:HD11 | 2.19 | 0.42 |
| 26:14:1436:G:N2 | 26:14:1557:C:C2 | 2.88 | 0.42 |
| 26:14:1450:C:H2' | 26:14:1451:C:C5 | 2.55 | 0.42 |
| 26:14:1461:G:O2' | 26:14:1462:C:H5' | 2.19 | 0.42 |
| 26:14:1839:G:H2' | 26:14:1839:G:N3 | 2.34 | 0.42 |
| 26:14:2025:C:H2' | 26:14:2026:C:H6 | 1.84 | 0.42 |
| 26:14:2146:C:H4' | 26:14:2147:G:N7 | 2.34 | 0.42 |
| 26:14:2285:C:H2' | 26:14:2286:A:H5'' | 2.02 | 0.42 |
| 26:14:2494:G:C4 | 26:14:2495:G:C8 | 3.07 | 0.42 |
| 26:14:2505:G:H2' | 26:14:2576:G:O6 | 2.20 | 0.42 |
| 26:14:2688:U:C5 | 26:14:2720:U:OP2 | 2.72 | 0.42 |
| 26:14:2823:A:OP1 | 30:29:113:PHE:HB2 | 2.20 | 0.42 |
| 27:1J:38:C:N3 | 27:1J:44:G:N2 | 2.67 | 0.42 |
| 32:49:25:TYR:OH | 32:49:168:GLU:OE2 | 2.37 | 0.42 |
| 32:49:102:PHE:CG | 32:49:105:LYS:HE2 | 2.55 | 0.42 |
| 37:35:125:VAL:O | 37:35:125:VAL:HG13 | 2.19 | 0.42 |
| 38:45:22:LYS:HG2 | 38:45:23:GLY:CA | 2.41 | 0.42 |
| 41:75:3:ARG:HE | 41:75:5:ALA:HB3 | 1.84 | 0.42 |
| 45:B5:44:GLU:HG3 | 45:B5:51:VAL:CG2 | 2.50 | 0.42 |
| 49:F5:52:ARG:HD2 | 49:F5:57:GLU:HG2 | 2.02 | 0.42 |
| 1:13:712:A:C6 | 1:13:713:G:C6 | 3.07 | 0.42 |
| 1:13:715:A:H1' | 1:13:777:A:C2 | 2.54 | 0.42 |
| 1:13:716:A:H1' | 11:2I:118:GLY:O | 2.19 | 0.42 |
| 1:13:1327:C:OP1 | 21:1F:21:TYR:HD2 | 2.02 | 0.42 |
| 7:6E:65:ALA:O | 7:6E:69:VAL:HG23 | 2.20 | 0.42 |
| 9:8E:18:PHE:HD2 | 9:8E:62:TYR:HD2 | 1.68 | 0.42 |
| 11:2I:54:ARG:HA | 11:2I:57:THR:HG23 | 2.01 | 0.42 |
| 15:6I:57:LEU:HD23 | 15:6I:57:LEU:HA | 1.74 | 0.42 |
| 26:1H:580:C:H2' | 26:1H:581:C:H6 | 1.84 | 0.42 |
| 26:1H:719:C:C2 | 26:1H:720:C:C5 | 3.06 | 0.42 |
| 26:1H:742:G:H2' | 26:1H:743:G:C8 | 2.55 | 0.42 |
| 26:1H:757:U:H2' | 26:1H:758:C:C6 | 2.54 | 0.42 |
| 26:1H:856:C:O2' | 48:I8:27:GLU:HB2 | 2.19 | 0.42 |
| 26:1H:873:G:H1 | 26:1H:904:C:H42 | 1.68 | 0.42 |
| 26:1H:995:C:O2 | 35:58:3:THR:OG1 | 2.27 | 0.42 |
| 26:1H:1233:C:H2' | 26:1H:1234:U:O4' | 2.20 | 0.42 |
| 26:1H:1478:G:N3 | 26:1H:1479:G:C8 | 2.88 | 0.42 |
| 26:1H:1685:C:C2 | 26:1H:1704:G:N2 | 2.88 | 0.42 |
| 26:1H:1999:C:H4' | 26:1H:2723:C:O2 | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:1H:2563:U:H4' | 36:68:28:SER:HA | 2.02 | 0.42 |
| 26:1H:2792:G:O6 | 26:1H:2805:G:C4 | 2.73 | 0.42 |
| 26:1H:2817:G:C4 | 26:1H:2830:G:C2 | 3.08 | 0.42 |
| 27:16:8:U:O3' | 40:A8:25:ARG:NH2 | 2.52 | 0.42 |
| 28:71:10:LEU:HD22 | 28:71:10:LEU:H | 1.84 | 0.42 |
| 29:11:70:TRP:CZ2 | 29:11:150:LYS:HD3 | 2.54 | 0.42 |
| 29:11:89:SER:HB2 | 29:11:159:ALA:HB2 | 2.01 | 0.42 |
| 33:51:50:VAL:O | 33:51:50:VAL:HG13 | 2.20 | 0.42 |
| 33:51:92:ILE:H | 33:51:92:ILE:HD12 | 1.85 | 0.42 |
| 35:58:46:VAL:O | 35:58:47:ALA:HB3 | 2.19 | 0.42 |
| 39:98:26:LYS:HE3 | 39:98:70:LEU:O | 2.19 | 0.42 |
| 40:A8:102:ALA:O | 40:A8:105:ALA:N | 2.51 | 0.42 |
| 41:B8:111:ARG:O | 41:B8:112:ARG:CB | 2.67 | 0.42 |
| 43:D8:49:THR:HB | 43:D8:51:VAL:N | 2.35 | 0.42 |
| 45:F8:12:VAL:HG12 | 45:F8:29:TRP:CD2 | 2.54 | 0.42 |
| 54:P8:12:ARG:NH2 | 54:P8:44:PRO:HB3 | 2.34 | 0.42 |
| 1:1G:135:C:C2 | 16:7A:1:MET:HB3 | 2.54 | 0.42 |
| 1:1G:404:U:P | 4:32:118:ARG:HH11 | 2.43 | 0.42 |
| 1:1G:448:A:O2' | 1:1G:449:C:H5' | 2.20 | 0.42 |
| 1:1G:737:A:H2' | 1:1G:738:C:C6 | 2.55 | 0.42 |
| 1:1G:947:G:H2' | 1:1G:948:C:O4' | 2.19 | 0.42 |
| 1:1G:1002:G:N1 | 1:1G:1039:C:O2 | 2.52 | 0.42 |
| 1:1G:1249:C:O2' | 9:82:69:GLY:HA2 | 2.19 | 0.42 |
| 1:1G:1505:G:H4' | 1:1G:1506:U:H5'' | 2.00 | 0.42 |
| 1:1G:1517:G:C6 | 1:1G:1518:A:C5 | 3.07 | 0.42 |
| 2:12:71:VAL:CG1 | 2:12:164:VAL:HA | 2.45 | 0.42 |
| 2:12:86:GLU:O | 2:12:89:GLY:N | 2.52 | 0.42 |
| 4:32:24:GLU:N | 4:32:24:GLU:OE2 | 2.53 | 0.42 |
| 5:42:76:ILE:HG12 | 5:42:118:ILE:HD12 | 2.00 | 0.42 |
| 7:62:65:ALA:HB2 | 7:62:128:ALA:HB2 | 2.02 | 0.42 |
| 13:4A:86:CYS:HA | 19:AA:74:PHE:HA | 2.02 | 0.42 |
| 20:BA:58:LYS:HD2 | 20:BA:58:LYS:HA | 1.77 | 0.42 |
| 56:1L:9:A:N7 | 56:1L:45:G:O2' | 2.43 | 0.42 |
| 23:2L:49:C:N4 | 23:2L:60:A:C8 | 2.87 | 0.42 |
| 23:2L:77:A:N3 | 23:2L:77:A:C2' | 2.82 | 0.42 |
| 57:3L:45:G:H5'' | 57:3L:46:G:C8 | 2.55 | 0.42 |
| 57:3L:59:A:C6 | 57:3L:60:U:O2 | 2.72 | 0.42 |
| 25:4L:10:G:N1 | 25:4L:11:U:C5 | 2.87 | 0.42 |
| 26:14:82:G:H5' | 26:14:296:C:H5' | 2.02 | 0.42 |
| 26:14:247:G:H4' | 26:14:386:G:C5 | 2.55 | 0.42 |
| 26:14:296:C:H2' | 26:14:297:C:H6 | 1.85 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:14:677:A:C4 | 26:14:678:C:C5 | 3.08 | 0.42 |
| 26:14:852:G:C6 | 26:14:926:A:C6 | 3.07 | 0.42 |
| 26:14:1301:A:C8 | 26:14:1303:G:C8 | 3.07 | 0.42 |
| 26:14:1356:G:C6 | 26:14:1357:U:C4 | 3.07 | 0.42 |
| 26:14:1464:C:HO2' | 26:14:1528:A:H8 | 1.60 | 0.42 |
| 26:14:1488:G:C6 | 26:14:1489:U:C2 | 3.07 | 0.42 |
| 26:14:1496:A:H8 | 26:14:1577:C:O2' | 2.03 | 0.42 |
| 26:14:1639:U:O2' | 26:14:1640:C:H5' | 2.20 | 0.42 |
| 26:14:2095:C:C4 | 26:14:2096:U:C5 | 3.08 | 0.42 |
| 26:14:2257:U:O2' | 26:14:2258:C:H5' | 2.20 | 0.42 |
| 26:14:2296:U:O2 | 26:14:2333:A:N3 | 2.52 | 0.42 |
| 26:14:2416:C:OP1 | 37:35:65:ARG:O | 2.38 | 0.42 |
| 26:14:2578:G:N7 | 30:29:140:SER:HB2 | 2.34 | 0.42 |
| 26:14:2615:U:H2' | 26:14:2616:C:C6 | 2.54 | 0.42 |
| 30:29:34:VAL:HG12 | 30:29:64:LYS:HE3 | 2.01 | 0.42 |
| 30:29:119:ARG:HH12 | 30:29:120:TRP:HZ2 | 1.65 | 0.42 |
| 31:39:78:ILE:HA | 31:39:83:PHE:CD2 | 2.55 | 0.42 |
| 31:39:158:THR:O | 31:39:164:ARG:NH1 | 2.51 | 0.42 |
| 32:49:36:LYS:CE | 32:49:95:ARG:HH22 | 2.32 | 0.42 |
| 32:49:107:LEU:HD21 | 32:49:178:PHE:HE1 | 1.84 | 0.42 |
| 32:49:170:ARG:HA | 32:49:170:ARG:HD2 | 1.91 | 0.42 |
| 33:59:60:ARG:O | 33:59:64:LEU:HG | 2.19 | 0.42 |
| 35:15:97:ARG:HA | 35:15:100:GLU:HB2 | 2.02 | 0.42 |
| 36:25:49:ARG:HA | 36:25:53:LYS:HE3 | 2.01 | 0.42 |
| 38:45:87:LYS:HB3 | 38:45:90:VAL:CG2 | 2.49 | 0.42 |
| 42:85:39:LEU:HD23 | 42:85:39:LEU:HA | 1.54 | 0.42 |
| 47:D5:29:TYR:O | 47:D5:89:PHE:HD1 | 2.03 | 0.42 |
| 48:E5:29:GLN:O | 48:E5:67:VAL:HG23 | 2.19 | 0.42 |
| 49:F5:59:THR:HG23 | 49:F5:59:THR:O | 2.19 | 0.42 |
| 49:F5:95:LEU:HD12 | 49:F5:95:LEU:HA | 1.80 | 0.42 |
| 1:13:46:G:H2' | 1:13:366:C:C5 | 2.53 | 0.42 |
| 1:13:159:G:H2' | 1:13:161:A:OP2 | 2.19 | 0.42 |
| 1:13:260:G:H2' | 1:13:261:U:C6 | 2.55 | 0.42 |
| 1:13:359:U:O4 | 1:13:360:A:N6 | 2.53 | 0.42 |
| 1:13:375:U:C2 | 1:13:376:G:C8 | 3.07 | 0.42 |
| 1:13:591:U:C2 | 1:13:592:G:C8 | 3.08 | 0.42 |
| 1:13:672:U:H2' | 1:13:673:G:H8 | 1.84 | 0.42 |
| 1:13:721:G:N1 | 1:13:733:A:C2 | 2.88 | 0.42 |
| 1:13:858:G:N1 | 1:13:870:U:OP2 | 2.44 | 0.42 |
| 1:13:1004:A:N7 | 1:13:1026:G:N7 | 2.68 | 0.42 |
| 1:13:1023:G:C3' | 1:13:1024:G:H5'' | 2.50 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:1212:U:H4' | 1:13:1213:A:H5'' | 2.02 | 0.42 |
| 1:13:1369:C:H2' | 1:13:1370:G:C8 | 2.54 | 0.42 |
| 2:1E:21:ARG:O | 2:1E:23:ARG:N | 2.53 | 0.42 |
| 2:1E:119:GLU:OE2 | 2:1E:153:ARG:NH1 | 2.53 | 0.42 |
| 11:2I:48:ILE:HD13 | 11:2I:64:ALA:HA | 2.02 | 0.42 |
| 14:5I:15:LYS:HG2 | 14:5I:16:PHE:CD2 | 2.55 | 0.42 |
| 20:BI:40:ALA:HB2 | 20:BI:55:ILE:HG23 | 2.02 | 0.42 |
| 22:1K:14:A:C6 | 22:1K:23:A:C8 | 3.07 | 0.42 |
| 22:1K:27:G:N2 | 22:1K:43:U:N3 | 2.68 | 0.42 |
| 24:3K:16:U:O2 | 24:3K:61:C:H5' | 2.20 | 0.42 |
| 24:3K:59:A:N3 | 24:3K:59:A:H2' | 2.35 | 0.42 |
| 26:1H:76:C:O5' | 26:1H:76:C:H6 | 2.03 | 0.42 |
| 26:1H:109:G:H2' | 26:1H:110:G:O4' | 2.20 | 0.42 |
| 26:1H:265:A:C2 | 26:1H:428:A:C2 | 3.08 | 0.42 |
| 26:1H:270(V):G:C4 | 26:1H:270(W):G:C8 | 3.08 | 0.42 |
| 26:1H:273(F):C:H3' | 26:1H:274:G:H5'' | 2.01 | 0.42 |
| 26:1H:280:C:N3 | 26:1H:361:G:C2 | 2.87 | 0.42 |
| 26:1H:307:G:N2 | 26:1H:310:A:C8 | 2.88 | 0.42 |
| 26:1H:447:A:C4 | 26:1H:473:G:N7 | 2.88 | 0.42 |
| 26:1H:489:G:C2 | 26:1H:491:G:H1' | 2.54 | 0.42 |
| 26:1H:628:G:H2' | 26:1H:629:G:C8 | 2.55 | 0.42 |
| 26:1H:994:C:OP1 | 42:C8:53:ARG:NH2 | 2.52 | 0.42 |
| 26:1H:1028:A:N6 | 26:1H:1125:G:H2' | 2.35 | 0.42 |
| 26:1H:1141:U:C5 | 35:58:64:GLY:HA3 | 2.55 | 0.42 |
| 26:1H:1209:G:H21 | 26:1H:1210:A:H62 | 1.68 | 0.42 |
| 26:1H:1289:C:H2' | 26:1H:1290:C:C6 | 2.54 | 0.42 |
| 26:1H:1486:A:C4 | 26:1H:1487:G:C8 | 3.07 | 0.42 |
| 26:1H:1567:A:C4 | 29:11:84:TYR:CD2 | 3.07 | 0.42 |
| 26:1H:1790:C:H5'' | 26:1H:1791:A:OP1 | 2.20 | 0.42 |
| 26:1H:2022:U:O2' | 26:1H:2617:C:H5' | 2.20 | 0.42 |
| 26:1H:2027:G:C4 | 26:1H:2028:U:C6 | 3.08 | 0.42 |
| 26:1H:2250:G:C5 | 38:88:83:MET:CB | 3.03 | 0.42 |
| 26:1H:2359:C:H2' | 26:1H:2360:A:O4' | 2.19 | 0.42 |
| 26:1H:2408:U:H2' | 26:1H:2409:G:C8 | 2.55 | 0.42 |
| 26:1H:2889:C:H2' | 26:1H:2891:G:O4' | 2.19 | 0.42 |
| 29:11:106:ILE:HG21 | 29:11:106:ILE:HD13 | 1.71 | 0.42 |
| 32:41:109:VAL:HG13 | 52:M8:33:VAL:HG22 | 2.02 | 0.42 |
| 32:41:125:PHE:CE1 | 32:41:131:TYR:HB2 | 2.55 | 0.42 |
| 34:61:5:LEU:HD23 | 34:61:5:LEU:HA | 1.73 | 0.42 |
| 41:B8:1:MET:O | 41:B8:2:ASN:O | 2.38 | 0.42 |
| 42:C8:65:ILE:HG12 | 42:C8:96:ALA:HB2 | 2.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 46:G8:96:ILE:HD12 | 46:G8:101:LYS:HE2 | 2.02 | 0.42 |
| 47:H8:37:VAL:HG22 | 47:H8:38:TYR:N | 2.34 | 0.42 |
| 47:H8:52:SER:O | 47:H8:53:ILE:HG12 | 2.20 | 0.42 |
| 51:L8:6:VAL:CG1 | 51:L8:54:VAL:HB | 2.50 | 0.42 |
| 1:1G:176:C:H2' | 1:1G:177:C:C6 | 2.54 | 0.42 |
| 1:1G:407:G:C2 | 1:1G:436:C:O2 | 2.73 | 0.42 |
| 1:1G:604:G:C5 | 1:1G:605:U:C5 | 3.08 | 0.42 |
| 1:1G:683:G:H2' | 1:1G:684:A:C8 | 2.54 | 0.42 |
| 1:1G:742:G:P | 15:6A:35:ARG:HH21 | 2.43 | 0.42 |
| 1:1G:989:C:H2' | 1:1G:990:C:C6 | 2.55 | 0.42 |
| 1:1G:1162:C:N3 | 1:1G:1175:G:C2 | 2.87 | 0.42 |
| 1:1G:1298:C:H4' | 1:1G:1299:A:C8 | 2.54 | 0.42 |
| 1:1G:1317:C:H5'' | 1:1G:1318:A:OP2 | 2.20 | 0.42 |
| 4:32:31:CYS:HB2 | 4:32:33:MET:HB2 | 2.00 | 0.42 |
| 4:32:138:TYR:CD1 | 4:32:138:TYR:C | 2.93 | 0.42 |
| 8:72:109:ILE:HA | 8:72:121:ASP:OD2 | 2.20 | 0.42 |
| 9:82:10:ARG:HH11 | 9:82:11:LYS:HB2 | 1.85 | 0.42 |
| 13:4A:32:GLU:HG2 | 13:4A:36:LYS:HB3 | 2.01 | 0.42 |
| 14:5A:29:ARG:NE | 14:5A:39:LEU:O | 2.52 | 0.42 |
| 15:6A:32:LEU:CD1 | 15:6A:62:GLN:HB3 | 2.49 | 0.42 |
| 57:3L:18:G:H4' | 57:3L:60:U:O4 | 2.19 | 0.42 |
| 26:14:27:G:C2 | 26:14:512:G:N3 | 2.87 | 0.42 |
| 26:14:404:C:O2' | 26:14:405:U:OP2 | 2.35 | 0.42 |
| 26:14:691:C:H2' | 26:14:692:C:H6 | 1.85 | 0.42 |
| 26:14:823:G:H2' | 26:14:824:A:C8 | 2.54 | 0.42 |
| 26:14:1043:C:H2' | 26:14:1044:G:H5' | 2.01 | 0.42 |
| 26:14:1054:A:H2 | 26:14:1055:G:O6 | 2.03 | 0.42 |
| 26:14:1141:U:H6 | 35:15:63:THR:CG2 | 2.33 | 0.42 |
| 26:14:1328:G:H2' | 26:14:1330:C:C4 | 2.55 | 0.42 |
| 26:14:2003:G:H8 | 26:14:2003:G:O5' | 2.02 | 0.42 |
| 26:14:2010:G:H5'' | 44:A5:42:ARG:HB2 | 2.00 | 0.42 |
| 26:14:2854:G:O2' | 26:14:2855:C:H5' | 2.20 | 0.42 |
| 26:14:2855:C:H2' | 26:14:2856:C:H6 | 1.84 | 0.42 |
| 27:1J:3:C:H2' | 27:1J:4:C:H6 | 1.83 | 0.42 |
| 29:19:268:ARG:O | 29:19:268:ARG:HG3 | 2.20 | 0.42 |
| 30:29:37:ARG:HD2 | 30:29:44:TYR:CE2 | 2.53 | 0.42 |
| 31:39:20:LEU:HA | 31:39:20:LEU:HD23 | 1.55 | 0.42 |
| 31:39:135:LYS:HA | 31:39:135:LYS:HD2 | 1.78 | 0.42 |
| 34:69:3:VAL:HB | 34:69:37:VAL:O | 2.19 | 0.42 |
| 35:15:75:TYR:CE2 | 35:15:77:GLY:HA2 | 2.55 | 0.42 |
| 37:35:75:ILE:HD12 | 37:35:77:ARG:CZ | 2.49 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 38:45:45:GLN:OE1 | 38:45:45:GLN:N | 2.49 | 0.42 |
| 46:C5:45:VAL:HB | 46:C5:60:PHE:HD2 | 1.84 | 0.42 |
| 1:13:132:C:C2 | 1:13:231:G:N2 | 2.88 | 0.42 |
| 1:13:224:C:H2' | 1:13:225:C:C5 | 2.55 | 0.42 |
| 1:13:552:U:O4 | 1:13:553:A:N6 | 2.53 | 0.42 |
| 1:13:560:U:H5' | 1:13:566:G:N2 | 2.35 | 0.42 |
| 1:13:647:C:C4 | 1:13:648:A:N7 | 2.88 | 0.42 |
| 1:13:662:G:O2' | 1:13:836:G:OP1 | 2.38 | 0.42 |
| 1:13:725:G:C2 | 1:13:726:C:C6 | 3.08 | 0.42 |
| 1:13:767:A:H3' | 61:13:1826:HOH:O | 2.19 | 0.42 |
| 1:13:1133:G:H2' | 1:13:1134:G:H8 | 1.85 | 0.42 |
| 1:13:1170:A:H8 | 1:13:1170:A:O5' | 2.03 | 0.42 |
| 1:13:1297:C:OP1 | 13:4I:13:LYS:HG2 | 2.20 | 0.42 |
| 1:13:1320:C:H2' | 1:13:1321:C:O4' | 2.19 | 0.42 |
| 1:13:1321:C:C5 | 1:13:1322:C:C2 | 3.07 | 0.42 |
| 3:2E:34:LEU:O | 3:2E:34:LEU:HD12 | 2.19 | 0.42 |
| 3:2E:77:ILE:HA | 3:2E:84:ILE:HB | 2.02 | 0.42 |
| 7:6E:18:TYR:CD2 | 7:6E:59:LEU:HD12 | 2.49 | 0.42 |
| 12:3I:50:SER:O | 12:3I:51:ALA:HB2 | 2.20 | 0.42 |
| 22:1K:63:U:OP2 | 22:1K:63:U:H6 | 2.02 | 0.42 |
| 26:1H:370:G:OP2 | 61:1H:3559:HOH:O | 2.21 | 0.42 |
| 26:1H:952:G:H5'' | 26:1H:953:A:OP2 | 2.19 | 0.42 |
| 26:1H:1775:U:H2' | 26:1H:1776:G:O5' | 2.20 | 0.42 |
| 26:1H:2183:C:O5' | 26:1H:2183:C:H6 | 2.03 | 0.42 |
| 26:1H:2609:U:H4' | 26:1H:2610:C:OP2 | 2.20 | 0.42 |
| 26:1H:2747:G:H5'' | 33:51:70:THR:CG2 | 2.50 | 0.42 |
| 26:1H:2846:G:H2' | 26:1H:2847:U:O4' | 2.19 | 0.42 |
| 27:16:11:C:H3' | 27:16:12:C:H6 | 1.85 | 0.42 |
| 30:21:105:THR:HG21 | 30:21:164:ARG:CZ | 2.49 | 0.42 |
| 33:51:52:VAL:O | 33:51:65:HIS:NE2 | 2.51 | 0.42 |
| 38:88:59:ARG:C | 38:88:61:GLY:N | 2.72 | 0.42 |
| 41:B8:55:ASN:C | 41:B8:59:THR:HG22 | 2.40 | 0.42 |
| 43:D8:46:VAL:HG13 | 43:D8:46:VAL:O | 2.19 | 0.42 |
| 47:H8:33:LEU:HG | 47:H8:34:ASN:N | 2.35 | 0.42 |
| 50:K8:63:VAL:HA | 50:K8:66:GLU:CG | 2.49 | 0.42 |
| 51:L8:16:PRO:O | 51:L8:20:LYS:HG3 | 2.19 | 0.42 |
| 1:1G:198:G:H22 | 1:1G:220:G:H1' | 1.85 | 0.42 |
| 1:1G:324:G:H2' | 1:1G:326:G:OP2 | 2.20 | 0.42 |
| 1:1G:616:G:N3 | 1:1G:617:G:C8 | 2.88 | 0.42 |
| 1:1G:625:G:H2' | 1:1G:626:U:H6 | 1.85 | 0.42 |
| 1:1G:958:A:N6 | 1:1G:1221:G:O2' | 2.52 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:1G:1111:A:C6 | 1:1G:1112:C:N4 | 2.88 | 0.42 |
| 1:1G:1149:C:O2' | 1:1G:1280:A:N1 | 2.46 | 0.42 |
| 1:1G:1328:C:H2' | 1:1G:1329:A:C8 | 2.55 | 0.42 |
| 1:1G:1489:G:H2' | 1:1G:1490:C:H6 | 1.83 | 0.42 |
| 2:12:35:GLU:HG3 | 2:12:38:GLY:HA2 | 2.02 | 0.42 |
| 2:12:193:ASP:OD2 | 2:12:196:LEU:HD21 | 2.20 | 0.42 |
| 3:22:37:GLN:O | 3:22:40:ARG:N | 2.53 | 0.42 |
| 3:22:155:GLY:HA3 | 3:22:196:LEU:HD13 | 2.01 | 0.42 |
| 4:32:31:CYS:HB2 | 4:32:33:MET:CA | 2.49 | 0.42 |
| 4:32:61:LYS:CB | 4:32:203:VAL:HG13 | 2.43 | 0.42 |
| 9:82:25:LYS:HE3 | 9:82:33:PHE:HD2 | 1.85 | 0.42 |
| 9:82:53:VAL:HG22 | 9:82:95:LYS:HE3 | 2.02 | 0.42 |
| 10:1A:54:PHE:CE1 | 10:1A:55:LYS:HE3 | 2.55 | 0.42 |
| 13:4A:64:TRP:CD1 | 13:4A:64:TRP:N | 2.86 | 0.42 |
| 23:2L:20:G:H4' | 23:2L:21:U:OP2 | 2.18 | 0.42 |
| 26:14:405:U:O2 | 26:14:405:U:H2' | 2.20 | 0.42 |
| 26:14:484:C:P | 46:C5:49:VAL:HG13 | 2.59 | 0.42 |
| 26:14:508:G:H4' | 26:14:509:C:OP2 | 2.19 | 0.42 |
| 26:14:548:A:N6 | 26:14:549:G:N3 | 2.68 | 0.42 |
| 26:14:1023:U:OP2 | 26:14:1024:G:N7 | 2.53 | 0.42 |
| 26:14:1055:G:N3 | 26:14:1055:G:H2' | 2.34 | 0.42 |
| 26:14:1243:G:O5' | 26:14:1243:G:H8 | 2.02 | 0.42 |
| 26:14:2207:C:O2 | 29:19:151:LYS:NZ | 2.50 | 0.42 |
| 26:14:2290:G:H4' | 26:14:2381:C:O2' | 2.20 | 0.42 |
| 26:14:2403:C:N3 | 26:14:2415:G:C2 | 2.88 | 0.42 |
| 26:14:2635:C:OP1 | 30:29:77:ILE:HB | 2.20 | 0.42 |
| 26:14:2670:A:O2' | 26:14:2671:A:H5' | 2.20 | 0.42 |
| 26:14:2851:A:C5 | 26:14:2852:G:C5 | 3.08 | 0.42 |
| 27:1J:33:G:H1' | 27:1J:50:G:H22 | 1.85 | 0.42 |
| 29:19:44:ASN:HB3 | 29:19:45:ASN:CA | 2.50 | 0.42 |
| 29:19:181:GLU:CB | 29:19:272:ALA:HB1 | 2.50 | 0.42 |
| 30:29:47:VAL:HG23 | 30:29:84:PHE:O | 2.19 | 0.42 |
| 31:39:18:ARG:NH2 | 31:39:20:LEU:HG | 2.35 | 0.42 |
| 36:25:68:GLU:CD | 36:25:68:GLU:H | 2.23 | 0.42 |
| 38:45:32:TYR:O | 38:45:106:VAL:N | 2.49 | 0.42 |
| 42:85:83:LEU:HA | 42:85:83:LEU:HD23 | 1.82 | 0.42 |
| 45:B5:25:LYS:HA | 45:B5:81:VAL:O | 2.20 | 0.42 |
| 46:C5:85:VAL:HG23 | 46:C5:96:ILE:HG22 | 2.02 | 0.42 |
| 48:E5:20:ARG:HH11 | 48:E5:20:ARG:HD2 | 1.68 | 0.42 |
| 48:E5:26:TYR:HB2 | 48:E5:29:GLN:OE1 | 2.20 | 0.42 |
| 51:H5:6:VAL:HG22 | 51:H5:35:ARG:O | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:13:168:G:H21 | 1:13:169:C:H41 | 1.67 | 0.42 |
| 1:13:295:C:H2' | 1:13:296:U:O4' | 2.20 | 0.42 |
| 1:13:447:G:H8 | 1:13:447:G:O5' | 2.03 | 0.42 |
| 1:13:827:U:C4 | 1:13:870:U:N3 | 2.88 | 0.42 |
| 1:13:1154:G:H2' | 1:13:1155:G:O4' | 2.19 | 0.42 |
| 1:13:1428:A:H2' | 1:13:1429:C:C6 | 2.55 | 0.42 |
| 2:1E:19:HIS:CD2 | 2:1E:205:ASP:OD1 | 2.69 | 0.42 |
| 5:4E:68:GLU:O | 5:4E:70:PRO:HD3 | 2.19 | 0.42 |
| 5:4E:118:ILE:HG12 | 5:4E:119:LEU:N | 2.34 | 0.42 |
| 7:6E:17:VAL:HG13 | 7:6E:18:TYR:HD1 | 1.85 | 0.42 |
| 11:2I:50:TYR:CD2 | 11:2I:54:ARG:HB2 | 2.55 | 0.42 |
| 12:3I:51:ALA:O | 12:3I:52:LEU:HD23 | 2.20 | 0.42 |
| 20:BI:26:ASN:O | 20:BI:30:LYS:HG2 | 2.20 | 0.42 |
| 20:BI:83:ARG:HA | 20:BI:86:ARG:HB2 | 2.02 | 0.42 |
| 22:1K:51:A:H2' | 22:1K:52:G:C8 | 2.55 | 0.42 |
| 26:1H:53:A:H61 | 26:1H:117:G:H1' | 1.85 | 0.42 |
| 26:1H:152:G:C2 | 26:1H:175:G:C2 | 3.08 | 0.42 |
| 26:1H:425:G:C4 | 26:1H:426:C:C5 | 3.07 | 0.42 |
| 26:1H:717:G:H2' | 26:1H:718:A:O4' | 2.19 | 0.42 |
| 26:1H:1491:G:H2' | 26:1H:1492:G:H8 | 1.84 | 0.42 |
| 26:1H:1930:G:O2' | 26:1H:1931:U:OP2 | 2.38 | 0.42 |
| 26:1H:2038:G:C6 | 26:1H:2039:C:C4 | 3.08 | 0.42 |
| 26:1H:2061:G:N3 | 26:1H:2063:C:C4 | 2.88 | 0.42 |
| 26:1H:2166:G:C4 | 26:1H:2171:A:N6 | 2.88 | 0.42 |
| 26:1H:2688:U:C5 | 26:1H:2720:U:OP2 | 2.69 | 0.42 |
| 26:1H:2811:G:H8 | 26:1H:2811:G:OP2 | 2.03 | 0.42 |
| 30:21:152:LYS:HG3 | 35:58:78:TYR:CZ | 2.54 | 0.42 |
| 31:31:11:VAL:HA | 31:31:125:LEU:HB2 | 2.02 | 0.42 |
| 32:41:34:LEU:HD13 | 32:41:99:MET:SD | 2.59 | 0.42 |
| 34:61:92:VAL:HG23 | 34:61:96:ASP:CB | 2.50 | 0.42 |
| 34:61:112:LYS:O | 34:61:113:ARG:HG2 | 2.20 | 0.42 |
| 35:58:40:PRO:CB | 42:C8:68:ALA:HB2 | 2.50 | 0.42 |
| 37:78:16:ARG:HA | 37:78:16:ARG:NE | 2.34 | 0.42 |
| 38:88:10:ARG:HH22 | 48:I8:11:ARG:HH22 | 1.66 | 0.42 |
| 38:88:130:LYS:HZ2 | 47:H8:81:ARG:HG2 | 1.85 | 0.42 |
| 39:98:62:ALA:HA | 39:98:65:LEU:HD23 | 2.01 | 0.42 |
| 40:A8:88:ASP:C | 40:A8:90:GLY:H | 2.22 | 0.42 |
| 40:A8:98:VAL:H | 40:A8:98:VAL:HG22 | 1.58 | 0.42 |
| 40:A8:106:ARG:C | 40:A8:106:ARG:HD2 | 2.41 | 0.42 |
| 42:C8:87:GLY:O | 42:C8:89:GLU:HG3 | 2.19 | 0.42 |
| 47:H8:126:VAL:HA | 47:H8:164:ALA:N | 2.33 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 52:M8:15:ILE:HG13 | 52:M8:16:CYS:N | 2.33 | 0.42 |
| 1:1G:188:U:O2' | 1:1G:189:U:H5' | 2.20 | 0.42 |
| 1:1G:241:C:C2 | 1:1G:286:G:C2 | 3.08 | 0.42 |
| 1:1G:341:C:H2' | 1:1G:342:C:C6 | 2.55 | 0.42 |
| 1:1G:489:C:H2' | 1:1G:490:G:O4' | 2.20 | 0.42 |
| 1:1G:573:A:N3 | 1:1G:883:C:O2' | 2.53 | 0.42 |
| 1:1G:758:G:H5'' | 1:1G:880:C:H1' | 2.01 | 0.42 |
| 1:1G:918:A:H2' | 1:1G:919:A:O4' | 2.20 | 0.42 |
| 1:1G:984:C:H2' | 1:1G:985:C:C6 | 2.55 | 0.42 |
| 1:1G:1327:C:H2' | 1:1G:1328:C:C6 | 2.55 | 0.42 |
| 3:22:59:ARG:HE | 3:22:59:ARG:HB2 | 1.48 | 0.42 |
| 4:32:113:SER:OG | 4:32:116:GLN:HB2 | 2.20 | 0.42 |
| 4:32:129:ASN:OD1 | 4:32:144:ASP:HA | 2.20 | 0.42 |
| 5:42:101:ILE:O | 5:42:101:ILE:HG13 | 2.19 | 0.42 |
| 9:82:96:LEU:O | 9:82:100:GLY:N | 2.52 | 0.42 |
| 12:3A:117:ARG:HB3 | 12:3A:122:THR:HB | 2.02 | 0.42 |
| 15:6A:25:THR:HG21 | 15:6A:70:LEU:HD13 | 2.02 | 0.42 |
| 20:BA:89:ARG:HH11 | 20:BA:104:LEU:HB3 | 1.84 | 0.42 |
| 56:1L:9:A:H3' | 56:1L:10:G:C8 | 2.55 | 0.42 |
| 26:14:270(P):C:O5' | 26:14:270(P):C:H6 | 2.03 | 0.42 |
| 26:14:459:U:H2' | 26:14:460:A:H8 | 1.85 | 0.42 |
| 26:14:541:C:H2' | 26:14:542:C:H6 | 1.85 | 0.42 |
| 26:14:717:G:H2' | 26:14:718:A:O4' | 2.19 | 0.42 |
| 26:14:851:U:OP1 | 51:H5:49:LYS:HE2 | 2.20 | 0.42 |
| 26:14:861:A:C2 | 26:14:917:A:C4 | 3.08 | 0.42 |
| 26:14:1718:G:N2 | 26:14:1742:C:C2 | 2.88 | 0.42 |
| 26:14:1857:G:C6 | 26:14:1858:G:N1 | 2.88 | 0.42 |
| 26:14:2027:G:H2' | 26:14:2028:U:O4' | 2.20 | 0.42 |
| 26:14:2128:C:H5' | 26:14:2129:C:OP2 | 2.20 | 0.42 |
| 26:14:2409:G:H2' | 26:14:2410:G:O4' | 2.20 | 0.42 |
| 26:14:2616:C:O2' | 26:14:2617:C:H5' | 2.19 | 0.42 |
| 26:14:2697:G:H2' | 26:14:2698:U:O4' | 2.19 | 0.42 |
| 26:14:2852:G:H2' | 26:14:2853:C:C6 | 2.55 | 0.42 |
| 27:1J:12:C:OP2 | 27:1J:12:C:H6 | 2.02 | 0.42 |
| 31:39:5:ALA:HB3 | 31:39:18:ARG:HE | 1.85 | 0.42 |
| 33:59:148:ILE:O | 33:59:151:ILE:HG12 | 2.20 | 0.42 |
| 37:35:68:GLN:OE1 | 55:M5:12:LYS:HG2 | 2.20 | 0.42 |
| 37:35:121:LYS:C | 37:35:123:LEU:HD12 | 2.40 | 0.42 |
| 39:55:106:GLY:O | 39:55:107:ASP:CB | 2.67 | 0.42 |
| 47:D5:39:VAL:HG23 | 47:D5:40:ASP:O | 2.19 | 0.42 |
| 1:13:123:C:OP1 | 1:13:311:C:O2' | 2.32 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 1:13:157:G:H1 | 1:13:164:U:H3 | 1.66 | 0.41 |
| 1:13:235:C:H5' | 17:8I:70:ARG:HG2 | 2.01 | 0.41 |
| 1:13:678:U:C4 | 1:13:679:C:N4 | 2.88 | 0.41 |
| 1:13:723:U:H5'' | 1:13:724:G:OP2 | 2.20 | 0.41 |
| 1:13:860:A:H5'' | 1:13:861:G:OP2 | 2.20 | 0.41 |
| 1:13:908:A:H2' | 1:13:909:A:C8 | 2.55 | 0.41 |
| 1:13:916:G:H2' | 1:13:917:G:H8 | 1.85 | 0.41 |
| 1:13:973:G:H3' | 1:13:974:A:H5'' | 2.01 | 0.41 |
| 2:1E:15:VAL:HG12 | 2:1E:210:SER:HB3 | 2.01 | 0.41 |
| 3:2E:22:TRP:CH2 | 3:2E:32:LEU:HB3 | 2.55 | 0.41 |
| 6:5E:82:ARG:HB2 | 6:5E:85:VAL:CG2 | 2.45 | 0.41 |
| 7:6E:70:LYS:CG | 7:6E:96:GLN:HB3 | 2.50 | 0.41 |
| 8:7E:13:ILE:O | 8:7E:16:ALA:N | 2.53 | 0.41 |
| 8:7E:28:ALA:HB3 | 8:7E:57:PRO:O | 2.20 | 0.41 |
| 13:4I:79:LYS:HE3 | 13:4I:83:ASP:OD2 | 2.20 | 0.41 |
| 25:4K:8:A:H2' | 25:4K:9:G:H8 | 1.84 | 0.41 |
| 26:1H:270(V):G:H2' | 26:1H:270(W):G:C8 | 2.54 | 0.41 |
| 26:1H:654:A:H2' | 26:1H:654(A):A:C8 | 2.55 | 0.41 |
| 26:1H:657:U:H2' | 26:1H:658:C:C6 | 2.54 | 0.41 |
| 26:1H:839:U:H3 | 26:1H:939:G:H1 | 1.67 | 0.41 |
| 26:1H:843:G:N2 | 26:1H:936:C:C2 | 2.88 | 0.41 |
| 26:1H:1034:G:H2' | 26:1H:1035:U:O4' | 2.20 | 0.41 |
| 26:1H:1349:A:N3 | 26:1H:1349:A:O4' | 2.52 | 0.41 |
| 26:1H:1404:C:H2' | 26:1H:1405:U:H6 | 1.84 | 0.41 |
| 26:1H:1508:A:H2' | 26:1H:1508:A:N3 | 2.35 | 0.41 |
| 26:1H:1526:G:H2' | 26:1H:1527:G:O4' | 2.20 | 0.41 |
| 26:1H:1638:C:O2 | 26:1H:2698:U:O2' | 2.38 | 0.41 |
| 26:1H:1655:A:H4' | 30:21:115:GLY:N | 2.35 | 0.41 |
| 26:1H:1682:G:C2 | 26:1H:1683:C:C2 | 3.07 | 0.41 |
| 26:1H:1969:A:H1' | 26:1H:1973:G:O4' | 2.20 | 0.41 |
| 26:1H:2812:G:N2 | 26:1H:2813:A:C4 | 2.88 | 0.41 |
| 27:16:17:C:H2' | 27:16:18:G:O4' | 2.20 | 0.41 |
| 28:7I:10:LEU:HG | 28:7I:32:LEU:HA | 2.02 | 0.41 |
| 29:11:68:LYS:HA | 29:11:70:TRP:CZ3 | 2.55 | 0.41 |
| 30:21:81:ILE:HG23 | 30:21:81:ILE:HD12 | 1.75 | 0.41 |
| 31:31:6:VAL:HG11 | 31:31:119:ARG:CA | 2.49 | 0.41 |
| 31:31:45:ARG:HE | 31:31:45:ARG:HB3 | 1.70 | 0.41 |
| 32:41:109:VAL:O | 32:41:113:ARG:HG3 | 2.19 | 0.41 |
| 41:B8:105:LEU:O | 41:B8:107:ASP:OD1 | 2.38 | 0.41 |
| 43:D8:19:LYS:HG2 | 43:D8:95:LEU:HD23 | 2.02 | 0.41 |
| 46:G8:23:ARG:HE | 46:G8:23:ARG:HB3 | 1.46 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 46:G8:42:VAL:CG1 | 46:G8:43:ASN:N | 2.81 | 0.41 |
| 1:1G:375:U:H5' | 16:7A:69:THR:HG21 | 2.02 | 0.41 |
| 1:1G:1138:G:C2 | 1:1G:1140:C:C2 | 3.08 | 0.41 |
| 1:1G:1249:C:O2 | 9:82:70:LYS:HG3 | 2.20 | 0.41 |
| 2:12:17:PHE:CG | 2:12:18:GLY:N | 2.87 | 0.41 |
| 2:12:162:ILE:HD11 | 2:12:184:VAL:HA | 2.02 | 0.41 |
| 2:12:187:LEU:HD13 | 2:12:204:ASN:N | 2.35 | 0.41 |
| 3:22:141:VAL:HA | 3:22:144:SER:HB3 | 2.01 | 0.41 |
| 4:32:106:TYR:HE2 | 4:32:112:VAL:O | 2.03 | 0.41 |
| 4:32:153:ARG:HD3 | 4:32:181:MET:SD | 2.60 | 0.41 |
| 8:72:99:GLU:CG | 8:72:100:ILE:H | 2.25 | 0.41 |
| 20:BA:87:LYS:HB2 | 20:BA:87:LYS:HE3 | 1.88 | 0.41 |
| 56:1L:74:C:C4 | 26:14:2555:U:O2 | 2.73 | 0.41 |
| 23:2L:20:G:C4 | 23:2L:58:A:N1 | 2.88 | 0.41 |
| 25:4L:12:A:O2' | 25:4L:13:A:H4' | 2.20 | 0.41 |
| 26:14:151:C:H6 | 26:14:151:C:O5' | 2.03 | 0.41 |
| 26:14:814:C:N3 | 26:14:1194:A:C2 | 2.88 | 0.41 |
| 26:14:942:G:H4' | 26:14:1190:G:H5' | 2.01 | 0.41 |
| 26:14:1204:A:O2' | 26:14:1205:U:OP2 | 2.36 | 0.41 |
| 26:14:1860:G:C6 | 26:14:1883:G:N2 | 2.88 | 0.41 |
| 26:14:2297:C:O2 | 26:14:2297:C:H2' | 2.19 | 0.41 |
| 26:14:2312:U:O2 | 32:49:42:GLY:HA3 | 2.20 | 0.41 |
| 26:14:2414:G:H21 | 37:35:67:MET:HE1 | 1.83 | 0.41 |
| 26:14:2757:A:N1 | 33:59:67:LEU:HD22 | 2.34 | 0.41 |
| 29:19:65:ILE:HD11 | 29:19:67:PHE:CZ | 2.54 | 0.41 |
| 29:19:246:PRO:O | 29:19:255:LYS:NZ | 2.41 | 0.41 |
| 30:29:27:LEU:HD13 | 30:29:27:LEU:O | 2.20 | 0.41 |
| 30:29:30:PRO:HA | 30:29:91:VAL:O | 2.20 | 0.41 |
| 30:29:39:PRO:HA | 30:29:43:GLY:H | 1.84 | 0.41 |
| 32:49:105:LYS:HZ1 | 32:49:106:LEU:HD21 | 1.85 | 0.41 |
| 35:15:12:ARG:HE | 35:15:14:VAL:HG22 | 1.85 | 0.41 |
| 36:25:43:VAL:HG23 | 36:25:56:ASP:O | 2.20 | 0.41 |
| 37:35:39:LYS:CA | 37:35:45:LEU:HD13 | 2.50 | 0.41 |
| 37:35:46:LYS:HE2 | 37:35:46:LYS:HB3 | 1.76 | 0.41 |
| 42:85:100:VAL:C | 42:85:102:GLU:H | 2.23 | 0.41 |
| 46:C5:39:VAL:HG23 | 46:C5:41:GLY:N | 2.35 | 0.41 |
| 47:D5:102:LEU:HA | 47:D5:137:ILE:HB | 2.02 | 0.41 |
| 48:E5:51:VAL:HG23 | 48:E5:81:VAL:HG23 | 2.02 | 0.41 |
| 55:M5:48:PHE:N | 55:M5:48:PHE:CD1 | 2.87 | 0.41 |
| 1:13:47:C:O2 | 1:13:49:U:C4 | 2.73 | 0.41 |
| 1:13:428:G:C5 | 1:13:430:A:C6 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:520:A:N1 | 1:13:536:C:H1' | 2.35 | 0.41 |
| 1:13:956:U:H2' | 1:13:957:U:O4' | 2.20 | 0.41 |
| 1:13:1075:C:H4' | 1:13:1101:A:N6 | 2.35 | 0.41 |
| 1:13:1312:G:O6 | 19:AI:3:ARG:N | 2.53 | 0.41 |
| 1:13:1454:G:H2' | 1:13:1455:G:C8 | 2.55 | 0.41 |
| 5:4E:64:ARG:HD2 | 5:4E:64:ARG:HH11 | 1.71 | 0.41 |
| 6:5E:16:GLN:HG2 | 6:5E:17:SER:H | 1.86 | 0.41 |
| 7:6E:101:LEU:HD23 | 7:6E:101:LEU:HA | 1.76 | 0.41 |
| 7:6E:108:ALA:HA | 7:6E:111:ARG:HD2 | 2.01 | 0.41 |
| 13:4I:67:GLU:HG2 | 13:4I:68:GLY:N | 2.35 | 0.41 |
| 22:1K:59:A:H5'' | 22:1K:60:U:OP2 | 2.19 | 0.41 |
| 22:1K:60:U:H3' | 22:1K:61:C:H5 | 1.85 | 0.41 |
| 26:1H:61:G:P | 50:K8:50:ILE:HD13 | 2.60 | 0.41 |
| 26:1H:270(E):G:H1 | 26:1H:270(U):C:H42 | 1.67 | 0.41 |
| 26:1H:289:A:N6 | 26:1H:351:G:H1' | 2.34 | 0.41 |
| 26:1H:315:G:H2' | 26:1H:316:C:C6 | 2.55 | 0.41 |
| 26:1H:930:U:O2 | 26:1H:930:U:O4' | 2.37 | 0.41 |
| 26:1H:1437:C:C2 | 26:1H:1438:U:C5 | 3.08 | 0.41 |
| 26:1H:1930:G:N2 | 26:1H:1968:G:H2' | 2.35 | 0.41 |
| 26:1H:1978:A:H2' | 26:1H:1979:C:H6 | 1.85 | 0.41 |
| 26:1H:2017:U:H4' | 53:N8:8:LYS:O | 2.19 | 0.41 |
| 26:1H:2336:A:N6 | 48:I8:43:THR:HG21 | 2.35 | 0.41 |
| 26:1H:2633:G:H8 | 26:1H:2633:G:O5' | 2.03 | 0.41 |
| 26:1H:2845:G:H2' | 26:1H:2846:G:C8 | 2.55 | 0.41 |
| 27:16:95:U:H2' | 27:16:96:G:C8 | 2.55 | 0.41 |
| 28:71:49:ILE:O | 28:71:51:PRO:HD3 | 2.20 | 0.41 |
| 30:21:120:TRP:CE3 | 30:21:155:LYS:HD3 | 2.55 | 0.41 |
| 31:31:7:TYR:HD2 | 31:31:21:ALA:HB1 | 1.85 | 0.41 |
| 31:31:64:ILE:HG23 | 31:31:65:TRP:NE1 | 2.35 | 0.41 |
| 32:41:167:GLU:H | 32:41:167:GLU:HG2 | 1.59 | 0.41 |
| 35:58:31:ALA:O | 35:58:35:ARG:HG3 | 2.20 | 0.41 |
| 42:C8:108:GLU:CG | 43:D8:44:LYS:HE2 | 2.49 | 0.41 |
| 44:E8:57:ASN:O | 44:E8:61:ASN:HB2 | 2.20 | 0.41 |
| 44:E8:65:LEU:HD23 | 44:E8:65:LEU:HA | 1.95 | 0.41 |
| 46:G8:94:LYS:HG3 | 46:G8:95:LYS:C | 2.41 | 0.41 |
| 50:K8:64:LEU:HD21 | 50:K8:68:ARG:NH1 | 2.35 | 0.41 |
| 1:1G:57:G:C5 | 1:1G:58:C:C4 | 3.07 | 0.41 |
| 1:1G:88:C:C6 | 1:1G:89:U:H5 | 2.38 | 0.41 |
| 1:1G:286:G:H2' | 1:1G:287:U:C6 | 2.55 | 0.41 |
| 1:1G:1143:G:H2' | 1:1G:1144:G:C8 | 2.55 | 0.41 |
| 1:1G:1263:C:H5' | 1:1G:1264:C:OP2 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:1G:1272:G:H2' | 1:1G:1273:G:O4' | 2.21 | 0.41 |
| 3:22:112:SER:HB3 | 3:22:115:LEU:HD12 | 2.01 | 0.41 |
| 4:32:17:VAL:HG11 | 4:32:197:PRO:HB2 | 2.02 | 0.41 |
| 4:32:199:ASN:O | 4:32:200:GLU:HG2 | 2.20 | 0.41 |
| 6:52:2:ARG:HG2 | 6:52:3:ARG:H | 1.84 | 0.41 |
| 6:52:2:ARG:O | 6:52:66:GLU:HA | 2.20 | 0.41 |
| 7:62:131:LYS:HB3 | 7:62:131:LYS:HE3 | 1.68 | 0.41 |
| 8:72:123:GLU:HG2 | 8:72:124:ALA:N | 2.35 | 0.41 |
| 10:1A:49:VAL:O | 10:1A:60:ARG:HG2 | 2.19 | 0.41 |
| 15:6A:38:ARG:HE | 15:6A:38:ARG:HB3 | 1.63 | 0.41 |
| 16:7A:48:TRP:CZ3 | 16:7A:49:LEU:HB2 | 2.56 | 0.41 |
| 17:8A:7:THR:O | 17:8A:23:VAL:HG13 | 2.20 | 0.41 |
| 56:1L:72:C:H2' | 56:1L:73:A:H5'' | 2.02 | 0.41 |
| 23:2L:54:G:H3' | 23:2L:55:5MU:H71 | 2.02 | 0.41 |
| 57:3L:1:G:N3 | 57:3L:1:G:H2' | 2.35 | 0.41 |
| 26:14:106:C:O5' | 26:14:106:C:H6 | 2.03 | 0.41 |
| 26:14:142:G:H5'' | 26:14:1598:C:O2' | 2.20 | 0.41 |
| 26:14:143:C:C2 | 26:14:144:C:C5 | 3.07 | 0.41 |
| 26:14:648:G:O2' | 26:14:2351:G:OP1 | 2.23 | 0.41 |
| 26:14:662:G:OP1 | 37:35:15:ARG:NH1 | 2.53 | 0.41 |
| 26:14:1025:G:C4 | 26:14:1135:C:H1' | 2.55 | 0.41 |
| 26:14:1293:C:O5' | 26:14:1293:C:H6 | 2.03 | 0.41 |
| 26:14:1420:U:H6 | 26:14:1420:U:H2' | 1.68 | 0.41 |
| 26:14:1558:A:O4' | 26:14:1558:A:N3 | 2.51 | 0.41 |
| 26:14:2019:A:N7 | 53:J5:9:LYS:HD2 | 2.36 | 0.41 |
| 26:14:2086:U:H2' | 26:14:2087:G:C8 | 2.54 | 0.41 |
| 26:14:2312:U:OP2 | 32:49:74:LYS:HE2 | 2.20 | 0.41 |
| 26:14:2464:C:C2 | 26:14:2487:G:N2 | 2.88 | 0.41 |
| 29:19:119:ALA:HA | 29:19:130:ALA:O | 2.19 | 0.41 |
| 29:19:267:SER:C | 29:19:269:PHE:H | 2.24 | 0.41 |
| 30:29:26:ILE:HG22 | 30:29:27:LEU:C | 2.41 | 0.41 |
| 31:39:206:ILE:HG21 | 31:39:206:ILE:HD13 | 1.71 | 0.41 |
| 32:49:107:LEU:HD21 | 32:49:178:PHE:CE1 | 2.55 | 0.41 |
| 35:15:38:HIS:CD2 | 35:15:39:ARG:HG3 | 2.56 | 0.41 |
| 35:15:41:ASP:HB3 | 35:15:48:MET:CE | 2.51 | 0.41 |
| 36:25:22:ILE:HA | 36:25:22:ILE:HD13 | 1.56 | 0.41 |
| 37:35:101:VAL:H | 37:35:106:LEU:HD23 | 1.85 | 0.41 |
| 39:55:45:ARG:HG2 | 39:55:95:THR:HG23 | 2.02 | 0.41 |
| 39:55:100:LEU:H | 39:55:100:LEU:HG | 1.55 | 0.41 |
| 40:65:13:ARG:HG3 | 40:65:14:VAL:N | 2.34 | 0.41 |
| 40:65:24:LEU:HD22 | 40:65:24:LEU:H | 1.85 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 41:75:53:ARG:HG3 | 41:75:53:ARG:O | 2.19 | 0.41 |
| 43:95:96:ILE:N | 43:95:96:ILE:HD13 | 2.35 | 0.41 |
| 47:D5:137:ILE:HD13 | 47:D5:137:ILE:HA | 1.93 | 0.41 |
| 1:13:562:C:H1' | 12:3I:15:ARG:HB3 | 2.02 | 0.41 |
| 1:13:1021:G:C5 | 1:13:1022:G:C8 | 3.09 | 0.41 |
| 1:13:1178:G:H5'' | 9:8E:93:ARG:NH2 | 2.35 | 0.41 |
| 1:13:1494:G:H2' | 1:13:1494:G:N3 | 2.35 | 0.41 |
| 1:13:1504:G:OP1 | 1:13:1507:A:H4' | 2.21 | 0.41 |
| 1:13:1510:U:O2 | 1:13:1526:G:C2 | 2.73 | 0.41 |
| 2:1E:87:ARG:NH2 | 2:1E:232:PRO:HD3 | 2.35 | 0.41 |
| 3:2E:12:LEU:O | 3:2E:16:ARG:O | 2.37 | 0.41 |
| 3:2E:113:ALA:HB3 | 3:2E:114:PRO:HD3 | 2.02 | 0.41 |
| 7:6E:86:GLN:NE2 | 24:3K:32:C:H4' | 2.35 | 0.41 |
| 7:6E:146:GLU:O | 7:6E:149:ARG:HB2 | 2.20 | 0.41 |
| 7:6E:154:TYR:HD1 | 7:6E:154:TYR:HA | 1.64 | 0.41 |
| 11:2I:59:TYR:CE2 | 11:2I:63:LEU:HD11 | 2.56 | 0.41 |
| 12:3I:76:ASN:OD1 | 12:3I:76:ASN:N | 2.46 | 0.41 |
| 22:1K:9:A:C5 | 22:1K:43:U:C5 | 3.08 | 0.41 |
| 23:2K:19:G:C2 | 23:2K:59:A:C6 | 3.08 | 0.41 |
| 26:1H:68:G:H2' | 26:1H:69:C:O4' | 2.20 | 0.41 |
| 26:1H:216:A:C4 | 26:1H:217:G:C8 | 3.08 | 0.41 |
| 26:1H:661:C:O3' | 37:78:15:ARG:HG2 | 2.20 | 0.41 |
| 26:1H:860:U:H5 | 26:1H:917:A:N1 | 2.18 | 0.41 |
| 26:1H:1127:A:H2' | 26:1H:1128:A:H5'' | 2.02 | 0.41 |
| 26:1H:1177:A:H4' | 26:1H:1178:C:H2' | 2.01 | 0.41 |
| 26:1H:1448:G:H5'' | 26:1H:1543:A:OP1 | 2.20 | 0.41 |
| 26:1H:1491:G:O4' | 29:11:99:ASP:HB3 | 2.20 | 0.41 |
| 26:1H:1726:G:C6 | 26:1H:1727:U:C4 | 3.09 | 0.41 |
| 26:1H:2045:C:H2' | 26:1H:2046:G:O4' | 2.20 | 0.41 |
| 26:1H:2051:A:H5' | 26:1H:2578:G:O4' | 2.20 | 0.41 |
| 26:1H:2615:U:C2 | 53:N8:7:PRO:HA | 2.56 | 0.41 |
| 26:1H:2679:A:C2 | 26:1H:2729:G:C2 | 3.08 | 0.41 |
| 29:11:82:ILE:O | 29:11:82:ILE:HG22 | 2.20 | 0.41 |
| 32:41:37:VAL:O | 32:41:94:LEU:HB2 | 2.21 | 0.41 |
| 33:51:167:GLU:CD | 33:51:167:GLU:N | 2.74 | 0.41 |
| 34:61:97:ILE:N | 34:61:97:ILE:HD13 | 2.34 | 0.41 |
| 34:61:132:PRO:O | 34:61:133:HIS:ND1 | 2.53 | 0.41 |
| 34:61:135:GLU:C | 34:61:135:GLU:CD | 2.79 | 0.41 |
| 35:58:28:THR:HA | 35:58:106:MET:HE2 | 2.02 | 0.41 |
| 35:58:76:SER:N | 35:58:81:GLY:O | 2.44 | 0.41 |
| 36:68:60:ALA:HB1 | 36:68:84:ALA:HB1 | 2.03 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 39:98:17:ARG:O | 39:98:20:LEU:HB3 | 2.20 | 0.41 |
| 40:A8:7:TYR:HA | 40:A8:10:ARG:CZ | 2.49 | 0.41 |
| 40:A8:111:GLU:O | 40:A8:112:PHE:HD1 | 2.01 | 0.41 |
| 42:C8:39:LEU:O | 42:C8:40:PHE:C | 2.59 | 0.41 |
| 46:G8:76:CYS:HG | 46:G8:102:CYS:HG | 1.68 | 0.41 |
| 47:H8:5:LEU:HD13 | 47:H8:6:LYS:HB2 | 2.03 | 0.41 |
| 49:J8:78:LYS:N | 49:J8:78:LYS:CD | 2.83 | 0.41 |
| 50:K8:64:LEU:O | 50:K8:68:ARG:HG3 | 2.20 | 0.41 |
| 54:P8:35:ARG:HG3 | 54:P8:42:LEU:HD11 | 2.01 | 0.41 |
| 1:1G:111:G:C8 | 1:1G:111:G:O5' | 2.72 | 0.41 |
| 1:1G:742:G:OP1 | 15:6A:35:ARG:NH2 | 2.53 | 0.41 |
| 1:1G:779:C:H2' | 1:1G:780:A:O4' | 2.20 | 0.41 |
| 1:1G:1125:U:H2' | 1:1G:1126:U:C6 | 2.55 | 0.41 |
| 1:1G:1129:C:N3 | 1:1G:1143:G:N2 | 2.68 | 0.41 |
| 2:12:93:VAL:HG22 | 2:12:152:PHE:HB2 | 2.02 | 0.41 |
| 8:72:45:ILE:HG13 | 8:72:47:GLY:H | 1.84 | 0.41 |
| 10:1A:59:SER:O | 10:1A:59:SER:OG | 2.33 | 0.41 |
| 15:6A:27:VAL:HG12 | 15:6A:31:LEU:HD13 | 2.02 | 0.41 |
| 17:8A:45:HIS:HB3 | 17:8A:72:ARG:HG2 | 2.03 | 0.41 |
| 57:3L:29:U:H2' | 57:3L:30:G:O4' | 2.20 | 0.41 |
| 26:14:252:G:OP2 | 37:35:50:ARG:NH2 | 2.50 | 0.41 |
| 26:14:513:A:C2 | 26:14:514:A:C4 | 3.08 | 0.41 |
| 26:14:629:G:C6 | 26:14:630:G:C6 | 3.08 | 0.41 |
| 26:14:1496:A:H2' | 26:14:1498:C:C5 | 2.56 | 0.41 |
| 31:39:123:LEU:HA | 31:39:192:LEU:C | 2.40 | 0.41 |
| 32:49:118:ARG:HD3 | 32:49:118:ARG:HA | 1.87 | 0.41 |
| 34:69:57:ARG:O | 34:69:60:GLU:HG2 | 2.20 | 0.41 |
| 34:69:58:LEU:HD23 | 34:69:59:ALA:N | 2.34 | 0.41 |
| 34:69:62:LYS:HD2 | 34:69:62:LYS:C | 2.41 | 0.41 |
| 36:25:15:GLY:O | 36:25:47:ILE:HB | 2.20 | 0.41 |
| 43:95:20:LEU:HA | 43:95:20:LEU:HD12 | 1.74 | 0.41 |
| 45:B5:18:TYR:O | 45:B5:19:ALA:C | 2.58 | 0.41 |
| 46:C5:89:PHE:O | 46:C5:90:LEU:HB2 | 2.20 | 0.41 |
| 1:13:128:G:O2' | 17:8I:3:LYS:NZ | 2.31 | 0.41 |
| 1:13:177:C:O2' | 1:13:178:C:H5' | 2.19 | 0.41 |
| 1:13:232:G:C5 | 1:13:233:C:C5 | 3.08 | 0.41 |
| 1:13:524:G:H2' | 1:13:525:C:C5 | 2.55 | 0.41 |
| 1:13:583:A:H2' | 1:13:584:G:O4' | 2.21 | 0.41 |
| 1:13:626:U:N3 | 1:13:627:G:C5 | 2.88 | 0.41 |
| 1:13:660:G:H2' | 1:13:661:G:O4' | 2.20 | 0.41 |
| 1:13:773:G:H5' | 1:13:774:G:OP2 | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:13:807:A:H2' | 1:13:808:C:H6 | 1.84 | 0.41 |
| 1:13:818:G:O2' | 1:13:819:A:H5' | 2.21 | 0.41 |
| 2:1E:32:ILE:HD13 | 2:1E:40:HIS:ND1 | 2.36 | 0.41 |
| 2:1E:87:ARG:HH21 | 2:1E:232:PRO:HD3 | 1.85 | 0.41 |
| 4:3E:155:LEU:HD23 | 4:3E:155:LEU:HA | 1.78 | 0.41 |
| 7:6E:78:ARG:HG2 | 7:6E:79:ARG:N | 2.35 | 0.41 |
| 8:7E:17:THR:O | 8:7E:20:TYR:N | 2.52 | 0.41 |
| 12:3I:117:ARG:CB | 12:3I:122:THR:HB | 2.46 | 0.41 |
| 16:7I:21:VAL:HG22 | 16:7I:34:GLU:O | 2.20 | 0.41 |
| 18:9I:23:LYS:NZ | 18:9I:62:GLU:OE1 | 2.32 | 0.41 |
| 26:1H:66:C:H2' | 26:1H:67:U:C6 | 2.55 | 0.41 |
| 26:1H:451:C:H4' | 31:31:52:LYS:HE3 | 2.02 | 0.41 |
| 26:1H:744:G:H1 | 26:1H:753:C:N4 | 2.17 | 0.41 |
| 26:1H:831:G:P | 61:1H:3583:HOH:O | 2.78 | 0.41 |
| 26:1H:1152:C:O2' | 26:1H:1153:C:H5' | 2.20 | 0.41 |
| 26:1H:1637:A:H4' | 26:1H:2711:A:O2' | 2.20 | 0.41 |
| 26:1H:1643:G:C6 | 26:1H:1644:C:C5 | 3.08 | 0.41 |
| 26:1H:2016:U:H6 | 26:1H:2016:U:O5' | 2.02 | 0.41 |
| 26:1H:2171:A:O2' | 26:1H:2172:U:O5' | 2.38 | 0.41 |
| 26:1H:2179:C:H2' | 26:1H:2180:U:O4' | 2.20 | 0.41 |
| 26:1H:2228:G:OP2 | 29:11:263:ARG:NH2 | 2.53 | 0.41 |
| 26:1H:2510:C:C4 | 26:1H:2511:U:C4 | 3.09 | 0.41 |
| 27:16:6:C:H2' | 27:16:7:G:O4' | 2.20 | 0.41 |
| 29:11:260:ARG:HH22 | 29:11:266:SER:HB3 | 1.85 | 0.41 |
| 31:31:32:LEU:O | 31:31:36:VAL:HG23 | 2.21 | 0.41 |
| 33:51:35:VAL:HG12 | 33:51:37:VAL:HG23 | 2.02 | 0.41 |
| 36:68:6:THR:HG22 | 36:68:7:TYR:O | 2.20 | 0.41 |
| 36:68:14:THR:O | 36:68:52:VAL:HG22 | 2.20 | 0.41 |
| 36:68:44:LYS:HA | 36:68:44:LYS:HD3 | 1.73 | 0.41 |
| 37:78:58:THR:O | 37:78:62:LEU:HG | 2.21 | 0.41 |
| 37:78:95:VAL:HG11 | 37:78:125:VAL:HG22 | 2.02 | 0.41 |
| 41:B8:130:ALA:HB1 | 41:B8:134:GLU:OE1 | 2.21 | 0.41 |
| 45:F8:25:LYS:CG | 45:F8:82:GLN:OE1 | 2.67 | 0.41 |
| 1:1G:44:G:N2 | 1:1G:399:G:C4 | 2.88 | 0.41 |
| 1:1G:195:A:H62 | 1:1G:196:A:N6 | 2.18 | 0.41 |
| 1:1G:1329:A:H5'' | 13:4A:25:ILE:O | 2.20 | 0.41 |
| 3:22:95:THR:HB | 3:22:97:LYS:HG2 | 2.03 | 0.41 |
| 4:32:73:ARG:HD2 | 4:32:73:ARG:HA | 1.67 | 0.41 |
| 5:42:60:TYR:HD1 | 5:42:64:ARG:HH12 | 1.68 | 0.41 |
| 18:9A:23:LYS:HB3 | 18:9A:56:THR:O | 2.20 | 0.41 |
| 56:1L:51:A:H2' | 56:1L:52:G:C8 | 2.55 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 56:1L:74:C:N3 | 26:14:2555:U:O2 | 2.53 | 0.41 |
| 57:3L:37:A:H2' | 57:3L:38:A:C8 | 2.55 | 0.41 |
| 26:14:242:G:O5' | 55:M5:3:LYS:HE3 | 2.21 | 0.41 |
| 26:14:618(A):C:OP2 | 31:39:103:LYS:HE3 | 2.19 | 0.41 |
| 26:14:911:A:H2' | 38:45:9:TYR:OH | 2.20 | 0.41 |
| 26:14:1511:A:H2' | 26:14:1512:G:C8 | 2.56 | 0.41 |
| 26:14:1534:G:H4' | 26:14:1535:U:OP2 | 2.20 | 0.41 |
| 26:14:1774:C:O5' | 26:14:1774:C:H6 | 2.02 | 0.41 |
| 26:14:2051:A:OP2 | 26:14:2051:A:H8 | 2.04 | 0.41 |
| 26:14:2146:C:H4' | 26:14:2147:G:C8 | 2.55 | 0.41 |
| 26:14:2299:G:C6 | 26:14:2318:G:C8 | 3.09 | 0.41 |
| 26:14:2817:G:C4 | 26:14:2830:G:N2 | 2.89 | 0.41 |
| 27:1J:28:C:N4 | 27:1J:56:G:H1 | 2.06 | 0.41 |
| 29:19:146:GLU:CB | 29:19:189:CYS:HB3 | 2.49 | 0.41 |
| 32:49:91:ARG:HE | 32:49:91:ARG:HB3 | 1.43 | 0.41 |
| 32:49:94:LEU:HD23 | 32:49:94:LEU:HA | 1.83 | 0.41 |
| 37:35:124:LYS:HG2 | 37:35:144:GLU:HA | 2.03 | 0.41 |
| 38:45:66:ILE:HG22 | 38:45:104:PHE:CE1 | 2.55 | 0.41 |
| 41:75:27:THR:HG23 | 41:75:90:GLN:H | 1.86 | 0.41 |
| 41:75:95:ARG:HD2 | 41:75:95:ARG:HA | 1.92 | 0.41 |
| 42:85:8:VAL:O | 42:85:12:ARG:HG3 | 2.21 | 0.41 |
| 46:C5:85:VAL:HB | 46:C5:86:ARG:H | 1.61 | 0.41 |
| 47:D5:52:SER:O | 47:D5:53:ILE:HG12 | 2.20 | 0.41 |
| 49:F5:11:ARG:HB3 | 49:F5:11:ARG:NH1 | 2.34 | 0.41 |
| 50:G5:25:VAL:O | 50:G5:28:LYS:N | 2.54 | 0.41 |
| 1:13:104:G:C2 | 1:13:105:G:N7 | 2.88 | 0.41 |
| 1:13:177:C:H2' | 1:13:178:C:C6 | 2.56 | 0.41 |
| 1:13:580:U:OP1 | 15:6I:54:ARG:NH2 | 2.53 | 0.41 |
| 1:13:815:A:O2' | 1:13:1527:C:H1' | 2.20 | 0.41 |
| 1:13:926:G:N2 | 25:4K:15:A:OP2 | 2.51 | 0.41 |
| 1:13:1226:C:O3' | 13:4I:111:LYS:NZ | 2.51 | 0.41 |
| 1:13:1264:C:C2 | 1:13:1272:G:C2 | 3.09 | 0.41 |
| 1:13:1284:C:H2' | 1:13:1285:A:N7 | 2.35 | 0.41 |
| 1:13:1348:U:N3 | 1:13:1349:A:N7 | 2.69 | 0.41 |
| 1:13:1448:C:N3 | 1:13:1455:G:N2 | 2.65 | 0.41 |
| 7:6E:27:ILE:O | 7:6E:28:ASN:C | 2.59 | 0.41 |
| 7:6E:50:ILE:HD11 | 7:6E:124:LEU:HB3 | 2.02 | 0.41 |
| 8:7E:87:SER:HB3 | 8:7E:133:LEU:O | 2.20 | 0.41 |
| 13:4I:81:LEU:HA | 13:4I:81:LEU:HD23 | 1.67 | 0.41 |
| 14:5I:10:ALA:HA | 14:5I:13:THR:HG23 | 2.03 | 0.41 |
| 17:8I:20:THR:HA | 17:8I:42:TYR:O | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 25:4K:18:G:C4' | 25:4K:19:A:OP2 | 2.69 | 0.41 |
| 26:1H:8:A:H2' | 26:1H:9:U:C6 | 2.55 | 0.41 |
| 26:1H:270(M):U:H2' | 26:1H:270(N):G:H5'' | 2.02 | 0.41 |
| 26:1H:537:C:H2' | 26:1H:539:G:C8 | 2.56 | 0.41 |
| 26:1H:612:G:H2' | 26:1H:613:U:O2 | 2.20 | 0.41 |
| 26:1H:987:G:C2' | 26:1H:988:A:H5' | 2.51 | 0.41 |
| 26:1H:1249:U:H2' | 37:78:18:ARG:HH12 | 1.86 | 0.41 |
| 26:1H:1650:G:N2 | 26:1H:2008:C:C2 | 2.88 | 0.41 |
| 26:1H:1655:A:C8 | 26:1H:1656:C:C5 | 3.08 | 0.41 |
| 26:1H:1753:G:C2 | 26:1H:1756:G:C2 | 3.09 | 0.41 |
| 26:1H:1965:C:H3' | 26:1H:1966:A:H2' | 2.02 | 0.41 |
| 26:1H:2018:G:H2' | 26:1H:2019:A:C8 | 2.55 | 0.41 |
| 26:1H:2038:G:C5 | 26:1H:2039:C:C5 | 3.09 | 0.41 |
| 26:1H:2068:U:O4 | 26:1H:2430:A:H2 | 2.04 | 0.41 |
| 26:1H:2137:C:H42 | 26:1H:2154:G:H22 | 1.68 | 0.41 |
| 26:1H:2199:A:C5 | 26:1H:2205:C:C5 | 3.08 | 0.41 |
| 26:1H:2431:U:O2 | 26:1H:2433:A:C8 | 2.74 | 0.41 |
| 26:1H:2506:U:O2 | 26:1H:2506:U:H2' | 2.20 | 0.41 |
| 26:1H:2749:A:OP1 | 33:51:4:ILE:HD11 | 2.20 | 0.41 |
| 26:1H:2855:C:O2' | 26:1H:2856:C:H5' | 2.21 | 0.41 |
| 26:1H:2873:A:C2 | 39:98:5:LYS:HB2 | 2.56 | 0.41 |
| 27:16:90:C:OP1 | 38:88:16:ARG:HB3 | 2.20 | 0.41 |
| 29:11:50:THR:O | 29:11:51:VAL:HG23 | 2.21 | 0.41 |
| 30:21:165:VAL:O | 30:21:189:PRO:HG2 | 2.20 | 0.41 |
| 32:41:16:ARG:O | 32:41:20:ILE:HG13 | 2.21 | 0.41 |
| 36:68:64:ARG:O | 36:68:82:ASN:HA | 2.19 | 0.41 |
| 37:78:26:GLY:HA2 | 61:78:303:HOH:O | 2.19 | 0.41 |
| 38:88:43:THR:HG22 | 38:88:94:VAL:HG12 | 2.01 | 0.41 |
| 46:G8:87:LYS:HB2 | 46:G8:96:ILE:HD13 | 2.03 | 0.41 |
| 49:J8:87:PRO:O | 49:J8:91:LYS:HB2 | 2.20 | 0.41 |
| 55:Q8:17:THR:CG2 | 55:Q8:23:VAL:HG21 | 2.50 | 0.41 |
| 1:1G:136:C:H42 | 1:1G:227:G:H1 | 1.67 | 0.41 |
| 1:1G:186(F):C:H5'' | 1:1G:187:C:OP2 | 2.21 | 0.41 |
| 1:1G:334:C:H2' | 1:1G:335:C:C6 | 2.55 | 0.41 |
| 1:1G:972:C:H4' | 10:1A:57:LYS:HG3 | 2.01 | 0.41 |
| 1:1G:984:C:N3 | 1:1G:1221:G:N2 | 2.54 | 0.41 |
| 1:1G:1346:A:C8 | 1:1G:1348:U:C2 | 3.08 | 0.41 |
| 1:1G:1349:A:P | 9:82:118:LYS:HZ1 | 2.43 | 0.41 |
| 1:1G:1431:C:H2' | 1:1G:1432:G:O4' | 2.20 | 0.41 |
| 2:12:91:PRO:HB3 | 2:12:151:GLY:O | 2.20 | 0.41 |
| 3:22:120:VAL:HG21 | 3:22:137:ALA:HB1 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:22:124:ILE:C | 3:22:127:ARG:H | 2.23 | 0.41 |
| 4:32:60:GLU:CD | 4:32:199:ASN:H | 2.24 | 0.41 |
| 11:2A:22:HIS:HB3 | 11:2A:29:ILE:HG12 | 2.01 | 0.41 |
| 13:4A:108:ARG:HA | 13:4A:111:LYS:HB2 | 2.02 | 0.41 |
| 15:6A:27:VAL:O | 15:6A:31:LEU:HD13 | 2.20 | 0.41 |
| 17:8A:21:VAL:O | 17:8A:41:LYS:HA | 2.20 | 0.41 |
| 21:1B:6:ARG:HD3 | 21:1B:15:ARG:NH1 | 2.36 | 0.41 |
| 56:1L:74:C:N3 | 26:14:2555:U:C2 | 2.88 | 0.41 |
| 23:2L:64:G:C2 | 23:2L:65:G:C5 | 3.09 | 0.41 |
| 26:14:71:A:C6 | 26:14:73:A:N1 | 2.88 | 0.41 |
| 26:14:304:G:C2 | 26:14:305:U:C2 | 3.09 | 0.41 |
| 26:14:741:G:H2' | 26:14:742:G:C8 | 2.55 | 0.41 |
| 26:14:815:C:O2 | 26:14:1193:G:N2 | 2.53 | 0.41 |
| 26:14:1551:C:C4 | 26:14:1552:G:C5 | 3.09 | 0.41 |
| 26:14:1802:A:OP1 | 26:14:1814:G:N1 | 2.44 | 0.41 |
| 26:14:1830:C:H6 | 26:14:1830:C:O5' | 2.04 | 0.41 |
| 26:14:2038:G:H2' | 26:14:2039:C:C6 | 2.56 | 0.41 |
| 26:14:2058:A:H5'' | 26:14:2059:A:OP2 | 2.21 | 0.41 |
| 26:14:2065:C:H2' | 26:14:2066:C:C6 | 2.55 | 0.41 |
| 26:14:2467:C:H4' | 38:45:123:HIS:NE2 | 2.35 | 0.41 |
| 26:14:2545:G:O5' | 26:14:2545:G:H8 | 2.04 | 0.41 |
| 27:1J:63:G:N2 | 27:1J:64:C:O2 | 2.54 | 0.41 |
| 27:1J:87:G:H3' | 27:1J:88:C:O4' | 2.20 | 0.41 |
| 27:1J:93:C:H2' | 27:1J:94:C:H6 | 1.86 | 0.41 |
| 30:29:76:ARG:C | 30:29:78:LEU:H | 2.23 | 0.41 |
| 38:45:58:PHE:O | 38:45:58:PHE:CD1 | 2.74 | 0.41 |
| 46:C5:12:THR:O | 46:C5:75:ILE:HB | 2.20 | 0.41 |
| 47:D5:3:TYR:O | 47:D5:58:VAL:HG23 | 2.21 | 0.41 |
| 49:F5:76:ARG:HB2 | 49:F5:94:LEU:HD11 | 2.03 | 0.41 |
| 1:13:106:C:O2' | 1:13:107:G:H5' | 2.21 | 0.41 |
| 1:13:172:A:H5' | 1:13:173:U:P | 2.60 | 0.41 |
| 1:13:562:C:O4' | 1:13:563:A:C2 | 2.74 | 0.41 |
| 1:13:1374:A:O2' | 7:6E:28:ASN:HB3 | 2.19 | 0.41 |
| 3:2E:178:LEU:HD13 | 3:2E:178:LEU:HA | 1.85 | 0.41 |
| 4:3E:68:TYR:CE1 | 4:3E:97:LEU:HD13 | 2.55 | 0.41 |
| 4:3E:175:SER:O | 4:3E:183:GLY:HA2 | 2.20 | 0.41 |
| 5:4E:144:THR:HG22 | 5:4E:145:LYS:H | 1.86 | 0.41 |
| 6:5E:24:GLU:HG2 | 6:5E:28:ARG:CZ | 2.51 | 0.41 |
| 9:8E:49:PRO:HB2 | 9:8E:85:LEU:HD12 | 2.02 | 0.41 |
| 10:1I:54:PHE:CD2 | 10:1I:55:LYS:HG2 | 2.55 | 0.41 |
| 10:1I:57:LYS:HE2 | 10:1I:60:ARG:HH22 | 1.86 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 16:7I:12:LYS:O | 16:7I:13:HIS:HB2 | 2.20 | 0.41 |
| 24:3K:22:G:C5 | 24:3K:23:A:N7 | 2.89 | 0.41 |
| 26:1H:82:G:N2 | 26:1H:103:A:OP2 | 2.41 | 0.41 |
| 26:1H:104:U:C5 | 26:1H:105:C:C4 | 3.09 | 0.41 |
| 26:1H:235:U:H5'' | 26:1H:236:C:OP2 | 2.21 | 0.41 |
| 26:1H:289:A:H61 | 26:1H:351:G:H1' | 1.85 | 0.41 |
| 26:1H:363(F):A:H4' | 26:1H:364:C:H5' | 2.01 | 0.41 |
| 26:1H:370:G:H5'' | 26:1H:423:A:N6 | 2.35 | 0.41 |
| 26:1H:438:G:H2' | 26:1H:439:G:C8 | 2.55 | 0.41 |
| 26:1H:458:G:C8 | 54:P8:37:LYS:HG2 | 2.56 | 0.41 |
| 26:1H:631:A:OP2 | 55:Q8:47:LYS:NZ | 2.54 | 0.41 |
| 26:1H:748:G:O6 | 26:1H:751:A:H5'' | 2.21 | 0.41 |
| 26:1H:757:U:H2' | 26:1H:758:C:H6 | 1.85 | 0.41 |
| 26:1H:860:U:C5 | 26:1H:917:A:H2 | 2.37 | 0.41 |
| 26:1H:868:U:O2' | 38:88:8:LYS:HE3 | 2.21 | 0.41 |
| 26:1H:1024:G:O2' | 26:1H:1144:G:O2' | 2.33 | 0.41 |
| 26:1H:1635:G:H2' | 26:1H:1635:G:N3 | 2.35 | 0.41 |
| 26:1H:1838:C:C2 | 26:1H:1898:U:C4 | 3.08 | 0.41 |
| 26:1H:1997:G:H5' | 30:21:117:MET:HE3 | 2.01 | 0.41 |
| 26:1H:2345:G:H4' | 26:1H:2346:A:O5' | 2.20 | 0.41 |
| 26:1H:2348:U:H2' | 26:1H:2349:G:H5' | 2.02 | 0.41 |
| 26:1H:2654:A:N1 | 26:1H:2665:A:H5' | 2.36 | 0.41 |
| 31:31:20:LEU:HD12 | 31:31:21:ALA:H | 1.85 | 0.41 |
| 32:41:103:LEU:HA | 32:41:103:LEU:HD23 | 1.85 | 0.41 |
| 35:58:18:ALA:HB3 | 35:58:56:ASN:O | 2.21 | 0.41 |
| 35:58:67:LEU:HD23 | 35:58:87:LEU:CD1 | 2.51 | 0.41 |
| 35:58:75:TYR:HA | 35:58:81:GLY:O | 2.20 | 0.41 |
| 40:A8:87:PHE:CE2 | 40:A8:89:ARG:HB3 | 2.55 | 0.41 |
| 43:D8:21:ARG:CG | 43:D8:91:TYR:CE2 | 2.95 | 0.41 |
| 49:J8:91:LYS:C | 49:J8:93:GLU:N | 2.74 | 0.41 |
| 52:M8:9:LEU:H | 52:M8:27:THR:HB | 1.86 | 0.41 |
| 53:N8:40:LYS:HZ3 | 53:N8:48:GLU:H | 1.67 | 0.41 |
| 1:1G:67:C:H2' | 1:1G:68:G:H8 | 1.81 | 0.41 |
| 1:1G:253:U:O2 | 1:1G:275:G:O2' | 2.26 | 0.41 |
| 1:1G:395:C:H2' | 1:1G:396:G:C8 | 2.56 | 0.41 |
| 1:1G:428:G:C8 | 1:1G:430:A:C4 | 3.09 | 0.41 |
| 1:1G:628:G:C2 | 1:1G:629:G:C4 | 3.09 | 0.41 |
| 1:1G:666:G:H5' | 1:1G:726:C:H1' | 2.02 | 0.41 |
| 1:1G:1166:G:H1' | 1:1G:1171:G:H22 | 1.85 | 0.41 |
| 1:1G:1280:A:H5' | 1:1G:1281:U:OP2 | 2.20 | 0.41 |
| 3:22:51:GLY:O | 3:22:70:VAL:HG13 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 3:22:72:LYS:HZ1 | 3:22:75:VAL:HG23 | 1.85 | 0.41 |
| 4:32:81:GLU:HB3 | 4:32:96:LEU:HD11 | 2.02 | 0.41 |
| 4:32:193:ASP:OD1 | 4:32:193:ASP:N | 2.53 | 0.41 |
| 8:72:30:ARG:HG2 | 8:72:31:PHE:H | 1.86 | 0.41 |
| 8:72:41:ARG:HE | 8:72:41:ARG:HB2 | 1.50 | 0.41 |
| 12:3A:52:LEU:HD12 | 12:3A:54:LYS:NZ | 2.34 | 0.41 |
| 13:4A:55:ARG:NH2 | 13:4A:56:LEU:HB2 | 2.35 | 0.41 |
| 15:6A:18:PHE:CZ | 15:6A:21:ASP:HB2 | 2.56 | 0.41 |
| 20:BA:45:GLN:HA | 20:BA:91:LEU:HB3 | 2.02 | 0.41 |
| 23:2L:25:U:O2' | 26:14:1923:U:H5'' | 2.21 | 0.41 |
| 23:2L:53:G:O5' | 23:2L:53:G:H8 | 2.04 | 0.41 |
| 26:14:27:G:C4 | 26:14:512:G:N2 | 2.88 | 0.41 |
| 26:14:138:G:N2 | 45:B5:44:GLU:OE2 | 2.37 | 0.41 |
| 26:14:139:G:H5'' | 26:14:139:G:C8 | 2.54 | 0.41 |
| 26:14:196:A:H2' | 26:14:196:A:N3 | 2.35 | 0.41 |
| 26:14:553:U:C4 | 26:14:554:U:O4 | 2.73 | 0.41 |
| 26:14:1052:C:N4 | 26:14:1107:G:H1 | 2.17 | 0.41 |
| 26:14:1167:U:C2 | 26:14:1183:G:N2 | 2.89 | 0.41 |
| 26:14:1319:G:C6 | 26:14:1320:C:N4 | 2.88 | 0.41 |
| 26:14:1488:G:C5 | 26:14:1489:U:C6 | 3.09 | 0.41 |
| 26:14:1906:G:C2 | 26:14:1925:C:O2 | 2.74 | 0.41 |
| 26:14:1992:G:C2 | 26:14:1997:G:C5 | 3.08 | 0.41 |
| 26:14:2256:G:C4 | 26:14:2257:U:C6 | 3.09 | 0.41 |
| 29:19:118:VAL:N | 29:19:129:ASN:OD1 | 2.52 | 0.41 |
| 35:15:133:GLN:HB3 | 35:15:135:PRO:HD3 | 2.02 | 0.41 |
| 37:35:115:LEU:HD22 | 37:35:131:SER:HB2 | 2.02 | 0.41 |
| 38:45:25:ASP:HA | 38:45:67:ARG:NH1 | 2.36 | 0.41 |
| 55:M5:25:MET:O | 55:M5:48:PHE:HE1 | 2.04 | 0.41 |
| 1:13:146:G:C2 | 1:13:147:G:C4 | 3.08 | 0.41 |
| 1:13:872:A:C4 | 1:13:874:G:N7 | 2.89 | 0.41 |
| 1:13:1132:C:H2' | 1:13:1133:G:C8 | 2.48 | 0.41 |
| 1:13:1162:C:H2' | 1:13:1163:C:C6 | 2.55 | 0.41 |
| 1:13:1261:A:H3' | 1:13:1262:C:H6 | 1.86 | 0.41 |
| 1:13:1422:G:H4' | 36:68:49:ARG:NH1 | 2.36 | 0.41 |
| 3:2E:134:ILE:HD13 | 3:2E:134:ILE:HA | 1.71 | 0.41 |
| 4:3E:61:LYS:NZ | 4:3E:62:GLN:OE1 | 2.26 | 0.41 |
| 4:3E:62:GLN:O | 4:3E:66:ARG:HB2 | 2.20 | 0.41 |
| 5:4E:37:ARG:HA | 5:4E:113:ALA:HA | 2.02 | 0.41 |
| 9:8E:7:THR:O | 9:8E:83:ARG:HD2 | 2.21 | 0.41 |
| 11:2I:31:THR:HG22 | 11:2I:42:TRP:HB3 | 2.03 | 0.41 |
| 12:3I:30:ALA:HB1 | 12:3I:31:PRO:HD2 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 15:6I:27:VAL:O | 15:6I:31:LEU:HD13 | 2.20 | 0.41 |
| 17:8I:18:THR:HG22 | 17:8I:19:VAL:N | 2.36 | 0.41 |
| 17:8I:76:LEU:HD12 | 17:8I:76:LEU:HA | 1.77 | 0.41 |
| 22:1K:18:G:C2 | 22:1K:57:G:N2 | 2.89 | 0.41 |
| 22:1K:44:U:OP2 | 22:1K:48:C:N4 | 2.53 | 0.41 |
| 26:1H:11:G:C3' | 26:1H:12:U:H5' | 2.51 | 0.41 |
| 26:1H:117:G:C6 | 26:1H:119:A:N6 | 2.89 | 0.41 |
| 26:1H:242:G:H5'' | 55:Q8:64:TYR:CZ | 2.56 | 0.41 |
| 26:1H:270(T):G:C6 | 26:1H:270(U):C:C4 | 3.07 | 0.41 |
| 26:1H:271(C):U:O4 | 26:1H:272:G:H5'' | 2.20 | 0.41 |
| 26:1H:753:C:H2' | 26:1H:754:C:H6 | 1.82 | 0.41 |
| 26:1H:784:A:H5' | 26:1H:785:G:OP1 | 2.21 | 0.41 |
| 26:1H:820:A:H2' | 26:1H:821:A:O4' | 2.21 | 0.41 |
| 26:1H:991:C:OP2 | 26:1H:1186:G:OP2 | 2.38 | 0.41 |
| 26:1H:1026:U:H4' | 26:1H:1027:A:OP1 | 2.20 | 0.41 |
| 26:1H:1327:C:N4 | 26:1H:1328:G:C6 | 2.89 | 0.41 |
| 26:1H:1331:A:O2' | 26:1H:1332:G:H8 | 2.03 | 0.41 |
| 26:1H:1448:G:O2' | 26:1H:1529:A:N1 | 2.46 | 0.41 |
| 26:1H:1827:C:C3' | 26:1H:1828:G:H5' | 2.49 | 0.41 |
| 26:1H:2176:A:O2' | 28:71:44:HIS:CE1 | 2.71 | 0.41 |
| 26:1H:2282:G:OP1 | 26:1H:2283:C:H1' | 2.20 | 0.41 |
| 27:16:7:G:O5' | 40:A8:29:PHE:CE2 | 2.73 | 0.41 |
| 27:16:12:C:C2 | 48:I8:74:ARG:NH1 | 2.88 | 0.41 |
| 32:41:67:LYS:NZ | 52:M8:6:HIS:CD2 | 2.89 | 0.41 |
| 32:41:113:ARG:HD3 | 32:41:140:ILE:O | 2.19 | 0.41 |
| 35:58:104:LYS:HB2 | 35:58:117:PHE:CD1 | 2.56 | 0.41 |
| 35:58:114:ARG:HH11 | 35:58:114:ARG:HD2 | 1.73 | 0.41 |
| 41:B8:50:ILE:HA | 41:B8:99:LEU:HD12 | 2.01 | 0.41 |
| 44:E8:96:ILE:HG21 | 44:E8:96:ILE:HD13 | 1.75 | 0.41 |
| 45:F8:50:LYS:O | 45:F8:83:VAL:HA | 2.20 | 0.41 |
| 46:G8:83:THR:HG22 | 46:G8:84:ARG:HG2 | 2.01 | 0.41 |
| 48:I8:34:GLY:O | 48:I8:35:ASN:C | 2.58 | 0.41 |
| 1:1G:103:C:P | 20:BA:17:ARG:HH21 | 2.43 | 0.41 |
| 1:1G:243:A:C2 | 1:1G:246:A:C8 | 3.09 | 0.41 |
| 1:1G:430:A:C4 | 1:1G:431:A:C8 | 3.08 | 0.41 |
| 1:1G:552:U:H1' | 12:3A:32:PHE:CZ | 2.56 | 0.41 |
| 1:1G:630:G:C3' | 1:1G:631:G:H5' | 2.51 | 0.41 |
| 1:1G:747:C:C5 | 1:1G:748:C:C4 | 3.08 | 0.41 |
| 1:1G:750:G:H21 | 15:6A:23:GLY:C | 2.17 | 0.41 |
| 1:1G:949:A:H61 | 1:1G:1232:U:H3 | 1.68 | 0.41 |
| 1:1G:1517:G:C5 | 1:1G:1518:A:N7 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 2:12:186:ALA:O | 2:12:201:ILE:HB | 2.21 | 0.41 |
| 3:22:5:ILE:HG21 | 10:1A:51:ARG:HH22 | 1.86 | 0.41 |
| 3:22:18:TRP:HB2 | 3:22:21:ARG:HE | 1.85 | 0.41 |
| 4:32:8:VAL:CG2 | 4:32:115:ARG:HH12 | 2.33 | 0.41 |
| 7:62:36:LYS:O | 7:62:39:ALA:N | 2.53 | 0.41 |
| 8:72:13:ILE:HG22 | 8:72:14:ARG:N | 2.36 | 0.41 |
| 13:4A:116:THR:HG22 | 13:4A:116:THR:O | 2.20 | 0.41 |
| 17:8A:5:VAL:HG22 | 17:8A:60:ILE:HD13 | 2.01 | 0.41 |
| 56:1L:24:G:C2 | 56:1L:25:C:C4 | 3.08 | 0.41 |
| 56:1L:68:G:H2' | 56:1L:69:A:C8 | 2.56 | 0.41 |
| 23:2L:50:G:C2 | 23:2L:51:U:H1' | 2.56 | 0.41 |
| 26:14:76:C:O2' | 26:14:77:C:H5' | 2.21 | 0.41 |
| 26:14:268:C:H2' | 26:14:269:U:O4' | 2.21 | 0.41 |
| 26:14:540:G:H2' | 26:14:541:C:H6 | 1.85 | 0.41 |
| 26:14:960:A:C8 | 26:14:962:G:C8 | 3.08 | 0.41 |
| 26:14:1011:G:C2 | 26:14:1013:C:C2 | 3.09 | 0.41 |
| 26:14:1358:G:N2 | 26:14:1372:U:C5 | 2.89 | 0.41 |
| 26:14:2299:G:N1 | 26:14:2318:G:C8 | 2.89 | 0.41 |
| 26:14:2399:G:N1 | 26:14:2417:C:N3 | 2.47 | 0.41 |
| 26:14:2513:G:HO2' | 30:29:151:TYR:HE2 | 1.69 | 0.41 |
| 26:14:2563:U:O2 | 26:14:2565:A:C8 | 2.74 | 0.41 |
| 29:19:6:PHE:CE1 | 29:19:18:VAL:HG23 | 2.56 | 0.41 |
| 29:19:67:PHE:HB3 | 29:19:153:ALA:H | 1.85 | 0.41 |
| 29:19:93:ALA:N | 29:19:105:ILE:O | 2.43 | 0.41 |
| 30:29:57:LYS:HA | 30:29:57:LYS:HD3 | 1.84 | 0.41 |
| 30:29:64:LYS:C | 30:29:66:HIS:H | 2.24 | 0.41 |
| 34:69:130:TYR:HB3 | 34:69:136:VAL:CG1 | 2.50 | 0.41 |
| 37:35:84:ASN:ND2 | 37:35:117:GLU:H | 2.19 | 0.41 |
| 39:55:81:ASP:O | 39:55:82:GLU:HG2 | 2.21 | 0.41 |
| 44:A5:5:ALA:HB3 | 44:A5:54:ALA:HB2 | 2.02 | 0.41 |
| 44:A5:73:ALA:HB3 | 44:A5:106:ILE:HD11 | 2.03 | 0.41 |
| 45:B5:31:HIS:CE1 | 45:B5:33:LYS:HB2 | 2.55 | 0.41 |
| 46:C5:42:VAL:HG12 | 46:C5:67:LEU:HD21 | 2.01 | 0.41 |
| 47:D5:85:HIS:CG | 47:D5:86:VAL:N | 2.88 | 0.41 |
| 48:E5:36:ILE:HD12 | 48:E5:58:THR:CG2 | 2.50 | 0.41 |
| 54:L5:34:ARG:NH1 | 54:L5:39:ARG:CG | 2.83 | 0.41 |
| 1:13:191:G:C5 | 1:13:192:U:C4 | 3.08 | 0.41 |
| 1:13:278:G:N2 | 17:8I:95:TYR:HB3 | 2.36 | 0.41 |
| 1:13:457:C:O2' | 1:13:458:C:H5' | 2.20 | 0.41 |
| 1:13:580:U:C4 | 1:13:581:G:C5 | 3.08 | 0.41 |
| 1:13:647:C:H2' | 1:13:648:A:H8 | 1.85 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:690:G:H1 | 11:2I:51:LYS:CE | 2.30 | 0.41 |
| 1:13:724:G:N3 | 1:13:725:G:C8 | 2.88 | 0.41 |
| 1:13:959:A:C2 | 1:13:1222:G:O4' | 2.74 | 0.41 |
| 1:13:1404:C:H6 | 1:13:1404:C:O5' | 2.04 | 0.41 |
| 3:2E:56:ASP:O | 3:2E:66:VAL:HA | 2.20 | 0.41 |
| 8:7E:111:ILE:HB | 8:7E:135:CYS:SG | 2.61 | 0.41 |
| 10:1I:9:ARG:HH22 | 10:1I:97:GLU:CD | 2.24 | 0.41 |
| 15:6I:70:LEU:HD11 | 15:6I:77:ARG:HE | 1.84 | 0.41 |
| 17:8I:28:PRO:HA | 17:8I:34:LYS:O | 2.20 | 0.41 |
| 22:1K:7:U:H3' | 22:1K:13:C:C5 | 2.56 | 0.41 |
| 24:3K:5:C:H2' | 24:3K:6:G:C1' | 2.50 | 0.41 |
| 24:3K:61:C:H2' | 24:3K:62:C:H6 | 1.85 | 0.41 |
| 26:1H:28:A:O2' | 26:1H:29:U:H5' | 2.21 | 0.41 |
| 26:1H:107:C:H2' | 26:1H:108:U:H6 | 1.86 | 0.41 |
| 26:1H:155:C:H42 | 26:1H:171:G:H1 | 1.67 | 0.41 |
| 26:1H:194:G:H2' | 26:1H:195:A:O4' | 2.20 | 0.41 |
| 26:1H:248:G:H5' | 26:1H:250:G:N7 | 2.36 | 0.41 |
| 26:1H:1392:A:C5 | 26:1H:1393:A:C6 | 3.09 | 0.41 |
| 26:1H:1648:C:H42 | 26:1H:2009:G:H1 | 1.69 | 0.41 |
| 26:1H:2238:G:OP2 | 61:1H:3561:HOH:O | 2.21 | 0.41 |
| 26:1H:2287:A:C2 | 26:1H:2346:A:H2 | 2.38 | 0.41 |
| 26:1H:2675:A:C5 | 26:1H:2676:C:C5 | 3.09 | 0.41 |
| 26:1H:2810:A:H2' | 26:1H:2811:G:O4' | 2.21 | 0.41 |
| 29:11:75:ILE:HG22 | 29:11:76:PRO:O | 2.19 | 0.41 |
| 29:11:229:VAL:H | 29:11:229:VAL:HG22 | 1.61 | 0.41 |
| 30:21:143:ASN:HB2 | 30:21:147:PRO:HD2 | 2.02 | 0.41 |
| 30:21:171:GLU:OE2 | 30:21:185:LYS:CE | 2.69 | 0.41 |
| 34:61:90:GLY:O | 34:61:121:LYS:HD2 | 2.20 | 0.41 |
| 34:61:136:VAL:HA | 34:61:137:PRO:HD3 | 1.93 | 0.41 |
| 36:68:22:ILE:HD11 | 36:68:42:SER:HB2 | 2.02 | 0.41 |
| 40:A8:62:LYS:HB2 | 40:A8:97:ARG:HD2 | 2.02 | 0.41 |
| 42:C8:39:LEU:HD23 | 42:C8:39:LEU:HA | 1.83 | 0.41 |
| 44:E8:56:ALA:C | 44:E8:58:ALA:N | 2.74 | 0.41 |
| 45:F8:49:VAL:CG1 | 45:F8:50:LYS:N | 2.84 | 0.41 |
| 46:G8:33:LYS:HB2 | 46:G8:33:LYS:HE2 | 1.26 | 0.41 |
| 50:K8:60:LEU:HD23 | 50:K8:60:LEU:HA | 1.89 | 0.41 |
| 51:L8:26:LEU:HD21 | 51:L8:46:ASN:CB | 2.50 | 0.41 |
| 1:1G:11:G:C5 | 1:1G:12:U:C5 | 3.09 | 0.41 |
| 1:1G:183:G:H8 | 1:1G:183:G:OP2 | 2.04 | 0.41 |
| 1:1G:458:C:N4 | 1:1G:464:G:C6 | 2.89 | 0.41 |
| 1:1G:858:G:C6 | 1:1G:869:G:C8 | 3.09 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------------------|--------------------------------|--------------------------|-------------------|
| 1:1G:958:A:H5 ² ' | 1:1G:959:A:OP2 | 2.21 | 0.41 |
| 1:1G:1011:G:H1 | 1:1G:1018:C:N4 | 2.19 | 0.41 |
| 1:1G:1016:A:C6 | 1:1G:1017:G:H1 ¹ ' | 2.55 | 0.41 |
| 1:1G:1068:G:N7 | 1:1G:1094:G:H8 | 2.19 | 0.41 |
| 1:1G:1072:G:C4 | 1:1G:1104:G:N2 | 2.88 | 0.41 |
| 1:1G:1330:U:H5 ¹ ' | 13:4A:24:GLY:H | 1.86 | 0.41 |
| 2:12:220:ASP:O | 2:12:224:GLN:HG3 | 2.21 | 0.41 |
| 6:52:10:LEU:HD23 | 6:52:61:LEU:HD13 | 2.02 | 0.41 |
| 13:4A:32:GLU:O | 13:4A:35:GLU:N | 2.54 | 0.41 |
| 56:1L:23:A:H2 ¹ ' | 56:1L:23:A:N3 | 2.36 | 0.41 |
| 57:3L:15:G:C4 | 57:3L:59:A:N1 | 2.88 | 0.41 |
| 26:14:199:A:N6 | 26:14:2434:A:C5 | 2.89 | 0.41 |
| 26:14:233:A:H2 ¹ ' | 26:14:234:C:H6 | 1.86 | 0.41 |
| 26:14:260:G:C5 | 26:14:261:G:C8 | 3.08 | 0.41 |
| 26:14:910:A:H2 | 26:14:2264:C:O2 | 2.03 | 0.41 |
| 26:14:977:G:H2 ¹ ' | 26:14:978:G:H8 | 1.85 | 0.41 |
| 26:14:1013:C:N3 | 26:14:1149:G:N2 | 2.60 | 0.41 |
| 26:14:1374:G:H2 ¹ ' | 26:14:1375:C:C6 | 2.55 | 0.41 |
| 26:14:1559:G:HO2 ¹ ' | 26:14:1560:G:C5 ¹ ' | 2.33 | 0.41 |
| 26:14:1919:A:H2 ¹ ' | 26:14:1919:A:N3 | 2.36 | 0.41 |
| 26:14:2306:C:C2 | 26:14:2307:G:N2 | 2.88 | 0.41 |
| 27:1J:116:G:H2 ¹ ' | 27:1J:117:G:O4 ¹ ' | 2.20 | 0.41 |
| 29:19:64:ILE:HG21 | 29:19:64:ILE:HD13 | 1.75 | 0.41 |
| 30:29:61:ARG:HA | 30:29:63:LEU:CD2 | 2.51 | 0.41 |
| 30:29:116:VAL:O | 30:29:117:MET:HG2 | 2.20 | 0.41 |
| 31:39:57:VAL:HG13 | 31:39:59:TYR:HD1 | 1.86 | 0.41 |
| 31:39:114:VAL:H | 31:39:114:VAL:HG22 | 1.62 | 0.41 |
| 37:35:16:ARG:HD3 | 37:35:16:ARG:HA | 1.87 | 0.41 |
| 37:35:75:ILE:H | 37:35:75:ILE:HG12 | 1.56 | 0.41 |
| 38:45:52:VAL:O | 38:45:56:ARG:HB2 | 2.21 | 0.41 |
| 39:55:10:LEU:HD23 | 39:55:10:LEU:HA | 1.77 | 0.41 |
| 43:95:51:VAL:HG12 | 43:95:52:VAL:N | 2.36 | 0.41 |
| 44:A5:35:ILE:HG23 | 53:J5:28:PRO:HD2 | 2.03 | 0.41 |
| 47:D5:126:VAL:HG12 | 47:D5:163:LEU:HA | 2.01 | 0.41 |
| 1:13:138:G:H1 | 1:13:225:C:H42 | 1.69 | 0.41 |
| 1:13:199:G:H2 ¹ ' | 1:13:200:G:C8 | 2.56 | 0.41 |
| 1:13:389:A:H2 ¹ ' | 1:13:390:C:C5 ¹ ' | 2.51 | 0.41 |
| 1:13:411:A:N7 | 1:13:413:G:C4 | 2.89 | 0.41 |
| 1:13:592:G:H2 ¹ ' | 1:13:593:G:C8 | 2.55 | 0.41 |
| 1:13:619:U:C6 | 4:3E:135:LEU:HD21 | 2.56 | 0.41 |
| 1:13:781:A:H5 ¹ ' | 1:13:782:A:OP2 | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 1:13:827:U:C5 | 1:13:870:U:C4 | 3.09 | 0.41 |
| 1:13:827:U:O2 | 1:13:827:U:O5' | 2.39 | 0.41 |
| 1:13:955:U:H6 | 1:13:955:U:O5' | 2.04 | 0.41 |
| 1:13:1157:A:H8 | 1:13:1158:C:N4 | 2.18 | 0.41 |
| 1:13:1304:G:C6 | 1:13:1305:G:N1 | 2.89 | 0.41 |
| 1:13:1390:U:H2' | 1:13:1391:U:C6 | 2.56 | 0.41 |
| 1:13:1396:A:H4' | 1:13:1397:C:H5'' | 2.02 | 0.41 |
| 2:1E:80:ILE:HG12 | 2:1E:212:GLN:HB2 | 2.03 | 0.41 |
| 2:1E:100:GLY:HA2 | 2:1E:103:THR:OG1 | 2.21 | 0.41 |
| 3:2E:47:LEU:HB2 | 3:2E:52:LEU:HD13 | 2.02 | 0.41 |
| 3:2E:84:ILE:HA | 3:2E:87:LEU:HD12 | 2.03 | 0.41 |
| 4:3E:107:ARG:NH1 | 4:3E:194:LEU:HD22 | 2.36 | 0.41 |
| 6:5E:33:TYR:HE2 | 6:5E:78:GLU:CB | 2.34 | 0.41 |
| 6:5E:100:ASN:HB2 | 18:9I:27:GLY:O | 2.20 | 0.41 |
| 7:6E:5:ARG:NH1 | 7:6E:7:ALA:HA | 2.36 | 0.41 |
| 12:3I:85:ILE:HD12 | 12:3I:85:ILE:HG23 | 1.74 | 0.41 |
| 12:3I:113:ARG:HH21 | 12:3I:116:SER:HB2 | 1.86 | 0.41 |
| 13:4I:77:ASN:O | 13:4I:81:LEU:N | 2.49 | 0.41 |
| 14:5I:27:CYS:SG | 14:5I:28:GLY:N | 2.94 | 0.41 |
| 14:5I:58:LYS:HE2 | 14:5I:58:LYS:HB3 | 1.79 | 0.41 |
| 19:AI:11:VAL:HG13 | 19:AI:11:VAL:O | 2.20 | 0.41 |
| 24:3K:45:G:O2' | 24:3K:46:G:C8 | 2.72 | 0.41 |
| 26:1H:34:C:O4' | 26:1H:34:C:P | 2.79 | 0.41 |
| 26:1H:90:U:H6 | 26:1H:90:U:OP1 | 2.04 | 0.41 |
| 26:1H:117:G:N1 | 26:1H:119:A:N6 | 2.69 | 0.41 |
| 26:1H:198:C:O2' | 26:1H:199:A:H5'' | 2.21 | 0.41 |
| 26:1H:273:G:H1 | 26:1H:364:C:N4 | 2.19 | 0.41 |
| 26:1H:390:A:C6 | 37:78:71:VAL:HG21 | 2.56 | 0.41 |
| 26:1H:580:C:O2' | 26:1H:581:C:H5' | 2.21 | 0.41 |
| 26:1H:654(B):C:H3' | 26:1H:654(C):G:C8 | 2.55 | 0.41 |
| 26:1H:654(R):C:N4 | 26:1H:654(S):G:O6 | 2.54 | 0.41 |
| 26:1H:779:U:H5'' | 29:11:49:ILE:HD12 | 2.02 | 0.41 |
| 26:1H:833:U:O2 | 37:78:55:ARG:NH2 | 2.50 | 0.41 |
| 26:1H:910:A:H2 | 26:1H:2264:C:O2 | 2.04 | 0.41 |
| 26:1H:1157:G:N2 | 26:1H:1158:C:C2 | 2.89 | 0.41 |
| 26:1H:1213:A:N3 | 26:1H:1238:G:O2' | 2.38 | 0.41 |
| 26:1H:1221:C:C2 | 26:1H:1222:C:C5 | 3.08 | 0.41 |
| 26:1H:1273:U:O2' | 26:1H:1274:A:H5'' | 2.20 | 0.41 |
| 26:1H:1288:U:C2 | 26:1H:1327:C:O2 | 2.73 | 0.41 |
| 26:1H:1332:G:H8 | 26:1H:1332:G:H2' | 1.69 | 0.41 |
| 26:1H:1332:G:N2 | 26:1H:1610:A:C8 | 2.86 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:1H:1388:G:O2' | 26:1H:1389:G:H5' | 2.21 | 0.41 |
| 26:1H:1397:U:P | 26:1H:1398:C:H41 | 2.40 | 0.41 |
| 26:1H:1514:U:O2 | 26:1H:1514:U:H2' | 2.21 | 0.41 |
| 26:1H:1537:C:N4 | 26:1H:1538:G:H21 | 2.14 | 0.41 |
| 26:1H:1599:C:P | 45:F8:36:LYS:HB2 | 2.60 | 0.41 |
| 26:1H:1615:C:C5 | 26:1H:1617:C:C4 | 3.08 | 0.41 |
| 26:1H:1625:C:H5'' | 26:1H:1626:G:OP2 | 2.20 | 0.41 |
| 26:1H:1672:C:H2' | 26:1H:1673:U:H5' | 2.02 | 0.41 |
| 26:1H:1817:G:H2' | 26:1H:1817:G:N3 | 2.35 | 0.41 |
| 26:1H:1818:U:OP2 | 29:11:157:ARG:NE | 2.50 | 0.41 |
| 26:1H:1826:G:H4' | 29:11:242:ARG:HE | 1.85 | 0.41 |
| 26:1H:2059:A:H5'' | 31:31:71:GLY:CA | 2.51 | 0.41 |
| 26:1H:2101:G:C6 | 26:1H:2102:U:C4 | 3.09 | 0.41 |
| 26:1H:2154:G:O2' | 26:1H:2155:G:H5' | 2.21 | 0.41 |
| 26:1H:2313:C:C5 | 26:1H:2314:C:H5 | 2.39 | 0.41 |
| 26:1H:2328:A:H2' | 26:1H:2329:G:C8 | 2.55 | 0.41 |
| 26:1H:2334:G:H3' | 26:1H:2335:A:H5' | 2.03 | 0.41 |
| 26:1H:2378:A:O2' | 40:A8:21:THR:HG21 | 2.21 | 0.41 |
| 27:16:44:G:HO2' | 27:16:45:A:P | 2.44 | 0.41 |
| 28:71:66:HIS:HE1 | 28:71:184:LYS:HD2 | 1.86 | 0.41 |
| 30:21:35:GLN:HB3 | 30:21:48:GLN:HB2 | 2.03 | 0.41 |
| 30:21:116:VAL:HG21 | 30:21:122:PHE:CE2 | 2.56 | 0.41 |
| 31:31:170:LEU:HB2 | 31:31:173:VAL:HB | 2.03 | 0.41 |
| 32:41:26:GLN:HG3 | 32:41:27:ASN:N | 2.36 | 0.41 |
| 35:58:35:ARG:HB2 | 35:58:37:LYS:HG3 | 2.02 | 0.41 |
| 35:58:71:ILE:HG21 | 35:58:84:LYS:HB3 | 2.02 | 0.41 |
| 37:78:28:GLY:O | 37:78:29:LYS:C | 2.59 | 0.41 |
| 37:78:89:ALA:HA | 37:78:121:LYS:HD3 | 2.02 | 0.41 |
| 39:98:74:LYS:HZ2 | 39:98:77:ARG:NH2 | 2.19 | 0.41 |
| 41:B8:23:ARG:O | 41:B8:24:PRO:C | 2.57 | 0.41 |
| 42:C8:74:LEU:CD1 | 42:C8:74:LEU:C | 2.89 | 0.41 |
| 42:C8:79:PHE:O | 42:C8:79:PHE:HD1 | 2.04 | 0.41 |
| 44:E8:57:ASN:O | 44:E8:62:HIS:CD2 | 2.74 | 0.41 |
| 46:G8:90:LEU:HA | 46:G8:91:GLU:HA | 1.77 | 0.41 |
| 47:H8:58:VAL:O | 47:H8:60:GLU:N | 2.53 | 0.41 |
| 47:H8:151:HIS:HD1 | 47:H8:170:THR:HG23 | 1.85 | 0.41 |
| 50:K8:15:LYS:HZ2 | 50:K8:15:LYS:HG2 | 1.55 | 0.41 |
| 53:N8:40:LYS:HG2 | 53:N8:46:CYS:CA | 2.46 | 0.41 |
| 53:N8:42:PRO:O | 53:N8:44:THR:N | 2.54 | 0.41 |
| 1:1G:115:G:C2 | 1:1G:289:G:N7 | 2.88 | 0.41 |
| 1:1G:137:C:C2 | 1:1G:227:G:N2 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:1G:186(C):G:C6 | 1:1G:186(D):C:C4 | 3.08 | 0.41 |
| 1:1G:195:A:H4' | 20:BA:68:LYS:HE3 | 2.03 | 0.41 |
| 1:1G:456:C:H2' | 1:1G:457:C:C6 | 2.56 | 0.41 |
| 1:1G:557:G:C6 | 1:1G:558:G:C6 | 3.09 | 0.41 |
| 1:1G:746:A:OP2 | 1:1G:746:A:H8 | 2.04 | 0.41 |
| 1:1G:807:A:C5 | 1:1G:808:C:C4 | 3.09 | 0.41 |
| 1:1G:862:C:C2' | 1:1G:863:U:H5' | 2.50 | 0.41 |
| 1:1G:1090:U:H2' | 1:1G:1091:U:C5 | 2.55 | 0.41 |
| 1:1G:1312:G:O2' | 1:1G:1313:U:H5' | 2.20 | 0.41 |
| 1:1G:1316:G:H5'' | 14:5A:17:LYS:HZ1 | 1.80 | 0.41 |
| 1:1G:1316:G:N2 | 1:1G:1319:A:H8 | 2.18 | 0.41 |
| 1:1G:1355:G:H1 | 1:1G:1367:C:H42 | 1.68 | 0.41 |
| 2:12:75:LYS:CA | 2:12:78:GLN:HB2 | 2.32 | 0.41 |
| 2:12:220:ASP:O | 2:12:223:ILE:HG22 | 2.21 | 0.41 |
| 3:22:50:ALA:HB2 | 3:22:75:VAL:HG12 | 2.03 | 0.41 |
| 3:22:111:LEU:HD23 | 3:22:146:ALA:HB2 | 2.03 | 0.41 |
| 3:22:191:THR:HG21 | 3:22:193:TYR:CZ | 2.55 | 0.41 |
| 4:32:53:ASP:OD2 | 5:42:107:ARG:NH2 | 2.53 | 0.41 |
| 5:42:12:LEU:CD1 | 5:42:14:ARG:HG2 | 2.50 | 0.41 |
| 5:42:71:LEU:HD22 | 5:42:74:GLY:HA2 | 2.02 | 0.41 |
| 6:52:7:ASN:OD1 | 6:52:7:ASN:N | 2.53 | 0.41 |
| 6:52:67:MET:HB2 | 6:52:68:PRO:HD2 | 2.03 | 0.41 |
| 7:62:72:ARG:HG2 | 7:62:138:LYS:NZ | 2.36 | 0.41 |
| 8:72:30:ARG:HG2 | 8:72:31:PHE:N | 2.36 | 0.41 |
| 9:82:65:VAL:HG11 | 9:82:77:ILE:HD11 | 2.02 | 0.41 |
| 10:1A:17:ASP:OD1 | 10:1A:18:ALA:N | 2.54 | 0.41 |
| 11:2A:33:THR:HG22 | 11:2A:39:PRO:HA | 2.03 | 0.41 |
| 12:3A:34:ARG:HH11 | 12:3A:34:ARG:HD2 | 1.71 | 0.41 |
| 20:BA:26:ASN:O | 20:BA:30:LYS:HB2 | 2.21 | 0.41 |
| 56:1L:75:C:O2' | 26:14:2507:C:H4' | 2.21 | 0.41 |
| 26:14:61:G:H5' | 50:G5:50:ILE:HG12 | 2.03 | 0.41 |
| 26:14:141:A:C8 | 26:14:1408:C:H1' | 2.56 | 0.41 |
| 26:14:219:G:H2' | 26:14:220:G:C8 | 2.56 | 0.41 |
| 26:14:273(C):C:H5' | 26:14:273(D):C:OP2 | 2.20 | 0.41 |
| 26:14:519:U:H2' | 26:14:520:G:C8 | 2.56 | 0.41 |
| 26:14:541:C:H2' | 26:14:542:C:C6 | 2.56 | 0.41 |
| 26:14:548:A:N6 | 26:14:549:G:C2 | 2.89 | 0.41 |
| 26:14:723:G:H2' | 26:14:724:U:C6 | 2.56 | 0.41 |
| 26:14:751:A:H5' | 44:A5:90:ARG:CA | 2.42 | 0.41 |
| 26:14:917:A:C2' | 26:14:918:A:O5' | 2.69 | 0.41 |
| 26:14:937:U:H2' | 26:14:938:G:O4' | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------------------|------------------------------|--------------------------|-------------------|
| 26:14:957:A:N1 | 26:14:2459:A:H8 | 2.19 | 0.41 |
| 26:14:995:C:N4 | 35:15:2:LYS:HG3 | 2.36 | 0.41 |
| 26:14:1015:G:C6 | 26:14:1148:A:C6 | 3.09 | 0.41 |
| 26:14:1149:G:C2 | 26:14:1150:C:C4 | 3.09 | 0.41 |
| 26:14:1445:C:H2 [?] | 26:14:1446:C:C6 | 2.55 | 0.41 |
| 26:14:1475:G:N2 | 26:14:1476:C:O2 | 2.54 | 0.41 |
| 26:14:1532:C:N4 | 26:14:1539:G:H1 | 2.18 | 0.41 |
| 26:14:1635:G:H2 [?] | 26:14:1636:C:C6 | 2.56 | 0.41 |
| 26:14:1815:A:O3 [?] | 29:19:39:LYS:NZ | 2.52 | 0.41 |
| 26:14:1870:C:H2 [?] | 26:14:1871:A:C8 | 2.56 | 0.41 |
| 26:14:2061:G:C2 | 26:14:2063:C:C4 | 3.09 | 0.41 |
| 26:14:2134:A:C5 | 26:14:2158:A:C8 | 3.09 | 0.41 |
| 26:14:2187:G:C5 | 26:14:2188:C:C4 | 3.08 | 0.41 |
| 26:14:2238:G:H2 [?] | 26:14:2238:G:N3 | 2.35 | 0.41 |
| 26:14:2308:G:O6 | 26:14:2311:A:C2 | 2.74 | 0.41 |
| 26:14:2328:A:H2 [?] | 26:14:2329:G:O4 [?] | 2.21 | 0.41 |
| 26:14:2408:U:H2 [?] | 26:14:2409:G:C8 | 2.56 | 0.41 |
| 26:14:2463:C:O5 [?] | 26:14:2463:C:H6 | 2.04 | 0.41 |
| 26:14:2687:U:C4 | 26:14:2688:U:C5 | 3.09 | 0.41 |
| 27:1J:62:C:H2 [?] | 27:1J:63:G:H8 | 1.86 | 0.41 |
| 27:1J:73:A:C8 | 27:1J:103:U:O4 | 2.74 | 0.41 |
| 29:19:10:THR:HB | 29:19:11:PRO:HD2 | 2.03 | 0.41 |
| 29:19:70:TRP:CE2 | 29:19:150:LYS:HD3 | 2.56 | 0.41 |
| 29:19:77:ALA:HB2 | 29:19:97:TYR:CD2 | 2.55 | 0.41 |
| 29:19:97:TYR:HB2 | 29:19:101:GLU:O | 2.21 | 0.41 |
| 32:49:32:PRO:HA | 32:49:162:THR:HG23 | 2.03 | 0.41 |
| 33:59:74:ASN:O | 33:59:78:GLY:N | 2.54 | 0.41 |
| 34:69:77:LEU:HA | 34:69:141:LYS:HB3 | 2.03 | 0.41 |
| 35:15:17:ASP:O | 35:15:18:ALA:HB3 | 2.21 | 0.41 |
| 37:35:78:PRO:HA | 37:35:110:TYR:CD2 | 2.55 | 0.41 |
| 39:55:54:LEU:O | 39:55:62:ALA:HB1 | 2.20 | 0.41 |
| 40:65:15:ARG:O | 40:65:19:LYS:HG3 | 2.20 | 0.41 |
| 40:65:62:LYS:CA | 40:65:65:VAL:HB | 2.47 | 0.41 |
| 40:65:63:THR:O | 40:65:66:ALA:HB3 | 2.20 | 0.41 |
| 44:A5:79:GLY:HA3 | 44:A5:100:THR:HG22 | 2.03 | 0.41 |
| 47:D5:55:HIS:O | 47:D5:57:ILE:HG13 | 2.20 | 0.41 |
| 50:G5:33:MET:O | 50:G5:37:PHE:HD1 | 2.04 | 0.41 |
| 55:M5:14:VAL:CG1 | 55:M5:15:LYS:N | 2.84 | 0.41 |
| 55:M5:55:ALA:O | 55:M5:59:LYS:HG3 | 2.21 | 0.41 |
| 1:13:223:U:H2 [?] | 1:13:224:C:H6 | 1.86 | 0.41 |
| 1:13:312:C:C2 | 1:13:313:A:C8 | 3.09 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 1:13:413:G:H21 | 1:13:428:G:H1' | 1.84 | 0.41 |
| 1:13:452:A:HO2' | 1:13:453:A:C4' | 2.33 | 0.41 |
| 1:13:534:U:H5'' | 1:13:535:A:OP2 | 2.19 | 0.41 |
| 1:13:558:G:C4 | 1:13:559:A:C2 | 3.08 | 0.41 |
| 1:13:752:G:H4' | 15:6I:69:TYR:OH | 2.21 | 0.41 |
| 1:13:1132:C:C2' | 1:13:1133:G:H5' | 2.51 | 0.41 |
| 1:13:1260:C:H3' | 1:13:1260:C:C6 | 2.56 | 0.41 |
| 1:13:1296:C:H4' | 1:13:1302:U:C5 | 2.56 | 0.41 |
| 2:1E:74:LYS:H | 2:1E:74:LYS:HG3 | 1.57 | 0.41 |
| 2:1E:165:VAL:HG23 | 2:1E:166:ASP:H | 1.85 | 0.41 |
| 9:8E:11:LYS:C | 9:8E:13:ALA:H | 2.24 | 0.41 |
| 12:3I:10:LEU:HD12 | 17:8I:32:TYR:CZ | 2.56 | 0.41 |
| 12:3I:126:LYS:HD3 | 12:3I:126:LYS:HA | 1.73 | 0.41 |
| 13:4I:3:ARG:HB3 | 13:4I:9:ILE:HG12 | 2.03 | 0.41 |
| 19:AI:33:THR:HG23 | 19:AI:35:SER:H | 1.86 | 0.41 |
| 20:BI:45:GLN:O | 20:BI:45:GLN:HG2 | 2.21 | 0.41 |
| 23:2K:63:C:O2 | 23:2K:64:G:C8 | 2.74 | 0.41 |
| 24:3K:17:U:H3' | 24:3K:19:G:OP2 | 2.20 | 0.41 |
| 24:3K:49:G:N2 | 24:3K:64:G:H1 | 2.19 | 0.41 |
| 24:3K:59:A:C8 | 24:3K:60:U:C5 | 3.09 | 0.41 |
| 26:1H:141:A:C8 | 26:1H:1408:C:H1' | 2.56 | 0.41 |
| 26:1H:238:C:H2' | 26:1H:239:U:O4' | 2.21 | 0.41 |
| 26:1H:507:A:H5'' | 26:1H:508:G:H5' | 2.02 | 0.41 |
| 26:1H:557:U:H2' | 26:1H:558:G:C8 | 2.56 | 0.41 |
| 26:1H:800:A:H4' | 26:1H:801:G:O5' | 2.21 | 0.41 |
| 26:1H:924:C:N4 | 26:1H:925:C:N4 | 2.69 | 0.41 |
| 26:1H:1161:C:C6 | 26:1H:1161:C:C3' | 3.03 | 0.41 |
| 26:1H:1274:A:N1 | 26:1H:1644:C:O2' | 2.34 | 0.41 |
| 26:1H:1370:C:O2' | 26:1H:1811:G:O2' | 2.35 | 0.41 |
| 26:1H:2104:G:C2 | 26:1H:2186:G:C2 | 3.09 | 0.41 |
| 26:1H:2378:A:OP1 | 40:A8:111:GLU:OE1 | 2.39 | 0.41 |
| 26:1H:2441:C:C2' | 26:1H:2442:C:H5' | 2.51 | 0.41 |
| 26:1H:2473:U:H2' | 26:1H:2474:C:H5' | 2.02 | 0.41 |
| 26:1H:2670:A:C2 | 26:1H:2671:A:C4 | 3.09 | 0.41 |
| 26:1H:2784:C:H1' | 30:21:37:ARG:NH1 | 2.36 | 0.41 |
| 29:11:31:LYS:HB3 | 29:11:34:VAL:HG22 | 2.03 | 0.41 |
| 29:11:111:LEU:HD23 | 29:11:111:LEU:HA | 1.94 | 0.41 |
| 30:21:170:LEU:HD23 | 30:21:170:LEU:HA | 1.91 | 0.41 |
| 32:41:11:TYR:O | 32:41:16:ARG:HG3 | 2.21 | 0.41 |
| 33:51:3:ARG:HA | 33:51:3:ARG:CZ | 2.51 | 0.41 |
| 33:51:54:ARG:HH21 | 33:51:57:ASP:HB3 | 1.86 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 35:58:15:LEU:O | 35:58:16:ILE:HG13 | 2.21 | 0.41 |
| 35:58:57:ALA:C | 35:58:59:LYS:H | 2.25 | 0.41 |
| 39:98:34:ILE:HG22 | 39:98:114:VAL:HB | 2.03 | 0.41 |
| 41:B8:22:PHE:CD1 | 41:B8:22:PHE:N | 2.89 | 0.41 |
| 45:F8:41:ASN:OD1 | 45:F8:41:ASN:N | 2.54 | 0.41 |
| 50:K8:64:LEU:CD1 | 50:K8:68:ARG:HH11 | 2.34 | 0.41 |
| 1:1G:2:U:H6 | 4:32:86:LYS:HE3 | 1.86 | 0.41 |
| 1:1G:28:G:C6 | 1:1G:29:G:C5 | 3.09 | 0.41 |
| 1:1G:191(E):G:H2' | 1:1G:191(F):U:C6 | 2.56 | 0.41 |
| 1:1G:328:C:H4' | 1:1G:329:A:C5' | 2.51 | 0.41 |
| 1:1G:729:A:C5 | 1:1G:730:G:C8 | 3.09 | 0.41 |
| 1:1G:735:C:O2' | 1:1G:736:C:H5' | 2.21 | 0.41 |
| 1:1G:750:G:N2 | 1:1G:751:U:C2 | 2.89 | 0.41 |
| 1:1G:830:G:H22 | 1:1G:857:C:H1' | 1.86 | 0.41 |
| 1:1G:893:C:C4 | 1:1G:894:G:N7 | 2.89 | 0.41 |
| 1:1G:1010:G:C2 | 1:1G:1020:U:C4 | 3.09 | 0.41 |
| 1:1G:1055:A:N7 | 1:1G:1206:G:N2 | 2.69 | 0.41 |
| 1:1G:1092:A:H8 | 1:1G:1092:A:O5' | 2.04 | 0.41 |
| 1:1G:1118:C:H1' | 1:1G:1179:A:C8 | 2.56 | 0.41 |
| 1:1G:1246:C:C4 | 1:1G:1247:U:C4 | 3.09 | 0.41 |
| 1:1G:1382:C:H2' | 1:1G:1383:C:C6 | 2.55 | 0.41 |
| 1:1G:1432:G:OP1 | 41:75:107:ASP:HB2 | 2.21 | 0.41 |
| 2:12:187:LEU:HD11 | 2:12:205:ASP:HA | 2.03 | 0.41 |
| 3:22:73:PRO:HA | 3:22:76:VAL:CG1 | 2.51 | 0.41 |
| 3:22:182:ILE:HA | 3:22:202:ILE:O | 2.21 | 0.41 |
| 8:72:100:ILE:HD12 | 8:72:125:ARG:HG3 | 2.02 | 0.41 |
| 14:5A:9:LYS:HG3 | 14:5A:12:ARG:NH1 | 2.36 | 0.41 |
| 26:14:5:A:H2' | 26:14:6:A:H5'' | 2.03 | 0.41 |
| 26:14:236:C:O5' | 26:14:236:C:H6 | 2.04 | 0.41 |
| 26:14:545:G:H2' | 26:14:546:C:H3' | 2.02 | 0.41 |
| 26:14:654(B):C:H4' | 26:14:654(T):A:N1 | 2.36 | 0.41 |
| 26:14:835:A:N6 | 26:14:836:G:C6 | 2.89 | 0.41 |
| 26:14:1971:A:H1' | 29:19:240:ALA:O | 2.21 | 0.41 |
| 26:14:2075:U:C2' | 26:14:2076:U:H5'' | 2.51 | 0.41 |
| 26:14:2102:U:O2 | 26:14:2187:G:N2 | 2.53 | 0.41 |
| 26:14:2244:U:O2' | 26:14:2245:U:H5' | 2.21 | 0.41 |
| 26:14:2353:G:C8 | 61:14:3547:HOH:O | 2.73 | 0.41 |
| 26:14:2402:C:H5 | 26:14:2415:G:N2 | 2.19 | 0.41 |
| 26:14:2527:C:H2' | 26:14:2528:U:O4' | 2.21 | 0.41 |
| 27:1J:9:G:P | 40:65:25:ARG:HH22 | 2.43 | 0.41 |
| 31:39:48:THR:O | 31:39:48:THR:OG1 | 2.36 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 34:69:133:HIS:CG | 34:69:134:PRO:HD3 | 2.56 | 0.41 |
| 36:25:34:THR:O | 36:25:62:VAL:HB | 2.21 | 0.41 |
| 37:35:65:ARG:O | 37:35:65:ARG:HD2 | 2.21 | 0.41 |
| 46:C5:75:ILE:O | 46:C5:80:GLY:N | 2.54 | 0.41 |
| 47:D5:44:PHE:HD1 | 47:D5:44:PHE:C | 2.25 | 0.41 |
| 47:D5:44:PHE:C | 47:D5:44:PHE:CD1 | 2.94 | 0.41 |
| 50:G5:64:LEU:O | 50:G5:68:ARG:HG2 | 2.20 | 0.41 |
| 1:13:247:G:C2 | 1:13:248:C:C5 | 3.09 | 0.40 |
| 1:13:247:G:C6 | 1:13:248:C:C5 | 3.09 | 0.40 |
| 1:13:532:A:O2' | 1:13:533:A:H5'' | 2.21 | 0.40 |
| 1:13:533:A:C2 | 1:13:536:C:C5 | 3.08 | 0.40 |
| 1:13:685:G:N2 | 1:13:686:U:O4 | 2.54 | 0.40 |
| 1:13:806:C:H2' | 1:13:807:A:C8 | 2.57 | 0.40 |
| 1:13:1004:A:N3 | 1:13:1004:A:H5'' | 2.36 | 0.40 |
| 1:13:1158:C:C2 | 1:13:1160:G:C8 | 3.09 | 0.40 |
| 1:13:1309:G:C2 | 1:13:1329:A:N3 | 2.89 | 0.40 |
| 1:13:1309:G:C6 | 1:13:1329:A:N1 | 2.89 | 0.40 |
| 1:13:1356:G:H2' | 1:13:1357:A:C8 | 2.56 | 0.40 |
| 2:1E:161:ALA:HA | 2:1E:183:PRO:O | 2.21 | 0.40 |
| 4:3E:11:LEU:HD11 | 4:3E:21:LEU:HD22 | 2.01 | 0.40 |
| 7:6E:111:ARG:HB2 | 7:6E:113:GLU:HG2 | 2.02 | 0.40 |
| 12:3I:84:LEU:HD23 | 12:3I:101:VAL:HG21 | 2.03 | 0.40 |
| 17:8I:88:TYR:CD1 | 17:8I:89:LEU:N | 2.89 | 0.40 |
| 26:1H:18:C:H4' | 42:C8:23:GLY:O | 2.21 | 0.40 |
| 26:1H:39:C:H2' | 26:1H:40:C:C6 | 2.56 | 0.40 |
| 26:1H:275:G:N2 | 26:1H:276:A:C5 | 2.88 | 0.40 |
| 26:1H:320:A:H5'' | 26:1H:321:G:OP1 | 2.21 | 0.40 |
| 26:1H:483:A:H2' | 26:1H:484:C:H5' | 2.02 | 0.40 |
| 26:1H:1568:G:N3 | 29:11:58:HIS:HE1 | 2.19 | 0.40 |
| 26:1H:1668:A:O4' | 26:1H:1669:A:C2 | 2.74 | 0.40 |
| 26:1H:1770:G:H2' | 26:1H:1771:C:C6 | 2.56 | 0.40 |
| 26:1H:1771:C:O2' | 26:1H:1786:A:H8 | 2.03 | 0.40 |
| 26:1H:1887:C:N4 | 26:1H:1888:G:N7 | 2.69 | 0.40 |
| 26:1H:2398:U:H2' | 26:1H:2399:G:C8 | 2.56 | 0.40 |
| 26:1H:2439:A:H4' | 26:1H:2440:C:H5'' | 2.03 | 0.40 |
| 27:16:44:G:H1' | 27:16:47:C:N4 | 2.36 | 0.40 |
| 29:11:11:PRO:O | 29:11:12:SER:OG | 2.25 | 0.40 |
| 29:11:83:GLU:OE2 | 29:11:104:TYR:HE1 | 2.05 | 0.40 |
| 29:11:131:LEU:HB2 | 29:11:136:ILE:HD11 | 2.03 | 0.40 |
| 29:11:242:ARG:H | 29:11:242:ARG:HD2 | 1.85 | 0.40 |
| 30:21:116:VAL:O | 30:21:117:MET:CB | 2.65 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 32:41:6:ALA:HB3 | 52:M8:23:GLU:HB2 | 2.03 | 0.40 |
| 32:41:61:ALA:HB2 | 32:41:67:LYS:HA | 2.02 | 0.40 |
| 36:68:2:ILE:HA | 36:68:2:ILE:HD13 | 1.69 | 0.40 |
| 38:88:135:ASP:OD1 | 38:88:137:TYR:HB2 | 2.22 | 0.40 |
| 39:98:3:HIS:O | 39:98:4:LEU:HB2 | 2.22 | 0.40 |
| 40:A8:30:ARG:HA | 40:A8:35:ILE:HA | 2.03 | 0.40 |
| 40:A8:56:LEU:C | 40:A8:58:LEU:HD22 | 2.41 | 0.40 |
| 40:A8:106:ARG:H | 40:A8:106:ARG:HG3 | 1.73 | 0.40 |
| 45:F8:67:GLY:O | 45:F8:68:ARG:HB3 | 2.21 | 0.40 |
| 52:M8:6:HIS:HA | 52:M8:7:PRO:HD3 | 1.93 | 0.40 |
| 52:M8:13:ARG:NH1 | 52:M8:22:ILE:HA | 2.36 | 0.40 |
| 1:1G:113:G:O4' | 1:1G:354:G:H4' | 2.21 | 0.40 |
| 1:1G:147:G:N2 | 1:1G:148:G:C4 | 2.89 | 0.40 |
| 1:1G:1081:G:OP2 | 1:1G:1081:G:H8 | 2.03 | 0.40 |
| 1:1G:1165:C:H2' | 1:1G:1166:G:O4' | 2.21 | 0.40 |
| 1:1G:1261:A:H61 | 1:1G:1274:G:C1' | 2.34 | 0.40 |
| 2:12:97:TRP:CE2 | 2:12:173:ALA:HB2 | 2.56 | 0.40 |
| 3:22:72:LYS:HG3 | 3:22:75:VAL:HB | 2.02 | 0.40 |
| 5:42:61:TYR:HA | 5:42:64:ARG:HB2 | 2.03 | 0.40 |
| 7:62:35:LYS:HB3 | 7:62:35:LYS:HE2 | 1.72 | 0.40 |
| 20:BA:11:SER:HA | 20:BA:13:LEU:HD23 | 2.03 | 0.40 |
| 57:3L:67:C:H2' | 57:3L:68:G:C8 | 2.56 | 0.40 |
| 26:14:79:G:H2' | 26:14:80:G:O4' | 2.21 | 0.40 |
| 26:14:307:G:N2 | 26:14:309:G:H3' | 2.37 | 0.40 |
| 26:14:330:A:H2 | 26:14:1210:A:O2' | 2.01 | 0.40 |
| 26:14:670:A:H4' | 26:14:671:C:O5' | 2.21 | 0.40 |
| 26:14:690:G:O2' | 29:19:43:ARG:NH2 | 2.49 | 0.40 |
| 26:14:957:A:OP1 | 38:45:76:LYS:HD3 | 2.18 | 0.40 |
| 26:14:959:A:N1 | 26:14:960:A:C2 | 2.88 | 0.40 |
| 26:14:1157:G:C2 | 26:14:1158:C:C2 | 3.09 | 0.40 |
| 26:14:1477:A:C4 | 26:14:1517:G:N2 | 2.89 | 0.40 |
| 26:14:1543:A:H2 | 26:14:1545:A:C5 | 2.39 | 0.40 |
| 26:14:1671:U:O5' | 26:14:1671:U:H6 | 2.04 | 0.40 |
| 26:14:1729:A:C6 | 26:14:1731:G:C6 | 3.09 | 0.40 |
| 26:14:1918:A:O3' | 26:14:1919:A:C8 | 2.74 | 0.40 |
| 26:14:2165:G:H8 | 26:14:2166:G:H5'' | 1.86 | 0.40 |
| 26:14:2259:G:N1 | 26:14:2282:G:C6 | 2.89 | 0.40 |
| 26:14:2471:C:H2' | 26:14:2472:G:H8 | 1.87 | 0.40 |
| 26:14:2728:U:O2' | 26:14:2729:G:H5' | 2.21 | 0.40 |
| 26:14:2749:A:C1' | 33:59:63:SER:HA | 2.52 | 0.40 |
| 31:39:183:VAL:O | 31:39:187:VAL:HG23 | 2.21 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 35:15:64:GLY:C | 35:15:66:LYS:H | 2.23 | 0.40 |
| 37:35:56:SER:HB2 | 37:35:61:ARG:HD2 | 2.03 | 0.40 |
| 38:45:12:GLN:O | 38:45:13:GLN:O | 2.38 | 0.40 |
| 38:45:34:LEU:HB2 | 38:45:118:LEU:HD13 | 2.03 | 0.40 |
| 42:85:92:ARG:CZ | 43:95:11:GLN:H | 2.33 | 0.40 |
| 44:A5:4:LYS:O | 44:A5:4:LYS:HG3 | 2.21 | 0.40 |
| 46:C5:42:VAL:O | 46:C5:64:GLU:HA | 2.21 | 0.40 |
| 46:C5:52:SER:N | 46:C5:56:PRO:HA | 2.32 | 0.40 |
| 53:J5:22:HIS:CD2 | 53:J5:22:HIS:H | 2.37 | 0.40 |
| 55:M5:36:LYS:CB | 55:M5:41:ILE:HD11 | 2.51 | 0.40 |
| 1:13:129(A):G:C2 | 1:13:188:U:O2' | 2.64 | 0.40 |
| 1:13:179:A:H2' | 1:13:180:U:H6 | 1.85 | 0.40 |
| 1:13:799:G:C6 | 1:13:800:G:C4 | 3.10 | 0.40 |
| 1:13:874:G:C6 | 1:13:875:C:N4 | 2.89 | 0.40 |
| 1:13:941:G:N2 | 1:13:942:G:H1' | 2.36 | 0.40 |
| 1:13:1053:G:O5' | 1:13:1054:C:H3' | 2.21 | 0.40 |
| 1:13:1126:U:C5 | 1:13:1127:G:C2 | 3.09 | 0.40 |
| 1:13:1431:C:H2' | 1:13:1432:G:O4' | 2.20 | 0.40 |
| 2:1E:92:TYR:CE1 | 2:1E:151:GLY:HA2 | 2.56 | 0.40 |
| 3:2E:101:LEU:HD23 | 3:2E:102:ASN:O | 2.21 | 0.40 |
| 3:2E:156:ARG:HB3 | 3:2E:160:ALA:O | 2.21 | 0.40 |
| 4:3E:92:VAL:HG12 | 4:3E:96:LEU:CD2 | 2.48 | 0.40 |
| 10:1I:12:ASP:OD1 | 10:1I:14:LYS:HB2 | 2.21 | 0.40 |
| 10:1I:50:ILE:HA | 10:1I:60:ARG:HB3 | 2.03 | 0.40 |
| 11:2I:69:ALA:HB1 | 11:2I:73:MET:HE2 | 2.04 | 0.40 |
| 11:2I:84:VAL:HG22 | 11:2I:109:VAL:O | 2.22 | 0.40 |
| 11:2I:109:VAL:HA | 18:9I:85:LEU:O | 2.21 | 0.40 |
| 22:1K:27:G:H22 | 22:1K:43:U:H3 | 1.64 | 0.40 |
| 26:1H:234:C:C2 | 26:1H:235:U:C6 | 3.10 | 0.40 |
| 26:1H:287:C:O2' | 26:1H:288:C:H5' | 2.20 | 0.40 |
| 26:1H:448:U:O4 | 26:1H:583:G:H1' | 2.21 | 0.40 |
| 26:1H:451:C:C2 | 26:1H:453:C:C5 | 3.09 | 0.40 |
| 26:1H:592:G:N3 | 55:Q8:4:MET:CE | 2.85 | 0.40 |
| 26:1H:654(T):A:H2' | 26:1H:654(U):A:O4' | 2.20 | 0.40 |
| 26:1H:696:G:C2 | 26:1H:697:C:C6 | 3.10 | 0.40 |
| 26:1H:1282:U:H2' | 26:1H:1283:G:C8 | 2.56 | 0.40 |
| 26:1H:1316:U:H2' | 26:1H:1317:A:H8 | 1.85 | 0.40 |
| 26:1H:1663:C:O2' | 26:1H:2686:G:H4' | 2.20 | 0.40 |
| 26:1H:1673:U:C6 | 26:1H:1673:U:H3' | 2.56 | 0.40 |
| 26:1H:1675:C:O2 | 30:21:128:SER:OG | 2.39 | 0.40 |
| 26:1H:2197:U:H1' | 26:1H:2198:A:C8 | 2.56 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 28:71:69:GLY:HA2 | 28:71:177:LYS:N | 2.36 | 0.40 |
| 30:21:170:LEU:HD11 | 30:21:187:ALA:HB3 | 2.02 | 0.40 |
| 32:41:145:THR:C | 32:41:147:ASP:H | 2.24 | 0.40 |
| 35:58:70:LYS:HE3 | 35:58:72:TYR:CE1 | 2.56 | 0.40 |
| 38:88:24:GLY:O | 38:88:25:ASP:HB3 | 2.21 | 0.40 |
| 38:88:38:GLU:OE1 | 38:88:128:LYS:HD2 | 2.21 | 0.40 |
| 39:98:12:ARG:CG | 39:98:16:HIS:CG | 3.04 | 0.40 |
| 40:A8:84:GLN:O | 40:A8:85:VAL:HG13 | 2.21 | 0.40 |
| 43:D8:79:VAL:HG13 | 43:D8:81:TYR:CB | 2.47 | 0.40 |
| 45:F8:9:LEU:HD23 | 45:F8:9:LEU:HA | 1.92 | 0.40 |
| 46:G8:81:LYS:HD2 | 46:G8:99:CYS:SG | 2.61 | 0.40 |
| 54:P8:33:ARG:HH11 | 54:P8:33:ARG:HD2 | 1.72 | 0.40 |
| 1:1G:95:G:C6 | 1:1G:96:G:C5 | 3.09 | 0.40 |
| 1:1G:190:G:OP1 | 1:1G:190:G:H8 | 2.04 | 0.40 |
| 1:1G:452:A:C6 | 1:1G:453:A:C6 | 3.09 | 0.40 |
| 1:1G:497:U:O2 | 1:1G:497:U:H2' | 2.20 | 0.40 |
| 1:1G:545:C:H2' | 1:1G:546:G:O4' | 2.20 | 0.40 |
| 1:1G:709:G:C4 | 1:1G:710:G:C8 | 3.09 | 0.40 |
| 1:1G:926:G:C6 | 1:1G:1505:G:C6 | 3.09 | 0.40 |
| 1:1G:1213:A:N6 | 1:1G:1215:G:N3 | 2.69 | 0.40 |
| 1:1G:1257:U:H5'' | 1:1G:1258:G:C8 | 2.57 | 0.40 |
| 1:1G:1287:A:H2 | 1:1G:1353:G:HO2' | 1.63 | 0.40 |
| 1:1G:1296:C:H3' | 1:1G:1297:C:H6 | 1.86 | 0.40 |
| 1:1G:1311:G:N2 | 1:1G:1326:C:O2 | 2.53 | 0.40 |
| 1:1G:1333:A:O5' | 1:1G:1333:A:H8 | 2.05 | 0.40 |
| 2:12:90:MET:HA | 2:12:91:PRO:HD3 | 1.84 | 0.40 |
| 3:22:113:ALA:HB3 | 3:22:114:PRO:HD3 | 2.04 | 0.40 |
| 3:22:152:ILE:HG23 | 3:22:167:TRP:CB | 2.51 | 0.40 |
| 6:52:95:GLU:HA | 6:52:96:PRO:HD3 | 1.93 | 0.40 |
| 7:62:93:PRO:HD2 | 7:62:94:ARG:HH21 | 1.86 | 0.40 |
| 12:3A:6:THR:OG1 | 12:3A:9:GLN:HG3 | 2.21 | 0.40 |
| 17:8A:29:HIS:HB3 | 17:8A:33:GLY:N | 2.36 | 0.40 |
| 18:9A:76:LEU:HD23 | 18:9A:76:LEU:HA | 1.91 | 0.40 |
| 26:14:141:A:H8 | 26:14:1408:C:H1' | 1.86 | 0.40 |
| 26:14:270(E):G:C6 | 26:14:270(F):U:C4 | 3.10 | 0.40 |
| 26:14:425:G:H2' | 26:14:426:C:H6 | 1.85 | 0.40 |
| 26:14:470:A:C8 | 26:14:470:A:C5' | 3.02 | 0.40 |
| 26:14:533:G:H5' | 42:85:24:TYR:CE1 | 2.56 | 0.40 |
| 26:14:544:C:H2' | 26:14:545:G:H5' | 2.01 | 0.40 |
| 26:14:631:A:OP1 | 37:35:65:ARG:NH1 | 2.45 | 0.40 |
| 26:14:817:C:H6 | 26:14:817:C:O5' | 2.04 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:14:917:A:N1 | 26:14:918:A:N3 | 2.70 | 0.40 |
| 26:14:953:A:OP1 | 38:45:16:ARG:HD3 | 2.20 | 0.40 |
| 26:14:968:G:C2 | 26:14:969:U:C2 | 3.09 | 0.40 |
| 26:14:1677:A:H2' | 26:14:1678:G:O4' | 2.21 | 0.40 |
| 26:14:1754:C:N3 | 26:14:2716:U:O2' | 2.53 | 0.40 |
| 26:14:1767:C:O2' | 26:14:1768:U:H5' | 2.21 | 0.40 |
| 26:14:2164:C:O2' | 26:14:2165:G:H5' | 2.22 | 0.40 |
| 26:14:2191:G:H2' | 26:14:2191:G:N3 | 2.36 | 0.40 |
| 26:14:2380:C:OP1 | 40:65:20:ARG:NH1 | 2.54 | 0.40 |
| 26:14:2405:G:OP1 | 37:35:77:ARG:NH2 | 2.54 | 0.40 |
| 26:14:2525:G:C2 | 26:14:2539:C:N3 | 2.89 | 0.40 |
| 27:1J:23:G:N1 | 27:1J:59:A:N6 | 2.69 | 0.40 |
| 27:1J:93:C:C2 | 27:1J:94:C:C6 | 3.09 | 0.40 |
| 29:19:77:ALA:HB2 | 29:19:97:TYR:CG | 2.56 | 0.40 |
| 29:19:182:LEU:HD13 | 29:19:182:LEU:HA | 1.83 | 0.40 |
| 30:29:1:MET:CA | 30:29:200:GLU:OE2 | 2.70 | 0.40 |
| 31:39:126:VAL:HG11 | 31:39:142:TRP:HH2 | 1.86 | 0.40 |
| 39:55:103:ARG:HH21 | 44:A5:40:ASN:CG | 2.15 | 0.40 |
| 41:75:113:LYS:O | 41:75:114:LEU:HD23 | 2.21 | 0.40 |
| 47:D5:44:PHE:CD1 | 47:D5:48:PHE:HB2 | 2.56 | 0.40 |
| 47:D5:78:LYS:H | 47:D5:78:LYS:HG2 | 1.48 | 0.40 |
| 48:E5:50:ASN:C | 48:E5:62:LEU:HB2 | 2.40 | 0.40 |
| 49:F5:90:ILE:HG21 | 49:F5:90:ILE:HD13 | 1.79 | 0.40 |
| 51:H5:26:LEU:HD21 | 51:H5:46:ASN:HB2 | 2.03 | 0.40 |
| 1:13:27:G:C5 | 1:13:557:G:C2 | 3.09 | 0.40 |
| 1:13:109:A:C6 | 1:13:326:G:C6 | 3.08 | 0.40 |
| 1:13:130:A:O2' | 1:13:131:C:O5' | 2.34 | 0.40 |
| 1:13:198:G:C6 | 1:13:220:G:C2 | 3.09 | 0.40 |
| 1:13:1316:G:N2 | 1:13:1319:A:OP2 | 2.46 | 0.40 |
| 1:13:1367:C:N3 | 1:13:1368:G:C8 | 2.90 | 0.40 |
| 3:2E:30:ARG:HH11 | 3:2E:30:ARG:HD2 | 1.75 | 0.40 |
| 3:2E:113:ALA:O | 3:2E:116:VAL:HG22 | 2.21 | 0.40 |
| 5:4E:33:VAL:HG12 | 5:4E:112:LEU:HD12 | 2.03 | 0.40 |
| 9:8E:78:LYS:HE3 | 9:8E:101:PHE:CE1 | 2.57 | 0.40 |
| 15:6I:17:ARG:HH11 | 15:6I:17:ARG:HD3 | 1.69 | 0.40 |
| 18:9I:47:THR:O | 18:9I:83:GLU:N | 2.55 | 0.40 |
| 19:AI:40:ILE:O | 19:AI:41:VAL:HG22 | 2.21 | 0.40 |
| 24:3K:3:G:H22 | 24:3K:70:C:N4 | 2.19 | 0.40 |
| 26:1H:302:C:H2' | 26:1H:303:U:C6 | 2.56 | 0.40 |
| 26:1H:426:C:C2 | 26:1H:427:U:C6 | 3.09 | 0.40 |
| 26:1H:484:C:H2' | 26:1H:485:C:C6 | 2.57 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 26:1H:781:A:C8 | 29:11:219:PRO:HG3 | 2.56 | 0.40 |
| 26:1H:822:U:O2' | 26:1H:823:G:H5' | 2.21 | 0.40 |
| 26:1H:969:U:OP1 | 51:L8:17:LYS:HD3 | 2.20 | 0.40 |
| 26:1H:1164:G:C6 | 26:1H:1165:U:C4 | 3.09 | 0.40 |
| 26:1H:1422:G:H4' | 26:1H:1493:C:OP1 | 2.21 | 0.40 |
| 26:1H:1465:G:C5 | 26:1H:1466:G:N7 | 2.89 | 0.40 |
| 26:1H:1471:A:C2 | 26:1H:1472:A:C4 | 3.09 | 0.40 |
| 26:1H:1598:C:H2' | 26:1H:1599:C:H6 | 1.86 | 0.40 |
| 26:1H:1748:G:H2' | 26:1H:1749:A:C8 | 2.57 | 0.40 |
| 26:1H:1786:A:H1' | 26:1H:1938:A:N6 | 2.37 | 0.40 |
| 26:1H:2256:G:N2 | 26:1H:2275:C:N4 | 2.69 | 0.40 |
| 26:1H:2568:C:H2' | 26:1H:2569:G:O4' | 2.21 | 0.40 |
| 26:1H:2705:A:H2' | 26:1H:2706:G:O4' | 2.20 | 0.40 |
| 26:1H:2814:C:O2' | 53:N8:29:THR:HG21 | 2.21 | 0.40 |
| 30:21:79:ARG:HG2 | 30:21:80:GLU:H | 1.86 | 0.40 |
| 31:31:11:VAL:HG11 | 31:31:18:ARG:HH21 | 1.86 | 0.40 |
| 31:31:12:LEU:HD22 | 31:31:12:LEU:HA | 1.80 | 0.40 |
| 31:31:53:THR:O | 31:31:54:ARG:C | 2.60 | 0.40 |
| 31:31:126:VAL:HG11 | 31:31:142:TRP:HH2 | 1.86 | 0.40 |
| 31:31:162:LEU:HD23 | 31:31:162:LEU:HA | 1.79 | 0.40 |
| 32:41:19:LEU:HD23 | 32:41:23:PHE:HE2 | 1.85 | 0.40 |
| 32:41:77:ILE:HD13 | 32:41:77:ILE:HG21 | 1.76 | 0.40 |
| 33:51:7:LEU:H | 33:51:7:LEU:HG | 1.75 | 0.40 |
| 37:78:126:VAL:HA | 37:78:145:PRO:HD2 | 2.04 | 0.40 |
| 38:88:139:GLU:HG2 | 38:88:139:GLU:O | 2.21 | 0.40 |
| 41:B8:55:ASN:O | 41:B8:56:GLY:C | 2.60 | 0.40 |
| 41:B8:89:VAL:O | 41:B8:90:GLN:HB2 | 2.20 | 0.40 |
| 47:H8:81:ARG:HG3 | 47:H8:81:ARG:O | 2.22 | 0.40 |
| 47:H8:151:HIS:HA | 47:H8:170:THR:HA | 2.03 | 0.40 |
| 1:1G:361:G:H2' | 1:1G:362:G:O4' | 2.21 | 0.40 |
| 1:1G:377:G:H1 | 1:1G:386:C:N4 | 2.04 | 0.40 |
| 1:1G:637:G:H2' | 1:1G:638:G:H8 | 1.87 | 0.40 |
| 1:1G:777:A:H2 | 11:2A:119:CYS:HB3 | 1.85 | 0.40 |
| 1:1G:815:A:N7 | 1:1G:1509:C:O2' | 2.52 | 0.40 |
| 1:1G:841:U:C6 | 1:1G:841:U:C3' | 3.04 | 0.40 |
| 1:1G:1344:C:H4' | 9:82:120:ARG:O | 2.21 | 0.40 |
| 1:1G:1357:A:H3' | 1:1G:1358:U:C6 | 2.57 | 0.40 |
| 1:1G:1376:U:H2' | 1:1G:1377:A:C8 | 2.56 | 0.40 |
| 4:32:110:PHE:CD1 | 4:32:110:PHE:N | 2.90 | 0.40 |
| 9:82:26:VAL:HG12 | 9:82:27:THR:N | 2.36 | 0.40 |
| 12:3A:20:LYS:HE2 | 12:3A:20:LYS:O | 2.21 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 12:3A:76:ASN:OD1 | 12:3A:76:ASN:N | 2.39 | 0.40 |
| 23:2L:36:A:H2' | 23:2L:37:U:C6 | 2.56 | 0.40 |
| 57:3L:30:G:N2 | 57:3L:41:A:N9 | 2.69 | 0.40 |
| 26:14:284:U:H2' | 26:14:285:C:H6 | 1.85 | 0.40 |
| 26:14:422:A:C6 | 26:14:423:A:C6 | 3.09 | 0.40 |
| 26:14:445:C:O2' | 26:14:446:G:H5' | 2.21 | 0.40 |
| 26:14:527:C:HO2' | 26:14:527:C:H6 | 1.65 | 0.40 |
| 26:14:817:C:H2' | 26:14:818:G:O4' | 2.21 | 0.40 |
| 26:14:842:G:O5' | 26:14:842:G:H8 | 2.04 | 0.40 |
| 26:14:848:G:C4 | 26:14:933:A:C8 | 2.97 | 0.40 |
| 26:14:1033:U:H3' | 26:14:1033:U:C6 | 2.56 | 0.40 |
| 26:14:1053:C:H2' | 26:14:1054:A:C1' | 2.51 | 0.40 |
| 26:14:1213:A:N3 | 26:14:1238:G:O2' | 2.49 | 0.40 |
| 26:14:2050:C:H1' | 30:29:156:MET:HE2 | 2.02 | 0.40 |
| 26:14:2082:A:H3' | 26:14:2083:G:H8 | 1.87 | 0.40 |
| 26:14:2336:A:O5' | 26:14:2336:A:H8 | 2.04 | 0.40 |
| 26:14:2505:G:O6 | 26:14:2576:G:H2' | 2.20 | 0.40 |
| 26:14:2795:G:HO2' | 26:14:2798:C:H6 | 1.66 | 0.40 |
| 26:14:2859:G:H3' | 26:14:2859:G:C8 | 2.56 | 0.40 |
| 27:1J:117:G:O6 | 27:1J:119:A:N6 | 2.54 | 0.40 |
| 29:19:66:ASP:OD1 | 29:19:68:LYS:O | 2.39 | 0.40 |
| 31:39:53:THR:O | 31:39:55:GLY:N | 2.54 | 0.40 |
| 32:49:11:TYR:HD1 | 32:49:176:LEU:HD11 | 1.87 | 0.40 |
| 32:49:106:LEU:HB3 | 32:49:107:LEU:CD2 | 2.51 | 0.40 |
| 33:59:56:SER:HB3 | 33:59:61:HIS:CG | 2.57 | 0.40 |
| 38:45:110:THR:OG1 | 38:45:113:GLN:HB2 | 2.22 | 0.40 |
| 39:55:82:GLU:H | 39:55:85:PRO:HG2 | 1.86 | 0.40 |
| 42:85:100:VAL:O | 42:85:102:GLU:N | 2.50 | 0.40 |
| 44:A5:19:LEU:HD13 | 44:A5:19:LEU:HA | 1.82 | 0.40 |
| 46:C5:6:HIS:CD2 | 46:C5:7:VAL:HG13 | 2.57 | 0.40 |
| 48:E5:26:TYR:O | 48:E5:29:GLN:HB2 | 2.20 | 0.40 |
| 49:F5:5:CYS:HG | 49:F5:8:SER:HG | 1.59 | 0.40 |
| 49:F5:15:ALA:O | 49:F5:40:ARG:HG2 | 2.21 | 0.40 |
| 55:M5:31:HIS:O | 55:M5:36:LYS:NZ | 2.55 | 0.40 |
| 1:13:255:G:C5 | 1:13:256:U:C5 | 3.09 | 0.40 |
| 1:13:458:C:N4 | 1:13:475:G:C6 | 2.89 | 0.40 |
| 1:13:592:G:C2 | 1:13:593:G:N7 | 2.89 | 0.40 |
| 1:13:917:G:H2' | 1:13:918:A:C8 | 2.56 | 0.40 |
| 1:13:1173:G:C5 | 1:13:1174:G:C8 | 3.09 | 0.40 |
| 1:13:1196:U:O2 | 3:2E:162:GLN:NE2 | 2.54 | 0.40 |
| 1:13:1277:C:H2' | 1:13:1279:A:H8 | 1.86 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:13:1279:A:O2' | 1:13:1281:U:OP2 | 2.30 | 0.40 |
| 1:13:1501:C:C5 | 1:13:1504:G:C4 | 3.10 | 0.40 |
| 5:4E:78:HIS:CE1 | 5:4E:142:LEU:HD23 | 2.56 | 0.40 |
| 6:5E:36:ARG:H | 6:5E:65:VAL:HG23 | 1.86 | 0.40 |
| 11:2I:47:VAL:H | 11:2I:47:VAL:HG23 | 1.61 | 0.40 |
| 13:4I:8:GLU:O | 13:4I:10:PRO:HD3 | 2.21 | 0.40 |
| 13:4I:15:VAL:HG21 | 13:4I:43:THR:HB | 2.03 | 0.40 |
| 23:2K:2:G:C2 | 23:2K:3:C:C4 | 3.09 | 0.40 |
| 26:1H:34:C:OP2 | 26:1H:34:C:N1 | 2.55 | 0.40 |
| 26:1H:146:G:H2' | 26:1H:147:U:O4' | 2.21 | 0.40 |
| 26:1H:373:U:OP2 | 26:1H:400:G:N1 | 2.40 | 0.40 |
| 26:1H:562:U:H6 | 26:1H:562:U:H2' | 1.71 | 0.40 |
| 26:1H:594:U:H3 | 26:1H:663:G:H1 | 1.70 | 0.40 |
| 26:1H:731:C:C2 | 26:1H:732:C:C5 | 3.10 | 0.40 |
| 26:1H:811:U:H3' | 37:78:22:GLY:HA2 | 2.02 | 0.40 |
| 26:1H:817:C:H2' | 26:1H:818:G:O4' | 2.22 | 0.40 |
| 26:1H:820:A:H4' | 26:1H:836:G:N2 | 2.37 | 0.40 |
| 26:1H:997:G:OP1 | 42:C8:93:LYS:HG3 | 2.21 | 0.40 |
| 26:1H:1858:G:H4' | 26:1H:1859:A:C5' | 2.52 | 0.40 |
| 26:1H:1950:G:C2 | 26:1H:1951:U:C5 | 3.10 | 0.40 |
| 26:1H:2259:G:C6 | 26:1H:2282:G:O6 | 2.75 | 0.40 |
| 26:1H:2324:C:O2' | 26:1H:2337:G:H5'' | 2.20 | 0.40 |
| 26:1H:2370:G:C6 | 26:1H:2371:G:C6 | 3.09 | 0.40 |
| 26:1H:2663:G:H8 | 26:1H:2663:G:OP2 | 2.04 | 0.40 |
| 26:1H:2683:C:C4 | 26:1H:2684:U:C4 | 3.09 | 0.40 |
| 26:1H:2801:A:H5' | 26:1H:2895:U:C4' | 2.51 | 0.40 |
| 26:1H:2854:G:C6 | 26:1H:2855:C:N4 | 2.89 | 0.40 |
| 27:16:3:C:H42 | 27:16:117:G:H1 | 1.68 | 0.40 |
| 27:16:88:C:H2' | 27:16:89:G:O4' | 2.21 | 0.40 |
| 28:71:44:HIS:CE1 | 28:71:215:THR:HG22 | 2.56 | 0.40 |
| 29:11:6:PHE:CE1 | 29:11:18:VAL:HG23 | 2.56 | 0.40 |
| 30:21:16:ARG:HG3 | 30:21:17:ASP:OD1 | 2.22 | 0.40 |
| 30:21:102:VAL:CA | 30:21:201:THR:HG23 | 2.51 | 0.40 |
| 32:41:47:LYS:NZ | 32:41:80:PHE:CD1 | 2.87 | 0.40 |
| 38:88:20:ALA:HB1 | 38:88:99:PRO:HB2 | 2.03 | 0.40 |
| 38:88:41:TRP:HB3 | 38:88:94:VAL:HB | 2.03 | 0.40 |
| 41:B8:34:VAL:CG2 | 41:B8:41:ARG:HG3 | 2.51 | 0.40 |
| 46:G8:45:VAL:HG22 | 46:G8:46:LYS:N | 2.36 | 0.40 |
| 1:1G:73:G:C6 | 1:1G:74:C:C4 | 3.09 | 0.40 |
| 1:1G:324:G:O2' | 1:1G:326:G:N7 | 2.42 | 0.40 |
| 1:1G:464:G:O6 | 1:1G:466:C:H5' | 2.21 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:1G:763:G:N3 | 1:1G:763:G:H2' | 2.36 | 0.40 |
| 1:1G:777:A:C6 | 1:1G:778:G:C4 | 3.10 | 0.40 |
| 1:1G:790:A:H8 | 1:1G:790:A:O5' | 2.05 | 0.40 |
| 1:1G:882:C:N4 | 12:3A:5:PRO:HB3 | 2.37 | 0.40 |
| 1:1G:1081:G:C8 | 5:42:47:LYS:NZ | 2.90 | 0.40 |
| 1:1G:1157:A:H61 | 1:1G:1177:G:N2 | 2.20 | 0.40 |
| 1:1G:1279:A:H5'' | 1:1G:1280:A:P | 2.61 | 0.40 |
| 1:1G:1311:G:H1 | 1:1G:1326:C:H42 | 1.69 | 0.40 |
| 3:22:20:SER:CB | 3:22:40:ARG:HH22 | 2.31 | 0.40 |
| 4:32:128:VAL:CG1 | 4:32:144:ASP:HB3 | 2.51 | 0.40 |
| 4:32:173:TRP:N | 4:32:187:ARG:HH11 | 2.19 | 0.40 |
| 8:72:37:ARG:O | 8:72:41:ARG:HG3 | 2.21 | 0.40 |
| 8:72:48:TYR:HB2 | 8:72:61:VAL:HG22 | 2.03 | 0.40 |
| 9:82:10:ARG:NH1 | 9:82:11:LYS:HB2 | 2.36 | 0.40 |
| 15:6A:39:LEU:HD22 | 15:6A:39:LEU:O | 2.21 | 0.40 |
| 19:AA:74:PHE:N | 19:AA:74:PHE:CD1 | 2.87 | 0.40 |
| 26:14:629:G:H2' | 26:14:630:G:C8 | 2.56 | 0.40 |
| 26:14:635:C:H1' | 26:14:639:U:H5'' | 2.03 | 0.40 |
| 26:14:722:A:H5' | 26:14:723:G:P | 2.61 | 0.40 |
| 26:14:997:G:H2' | 26:14:998:C:H6 | 1.87 | 0.40 |
| 26:14:1550:C:OP1 | 26:14:1727:U:O2' | 2.36 | 0.40 |
| 26:14:1966:A:H4' | 26:14:1967:C:OP1 | 2.22 | 0.40 |
| 26:14:2291:U:H5'' | 26:14:2380:C:O2' | 2.21 | 0.40 |
| 26:14:2349:G:OP2 | 55:M5:42:ARG:NE | 2.53 | 0.40 |
| 26:14:2500:U:H5'' | 26:14:2501:C:OP2 | 2.22 | 0.40 |
| 26:14:2572:A:N3 | 30:29:144:ARG:NH2 | 2.69 | 0.40 |
| 29:19:2:ALA:N | 29:19:200:ASP:OD2 | 2.54 | 0.40 |
| 29:19:44:ASN:HD22 | 29:19:44:ASN:HA | 1.50 | 0.40 |
| 32:49:174:GLU:HB2 | 32:49:180:PHE:CE1 | 2.56 | 0.40 |
| 37:35:63:PRO:CB | 55:M5:30:ARG:HH21 | 2.34 | 0.40 |
| 37:35:144:GLU:OE1 | 37:35:145:PRO:O | 2.39 | 0.40 |
| 39:55:34:ILE:HA | 39:55:34:ILE:HD12 | 1.85 | 0.40 |
| 44:A5:14:PRO:HA | 44:A5:17:VAL:HG12 | 2.03 | 0.40 |
| 50:G5:15:LYS:HA | 50:G5:67:LYS:HZ2 | 1.86 | 0.40 |
| 50:G5:68:ARG:HD3 | 50:G5:68:ARG:HA | 1.97 | 0.40 |
| 55:M5:32:LEU:HA | 55:M5:32:LEU:HD12 | 1.67 | 0.40 |
| 1:13:105:G:H2' | 1:13:106:C:H6 | 1.86 | 0.40 |
| 1:13:243:A:H5'' | 1:13:244:U:H3' | 2.04 | 0.40 |
| 1:13:458:C:H2' | 1:13:464:G:C8 | 2.56 | 0.40 |
| 1:13:575:G:C2 | 1:13:881:G:C4 | 3.09 | 0.40 |
| 1:13:600:C:H2' | 1:13:601:C:C6 | 2.56 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|-------------------|--------------------------|-------------------|
| 1:13:622:A:OP2 | 1:13:623:C:N4 | 2.53 | 0.40 |
| 1:13:813:U:H5' | 1:13:904:C:OP1 | 2.21 | 0.40 |
| 1:13:841:U:H6 | 1:13:841:U:H2' | 1.71 | 0.40 |
| 1:13:955:U:H1' | 1:13:1227:A:H61 | 1.86 | 0.40 |
| 1:13:984:C:H42 | 1:13:1221:G:H1 | 1.70 | 0.40 |
| 1:13:1178:G:O2' | 1:13:1180:A:N7 | 2.45 | 0.40 |
| 1:13:1216:G:OP1 | 14:5I:2:ALA:HB1 | 2.21 | 0.40 |
| 1:13:1401:G:N2 | 1:13:1402:C:H1' | 2.36 | 0.40 |
| 1:13:1416:G:C6 | 1:13:1417:G:C5 | 3.09 | 0.40 |
| 1:13:1517:G:H1' | 26:1H:1919:A:O3' | 2.21 | 0.40 |
| 2:1E:6:THR:CA | 2:1E:221:LEU:HD21 | 2.52 | 0.40 |
| 4:3E:31:CYS:SG | 4:3E:33:MET:HB2 | 2.61 | 0.40 |
| 5:4E:51:VAL:HG13 | 5:4E:52:PRO:CD | 2.47 | 0.40 |
| 7:6E:100:ALA:O | 7:6E:104:LEU:HB2 | 2.21 | 0.40 |
| 9:8E:86:VAL:O | 9:8E:90:PRO:HB3 | 2.21 | 0.40 |
| 11:2I:50:TYR:HD2 | 11:2I:54:ARG:HB2 | 1.86 | 0.40 |
| 13:4I:70:LEU:O | 13:4I:73:GLU:N | 2.53 | 0.40 |
| 26:1H:273(C):C:H42 | 26:1H:363(C):G:H1 | 1.70 | 0.40 |
| 26:1H:300:A:H1' | 26:1H:319:C:O4' | 2.22 | 0.40 |
| 26:1H:1234:U:H2' | 26:1H:1235:G:O4' | 2.22 | 0.40 |
| 26:1H:1387:C:C2 | 26:1H:1388:G:C8 | 3.09 | 0.40 |
| 26:1H:1425:G:H2' | 26:1H:1426:G:O4' | 2.22 | 0.40 |
| 26:1H:1431:U:C2 | 26:1H:1563:G:N2 | 2.89 | 0.40 |
| 26:1H:1498:C:O4' | 26:1H:1577:C:H4' | 2.21 | 0.40 |
| 26:1H:1569:A:C6 | 26:1H:1570:A:C6 | 3.10 | 0.40 |
| 26:1H:1776:G:N3 | 26:1H:1776:G:H2' | 2.36 | 0.40 |
| 26:1H:1997:G:H5'' | 30:21:117:MET:CE | 2.49 | 0.40 |
| 26:1H:2378:A:C5 | 26:1H:2379:G:H1' | 2.56 | 0.40 |
| 27:16:38:C:C4' | 40:A8:95:HIS:HE2 | 2.33 | 0.40 |
| 29:11:199:ALA:C | 29:11:201:HIS:H | 2.24 | 0.40 |
| 32:4I:98:ARG:HE | 52:M8:1:MET:CE | 2.34 | 0.40 |
| 36:68:25:LEU:HD12 | 36:68:38:VAL:HG22 | 2.02 | 0.40 |
| 36:68:93:PRO:HG3 | 36:68:114:ILE:CG1 | 2.52 | 0.40 |
| 45:F8:3:THR:H | 45:F8:3:THR:HG23 | 1.40 | 0.40 |
| 47:H8:60:GLU:O | 47:H8:61:LEU:HD23 | 2.22 | 0.40 |
| 48:I8:77:ARG:HH11 | 48:I8:77:ARG:HD3 | 1.64 | 0.40 |
| 50:K8:59:ARG:O | 50:K8:62:THR:HB | 2.22 | 0.40 |
| 53:N8:3:LYS:HB3 | 53:N8:4:HIS:H | 1.75 | 0.40 |
| 1:1G:457:C:H2' | 1:1G:458:C:H6 | 1.85 | 0.40 |
| 1:1G:501:C:OP1 | 12:3A:117:ARG:NH2 | 2.46 | 0.40 |
| 1:1G:607:A:H8 | 1:1G:607:A:O5' | 2.03 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:1G:746:A:C5 | 1:1G:747:C:C4 | 3.10 | 0.40 |
| 1:1G:827:U:N3 | 1:1G:870:U:C4 | 2.89 | 0.40 |
| 1:1G:959:A:O2' | 1:1G:984:C:O2' | 2.32 | 0.40 |
| 1:1G:1127:G:O2' | 1:1G:1148:U:O2 | 2.28 | 0.40 |
| 1:1G:1386:G:H2' | 1:1G:1387:G:H8 | 1.85 | 0.40 |
| 1:1G:1415:G:C6 | 1:1G:1486:G:C6 | 3.10 | 0.40 |
| 2:12:25:ASN:OD1 | 2:12:27:LYS:N | 2.53 | 0.40 |
| 2:12:178:ARG:NH1 | 2:12:196:LEU:O | 2.46 | 0.40 |
| 3:22:156:ARG:HB2 | 3:22:159:GLY:HA2 | 2.04 | 0.40 |
| 5:42:80:ILE:O | 5:42:90:VAL:HA | 2.21 | 0.40 |
| 5:42:153:LYS:HA | 5:42:153:LYS:HD3 | 1.90 | 0.40 |
| 6:52:40:VAL:HG23 | 6:52:62:TRP:O | 2.22 | 0.40 |
| 6:52:50:TYR:HE1 | 6:52:52:ILE:HG12 | 1.86 | 0.40 |
| 7:62:23:VAL:HG13 | 7:62:43:PHE:CE2 | 2.55 | 0.40 |
| 8:72:25:ASP:OD1 | 8:72:25:ASP:N | 2.55 | 0.40 |
| 9:82:118:LYS:HB3 | 9:82:118:LYS:HZ3 | 1.86 | 0.40 |
| 12:3A:34:ARG:H | 12:3A:34:ARG:HG2 | 1.64 | 0.40 |
| 15:6A:65:ARG:HH11 | 15:6A:65:ARG:HD3 | 1.78 | 0.40 |
| 16:7A:52:ASP:O | 16:7A:56:ALA:N | 2.53 | 0.40 |
| 56:1L:65:C:N4 | 56:1L:66:A:N3 | 2.69 | 0.40 |
| 57:3L:19:G:H3' | 57:3L:20:U:O4' | 2.21 | 0.40 |
| 26:14:521:G:H2' | 26:14:522:G:C8 | 2.56 | 0.40 |
| 26:14:649:G:H2' | 26:14:650:C:C6 | 2.57 | 0.40 |
| 26:14:704:G:H1' | 26:14:726:G:N2 | 2.36 | 0.40 |
| 26:14:910:A:N7 | 38:45:13:GLN:HG3 | 2.36 | 0.40 |
| 26:14:1542:G:H3' | 26:14:1543:A:C5' | 2.51 | 0.40 |
| 26:14:1575:C:H2' | 26:14:1576:U:H6 | 1.87 | 0.40 |
| 26:14:1629:U:H2' | 26:14:1630:G:C8 | 2.57 | 0.40 |
| 26:14:1817:G:C6 | 26:14:1818:U:C4 | 3.10 | 0.40 |
| 26:14:2048:G:C2 | 26:14:2621:A:C2 | 3.09 | 0.40 |
| 26:14:2153:G:N2 | 26:14:2154:G:C6 | 2.90 | 0.40 |
| 26:14:2467:C:H4' | 38:45:123:HIS:CE1 | 2.57 | 0.40 |
| 27:1J:11:C:H3' | 27:1J:12:C:C6 | 2.57 | 0.40 |
| 29:19:133:LEU:HD13 | 29:19:173:VAL:HG22 | 2.02 | 0.40 |
| 29:19:133:LEU:HD23 | 29:19:133:LEU:HA | 1.93 | 0.40 |
| 30:29:11:MET:HG3 | 30:29:24:THR:H | 1.87 | 0.40 |
| 30:29:81:ILE:HG21 | 30:29:84:PHE:HD2 | 1.86 | 0.40 |
| 30:29:181:LEU:HD11 | 41:75:7:ILE:HD11 | 2.03 | 0.40 |
| 31:39:128:ALA:O | 31:39:129:PHE:C | 2.59 | 0.40 |
| 34:69:84:GLY:O | 34:69:85:GLU:HB3 | 2.21 | 0.40 |
| 38:45:22:LYS:N | 38:45:23:GLY:CA | 2.83 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 38:45:41:TRP:HB3 | 38:45:94:VAL:HB | 2.04 | 0.40 |
| 38:45:69:PHE:CD1 | 38:45:70:PRO:HD2 | 2.57 | 0.40 |
| 44:A5:2:GLU:OE2 | 44:A5:72:LYS:NZ | 2.40 | 0.40 |
| 44:A5:33:ARG:NH2 | 44:A5:52:GLU:OE2 | 2.55 | 0.40 |
| 45:B5:57:LEU:N | 45:B5:57:LEU:HD23 | 2.36 | 0.40 |
| 45:B5:59:VAL:O | 45:B5:59:VAL:HG12 | 2.21 | 0.40 |
| 50:G5:59:ARG:HE | 50:G5:59:ARG:HB2 | 1.30 | 0.40 |

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|----------------|--------------------------|--------------------------|-------------------|
| 1:1G:82:U:O2' | 26:14:271(C):U:O4[3_545] | 1.99 | 0.21 |
| 34:61:89:TYR:O | 1:1G:357:G:O2'[4_555] | 2.19 | 0.01 |

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles |
|-----|-------|---------------|-----------|----------|----------|-------------|
| 2 | 12 | 202/256 (79%) | 170 (84%) | 26 (13%) | 6 (3%) | 4 24 |
| 2 | 1E | 227/256 (89%) | 194 (86%) | 28 (12%) | 5 (2%) | 6 32 |
| 3 | 22 | 190/239 (80%) | 167 (88%) | 22 (12%) | 1 (0%) | 29 65 |
| 3 | 2E | 203/239 (85%) | 183 (90%) | 20 (10%) | 0 | 100 100 |
| 4 | 32 | 206/209 (99%) | 181 (88%) | 22 (11%) | 3 (2%) | 10 41 |
| 4 | 3E | 205/209 (98%) | 189 (92%) | 14 (7%) | 2 (1%) | 15 51 |
| 5 | 42 | 147/162 (91%) | 136 (92%) | 11 (8%) | 0 | 100 100 |
| 5 | 4E | 147/162 (91%) | 137 (93%) | 9 (6%) | 1 (1%) | 22 59 |
| 6 | 52 | 99/101 (98%) | 94 (95%) | 5 (5%) | 0 | 100 100 |
| 6 | 5E | 98/101 (97%) | 92 (94%) | 6 (6%) | 0 | 100 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 7 | 62 | 134/156 (86%) | 121 (90%) | 13 (10%) | 0 | 100 | 100 |
| 7 | 6E | 147/156 (94%) | 141 (96%) | 6 (4%) | 0 | 100 | 100 |
| 8 | 72 | 135/138 (98%) | 124 (92%) | 10 (7%) | 1 (1%) | 22 | 59 |
| 8 | 7E | 136/138 (99%) | 125 (92%) | 10 (7%) | 1 (1%) | 22 | 59 |
| 9 | 82 | 101/128 (79%) | 88 (87%) | 11 (11%) | 2 (2%) | 7 | 34 |
| 9 | 8E | 124/128 (97%) | 103 (83%) | 20 (16%) | 1 (1%) | 19 | 55 |
| 10 | 1A | 54/105 (51%) | 46 (85%) | 8 (15%) | 0 | 100 | 100 |
| 10 | 1I | 66/105 (63%) | 58 (88%) | 6 (9%) | 2 (3%) | 4 | 24 |
| 11 | 2A | 111/129 (86%) | 97 (87%) | 12 (11%) | 2 (2%) | 8 | 37 |
| 11 | 2I | 109/129 (84%) | 94 (86%) | 13 (12%) | 2 (2%) | 8 | 37 |
| 12 | 3A | 119/132 (90%) | 97 (82%) | 17 (14%) | 5 (4%) | 3 | 17 |
| 12 | 3I | 120/132 (91%) | 103 (86%) | 16 (13%) | 1 (1%) | 19 | 55 |
| 13 | 4A | 109/126 (86%) | 93 (85%) | 15 (14%) | 1 (1%) | 17 | 53 |
| 13 | 4I | 117/126 (93%) | 97 (83%) | 20 (17%) | 0 | 100 | 100 |
| 14 | 5A | 44/61 (72%) | 37 (84%) | 7 (16%) | 0 | 100 | 100 |
| 14 | 5I | 58/61 (95%) | 48 (83%) | 8 (14%) | 2 (3%) | 3 | 21 |
| 15 | 6A | 85/89 (96%) | 77 (91%) | 8 (9%) | 0 | 100 | 100 |
| 15 | 6I | 85/89 (96%) | 74 (87%) | 11 (13%) | 0 | 100 | 100 |
| 16 | 7A | 82/88 (93%) | 76 (93%) | 6 (7%) | 0 | 100 | 100 |
| 16 | 7I | 78/88 (89%) | 73 (94%) | 5 (6%) | 0 | 100 | 100 |
| 17 | 8A | 97/105 (92%) | 91 (94%) | 6 (6%) | 0 | 100 | 100 |
| 17 | 8I | 98/105 (93%) | 91 (93%) | 7 (7%) | 0 | 100 | 100 |
| 18 | 9A | 65/88 (74%) | 62 (95%) | 3 (5%) | 0 | 100 | 100 |
| 18 | 9I | 65/88 (74%) | 60 (92%) | 4 (6%) | 1 (2%) | 10 | 41 |
| 19 | AA | 32/93 (34%) | 25 (78%) | 6 (19%) | 1 (3%) | 4 | 23 |
| 19 | AI | 79/93 (85%) | 66 (84%) | 11 (14%) | 2 (2%) | 5 | 29 |
| 20 | BA | 96/106 (91%) | 81 (84%) | 12 (12%) | 3 (3%) | 4 | 23 |
| 20 | BI | 95/106 (90%) | 80 (84%) | 15 (16%) | 0 | 100 | 100 |
| 21 | 1B | 21/27 (78%) | 21 (100%) | 0 | 0 | 100 | 100 |
| 21 | 1F | 21/27 (78%) | 20 (95%) | 1 (5%) | 0 | 100 | 100 |
| 28 | 71 | 131/229 (57%) | 121 (92%) | 9 (7%) | 1 (1%) | 19 | 55 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 29 | 11 | 271/276 (98%) | 233 (86%) | 26 (10%) | 12 (4%) | 2 | 16 |
| 29 | 19 | 271/276 (98%) | 245 (90%) | 19 (7%) | 7 (3%) | 5 | 28 |
| 30 | 21 | 201/206 (98%) | 158 (79%) | 34 (17%) | 9 (4%) | 2 | 16 |
| 30 | 29 | 201/206 (98%) | 153 (76%) | 37 (18%) | 11 (6%) | 2 | 12 |
| 31 | 31 | 200/210 (95%) | 176 (88%) | 22 (11%) | 2 (1%) | 15 | 51 |
| 31 | 39 | 202/210 (96%) | 158 (78%) | 36 (18%) | 8 (4%) | 3 | 18 |
| 32 | 41 | 177/182 (97%) | 154 (87%) | 18 (10%) | 5 (3%) | 5 | 26 |
| 32 | 49 | 177/182 (97%) | 152 (86%) | 23 (13%) | 2 (1%) | 14 | 48 |
| 33 | 51 | 169/180 (94%) | 135 (80%) | 20 (12%) | 14 (8%) | 1 | 4 |
| 33 | 59 | 63/180 (35%) | 44 (70%) | 13 (21%) | 6 (10%) | 0 | 3 |
| 34 | 61 | 143/148 (97%) | 118 (82%) | 24 (17%) | 1 (1%) | 22 | 59 |
| 34 | 69 | 143/148 (97%) | 111 (78%) | 27 (19%) | 5 (4%) | 3 | 21 |
| 35 | 15 | 135/140 (96%) | 119 (88%) | 13 (10%) | 3 (2%) | 6 | 32 |
| 35 | 58 | 136/140 (97%) | 117 (86%) | 15 (11%) | 4 (3%) | 4 | 25 |
| 36 | 25 | 120/122 (98%) | 110 (92%) | 9 (8%) | 1 (1%) | 19 | 55 |
| 36 | 68 | 120/122 (98%) | 110 (92%) | 10 (8%) | 0 | 100 | 100 |
| 37 | 35 | 146/150 (97%) | 111 (76%) | 31 (21%) | 4 (3%) | 5 | 27 |
| 37 | 78 | 145/150 (97%) | 116 (80%) | 21 (14%) | 8 (6%) | 2 | 12 |
| 38 | 45 | 136/141 (96%) | 109 (80%) | 23 (17%) | 4 (3%) | 4 | 25 |
| 38 | 88 | 139/141 (99%) | 115 (83%) | 17 (12%) | 7 (5%) | 2 | 14 |
| 39 | 55 | 116/118 (98%) | 109 (94%) | 6 (5%) | 1 (1%) | 17 | 53 |
| 39 | 98 | 116/118 (98%) | 93 (80%) | 22 (19%) | 1 (1%) | 17 | 53 |
| 40 | 65 | 108/112 (96%) | 87 (81%) | 18 (17%) | 3 (3%) | 5 | 26 |
| 40 | A8 | 109/112 (97%) | 89 (82%) | 19 (17%) | 1 (1%) | 17 | 53 |
| 41 | 75 | 134/146 (92%) | 121 (90%) | 13 (10%) | 0 | 100 | 100 |
| 41 | B8 | 133/146 (91%) | 117 (88%) | 14 (10%) | 2 (2%) | 10 | 41 |
| 42 | 85 | 114/118 (97%) | 99 (87%) | 13 (11%) | 2 (2%) | 8 | 37 |
| 42 | C8 | 113/118 (96%) | 104 (92%) | 5 (4%) | 4 (4%) | 3 | 21 |
| 43 | 95 | 97/101 (96%) | 77 (79%) | 16 (16%) | 4 (4%) | 3 | 18 |
| 43 | D8 | 99/101 (98%) | 89 (90%) | 7 (7%) | 3 (3%) | 4 | 24 |
| 44 | A5 | 108/113 (96%) | 100 (93%) | 7 (6%) | 1 (1%) | 17 | 53 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-------------------|------------|------------|----------|-------------|-----|
| 44 | E8 | 108/113 (96%) | 97 (90%) | 11 (10%) | 0 | 100 | 100 |
| 45 | B5 | 92/96 (96%) | 85 (92%) | 5 (5%) | 2 (2%) | 6 | 32 |
| 45 | F8 | 93/96 (97%) | 82 (88%) | 10 (11%) | 1 (1%) | 14 | 48 |
| 46 | C5 | 103/110 (94%) | 70 (68%) | 26 (25%) | 7 (7%) | 1 | 7 |
| 46 | G8 | 102/110 (93%) | 80 (78%) | 16 (16%) | 6 (6%) | 1 | 11 |
| 47 | D5 | 124/206 (60%) | 96 (77%) | 25 (20%) | 3 (2%) | 6 | 30 |
| 47 | H8 | 142/206 (69%) | 112 (79%) | 22 (16%) | 8 (6%) | 2 | 12 |
| 48 | E5 | 76/85 (89%) | 66 (87%) | 8 (10%) | 2 (3%) | 5 | 28 |
| 48 | I8 | 74/85 (87%) | 68 (92%) | 6 (8%) | 0 | 100 | 100 |
| 49 | F5 | 92/98 (94%) | 83 (90%) | 7 (8%) | 2 (2%) | 6 | 32 |
| 49 | J8 | 92/98 (94%) | 84 (91%) | 6 (6%) | 2 (2%) | 6 | 32 |
| 50 | G5 | 65/72 (90%) | 61 (94%) | 3 (5%) | 1 (2%) | 10 | 41 |
| 50 | K8 | 66/72 (92%) | 55 (83%) | 7 (11%) | 4 (6%) | 1 | 10 |
| 51 | H5 | 56/60 (93%) | 53 (95%) | 3 (5%) | 0 | 100 | 100 |
| 51 | L8 | 56/60 (93%) | 53 (95%) | 3 (5%) | 0 | 100 | 100 |
| 52 | M8 | 45/71 (63%) | 28 (62%) | 15 (33%) | 2 (4%) | 2 | 16 |
| 53 | J5 | 54/60 (90%) | 46 (85%) | 8 (15%) | 0 | 100 | 100 |
| 53 | N8 | 46/60 (77%) | 42 (91%) | 4 (9%) | 0 | 100 | 100 |
| 54 | L5 | 43/49 (88%) | 39 (91%) | 4 (9%) | 0 | 100 | 100 |
| 54 | P8 | 45/49 (92%) | 41 (91%) | 3 (7%) | 1 (2%) | 6 | 32 |
| 55 | M5 | 62/65 (95%) | 52 (84%) | 7 (11%) | 3 (5%) | 2 | 15 |
| 55 | Q8 | 62/65 (95%) | 48 (77%) | 10 (16%) | 4 (6%) | 1 | 8 |
| All | All | 10778/12104 (89%) | 9303 (86%) | 1246 (12%) | 229 (2%) | 7 | 33 |

All (229) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 11 | 2I | 91 | ARG |
| 18 | 9I | 22 | VAL |
| 19 | AI | 67 | VAL |
| 29 | 11 | 28 | GLU |
| 29 | 11 | 40 | THR |
| 29 | 11 | 240 | ALA |
| 30 | 21 | 83 | ASP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 37 | 78 | 15 | ARG |
| 37 | 78 | 19 | VAL |
| 37 | 78 | 25 | SER |
| 42 | C8 | 89 | GLU |
| 46 | G8 | 81 | LYS |
| 55 | Q8 | 52 | LYS |
| 9 | 82 | 118 | LYS |
| 20 | BA | 73 | HIS |
| 29 | 19 | 237 | GLU |
| 30 | 29 | 25 | VAL |
| 31 | 39 | 28 | ILE |
| 31 | 39 | 124 | LEU |
| 38 | 45 | 27 | VAL |
| 39 | 55 | 107 | ASP |
| 46 | C5 | 29 | GLU |
| 47 | D5 | 53 | ILE |
| 47 | D5 | 165 | VAL |
| 48 | E5 | 33 | ALA |
| 49 | F5 | 30 | VAL |
| 50 | G5 | 48 | HIS |
| 55 | M5 | 49 | VAL |
| 2 | 1E | 10 | LEU |
| 4 | 3E | 88 | VAL |
| 8 | 7E | 86 | ILE |
| 29 | 11 | 122 | ASP |
| 29 | 11 | 273 | ARG |
| 30 | 21 | 78 | LEU |
| 33 | 51 | 10 | PRO |
| 33 | 51 | 155 | SER |
| 37 | 78 | 30 | THR |
| 38 | 88 | 6 | ARG |
| 38 | 88 | 66 | ILE |
| 38 | 88 | 134 | ARG |
| 39 | 98 | 11 | ASN |
| 42 | C8 | 90 | VAL |
| 42 | C8 | 93 | LYS |
| 46 | G8 | 54 | LYS |
| 47 | H8 | 6 | LYS |
| 47 | H8 | 61 | LEU |
| 47 | H8 | 165 | VAL |
| 49 | J8 | 91 | LYS |
| 50 | K8 | 5 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 50 | K8 | 48 | HIS |
| 52 | M8 | 5 | ILE |
| 11 | 2A | 48 | ILE |
| 12 | 3A | 18 | VAL |
| 12 | 3A | 26 | ALA |
| 19 | AA | 67 | VAL |
| 29 | 19 | 44 | ASN |
| 30 | 29 | 51 | PHE |
| 30 | 29 | 59 | VAL |
| 31 | 39 | 84 | VAL |
| 31 | 39 | 132 | VAL |
| 31 | 39 | 167 | ALA |
| 34 | 69 | 113 | ARG |
| 37 | 35 | 6 | LEU |
| 37 | 35 | 15 | ARG |
| 40 | 65 | 111 | GLU |
| 43 | 95 | 45 | THR |
| 46 | C5 | 17 | SER |
| 48 | E5 | 44 | ARG |
| 55 | M5 | 34 | TRP |
| 55 | M5 | 35 | GLN |
| 2 | 1E | 237 | ALA |
| 10 | 1I | 16 | LEU |
| 12 | 3I | 48 | PRO |
| 29 | 11 | 30 | GLU |
| 30 | 21 | 82 | ARG |
| 30 | 21 | 118 | LYS |
| 31 | 31 | 18 | ARG |
| 33 | 51 | 84 | SER |
| 33 | 51 | 86 | GLU |
| 35 | 58 | 95 | PRO |
| 35 | 58 | 97 | ARG |
| 37 | 78 | 6 | LEU |
| 38 | 88 | 7 | MET |
| 43 | D8 | 45 | THR |
| 45 | F8 | 40 | LYS |
| 47 | H8 | 60 | GLU |
| 50 | K8 | 47 | ASN |
| 52 | M8 | 43 | TYR |
| 55 | Q8 | 35 | GLN |
| 55 | Q8 | 50 | LEU |
| 20 | BA | 49 | ALA |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 29 | 19 | 39 | LYS |
| 29 | 19 | 239 | ARG |
| 30 | 29 | 81 | ILE |
| 31 | 39 | 25 | PRO |
| 31 | 39 | 54 | ARG |
| 33 | 59 | 171 | LEU |
| 34 | 69 | 143 | SER |
| 36 | 25 | 5 | GLN |
| 37 | 35 | 34 | GLY |
| 38 | 45 | 60 | ARG |
| 42 | 85 | 93 | LYS |
| 42 | 85 | 96 | ALA |
| 43 | 95 | 80 | GLN |
| 44 | A5 | 44 | ALA |
| 46 | C5 | 89 | PHE |
| 46 | C5 | 99 | CYS |
| 49 | F5 | 93 | GLU |
| 2 | 1E | 238 | LEU |
| 4 | 3E | 155 | LEU |
| 9 | 8E | 94 | ALA |
| 19 | AI | 41 | VAL |
| 29 | 11 | 3 | VAL |
| 29 | 11 | 27 | THR |
| 29 | 11 | 29 | PRO |
| 29 | 11 | 272 | ALA |
| 30 | 21 | 60 | ASN |
| 32 | 41 | 74 | LYS |
| 32 | 41 | 97 | ASP |
| 33 | 51 | 12 | PRO |
| 33 | 51 | 85 | LYS |
| 33 | 51 | 156 | ALA |
| 33 | 51 | 169 | VAL |
| 35 | 58 | 128 | HIS |
| 37 | 78 | 14 | LYS |
| 41 | B8 | 11 | GLU |
| 41 | B8 | 84 | GLN |
| 43 | D8 | 44 | LYS |
| 46 | G8 | 42 | VAL |
| 47 | H8 | 59 | LEU |
| 49 | J8 | 76 | ARG |
| 50 | K8 | 43 | GLN |
| 55 | Q8 | 47 | LYS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | 12 | 191 | ASP |
| 4 | 32 | 73 | ARG |
| 9 | 82 | 87 | GLN |
| 29 | 19 | 45 | ASN |
| 30 | 29 | 9 | VAL |
| 30 | 29 | 82 | ARG |
| 32 | 49 | 102 | PHE |
| 33 | 59 | 73 | ALA |
| 35 | 15 | 127 | ASP |
| 37 | 35 | 136 | GLU |
| 38 | 45 | 13 | GLN |
| 40 | 65 | 55 | ALA |
| 40 | 65 | 110 | LEU |
| 43 | 95 | 44 | LYS |
| 46 | C5 | 19 | LYS |
| 46 | C5 | 92 | ASN |
| 47 | D5 | 161 | VAL |
| 2 | 1E | 191 | ASP |
| 14 | 5I | 14 | PRO |
| 14 | 5I | 17 | LYS |
| 28 | 71 | 39 | GLU |
| 30 | 21 | 21 | VAL |
| 30 | 21 | 56 | PRO |
| 32 | 41 | 110 | ALA |
| 33 | 51 | 3 | ARG |
| 33 | 51 | 13 | LYS |
| 33 | 51 | 83 | TYR |
| 33 | 51 | 164 | TYR |
| 40 | A8 | 4 | LEU |
| 42 | C8 | 88 | ILE |
| 47 | H8 | 81 | ARG |
| 2 | 12 | 32 | ILE |
| 2 | 12 | 128 | GLU |
| 12 | 3A | 19 | ARG |
| 12 | 3A | 79 | GLU |
| 20 | BA | 10 | LEU |
| 31 | 39 | 128 | ALA |
| 32 | 49 | 47 | LYS |
| 33 | 59 | 60 | ARG |
| 34 | 69 | 80 | PRO |
| 35 | 15 | 128 | HIS |
| 45 | B5 | 40 | LYS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 31 | 31 | 128 | ALA |
| 32 | 41 | 5 | VAL |
| 32 | 41 | 96 | ARG |
| 34 | 61 | 133 | HIS |
| 35 | 58 | 22 | THR |
| 38 | 88 | 60 | ARG |
| 38 | 88 | 79 | LEU |
| 46 | G8 | 53 | PRO |
| 2 | 12 | 71 | VAL |
| 2 | 12 | 96 | ARG |
| 3 | 22 | 49 | SER |
| 4 | 32 | 28 | SER |
| 8 | 72 | 73 | ASP |
| 11 | 2A | 101 | SER |
| 34 | 69 | 144 | VAL |
| 38 | 45 | 78 | PRO |
| 11 | 2I | 82 | VAL |
| 29 | 11 | 123 | ALA |
| 33 | 51 | 92 | ILE |
| 46 | G8 | 3 | VAL |
| 29 | 19 | 3 | VAL |
| 30 | 29 | 26 | ILE |
| 30 | 29 | 52 | LEU |
| 30 | 29 | 77 | ILE |
| 33 | 59 | 8 | PRO |
| 43 | 95 | 72 | VAL |
| 46 | C5 | 85 | VAL |
| 10 | 1I | 82 | ILE |
| 30 | 21 | 52 | LEU |
| 30 | 21 | 55 | ASN |
| 47 | H8 | 53 | ILE |
| 47 | H8 | 141 | VAL |
| 30 | 29 | 62 | PRO |
| 35 | 15 | 135 | PRO |
| 45 | B5 | 51 | VAL |
| 5 | 4E | 115 | VAL |
| 29 | 11 | 36 | PRO |
| 37 | 78 | 7 | ARG |
| 43 | D8 | 47 | VAL |
| 2 | 12 | 39 | ILE |
| 4 | 32 | 56 | VAL |
| 13 | 4A | 84 | ILE |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 33 | 59 | 167 | GLU |
| 37 | 78 | 95 | VAL |
| 54 | P8 | 46 | VAL |
| 12 | 3A | 47 | LYS |
| 29 | 19 | 118 | VAL |
| 33 | 59 | 169 | VAL |
| 34 | 69 | 133 | HIS |
| 2 | 1E | 232 | PRO |
| 33 | 51 | 167 | GLU |
| 38 | 88 | 27 | VAL |
| 30 | 29 | 61 | ARG |
| 46 | G8 | 82 | PRO |

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|-----|-------|----------------|-----------|----------|-------------|
| 2 | 12 | 180/220 (82%) | 164 (91%) | 16 (9%) | 9 33 |
| 2 | 1E | 200/220 (91%) | 181 (90%) | 19 (10%) | 8 30 |
| 3 | 22 | 153/188 (81%) | 143 (94%) | 10 (6%) | 17 48 |
| 3 | 2E | 159/188 (85%) | 148 (93%) | 11 (7%) | 15 46 |
| 4 | 32 | 180/181 (99%) | 165 (92%) | 15 (8%) | 11 37 |
| 4 | 3E | 179/181 (99%) | 167 (93%) | 12 (7%) | 16 47 |
| 5 | 42 | 114/123 (93%) | 106 (93%) | 8 (7%) | 15 45 |
| 5 | 4E | 115/123 (94%) | 106 (92%) | 9 (8%) | 12 40 |
| 6 | 52 | 90/90 (100%) | 81 (90%) | 9 (10%) | 7 28 |
| 6 | 5E | 90/90 (100%) | 87 (97%) | 3 (3%) | 38 69 |
| 7 | 62 | 114/127 (90%) | 101 (89%) | 13 (11%) | 5 23 |
| 7 | 6E | 125/127 (98%) | 118 (94%) | 7 (6%) | 21 53 |
| 8 | 72 | 118/119 (99%) | 112 (95%) | 6 (5%) | 24 56 |
| 8 | 7E | 119/119 (100%) | 111 (93%) | 8 (7%) | 16 47 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|-------------|-----|
| 9 | 82 | 79/99 (80%) | 69 (87%) | 10 (13%) | 4 | 19 |
| 9 | 8E | 97/99 (98%) | 90 (93%) | 7 (7%) | 14 | 43 |
| 10 | 1A | 52/92 (56%) | 48 (92%) | 4 (8%) | 13 | 41 |
| 10 | 1I | 65/92 (71%) | 62 (95%) | 3 (5%) | 27 | 60 |
| 11 | 2A | 85/99 (86%) | 82 (96%) | 3 (4%) | 36 | 67 |
| 11 | 2I | 84/99 (85%) | 81 (96%) | 3 (4%) | 35 | 67 |
| 12 | 3A | 102/109 (94%) | 95 (93%) | 7 (7%) | 15 | 46 |
| 12 | 3I | 103/109 (94%) | 95 (92%) | 8 (8%) | 12 | 40 |
| 13 | 4A | 91/101 (90%) | 85 (93%) | 6 (7%) | 16 | 47 |
| 13 | 4I | 94/101 (93%) | 87 (93%) | 7 (7%) | 13 | 43 |
| 14 | 5A | 40/50 (80%) | 36 (90%) | 4 (10%) | 7 | 28 |
| 14 | 5I | 49/50 (98%) | 48 (98%) | 1 (2%) | 55 | 79 |
| 15 | 6A | 79/80 (99%) | 75 (95%) | 4 (5%) | 24 | 56 |
| 15 | 6I | 79/80 (99%) | 75 (95%) | 4 (5%) | 24 | 56 |
| 16 | 7A | 72/74 (97%) | 70 (97%) | 2 (3%) | 43 | 73 |
| 16 | 7I | 69/74 (93%) | 63 (91%) | 6 (9%) | 10 | 34 |
| 17 | 8A | 94/97 (97%) | 90 (96%) | 4 (4%) | 29 | 62 |
| 17 | 8I | 95/97 (98%) | 91 (96%) | 4 (4%) | 30 | 62 |
| 18 | 9A | 58/77 (75%) | 56 (97%) | 2 (3%) | 37 | 68 |
| 18 | 9I | 58/77 (75%) | 57 (98%) | 1 (2%) | 60 | 82 |
| 19 | AA | 31/80 (39%) | 28 (90%) | 3 (10%) | 8 | 29 |
| 19 | AI | 71/80 (89%) | 66 (93%) | 5 (7%) | 15 | 45 |
| 20 | BA | 76/82 (93%) | 74 (97%) | 2 (3%) | 46 | 74 |
| 20 | BI | 75/82 (92%) | 72 (96%) | 3 (4%) | 31 | 64 |
| 21 | 1B | 19/22 (86%) | 18 (95%) | 1 (5%) | 22 | 55 |
| 21 | 1F | 18/22 (82%) | 18 (100%) | 0 | 100 | 100 |
| 28 | 71 | 111/181 (61%) | 106 (96%) | 5 (4%) | 27 | 61 |
| 29 | 11 | 214/218 (98%) | 205 (96%) | 9 (4%) | 30 | 62 |
| 29 | 19 | 214/218 (98%) | 204 (95%) | 10 (5%) | 26 | 60 |
| 30 | 21 | 165/166 (99%) | 159 (96%) | 6 (4%) | 35 | 67 |
| 30 | 29 | 165/166 (99%) | 155 (94%) | 10 (6%) | 18 | 50 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 31 | 31 | 161/166 (97%) | 153 (95%) | 8 (5%) | 24 | 57 |
| 31 | 39 | 163/166 (98%) | 153 (94%) | 10 (6%) | 18 | 50 |
| 32 | 41 | 153/156 (98%) | 136 (89%) | 17 (11%) | 6 | 24 |
| 32 | 49 | 153/156 (98%) | 134 (88%) | 19 (12%) | 4 | 20 |
| 33 | 51 | 142/148 (96%) | 134 (94%) | 8 (6%) | 21 | 53 |
| 33 | 59 | 56/148 (38%) | 53 (95%) | 3 (5%) | 22 | 55 |
| 34 | 61 | 122/124 (98%) | 112 (92%) | 10 (8%) | 11 | 38 |
| 34 | 69 | 122/124 (98%) | 114 (93%) | 8 (7%) | 16 | 47 |
| 35 | 15 | 116/119 (98%) | 112 (97%) | 4 (3%) | 37 | 68 |
| 35 | 58 | 117/119 (98%) | 109 (93%) | 8 (7%) | 16 | 46 |
| 36 | 25 | 100/100 (100%) | 92 (92%) | 8 (8%) | 12 | 39 |
| 36 | 68 | 100/100 (100%) | 96 (96%) | 4 (4%) | 31 | 64 |
| 37 | 35 | 115/116 (99%) | 110 (96%) | 5 (4%) | 29 | 62 |
| 37 | 78 | 114/116 (98%) | 107 (94%) | 7 (6%) | 18 | 50 |
| 38 | 45 | 109/111 (98%) | 96 (88%) | 13 (12%) | 5 | 21 |
| 38 | 88 | 109/111 (98%) | 104 (95%) | 5 (5%) | 27 | 60 |
| 39 | 55 | 101/101 (100%) | 94 (93%) | 7 (7%) | 15 | 46 |
| 39 | 98 | 101/101 (100%) | 98 (97%) | 3 (3%) | 41 | 71 |
| 40 | 65 | 87/88 (99%) | 81 (93%) | 6 (7%) | 15 | 46 |
| 40 | A8 | 87/88 (99%) | 78 (90%) | 9 (10%) | 7 | 26 |
| 41 | 75 | 119/127 (94%) | 105 (88%) | 14 (12%) | 5 | 21 |
| 41 | B8 | 118/127 (93%) | 106 (90%) | 12 (10%) | 7 | 27 |
| 42 | 85 | 93/94 (99%) | 85 (91%) | 8 (9%) | 10 | 35 |
| 42 | C8 | 92/94 (98%) | 82 (89%) | 10 (11%) | 6 | 24 |
| 43 | 95 | 81/82 (99%) | 76 (94%) | 5 (6%) | 18 | 50 |
| 43 | D8 | 82/82 (100%) | 76 (93%) | 6 (7%) | 14 | 43 |
| 44 | A5 | 90/92 (98%) | 84 (93%) | 6 (7%) | 16 | 47 |
| 44 | E8 | 90/92 (98%) | 84 (93%) | 6 (7%) | 16 | 47 |
| 45 | B5 | 74/78 (95%) | 72 (97%) | 2 (3%) | 44 | 73 |
| 45 | F8 | 74/78 (95%) | 70 (95%) | 4 (5%) | 22 | 55 |
| 46 | C5 | 85/91 (93%) | 72 (85%) | 13 (15%) | 2 | 12 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|------------------|------------|----------|-------------|-----|
| 46 | G8 | 84/91 (92%) | 79 (94%) | 5 (6%) | 19 | 51 |
| 47 | D5 | 118/179 (66%) | 107 (91%) | 11 (9%) | 9 | 31 |
| 47 | H8 | 137/179 (76%) | 133 (97%) | 4 (3%) | 42 | 72 |
| 48 | E5 | 62/67 (92%) | 56 (90%) | 6 (10%) | 8 | 29 |
| 48 | I8 | 61/67 (91%) | 58 (95%) | 3 (5%) | 25 | 59 |
| 49 | F5 | 79/83 (95%) | 76 (96%) | 3 (4%) | 33 | 65 |
| 49 | J8 | 79/83 (95%) | 75 (95%) | 4 (5%) | 24 | 56 |
| 50 | G5 | 62/67 (92%) | 60 (97%) | 2 (3%) | 39 | 70 |
| 50 | K8 | 62/67 (92%) | 56 (90%) | 6 (10%) | 8 | 29 |
| 51 | H5 | 50/52 (96%) | 44 (88%) | 6 (12%) | 5 | 21 |
| 51 | L8 | 50/52 (96%) | 48 (96%) | 2 (4%) | 31 | 64 |
| 52 | M8 | 42/63 (67%) | 40 (95%) | 2 (5%) | 25 | 59 |
| 53 | J5 | 48/52 (92%) | 44 (92%) | 4 (8%) | 11 | 37 |
| 53 | N8 | 43/52 (83%) | 38 (88%) | 5 (12%) | 5 | 22 |
| 54 | L5 | 38/42 (90%) | 32 (84%) | 6 (16%) | 2 | 11 |
| 54 | P8 | 38/42 (90%) | 38 (100%) | 0 | 100 | 100 |
| 55 | M5 | 54/55 (98%) | 49 (91%) | 5 (9%) | 9 | 31 |
| 55 | Q8 | 54/55 (98%) | 49 (91%) | 5 (9%) | 9 | 31 |
| All | All | 9127/10012 (91%) | 8510 (93%) | 617 (7%) | 16 | 46 |

All (617) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | 1E | 19 | HIS |
| 2 | 1E | 21 | ARG |
| 2 | 1E | 23 | ARG |
| 2 | 1E | 28 | PHE |
| 2 | 1E | 45 | GLN |
| 2 | 1E | 48 | MET |
| 2 | 1E | 55 | PHE |
| 2 | 1E | 83 | MET |
| 2 | 1E | 86 | GLU |
| 2 | 1E | 104 | ASN |
| 2 | 1E | 122 | PHE |
| 2 | 1E | 132 | LYS |
| 2 | 1E | 133 | LYS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | 1E | 144 | ARG |
| 2 | 1E | 160 | ASP |
| 2 | 1E | 163 | PHE |
| 2 | 1E | 169 | LYS |
| 2 | 1E | 178 | ARG |
| 2 | 1E | 192 | SER |
| 3 | 2E | 16 | ARG |
| 3 | 2E | 17 | ASP |
| 3 | 2E | 21 | ARG |
| 3 | 2E | 29 | TYR |
| 3 | 2E | 31 | HIS |
| 3 | 2E | 48 | TYR |
| 3 | 2E | 79 | ARG |
| 3 | 2E | 89 | GLU |
| 3 | 2E | 108 | ASN |
| 3 | 2E | 128 | PHE |
| 3 | 2E | 190 | ARG |
| 4 | 3E | 3 | ARG |
| 4 | 3E | 10 | ARG |
| 4 | 3E | 38 | TYR |
| 4 | 3E | 53 | ASP |
| 4 | 3E | 66 | ARG |
| 4 | 3E | 85 | LYS |
| 4 | 3E | 86 | LYS |
| 4 | 3E | 106 | TYR |
| 4 | 3E | 122 | ARG |
| 4 | 3E | 132 | ARG |
| 4 | 3E | 141 | ARG |
| 4 | 3E | 187 | ARG |
| 5 | 4E | 18 | ARG |
| 5 | 4E | 19 | MET |
| 5 | 4E | 31 | LEU |
| 5 | 4E | 64 | ARG |
| 5 | 4E | 107 | ARG |
| 5 | 4E | 140 | ARG |
| 5 | 4E | 145 | LYS |
| 5 | 4E | 147 | ASP |
| 5 | 4E | 153 | LYS |
| 6 | 5E | 15 | ASP |
| 6 | 5E | 55 | ASP |
| 6 | 5E | 95 | GLU |
| 7 | 6E | 6 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 7 | 6E | 32 | ARG |
| 7 | 6E | 37 | ASN |
| 7 | 6E | 79 | ARG |
| 7 | 6E | 111 | ARG |
| 7 | 6E | 113 | GLU |
| 7 | 6E | 154 | TYR |
| 8 | 7E | 18 | ARG |
| 8 | 7E | 36 | LEU |
| 8 | 7E | 54 | ASP |
| 8 | 7E | 68 | ARG |
| 8 | 7E | 85 | ARG |
| 8 | 7E | 98 | LYS |
| 8 | 7E | 102 | ARG |
| 8 | 7E | 122 | ARG |
| 9 | 8E | 4 | TYR |
| 9 | 8E | 9 | ARG |
| 9 | 8E | 10 | ARG |
| 9 | 8E | 20 | ARG |
| 9 | 8E | 42 | ARG |
| 9 | 8E | 51 | ARG |
| 9 | 8E | 95 | LYS |
| 10 | 1I | 29 | ARG |
| 10 | 1I | 58 | ASP |
| 10 | 1I | 86 | MET |
| 11 | 2I | 51 | LYS |
| 11 | 2I | 96 | ARG |
| 11 | 2I | 104 | GLN |
| 12 | 3I | 33 | ARG |
| 12 | 3I | 47 | LYS |
| 12 | 3I | 54 | LYS |
| 12 | 3I | 64 | TYR |
| 12 | 3I | 79 | GLU |
| 12 | 3I | 84 | LEU |
| 12 | 3I | 111 | LYS |
| 12 | 3I | 124 | LYS |
| 13 | 4I | 32 | GLU |
| 13 | 4I | 50 | GLU |
| 13 | 4I | 64 | TRP |
| 13 | 4I | 67 | GLU |
| 13 | 4I | 73 | GLU |
| 13 | 4I | 86 | CYS |
| 13 | 4I | 106 | ASN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 14 | 5I | 41 | ARG |
| 15 | 6I | 10 | LYS |
| 15 | 6I | 13 | GLN |
| 15 | 6I | 17 | ARG |
| 15 | 6I | 39 | LEU |
| 16 | 7I | 1 | MET |
| 16 | 7I | 18 | ARG |
| 16 | 7I | 28 | ARG |
| 16 | 7I | 32 | TYR |
| 16 | 7I | 72 | ARG |
| 16 | 7I | 80 | PHE |
| 17 | 8I | 52 | LYS |
| 17 | 8I | 68 | ARG |
| 17 | 8I | 81 | ARG |
| 17 | 8I | 101 | ARG |
| 18 | 9I | 54 | ARG |
| 19 | AI | 7 | LYS |
| 19 | AI | 12 | ASP |
| 19 | AI | 20 | LEU |
| 19 | AI | 29 | ARG |
| 19 | AI | 37 | ARG |
| 20 | BI | 15 | ARG |
| 20 | BI | 75 | ASN |
| 20 | BI | 104 | LEU |
| 28 | 7I | 17 | ASN |
| 28 | 7I | 55 | ASP |
| 28 | 7I | 184 | LYS |
| 28 | 7I | 187 | ASP |
| 28 | 7I | 192 | PHE |
| 29 | 11 | 31 | LYS |
| 29 | 11 | 33 | LEU |
| 29 | 11 | 35 | LYS |
| 29 | 11 | 37 | LEU |
| 29 | 11 | 38 | LYS |
| 29 | 11 | 43 | ARG |
| 29 | 11 | 126 | GLN |
| 29 | 11 | 208 | LYS |
| 29 | 11 | 242 | ARG |
| 30 | 21 | 19 | ARG |
| 30 | 21 | 101 | ARG |
| 30 | 21 | 111 | ARG |
| 30 | 21 | 113 | PHE |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 30 | 21 | 119 | ARG |
| 30 | 21 | 144 | ARG |
| 31 | 31 | 17 | ARG |
| 31 | 31 | 27 | GLU |
| 31 | 31 | 72 | ARG |
| 31 | 31 | 106 | ARG |
| 31 | 31 | 117 | ARG |
| 31 | 31 | 164 | ARG |
| 31 | 31 | 181 | LEU |
| 31 | 31 | 188 | ARG |
| 32 | 41 | 4 | ASP |
| 32 | 41 | 21 | ARG |
| 32 | 41 | 26 | GLN |
| 32 | 41 | 33 | ARG |
| 32 | 41 | 51 | ARG |
| 32 | 41 | 58 | GLN |
| 32 | 41 | 60 | LEU |
| 32 | 41 | 67 | LYS |
| 32 | 41 | 84 | LYS |
| 32 | 41 | 103 | LEU |
| 32 | 41 | 115 | ARG |
| 32 | 41 | 116 | ASP |
| 32 | 41 | 128 | ARG |
| 32 | 41 | 136 | ARG |
| 32 | 41 | 153 | ARG |
| 32 | 41 | 155 | MET |
| 32 | 41 | 180 | PHE |
| 33 | 51 | 3 | ARG |
| 33 | 51 | 18 | GLU |
| 33 | 51 | 41 | MET |
| 33 | 51 | 57 | ASP |
| 33 | 51 | 83 | TYR |
| 33 | 51 | 152 | ARG |
| 33 | 51 | 164 | TYR |
| 33 | 51 | 167 | GLU |
| 34 | 61 | 20 | ASP |
| 34 | 61 | 25 | TYR |
| 34 | 61 | 38 | LEU |
| 34 | 61 | 66 | GLU |
| 34 | 61 | 74 | ASN |
| 34 | 61 | 77 | LEU |
| 34 | 61 | 96 | ASP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 34 | 61 | 112 | LYS |
| 34 | 61 | 135 | GLU |
| 34 | 61 | 140 | LEU |
| 35 | 58 | 7 | LYS |
| 35 | 58 | 48 | MET |
| 35 | 58 | 58 | ASP |
| 35 | 58 | 97 | ARG |
| 35 | 58 | 127 | ASP |
| 35 | 58 | 131 | GLN |
| 35 | 58 | 134 | ARG |
| 35 | 58 | 137 | LYS |
| 36 | 68 | 18 | LYS |
| 36 | 68 | 32 | TYR |
| 36 | 68 | 53 | LYS |
| 36 | 68 | 70 | LYS |
| 37 | 78 | 1 | MET |
| 37 | 78 | 2 | LYS |
| 37 | 78 | 7 | ARG |
| 37 | 78 | 16 | ARG |
| 37 | 78 | 27 | HIS |
| 37 | 78 | 86 | LYS |
| 37 | 78 | 117 | GLU |
| 38 | 88 | 5 | ARG |
| 38 | 88 | 10 | ARG |
| 38 | 88 | 83 | MET |
| 38 | 88 | 101 | ARG |
| 38 | 88 | 141 | GLN |
| 39 | 98 | 2 | ARG |
| 39 | 98 | 24 | GLN |
| 39 | 98 | 94 | TYR |
| 40 | A8 | 11 | LYS |
| 40 | A8 | 15 | ARG |
| 40 | A8 | 20 | ARG |
| 40 | A8 | 33 | LYS |
| 40 | A8 | 36 | TYR |
| 40 | A8 | 61 | ASN |
| 40 | A8 | 88 | ASP |
| 40 | A8 | 106 | ARG |
| 40 | A8 | 110 | LEU |
| 41 | B8 | 18 | ASP |
| 41 | B8 | 21 | GLU |
| 41 | B8 | 32 | TYR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 41 | B8 | 39 | ARG |
| 41 | B8 | 41 | ARG |
| 41 | B8 | 44 | ASP |
| 41 | B8 | 51 | ARG |
| 41 | B8 | 74 | ARG |
| 41 | B8 | 85 | LYS |
| 41 | B8 | 111 | ARG |
| 41 | B8 | 112 | ARG |
| 41 | B8 | 115 | ARG |
| 42 | C8 | 11 | ARG |
| 42 | C8 | 16 | LYS |
| 42 | C8 | 57 | PHE |
| 42 | C8 | 70 | ARG |
| 42 | C8 | 74 | LEU |
| 42 | C8 | 79 | PHE |
| 42 | C8 | 92 | ARG |
| 42 | C8 | 94 | ASN |
| 42 | C8 | 108 | GLU |
| 42 | C8 | 112 | ARG |
| 43 | D8 | 6 | LYS |
| 43 | D8 | 12 | TYR |
| 43 | D8 | 25 | LEU |
| 43 | D8 | 53 | GLU |
| 43 | D8 | 64 | HIS |
| 43 | D8 | 89 | GLN |
| 44 | E8 | 1 | MET |
| 44 | E8 | 15 | ARG |
| 44 | E8 | 66 | GLU |
| 44 | E8 | 70 | TYR |
| 44 | E8 | 77 | ASP |
| 44 | E8 | 88 | ARG |
| 45 | F8 | 13 | LEU |
| 45 | F8 | 53 | LYS |
| 45 | F8 | 65 | ARG |
| 45 | F8 | 68 | ARG |
| 46 | G8 | 6 | HIS |
| 46 | G8 | 33 | LYS |
| 46 | G8 | 55 | TYR |
| 46 | G8 | 57 | GLN |
| 46 | G8 | 66 | PRO |
| 47 | H8 | 35 | ARG |
| 47 | H8 | 81 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 47 | H8 | 150 | LEU |
| 47 | H8 | 162 | GLU |
| 48 | I8 | 55 | ARG |
| 48 | I8 | 64 | ASP |
| 48 | I8 | 74 | ARG |
| 49 | J8 | 25 | LYS |
| 49 | J8 | 52 | ARG |
| 49 | J8 | 78 | LYS |
| 49 | J8 | 91 | LYS |
| 50 | K8 | 5 | GLU |
| 50 | K8 | 7 | ARG |
| 50 | K8 | 48 | HIS |
| 50 | K8 | 51 | ARG |
| 50 | K8 | 53 | LEU |
| 50 | K8 | 66 | GLU |
| 51 | L8 | 8 | LEU |
| 51 | L8 | 37 | LEU |
| 52 | M8 | 38 | LYS |
| 52 | M8 | 39 | CYS |
| 53 | N8 | 15 | ARG |
| 53 | N8 | 37 | LYS |
| 53 | N8 | 40 | LYS |
| 53 | N8 | 46 | CYS |
| 53 | N8 | 49 | CYS |
| 55 | Q8 | 30 | ARG |
| 55 | Q8 | 34 | TRP |
| 55 | Q8 | 43 | GLN |
| 55 | Q8 | 46 | ARG |
| 55 | Q8 | 57 | ARG |
| 2 | 12 | 12 | GLU |
| 2 | 12 | 21 | ARG |
| 2 | 12 | 24 | TRP |
| 2 | 12 | 30 | ARG |
| 2 | 12 | 61 | LEU |
| 2 | 12 | 79 | ASP |
| 2 | 12 | 83 | MET |
| 2 | 12 | 90 | MET |
| 2 | 12 | 96 | ARG |
| 2 | 12 | 134 | GLU |
| 2 | 12 | 144 | ARG |
| 2 | 12 | 163 | PHE |
| 2 | 12 | 170 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | 12 | 191 | ASP |
| 2 | 12 | 196 | LEU |
| 2 | 12 | 217 | ARG |
| 3 | 22 | 22 | TRP |
| 3 | 22 | 29 | TYR |
| 3 | 22 | 85 | ARG |
| 3 | 22 | 88 | ARG |
| 3 | 22 | 132 | ARG |
| 3 | 22 | 136 | GLN |
| 3 | 22 | 167 | TRP |
| 3 | 22 | 179 | ARG |
| 3 | 22 | 186 | PHE |
| 3 | 22 | 190 | ARG |
| 4 | 32 | 4 | TYR |
| 4 | 32 | 61 | LYS |
| 4 | 32 | 73 | ARG |
| 4 | 32 | 76 | ARG |
| 4 | 32 | 81 | GLU |
| 4 | 32 | 85 | LYS |
| 4 | 32 | 122 | ARG |
| 4 | 32 | 141 | ARG |
| 4 | 32 | 150 | GLU |
| 4 | 32 | 165 | MET |
| 4 | 32 | 168 | ARG |
| 4 | 32 | 187 | ARG |
| 4 | 32 | 191 | ARG |
| 4 | 32 | 193 | ASP |
| 4 | 32 | 209 | ARG |
| 5 | 42 | 8 | GLU |
| 5 | 42 | 27 | ARG |
| 5 | 42 | 61 | TYR |
| 5 | 42 | 68 | GLU |
| 5 | 42 | 73 | ASN |
| 5 | 42 | 78 | HIS |
| 5 | 42 | 126 | ARG |
| 5 | 42 | 143 | ARG |
| 6 | 52 | 3 | ARG |
| 6 | 52 | 7 | ASN |
| 6 | 52 | 14 | LEU |
| 6 | 52 | 47 | ARG |
| 6 | 52 | 54 | LYS |
| 6 | 52 | 59 | TYR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 6 | 52 | 70 | ASP |
| 6 | 52 | 77 | ARG |
| 6 | 52 | 83 | ASP |
| 7 | 62 | 3 | ARG |
| 7 | 62 | 4 | ARG |
| 7 | 62 | 8 | GLU |
| 7 | 62 | 16 | LEU |
| 7 | 62 | 45 | ASP |
| 7 | 62 | 52 | GLU |
| 7 | 62 | 60 | LYS |
| 7 | 62 | 72 | ARG |
| 7 | 62 | 109 | ASN |
| 7 | 62 | 114 | ARG |
| 7 | 62 | 131 | LYS |
| 7 | 62 | 143 | ARG |
| 7 | 62 | 144 | MET |
| 8 | 72 | 25 | ASP |
| 8 | 72 | 52 | ASP |
| 8 | 72 | 82 | HIS |
| 8 | 72 | 99 | GLU |
| 8 | 72 | 102 | ARG |
| 8 | 72 | 121 | ASP |
| 9 | 82 | 18 | PHE |
| 9 | 82 | 35 | GLU |
| 9 | 82 | 42 | ARG |
| 9 | 82 | 54 | ASP |
| 9 | 82 | 78 | LYS |
| 9 | 82 | 83 | ARG |
| 9 | 82 | 91 | ASP |
| 9 | 82 | 113 | LYS |
| 9 | 82 | 117 | HIS |
| 9 | 82 | 125 | TYR |
| 10 | 1A | 47 | PHE |
| 10 | 1A | 51 | ARG |
| 10 | 1A | 79 | ARG |
| 10 | 1A | 83 | GLU |
| 11 | 2A | 34 | ASP |
| 11 | 2A | 81 | ASP |
| 11 | 2A | 116 | HIS |
| 12 | 3A | 20 | LYS |
| 12 | 3A | 33 | ARG |
| 12 | 3A | 34 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 12 | 3A | 54 | LYS |
| 12 | 3A | 64 | TYR |
| 12 | 3A | 78 | GLN |
| 12 | 3A | 98 | TYR |
| 13 | 4A | 34 | LEU |
| 13 | 4A | 36 | LYS |
| 13 | 4A | 55 | ARG |
| 13 | 4A | 57 | ARG |
| 13 | 4A | 64 | TRP |
| 13 | 4A | 80 | ARG |
| 14 | 5A | 17 | LYS |
| 14 | 5A | 24 | CYS |
| 14 | 5A | 27 | CYS |
| 14 | 5A | 40 | CYS |
| 15 | 6A | 10 | LYS |
| 15 | 6A | 17 | ARG |
| 15 | 6A | 68 | ARG |
| 15 | 6A | 76 | GLU |
| 16 | 7A | 39 | TYR |
| 16 | 7A | 81 | ARG |
| 17 | 8A | 52 | LYS |
| 17 | 8A | 63 | ARG |
| 17 | 8A | 70 | ARG |
| 17 | 8A | 92 | ARG |
| 18 | 9A | 23 | LYS |
| 18 | 9A | 85 | LEU |
| 19 | AA | 21 | GLU |
| 19 | AA | 53 | ASN |
| 19 | AA | 56 | GLN |
| 20 | BA | 15 | ARG |
| 20 | BA | 73 | HIS |
| 21 | 1B | 9 | ARG |
| 29 | 19 | 13 | ARG |
| 29 | 19 | 31 | LYS |
| 29 | 19 | 37 | LEU |
| 29 | 19 | 45 | ASN |
| 29 | 19 | 60 | ARG |
| 29 | 19 | 87 | ASN |
| 29 | 19 | 88 | ARG |
| 29 | 19 | 94 | LEU |
| 29 | 19 | 116 | GLN |
| 29 | 19 | 255 | LYS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 30 | 29 | 36 | ARG |
| 30 | 29 | 44 | TYR |
| 30 | 29 | 49 | LEU |
| 30 | 29 | 73 | GLU |
| 30 | 29 | 79 | ARG |
| 30 | 29 | 82 | ARG |
| 30 | 29 | 111 | ARG |
| 30 | 29 | 144 | ARG |
| 30 | 29 | 154 | LYS |
| 30 | 29 | 169 | ASN |
| 31 | 39 | 7 | TYR |
| 31 | 39 | 8 | GLN |
| 31 | 39 | 17 | ARG |
| 31 | 39 | 18 | ARG |
| 31 | 39 | 19 | GLU |
| 31 | 39 | 38 | ARG |
| 31 | 39 | 65 | TRP |
| 31 | 39 | 83 | PHE |
| 31 | 39 | 197 | ASP |
| 31 | 39 | 204 | ASN |
| 32 | 49 | 34 | LEU |
| 32 | 49 | 51 | ARG |
| 32 | 49 | 58 | GLN |
| 32 | 49 | 75 | LYS |
| 32 | 49 | 80 | PHE |
| 32 | 49 | 82 | LEU |
| 32 | 49 | 91 | ARG |
| 32 | 49 | 96 | ARG |
| 32 | 49 | 102 | PHE |
| 32 | 49 | 113 | ARG |
| 32 | 49 | 116 | ASP |
| 32 | 49 | 118 | ARG |
| 32 | 49 | 123 | ASN |
| 32 | 49 | 141 | PHE |
| 32 | 49 | 153 | ARG |
| 32 | 49 | 155 | MET |
| 32 | 49 | 156 | ASP |
| 32 | 49 | 174 | GLU |
| 32 | 49 | 175 | LEU |
| 33 | 59 | 57 | ASP |
| 33 | 59 | 59 | ARG |
| 33 | 59 | 164 | TYR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 34 | 69 | 1 | MET |
| 34 | 69 | 25 | TYR |
| 34 | 69 | 27 | ARG |
| 34 | 69 | 69 | LYS |
| 34 | 69 | 75 | LEU |
| 34 | 69 | 101 | LEU |
| 34 | 69 | 104 | GLN |
| 34 | 69 | 131 | LYS |
| 35 | 15 | 17 | ASP |
| 35 | 15 | 48 | MET |
| 35 | 15 | 59 | LYS |
| 35 | 15 | 138 | LEU |
| 36 | 25 | 5 | GLN |
| 36 | 25 | 17 | ARG |
| 36 | 25 | 18 | LYS |
| 36 | 25 | 26 | LYS |
| 36 | 25 | 42 | SER |
| 36 | 25 | 53 | LYS |
| 36 | 25 | 89 | ASN |
| 36 | 25 | 107 | ARG |
| 37 | 35 | 15 | ARG |
| 37 | 35 | 41 | ARG |
| 37 | 35 | 98 | GLU |
| 37 | 35 | 107 | LYS |
| 37 | 35 | 148 | LEU |
| 38 | 45 | 5 | ARG |
| 38 | 45 | 14 | ARG |
| 38 | 45 | 22 | LYS |
| 38 | 45 | 25 | ASP |
| 38 | 45 | 37 | LEU |
| 38 | 45 | 45 | GLN |
| 38 | 45 | 56 | ARG |
| 38 | 45 | 60 | ARG |
| 38 | 45 | 63 | LYS |
| 38 | 45 | 87 | LYS |
| 38 | 45 | 89 | ASN |
| 38 | 45 | 116 | GLU |
| 38 | 45 | 134 | ARG |
| 39 | 55 | 2 | ARG |
| 39 | 55 | 15 | SER |
| 39 | 55 | 42 | LYS |
| 39 | 55 | 44 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 39 | 55 | 56 | LYS |
| 39 | 55 | 74 | LYS |
| 39 | 55 | 88 | ARG |
| 40 | 65 | 12 | PHE |
| 40 | 65 | 17 | ARG |
| 40 | 65 | 20 | ARG |
| 40 | 65 | 23 | ARG |
| 40 | 65 | 42 | ASP |
| 40 | 65 | 106 | ARG |
| 41 | 75 | 8 | LYS |
| 41 | 75 | 13 | ARG |
| 41 | 75 | 19 | LEU |
| 41 | 75 | 36 | GLU |
| 41 | 75 | 45 | PHE |
| 41 | 75 | 74 | ARG |
| 41 | 75 | 85 | LYS |
| 41 | 75 | 96 | ARG |
| 41 | 75 | 98 | LYS |
| 41 | 75 | 112 | ARG |
| 41 | 75 | 117 | ASP |
| 41 | 75 | 118 | ARG |
| 41 | 75 | 120 | ARG |
| 41 | 75 | 123 | GLN |
| 42 | 85 | 5 | LYS |
| 42 | 85 | 55 | ARG |
| 42 | 85 | 59 | ARG |
| 42 | 85 | 71 | GLN |
| 42 | 85 | 74 | LEU |
| 42 | 85 | 92 | ARG |
| 42 | 85 | 97 | ASP |
| 42 | 85 | 101 | ARG |
| 43 | 95 | 19 | LYS |
| 43 | 95 | 74 | LYS |
| 43 | 95 | 82 | ARG |
| 43 | 95 | 91 | TYR |
| 43 | 95 | 93 | GLU |
| 44 | A5 | 11 | ARG |
| 44 | A5 | 31 | GLU |
| 44 | A5 | 67 | ASP |
| 44 | A5 | 68 | ARG |
| 44 | A5 | 70 | TYR |
| 44 | A5 | 88 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 45 | B5 | 63 | LYS |
| 45 | B5 | 69 | TYR |
| 46 | C5 | 2 | ARG |
| 46 | C5 | 6 | HIS |
| 46 | C5 | 9 | LYS |
| 46 | C5 | 23 | ARG |
| 46 | C5 | 29 | GLU |
| 46 | C5 | 33 | LYS |
| 46 | C5 | 55 | TYR |
| 46 | C5 | 60 | PHE |
| 46 | C5 | 63 | LYS |
| 46 | C5 | 84 | ARG |
| 46 | C5 | 86 | ARG |
| 46 | C5 | 88 | LYS |
| 46 | C5 | 99 | CYS |
| 47 | D5 | 13 | GLU |
| 47 | D5 | 24 | LEU |
| 47 | D5 | 40 | ASP |
| 47 | D5 | 44 | PHE |
| 47 | D5 | 59 | LEU |
| 47 | D5 | 63 | ASP |
| 47 | D5 | 70 | LEU |
| 47 | D5 | 72 | ARG |
| 47 | D5 | 80 | ARG |
| 47 | D5 | 82 | ARG |
| 47 | D5 | 91 | LEU |
| 48 | E5 | 12 | ASN |
| 48 | E5 | 20 | ARG |
| 48 | E5 | 41 | ARG |
| 48 | E5 | 46 | LYS |
| 48 | E5 | 68 | GLU |
| 48 | E5 | 74 | ARG |
| 49 | F5 | 40 | ARG |
| 49 | F5 | 52 | ARG |
| 49 | F5 | 78 | LYS |
| 50 | G5 | 45 | SER |
| 50 | G5 | 59 | ARG |
| 51 | H5 | 5 | LYS |
| 51 | H5 | 24 | LYS |
| 51 | H5 | 33 | GLN |
| 51 | H5 | 39 | ASP |
| 51 | H5 | 44 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 51 | H5 | 55 | ARG |
| 53 | J5 | 8 | LYS |
| 53 | J5 | 15 | ARG |
| 53 | J5 | 23 | HIS |
| 53 | J5 | 51 | TYR |
| 54 | L5 | 1 | MET |
| 54 | L5 | 3 | ARG |
| 54 | L5 | 29 | LYS |
| 54 | L5 | 32 | LYS |
| 54 | L5 | 33 | ARG |
| 54 | L5 | 41 | ARG |
| 55 | M5 | 3 | LYS |
| 55 | M5 | 31 | HIS |
| 55 | M5 | 37 | SER |
| 55 | M5 | 57 | ARG |
| 55 | M5 | 60 | LEU |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (33) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3 | 2E | 162 | GLN |
| 4 | 3E | 161 | ASN |
| 7 | 6E | 84 | ASN |
| 10 | 1I | 13 | HIS |
| 13 | 4I | 12 | ASN |
| 28 | 7I | 66 | HIS |
| 29 | 11 | 253 | GLN |
| 30 | 21 | 143 | ASN |
| 35 | 58 | 69 | GLN |
| 38 | 88 | 141 | GLN |
| 40 | A8 | 61 | ASN |
| 44 | E8 | 34 | ASN |
| 47 | H8 | 85 | HIS |
| 52 | M8 | 6 | HIS |
| 2 | 12 | 16 | HIS |
| 2 | 12 | 78 | GLN |
| 2 | 12 | 135 | GLN |
| 3 | 22 | 3 | ASN |
| 19 | AA | 65 | ASN |
| 29 | 19 | 44 | ASN |
| 29 | 19 | 46 | GLN |
| 30 | 29 | 35 | GLN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 30 | 29 | 55 | ASN |
| 31 | 39 | 40 | GLN |
| 31 | 39 | 67 | GLN |
| 34 | 69 | 105 | HIS |
| 35 | 15 | 131 | GLN |
| 37 | 35 | 84 | ASN |
| 40 | 65 | 38 | GLN |
| 50 | G5 | 9 | GLN |
| 50 | G5 | 47 | ASN |
| 50 | G5 | 48 | HIS |
| 50 | G5 | 56 | GLN |

5.3.3 RNA [i](#)

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|-----|-------|-----------------|-------------------|-----------------|
| 1 | 13 | 1488/1522 (97%) | 386 (25%) | 35 (2%) |
| 1 | 1G | 1492/1522 (98%) | 427 (28%) | 39 (2%) |
| 22 | 1K | 64/76 (84%) | 41 (64%) | 2 (3%) |
| 23 | 2K | 76/77 (98%) | 23 (30%) | 2 (2%) |
| 23 | 2L | 76/77 (98%) | 21 (27%) | 2 (2%) |
| 24 | 3K | 75/76 (98%) | 40 (53%) | 4 (5%) |
| 25 | 4K | 18/27 (66%) | 9 (50%) | 2 (11%) |
| 25 | 4L | 16/27 (59%) | 9 (56%) | 1 (6%) |
| 26 | 14 | 2852/2912 (97%) | 788 (27%) | 58 (2%) |
| 26 | 1H | 2824/2912 (96%) | 736 (26%) | 78 (2%) |
| 27 | 16 | 121/122 (99%) | 27 (22%) | 1 (0%) |
| 27 | 1J | 121/122 (99%) | 41 (33%) | 2 (1%) |
| 56 | 1L | 71/76 (93%) | 40 (56%) | 5 (7%) |
| 57 | 3L | 75/76 (98%) | 40 (53%) | 1 (1%) |
| All | All | 9369/9624 (97%) | 2628 (28%) | 232 (2%) |

All (2628) RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 13 | 2 | U |
| 1 | 13 | 5 | U |
| 1 | 13 | 6 | G |
| 1 | 13 | 8 | A |
| 1 | 13 | 9 | G |
| 1 | 13 | 11 | G |
| 1 | 13 | 19 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 31 | G |
| 1 | 13 | 32 | A |
| 1 | 13 | 33 | A |
| 1 | 13 | 39 | G |
| 1 | 13 | 47 | C |
| 1 | 13 | 48 | C |
| 1 | 13 | 49 | U |
| 1 | 13 | 50 | A |
| 1 | 13 | 51 | A |
| 1 | 13 | 52 | G |
| 1 | 13 | 61 | G |
| 1 | 13 | 63 | C |
| 1 | 13 | 65 | U |
| 1 | 13 | 66 | G |
| 1 | 13 | 68 | G |
| 1 | 13 | 69 | G |
| 1 | 13 | 74 | C |
| 1 | 13 | 76 | G |
| 1 | 13 | 95 | G |
| 1 | 13 | 96 | G |
| 1 | 13 | 97 | U |
| 1 | 13 | 99 | C |
| 1 | 13 | 101 | A |
| 1 | 13 | 103 | C |
| 1 | 13 | 116 | A |
| 1 | 13 | 121 | C |
| 1 | 13 | 129(A) | G |
| 1 | 13 | 131 | C |
| 1 | 13 | 143 | A |
| 1 | 13 | 144 | G |
| 1 | 13 | 145 | G |
| 1 | 13 | 151 | A |
| 1 | 13 | 160 | A |
| 1 | 13 | 163 | C |
| 1 | 13 | 164 | U |
| 1 | 13 | 167 | G |
| 1 | 13 | 169 | C |
| 1 | 13 | 172 | A |
| 1 | 13 | 173 | U |
| 1 | 13 | 174 | C |
| 1 | 13 | 180 | U |
| 1 | 13 | 182 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 186(D) | C |
| 1 | 13 | 187 | C |
| 1 | 13 | 188 | U |
| 1 | 13 | 189 | U |
| 1 | 13 | 190 | G |
| 1 | 13 | 191(A) | G |
| 1 | 13 | 193 | C |
| 1 | 13 | 195 | A |
| 1 | 13 | 197 | A |
| 1 | 13 | 199 | G |
| 1 | 13 | 201 | C |
| 1 | 13 | 208 | U |
| 1 | 13 | 209 | U |
| 1 | 13 | 210 | U |
| 1 | 13 | 216 | G |
| 1 | 13 | 243 | A |
| 1 | 13 | 245 | C |
| 1 | 13 | 247 | G |
| 1 | 13 | 250 | A |
| 1 | 13 | 251 | G |
| 1 | 13 | 256 | U |
| 1 | 13 | 257 | G |
| 1 | 13 | 262 | A |
| 1 | 13 | 266 | G |
| 1 | 13 | 267 | C |
| 1 | 13 | 289 | G |
| 1 | 13 | 299 | G |
| 1 | 13 | 321 | A |
| 1 | 13 | 324 | G |
| 1 | 13 | 328 | C |
| 1 | 13 | 329 | A |
| 1 | 13 | 330 | C |
| 1 | 13 | 332 | G |
| 1 | 13 | 341 | C |
| 1 | 13 | 343 | U |
| 1 | 13 | 344 | A |
| 1 | 13 | 347 | G |
| 1 | 13 | 352 | C |
| 1 | 13 | 353 | A |
| 1 | 13 | 354 | G |
| 1 | 13 | 356 | A |
| 1 | 13 | 357 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 363 | A |
| 1 | 13 | 365 | U |
| 1 | 13 | 367 | U |
| 1 | 13 | 372 | C |
| 1 | 13 | 373 | A |
| 1 | 13 | 374 | A |
| 1 | 13 | 378 | G |
| 1 | 13 | 382 | A |
| 1 | 13 | 383 | A |
| 1 | 13 | 386 | C |
| 1 | 13 | 388 | G |
| 1 | 13 | 390 | C |
| 1 | 13 | 397 | A |
| 1 | 13 | 398 | C |
| 1 | 13 | 406 | G |
| 1 | 13 | 412 | A |
| 1 | 13 | 413 | G |
| 1 | 13 | 414 | A |
| 1 | 13 | 422 | C |
| 1 | 13 | 423 | G |
| 1 | 13 | 424 | G |
| 1 | 13 | 429 | U |
| 1 | 13 | 430 | A |
| 1 | 13 | 439 | A |
| 1 | 13 | 445 | G |
| 1 | 13 | 453 | A |
| 1 | 13 | 455 | C |
| 1 | 13 | 456 | C |
| 1 | 13 | 458 | C |
| 1 | 13 | 466 | C |
| 1 | 13 | 467 | G |
| 1 | 13 | 474 | G |
| 1 | 13 | 484 | G |
| 1 | 13 | 485 | G |
| 1 | 13 | 487 | A |
| 1 | 13 | 496 | A |
| 1 | 13 | 497 | U |
| 1 | 13 | 505 | G |
| 1 | 13 | 509 | A |
| 1 | 13 | 510 | A |
| 1 | 13 | 511 | C |
| 1 | 13 | 517 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 518 | C |
| 1 | 13 | 519 | C |
| 1 | 13 | 524 | G |
| 1 | 13 | 527 | G |
| 1 | 13 | 531 | U |
| 1 | 13 | 533 | A |
| 1 | 13 | 534 | U |
| 1 | 13 | 536 | C |
| 1 | 13 | 547 | A |
| 1 | 13 | 550 | G |
| 1 | 13 | 559 | A |
| 1 | 13 | 560 | U |
| 1 | 13 | 561 | U |
| 1 | 13 | 572 | A |
| 1 | 13 | 573 | A |
| 1 | 13 | 576 | G |
| 1 | 13 | 577 | G |
| 1 | 13 | 582 | U |
| 1 | 13 | 592 | G |
| 1 | 13 | 606 | G |
| 1 | 13 | 607 | A |
| 1 | 13 | 616 | G |
| 1 | 13 | 620 | C |
| 1 | 13 | 630 | G |
| 1 | 13 | 631 | G |
| 1 | 13 | 632 | A |
| 1 | 13 | 650 | G |
| 1 | 13 | 653 | A |
| 1 | 13 | 655 | A |
| 1 | 13 | 659 | U |
| 1 | 13 | 661 | G |
| 1 | 13 | 665 | A |
| 1 | 13 | 666 | G |
| 1 | 13 | 675 | A |
| 1 | 13 | 687 | A |
| 1 | 13 | 688 | G |
| 1 | 13 | 704 | A |
| 1 | 13 | 721 | G |
| 1 | 13 | 723 | U |
| 1 | 13 | 724 | G |
| 1 | 13 | 734 | G |
| 1 | 13 | 749 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 752 | G |
| 1 | 13 | 753 | A |
| 1 | 13 | 755 | G |
| 1 | 13 | 757 | U |
| 1 | 13 | 774 | G |
| 1 | 13 | 776 | G |
| 1 | 13 | 777 | A |
| 1 | 13 | 792 | A |
| 1 | 13 | 793 | U |
| 1 | 13 | 794 | A |
| 1 | 13 | 796 | C |
| 1 | 13 | 801 | U |
| 1 | 13 | 813 | U |
| 1 | 13 | 817 | C |
| 1 | 13 | 819 | A |
| 1 | 13 | 827 | U |
| 1 | 13 | 828 | A |
| 1 | 13 | 831 | U |
| 1 | 13 | 836 | G |
| 1 | 13 | 842 | C |
| 1 | 13 | 843 | U |
| 1 | 13 | 848 | C |
| 1 | 13 | 858 | G |
| 1 | 13 | 859 | A |
| 1 | 13 | 862 | C |
| 1 | 13 | 864 | A |
| 1 | 13 | 870 | U |
| 1 | 13 | 871 | U |
| 1 | 13 | 872 | A |
| 1 | 13 | 873 | A |
| 1 | 13 | 885 | G |
| 1 | 13 | 890 | G |
| 1 | 13 | 902 | G |
| 1 | 13 | 908 | A |
| 1 | 13 | 914 | A |
| 1 | 13 | 925 | G |
| 1 | 13 | 926 | G |
| 1 | 13 | 927 | G |
| 1 | 13 | 931 | C |
| 1 | 13 | 933 | G |
| 1 | 13 | 934 | C |
| 1 | 13 | 935 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 936 | C |
| 1 | 13 | 938 | A |
| 1 | 13 | 940 | C |
| 1 | 13 | 948 | C |
| 1 | 13 | 958 | A |
| 1 | 13 | 960 | U |
| 1 | 13 | 966 | G |
| 1 | 13 | 968 | A |
| 1 | 13 | 969 | A |
| 1 | 13 | 971 | G |
| 1 | 13 | 974 | A |
| 1 | 13 | 975 | A |
| 1 | 13 | 976 | G |
| 1 | 13 | 977 | A |
| 1 | 13 | 978 | A |
| 1 | 13 | 983 | A |
| 1 | 13 | 984 | C |
| 1 | 13 | 993 | G |
| 1 | 13 | 1004 | A |
| 1 | 13 | 1006 | C |
| 1 | 13 | 1007 | C |
| 1 | 13 | 1008 | C |
| 1 | 13 | 1009 | G |
| 1 | 13 | 1010 | G |
| 1 | 13 | 1012 | U |
| 1 | 13 | 1021 | G |
| 1 | 13 | 1023 | G |
| 1 | 13 | 1024 | G |
| 1 | 13 | 1025 | U |
| 1 | 13 | 1027 | C |
| 1 | 13 | 1028 | C |
| 1 | 13 | 1028(B) | C |
| 1 | 13 | 1029 | G |
| 1 | 13 | 1030 | C |
| 1 | 13 | 1031 | G |
| 1 | 13 | 1032(A) | G |
| 1 | 13 | 1032(B) | G |
| 1 | 13 | 1033 | G |
| 1 | 13 | 1036 | G |
| 1 | 13 | 1037 | C |
| 1 | 13 | 1039 | C |
| 1 | 13 | 1040 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 1042 | G |
| 1 | 13 | 1046 | A |
| 1 | 13 | 1049 | U |
| 1 | 13 | 1054 | C |
| 1 | 13 | 1064 | G |
| 1 | 13 | 1065 | U |
| 1 | 13 | 1066 | C |
| 1 | 13 | 1081 | G |
| 1 | 13 | 1085 | U |
| 1 | 13 | 1094 | G |
| 1 | 13 | 1095 | U |
| 1 | 13 | 1101 | A |
| 1 | 13 | 1114 | C |
| 1 | 13 | 1121 | U |
| 1 | 13 | 1123 | A |
| 1 | 13 | 1124 | G |
| 1 | 13 | 1125 | U |
| 1 | 13 | 1126 | U |
| 1 | 13 | 1127 | G |
| 1 | 13 | 1129 | C |
| 1 | 13 | 1131 | G |
| 1 | 13 | 1133 | G |
| 1 | 13 | 1134 | G |
| 1 | 13 | 1136 | U |
| 1 | 13 | 1137 | C |
| 1 | 13 | 1138 | G |
| 1 | 13 | 1139 | G |
| 1 | 13 | 1141 | C |
| 1 | 13 | 1146 | A |
| 1 | 13 | 1152 | A |
| 1 | 13 | 1156 | G |
| 1 | 13 | 1157 | A |
| 1 | 13 | 1158 | C |
| 1 | 13 | 1159 | U |
| 1 | 13 | 1171 | G |
| 1 | 13 | 1177 | G |
| 1 | 13 | 1178 | G |
| 1 | 13 | 1179 | A |
| 1 | 13 | 1181 | G |
| 1 | 13 | 1184 | G |
| 1 | 13 | 1188 | A |
| 1 | 13 | 1189 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 1190 | G |
| 1 | 13 | 1191 | A |
| 1 | 13 | 1193 | G |
| 1 | 13 | 1195 | C |
| 1 | 13 | 1196 | U |
| 1 | 13 | 1197 | G |
| 1 | 13 | 1201 | A |
| 1 | 13 | 1212 | U |
| 1 | 13 | 1213 | A |
| 1 | 13 | 1218 | C |
| 1 | 13 | 1225 | A |
| 1 | 13 | 1226 | C |
| 1 | 13 | 1227 | A |
| 1 | 13 | 1236 | A |
| 1 | 13 | 1238 | A |
| 1 | 13 | 1240 | U |
| 1 | 13 | 1241 | G |
| 1 | 13 | 1250 | A |
| 1 | 13 | 1253 | G |
| 1 | 13 | 1256 | A |
| 1 | 13 | 1257 | U |
| 1 | 13 | 1258 | G |
| 1 | 13 | 1259 | C |
| 1 | 13 | 1262 | C |
| 1 | 13 | 1263 | C |
| 1 | 13 | 1265 | G |
| 1 | 13 | 1272 | G |
| 1 | 13 | 1273 | G |
| 1 | 13 | 1275 | A |
| 1 | 13 | 1278 | U |
| 1 | 13 | 1279 | A |
| 1 | 13 | 1280 | A |
| 1 | 13 | 1285 | A |
| 1 | 13 | 1286 | A |
| 1 | 13 | 1287 | A |
| 1 | 13 | 1288 | A |
| 1 | 13 | 1290 | G |
| 1 | 13 | 1299 | A |
| 1 | 13 | 1300 | G |
| 1 | 13 | 1301 | U |
| 1 | 13 | 1302 | U |
| 1 | 13 | 1320 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 1322 | C |
| 1 | 13 | 1323 | G |
| 1 | 13 | 1331 | G |
| 1 | 13 | 1336 | C |
| 1 | 13 | 1337 | G |
| 1 | 13 | 1338 | G |
| 1 | 13 | 1340 | A |
| 1 | 13 | 1347 | G |
| 1 | 13 | 1350 | A |
| 1 | 13 | 1360 | A |
| 1 | 13 | 1362(A) | C |
| 1 | 13 | 1363 | A |
| 1 | 13 | 1364 | U |
| 1 | 13 | 1368 | G |
| 1 | 13 | 1370 | G |
| 1 | 13 | 1397 | C |
| 1 | 13 | 1398 | A |
| 1 | 13 | 1401 | G |
| 1 | 13 | 1409 | C |
| 1 | 13 | 1419 | G |
| 1 | 13 | 1442 | G |
| 1 | 13 | 1443 | G |
| 1 | 13 | 1446 | A |
| 1 | 13 | 1447 | G |
| 1 | 13 | 1449 | C |
| 1 | 13 | 1450 | U |
| 1 | 13 | 1451 | A |
| 1 | 13 | 1452 | C |
| 1 | 13 | 1453 | G |
| 1 | 13 | 1469 | G |
| 1 | 13 | 1475 | G |
| 1 | 13 | 1487 | G |
| 1 | 13 | 1492 | A |
| 1 | 13 | 1494 | G |
| 1 | 13 | 1497 | G |
| 1 | 13 | 1499 | A |
| 1 | 13 | 1502 | A |
| 1 | 13 | 1503 | A |
| 1 | 13 | 1504 | G |
| 1 | 13 | 1506 | U |
| 1 | 13 | 1517 | G |
| 1 | 13 | 1529 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 1530 | G |
| 22 | 1K | 4 | U |
| 22 | 1K | 5 | C |
| 22 | 1K | 6 | G |
| 22 | 1K | 7 | U |
| 22 | 1K | 8 | U |
| 22 | 1K | 9 | A |
| 22 | 1K | 10 | G |
| 22 | 1K | 11 | C |
| 22 | 1K | 12 | U |
| 22 | 1K | 13 | C |
| 22 | 1K | 15 | G |
| 22 | 1K | 18 | G |
| 22 | 1K | 23 | A |
| 22 | 1K | 24 | G |
| 22 | 1K | 25 | C |
| 22 | 1K | 26 | A |
| 22 | 1K | 28 | U |
| 22 | 1K | 30 | G |
| 22 | 1K | 31 | A |
| 22 | 1K | 40 | C |
| 22 | 1K | 41 | A |
| 22 | 1K | 42 | A |
| 22 | 1K | 43 | U |
| 22 | 1K | 44 | U |
| 22 | 1K | 49 | G |
| 22 | 1K | 50 | C |
| 22 | 1K | 51 | A |
| 22 | 1K | 52 | G |
| 22 | 1K | 54 | 5MU |
| 22 | 1K | 56 | C |
| 22 | 1K | 59 | A |
| 22 | 1K | 60 | U |
| 22 | 1K | 61 | C |
| 22 | 1K | 62 | C |
| 22 | 1K | 63 | U |
| 22 | 1K | 66 | A |
| 22 | 1K | 67 | C |
| 22 | 1K | 68 | G |
| 22 | 1K | 70 | C |
| 22 | 1K | 72 | C |
| 22 | 1K | 74 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 23 | 2K | 2 | G |
| 23 | 2K | 3 | C |
| 23 | 2K | 6 | G |
| 23 | 2K | 8 | 4SU |
| 23 | 2K | 9 | G |
| 23 | 2K | 15 | G |
| 23 | 2K | 16 | C |
| 23 | 2K | 17 | C |
| 23 | 2K | 18 | C |
| 23 | 2K | 20 | G |
| 23 | 2K | 21 | U |
| 23 | 2K | 22 | A |
| 23 | 2K | 23 | G |
| 23 | 2K | 27 | G |
| 23 | 2K | 28 | U |
| 23 | 2K | 31 | G |
| 23 | 2K | 48 | U |
| 23 | 2K | 49 | C |
| 23 | 2K | 53 | G |
| 23 | 2K | 55 | 5MU |
| 23 | 2K | 57 | C |
| 23 | 2K | 68 | C |
| 23 | 2K | 77 | A |
| 24 | 3K | 2 | G |
| 24 | 3K | 3 | G |
| 24 | 3K | 7 | U |
| 24 | 3K | 9 | A |
| 24 | 3K | 10 | G |
| 24 | 3K | 13 | C |
| 24 | 3K | 14 | A |
| 24 | 3K | 15 | G |
| 24 | 3K | 17 | U |
| 24 | 3K | 18 | G |
| 24 | 3K | 19 | G |
| 24 | 3K | 20 | U |
| 24 | 3K | 22 | G |
| 24 | 3K | 23 | A |
| 24 | 3K | 24 | G |
| 24 | 3K | 26 | A |
| 24 | 3K | 30 | G |
| 24 | 3K | 34 | U |
| 24 | 3K | 35 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 24 | 3K | 39 | U |
| 24 | 3K | 40 | C |
| 24 | 3K | 41 | A |
| 24 | 3K | 42 | A |
| 24 | 3K | 44 | U |
| 24 | 3K | 45 | G |
| 24 | 3K | 46 | G |
| 24 | 3K | 47 | U |
| 24 | 3K | 48 | C |
| 24 | 3K | 50 | C |
| 24 | 3K | 51 | A |
| 24 | 3K | 55 | U |
| 24 | 3K | 58 | A |
| 24 | 3K | 59 | A |
| 24 | 3K | 60 | U |
| 24 | 3K | 61 | C |
| 24 | 3K | 65 | C |
| 24 | 3K | 66 | A |
| 24 | 3K | 69 | A |
| 24 | 3K | 72 | C |
| 24 | 3K | 73 | A |
| 25 | 4K | 9 | G |
| 25 | 4K | 10 | G |
| 25 | 4K | 11 | U |
| 25 | 4K | 13 | A |
| 25 | 4K | 14 | A |
| 25 | 4K | 19 | A |
| 25 | 4K | 22 | A |
| 25 | 4K | 23 | A |
| 25 | 4K | 24 | A |
| 26 | 1H | 6 | A |
| 26 | 1H | 12 | U |
| 26 | 1H | 14 | A |
| 26 | 1H | 15 | G |
| 26 | 1H | 34 | C |
| 26 | 1H | 35 | G |
| 26 | 1H | 37 | C |
| 26 | 1H | 46 | C |
| 26 | 1H | 51 | G |
| 26 | 1H | 54 | G |
| 26 | 1H | 61 | G |
| 26 | 1H | 63 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 64 | A |
| 26 | 1H | 71 | A |
| 26 | 1H | 72 | U |
| 26 | 1H | 74 | A |
| 26 | 1H | 75 | G |
| 26 | 1H | 83 | G |
| 26 | 1H | 85 | G |
| 26 | 1H | 101 | G |
| 26 | 1H | 102 | G |
| 26 | 1H | 114 | U |
| 26 | 1H | 118 | A |
| 26 | 1H | 119 | A |
| 26 | 1H | 120 | U |
| 26 | 1H | 123 | G |
| 26 | 1H | 125 | G |
| 26 | 1H | 126 | A |
| 26 | 1H | 129 | C |
| 26 | 1H | 138 | G |
| 26 | 1H | 140 | A |
| 26 | 1H | 146 | G |
| 26 | 1H | 155 | C |
| 26 | 1H | 162 | U |
| 26 | 1H | 163 | U |
| 26 | 1H | 164 | U |
| 26 | 1H | 165 | U |
| 26 | 1H | 171 | G |
| 26 | 1H | 173 | G |
| 26 | 1H | 177 | G |
| 26 | 1H | 178 | G |
| 26 | 1H | 181 | A |
| 26 | 1H | 188 | G |
| 26 | 1H | 196 | A |
| 26 | 1H | 197 | A |
| 26 | 1H | 199 | A |
| 26 | 1H | 214 | G |
| 26 | 1H | 215 | G |
| 26 | 1H | 216 | A |
| 26 | 1H | 222 | A |
| 26 | 1H | 223 | A |
| 26 | 1H | 227 | A |
| 26 | 1H | 228 | A |
| 26 | 1H | 229 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 233 | A |
| 26 | 1H | 235 | U |
| 26 | 1H | 248 | G |
| 26 | 1H | 250 | G |
| 26 | 1H | 252 | G |
| 26 | 1H | 261 | G |
| 26 | 1H | 264 | C |
| 26 | 1H | 269 | U |
| 26 | 1H | 270(E) | G |
| 26 | 1H | 270(K) | C |
| 26 | 1H | 270(M) | U |
| 26 | 1H | 270(O) | U |
| 26 | 1H | 270(P) | C |
| 26 | 1H | 270(R) | G |
| 26 | 1H | 270(Y) | G |
| 26 | 1H | 271(C) | U |
| 26 | 1H | 271 | G |
| 26 | 1H | 274 | G |
| 26 | 1H | 275 | G |
| 26 | 1H | 277 | C |
| 26 | 1H | 278 | A |
| 26 | 1H | 295 | G |
| 26 | 1H | 299 | A |
| 26 | 1H | 308 | G |
| 26 | 1H | 311 | A |
| 26 | 1H | 318 | C |
| 26 | 1H | 323 | G |
| 26 | 1H | 324 | A |
| 26 | 1H | 329 | G |
| 26 | 1H | 330 | A |
| 26 | 1H | 331 | A |
| 26 | 1H | 344 | G |
| 26 | 1H | 346 | A |
| 26 | 1H | 347 | A |
| 26 | 1H | 352 | G |
| 26 | 1H | 354 | G |
| 26 | 1H | 362 | U |
| 26 | 1H | 363 | G |
| 26 | 1H | 364 | C |
| 26 | 1H | 372 | G |
| 26 | 1H | 382 | G |
| 26 | 1H | 386 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 396 | G |
| 26 | 1H | 404 | C |
| 26 | 1H | 405 | U |
| 26 | 1H | 406 | G |
| 26 | 1H | 411 | G |
| 26 | 1H | 418 | G |
| 26 | 1H | 421 | U |
| 26 | 1H | 428 | A |
| 26 | 1H | 444 | C |
| 26 | 1H | 448 | U |
| 26 | 1H | 452 | G |
| 26 | 1H | 455 | C |
| 26 | 1H | 457 | A |
| 26 | 1H | 470 | A |
| 26 | 1H | 471 | A |
| 26 | 1H | 481 | G |
| 26 | 1H | 482 | A |
| 26 | 1H | 483 | A |
| 26 | 1H | 491 | G |
| 26 | 1H | 501 | A |
| 26 | 1H | 504 | U |
| 26 | 1H | 505 | A |
| 26 | 1H | 508 | G |
| 26 | 1H | 509 | C |
| 26 | 1H | 529 | A |
| 26 | 1H | 531 | C |
| 26 | 1H | 532 | A |
| 26 | 1H | 533 | G |
| 26 | 1H | 546 | C |
| 26 | 1H | 549 | G |
| 26 | 1H | 563 | G |
| 26 | 1H | 564 | C |
| 26 | 1H | 570 | G |
| 26 | 1H | 573 | G |
| 26 | 1H | 575 | A |
| 26 | 1H | 583 | G |
| 26 | 1H | 586 | A |
| 26 | 1H | 587 | C |
| 26 | 1H | 588 | U |
| 26 | 1H | 603 | A |
| 26 | 1H | 607 | U |
| 26 | 1H | 613 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 617 | G |
| 26 | 1H | 621 | A |
| 26 | 1H | 622 | G |
| 26 | 1H | 627 | A |
| 26 | 1H | 631 | A |
| 26 | 1H | 632 | A |
| 26 | 1H | 637 | A |
| 26 | 1H | 640 | C |
| 26 | 1H | 645 | C |
| 26 | 1H | 646 | A |
| 26 | 1H | 649 | G |
| 26 | 1H | 650 | C |
| 26 | 1H | 654 | A |
| 26 | 1H | 654(A) | A |
| 26 | 1H | 654(P) | G |
| 26 | 1H | 654(Q) | C |
| 26 | 1H | 654(T) | A |
| 26 | 1H | 654(U) | A |
| 26 | 1H | 662 | G |
| 26 | 1H | 663 | G |
| 26 | 1H | 664 | C |
| 26 | 1H | 665 | C |
| 26 | 1H | 667 | U |
| 26 | 1H | 686 | G |
| 26 | 1H | 702 | G |
| 26 | 1H | 704 | G |
| 26 | 1H | 705 | A |
| 26 | 1H | 708 | C |
| 26 | 1H | 717 | G |
| 26 | 1H | 726 | G |
| 26 | 1H | 730 | C |
| 26 | 1H | 738 | G |
| 26 | 1H | 751 | A |
| 26 | 1H | 752 | A |
| 26 | 1H | 753 | C |
| 26 | 1H | 762 | U |
| 26 | 1H | 765 | G |
| 26 | 1H | 775 | G |
| 26 | 1H | 776 | G |
| 26 | 1H | 777 | A |
| 26 | 1H | 779 | U |
| 26 | 1H | 782 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 784 | A |
| 26 | 1H | 785 | G |
| 26 | 1H | 788 | A |
| 26 | 1H | 790 | C |
| 26 | 1H | 791 | C |
| 26 | 1H | 792 | G |
| 26 | 1H | 793 | A |
| 26 | 1H | 794 | G |
| 26 | 1H | 797 | C |
| 26 | 1H | 801 | G |
| 26 | 1H | 805 | G |
| 26 | 1H | 812 | C |
| 26 | 1H | 824 | A |
| 26 | 1H | 826 | U |
| 26 | 1H | 827 | U |
| 26 | 1H | 828 | U |
| 26 | 1H | 836 | G |
| 26 | 1H | 845 | G |
| 26 | 1H | 846 | C |
| 26 | 1H | 847 | U |
| 26 | 1H | 859 | G |
| 26 | 1H | 860 | U |
| 26 | 1H | 866 | A |
| 26 | 1H | 870 | A |
| 26 | 1H | 879 | G |
| 26 | 1H | 880 | G |
| 26 | 1H | 881 | G |
| 26 | 1H | 882 | G |
| 26 | 1H | 894 | C |
| 26 | 1H | 898 | C |
| 26 | 1H | 899 | A |
| 26 | 1H | 900 | A |
| 26 | 1H | 901 | A |
| 26 | 1H | 902 | C |
| 26 | 1H | 906 | G |
| 26 | 1H | 907 | U |
| 26 | 1H | 910 | A |
| 26 | 1H | 912 | C |
| 26 | 1H | 914 | C |
| 26 | 1H | 917 | A |
| 26 | 1H | 918 | A |
| 26 | 1H | 926 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 932 | G |
| 26 | 1H | 936 | C |
| 26 | 1H | 941 | A |
| 26 | 1H | 945 | A |
| 26 | 1H | 946 | G |
| 26 | 1H | 953 | A |
| 26 | 1H | 958 | U |
| 26 | 1H | 959 | A |
| 26 | 1H | 961 | C |
| 26 | 1H | 974 | G |
| 26 | 1H | 974(A) | C |
| 26 | 1H | 975 | G |
| 26 | 1H | 983 | A |
| 26 | 1H | 990 | A |
| 26 | 1H | 993 | G |
| 26 | 1H | 996 | A |
| 26 | 1H | 997 | G |
| 26 | 1H | 999 | U |
| 26 | 1H | 1011 | G |
| 26 | 1H | 1012 | U |
| 26 | 1H | 1013 | C |
| 26 | 1H | 1020 | A |
| 26 | 1H | 1022 | G |
| 26 | 1H | 1023 | U |
| 26 | 1H | 1024 | G |
| 26 | 1H | 1025 | G |
| 26 | 1H | 1026 | U |
| 26 | 1H | 1027 | A |
| 26 | 1H | 1033 | U |
| 26 | 1H | 1042 | G |
| 26 | 1H | 1046 | A |
| 26 | 1H | 1047 | G |
| 26 | 1H | 1051 | G |
| 26 | 1H | 1052 | C |
| 26 | 1H | 1053 | C |
| 26 | 1H | 1107 | G |
| 26 | 1H | 1108 | U |
| 26 | 1H | 1109 | C |
| 26 | 1H | 1110 | G |
| 26 | 1H | 1112 | G |
| 26 | 1H | 1113 | U |
| 26 | 1H | 1122 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 1126 | A |
| 26 | 1H | 1127 | A |
| 26 | 1H | 1128 | A |
| 26 | 1H | 1129 | A |
| 26 | 1H | 1130 | U |
| 26 | 1H | 1135 | C |
| 26 | 1H | 1136 | G |
| 26 | 1H | 1138 | G |
| 26 | 1H | 1139 | G |
| 26 | 1H | 1142 | U |
| 26 | 1H | 1142(A) | A |
| 26 | 1H | 1144 | G |
| 26 | 1H | 1145 | C |
| 26 | 1H | 1156 | A |
| 26 | 1H | 1157 | G |
| 26 | 1H | 1165 | U |
| 26 | 1H | 1170 | G |
| 26 | 1H | 1175 | U |
| 26 | 1H | 1177 | A |
| 26 | 1H | 1178 | C |
| 26 | 1H | 1179 | C |
| 26 | 1H | 1180 | C |
| 26 | 1H | 1192 | G |
| 26 | 1H | 1195 | G |
| 26 | 1H | 1204 | A |
| 26 | 1H | 1205 | U |
| 26 | 1H | 1210 | A |
| 26 | 1H | 1211 | U |
| 26 | 1H | 1218 | C |
| 26 | 1H | 1220 | A |
| 26 | 1H | 1229(A) | G |
| 26 | 1H | 1234 | U |
| 26 | 1H | 1236 | G |
| 26 | 1H | 1244 | G |
| 26 | 1H | 1245 | G |
| 26 | 1H | 1248 | G |
| 26 | 1H | 1250 | G |
| 26 | 1H | 1253 | A |
| 26 | 1H | 1256 | G |
| 26 | 1H | 1265 | A |
| 26 | 1H | 1269 | A |
| 26 | 1H | 1271 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 1272 | A |
| 26 | 1H | 1273 | U |
| 26 | 1H | 1285 | G |
| 26 | 1H | 1286 | A |
| 26 | 1H | 1298 | C |
| 26 | 1H | 1300 | U |
| 26 | 1H | 1301 | A |
| 26 | 1H | 1303 | G |
| 26 | 1H | 1305 | C |
| 26 | 1H | 1319 | G |
| 26 | 1H | 1321 | A |
| 26 | 1H | 1329 | U |
| 26 | 1H | 1332 | G |
| 26 | 1H | 1344 | G |
| 26 | 1H | 1345 | C |
| 26 | 1H | 1347 | G |
| 26 | 1H | 1349 | A |
| 26 | 1H | 1352 | U |
| 26 | 1H | 1358 | G |
| 26 | 1H | 1359 | A |
| 26 | 1H | 1360 | A |
| 26 | 1H | 1365 | A |
| 26 | 1H | 1370 | C |
| 26 | 1H | 1378 | A |
| 26 | 1H | 1380 | G |
| 26 | 1H | 1381 | G |
| 26 | 1H | 1385 | G |
| 26 | 1H | 1386 | C |
| 26 | 1H | 1388 | G |
| 26 | 1H | 1389 | G |
| 26 | 1H | 1395 | A |
| 26 | 1H | 1397 | U |
| 26 | 1H | 1400 | G |
| 26 | 1H | 1401 | G |
| 26 | 1H | 1403 | C |
| 26 | 1H | 1404 | C |
| 26 | 1H | 1407 | C |
| 26 | 1H | 1416 | G |
| 26 | 1H | 1417 | C |
| 26 | 1H | 1420 | U |
| 26 | 1H | 1421 | G |
| 26 | 1H | 1428 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 1429 | G |
| 26 | 1H | 1430 | C |
| 26 | 1H | 1431 | U |
| 26 | 1H | 1437 | C |
| 26 | 1H | 1438 | U |
| 26 | 1H | 1444(A) | A |
| 26 | 1H | 1449 | A |
| 26 | 1H | 1453 | A |
| 26 | 1H | 1454 | U |
| 26 | 1H | 1455 | G |
| 26 | 1H | 1459 | G |
| 26 | 1H | 1460 | A |
| 26 | 1H | 1461 | G |
| 26 | 1H | 1464 | C |
| 26 | 1H | 1467 | C |
| 26 | 1H | 1471 | A |
| 26 | 1H | 1478 | G |
| 26 | 1H | 1482 | U |
| 26 | 1H | 1483 | G |
| 26 | 1H | 1494 | A |
| 26 | 1H | 1495 | A |
| 26 | 1H | 1496 | A |
| 26 | 1H | 1497 | U |
| 26 | 1H | 1499 | C |
| 26 | 1H | 1509 | C |
| 26 | 1H | 1510 | A |
| 26 | 1H | 1511 | A |
| 26 | 1H | 1517 | G |
| 26 | 1H | 1519 | G |
| 26 | 1H | 1522 | G |
| 26 | 1H | 1526 | G |
| 26 | 1H | 1534 | G |
| 26 | 1H | 1535 | U |
| 26 | 1H | 1536 | A |
| 26 | 1H | 1538 | G |
| 26 | 1H | 1539 | G |
| 26 | 1H | 1540 | G |
| 26 | 1H | 1543 | A |
| 26 | 1H | 1544 | C |
| 26 | 1H | 1545 | A |
| 26 | 1H | 1548 | C |
| 26 | 1H | 1554 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 1558 | A |
| 26 | 1H | 1559 | G |
| 26 | 1H | 1560 | G |
| 26 | 1H | 1566 | A |
| 26 | 1H | 1569 | A |
| 26 | 1H | 1578 | U |
| 26 | 1H | 1580 | A |
| 26 | 1H | 1585 | C |
| 26 | 1H | 1586 | A |
| 26 | 1H | 1606 | G |
| 26 | 1H | 1607 | C |
| 26 | 1H | 1608 | A |
| 26 | 1H | 1609 | A |
| 26 | 1H | 1610 | A |
| 26 | 1H | 1617 | C |
| 26 | 1H | 1618 | A |
| 26 | 1H | 1620 | G |
| 26 | 1H | 1625 | C |
| 26 | 1H | 1628 | G |
| 26 | 1H | 1632 | A |
| 26 | 1H | 1647 | G |
| 26 | 1H | 1648 | C |
| 26 | 1H | 1651 | G |
| 26 | 1H | 1661 | G |
| 26 | 1H | 1664 | A |
| 26 | 1H | 1673 | U |
| 26 | 1H | 1674 | G |
| 26 | 1H | 1675 | C |
| 26 | 1H | 1677 | A |
| 26 | 1H | 1678 | G |
| 26 | 1H | 1682 | G |
| 26 | 1H | 1694 | C |
| 26 | 1H | 1695 | G |
| 26 | 1H | 1699 | G |
| 26 | 1H | 1729 | A |
| 26 | 1H | 1730 | U |
| 26 | 1H | 1731 | G |
| 26 | 1H | 1735 | C |
| 26 | 1H | 1750 | G |
| 26 | 1H | 1756 | G |
| 26 | 1H | 1758 | G |
| 26 | 1H | 1762 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 1763 | G |
| 26 | 1H | 1764 | G |
| 26 | 1H | 1773 | A |
| 26 | 1H | 1782 | C |
| 26 | 1H | 1791 | A |
| 26 | 1H | 1799 | G |
| 26 | 1H | 1800 | C |
| 26 | 1H | 1801 | G |
| 26 | 1H | 1808 | U |
| 26 | 1H | 1811 | G |
| 26 | 1H | 1816 | G |
| 26 | 1H | 1819 | A |
| 26 | 1H | 1827 | C |
| 26 | 1H | 1829 | A |
| 26 | 1H | 1833 | U |
| 26 | 1H | 1847 | A |
| 26 | 1H | 1858 | G |
| 26 | 1H | 1859 | A |
| 26 | 1H | 1869 | G |
| 26 | 1H | 1870 | C |
| 26 | 1H | 1878 | G |
| 26 | 1H | 1889 | A |
| 26 | 1H | 1898 | U |
| 26 | 1H | 1900 | A |
| 26 | 1H | 1906 | G |
| 26 | 1H | 1913 | A |
| 26 | 1H | 1914 | C |
| 26 | 1H | 1915 | U |
| 26 | 1H | 1919 | A |
| 26 | 1H | 1926 | U |
| 26 | 1H | 1929 | G |
| 26 | 1H | 1931 | U |
| 26 | 1H | 1934 | C |
| 26 | 1H | 1935 | G |
| 26 | 1H | 1937 | A |
| 26 | 1H | 1938 | A |
| 26 | 1H | 1940 | U |
| 26 | 1H | 1955 | U |
| 26 | 1H | 1956 | U |
| 26 | 1H | 1957 | C |
| 26 | 1H | 1963 | U |
| 26 | 1H | 1967 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 1969 | A |
| 26 | 1H | 1970 | A |
| 26 | 1H | 1971 | A |
| 26 | 1H | 1972 | A |
| 26 | 1H | 1978 | A |
| 26 | 1H | 1982 | C |
| 26 | 1H | 1992 | G |
| 26 | 1H | 1993 | U |
| 26 | 1H | 2004 | G |
| 26 | 1H | 2021 | C |
| 26 | 1H | 2023 | G |
| 26 | 1H | 2030 | A |
| 26 | 1H | 2031 | A |
| 26 | 1H | 2033 | A |
| 26 | 1H | 2035 | G |
| 26 | 1H | 2040 | C |
| 26 | 1H | 2043 | C |
| 26 | 1H | 2049 | G |
| 26 | 1H | 2052 | G |
| 26 | 1H | 2055 | C |
| 26 | 1H | 2056 | G |
| 26 | 1H | 2057 | A |
| 26 | 1H | 2060 | A |
| 26 | 1H | 2061 | G |
| 26 | 1H | 2067 | G |
| 26 | 1H | 2068 | U |
| 26 | 1H | 2069 | G |
| 26 | 1H | 2086 | U |
| 26 | 1H | 2092 | U |
| 26 | 1H | 2096 | U |
| 26 | 1H | 2099 | U |
| 26 | 1H | 2108 | C |
| 26 | 1H | 2110 | G |
| 26 | 1H | 2111 | C |
| 26 | 1H | 2112 | G |
| 26 | 1H | 2113 | U |
| 26 | 1H | 2114 | A |
| 26 | 1H | 2115 | G |
| 26 | 1H | 2116 | G |
| 26 | 1H | 2117 | A |
| 26 | 1H | 2119 | A |
| 26 | 1H | 2125 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 2126 | A |
| 26 | 1H | 2127 | G |
| 26 | 1H | 2128 | C |
| 26 | 1H | 2129 | C |
| 26 | 1H | 2130 | U |
| 26 | 1H | 2131 | G |
| 26 | 1H | 2132 | U |
| 26 | 1H | 2133 | G |
| 26 | 1H | 2134 | A |
| 26 | 1H | 2135 | A |
| 26 | 1H | 2137 | C |
| 26 | 1H | 2138 | C |
| 26 | 1H | 2139 | C |
| 26 | 1H | 2142 | C |
| 26 | 1H | 2144 | U |
| 26 | 1H | 2145 | C |
| 26 | 1H | 2146 | C |
| 26 | 1H | 2147 | G |
| 26 | 1H | 2148 | G |
| 26 | 1H | 2150 | U |
| 26 | 1H | 2154 | G |
| 26 | 1H | 2155 | G |
| 26 | 1H | 2156 | G |
| 26 | 1H | 2157 | G |
| 26 | 1H | 2162 | G |
| 26 | 1H | 2163 | C |
| 26 | 1H | 2164 | C |
| 26 | 1H | 2165 | G |
| 26 | 1H | 2166 | G |
| 26 | 1H | 2167 | U |
| 26 | 1H | 2168 | G |
| 26 | 1H | 2170 | A |
| 26 | 1H | 2171 | A |
| 26 | 1H | 2172 | U |
| 26 | 1H | 2173 | A |
| 26 | 1H | 2181 | G |
| 26 | 1H | 2186 | G |
| 26 | 1H | 2190 | G |
| 26 | 1H | 2192 | G |
| 26 | 1H | 2193 | G |
| 26 | 1H | 2198 | A |
| 26 | 1H | 2199 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 2210 | G |
| 26 | 1H | 2211 | G |
| 26 | 1H | 2212 | A |
| 26 | 1H | 2213 | U |
| 26 | 1H | 2215 | G |
| 26 | 1H | 2217 | G |
| 26 | 1H | 2224 | G |
| 26 | 1H | 2225 | A |
| 26 | 1H | 2232 | U |
| 26 | 1H | 2238 | G |
| 26 | 1H | 2239 | G |
| 26 | 1H | 2240 | C |
| 26 | 1H | 2246 | G |
| 26 | 1H | 2259 | G |
| 26 | 1H | 2267 | A |
| 26 | 1H | 2271 | G |
| 26 | 1H | 2273 | A |
| 26 | 1H | 2275 | C |
| 26 | 1H | 2280 | G |
| 26 | 1H | 2283 | C |
| 26 | 1H | 2287 | A |
| 26 | 1H | 2288 | A |
| 26 | 1H | 2291 | U |
| 26 | 1H | 2295 | C |
| 26 | 1H | 2305 | A |
| 26 | 1H | 2307 | G |
| 26 | 1H | 2308 | G |
| 26 | 1H | 2309 | A |
| 26 | 1H | 2310 | A |
| 26 | 1H | 2311 | A |
| 26 | 1H | 2314 | C |
| 26 | 1H | 2315 | G |
| 26 | 1H | 2320 | A |
| 26 | 1H | 2321 | G |
| 26 | 1H | 2324 | C |
| 26 | 1H | 2325 | G |
| 26 | 1H | 2326 | C |
| 26 | 1H | 2327 | A |
| 26 | 1H | 2328 | A |
| 26 | 1H | 2334 | G |
| 26 | 1H | 2335 | A |
| 26 | 1H | 2336 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 2343 | C |
| 26 | 1H | 2345 | G |
| 26 | 1H | 2346 | A |
| 26 | 1H | 2347 | C |
| 26 | 1H | 2348 | U |
| 26 | 1H | 2350 | C |
| 26 | 1H | 2355 | C |
| 26 | 1H | 2356 | C |
| 26 | 1H | 2357 | U |
| 26 | 1H | 2360 | A |
| 26 | 1H | 2361 | A |
| 26 | 1H | 2374 | C |
| 26 | 1H | 2376 | A |
| 26 | 1H | 2377 | A |
| 26 | 1H | 2383 | G |
| 26 | 1H | 2385 | C |
| 26 | 1H | 2395 | C |
| 26 | 1H | 2402 | C |
| 26 | 1H | 2403 | C |
| 26 | 1H | 2405 | G |
| 26 | 1H | 2406 | U |
| 26 | 1H | 2410 | G |
| 26 | 1H | 2422 | A |
| 26 | 1H | 2423 | U |
| 26 | 1H | 2424 | C |
| 26 | 1H | 2429 | G |
| 26 | 1H | 2430 | A |
| 26 | 1H | 2434 | A |
| 26 | 1H | 2435 | A |
| 26 | 1H | 2439 | A |
| 26 | 1H | 2440 | C |
| 26 | 1H | 2441 | C |
| 26 | 1H | 2442 | C |
| 26 | 1H | 2448 | A |
| 26 | 1H | 2449 | U |
| 26 | 1H | 2452 | C |
| 26 | 1H | 2464 | C |
| 26 | 1H | 2468 | G |
| 26 | 1H | 2469 | A |
| 26 | 1H | 2474 | C |
| 26 | 1H | 2476 | A |
| 26 | 1H | 2477 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 2478 | A |
| 26 | 1H | 2480 | C |
| 26 | 1H | 2482 | G |
| 26 | 1H | 2496 | C |
| 26 | 1H | 2502 | G |
| 26 | 1H | 2505 | G |
| 26 | 1H | 2506 | U |
| 26 | 1H | 2518 | A |
| 26 | 1H | 2529 | G |
| 26 | 1H | 2531 | A |
| 26 | 1H | 2554 | U |
| 26 | 1H | 2555 | U |
| 26 | 1H | 2566 | A |
| 26 | 1H | 2567 | G |
| 26 | 1H | 2573 | C |
| 26 | 1H | 2577 | A |
| 26 | 1H | 2582 | G |
| 26 | 1H | 2586 | C |
| 26 | 1H | 2587 | A |
| 26 | 1H | 2593 | U |
| 26 | 1H | 2602 | A |
| 26 | 1H | 2609 | U |
| 26 | 1H | 2610 | C |
| 26 | 1H | 2611 | U |
| 26 | 1H | 2612 | C |
| 26 | 1H | 2615 | U |
| 26 | 1H | 2618 | G |
| 26 | 1H | 2629 | A |
| 26 | 1H | 2634 | G |
| 26 | 1H | 2636 | U |
| 26 | 1H | 2643 | G |
| 26 | 1H | 2654 | A |
| 26 | 1H | 2665 | A |
| 26 | 1H | 2673 | G |
| 26 | 1H | 2682 | U |
| 26 | 1H | 2683 | C |
| 26 | 1H | 2689 | U |
| 26 | 1H | 2691 | C |
| 26 | 1H | 2700 | C |
| 26 | 1H | 2702 | U |
| 26 | 1H | 2703 | C |
| 26 | 1H | 2707 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 2712(A) | A |
| 26 | 1H | 2713 | A |
| 26 | 1H | 2718 | G |
| 26 | 1H | 2719 | G |
| 26 | 1H | 2726 | U |
| 26 | 1H | 2733 | A |
| 26 | 1H | 2736 | G |
| 26 | 1H | 2744 | G |
| 26 | 1H | 2756 | U |
| 26 | 1H | 2757 | A |
| 26 | 1H | 2758 | A |
| 26 | 1H | 2761 | G |
| 26 | 1H | 2764 | A |
| 26 | 1H | 2765 | A |
| 26 | 1H | 2766 | G |
| 26 | 1H | 2778 | A |
| 26 | 1H | 2779 | U |
| 26 | 1H | 2781 | A |
| 26 | 1H | 2787 | C |
| 26 | 1H | 2789 | C |
| 26 | 1H | 2790 | A |
| 26 | 1H | 2791 | C |
| 26 | 1H | 2792 | G |
| 26 | 1H | 2793 | G |
| 26 | 1H | 2794 | C |
| 26 | 1H | 2795 | G |
| 26 | 1H | 2797 | U |
| 26 | 1H | 2798 | C |
| 26 | 1H | 2801 | A |
| 26 | 1H | 2802 | G |
| 26 | 1H | 2803 | C |
| 26 | 1H | 2807 | G |
| 26 | 1H | 2820 | A |
| 26 | 1H | 2821 | A |
| 26 | 1H | 2830 | G |
| 26 | 1H | 2833 | G |
| 26 | 1H | 2834 | G |
| 26 | 1H | 2835 | A |
| 26 | 1H | 2849 | U |
| 26 | 1H | 2850 | A |
| 26 | 1H | 2851 | A |
| 26 | 1H | 2860 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 2866 | U |
| 26 | 1H | 2872 | G |
| 26 | 1H | 2876 | G |
| 26 | 1H | 2880 | C |
| 26 | 1H | 2886 | G |
| 26 | 1H | 2892 | A |
| 26 | 1H | 2893 | G |
| 26 | 1H | 2894 | G |
| 26 | 1H | 2895 | U |
| 26 | 1H | 2897 | U |
| 27 | 16 | 0 | A |
| 27 | 16 | 3 | C |
| 27 | 16 | 12 | C |
| 27 | 16 | 13 | A |
| 27 | 16 | 15 | A |
| 27 | 16 | 22 | U |
| 27 | 16 | 23 | G |
| 27 | 16 | 25 | A |
| 27 | 16 | 29 | A |
| 27 | 16 | 33 | G |
| 27 | 16 | 35 | U |
| 27 | 16 | 40 | U |
| 27 | 16 | 42 | C |
| 27 | 16 | 45 | A |
| 27 | 16 | 51 | G |
| 27 | 16 | 56 | G |
| 27 | 16 | 58 | A |
| 27 | 16 | 65 | C |
| 27 | 16 | 73 | A |
| 27 | 16 | 74 | U |
| 27 | 16 | 89 | G |
| 27 | 16 | 93 | C |
| 27 | 16 | 105 | G |
| 27 | 16 | 109 | G |
| 27 | 16 | 110 | G |
| 27 | 16 | 115 | G |
| 27 | 16 | 116 | G |
| 1 | 1G | 5 | U |
| 1 | 1G | 9 | G |
| 1 | 1G | 10 | A |
| 1 | 1G | 13 | U |
| 1 | 1G | 32 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 33 | A |
| 1 | 1G | 39 | G |
| 1 | 1G | 44 | G |
| 1 | 1G | 47 | C |
| 1 | 1G | 48 | C |
| 1 | 1G | 50 | A |
| 1 | 1G | 51 | A |
| 1 | 1G | 54 | C |
| 1 | 1G | 65 | U |
| 1 | 1G | 76 | G |
| 1 | 1G | 80 | G |
| 1 | 1G | 81 | G |
| 1 | 1G | 82 | U |
| 1 | 1G | 88 | C |
| 1 | 1G | 89 | U |
| 1 | 1G | 90 | C |
| 1 | 1G | 91 | C |
| 1 | 1G | 92 | G |
| 1 | 1G | 96 | G |
| 1 | 1G | 101 | A |
| 1 | 1G | 105 | G |
| 1 | 1G | 116 | A |
| 1 | 1G | 121 | C |
| 1 | 1G | 129 | U |
| 1 | 1G | 131 | C |
| 1 | 1G | 134 | A |
| 1 | 1G | 142 | G |
| 1 | 1G | 144 | G |
| 1 | 1G | 147 | G |
| 1 | 1G | 149 | A |
| 1 | 1G | 153 | C |
| 1 | 1G | 155 | C |
| 1 | 1G | 163 | C |
| 1 | 1G | 169 | C |
| 1 | 1G | 173 | U |
| 1 | 1G | 174 | C |
| 1 | 1G | 182 | U |
| 1 | 1G | 184 | G |
| 1 | 1G | 186 | C |
| 1 | 1G | 186(F) | C |
| 1 | 1G | 187 | C |
| 1 | 1G | 189 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 190 | G |
| 1 | 1G | 191(A) | G |
| 1 | 1G | 191(C) | G |
| 1 | 1G | 191(D) | U |
| 1 | 1G | 191(E) | G |
| 1 | 1G | 195 | A |
| 1 | 1G | 196 | A |
| 1 | 1G | 197 | A |
| 1 | 1G | 198 | G |
| 1 | 1G | 208 | U |
| 1 | 1G | 209 | U |
| 1 | 1G | 210 | U |
| 1 | 1G | 216 | G |
| 1 | 1G | 227 | G |
| 1 | 1G | 247 | G |
| 1 | 1G | 250 | A |
| 1 | 1G | 251 | G |
| 1 | 1G | 266 | G |
| 1 | 1G | 267 | C |
| 1 | 1G | 270 | A |
| 1 | 1G | 275 | G |
| 1 | 1G | 279 | A |
| 1 | 1G | 280 | C |
| 1 | 1G | 281 | G |
| 1 | 1G | 289 | G |
| 1 | 1G | 290 | C |
| 1 | 1G | 298 | A |
| 1 | 1G | 302 | G |
| 1 | 1G | 305 | G |
| 1 | 1G | 318 | G |
| 1 | 1G | 321 | A |
| 1 | 1G | 326 | G |
| 1 | 1G | 328 | C |
| 1 | 1G | 329 | A |
| 1 | 1G | 332 | G |
| 1 | 1G | 346 | G |
| 1 | 1G | 347 | G |
| 1 | 1G | 350 | G |
| 1 | 1G | 351 | G |
| 1 | 1G | 352 | C |
| 1 | 1G | 353 | A |
| 1 | 1G | 354 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 363 | A |
| 1 | 1G | 367 | U |
| 1 | 1G | 372 | C |
| 1 | 1G | 381 | C |
| 1 | 1G | 388 | G |
| 1 | 1G | 397 | A |
| 1 | 1G | 398 | C |
| 1 | 1G | 406 | G |
| 1 | 1G | 411 | A |
| 1 | 1G | 412 | A |
| 1 | 1G | 413 | G |
| 1 | 1G | 414 | A |
| 1 | 1G | 419 | C |
| 1 | 1G | 421 | U |
| 1 | 1G | 422 | C |
| 1 | 1G | 423 | G |
| 1 | 1G | 429 | U |
| 1 | 1G | 431 | A |
| 1 | 1G | 439 | A |
| 1 | 1G | 442 | C |
| 1 | 1G | 465 | A |
| 1 | 1G | 466 | C |
| 1 | 1G | 467 | G |
| 1 | 1G | 475 | G |
| 1 | 1G | 484 | G |
| 1 | 1G | 485 | G |
| 1 | 1G | 486 | U |
| 1 | 1G | 492 | G |
| 1 | 1G | 495 | A |
| 1 | 1G | 496 | A |
| 1 | 1G | 497 | U |
| 1 | 1G | 505 | G |
| 1 | 1G | 509 | A |
| 1 | 1G | 510 | A |
| 1 | 1G | 511 | C |
| 1 | 1G | 517 | G |
| 1 | 1G | 518 | C |
| 1 | 1G | 527 | G |
| 1 | 1G | 530 | G |
| 1 | 1G | 531 | U |
| 1 | 1G | 532 | A |
| 1 | 1G | 533 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 536 | C |
| 1 | 1G | 547 | A |
| 1 | 1G | 549 | C |
| 1 | 1G | 552 | U |
| 1 | 1G | 558 | G |
| 1 | 1G | 559 | A |
| 1 | 1G | 561 | U |
| 1 | 1G | 564 | C |
| 1 | 1G | 566 | G |
| 1 | 1G | 572 | A |
| 1 | 1G | 573 | A |
| 1 | 1G | 575 | G |
| 1 | 1G | 576 | G |
| 1 | 1G | 577 | G |
| 1 | 1G | 587 | G |
| 1 | 1G | 595 | G |
| 1 | 1G | 596 | C |
| 1 | 1G | 601 | C |
| 1 | 1G | 607 | A |
| 1 | 1G | 609 | A |
| 1 | 1G | 614 | A |
| 1 | 1G | 615 | C |
| 1 | 1G | 618 | C |
| 1 | 1G | 630 | G |
| 1 | 1G | 631 | G |
| 1 | 1G | 637 | G |
| 1 | 1G | 644 | G |
| 1 | 1G | 651 | C |
| 1 | 1G | 652 | U |
| 1 | 1G | 653 | A |
| 1 | 1G | 659 | U |
| 1 | 1G | 660 | G |
| 1 | 1G | 661 | G |
| 1 | 1G | 663 | A |
| 1 | 1G | 665 | A |
| 1 | 1G | 669 | U |
| 1 | 1G | 686 | U |
| 1 | 1G | 687 | A |
| 1 | 1G | 688 | G |
| 1 | 1G | 700 | G |
| 1 | 1G | 722 | A |
| 1 | 1G | 723 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 724 | G |
| 1 | 1G | 731 | G |
| 1 | 1G | 741 | G |
| 1 | 1G | 746 | A |
| 1 | 1G | 749 | C |
| 1 | 1G | 750 | G |
| 1 | 1G | 752 | G |
| 1 | 1G | 755 | G |
| 1 | 1G | 760 | G |
| 1 | 1G | 764 | C |
| 1 | 1G | 767 | A |
| 1 | 1G | 769 | G |
| 1 | 1G | 776 | G |
| 1 | 1G | 777 | A |
| 1 | 1G | 778 | G |
| 1 | 1G | 787 | A |
| 1 | 1G | 791 | G |
| 1 | 1G | 793 | U |
| 1 | 1G | 794 | A |
| 1 | 1G | 816 | A |
| 1 | 1G | 817 | C |
| 1 | 1G | 818 | G |
| 1 | 1G | 821 | G |
| 1 | 1G | 828 | A |
| 1 | 1G | 841 | U |
| 1 | 1G | 842 | C |
| 1 | 1G | 843 | U |
| 1 | 1G | 848 | C |
| 1 | 1G | 853 | G |
| 1 | 1G | 857 | C |
| 1 | 1G | 858 | G |
| 1 | 1G | 859 | A |
| 1 | 1G | 862 | C |
| 1 | 1G | 867 | G |
| 1 | 1G | 870 | U |
| 1 | 1G | 871 | U |
| 1 | 1G | 873 | A |
| 1 | 1G | 874 | G |
| 1 | 1G | 884 | U |
| 1 | 1G | 890 | G |
| 1 | 1G | 914 | A |
| 1 | 1G | 916 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 917 | G |
| 1 | 1G | 926 | G |
| 1 | 1G | 927 | G |
| 1 | 1G | 932 | C |
| 1 | 1G | 934 | C |
| 1 | 1G | 935 | A |
| 1 | 1G | 938 | A |
| 1 | 1G | 953 | G |
| 1 | 1G | 954 | G |
| 1 | 1G | 955 | U |
| 1 | 1G | 958 | A |
| 1 | 1G | 960 | U |
| 1 | 1G | 961 | U |
| 1 | 1G | 966 | G |
| 1 | 1G | 968 | A |
| 1 | 1G | 969 | A |
| 1 | 1G | 971 | G |
| 1 | 1G | 972 | C |
| 1 | 1G | 973 | G |
| 1 | 1G | 974 | A |
| 1 | 1G | 975 | A |
| 1 | 1G | 976 | G |
| 1 | 1G | 977 | A |
| 1 | 1G | 978 | A |
| 1 | 1G | 979 | C |
| 1 | 1G | 980 | C |
| 1 | 1G | 982 | U |
| 1 | 1G | 983 | A |
| 1 | 1G | 989 | C |
| 1 | 1G | 991 | U |
| 1 | 1G | 992 | U |
| 1 | 1G | 993 | G |
| 1 | 1G | 995 | C |
| 1 | 1G | 996 | A |
| 1 | 1G | 1001 | G |
| 1 | 1G | 1004 | A |
| 1 | 1G | 1005 | A |
| 1 | 1G | 1006 | C |
| 1 | 1G | 1009 | G |
| 1 | 1G | 1017 | G |
| 1 | 1G | 1019 | C |
| 1 | 1G | 1023 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 1024 | G |
| 1 | 1G | 1025 | U |
| 1 | 1G | 1026 | G |
| 1 | 1G | 1037 | C |
| 1 | 1G | 1038 | C |
| 1 | 1G | 1040 | U |
| 1 | 1G | 1041 | A |
| 1 | 1G | 1042 | G |
| 1 | 1G | 1046 | A |
| 1 | 1G | 1047 | G |
| 1 | 1G | 1050 | G |
| 1 | 1G | 1052 | U |
| 1 | 1G | 1053 | G |
| 1 | 1G | 1054 | C |
| 1 | 1G | 1055 | A |
| 1 | 1G | 1056 | U |
| 1 | 1G | 1064 | G |
| 1 | 1G | 1081 | G |
| 1 | 1G | 1082 | G |
| 1 | 1G | 1084 | G |
| 1 | 1G | 1085 | U |
| 1 | 1G | 1086 | U |
| 1 | 1G | 1088 | G |
| 1 | 1G | 1091 | U |
| 1 | 1G | 1094 | G |
| 1 | 1G | 1095 | U |
| 1 | 1G | 1096 | C |
| 1 | 1G | 1098 | C |
| 1 | 1G | 1099 | G |
| 1 | 1G | 1101 | A |
| 1 | 1G | 1105 | A |
| 1 | 1G | 1110 | A |
| 1 | 1G | 1113 | C |
| 1 | 1G | 1117 | G |
| 1 | 1G | 1118 | C |
| 1 | 1G | 1121 | U |
| 1 | 1G | 1123 | A |
| 1 | 1G | 1124 | G |
| 1 | 1G | 1125 | U |
| 1 | 1G | 1127 | G |
| 1 | 1G | 1128 | C |
| 1 | 1G | 1129 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 1133 | G |
| 1 | 1G | 1135 | U |
| 1 | 1G | 1136 | U |
| 1 | 1G | 1137 | C |
| 1 | 1G | 1138 | G |
| 1 | 1G | 1139 | G |
| 1 | 1G | 1146 | A |
| 1 | 1G | 1147 | C |
| 1 | 1G | 1151 | A |
| 1 | 1G | 1157 | A |
| 1 | 1G | 1158 | C |
| 1 | 1G | 1159 | U |
| 1 | 1G | 1160 | G |
| 1 | 1G | 1161 | C |
| 1 | 1G | 1171 | G |
| 1 | 1G | 1173 | G |
| 1 | 1G | 1177 | G |
| 1 | 1G | 1178 | G |
| 1 | 1G | 1179 | A |
| 1 | 1G | 1181 | G |
| 1 | 1G | 1183 | A |
| 1 | 1G | 1186 | G |
| 1 | 1G | 1187 | G |
| 1 | 1G | 1188 | A |
| 1 | 1G | 1189 | C |
| 1 | 1G | 1190 | G |
| 1 | 1G | 1191 | A |
| 1 | 1G | 1193 | G |
| 1 | 1G | 1196 | U |
| 1 | 1G | 1197 | G |
| 1 | 1G | 1200 | C |
| 1 | 1G | 1201 | A |
| 1 | 1G | 1202 | G |
| 1 | 1G | 1209 | C |
| 1 | 1G | 1211 | U |
| 1 | 1G | 1212 | U |
| 1 | 1G | 1213 | A |
| 1 | 1G | 1214 | C |
| 1 | 1G | 1216 | G |
| 1 | 1G | 1218 | C |
| 1 | 1G | 1225 | A |
| 1 | 1G | 1226 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 1227 | A |
| 1 | 1G | 1238 | A |
| 1 | 1G | 1240 | U |
| 1 | 1G | 1241 | G |
| 1 | 1G | 1256 | A |
| 1 | 1G | 1257 | U |
| 1 | 1G | 1258 | G |
| 1 | 1G | 1260 | C |
| 1 | 1G | 1263 | C |
| 1 | 1G | 1267 | C |
| 1 | 1G | 1268 | A |
| 1 | 1G | 1270 | C |
| 1 | 1G | 1273 | G |
| 1 | 1G | 1274 | G |
| 1 | 1G | 1279 | A |
| 1 | 1G | 1280 | A |
| 1 | 1G | 1286 | A |
| 1 | 1G | 1287 | A |
| 1 | 1G | 1288 | A |
| 1 | 1G | 1289 | A |
| 1 | 1G | 1293 | G |
| 1 | 1G | 1295 | G |
| 1 | 1G | 1296 | C |
| 1 | 1G | 1297 | C |
| 1 | 1G | 1299 | A |
| 1 | 1G | 1300 | G |
| 1 | 1G | 1301 | U |
| 1 | 1G | 1305 | G |
| 1 | 1G | 1317 | C |
| 1 | 1G | 1320 | C |
| 1 | 1G | 1322 | C |
| 1 | 1G | 1323 | G |
| 1 | 1G | 1331 | G |
| 1 | 1G | 1333 | A |
| 1 | 1G | 1335 | C |
| 1 | 1G | 1336 | C |
| 1 | 1G | 1338 | G |
| 1 | 1G | 1346 | A |
| 1 | 1G | 1347 | G |
| 1 | 1G | 1354 | C |
| 1 | 1G | 1356 | G |
| 1 | 1G | 1359 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 1362(A) | C |
| 1 | 1G | 1364 | U |
| 1 | 1G | 1368 | G |
| 1 | 1G | 1369 | C |
| 1 | 1G | 1370 | G |
| 1 | 1G | 1377 | A |
| 1 | 1G | 1379 | G |
| 1 | 1G | 1381 | U |
| 1 | 1G | 1392 | G |
| 1 | 1G | 1397 | C |
| 1 | 1G | 1400 | C |
| 1 | 1G | 1401 | G |
| 1 | 1G | 1402 | C |
| 1 | 1G | 1406 | U |
| 1 | 1G | 1419 | G |
| 1 | 1G | 1442 | G |
| 1 | 1G | 1443 | G |
| 1 | 1G | 1446 | A |
| 1 | 1G | 1448 | C |
| 1 | 1G | 1450 | U |
| 1 | 1G | 1451 | A |
| 1 | 1G | 1452 | C |
| 1 | 1G | 1453 | G |
| 1 | 1G | 1454 | G |
| 1 | 1G | 1485 | U |
| 1 | 1G | 1491 | G |
| 1 | 1G | 1492 | A |
| 1 | 1G | 1493 | A |
| 1 | 1G | 1497 | G |
| 1 | 1G | 1499 | A |
| 1 | 1G | 1502 | A |
| 1 | 1G | 1503 | A |
| 1 | 1G | 1504 | G |
| 1 | 1G | 1506 | U |
| 1 | 1G | 1517 | G |
| 1 | 1G | 1519 | A |
| 1 | 1G | 1520 | G |
| 1 | 1G | 1529 | G |
| 1 | 1G | 1530 | G |
| 1 | 1G | 1532 | U |
| 1 | 1G | 1533 | C |
| 1 | 1G | 1534 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 1535 | C |
| 1 | 1G | 1536 | C |
| 56 | 1L | 2 | G |
| 56 | 1L | 4 | U |
| 56 | 1L | 5 | C |
| 56 | 1L | 6 | G |
| 56 | 1L | 7 | U |
| 56 | 1L | 9 | A |
| 56 | 1L | 10 | G |
| 56 | 1L | 16 | U |
| 56 | 1L | 17 | U |
| 56 | 1L | 18 | G |
| 56 | 1L | 19 | G |
| 56 | 1L | 20 | U |
| 56 | 1L | 23 | A |
| 56 | 1L | 24 | G |
| 56 | 1L | 25 | C |
| 56 | 1L | 26 | A |
| 56 | 1L | 33 | U |
| 56 | 1L | 40 | C |
| 56 | 1L | 41 | A |
| 56 | 1L | 42 | A |
| 56 | 1L | 43 | U |
| 56 | 1L | 44 | U |
| 56 | 1L | 45 | G |
| 56 | 1L | 48 | C |
| 56 | 1L | 49 | G |
| 56 | 1L | 51 | A |
| 56 | 1L | 56 | C |
| 56 | 1L | 57 | G |
| 56 | 1L | 58 | A |
| 56 | 1L | 59 | A |
| 56 | 1L | 61 | C |
| 56 | 1L | 63 | U |
| 56 | 1L | 64 | G |
| 56 | 1L | 65 | C |
| 56 | 1L | 66 | A |
| 56 | 1L | 67 | C |
| 56 | 1L | 70 | C |
| 56 | 1L | 72 | C |
| 56 | 1L | 73 | A |
| 56 | 1L | 74 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 23 | 2L | 2 | G |
| 23 | 2L | 8 | 4SU |
| 23 | 2L | 9 | G |
| 23 | 2L | 13 | C |
| 23 | 2L | 16 | C |
| 23 | 2L | 18 | C |
| 23 | 2L | 19 | G |
| 23 | 2L | 20 | G |
| 23 | 2L | 21 | U |
| 23 | 2L | 22 | A |
| 23 | 2L | 23 | G |
| 23 | 2L | 32 | G |
| 23 | 2L | 48 | U |
| 23 | 2L | 49 | C |
| 23 | 2L | 53 | G |
| 23 | 2L | 54 | G |
| 23 | 2L | 57 | C |
| 23 | 2L | 61 | U |
| 23 | 2L | 62 | C |
| 23 | 2L | 68 | C |
| 23 | 2L | 77 | A |
| 57 | 3L | 4 | U |
| 57 | 3L | 5 | C |
| 57 | 3L | 6 | G |
| 57 | 3L | 7 | U |
| 57 | 3L | 8 | U |
| 57 | 3L | 10 | G |
| 57 | 3L | 11 | C |
| 57 | 3L | 13 | C |
| 57 | 3L | 14 | A |
| 57 | 3L | 16 | U |
| 57 | 3L | 17 | U |
| 57 | 3L | 18 | G |
| 57 | 3L | 19 | G |
| 57 | 3L | 20 | U |
| 57 | 3L | 21 | A |
| 57 | 3L | 22 | G |
| 57 | 3L | 26 | A |
| 57 | 3L | 31 | A |
| 57 | 3L | 33 | U |
| 57 | 3L | 34 | U |
| 57 | 3L | 35 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 57 | 3L | 36 | U |
| 57 | 3L | 37 | A |
| 57 | 3L | 43 | U |
| 57 | 3L | 44 | U |
| 57 | 3L | 45 | G |
| 57 | 3L | 46 | G |
| 57 | 3L | 47 | U |
| 57 | 3L | 48 | C |
| 57 | 3L | 49 | G |
| 57 | 3L | 50 | C |
| 57 | 3L | 58 | A |
| 57 | 3L | 59 | A |
| 57 | 3L | 60 | U |
| 57 | 3L | 61 | C |
| 57 | 3L | 64 | G |
| 57 | 3L | 72 | C |
| 57 | 3L | 73 | A |
| 57 | 3L | 74 | C |
| 57 | 3L | 76 | A |
| 25 | 4L | 7 | G |
| 25 | 4L | 9 | G |
| 25 | 4L | 10 | G |
| 25 | 4L | 11 | U |
| 25 | 4L | 12 | A |
| 25 | 4L | 13 | A |
| 25 | 4L | 14 | A |
| 25 | 4L | 15 | A |
| 25 | 4L | 22 | A |
| 26 | 14 | 2 | G |
| 26 | 14 | 3 | U |
| 26 | 14 | 4 | C |
| 26 | 14 | 5 | A |
| 26 | 14 | 9 | U |
| 26 | 14 | 11 | G |
| 26 | 14 | 14 | A |
| 26 | 14 | 15 | G |
| 26 | 14 | 34 | C |
| 26 | 14 | 35 | G |
| 26 | 14 | 46 | C |
| 26 | 14 | 49 | A |
| 26 | 14 | 50 | U |
| 26 | 14 | 58 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 59 | U |
| 26 | 14 | 60 | G |
| 26 | 14 | 71 | A |
| 26 | 14 | 72 | U |
| 26 | 14 | 74 | A |
| 26 | 14 | 75 | G |
| 26 | 14 | 90 | U |
| 26 | 14 | 91 | A |
| 26 | 14 | 93 | C |
| 26 | 14 | 95 | G |
| 26 | 14 | 99 | U |
| 26 | 14 | 101 | G |
| 26 | 14 | 102 | G |
| 26 | 14 | 107 | C |
| 26 | 14 | 118 | A |
| 26 | 14 | 119 | A |
| 26 | 14 | 120 | U |
| 26 | 14 | 125 | G |
| 26 | 14 | 129 | C |
| 26 | 14 | 136 | G |
| 26 | 14 | 138 | G |
| 26 | 14 | 139 | G |
| 26 | 14 | 140 | A |
| 26 | 14 | 153 | C |
| 26 | 14 | 154 | G |
| 26 | 14 | 161 | U |
| 26 | 14 | 162 | U |
| 26 | 14 | 172 | C |
| 26 | 14 | 173 | G |
| 26 | 14 | 174 | C |
| 26 | 14 | 175 | G |
| 26 | 14 | 181 | A |
| 26 | 14 | 182 | A |
| 26 | 14 | 188 | G |
| 26 | 14 | 196 | A |
| 26 | 14 | 199 | A |
| 26 | 14 | 205 | G |
| 26 | 14 | 214 | G |
| 26 | 14 | 215 | G |
| 26 | 14 | 216 | A |
| 26 | 14 | 221 | A |
| 26 | 14 | 222 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 223 | A |
| 26 | 14 | 225 | A |
| 26 | 14 | 229 | A |
| 26 | 14 | 247 | G |
| 26 | 14 | 248 | G |
| 26 | 14 | 249 | C |
| 26 | 14 | 252 | G |
| 26 | 14 | 262 | A |
| 26 | 14 | 266 | G |
| 26 | 14 | 267 | C |
| 26 | 14 | 270(K) | C |
| 26 | 14 | 270(L) | U |
| 26 | 14 | 270(M) | U |
| 26 | 14 | 270(N) | G |
| 26 | 14 | 270(O) | U |
| 26 | 14 | 270(P) | C |
| 26 | 14 | 270(Y) | G |
| 26 | 14 | 271(B) | G |
| 26 | 14 | 271(C) | U |
| 26 | 14 | 271 | G |
| 26 | 14 | 273(C) | C |
| 26 | 14 | 273(D) | C |
| 26 | 14 | 273(F) | C |
| 26 | 14 | 274 | G |
| 26 | 14 | 275 | G |
| 26 | 14 | 276 | A |
| 26 | 14 | 278 | A |
| 26 | 14 | 279 | C |
| 26 | 14 | 289 | A |
| 26 | 14 | 290 | G |
| 26 | 14 | 292 | C |
| 26 | 14 | 294 | A |
| 26 | 14 | 311 | A |
| 26 | 14 | 324 | A |
| 26 | 14 | 329 | G |
| 26 | 14 | 330 | A |
| 26 | 14 | 331 | A |
| 26 | 14 | 346 | A |
| 26 | 14 | 352 | G |
| 26 | 14 | 354 | G |
| 26 | 14 | 355 | G |
| 26 | 14 | 356 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 360 | G |
| 26 | 14 | 362 | U |
| 26 | 14 | 363 | G |
| 26 | 14 | 363(E) | U |
| 26 | 14 | 363(F) | A |
| 26 | 14 | 375 | C |
| 26 | 14 | 382 | G |
| 26 | 14 | 386 | G |
| 26 | 14 | 388 | G |
| 26 | 14 | 391 | G |
| 26 | 14 | 395 | U |
| 26 | 14 | 396 | G |
| 26 | 14 | 405 | U |
| 26 | 14 | 406 | G |
| 26 | 14 | 411 | G |
| 26 | 14 | 412 | A |
| 26 | 14 | 428 | A |
| 26 | 14 | 436 | C |
| 26 | 14 | 443 | A |
| 26 | 14 | 444 | C |
| 26 | 14 | 447 | A |
| 26 | 14 | 451 | C |
| 26 | 14 | 452 | G |
| 26 | 14 | 455 | C |
| 26 | 14 | 457 | A |
| 26 | 14 | 467 | G |
| 26 | 14 | 470 | A |
| 26 | 14 | 471 | A |
| 26 | 14 | 475 | U |
| 26 | 14 | 479 | A |
| 26 | 14 | 481 | G |
| 26 | 14 | 483 | A |
| 26 | 14 | 501 | A |
| 26 | 14 | 504 | U |
| 26 | 14 | 505 | A |
| 26 | 14 | 507 | A |
| 26 | 14 | 508 | G |
| 26 | 14 | 509 | C |
| 26 | 14 | 512 | G |
| 26 | 14 | 527 | C |
| 26 | 14 | 529 | A |
| 26 | 14 | 530 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 531 | C |
| 26 | 14 | 532 | A |
| 26 | 14 | 533 | G |
| 26 | 14 | 543 | C |
| 26 | 14 | 546 | C |
| 26 | 14 | 547 | A |
| 26 | 14 | 549 | G |
| 26 | 14 | 556 | G |
| 26 | 14 | 563 | G |
| 26 | 14 | 568 | U |
| 26 | 14 | 570 | G |
| 26 | 14 | 573 | G |
| 26 | 14 | 575 | A |
| 26 | 14 | 599 | G |
| 26 | 14 | 603 | A |
| 26 | 14 | 606 | U |
| 26 | 14 | 607 | U |
| 26 | 14 | 609(A) | G |
| 26 | 14 | 614 | U |
| 26 | 14 | 615 | G |
| 26 | 14 | 616 | A |
| 26 | 14 | 617 | G |
| 26 | 14 | 620 | G |
| 26 | 14 | 621 | A |
| 26 | 14 | 622 | G |
| 26 | 14 | 627 | A |
| 26 | 14 | 637 | A |
| 26 | 14 | 640 | C |
| 26 | 14 | 645 | C |
| 26 | 14 | 646 | A |
| 26 | 14 | 651 | G |
| 26 | 14 | 654 | A |
| 26 | 14 | 654(A) | A |
| 26 | 14 | 654(B) | C |
| 26 | 14 | 654(C) | G |
| 26 | 14 | 654(S) | G |
| 26 | 14 | 654(T) | A |
| 26 | 14 | 654(U) | A |
| 26 | 14 | 668 | G |
| 26 | 14 | 669 | G |
| 26 | 14 | 670 | A |
| 26 | 14 | 682 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 686 | G |
| 26 | 14 | 709 | U |
| 26 | 14 | 717 | G |
| 26 | 14 | 722 | A |
| 26 | 14 | 723 | G |
| 26 | 14 | 730 | C |
| 26 | 14 | 731 | C |
| 26 | 14 | 738 | G |
| 26 | 14 | 739 | G |
| 26 | 14 | 740 | U |
| 26 | 14 | 745 | G |
| 26 | 14 | 747 | U |
| 26 | 14 | 748 | G |
| 26 | 14 | 751 | A |
| 26 | 14 | 752 | A |
| 26 | 14 | 753 | C |
| 26 | 14 | 765 | G |
| 26 | 14 | 770 | G |
| 26 | 14 | 771 | G |
| 26 | 14 | 776 | G |
| 26 | 14 | 779 | U |
| 26 | 14 | 782 | A |
| 26 | 14 | 783 | A |
| 26 | 14 | 784 | A |
| 26 | 14 | 785 | G |
| 26 | 14 | 788 | A |
| 26 | 14 | 790 | C |
| 26 | 14 | 792 | G |
| 26 | 14 | 793 | A |
| 26 | 14 | 800 | A |
| 26 | 14 | 805 | G |
| 26 | 14 | 808 | G |
| 26 | 14 | 812 | C |
| 26 | 14 | 816 | C |
| 26 | 14 | 819 | A |
| 26 | 14 | 824 | A |
| 26 | 14 | 827 | U |
| 26 | 14 | 828 | U |
| 26 | 14 | 830 | G |
| 26 | 14 | 832 | G |
| 26 | 14 | 836 | G |
| 26 | 14 | 846 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 847 | U |
| 26 | 14 | 856 | C |
| 26 | 14 | 859 | G |
| 26 | 14 | 865 | C |
| 26 | 14 | 867 | C |
| 26 | 14 | 868 | U |
| 26 | 14 | 875 | G |
| 26 | 14 | 876 | C |
| 26 | 14 | 877 | U |
| 26 | 14 | 878 | A |
| 26 | 14 | 879 | G |
| 26 | 14 | 880 | G |
| 26 | 14 | 897 | C |
| 26 | 14 | 899 | A |
| 26 | 14 | 901 | A |
| 26 | 14 | 902 | C |
| 26 | 14 | 903 | C |
| 26 | 14 | 904 | C |
| 26 | 14 | 905 | U |
| 26 | 14 | 906 | G |
| 26 | 14 | 907 | U |
| 26 | 14 | 908 | C |
| 26 | 14 | 910 | A |
| 26 | 14 | 911 | A |
| 26 | 14 | 914 | C |
| 26 | 14 | 915 | C |
| 26 | 14 | 917 | A |
| 26 | 14 | 918 | A |
| 26 | 14 | 919 | G |
| 26 | 14 | 920 | G |
| 26 | 14 | 925 | C |
| 26 | 14 | 928 | G |
| 26 | 14 | 930 | U |
| 26 | 14 | 931 | G |
| 26 | 14 | 932 | G |
| 26 | 14 | 938 | G |
| 26 | 14 | 941 | A |
| 26 | 14 | 945 | A |
| 26 | 14 | 946 | G |
| 26 | 14 | 953 | A |
| 26 | 14 | 958 | U |
| 26 | 14 | 959 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 960 | A |
| 26 | 14 | 961 | C |
| 26 | 14 | 974 | G |
| 26 | 14 | 978 | G |
| 26 | 14 | 980 | A |
| 26 | 14 | 983 | A |
| 26 | 14 | 990 | A |
| 26 | 14 | 996 | A |
| 26 | 14 | 999 | U |
| 26 | 14 | 1009 | A |
| 26 | 14 | 1010 | A |
| 26 | 14 | 1012 | U |
| 26 | 14 | 1013 | C |
| 26 | 14 | 1017 | G |
| 26 | 14 | 1020 | A |
| 26 | 14 | 1022 | G |
| 26 | 14 | 1023 | U |
| 26 | 14 | 1025 | G |
| 26 | 14 | 1026 | U |
| 26 | 14 | 1027 | A |
| 26 | 14 | 1033 | U |
| 26 | 14 | 1037 | G |
| 26 | 14 | 1042 | G |
| 26 | 14 | 1044 | G |
| 26 | 14 | 1048 | A |
| 26 | 14 | 1050 | A |
| 26 | 14 | 1052 | C |
| 26 | 14 | 1054 | A |
| 26 | 14 | 1055 | G |
| 26 | 14 | 1056 | G |
| 26 | 14 | 1057 | A |
| 26 | 14 | 1060 | U |
| 26 | 14 | 1061 | U |
| 26 | 14 | 1062 | G |
| 26 | 14 | 1070 | A |
| 26 | 14 | 1071 | G |
| 26 | 14 | 1072 | C |
| 26 | 14 | 1073 | A |
| 26 | 14 | 1086 | A |
| 26 | 14 | 1087 | G |
| 26 | 14 | 1088 | A |
| 26 | 14 | 1089 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 1090 | U |
| 26 | 14 | 1091 | G |
| 26 | 14 | 1093 | G |
| 26 | 14 | 1100 | C |
| 26 | 14 | 1102 | C |
| 26 | 14 | 1103 | A |
| 26 | 14 | 1104 | C |
| 26 | 14 | 1105 | U |
| 26 | 14 | 1106 | G |
| 26 | 14 | 1107 | G |
| 26 | 14 | 1109 | C |
| 26 | 14 | 1110 | G |
| 26 | 14 | 1112 | G |
| 26 | 14 | 1114 | G |
| 26 | 14 | 1122 | G |
| 26 | 14 | 1126 | A |
| 26 | 14 | 1130 | U |
| 26 | 14 | 1131 | G |
| 26 | 14 | 1135 | C |
| 26 | 14 | 1136 | G |
| 26 | 14 | 1139 | G |
| 26 | 14 | 1143 | A |
| 26 | 14 | 1148 | A |
| 26 | 14 | 1155 | A |
| 26 | 14 | 1170 | G |
| 26 | 14 | 1171 | G |
| 26 | 14 | 1173 | G |
| 26 | 14 | 1174 | A |
| 26 | 14 | 1175 | U |
| 26 | 14 | 1176 | G |
| 26 | 14 | 1177 | A |
| 26 | 14 | 1178 | C |
| 26 | 14 | 1183 | G |
| 26 | 14 | 1188 | U |
| 26 | 14 | 1204 | A |
| 26 | 14 | 1205 | U |
| 26 | 14 | 1210 | A |
| 26 | 14 | 1212 | G |
| 26 | 14 | 1213 | A |
| 26 | 14 | 1220 | A |
| 26 | 14 | 1221 | C |
| 26 | 14 | 1229(A) | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 1237 | A |
| 26 | 14 | 1241 | A |
| 26 | 14 | 1250 | G |
| 26 | 14 | 1252 | G |
| 26 | 14 | 1253 | A |
| 26 | 14 | 1256 | G |
| 26 | 14 | 1262 | A |
| 26 | 14 | 1271 | G |
| 26 | 14 | 1272 | A |
| 26 | 14 | 1273 | U |
| 26 | 14 | 1274 | A |
| 26 | 14 | 1275 | A |
| 26 | 14 | 1285 | G |
| 26 | 14 | 1298 | C |
| 26 | 14 | 1300 | U |
| 26 | 14 | 1301 | A |
| 26 | 14 | 1303 | G |
| 26 | 14 | 1319 | G |
| 26 | 14 | 1321 | A |
| 26 | 14 | 1325 | G |
| 26 | 14 | 1329 | U |
| 26 | 14 | 1341 | U |
| 26 | 14 | 1345 | C |
| 26 | 14 | 1348 | G |
| 26 | 14 | 1349 | A |
| 26 | 14 | 1352 | U |
| 26 | 14 | 1359 | A |
| 26 | 14 | 1365 | A |
| 26 | 14 | 1368 | G |
| 26 | 14 | 1370 | C |
| 26 | 14 | 1378 | A |
| 26 | 14 | 1380 | G |
| 26 | 14 | 1385 | G |
| 26 | 14 | 1386 | C |
| 26 | 14 | 1390 | U |
| 26 | 14 | 1403 | C |
| 26 | 14 | 1407 | C |
| 26 | 14 | 1408 | C |
| 26 | 14 | 1416 | G |
| 26 | 14 | 1417 | C |
| 26 | 14 | 1420 | U |
| 26 | 14 | 1421 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 1424 | G |
| 26 | 14 | 1425 | G |
| 26 | 14 | 1428 | C |
| 26 | 14 | 1444(A) | A |
| 26 | 14 | 1445 | C |
| 26 | 14 | 1449 | A |
| 26 | 14 | 1449(A) | G |
| 26 | 14 | 1451 | C |
| 26 | 14 | 1453 | A |
| 26 | 14 | 1454 | U |
| 26 | 14 | 1459 | G |
| 26 | 14 | 1460 | A |
| 26 | 14 | 1467 | C |
| 26 | 14 | 1471 | A |
| 26 | 14 | 1474 | C |
| 26 | 14 | 1475 | G |
| 26 | 14 | 1490 | A |
| 26 | 14 | 1491 | G |
| 26 | 14 | 1493 | C |
| 26 | 14 | 1506 | C |
| 26 | 14 | 1508 | A |
| 26 | 14 | 1509 | C |
| 26 | 14 | 1510 | A |
| 26 | 14 | 1515 | C |
| 26 | 14 | 1522 | G |
| 26 | 14 | 1524 | G |
| 26 | 14 | 1528 | A |
| 26 | 14 | 1533 | C |
| 26 | 14 | 1534 | G |
| 26 | 14 | 1535 | U |
| 26 | 14 | 1536 | A |
| 26 | 14 | 1537 | C |
| 26 | 14 | 1543 | A |
| 26 | 14 | 1546 | C |
| 26 | 14 | 1554 | A |
| 26 | 14 | 1558 | A |
| 26 | 14 | 1559 | G |
| 26 | 14 | 1560 | G |
| 26 | 14 | 1565 | C |
| 26 | 14 | 1566 | A |
| 26 | 14 | 1569 | A |
| 26 | 14 | 1570 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 1578 | U |
| 26 | 14 | 1580 | A |
| 26 | 14 | 1583 | A |
| 26 | 14 | 1585 | C |
| 26 | 14 | 1586 | A |
| 26 | 14 | 1587 | A |
| 26 | 14 | 1588 | C |
| 26 | 14 | 1594 | G |
| 26 | 14 | 1598 | C |
| 26 | 14 | 1608 | A |
| 26 | 14 | 1609 | A |
| 26 | 14 | 1610 | A |
| 26 | 14 | 1616 | A |
| 26 | 14 | 1635 | G |
| 26 | 14 | 1644 | C |
| 26 | 14 | 1647 | G |
| 26 | 14 | 1648 | C |
| 26 | 14 | 1667 | G |
| 26 | 14 | 1669 | A |
| 26 | 14 | 1674 | G |
| 26 | 14 | 1675 | C |
| 26 | 14 | 1695 | G |
| 26 | 14 | 1696 | G |
| 26 | 14 | 1700 | A |
| 26 | 14 | 1701 | A |
| 26 | 14 | 1702 | G |
| 26 | 14 | 1703 | G |
| 26 | 14 | 1711 | C |
| 26 | 14 | 1725 | G |
| 26 | 14 | 1728 | G |
| 26 | 14 | 1729 | A |
| 26 | 14 | 1730 | U |
| 26 | 14 | 1731 | G |
| 26 | 14 | 1735 | C |
| 26 | 14 | 1741 | C |
| 26 | 14 | 1743 | G |
| 26 | 14 | 1755 | A |
| 26 | 14 | 1756 | G |
| 26 | 14 | 1763 | G |
| 26 | 14 | 1764 | G |
| 26 | 14 | 1773 | A |
| 26 | 14 | 1776 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 1777 | U |
| 26 | 14 | 1780 | A |
| 26 | 14 | 1781 | C |
| 26 | 14 | 1782 | C |
| 26 | 14 | 1784 | A |
| 26 | 14 | 1786 | A |
| 26 | 14 | 1791 | A |
| 26 | 14 | 1800 | C |
| 26 | 14 | 1801 | G |
| 26 | 14 | 1816 | G |
| 26 | 14 | 1820 | U |
| 26 | 14 | 1829 | A |
| 26 | 14 | 1830 | C |
| 26 | 14 | 1839 | G |
| 26 | 14 | 1840 | G |
| 26 | 14 | 1843 | C |
| 26 | 14 | 1847 | A |
| 26 | 14 | 1848 | A |
| 26 | 14 | 1858 | G |
| 26 | 14 | 1859 | A |
| 26 | 14 | 1860 | G |
| 26 | 14 | 1878 | G |
| 26 | 14 | 1885 | A |
| 26 | 14 | 1886 | C |
| 26 | 14 | 1888 | G |
| 26 | 14 | 1889 | A |
| 26 | 14 | 1897 | G |
| 26 | 14 | 1900 | A |
| 26 | 14 | 1904 | G |
| 26 | 14 | 1905 | C |
| 26 | 14 | 1906 | G |
| 26 | 14 | 1918 | A |
| 26 | 14 | 1919 | A |
| 26 | 14 | 1920 | C |
| 26 | 14 | 1927 | A |
| 26 | 14 | 1929 | G |
| 26 | 14 | 1930 | G |
| 26 | 14 | 1934 | C |
| 26 | 14 | 1937 | A |
| 26 | 14 | 1938 | A |
| 26 | 14 | 1940 | U |
| 26 | 14 | 1944 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 1945 | G |
| 26 | 14 | 1951 | U |
| 26 | 14 | 1952 | A |
| 26 | 14 | 1955 | U |
| 26 | 14 | 1960 | A |
| 26 | 14 | 1963 | U |
| 26 | 14 | 1967 | C |
| 26 | 14 | 1970 | A |
| 26 | 14 | 1971 | A |
| 26 | 14 | 1972 | A |
| 26 | 14 | 1985 | G |
| 26 | 14 | 1991 | U |
| 26 | 14 | 1993 | U |
| 26 | 14 | 2004 | G |
| 26 | 14 | 2018 | G |
| 26 | 14 | 2021 | C |
| 26 | 14 | 2023 | G |
| 26 | 14 | 2031 | A |
| 26 | 14 | 2032 | G |
| 26 | 14 | 2033 | A |
| 26 | 14 | 2043 | C |
| 26 | 14 | 2049 | G |
| 26 | 14 | 2054 | A |
| 26 | 14 | 2055 | C |
| 26 | 14 | 2056 | G |
| 26 | 14 | 2057 | A |
| 26 | 14 | 2061 | G |
| 26 | 14 | 2062 | A |
| 26 | 14 | 2063 | C |
| 26 | 14 | 2069 | G |
| 26 | 14 | 2074 | U |
| 26 | 14 | 2076 | U |
| 26 | 14 | 2082 | A |
| 26 | 14 | 2089 | U |
| 26 | 14 | 2099 | U |
| 26 | 14 | 2100 | G |
| 26 | 14 | 2108 | C |
| 26 | 14 | 2111 | C |
| 26 | 14 | 2114 | A |
| 26 | 14 | 2116 | G |
| 26 | 14 | 2117 | A |
| 26 | 14 | 2119 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 2120 | G |
| 26 | 14 | 2125 | G |
| 26 | 14 | 2126 | A |
| 26 | 14 | 2127 | G |
| 26 | 14 | 2128 | C |
| 26 | 14 | 2129 | C |
| 26 | 14 | 2130 | U |
| 26 | 14 | 2131 | G |
| 26 | 14 | 2132 | U |
| 26 | 14 | 2133 | G |
| 26 | 14 | 2134 | A |
| 26 | 14 | 2135 | A |
| 26 | 14 | 2136 | C |
| 26 | 14 | 2137 | C |
| 26 | 14 | 2139 | C |
| 26 | 14 | 2140 | C |
| 26 | 14 | 2144 | U |
| 26 | 14 | 2145 | C |
| 26 | 14 | 2146 | C |
| 26 | 14 | 2147 | G |
| 26 | 14 | 2148 | G |
| 26 | 14 | 2149 | G |
| 26 | 14 | 2151 | G |
| 26 | 14 | 2153 | G |
| 26 | 14 | 2157 | G |
| 26 | 14 | 2158 | A |
| 26 | 14 | 2159 | G |
| 26 | 14 | 2162 | G |
| 26 | 14 | 2164 | C |
| 26 | 14 | 2165 | G |
| 26 | 14 | 2166 | G |
| 26 | 14 | 2167 | U |
| 26 | 14 | 2168 | G |
| 26 | 14 | 2172 | U |
| 26 | 14 | 2173 | A |
| 26 | 14 | 2174 | C |
| 26 | 14 | 2175 | C |
| 26 | 14 | 2179 | C |
| 26 | 14 | 2189 | U |
| 26 | 14 | 2190 | G |
| 26 | 14 | 2191 | G |
| 26 | 14 | 2192 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 2198 | A |
| 26 | 14 | 2207 | C |
| 26 | 14 | 2210 | G |
| 26 | 14 | 2211 | G |
| 26 | 14 | 2212 | A |
| 26 | 14 | 2213 | U |
| 26 | 14 | 2215 | G |
| 26 | 14 | 2225 | A |
| 26 | 14 | 2226 | C |
| 26 | 14 | 2229 | C |
| 26 | 14 | 2234 | G |
| 26 | 14 | 2235 | G |
| 26 | 14 | 2238 | G |
| 26 | 14 | 2239 | G |
| 26 | 14 | 2252 | G |
| 26 | 14 | 2263 | C |
| 26 | 14 | 2267 | A |
| 26 | 14 | 2268 | A |
| 26 | 14 | 2269 | A |
| 26 | 14 | 2273 | A |
| 26 | 14 | 2275 | C |
| 26 | 14 | 2276 | G |
| 26 | 14 | 2278 | A |
| 26 | 14 | 2280 | G |
| 26 | 14 | 2281 | C |
| 26 | 14 | 2283 | C |
| 26 | 14 | 2287 | A |
| 26 | 14 | 2288 | A |
| 26 | 14 | 2289 | G |
| 26 | 14 | 2291 | U |
| 26 | 14 | 2293 | C |
| 26 | 14 | 2298 | A |
| 26 | 14 | 2304 | G |
| 26 | 14 | 2305 | A |
| 26 | 14 | 2307 | G |
| 26 | 14 | 2308 | G |
| 26 | 14 | 2310 | A |
| 26 | 14 | 2311 | A |
| 26 | 14 | 2312 | U |
| 26 | 14 | 2318 | G |
| 26 | 14 | 2319 | G |
| 26 | 14 | 2321 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 2325 | G |
| 26 | 14 | 2326 | C |
| 26 | 14 | 2327 | A |
| 26 | 14 | 2329 | G |
| 26 | 14 | 2334 | G |
| 26 | 14 | 2336 | A |
| 26 | 14 | 2343 | C |
| 26 | 14 | 2346 | A |
| 26 | 14 | 2347 | C |
| 26 | 14 | 2348 | U |
| 26 | 14 | 2350 | C |
| 26 | 14 | 2354 | G |
| 26 | 14 | 2357 | U |
| 26 | 14 | 2372 | G |
| 26 | 14 | 2383 | G |
| 26 | 14 | 2385 | C |
| 26 | 14 | 2389 | G |
| 26 | 14 | 2392 | A |
| 26 | 14 | 2402 | C |
| 26 | 14 | 2406 | U |
| 26 | 14 | 2411 | A |
| 26 | 14 | 2413 | G |
| 26 | 14 | 2414 | G |
| 26 | 14 | 2415 | G |
| 26 | 14 | 2417 | C |
| 26 | 14 | 2418 | A |
| 26 | 14 | 2422 | A |
| 26 | 14 | 2423 | U |
| 26 | 14 | 2429 | G |
| 26 | 14 | 2430 | A |
| 26 | 14 | 2431 | U |
| 26 | 14 | 2434 | A |
| 26 | 14 | 2435 | A |
| 26 | 14 | 2439 | A |
| 26 | 14 | 2440 | C |
| 26 | 14 | 2441 | C |
| 26 | 14 | 2448 | A |
| 26 | 14 | 2449 | U |
| 26 | 14 | 2468 | G |
| 26 | 14 | 2469 | A |
| 26 | 14 | 2470 | G |
| 26 | 14 | 2474 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 2476 | A |
| 26 | 14 | 2477 | C |
| 26 | 14 | 2482 | G |
| 26 | 14 | 2487 | G |
| 26 | 14 | 2492 | U |
| 26 | 14 | 2497 | A |
| 26 | 14 | 2500 | U |
| 26 | 14 | 2502 | G |
| 26 | 14 | 2504 | U |
| 26 | 14 | 2505 | G |
| 26 | 14 | 2506 | U |
| 26 | 14 | 2507 | C |
| 26 | 14 | 2513 | G |
| 26 | 14 | 2518 | A |
| 26 | 14 | 2525 | G |
| 26 | 14 | 2529 | G |
| 26 | 14 | 2532 | G |
| 26 | 14 | 2537 | U |
| 26 | 14 | 2542 | A |
| 26 | 14 | 2543 | G |
| 26 | 14 | 2554 | U |
| 26 | 14 | 2564 | A |
| 26 | 14 | 2566 | A |
| 26 | 14 | 2567 | G |
| 26 | 14 | 2569 | G |
| 26 | 14 | 2573 | C |
| 26 | 14 | 2579 | C |
| 26 | 14 | 2587 | A |
| 26 | 14 | 2601 | C |
| 26 | 14 | 2602 | A |
| 26 | 14 | 2609 | U |
| 26 | 14 | 2611 | U |
| 26 | 14 | 2612 | C |
| 26 | 14 | 2617 | C |
| 26 | 14 | 2630 | G |
| 26 | 14 | 2636 | U |
| 26 | 14 | 2646 | C |
| 26 | 14 | 2654 | A |
| 26 | 14 | 2665 | A |
| 26 | 14 | 2667 | C |
| 26 | 14 | 2672 | G |
| 26 | 14 | 2673 | G |

Continued on next page...

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 2679 | A |
| 26 | 14 | 2682 | U |
| 26 | 14 | 2689 | U |
| 26 | 14 | 2690 | C |
| 26 | 14 | 2691 | C |
| 26 | 14 | 2706 | G |
| 26 | 14 | 2707 | G |
| 26 | 14 | 2712(A) | A |
| 26 | 14 | 2713 | A |
| 26 | 14 | 2714 | G |
| 26 | 14 | 2726 | U |
| 26 | 14 | 2733 | A |
| 26 | 14 | 2739 | U |
| 26 | 14 | 2748 | A |
| 26 | 14 | 2750 | A |
| 26 | 14 | 2751 | G |
| 26 | 14 | 2752 | C |
| 26 | 14 | 2757 | A |
| 26 | 14 | 2758 | A |
| 26 | 14 | 2761 | G |
| 26 | 14 | 2762 | G |
| 26 | 14 | 2764 | A |
| 26 | 14 | 2765 | A |
| 26 | 14 | 2766 | G |
| 26 | 14 | 2769 | C |
| 26 | 14 | 2777 | G |
| 26 | 14 | 2778 | A |
| 26 | 14 | 2779 | U |
| 26 | 14 | 2780 | G |
| 26 | 14 | 2786 | U |
| 26 | 14 | 2790 | A |
| 26 | 14 | 2791 | C |
| 26 | 14 | 2795 | G |
| 26 | 14 | 2797 | U |
| 26 | 14 | 2798 | C |
| 26 | 14 | 2799 | A |
| 26 | 14 | 2801 | A |
| 26 | 14 | 2802 | G |
| 26 | 14 | 2805 | G |
| 26 | 14 | 2808 | U |
| 26 | 14 | 2810 | A |
| 26 | 14 | 2818 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 2820 | A |
| 26 | 14 | 2821 | A |
| 26 | 14 | 2833 | G |
| 26 | 14 | 2834 | G |
| 26 | 14 | 2835 | A |
| 26 | 14 | 2849 | U |
| 26 | 14 | 2860 | A |
| 26 | 14 | 2861 | G |
| 26 | 14 | 2872 | G |
| 26 | 14 | 2873 | A |
| 26 | 14 | 2874 | C |
| 26 | 14 | 2891 | G |
| 26 | 14 | 2893 | G |
| 26 | 14 | 2894 | G |
| 26 | 14 | 2895 | U |
| 26 | 14 | 2896 | C |
| 26 | 14 | 2898 | U |
| 26 | 14 | 2900 | A |
| 27 | 1J | 0 | A |
| 27 | 1J | 3 | C |
| 27 | 1J | 7 | G |
| 27 | 1J | 8 | U |
| 27 | 1J | 12 | C |
| 27 | 1J | 13 | A |
| 27 | 1J | 15 | A |
| 27 | 1J | 16 | G |
| 27 | 1J | 22 | U |
| 27 | 1J | 24 | G |
| 27 | 1J | 26 | A |
| 27 | 1J | 28 | C |
| 27 | 1J | 29 | A |
| 27 | 1J | 30 | C |
| 27 | 1J | 31 | C |
| 27 | 1J | 40 | U |
| 27 | 1J | 41 | U |
| 27 | 1J | 42 | C |
| 27 | 1J | 45 | A |
| 27 | 1J | 47 | C |
| 27 | 1J | 51 | G |
| 27 | 1J | 52 | A |
| 27 | 1J | 53 | A |
| 27 | 1J | 58 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 27 | 1J | 59 | A |
| 27 | 1J | 63 | G |
| 27 | 1J | 73 | A |
| 27 | 1J | 75 | G |
| 27 | 1J | 77 | U |
| 27 | 1J | 88 | C |
| 27 | 1J | 89 | G |
| 27 | 1J | 89(A) | A |
| 27 | 1J | 90 | C |
| 27 | 1J | 97 | G |
| 27 | 1J | 101 | A |
| 27 | 1J | 108 | C |
| 27 | 1J | 109 | G |
| 27 | 1J | 115 | G |
| 27 | 1J | 116 | G |
| 27 | 1J | 118 | G |
| 27 | 1J | 119 | A |

All (232) RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 5 | U |
| 1 | 13 | 31 | G |
| 1 | 13 | 115 | G |
| 1 | 13 | 173 | U |
| 1 | 13 | 181 | G |
| 1 | 13 | 188 | U |
| 1 | 13 | 244 | U |
| 1 | 13 | 266 | G |
| 1 | 13 | 428 | G |
| 1 | 13 | 429 | U |
| 1 | 13 | 452 | A |
| 1 | 13 | 484 | G |
| 1 | 13 | 509 | A |
| 1 | 13 | 560 | U |
| 1 | 13 | 687 | A |
| 1 | 13 | 703 | G |
| 1 | 13 | 748 | C |
| 1 | 13 | 793 | U |
| 1 | 13 | 871 | U |
| 1 | 13 | 913 | A |
| 1 | 13 | 992 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 13 | 1054 | C |
| 1 | 13 | 1064 | G |
| 1 | 13 | 1065 | U |
| 1 | 13 | 1137 | C |
| 1 | 13 | 1183 | A |
| 1 | 13 | 1213 | A |
| 1 | 13 | 1285 | A |
| 1 | 13 | 1301 | U |
| 1 | 13 | 1336 | C |
| 1 | 13 | 1397 | C |
| 1 | 13 | 1443 | G |
| 1 | 13 | 1452 | C |
| 1 | 13 | 1498 | U |
| 1 | 13 | 1529 | G |
| 22 | 1K | 6 | G |
| 22 | 1K | 69 | A |
| 23 | 2K | 48 | U |
| 23 | 2K | 61 | U |
| 24 | 3K | 2 | G |
| 24 | 3K | 34 | U |
| 24 | 3K | 58 | A |
| 24 | 3K | 60 | U |
| 25 | 4K | 13 | A |
| 25 | 4K | 18 | G |
| 26 | 1H | 34 | C |
| 26 | 1H | 125 | G |
| 26 | 1H | 162 | U |
| 26 | 1H | 195 | A |
| 26 | 1H | 196 | A |
| 26 | 1H | 222 | A |
| 26 | 1H | 242 | G |
| 26 | 1H | 249 | C |
| 26 | 1H | 271(B) | G |
| 26 | 1H | 372 | G |
| 26 | 1H | 404 | C |
| 26 | 1H | 456 | C |
| 26 | 1H | 479 | A |
| 26 | 1H | 508 | G |
| 26 | 1H | 574 | C |
| 26 | 1H | 587 | C |
| 26 | 1H | 627 | A |
| 26 | 1H | 685 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 752 | A |
| 26 | 1H | 800 | A |
| 26 | 1H | 845 | G |
| 26 | 1H | 858 | U |
| 26 | 1H | 880 | G |
| 26 | 1H | 961 | C |
| 26 | 1H | 974 | G |
| 26 | 1H | 974(A) | C |
| 26 | 1H | 1022 | G |
| 26 | 1H | 1026 | U |
| 26 | 1H | 1033 | U |
| 26 | 1H | 1050 | A |
| 26 | 1H | 1052 | C |
| 26 | 1H | 1108 | U |
| 26 | 1H | 1110 | G |
| 26 | 1H | 1128 | A |
| 26 | 1H | 1175 | U |
| 26 | 1H | 1176 | G |
| 26 | 1H | 1177 | A |
| 26 | 1H | 1178 | C |
| 26 | 1H | 1210 | A |
| 26 | 1H | 1378 | A |
| 26 | 1H | 1379 | A |
| 26 | 1H | 1396 | U |
| 26 | 1H | 1416 | G |
| 26 | 1H | 1420 | U |
| 26 | 1H | 1508 | A |
| 26 | 1H | 1558 | A |
| 26 | 1H | 1559 | G |
| 26 | 1H | 1608 | A |
| 26 | 1H | 1609 | A |
| 26 | 1H | 1617 | C |
| 26 | 1H | 1673 | U |
| 26 | 1H | 1694 | C |
| 26 | 1H | 1757 | U |
| 26 | 1H | 1784 | A |
| 26 | 1H | 1799 | G |
| 26 | 1H | 1800 | C |
| 26 | 1H | 1858 | G |
| 26 | 1H | 1955 | U |
| 26 | 1H | 1992 | G |
| 26 | 1H | 2035 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 1H | 2060 | A |
| 26 | 1H | 2126 | A |
| 26 | 1H | 2171 | A |
| 26 | 1H | 2172 | U |
| 26 | 1H | 2212 | A |
| 26 | 1H | 2225 | A |
| 26 | 1H | 2346 | A |
| 26 | 1H | 2374 | C |
| 26 | 1H | 2448 | A |
| 26 | 1H | 2476 | A |
| 26 | 1H | 2481 | G |
| 26 | 1H | 2518 | A |
| 26 | 1H | 2611 | U |
| 26 | 1H | 2681 | C |
| 26 | 1H | 2702 | U |
| 26 | 1H | 2756 | U |
| 26 | 1H | 2790 | A |
| 26 | 1H | 2799 | A |
| 27 | 16 | 44 | G |
| 1 | 1G | 64 | G |
| 1 | 1G | 80 | G |
| 1 | 1G | 115 | G |
| 1 | 1G | 119 | A |
| 1 | 1G | 197 | A |
| 1 | 1G | 210 | U |
| 1 | 1G | 250 | A |
| 1 | 1G | 266 | G |
| 1 | 1G | 274 | A |
| 1 | 1G | 305 | G |
| 1 | 1G | 327 | A |
| 1 | 1G | 345 | C |
| 1 | 1G | 412 | A |
| 1 | 1G | 465 | A |
| 1 | 1G | 509 | A |
| 1 | 1G | 560 | U |
| 1 | 1G | 687 | A |
| 1 | 1G | 748 | C |
| 1 | 1G | 884 | U |
| 1 | 1G | 889 | A |
| 1 | 1G | 913 | A |
| 1 | 1G | 992 | U |
| 1 | 1G | 1023 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 1G | 1053 | G |
| 1 | 1G | 1126 | U |
| 1 | 1G | 1137 | C |
| 1 | 1G | 1145 | C |
| 1 | 1G | 1157 | A |
| 1 | 1G | 1225 | A |
| 1 | 1G | 1285 | A |
| 1 | 1G | 1300 | G |
| 1 | 1G | 1346 | A |
| 1 | 1G | 1347 | G |
| 1 | 1G | 1396 | A |
| 1 | 1G | 1442 | G |
| 1 | 1G | 1443 | G |
| 1 | 1G | 1452 | C |
| 1 | 1G | 1498 | U |
| 1 | 1G | 1506 | U |
| 56 | 1L | 3 | G |
| 56 | 1L | 18 | G |
| 56 | 1L | 19 | G |
| 56 | 1L | 48 | C |
| 56 | 1L | 69 | A |
| 23 | 2L | 20 | G |
| 23 | 2L | 48 | U |
| 57 | 3L | 58 | A |
| 25 | 4L | 12 | A |
| 26 | 14 | 34 | C |
| 26 | 14 | 49 | A |
| 26 | 14 | 71 | A |
| 26 | 14 | 90 | U |
| 26 | 14 | 128 | C |
| 26 | 14 | 222 | A |
| 26 | 14 | 265 | A |
| 26 | 14 | 278 | A |
| 26 | 14 | 387 | U |
| 26 | 14 | 446 | G |
| 26 | 14 | 503 | A |
| 26 | 14 | 528 | A |
| 26 | 14 | 529 | A |
| 26 | 14 | 614 | U |
| 26 | 14 | 669 | G |
| 26 | 14 | 752 | A |
| 26 | 14 | 764 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 26 | 14 | 784 | A |
| 26 | 14 | 827 | U |
| 26 | 14 | 858 | U |
| 26 | 14 | 959 | A |
| 26 | 14 | 960 | A |
| 26 | 14 | 1022 | G |
| 26 | 14 | 1220 | A |
| 26 | 14 | 1253 | A |
| 26 | 14 | 1379 | A |
| 26 | 14 | 1416 | G |
| 26 | 14 | 1420 | U |
| 26 | 14 | 1444(A) | A |
| 26 | 14 | 1534 | G |
| 26 | 14 | 1558 | A |
| 26 | 14 | 1608 | A |
| 26 | 14 | 1609 | A |
| 26 | 14 | 1819 | A |
| 26 | 14 | 1899 | G |
| 26 | 14 | 1944 | U |
| 26 | 14 | 1955 | U |
| 26 | 14 | 1963 | U |
| 26 | 14 | 1992 | G |
| 26 | 14 | 2062 | A |
| 26 | 14 | 2107 | C |
| 26 | 14 | 2173 | A |
| 26 | 14 | 2238 | G |
| 26 | 14 | 2275 | C |
| 26 | 14 | 2335 | A |
| 26 | 14 | 2406 | U |
| 26 | 14 | 2439 | A |
| 26 | 14 | 2447 | G |
| 26 | 14 | 2477 | C |
| 26 | 14 | 2611 | U |
| 26 | 14 | 2629 | A |
| 26 | 14 | 2756 | U |
| 26 | 14 | 2776 | A |
| 26 | 14 | 2778 | A |
| 26 | 14 | 2790 | A |
| 26 | 14 | 2859 | G |
| 26 | 14 | 2873 | A |
| 26 | 14 | 2893 | G |
| 27 | 1J | 81 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 27 | 1J | 88 | C |

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

19 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|-----|-------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 22 | PSU | 1K | 39 | 22 | 18,21,22 | 1.11 | 2 (11%) | 22,30,33 | 1.78 | 5 (22%) |
| 22 | PSU | 1K | 55 | 22 | 18,21,22 | 1.23 | 1 (5%) | 22,30,33 | 1.83 | 4 (18%) |
| 22 | U8U | 1K | 34 | 25,22 | 19,24,25 | 2.66 | 6 (31%) | 23,34,37 | 1.52 | 4 (17%) |
| 23 | G7M | 2K | 47 | 23 | 20,26,27 | 2.46 | 6 (30%) | 17,39,42 | 1.21 | 2 (11%) |
| 23 | 5MU | 2L | 55 | 23 | 19,22,23 | 4.07 | 5 (26%) | 28,32,35 | 3.14 | 11 (39%) |
| 23 | G7M | 2L | 47 | 23 | 20,26,27 | 2.29 | 7 (35%) | 17,39,42 | 1.13 | 1 (5%) |
| 56 | PSU | 1L | 39 | 56 | 18,21,22 | 1.11 | 2 (11%) | 22,30,33 | 1.50 | 4 (18%) |
| 22 | T6A | 1K | 37 | 22 | 27,34,35 | 2.84 | 9 (33%) | 29,49,52 | 3.63 | 10 (34%) |
| 23 | PSU | 2L | 56 | 23 | 18,21,22 | 1.28 | 2 (11%) | 22,30,33 | 1.83 | 4 (18%) |
| 22 | 5MU | 1K | 54 | 22 | 19,22,23 | 3.95 | 5 (26%) | 28,32,35 | 2.86 | 9 (32%) |
| 56 | 5MU | 1L | 54 | 56 | 19,22,23 | 3.81 | 5 (26%) | 28,32,35 | 3.23 | 11 (39%) |
| 23 | 4SU | 2L | 8 | 23 | 18,21,22 | 1.87 | 4 (22%) | 26,30,33 | 2.83 | 7 (26%) |
| 23 | PSU | 2K | 56 | 23 | 18,21,22 | 1.37 | 2 (11%) | 22,30,33 | 2.43 | 5 (22%) |
| 23 | OMC | 2K | 33 | 23 | 19,22,23 | 1.67 | 3 (15%) | 26,31,34 | 1.39 | 3 (11%) |
| 56 | PSU | 1L | 55 | 56 | 18,21,22 | 1.32 | 1 (5%) | 22,30,33 | 1.82 | 4 (18%) |
| 23 | 5MU | 2K | 55 | 23 | 19,22,23 | 3.95 | 5 (26%) | 28,32,35 | 3.43 | 9 (32%) |
| 57 | PSU | 3L | 39 | 57 | 18,21,22 | 1.11 | 1 (5%) | 22,30,33 | 1.53 | 3 (13%) |
| 23 | 4SU | 2K | 8 | 23 | 18,21,22 | 1.84 | 3 (16%) | 26,30,33 | 2.38 | 7 (26%) |
| 23 | OMC | 2L | 33 | 23 | 19,22,23 | 1.96 | 3 (15%) | 26,31,34 | 1.56 | 4 (15%) |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the

Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.
'-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|-----|-------|---------|------------|---------|
| 22 | PSU | 1K | 39 | 22 | - | 0/7/25/26 | 0/2/2/2 |
| 22 | PSU | 1K | 55 | 22 | - | 0/7/25/26 | 0/2/2/2 |
| 22 | U8U | 1K | 34 | 25,22 | - | 4/9/28/29 | 0/2/2/2 |
| 23 | G7M | 2K | 47 | 23 | - | 1/3/25/26 | 0/3/3/3 |
| 23 | 5MU | 2L | 55 | 23 | - | 0/7/25/26 | 0/2/2/2 |
| 23 | G7M | 2L | 47 | 23 | - | 2/3/25/26 | 0/3/3/3 |
| 56 | PSU | 1L | 39 | 56 | - | 2/7/25/26 | 0/2/2/2 |
| 22 | T6A | 1K | 37 | 22 | - | 4/19/41/42 | 0/3/3/3 |
| 23 | PSU | 2L | 56 | 23 | - | 0/7/25/26 | 0/2/2/2 |
| 22 | 5MU | 1K | 54 | 22 | - | 2/7/25/26 | 0/2/2/2 |
| 56 | 5MU | 1L | 54 | 56 | - | 0/7/25/26 | 0/2/2/2 |
| 23 | 4SU | 2L | 8 | 23 | - | 0/7/25/26 | 0/2/2/2 |
| 23 | PSU | 2K | 56 | 23 | - | 0/7/25/26 | 0/2/2/2 |
| 23 | OMC | 2K | 33 | 23 | - | 3/9/27/28 | 0/2/2/2 |
| 56 | PSU | 1L | 55 | 56 | - | 2/7/25/26 | 0/2/2/2 |
| 23 | 5MU | 2K | 55 | 23 | - | 2/7/25/26 | 0/2/2/2 |
| 57 | PSU | 3L | 39 | 57 | - | 0/7/25/26 | 0/2/2/2 |
| 23 | 4SU | 2K | 8 | 23 | - | 0/7/25/26 | 0/2/2/2 |
| 23 | OMC | 2L | 33 | 23 | - | 2/9/27/28 | 0/2/2/2 |

All (72) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 23 | 2L | 55 | 5MU | C2-N1 | 13.10 | 1.59 | 1.38 |
| 23 | 2K | 55 | 5MU | C2-N1 | 12.95 | 1.59 | 1.38 |
| 22 | 1K | 54 | 5MU | C2-N1 | 12.38 | 1.58 | 1.38 |
| 56 | 1L | 54 | 5MU | C2-N1 | 11.97 | 1.57 | 1.38 |
| 22 | 1K | 37 | T6A | C10-N11 | 7.71 | 1.52 | 1.35 |
| 22 | 1K | 37 | T6A | C6-N6 | 6.92 | 1.48 | 1.36 |
| 23 | 2K | 55 | 5MU | C2-N3 | 6.87 | 1.50 | 1.38 |
| 23 | 2L | 55 | 5MU | C2-N3 | 6.45 | 1.49 | 1.38 |
| 22 | 1K | 54 | 5MU | C2-N3 | 6.33 | 1.49 | 1.38 |
| 22 | 1K | 54 | 5MU | C6-N1 | 6.20 | 1.48 | 1.38 |
| 23 | 2K | 8 | 4SU | C5-C4 | 6.12 | 1.50 | 1.42 |
| 22 | 1K | 37 | T6A | C10-N6 | 6.08 | 1.50 | 1.37 |
| 56 | 1L | 54 | 5MU | C4-N3 | -6.04 | 1.27 | 1.38 |
| 23 | 2K | 55 | 5MU | C6-N1 | 5.96 | 1.48 | 1.38 |
| 23 | 2L | 55 | 5MU | C4-C5 | 5.88 | 1.54 | 1.44 |
| 56 | 1L | 54 | 5MU | C6-N1 | 5.87 | 1.48 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 22 | 1K | 34 | U8U | C2-S2 | -5.80 | 1.58 | 1.67 |
| 23 | 2L | 55 | 5MU | C6-N1 | 5.69 | 1.47 | 1.38 |
| 23 | 2L | 33 | OMC | C2-N3 | 5.57 | 1.47 | 1.36 |
| 56 | 1L | 54 | 5MU | C2-N3 | 5.50 | 1.47 | 1.38 |
| 23 | 2L | 8 | 4SU | C5-C4 | 5.42 | 1.49 | 1.42 |
| 22 | 1K | 34 | U8U | C6-C5 | 5.41 | 1.50 | 1.34 |
| 22 | 1K | 54 | 5MU | C4-C5 | 5.37 | 1.53 | 1.44 |
| 22 | 1K | 54 | 5MU | C4-N3 | -5.34 | 1.28 | 1.38 |
| 23 | 2L | 55 | 5MU | C4-N3 | -5.34 | 1.28 | 1.38 |
| 23 | 2K | 47 | G7M | C6-N1 | 5.33 | 1.45 | 1.37 |
| 23 | 2K | 47 | G7M | C2-N3 | 5.19 | 1.45 | 1.33 |
| 56 | 1L | 54 | 5MU | C4-C5 | 5.06 | 1.53 | 1.44 |
| 23 | 2L | 47 | G7M | C2-N3 | 5.06 | 1.45 | 1.33 |
| 23 | 2L | 33 | OMC | C4-N4 | 5.00 | 1.45 | 1.33 |
| 23 | 2K | 33 | OMC | C2-N3 | 4.85 | 1.46 | 1.36 |
| 56 | 1L | 55 | PSU | C6-C5 | 4.79 | 1.40 | 1.35 |
| 23 | 2L | 47 | G7M | C4-N3 | 4.73 | 1.48 | 1.37 |
| 23 | 2K | 55 | 5MU | C4-N3 | -4.72 | 1.30 | 1.38 |
| 23 | 2K | 56 | PSU | C6-C5 | 4.55 | 1.40 | 1.35 |
| 22 | 1K | 34 | U8U | C6-N1 | 4.51 | 1.45 | 1.38 |
| 23 | 2K | 55 | 5MU | C4-C5 | 4.51 | 1.52 | 1.44 |
| 22 | 1K | 34 | U8U | C2-N3 | 4.38 | 1.47 | 1.37 |
| 22 | 1K | 55 | PSU | C6-C5 | 4.29 | 1.40 | 1.35 |
| 23 | 2L | 47 | G7M | C2-N2 | 4.14 | 1.44 | 1.34 |
| 23 | 2K | 47 | G7M | C5-C6 | 4.04 | 1.55 | 1.45 |
| 23 | 2K | 47 | G7M | C4-N3 | 4.04 | 1.47 | 1.37 |
| 23 | 2K | 33 | OMC | C4-N4 | 3.98 | 1.43 | 1.33 |
| 23 | 2K | 47 | G7M | C2-N2 | 3.95 | 1.43 | 1.34 |
| 23 | 2L | 56 | PSU | C6-C5 | 3.75 | 1.39 | 1.35 |
| 23 | 2L | 8 | 4SU | C2-N1 | 3.59 | 1.44 | 1.38 |
| 57 | 3L | 39 | PSU | C6-C5 | 3.52 | 1.39 | 1.35 |
| 23 | 2L | 47 | G7M | C5-C6 | 3.50 | 1.54 | 1.45 |
| 22 | 1K | 37 | T6A | C12-C13 | 3.41 | 1.57 | 1.52 |
| 56 | 1L | 39 | PSU | C6-C5 | 3.40 | 1.39 | 1.35 |
| 22 | 1K | 34 | U8U | C4-C5 | 3.39 | 1.52 | 1.45 |
| 23 | 2L | 47 | G7M | C6-N1 | 3.27 | 1.42 | 1.37 |
| 22 | 1K | 37 | T6A | C12-N11 | 3.17 | 1.52 | 1.45 |
| 22 | 1K | 37 | T6A | C4-N3 | 3.04 | 1.39 | 1.35 |
| 23 | 2K | 47 | G7M | C2-N1 | 3.03 | 1.45 | 1.37 |
| 22 | 1K | 34 | U8U | C4-N3 | 2.99 | 1.44 | 1.38 |
| 22 | 1K | 37 | T6A | C2-N3 | 2.94 | 1.36 | 1.32 |
| 23 | 2L | 33 | OMC | C5-C4 | 2.88 | 1.49 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 23 | 2K | 8 | 4SU | C2-N1 | 2.78 | 1.42 | 1.38 |
| 23 | 2L | 56 | PSU | C2-N1 | 2.76 | 1.40 | 1.36 |
| 23 | 2L | 8 | 4SU | C6-N1 | 2.71 | 1.44 | 1.38 |
| 22 | 1K | 39 | PSU | C6-C5 | 2.67 | 1.38 | 1.35 |
| 23 | 2K | 33 | OMC | C5-C4 | 2.56 | 1.48 | 1.42 |
| 23 | 2L | 47 | G7M | C2-N1 | 2.54 | 1.44 | 1.37 |
| 22 | 1K | 37 | T6A | C5-C4 | -2.44 | 1.34 | 1.40 |
| 23 | 2K | 56 | PSU | C4-C5 | -2.34 | 1.37 | 1.44 |
| 23 | 2K | 8 | 4SU | C6-N1 | 2.32 | 1.43 | 1.38 |
| 22 | 1K | 39 | PSU | O4'-C1' | -2.19 | 1.40 | 1.43 |
| 23 | 2L | 8 | 4SU | C4-S4 | -2.19 | 1.64 | 1.68 |
| 56 | 1L | 39 | PSU | C4-C5 | -2.17 | 1.38 | 1.44 |
| 23 | 2L | 47 | G7M | O6-C6 | -2.15 | 1.18 | 1.23 |
| 22 | 1K | 37 | T6A | ODA-C13 | 2.02 | 1.28 | 1.22 |

All (107) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 56 | 1L | 54 | 5MU | C5-C4-N3 | 10.94 | 124.65 | 115.31 |
| 22 | 1K | 37 | T6A | N3-C2-N1 | -9.86 | 113.27 | 128.68 |
| 23 | 2K | 55 | 5MU | C5-C4-N3 | 9.59 | 123.50 | 115.31 |
| 22 | 1K | 54 | 5MU | C5-C4-N3 | 9.15 | 123.12 | 115.31 |
| 23 | 2L | 8 | 4SU | C4-N3-C2 | -9.09 | 118.50 | 127.34 |
| 23 | 2L | 55 | 5MU | C5-C4-N3 | 8.97 | 122.97 | 115.31 |
| 22 | 1K | 37 | T6A | C2-N1-C6 | 8.88 | 124.21 | 116.59 |
| 23 | 2K | 55 | 5MU | O4-C4-C5 | -8.56 | 114.98 | 124.90 |
| 23 | 2L | 8 | 4SU | C5-C4-N3 | 8.53 | 122.60 | 114.69 |
| 22 | 1K | 37 | T6A | C12-N11-C10 | 8.17 | 135.56 | 121.94 |
| 23 | 2K | 8 | 4SU | C4-N3-C2 | -8.15 | 119.42 | 127.34 |
| 23 | 2K | 56 | PSU | C6-N1-C2 | -6.64 | 115.89 | 122.68 |
| 23 | 2K | 55 | 5MU | C6-C5-C4 | 6.60 | 123.55 | 118.03 |
| 23 | 2K | 55 | 5MU | C4-N3-C2 | -6.48 | 118.96 | 127.35 |
| 56 | 1L | 54 | 5MU | C4-N3-C2 | -6.42 | 119.04 | 127.35 |
| 22 | 1K | 37 | T6A | N6-C10-N11 | 6.37 | 122.66 | 113.76 |
| 56 | 1L | 54 | 5MU | C5-C6-N1 | -6.37 | 116.79 | 123.34 |
| 23 | 2K | 56 | PSU | N1-C2-N3 | 6.30 | 122.27 | 115.13 |
| 23 | 2L | 55 | 5MU | C4-N3-C2 | -6.07 | 119.50 | 127.35 |
| 23 | 2L | 55 | 5MU | C6-C5-C4 | 5.76 | 122.85 | 118.03 |
| 22 | 1K | 54 | 5MU | O4-C4-C5 | -5.40 | 118.64 | 124.90 |
| 23 | 2L | 55 | 5MU | C5M-C5-C6 | -5.27 | 115.81 | 122.85 |
| 23 | 2K | 55 | 5MU | C5-C6-N1 | -5.22 | 117.97 | 123.34 |
| 56 | 1L | 54 | 5MU | C6-C5-C4 | 5.17 | 122.35 | 118.03 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 22 | 1K | 54 | 5MU | C4-N3-C2 | -5.14 | 120.70 | 127.35 |
| 23 | 2L | 33 | OMC | N4-C4-N3 | 5.07 | 126.86 | 117.97 |
| 22 | 1K | 37 | T6A | O10-C10-N6 | -5.06 | 115.07 | 123.62 |
| 23 | 2L | 56 | PSU | C4-N3-C2 | -4.94 | 119.22 | 126.34 |
| 56 | 1L | 54 | 5MU | O4-C4-C5 | -4.89 | 119.24 | 124.90 |
| 56 | 1L | 55 | PSU | N1-C2-N3 | 4.72 | 120.47 | 115.13 |
| 23 | 2L | 55 | 5MU | C5-C6-N1 | -4.70 | 118.50 | 123.34 |
| 22 | 1K | 34 | U8U | S2-C2-N3 | -4.55 | 111.20 | 119.96 |
| 22 | 1K | 39 | PSU | C4-N3-C2 | -4.51 | 119.83 | 126.34 |
| 22 | 1K | 54 | 5MU | C6-C5-C4 | 4.51 | 121.80 | 118.03 |
| 23 | 2L | 55 | 5MU | O4-C4-C5 | -4.37 | 119.83 | 124.90 |
| 23 | 2L | 55 | 5MU | C6-N1-C2 | -4.28 | 116.96 | 121.30 |
| 23 | 2K | 8 | 4SU | N3-C2-N1 | 4.27 | 120.56 | 114.89 |
| 22 | 1K | 37 | T6A | N6-C6-N1 | 4.25 | 124.42 | 118.72 |
| 22 | 1K | 54 | 5MU | C5-C6-N1 | -4.25 | 118.97 | 123.34 |
| 23 | 2L | 8 | 4SU | C5-C4-S4 | -4.22 | 119.03 | 124.47 |
| 22 | 1K | 55 | PSU | N1-C2-N3 | 4.21 | 119.90 | 115.13 |
| 23 | 2K | 8 | 4SU | C5-C4-N3 | 4.12 | 118.51 | 114.69 |
| 22 | 1K | 55 | PSU | O2-C2-N1 | -4.08 | 118.30 | 122.79 |
| 57 | 3L | 39 | PSU | C4-N3-C2 | -4.07 | 120.47 | 126.34 |
| 23 | 2K | 33 | OMC | N4-C4-N3 | 4.06 | 125.09 | 117.97 |
| 22 | 1K | 39 | PSU | N1-C2-N3 | 4.03 | 119.70 | 115.13 |
| 22 | 1K | 55 | PSU | C6-N1-C2 | -3.96 | 118.63 | 122.68 |
| 22 | 1K | 54 | 5MU | C5M-C5-C6 | -3.94 | 117.58 | 122.85 |
| 23 | 2L | 56 | PSU | N1-C2-N3 | 3.92 | 119.57 | 115.13 |
| 56 | 1L | 39 | PSU | C4-N3-C2 | -3.85 | 120.79 | 126.34 |
| 23 | 2K | 8 | 4SU | O2-C2-N1 | -3.80 | 117.73 | 122.79 |
| 22 | 1K | 54 | 5MU | C6-N1-C2 | -3.77 | 117.48 | 121.30 |
| 56 | 1L | 55 | PSU | C6-N1-C2 | -3.76 | 118.84 | 122.68 |
| 56 | 1L | 55 | PSU | C4-N3-C2 | -3.74 | 120.95 | 126.34 |
| 23 | 2K | 55 | 5MU | C6-N1-C2 | -3.59 | 117.66 | 121.30 |
| 22 | 1K | 37 | T6A | C13-C12-N11 | 3.56 | 118.05 | 110.28 |
| 23 | 2K | 55 | 5MU | C5M-C5-C6 | -3.55 | 118.11 | 122.85 |
| 22 | 1K | 37 | T6A | ODB-C13-ODA | -3.54 | 116.04 | 124.09 |
| 23 | 2L | 33 | OMC | C5-C4-N4 | -3.51 | 115.05 | 120.57 |
| 23 | 2K | 56 | PSU | C4-N3-C2 | -3.49 | 121.31 | 126.34 |
| 56 | 1L | 55 | PSU | O2-C2-N1 | -3.31 | 119.14 | 122.79 |
| 23 | 2K | 8 | 4SU | C5-C4-S4 | -3.30 | 120.21 | 124.47 |
| 22 | 1K | 55 | PSU | C4-N3-C2 | -3.23 | 121.69 | 126.34 |
| 23 | 2L | 55 | 5MU | N3-C2-N1 | 3.22 | 119.16 | 114.89 |
| 23 | 2K | 56 | PSU | O2-C2-N1 | -3.16 | 119.31 | 122.79 |
| 23 | 2K | 33 | OMC | C5-C4-N4 | -3.15 | 115.61 | 120.57 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 23 | 2L | 8 | 4SU | N3-C2-N1 | 3.14 | 119.05 | 114.89 |
| 23 | 2K | 55 | 5MU | O2-C2-N1 | -3.11 | 118.65 | 122.79 |
| 57 | 3L | 39 | PSU | N1-C2-N3 | 2.98 | 118.50 | 115.13 |
| 22 | 1K | 39 | PSU | O2-C2-N1 | -2.95 | 119.55 | 122.79 |
| 56 | 1L | 54 | 5MU | C5M-C5-C6 | -2.93 | 118.94 | 122.85 |
| 22 | 1K | 37 | T6A | ODB-C13-C12 | 2.92 | 124.50 | 114.21 |
| 22 | 1K | 34 | U8U | C5-C4-N3 | 2.89 | 119.03 | 114.97 |
| 22 | 1K | 37 | T6A | C14-C12-C13 | 2.88 | 115.11 | 110.19 |
| 23 | 2L | 47 | G7M | C2-N1-C6 | -2.82 | 119.91 | 125.10 |
| 23 | 2L | 56 | PSU | C6-C5-C4 | 2.75 | 120.12 | 118.20 |
| 23 | 2K | 47 | G7M | C2-N1-C6 | -2.69 | 120.14 | 125.10 |
| 23 | 2K | 8 | 4SU | C6-C5-C4 | 2.68 | 122.28 | 119.95 |
| 56 | 1L | 39 | PSU | N1-C2-N3 | 2.66 | 118.14 | 115.13 |
| 23 | 2L | 55 | 5MU | O2-C2-N1 | -2.63 | 119.29 | 122.79 |
| 23 | 2K | 55 | 5MU | N3-C2-N1 | 2.60 | 118.34 | 114.89 |
| 23 | 2L | 33 | OMC | C1'-N1-C2 | 2.57 | 124.16 | 118.42 |
| 56 | 1L | 54 | 5MU | N3-C2-N1 | 2.55 | 118.28 | 114.89 |
| 22 | 1K | 54 | 5MU | O2-C2-N1 | -2.46 | 119.52 | 122.79 |
| 56 | 1L | 39 | PSU | O2-C2-N1 | -2.39 | 120.16 | 122.79 |
| 56 | 1L | 54 | 5MU | C6-N1-C2 | -2.38 | 118.89 | 121.30 |
| 56 | 1L | 39 | PSU | O4-C4-C5 | -2.36 | 117.89 | 124.05 |
| 22 | 1K | 34 | U8U | O4-C4-N3 | -2.34 | 115.63 | 120.12 |
| 56 | 1L | 54 | 5MU | O2-C2-N1 | -2.34 | 119.68 | 122.79 |
| 23 | 2L | 55 | 5MU | C5M-C5-C4 | 2.34 | 121.34 | 118.77 |
| 23 | 2K | 8 | 4SU | C5-C6-N1 | -2.34 | 117.90 | 121.81 |
| 22 | 1K | 54 | 5MU | N3-C2-N1 | 2.28 | 117.92 | 114.89 |
| 56 | 1L | 54 | 5MU | C1'-N1-C6 | 2.26 | 124.88 | 121.12 |
| 23 | 2K | 33 | OMC | C1'-N1-C6 | -2.24 | 115.95 | 120.84 |
| 22 | 1K | 39 | PSU | C6-C5-C4 | 2.22 | 119.75 | 118.20 |
| 22 | 1K | 34 | U8U | C-C5-C6 | -2.19 | 117.92 | 121.21 |
| 23 | 2K | 56 | PSU | C6-C5-C4 | 2.17 | 119.71 | 118.20 |
| 23 | 2L | 8 | 4SU | C1'-N1-C2 | 2.13 | 121.42 | 117.57 |
| 23 | 2L | 56 | PSU | C5-C6-N1 | -2.12 | 118.93 | 122.11 |
| 23 | 2L | 33 | OMC | C6-N1-C2 | -2.11 | 116.83 | 120.49 |
| 23 | 2L | 55 | 5MU | C1'-N1-C2 | 2.09 | 121.36 | 117.57 |
| 56 | 1L | 54 | 5MU | O4-C4-N3 | -2.09 | 116.11 | 120.12 |
| 23 | 2L | 8 | 4SU | C1'-N1-C6 | -2.08 | 116.31 | 120.84 |
| 57 | 3L | 39 | PSU | O4-C4-N3 | -2.08 | 116.13 | 120.12 |
| 22 | 1K | 39 | PSU | C6-N1-C2 | -2.06 | 120.58 | 122.68 |
| 23 | 2K | 47 | G7M | O6-C6-N1 | 2.04 | 123.05 | 120.65 |
| 23 | 2L | 8 | 4SU | O2-C2-N3 | -2.02 | 117.73 | 121.50 |

There are no chirality outliers.

All (24) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 22 | 1K | 34 | U8U | N-C-C5-C4 |
| 22 | 1K | 34 | U8U | N-C-C5-C6 |
| 22 | 1K | 37 | T6A | C13-C12-C14-O14 |
| 22 | 1K | 37 | T6A | C13-C12-C14-C15 |
| 23 | 2L | 47 | G7M | O4'-C4'-C5'-O5' |
| 22 | 1K | 37 | T6A | C5-C6-N6-C10 |
| 23 | 2K | 55 | 5MU | C3'-C4'-C5'-O5' |
| 22 | 1K | 34 | U8U | O4'-C4'-C5'-O5' |
| 23 | 2L | 47 | G7M | C3'-C4'-C5'-O5' |
| 23 | 2K | 55 | 5MU | O4'-C4'-C5'-O5' |
| 22 | 1K | 54 | 5MU | O4'-C4'-C5'-O5' |
| 22 | 1K | 54 | 5MU | C3'-C4'-C5'-O5' |
| 56 | 1L | 39 | PSU | O4'-C4'-C5'-O5' |
| 22 | 1K | 37 | T6A | N11-C12-C14-C15 |
| 23 | 2L | 33 | OMC | O4'-C4'-C5'-O5' |
| 23 | 2L | 33 | OMC | C3'-C4'-C5'-O5' |
| 56 | 1L | 55 | PSU | O4'-C1'-C5-C4 |
| 23 | 2K | 33 | OMC | C3'-C2'-O2'-CM2 |
| 23 | 2K | 47 | G7M | C4'-C5'-O5'-P |
| 56 | 1L | 39 | PSU | C3'-C4'-C5'-O5' |
| 23 | 2K | 33 | OMC | C1'-C2'-O2'-CM2 |
| 56 | 1L | 55 | PSU | O4'-C1'-C5-C6 |
| 22 | 1K | 34 | U8U | C3'-C4'-C5'-O5' |
| 23 | 2K | 33 | OMC | C2'-C1'-N1-C2 |

There are no ring outliers.

13 monomers are involved in 26 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 22 | 1K | 55 | PSU | 1 | 0 |
| 22 | 1K | 34 | U8U | 3 | 0 |
| 23 | 2K | 47 | G7M | 2 | 0 |
| 23 | 2L | 55 | 5MU | 4 | 0 |
| 23 | 2L | 47 | G7M | 3 | 0 |
| 22 | 1K | 37 | T6A | 1 | 0 |
| 22 | 1K | 54 | 5MU | 1 | 0 |
| 56 | 1L | 54 | 5MU | 2 | 0 |
| 23 | 2L | 8 | 4SU | 1 | 0 |
| 23 | 2K | 33 | OMC | 3 | 0 |
| 23 | 2K | 55 | 5MU | 3 | 0 |
| 23 | 2K | 8 | 4SU | 1 | 0 |

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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 23 | 2L | 33 | OMC | 1 | 0 |

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 1188 ligands modelled in this entry, 1186 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 59 | SF4 | 32 | 302 | 4 | 0,12,12 | - | - | - | | |
| 59 | SF4 | 3E | 301 | 4 | 0,12,12 | - | - | - | | |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|-----|------|---------|----------|---------|
| 59 | SF4 | 32 | 302 | 4 | - | - | 0/6/5/5 |
| 59 | SF4 | 3E | 301 | 4 | - | - | 0/6/5/5 |

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 4 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 59 | 32 | 302 | SF4 | 4 | 0 |

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 25 | 4K | 1 |
| 37 | 35 | 1 |
| 38 | 45 | 1 |
| 5 | 4E | 1 |
| 38 | 88 | 1 |
| 4 | 3E | 1 |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1 | 4K | 24:A | O3' | 25:A | P | 4.44 |
| 1 | 35 | 121:LYS | C | 122:PRO | N | 1.77 |
| 1 | 45 | 124:LYS | C | 125:LEU | N | 1.15 |
| 1 | 4E | 69:VAL | C | 70:PRO | N | 1.12 |
| 1 | 88 | 124:LYS | C | 125:LEU | N | 1.12 |
| 1 | 3E | 36:ARG | C | 37:PRO | N | 1.07 |

6 Fit of model and data i

6.1 Protein, DNA and RNA chains i

In the following table, the column labelled '#RSRZ > 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q < 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

| Mol | Chain | Analysed | <RSRZ> | #RSRZ > 2 | OWAB(Å ²) | Q < 0.9 |
|-----|-------|-----------------|--------|---|-----------------------|---------|
| 1 | 13 | 1493/1522 (98%) | -0.64 | 0 100 100 | 83, 129, 202, 287 | 0 |
| 1 | 1G | 1496/1522 (98%) | -0.44 | 11 (0%) 87 81 | 100, 152, 223, 279 | 0 |
| 2 | 12 | 206/256 (80%) | 0.24 | 28 (13%) 3 2 | 173, 206, 218, 228 | 0 |
| 2 | 1E | 231/256 (90%) | 0.85 | 46 (19%) 1 0 | 140, 173, 197, 207 | 0 |
| 3 | 22 | 194/239 (81%) | 1.00 | 44 (22%) 0 0 | 172, 196, 209, 214 | 0 |
| 3 | 2E | 205/239 (85%) | 0.59 | 27 (13%) 3 2 | 115, 136, 165, 176 | 0 |
| 4 | 32 | 208/209 (99%) | 1.17 | 55 (26%) 0 0 | 129, 152, 173, 183 | 0 |
| 4 | 3E | 207/209 (99%) | 0.77 | 46 (22%) 0 0 | 104, 131, 154, 164 | 0 |
| 5 | 42 | 149/162 (91%) | 0.15 | 6 (4%) 38 23 | 138, 160, 177, 190 | 0 |
| 5 | 4E | 149/162 (91%) | -0.19 | 0 100 100 | 104, 125, 147, 155 | 0 |
| 6 | 52 | 101/101 (100%) | 0.21 | 5 (4%) 28 15 | 119, 135, 156, 163 | 0 |
| 6 | 5E | 100/101 (99%) | 3.74 | 77 (77%) 0 0 | 103, 129, 149, 159 | 0 |
| 7 | 62 | 138/156 (88%) | 0.04 | 12 (8%) 10 5 | 150, 164, 173, 181 | 0 |
| 7 | 6E | 151/156 (96%) | -0.83 | 0 100 100 | 134, 150, 170, 179 | 0 |
| 8 | 72 | 137/138 (99%) | -0.74 | 0 100 100 | 136, 164, 180, 190 | 0 |
| 8 | 7E | 138/138 (100%) | -0.47 | 1 (0%) 87 81 | 112, 138, 152, 161 | 0 |
| 9 | 82 | 105/128 (82%) | 0.72 | 19 (18%) 1 1 | 149, 196, 209, 221 | 0 |
| 9 | 8E | 126/128 (98%) | -0.64 | 1 (0%) 86 78 | 111, 170, 192, 200 | 0 |
| 10 | 1A | 60/105 (57%) | 1.66 | 17 (28%) 0 0 | 166, 193, 204, 205 | 0 |
| 10 | 1I | 72/105 (68%) | 0.12 | 3 (4%) 36 21 | 112, 150, 193, 204 | 0 |
| 11 | 2A | 113/129 (87%) | -0.40 | 0 100 100 | 118, 143, 157, 167 | 0 |
| 11 | 2I | 111/129 (86%) | 1.72 | 43 (38%) 0 0 | 102, 136, 151, 164 | 0 |
| 12 | 3A | 121/132 (91%) | 1.11 | 34 (28%) 0 0 | 119, 142, 165, 179 | 0 |
| 12 | 3I | 122/132 (92%) | 0.14 | 2 (1%) 72 59 | 91, 102, 126, 160 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|-----------------|--------|---------------|-----------------------|-------|
| 13 | 4A | 111/126 (88%) | 1.08 | 27 (24%) 0 0 | 162, 187, 202, 212 | 0 |
| 13 | 4I | 119/126 (94%) | -0.36 | 1 (0%) 86 78 | 111, 146, 162, 173 | 0 |
| 14 | 5A | 48/61 (78%) | 2.62 | 25 (52%) 0 0 | 170, 191, 208, 218 | 0 |
| 14 | 5I | 60/61 (98%) | 0.65 | 6 (10%) 7 4 | 107, 124, 141, 155 | 0 |
| 15 | 6A | 87/89 (97%) | -0.17 | 2 (2%) 60 46 | 123, 148, 167, 174 | 0 |
| 15 | 6I | 87/89 (97%) | 1.61 | 28 (32%) 0 0 | 106, 127, 148, 153 | 0 |
| 16 | 7A | 84/88 (95%) | -0.32 | 0 100 100 | 120, 139, 161, 184 | 0 |
| 16 | 7I | 80/88 (90%) | 0.56 | 10 (12%) 3 2 | 127, 140, 169, 180 | 0 |
| 17 | 8A | 99/105 (94%) | -0.81 | 0 100 100 | 121, 143, 156, 159 | 0 |
| 17 | 8I | 100/105 (95%) | 2.24 | 51 (51%) 0 0 | 117, 136, 148, 154 | 0 |
| 18 | 9A | 67/88 (76%) | 0.12 | 2 (2%) 50 33 | 128, 145, 163, 171 | 0 |
| 18 | 9I | 67/88 (76%) | 2.73 | 40 (59%) 0 0 | 115, 134, 159, 164 | 0 |
| 19 | AA | 36/93 (38%) | -0.13 | 2 (5%) 24 12 | 191, 209, 217, 223 | 0 |
| 19 | AI | 81/93 (87%) | 1.21 | 24 (29%) 0 0 | 125, 148, 173, 183 | 0 |
| 20 | BA | 98/106 (92%) | 0.53 | 12 (12%) 4 2 | 107, 139, 163, 176 | 0 |
| 20 | BI | 97/106 (91%) | -0.13 | 5 (5%) 27 14 | 135, 152, 181, 193 | 0 |
| 21 | 1B | 23/27 (85%) | 3.95 | 21 (91%) 0 0 | 157, 179, 187, 189 | 0 |
| 21 | 1F | 23/27 (85%) | -0.90 | 0 100 100 | 119, 134, 143, 145 | 0 |
| 22 | 1K | 64/76 (84%) | 0.39 | 7 (10%) 5 3 | 112, 226, 251, 253 | 0 |
| 23 | 2K | 72/77 (93%) | -0.38 | 1 (1%) 75 63 | 94, 125, 153, 169 | 0 |
| 23 | 2L | 72/77 (93%) | 0.10 | 3 (4%) 36 21 | 100, 151, 178, 198 | 0 |
| 24 | 3K | 76/76 (100%) | -0.22 | 3 (3%) 39 24 | 96, 189, 207, 218 | 0 |
| 25 | 4K | 20/27 (74%) | 0.12 | 1 (5%) 28 15 | 96, 156, 196, 199 | 0 |
| 25 | 4L | 17/27 (62%) | 0.43 | 1 (5%) 22 12 | 131, 170, 208, 211 | 0 |
| 26 | 14 | 2861/2912 (98%) | -0.35 | 25 (0%) 84 75 | 72, 111, 235, 276 | 0 |
| 26 | 1H | 2830/2912 (97%) | -0.37 | 25 (0%) 84 75 | 65, 97, 204, 287 | 0 |
| 27 | 16 | 122/122 (100%) | -0.17 | 3 (2%) 57 42 | 92, 117, 143, 228 | 0 |
| 27 | 1J | 122/122 (100%) | -0.74 | 0 100 100 | 117, 155, 179, 225 | 0 |
| 28 | 7I | 135/229 (58%) | 1.87 | 56 (41%) 0 0 | 149, 167, 190, 202 | 0 |
| 29 | 11 | 273/276 (98%) | 0.09 | 8 (2%) 51 35 | 65, 90, 111, 122 | 0 |
| 29 | 19 | 273/276 (98%) | 0.92 | 45 (16%) 1 1 | 74, 100, 121, 136 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|----------------|--------|--------------|-----------------------|-------|
| 30 | 21 | 203/206 (98%) | 0.50 | 19 (9%) 8 4 | 73, 112, 157, 172 | 0 |
| 30 | 29 | 203/206 (98%) | 1.06 | 47 (23%) 0 0 | 79, 116, 162, 178 | 0 |
| 31 | 31 | 202/210 (96%) | 0.17 | 8 (3%) 38 23 | 70, 102, 136, 155 | 0 |
| 31 | 39 | 204/210 (97%) | -0.30 | 0 100 100 | 83, 128, 181, 201 | 0 |
| 32 | 41 | 179/182 (98%) | 0.49 | 20 (11%) 5 3 | 107, 128, 164, 174 | 0 |
| 32 | 49 | 179/182 (98%) | 0.64 | 24 (13%) 3 2 | 151, 171, 195, 204 | 0 |
| 33 | 51 | 171/180 (95%) | 0.31 | 23 (13%) 3 2 | 102, 128, 146, 157 | 0 |
| 33 | 59 | 69/180 (38%) | 0.77 | 12 (17%) 1 1 | 170, 198, 213, 220 | 0 |
| 34 | 61 | 145/148 (97%) | 1.26 | 42 (28%) 0 0 | 102, 163, 188, 199 | 0 |
| 34 | 69 | 145/148 (97%) | 1.05 | 37 (25%) 0 0 | 111, 152, 176, 189 | 0 |
| 35 | 15 | 137/140 (97%) | 1.44 | 44 (32%) 0 0 | 106, 134, 162, 179 | 0 |
| 35 | 58 | 138/140 (98%) | -0.27 | 1 (0%) 87 81 | 86, 112, 154, 172 | 0 |
| 36 | 25 | 122/122 (100%) | 0.44 | 4 (3%) 46 29 | 92, 113, 132, 142 | 0 |
| 36 | 68 | 122/122 (100%) | -0.18 | 0 100 100 | 81, 98, 118, 131 | 0 |
| 37 | 35 | 148/150 (98%) | 1.18 | 40 (27%) 0 0 | 84, 135, 174, 190 | 0 |
| 37 | 78 | 147/150 (98%) | 0.45 | 22 (14%) 2 1 | 72, 104, 136, 144 | 0 |
| 38 | 45 | 138/141 (97%) | 0.21 | 10 (7%) 15 8 | 99, 131, 151, 168 | 0 |
| 38 | 88 | 141/141 (100%) | 1.78 | 65 (46%) 0 0 | 76, 101, 123, 153 | 0 |
| 39 | 55 | 118/118 (100%) | 0.59 | 9 (7%) 13 7 | 87, 102, 118, 138 | 0 |
| 39 | 98 | 118/118 (100%) | 2.89 | 74 (62%) 0 0 | 87, 109, 131, 147 | 0 |
| 40 | 65 | 110/112 (98%) | 0.58 | 11 (10%) 7 4 | 116, 145, 164, 172 | 0 |
| 40 | A8 | 111/112 (99%) | 2.30 | 57 (51%) 0 0 | 93, 112, 135, 144 | 0 |
| 41 | 75 | 136/146 (93%) | -0.40 | 4 (2%) 51 35 | 102, 120, 169, 198 | 0 |
| 41 | B8 | 135/146 (92%) | -0.49 | 1 (0%) 87 81 | 92, 116, 166, 185 | 0 |
| 42 | 85 | 116/118 (98%) | 1.01 | 21 (18%) 1 1 | 90, 121, 154, 166 | 0 |
| 42 | C8 | 115/118 (97%) | -0.12 | 2 (1%) 70 57 | 77, 102, 130, 141 | 0 |
| 43 | 95 | 99/101 (98%) | 1.95 | 49 (49%) 0 0 | 91, 152, 166, 174 | 0 |
| 43 | D8 | 101/101 (100%) | 1.67 | 37 (36%) 0 0 | 78, 124, 149, 160 | 0 |
| 44 | A5 | 110/113 (97%) | -0.37 | 0 100 100 | 84, 96, 127, 133 | 0 |
| 44 | E8 | 110/113 (97%) | 0.03 | 2 (1%) 68 55 | 79, 95, 125, 140 | 0 |
| 45 | B5 | 94/96 (97%) | 0.77 | 14 (14%) 2 1 | 94, 110, 134, 144 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|-------------------|--------|---------------|-----------------------|-------|
| 45 | F8 | 95/96 (98%) | 2.16 | 49 (51%) 0 0 | 78, 93, 120, 133 | 0 |
| 46 | C5 | 105/110 (95%) | 1.16 | 23 (21%) 0 0 | 110, 143, 175, 185 | 0 |
| 46 | G8 | 104/110 (94%) | -0.66 | 0 100 100 | 88, 116, 148, 161 | 0 |
| 47 | D5 | 130/206 (63%) | 1.18 | 36 (27%) 0 0 | 138, 163, 188, 194 | 0 |
| 47 | H8 | 148/206 (71%) | 2.00 | 69 (46%) 0 0 | 106, 140, 195, 207 | 0 |
| 48 | E5 | 78/85 (91%) | 0.60 | 5 (6%) 19 10 | 99, 116, 136, 149 | 0 |
| 48 | I8 | 76/85 (89%) | 1.40 | 21 (27%) 0 0 | 79, 95, 111, 130 | 0 |
| 49 | F5 | 94/98 (95%) | 0.72 | 11 (11%) 4 2 | 86, 109, 144, 159 | 0 |
| 49 | J8 | 94/98 (95%) | 0.40 | 8 (8%) 10 5 | 79, 96, 143, 153 | 0 |
| 50 | G5 | 67/72 (93%) | 0.23 | 3 (4%) 33 19 | 113, 134, 152, 171 | 0 |
| 50 | K8 | 68/72 (94%) | 1.05 | 12 (17%) 1 1 | 82, 105, 124, 151 | 0 |
| 51 | H5 | 58/60 (96%) | 3.97 | 53 (91%) 0 0 | 103, 128, 155, 180 | 0 |
| 51 | L8 | 58/60 (96%) | 0.96 | 10 (17%) 1 1 | 83, 104, 140, 152 | 0 |
| 52 | M8 | 47/71 (66%) | 0.58 | 5 (10%) 6 3 | 131, 172, 183, 188 | 0 |
| 53 | J5 | 56/60 (93%) | -0.18 | 5 (8%) 9 5 | 82, 108, 155, 165 | 0 |
| 53 | N8 | 48/60 (80%) | 0.59 | 7 (14%) 2 1 | 72, 108, 153, 164 | 0 |
| 54 | L5 | 45/49 (91%) | 0.55 | 5 (11%) 5 3 | 75, 83, 95, 107 | 0 |
| 54 | P8 | 47/49 (95%) | -0.22 | 0 100 100 | 68, 74, 98, 108 | 0 |
| 55 | M5 | 64/65 (98%) | 1.41 | 17 (26%) 0 0 | 90, 105, 123, 143 | 0 |
| 55 | Q8 | 64/65 (98%) | 0.18 | 1 (1%) 72 59 | 80, 91, 108, 123 | 0 |
| 56 | 1L | 71/76 (93%) | 1.63 | 21 (29%) 0 0 | 140, 257, 274, 277 | 0 |
| 57 | 3L | 75/76 (98%) | -0.09 | 2 (2%) 54 38 | 107, 259, 277, 285 | 0 |
| All | All | 20395/21728 (93%) | 0.17 | 1973 (9%) 7 4 | 65, 127, 204, 287 | 0 |

All (1973) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 28 | 71 | 1 | PRO | 15.3 |
| 43 | D8 | 101 | GLY | 10.4 |
| 10 | 1A | 59 | SER | 10.3 |
| 21 | 1B | 14 | TRP | 9.7 |
| 32 | 49 | 137 | GLU | 9.6 |
| 14 | 5A | 59 | ALA | 9.5 |
| 6 | 5E | 89 | MET | 9.2 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 12 | 3A | 64 | TYR | 8.9 |
| 32 | 49 | 138 | GLN | 8.9 |
| 51 | H5 | 35 | ARG | 8.8 |
| 39 | 98 | 118 | GLU | 8.4 |
| 13 | 4A | 111 | LYS | 8.3 |
| 33 | 59 | 169 | VAL | 8.1 |
| 37 | 35 | 110 | TYR | 7.9 |
| 17 | 8I | 12 | SER | 7.8 |
| 21 | 1B | 13 | ILE | 7.8 |
| 51 | H5 | 26 | LEU | 7.7 |
| 6 | 5E | 4 | TYR | 7.6 |
| 39 | 98 | 94 | TYR | 7.6 |
| 51 | H5 | 25 | ALA | 7.6 |
| 14 | 5A | 50 | LYS | 7.6 |
| 43 | 95 | 12 | TYR | 7.4 |
| 6 | 5E | 55 | ASP | 7.3 |
| 39 | 98 | 115 | GLU | 7.3 |
| 14 | 5A | 52 | GLN | 7.3 |
| 6 | 5E | 63 | TYR | 7.3 |
| 28 | 71 | 35 | ALA | 7.3 |
| 32 | 41 | 26 | GLN | 7.3 |
| 30 | 29 | 73 | GLU | 7.3 |
| 30 | 29 | 71 | GLY | 7.2 |
| 13 | 4A | 102 | ARG | 7.2 |
| 6 | 5E | 67 | MET | 7.2 |
| 51 | H5 | 29 | ARG | 7.2 |
| 13 | 4A | 114 | ARG | 7.1 |
| 51 | H5 | 28 | LEU | 7.1 |
| 40 | A8 | 48 | LEU | 7.1 |
| 11 | 2I | 42 | TRP | 7.0 |
| 29 | 19 | 55 | GLY | 7.0 |
| 6 | 5E | 2 | ARG | 7.0 |
| 6 | 5E | 71 | ARG | 7.0 |
| 6 | 5E | 33 | TYR | 6.9 |
| 6 | 5E | 1 | MET | 6.9 |
| 6 | 5E | 35 | ALA | 6.9 |
| 14 | 5A | 51 | GLY | 6.9 |
| 6 | 5E | 3 | ARG | 6.9 |
| 39 | 98 | 87 | TYR | 6.8 |
| 3 | 22 | 198 | VAL | 6.8 |
| 34 | 61 | 140 | LEU | 6.8 |
| 47 | D5 | 69 | THR | 6.7 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 39 | 98 | 92 | GLY | 6.6 |
| 2 | 1E | 231 | GLU | 6.6 |
| 6 | 5E | 36 | ARG | 6.6 |
| 30 | 29 | 3 | GLY | 6.5 |
| 14 | 5A | 24 | CYS | 6.5 |
| 6 | 5E | 49 | ALA | 6.5 |
| 10 | 1A | 58 | ASP | 6.5 |
| 28 | 71 | 34 | THR | 6.4 |
| 10 | 1A | 62 | HIS | 6.4 |
| 28 | 71 | 2 | LYS | 6.4 |
| 17 | 8I | 98 | LEU | 6.4 |
| 6 | 5E | 66 | GLU | 6.4 |
| 3 | 22 | 178 | LEU | 6.4 |
| 3 | 22 | 177 | THR | 6.4 |
| 6 | 5E | 57 | GLN | 6.4 |
| 6 | 5E | 7 | ASN | 6.3 |
| 18 | 9I | 34 | TYR | 6.3 |
| 28 | 71 | 11 | LEU | 6.3 |
| 40 | A8 | 49 | VAL | 6.3 |
| 21 | 1B | 23 | PRO | 6.2 |
| 40 | A8 | 36 | TYR | 6.2 |
| 6 | 5E | 68 | PRO | 6.2 |
| 47 | D5 | 163 | LEU | 6.2 |
| 47 | H8 | 70 | LEU | 6.2 |
| 30 | 29 | 56 | PRO | 6.1 |
| 40 | A8 | 38 | GLN | 6.1 |
| 51 | H5 | 34 | GLU | 6.1 |
| 51 | H5 | 19 | GLN | 6.1 |
| 4 | 3E | 138 | TYR | 6.1 |
| 40 | A8 | 111 | GLU | 6.1 |
| 6 | 5E | 41 | GLU | 6.0 |
| 45 | F8 | 92 | LEU | 6.0 |
| 6 | 5E | 34 | GLY | 6.0 |
| 56 | 1L | 24 | G | 6.0 |
| 14 | 5A | 58 | LYS | 6.0 |
| 32 | 49 | 23 | PHE | 6.0 |
| 45 | F8 | 1 | MET | 6.0 |
| 51 | H5 | 27 | GLY | 6.0 |
| 6 | 5E | 64 | GLN | 5.9 |
| 47 | H8 | 2 | GLU | 5.9 |
| 43 | D8 | 37 | VAL | 5.9 |
| 39 | 98 | 7 | GLY | 5.9 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 13 | 4A | 110 | ARG | 5.9 |
| 4 | 3E | 140 | VAL | 5.9 |
| 14 | 5A | 57 | ARG | 5.9 |
| 6 | 5E | 32 | ASN | 5.9 |
| 40 | A8 | 27 | SER | 5.9 |
| 32 | 49 | 34 | LEU | 5.9 |
| 6 | 5E | 50 | TYR | 5.8 |
| 39 | 98 | 95 | THR | 5.8 |
| 43 | D8 | 45 | THR | 5.8 |
| 57 | 3L | 34 | U | 5.8 |
| 39 | 98 | 114 | VAL | 5.8 |
| 4 | 32 | 195 | ALA | 5.8 |
| 34 | 61 | 145 | VAL | 5.8 |
| 30 | 29 | 4 | ILE | 5.8 |
| 40 | A8 | 112 | PHE | 5.8 |
| 43 | D8 | 98 | GLU | 5.8 |
| 4 | 3E | 110 | PHE | 5.8 |
| 51 | H5 | 2 | PRO | 5.8 |
| 39 | 98 | 89 | ASP | 5.7 |
| 6 | 5E | 42 | GLU | 5.7 |
| 3 | 2E | 201 | TYR | 5.7 |
| 18 | 9I | 79 | LEU | 5.7 |
| 2 | 1E | 229 | VAL | 5.7 |
| 12 | 3A | 69 | TYR | 5.7 |
| 18 | 9I | 31 | LEU | 5.7 |
| 10 | 1A | 47 | PHE | 5.7 |
| 21 | 1B | 16 | GLY | 5.7 |
| 47 | D5 | 56 | VAL | 5.7 |
| 39 | 98 | 43 | GLU | 5.7 |
| 13 | 4A | 118 | ALA | 5.7 |
| 12 | 3A | 68 | ALA | 5.7 |
| 6 | 5E | 90 | VAL | 5.7 |
| 39 | 98 | 69 | ASP | 5.6 |
| 3 | 22 | 131 | ARG | 5.6 |
| 56 | 1L | 47 | U | 5.6 |
| 34 | 61 | 79 | ILE | 5.6 |
| 40 | A8 | 43 | GLU | 5.6 |
| 33 | 59 | 168 | PRO | 5.6 |
| 13 | 4A | 98 | VAL | 5.6 |
| 9 | 82 | 121 | ARG | 5.6 |
| 27 | 16 | 1(M) | A | 5.6 |
| 45 | F8 | 26 | TYR | 5.5 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 2 | 1E | 80 | ILE | 5.5 |
| 6 | 5E | 62 | TRP | 5.5 |
| 3 | 22 | 53 | ALA | 5.5 |
| 11 | 2I | 43 | SER | 5.5 |
| 32 | 49 | 155 | MET | 5.5 |
| 3 | 22 | 6 | HIS | 5.5 |
| 6 | 5E | 5 | GLU | 5.4 |
| 42 | 85 | 89 | GLU | 5.4 |
| 30 | 29 | 69 | LYS | 5.4 |
| 2 | 1E | 11 | LEU | 5.4 |
| 51 | H5 | 30 | ARG | 5.4 |
| 9 | 82 | 115 | GLY | 5.4 |
| 30 | 29 | 76 | ARG | 5.4 |
| 17 | 8I | 99 | SER | 5.4 |
| 45 | F8 | 87 | GLN | 5.4 |
| 18 | 9I | 72 | ARG | 5.4 |
| 38 | 88 | 38 | GLU | 5.4 |
| 39 | 98 | 49 | ASP | 5.4 |
| 53 | J5 | 53 | ALA | 5.3 |
| 20 | BA | 9 | ASN | 5.3 |
| 40 | A8 | 24 | LEU | 5.3 |
| 12 | 3A | 56 | ALA | 5.3 |
| 30 | 29 | 49 | LEU | 5.3 |
| 40 | A8 | 37 | ALA | 5.3 |
| 47 | H8 | 97 | GLU | 5.3 |
| 28 | 71 | 32 | LEU | 5.3 |
| 41 | 75 | 2 | ASN | 5.3 |
| 46 | C5 | 29 | GLU | 5.3 |
| 47 | H8 | 166 | SER | 5.3 |
| 51 | H5 | 24 | LYS | 5.3 |
| 54 | L5 | 1 | MET | 5.3 |
| 14 | 5A | 44 | LEU | 5.3 |
| 9 | 82 | 123 | PRO | 5.3 |
| 12 | 3A | 55 | VAL | 5.3 |
| 51 | H5 | 9 | VAL | 5.3 |
| 9 | 82 | 116 | LYS | 5.2 |
| 18 | 9I | 35 | ARG | 5.2 |
| 3 | 22 | 10 | PHE | 5.2 |
| 21 | 1B | 21 | TYR | 5.2 |
| 38 | 88 | 1 | MET | 5.2 |
| 17 | 8I | 101 | ARG | 5.2 |
| 47 | H8 | 85 | HIS | 5.2 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 18 | 9I | 80 | PRO | 5.2 |
| 13 | 4A | 116 | THR | 5.2 |
| 6 | 5E | 38 | GLU | 5.2 |
| 43 | 95 | 91 | TYR | 5.2 |
| 9 | 82 | 114 | TYR | 5.2 |
| 40 | A8 | 84 | GLN | 5.2 |
| 14 | 5I | 13 | THR | 5.2 |
| 14 | 5A | 47 | LEU | 5.2 |
| 21 | 1B | 6 | ARG | 5.2 |
| 30 | 29 | 54 | GLN | 5.2 |
| 18 | 9I | 78 | LEU | 5.2 |
| 3 | 22 | 7 | PRO | 5.2 |
| 9 | 82 | 117 | HIS | 5.2 |
| 35 | 15 | 51 | PHE | 5.1 |
| 47 | H8 | 88 | PHE | 5.1 |
| 39 | 98 | 109 | ALA | 5.1 |
| 17 | 8I | 17 | LYS | 5.1 |
| 17 | 8I | 11 | VAL | 5.1 |
| 41 | B8 | 1 | MET | 5.1 |
| 40 | 65 | 37 | ALA | 5.1 |
| 10 | 1A | 56 | HIS | 5.1 |
| 11 | 2I | 20 | TYR | 5.1 |
| 14 | 5A | 25 | VAL | 5.0 |
| 32 | 49 | 142 | PRO | 5.0 |
| 51 | H5 | 4 | LEU | 5.0 |
| 6 | 5E | 70 | ASP | 5.0 |
| 6 | 5E | 6 | VAL | 5.0 |
| 33 | 51 | 169 | VAL | 5.0 |
| 12 | 3A | 28 | LYS | 5.0 |
| 47 | H8 | 165 | VAL | 5.0 |
| 13 | 4A | 66 | LEU | 5.0 |
| 39 | 98 | 116 | LEU | 5.0 |
| 51 | H5 | 39 | ASP | 5.0 |
| 56 | 1L | 45 | G | 5.0 |
| 33 | 59 | 159 | GLU | 5.0 |
| 10 | 1A | 55 | LYS | 5.0 |
| 45 | F8 | 88 | LYS | 4.9 |
| 43 | D8 | 1 | MET | 4.9 |
| 6 | 5E | 69 | GLU | 4.9 |
| 10 | 1A | 49 | VAL | 4.9 |
| 6 | 5E | 48 | LEU | 4.9 |
| 37 | 35 | 76 | LYS | 4.9 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 13 | 4A | 101 | GLN | 4.9 |
| 39 | 98 | 91 | GLN | 4.9 |
| 43 | 95 | 66 | ARG | 4.9 |
| 42 | 85 | 69 | CYS | 4.9 |
| 55 | M5 | 12 | LYS | 4.9 |
| 34 | 69 | 12 | LEU | 4.9 |
| 3 | 2E | 166 | GLU | 4.9 |
| 15 | 6I | 2 | PRO | 4.9 |
| 18 | 9I | 51 | LEU | 4.9 |
| 39 | 98 | 8 | ARG | 4.9 |
| 39 | 98 | 88 | ARG | 4.9 |
| 40 | A8 | 110 | LEU | 4.9 |
| 2 | 1E | 5 | ILE | 4.9 |
| 35 | 15 | 73 | THR | 4.9 |
| 37 | 35 | 106 | LEU | 4.9 |
| 3 | 22 | 12 | LEU | 4.9 |
| 39 | 98 | 102 | GLU | 4.9 |
| 43 | D8 | 54 | GLY | 4.8 |
| 2 | 12 | 62 | ALA | 4.8 |
| 39 | 98 | 33 | ARG | 4.8 |
| 34 | 61 | 75 | LEU | 4.8 |
| 39 | 98 | 103 | ARG | 4.8 |
| 40 | A8 | 28 | VAL | 4.8 |
| 6 | 5E | 100 | ASN | 4.8 |
| 34 | 61 | 141 | LYS | 4.8 |
| 34 | 69 | 134 | PRO | 4.8 |
| 47 | H8 | 96 | VAL | 4.8 |
| 40 | A8 | 2 | ALA | 4.8 |
| 21 | 1B | 15 | ARG | 4.8 |
| 4 | 3E | 3 | ARG | 4.8 |
| 32 | 49 | 139 | LEU | 4.7 |
| 34 | 69 | 6 | LEU | 4.7 |
| 34 | 61 | 76 | THR | 4.7 |
| 2 | 1E | 232 | PRO | 4.7 |
| 34 | 61 | 80 | PRO | 4.7 |
| 13 | 4A | 103 | THR | 4.7 |
| 2 | 1E | 230 | VAL | 4.7 |
| 49 | F5 | 21 | ARG | 4.7 |
| 51 | H5 | 12 | PRO | 4.7 |
| 14 | 5A | 56 | VAL | 4.7 |
| 28 | 71 | 175 | VAL | 4.7 |
| 40 | A8 | 91 | PRO | 4.7 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 6 | 5E | 88 | VAL | 4.7 |
| 51 | H5 | 5 | LYS | 4.7 |
| 12 | 3A | 65 | GLU | 4.7 |
| 28 | 71 | 12 | GLU | 4.7 |
| 39 | 98 | 52 | ILE | 4.7 |
| 51 | H5 | 11 | SER | 4.7 |
| 6 | 5E | 61 | LEU | 4.6 |
| 47 | H8 | 3 | TYR | 4.6 |
| 38 | 88 | 104 | PHE | 4.6 |
| 4 | 3E | 122 | ARG | 4.6 |
| 28 | 71 | 220 | PRO | 4.6 |
| 51 | H5 | 18 | ASP | 4.6 |
| 19 | AI | 71 | LEU | 4.6 |
| 26 | 14 | 2833 | G | 4.6 |
| 6 | 5E | 46 | ARG | 4.6 |
| 34 | 61 | 74 | ASN | 4.6 |
| 50 | G5 | 45 | SER | 4.6 |
| 21 | 1B | 9 | ARG | 4.6 |
| 47 | H8 | 86 | VAL | 4.6 |
| 51 | H5 | 48 | GLU | 4.6 |
| 30 | 29 | 52 | LEU | 4.6 |
| 18 | 9I | 23 | LYS | 4.6 |
| 30 | 21 | 88 | GLY | 4.6 |
| 30 | 21 | 55 | ASN | 4.6 |
| 10 | 1I | 94 | VAL | 4.6 |
| 38 | 88 | 39 | PRO | 4.6 |
| 13 | 4A | 112 | GLY | 4.6 |
| 37 | 35 | 71 | VAL | 4.6 |
| 45 | F8 | 81 | VAL | 4.6 |
| 47 | H8 | 27 | VAL | 4.6 |
| 51 | H5 | 23 | LEU | 4.6 |
| 15 | 6A | 2 | PRO | 4.5 |
| 30 | 29 | 34 | VAL | 4.5 |
| 18 | 9I | 28 | GLU | 4.5 |
| 40 | A8 | 92 | TYR | 4.5 |
| 43 | 95 | 27 | ALA | 4.5 |
| 46 | C5 | 5 | MET | 4.5 |
| 18 | 9I | 81 | PHE | 4.5 |
| 51 | H5 | 44 | ARG | 4.5 |
| 30 | 29 | 77 | ILE | 4.5 |
| 34 | 69 | 11 | ASN | 4.5 |
| 47 | H8 | 76 | LEU | 4.5 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 38 | 88 | 41 | TRP | 4.5 |
| 6 | 5E | 9 | VAL | 4.5 |
| 4 | 32 | 187 | ARG | 4.5 |
| 47 | D5 | 157 | LEU | 4.5 |
| 39 | 98 | 34 | ILE | 4.5 |
| 15 | 6I | 88 | ARG | 4.5 |
| 2 | 12 | 157 | ARG | 4.5 |
| 47 | H8 | 74 | VAL | 4.5 |
| 4 | 32 | 133 | VAL | 4.5 |
| 30 | 29 | 78 | LEU | 4.5 |
| 43 | 95 | 73 | SER | 4.5 |
| 45 | F8 | 11 | PRO | 4.5 |
| 18 | 9I | 40 | LEU | 4.4 |
| 39 | 98 | 44 | LEU | 4.4 |
| 33 | 51 | 168 | PRO | 4.4 |
| 30 | 29 | 70 | ALA | 4.4 |
| 39 | 98 | 86 | ARG | 4.4 |
| 47 | H8 | 25 | PRO | 4.4 |
| 6 | 5E | 94 | GLN | 4.4 |
| 4 | 3E | 135 | LEU | 4.4 |
| 33 | 59 | 170 | ARG | 4.4 |
| 38 | 88 | 100 | GLY | 4.4 |
| 47 | H8 | 95 | PRO | 4.4 |
| 18 | 9I | 22 | VAL | 4.4 |
| 45 | F8 | 90 | GLU | 4.4 |
| 48 | E5 | 84 | LEU | 4.4 |
| 39 | 98 | 117 | VAL | 4.4 |
| 32 | 49 | 39 | ILE | 4.4 |
| 18 | 9I | 29 | PHE | 4.4 |
| 39 | 98 | 82 | GLU | 4.4 |
| 17 | 8I | 15 | MET | 4.3 |
| 39 | 98 | 45 | ARG | 4.3 |
| 55 | M5 | 64 | TYR | 4.3 |
| 6 | 5E | 91 | VAL | 4.3 |
| 28 | 71 | 47 | LEU | 4.3 |
| 18 | 9I | 43 | PHE | 4.3 |
| 51 | H5 | 10 | LYS | 4.3 |
| 15 | 6I | 87 | ILE | 4.3 |
| 49 | J8 | 92 | LYS | 4.3 |
| 50 | K8 | 34 | GLU | 4.3 |
| 11 | 2I | 91 | ARG | 4.3 |
| 14 | 5A | 60 | SER | 4.3 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 30 | 29 | 55 | ASN | 4.3 |
| 42 | 85 | 72 | HIS | 4.3 |
| 40 | A8 | 47 | THR | 4.3 |
| 34 | 69 | 63 | ALA | 4.3 |
| 29 | 19 | 5 | LYS | 4.3 |
| 43 | 95 | 86 | GLY | 4.3 |
| 50 | K8 | 43 | GLN | 4.3 |
| 3 | 2E | 149 | ALA | 4.3 |
| 51 | H5 | 20 | LYS | 4.3 |
| 34 | 61 | 85 | GLU | 4.3 |
| 4 | 32 | 110 | PHE | 4.3 |
| 28 | 71 | 218 | MET | 4.3 |
| 18 | 9I | 32 | ARG | 4.3 |
| 43 | 95 | 93 | GLU | 4.3 |
| 43 | D8 | 55 | ALA | 4.3 |
| 56 | 1L | 70 | C | 4.3 |
| 10 | 1A | 60 | ARG | 4.3 |
| 1 | 1G | 1226 | C | 4.2 |
| 3 | 2E | 193 | TYR | 4.2 |
| 2 | 1E | 10 | LEU | 4.2 |
| 43 | 95 | 87 | HIS | 4.2 |
| 10 | 1A | 54 | PHE | 4.2 |
| 46 | C5 | 46 | LYS | 4.2 |
| 28 | 71 | 28 | LEU | 4.2 |
| 4 | 32 | 23 | GLY | 4.2 |
| 9 | 82 | 64 | THR | 4.2 |
| 17 | 8I | 41 | LYS | 4.2 |
| 13 | 4A | 117 | VAL | 4.2 |
| 46 | C5 | 45 | VAL | 4.2 |
| 12 | 3I | 64 | TYR | 4.2 |
| 51 | H5 | 15 | TYR | 4.2 |
| 51 | H5 | 8 | LEU | 4.2 |
| 6 | 5E | 52 | ILE | 4.2 |
| 13 | 4A | 104 | ARG | 4.2 |
| 17 | 8I | 20 | THR | 4.2 |
| 34 | 61 | 107 | VAL | 4.2 |
| 18 | 9I | 74 | ARG | 4.2 |
| 43 | D8 | 99 | ILE | 4.2 |
| 43 | 95 | 64 | HIS | 4.2 |
| 38 | 88 | 34 | LEU | 4.2 |
| 26 | 14 | 4 | C | 4.2 |
| 3 | 22 | 199 | LYS | 4.2 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 10 | 1A | 53 | PRO | 4.2 |
| 34 | 61 | 105 | HIS | 4.2 |
| 34 | 61 | 143 | SER | 4.2 |
| 21 | 1B | 22 | ARG | 4.2 |
| 10 | 1A | 61 | GLU | 4.2 |
| 13 | 4A | 107 | ALA | 4.2 |
| 33 | 51 | 164 | TYR | 4.2 |
| 28 | 71 | 31 | GLU | 4.2 |
| 18 | 9I | 26 | LEU | 4.2 |
| 37 | 78 | 106 | LEU | 4.2 |
| 39 | 98 | 96 | ARG | 4.2 |
| 39 | 98 | 35 | THR | 4.2 |
| 6 | 5E | 31 | GLU | 4.2 |
| 4 | 3E | 144 | ASP | 4.1 |
| 33 | 51 | 128 | PRO | 4.1 |
| 11 | 2I | 29 | ILE | 4.1 |
| 11 | 2I | 48 | ILE | 4.1 |
| 39 | 98 | 104 | ARG | 4.1 |
| 2 | 12 | 160 | ASP | 4.1 |
| 4 | 32 | 109 | GLY | 4.1 |
| 30 | 29 | 51 | PHE | 4.1 |
| 13 | 4A | 113 | PRO | 4.1 |
| 6 | 5E | 43 | LEU | 4.1 |
| 45 | F8 | 13 | LEU | 4.1 |
| 47 | D5 | 55 | HIS | 4.1 |
| 39 | 98 | 51 | LEU | 4.1 |
| 10 | 1A | 51 | ARG | 4.1 |
| 3 | 22 | 13 | GLY | 4.1 |
| 1 | 1G | 1202 | G | 4.1 |
| 14 | 5A | 61 | TRP | 4.1 |
| 18 | 9I | 39 | VAL | 4.1 |
| 45 | F8 | 89 | ILE | 4.1 |
| 11 | 2I | 30 | VAL | 4.1 |
| 10 | 1A | 48 | THR | 4.1 |
| 3 | 2E | 200 | ALA | 4.1 |
| 56 | 1L | 40 | C | 4.1 |
| 29 | 19 | 54 | ARG | 4.1 |
| 32 | 49 | 105 | LYS | 4.1 |
| 28 | 71 | 208 | PHE | 4.1 |
| 6 | 5E | 56 | PRO | 4.1 |
| 28 | 71 | 173 | ALA | 4.1 |
| 38 | 88 | 20 | ALA | 4.1 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 34 | 6I | 139 | GLN | 4.1 |
| 11 | 2I | 83 | ILE | 4.1 |
| 14 | 5A | 55 | GLY | 4.0 |
| 17 | 8I | 21 | VAL | 4.0 |
| 47 | H8 | 28 | MET | 4.0 |
| 4 | 32 | 67 | ILE | 4.0 |
| 4 | 32 | 126 | ILE | 4.0 |
| 37 | 35 | 75 | ILE | 4.0 |
| 6 | 5E | 47 | ARG | 4.0 |
| 18 | 9I | 75 | ILE | 4.0 |
| 6 | 5E | 65 | VAL | 4.0 |
| 47 | D5 | 162 | GLU | 4.0 |
| 32 | 49 | 62 | LEU | 4.0 |
| 27 | 16 | 0 | A | 4.0 |
| 38 | 88 | 28 | ALA | 4.0 |
| 11 | 2I | 81 | ASP | 4.0 |
| 9 | 82 | 120 | ARG | 4.0 |
| 28 | 71 | 8 | ARG | 4.0 |
| 37 | 35 | 35 | HIS | 4.0 |
| 14 | 5A | 53 | LEU | 4.0 |
| 18 | 9I | 65 | ILE | 4.0 |
| 40 | A8 | 7 | TYR | 4.0 |
| 33 | 51 | 87 | LEU | 4.0 |
| 40 | A8 | 39 | ILE | 4.0 |
| 23 | 2K | 1 | C | 4.0 |
| 6 | 5E | 86 | ARG | 4.0 |
| 29 | 19 | 16 | MET | 4.0 |
| 38 | 88 | 2 | LEU | 4.0 |
| 4 | 32 | 70 | ILE | 4.0 |
| 12 | 3A | 54 | LYS | 4.0 |
| 26 | 14 | 2901 | C | 4.0 |
| 38 | 88 | 92 | GLY | 4.0 |
| 27 | 16 | 119 | A | 4.0 |
| 47 | H8 | 164 | ALA | 4.0 |
| 6 | 5E | 37 | VAL | 3.9 |
| 22 | 1K | 3 | G | 3.9 |
| 15 | 6I | 3 | ILE | 3.9 |
| 14 | 5A | 41 | ARG | 3.9 |
| 30 | 29 | 53 | PRO | 3.9 |
| 3 | 22 | 146 | ALA | 3.9 |
| 4 | 3E | 134 | ASP | 3.9 |
| 47 | H8 | 161 | VAL | 3.9 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 4 | 3E | 124 | GLY | 3.9 |
| 38 | 88 | 33 | GLY | 3.9 |
| 30 | 21 | 89 | ASP | 3.9 |
| 34 | 69 | 3 | VAL | 3.9 |
| 39 | 98 | 93 | GLY | 3.9 |
| 34 | 69 | 1 | MET | 3.9 |
| 6 | 52 | 36 | ARG | 3.9 |
| 11 | 2I | 31 | THR | 3.9 |
| 17 | 8I | 22 | LEU | 3.9 |
| 6 | 5E | 72 | VAL | 3.9 |
| 14 | 5A | 49 | HIS | 3.9 |
| 37 | 78 | 138 | LEU | 3.9 |
| 45 | F8 | 51 | VAL | 3.9 |
| 47 | H8 | 87 | ASP | 3.9 |
| 4 | 32 | 160 | GLN | 3.9 |
| 37 | 35 | 70 | GLN | 3.9 |
| 10 | 1A | 63 | PHE | 3.9 |
| 43 | 95 | 96 | ILE | 3.9 |
| 18 | 9I | 69 | THR | 3.9 |
| 52 | M8 | 31 | ILE | 3.9 |
| 47 | D5 | 54 | HIS | 3.9 |
| 26 | 14 | 1913 | A | 3.9 |
| 47 | H8 | 73 | GLN | 3.9 |
| 6 | 5E | 59 | TYR | 3.9 |
| 47 | H8 | 72 | ARG | 3.9 |
| 30 | 21 | 54 | GLN | 3.9 |
| 10 | 1A | 57 | LYS | 3.9 |
| 40 | A8 | 82 | ILE | 3.8 |
| 51 | L8 | 33 | GLN | 3.8 |
| 6 | 5E | 73 | ASN | 3.8 |
| 6 | 5E | 87 | ARG | 3.8 |
| 13 | 4A | 108 | ARG | 3.8 |
| 29 | 19 | 211 | ARG | 3.8 |
| 39 | 98 | 29 | LEU | 3.8 |
| 30 | 29 | 90 | THR | 3.8 |
| 17 | 8I | 50 | LYS | 3.8 |
| 11 | 2I | 68 | ALA | 3.8 |
| 43 | D8 | 39 | LEU | 3.8 |
| 45 | B5 | 79 | ALA | 3.8 |
| 43 | D8 | 56 | SER | 3.8 |
| 39 | 98 | 53 | HIS | 3.8 |
| 28 | 71 | 4 | GLY | 3.8 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 53 | N8 | 34 | PRO | 3.8 |
| 47 | H8 | 98 | MET | 3.8 |
| 4 | 32 | 68 | TYR | 3.8 |
| 26 | 1H | 2165 | G | 3.8 |
| 11 | 2I | 107 | SER | 3.8 |
| 33 | 59 | 153 | LYS | 3.8 |
| 40 | A8 | 101 | LEU | 3.8 |
| 4 | 32 | 189 | PRO | 3.8 |
| 33 | 51 | 159 | GLU | 3.8 |
| 47 | H8 | 84 | GLU | 3.8 |
| 28 | 71 | 49 | ILE | 3.8 |
| 26 | 1H | 2116 | G | 3.8 |
| 17 | 8I | 13 | ASP | 3.8 |
| 30 | 29 | 59 | VAL | 3.8 |
| 26 | 14 | 5 | A | 3.8 |
| 28 | 71 | 5 | LYS | 3.8 |
| 37 | 35 | 108 | LYS | 3.8 |
| 32 | 41 | 135 | LEU | 3.8 |
| 35 | 15 | 98 | VAL | 3.8 |
| 47 | D5 | 68 | PRO | 3.8 |
| 51 | H5 | 31 | LEU | 3.8 |
| 39 | 98 | 50 | HIS | 3.8 |
| 45 | F8 | 52 | VAL | 3.8 |
| 4 | 32 | 169 | LYS | 3.7 |
| 47 | D5 | 156 | LYS | 3.7 |
| 15 | 6I | 38 | ARG | 3.7 |
| 28 | 71 | 58 | VAL | 3.7 |
| 34 | 69 | 67 | ARG | 3.7 |
| 43 | D8 | 38 | LEU | 3.7 |
| 18 | 9I | 62 | GLU | 3.7 |
| 19 | AI | 12 | ASP | 3.7 |
| 21 | 1B | 5 | ASP | 3.7 |
| 51 | H5 | 32 | GLN | 3.7 |
| 41 | 75 | 6 | LEU | 3.7 |
| 6 | 5E | 60 | PHE | 3.7 |
| 29 | 19 | 15 | PHE | 3.7 |
| 26 | 1H | 1536 | A | 3.7 |
| 47 | H8 | 38 | TYR | 3.7 |
| 39 | 98 | 97 | VAL | 3.7 |
| 51 | H5 | 56 | VAL | 3.7 |
| 37 | 35 | 74 | GLU | 3.7 |
| 56 | 1L | 12 | U | 3.7 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 38 | 45 | 104 | PHE | 3.7 |
| 13 | 4A | 97 | PRO | 3.7 |
| 38 | 88 | 105 | GLU | 3.7 |
| 45 | F8 | 50 | LYS | 3.7 |
| 49 | F5 | 36 | GLY | 3.7 |
| 47 | H8 | 7 | ALA | 3.7 |
| 2 | 1E | 127 | ILE | 3.7 |
| 2 | 1E | 152 | PHE | 3.7 |
| 3 | 2E | 202 | ILE | 3.7 |
| 34 | 69 | 138 | ILE | 3.7 |
| 47 | H8 | 121 | HIS | 3.7 |
| 21 | 1B | 18 | TYR | 3.7 |
| 28 | 71 | 13 | LYS | 3.7 |
| 51 | H5 | 7 | LYS | 3.7 |
| 17 | 8I | 71 | PHE | 3.7 |
| 34 | 61 | 144 | VAL | 3.7 |
| 38 | 88 | 137 | TYR | 3.7 |
| 26 | 14 | 229 | A | 3.7 |
| 17 | 8I | 44 | ALA | 3.7 |
| 30 | 29 | 28 | ALA | 3.7 |
| 42 | 85 | 67 | ALA | 3.7 |
| 45 | F8 | 83 | VAL | 3.7 |
| 3 | 22 | 15 | THR | 3.7 |
| 6 | 5E | 93 | SER | 3.7 |
| 39 | 98 | 36 | THR | 3.7 |
| 26 | 1H | 2108 | C | 3.7 |
| 51 | H5 | 3 | ARG | 3.7 |
| 18 | 9I | 42 | ARG | 3.6 |
| 34 | 61 | 84 | GLY | 3.6 |
| 4 | 32 | 198 | VAL | 3.6 |
| 10 | 1A | 50 | ILE | 3.6 |
| 45 | F8 | 28 | PHE | 3.6 |
| 18 | 9I | 21 | LYS | 3.6 |
| 48 | I8 | 40 | GLN | 3.6 |
| 19 | AI | 31 | ILE | 3.6 |
| 30 | 29 | 74 | PRO | 3.6 |
| 34 | 61 | 86 | THR | 3.6 |
| 35 | 15 | 70 | LYS | 3.6 |
| 51 | H5 | 49 | LYS | 3.6 |
| 4 | 32 | 125 | HIS | 3.6 |
| 34 | 69 | 17 | GLN | 3.6 |
| 34 | 69 | 35 | LEU | 3.6 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 21 | 1B | 10 | ARG | 3.6 |
| 26 | 14 | 2902 | C | 3.6 |
| 4 | 32 | 69 | GLY | 3.6 |
| 4 | 32 | 27 | TYR | 3.6 |
| 40 | A8 | 109 | GLY | 3.6 |
| 43 | D8 | 35 | LEU | 3.6 |
| 43 | 95 | 40 | LEU | 3.6 |
| 47 | H8 | 26 | GLY | 3.6 |
| 47 | H8 | 81 | ARG | 3.6 |
| 26 | 1H | 2790 | A | 3.6 |
| 55 | M5 | 21 | LYS | 3.6 |
| 32 | 41 | 80 | PHE | 3.6 |
| 43 | 95 | 72 | VAL | 3.6 |
| 47 | H8 | 162 | GLU | 3.6 |
| 20 | BA | 8 | ARG | 3.6 |
| 45 | F8 | 5 | TYR | 3.6 |
| 47 | H8 | 79 | ARG | 3.6 |
| 50 | K8 | 15 | LYS | 3.6 |
| 50 | G5 | 44 | LEU | 3.6 |
| 4 | 3E | 152 | SER | 3.6 |
| 18 | 9I | 33 | ASP | 3.6 |
| 30 | 29 | 48 | GLN | 3.6 |
| 3 | 2E | 182 | ILE | 3.6 |
| 35 | 15 | 48 | MET | 3.6 |
| 46 | C5 | 63 | LYS | 3.6 |
| 38 | 88 | 97 | VAL | 3.6 |
| 4 | 32 | 108 | LEU | 3.6 |
| 12 | 3A | 85 | ILE | 3.6 |
| 4 | 32 | 162 | LEU | 3.6 |
| 20 | BA | 13 | LEU | 3.6 |
| 39 | 98 | 54 | LEU | 3.6 |
| 51 | H5 | 53 | LEU | 3.6 |
| 37 | 35 | 77 | ARG | 3.6 |
| 6 | 5E | 92 | LYS | 3.6 |
| 45 | F8 | 8 | ILE | 3.6 |
| 39 | 98 | 112 | ALA | 3.6 |
| 40 | 65 | 58 | LEU | 3.6 |
| 43 | D8 | 57 | VAL | 3.5 |
| 38 | 88 | 17 | LEU | 3.5 |
| 4 | 3E | 118 | ARG | 3.5 |
| 4 | 3E | 153 | ARG | 3.5 |
| 56 | 1L | 1 | G | 3.5 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 3 | 2E | 189 | ALA | 3.5 |
| 9 | 82 | 93 | ARG | 3.5 |
| 12 | 3I | 63 | GLY | 3.5 |
| 37 | 78 | 135 | LEU | 3.5 |
| 45 | F8 | 76 | ARG | 3.5 |
| 11 | 2I | 110 | ASP | 3.5 |
| 17 | 8I | 23 | VAL | 3.5 |
| 3 | 2E | 170 | GLN | 3.5 |
| 6 | 5E | 58 | GLY | 3.5 |
| 7 | 62 | 8 | GLU | 3.5 |
| 30 | 29 | 30 | PRO | 3.5 |
| 17 | 8I | 37 | LYS | 3.5 |
| 40 | A8 | 44 | LYS | 3.5 |
| 3 | 2E | 153 | VAL | 3.5 |
| 2 | 12 | 152 | PHE | 3.5 |
| 39 | 98 | 21 | TYR | 3.5 |
| 40 | A8 | 87 | PHE | 3.5 |
| 38 | 88 | 80 | GLU | 3.5 |
| 26 | 14 | 932 | G | 3.5 |
| 47 | H8 | 66 | SER | 3.5 |
| 48 | E5 | 21 | LEU | 3.5 |
| 22 | 1K | 73 | A | 3.5 |
| 6 | 5E | 95 | GLU | 3.5 |
| 39 | 98 | 90 | ARG | 3.5 |
| 43 | 95 | 94 | LEU | 3.5 |
| 40 | 65 | 57 | LYS | 3.5 |
| 51 | H5 | 37 | LEU | 3.5 |
| 18 | 9I | 20 | ALA | 3.5 |
| 35 | 15 | 136 | GLU | 3.5 |
| 4 | 3E | 155 | LEU | 3.5 |
| 32 | 41 | 39 | ILE | 3.5 |
| 26 | 1H | 2476 | A | 3.5 |
| 15 | 6I | 79 | ARG | 3.5 |
| 37 | 35 | 65 | ARG | 3.5 |
| 13 | 4A | 105 | THR | 3.5 |
| 14 | 5I | 2 | ALA | 3.5 |
| 35 | 15 | 55 | VAL | 3.5 |
| 43 | 95 | 5 | VAL | 3.5 |
| 6 | 5E | 84 | ASN | 3.5 |
| 43 | 95 | 75 | PHE | 3.5 |
| 43 | 95 | 81 | TYR | 3.5 |
| 35 | 15 | 74 | ARG | 3.5 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 43 | D8 | 40 | LEU | 3.5 |
| 17 | 8I | 86 | GLU | 3.4 |
| 34 | 69 | 20 | ASP | 3.4 |
| 30 | 29 | 72 | VAL | 3.4 |
| 15 | 6I | 46 | HIS | 3.4 |
| 17 | 8I | 51 | TYR | 3.4 |
| 11 | 2I | 35 | PRO | 3.4 |
| 40 | A8 | 23 | ARG | 3.4 |
| 12 | 3A | 62 | SER | 3.4 |
| 17 | 8I | 43 | LEU | 3.4 |
| 43 | D8 | 16 | PRO | 3.4 |
| 43 | 95 | 74 | LYS | 3.4 |
| 46 | C5 | 53 | PRO | 3.4 |
| 1 | 1G | 1227 | A | 3.4 |
| 17 | 8I | 8 | GLY | 3.4 |
| 17 | 8I | 42 | TYR | 3.4 |
| 29 | 19 | 6 | PHE | 3.4 |
| 47 | D5 | 88 | PHE | 3.4 |
| 4 | 32 | 192 | GLU | 3.4 |
| 28 | 71 | 33 | ALA | 3.4 |
| 32 | 41 | 137 | GLU | 3.4 |
| 39 | 98 | 40 | LYS | 3.4 |
| 17 | 8I | 19 | VAL | 3.4 |
| 39 | 98 | 67 | LEU | 3.4 |
| 42 | 85 | 90 | VAL | 3.4 |
| 3 | 22 | 39 | ILE | 3.4 |
| 7 | 62 | 33 | ASP | 3.4 |
| 2 | 1E | 233 | SER | 3.4 |
| 18 | 9I | 83 | GLU | 3.4 |
| 34 | 69 | 2 | LYS | 3.4 |
| 34 | 61 | 77 | LEU | 3.4 |
| 34 | 69 | 5 | LEU | 3.4 |
| 39 | 98 | 48 | VAL | 3.4 |
| 37 | 35 | 107 | LYS | 3.4 |
| 17 | 8I | 45 | HIS | 3.4 |
| 18 | 9A | 26 | LEU | 3.4 |
| 51 | H5 | 6 | VAL | 3.4 |
| 4 | 32 | 185 | PHE | 3.4 |
| 34 | 69 | 109 | ILE | 3.4 |
| 34 | 61 | 122 | GLU | 3.4 |
| 38 | 88 | 99 | PRO | 3.4 |
| 38 | 88 | 130 | LYS | 3.4 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 40 | A8 | 26 | LEU | 3.4 |
| 3 | 22 | 8 | ILE | 3.4 |
| 43 | 95 | 88 | ARG | 3.4 |
| 4 | 32 | 188 | LEU | 3.4 |
| 43 | 95 | 45 | THR | 3.4 |
| 45 | F8 | 93 | GLU | 3.4 |
| 11 | 2I | 36 | ASP | 3.4 |
| 33 | 59 | 171 | LEU | 3.4 |
| 9 | 82 | 125 | TYR | 3.4 |
| 31 | 31 | 28 | ILE | 3.4 |
| 31 | 31 | 27 | GLU | 3.4 |
| 43 | D8 | 36 | PRO | 3.4 |
| 18 | 9I | 50 | ILE | 3.4 |
| 38 | 88 | 68 | ILE | 3.4 |
| 45 | F8 | 48 | LYS | 3.4 |
| 2 | 1E | 228 | GLY | 3.4 |
| 34 | 61 | 125 | GLU | 3.4 |
| 37 | 35 | 145 | PRO | 3.3 |
| 49 | J8 | 51 | VAL | 3.3 |
| 11 | 2I | 67 | ASP | 3.3 |
| 19 | AI | 13 | ASP | 3.3 |
| 4 | 3E | 139 | ARG | 3.3 |
| 47 | D5 | 97 | GLU | 3.3 |
| 2 | 1E | 81 | VAL | 3.3 |
| 38 | 88 | 103 | MET | 3.3 |
| 4 | 32 | 29 | PRO | 3.3 |
| 11 | 2I | 19 | ALA | 3.3 |
| 30 | 29 | 31 | CYS | 3.3 |
| 40 | A8 | 94 | TYR | 3.3 |
| 32 | 49 | 177 | GLY | 3.3 |
| 34 | 61 | 113 | ARG | 3.3 |
| 37 | 35 | 47 | ASP | 3.3 |
| 17 | 8I | 10 | VAL | 3.3 |
| 35 | 15 | 87 | LEU | 3.3 |
| 40 | 65 | 56 | LEU | 3.3 |
| 45 | F8 | 9 | LEU | 3.3 |
| 18 | 9I | 82 | THR | 3.3 |
| 29 | 19 | 17 | THR | 3.3 |
| 6 | 5E | 8 | ILE | 3.3 |
| 38 | 88 | 32 | TYR | 3.3 |
| 2 | 12 | 154 | LEU | 3.3 |
| 38 | 88 | 37 | LEU | 3.3 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 17 | 8I | 97 | SER | 3.3 |
| 49 | F5 | 22 | GLY | 3.3 |
| 42 | 85 | 66 | ASN | 3.3 |
| 53 | N8 | 45 | VAL | 3.3 |
| 13 | 4I | 6 | GLY | 3.3 |
| 18 | 9A | 43 | PHE | 3.3 |
| 35 | 15 | 90 | MET | 3.3 |
| 28 | 71 | 48 | GLY | 3.3 |
| 29 | 19 | 181 | GLU | 3.3 |
| 39 | 98 | 83 | ILE | 3.3 |
| 47 | H8 | 55 | HIS | 3.3 |
| 52 | M8 | 34 | GLU | 3.3 |
| 2 | 1E | 67 | THR | 3.3 |
| 45 | B5 | 54 | VAL | 3.3 |
| 2 | 12 | 132 | LYS | 3.3 |
| 29 | 19 | 4 | LYS | 3.3 |
| 39 | 98 | 70 | LEU | 3.3 |
| 17 | 8I | 59 | ILE | 3.3 |
| 45 | F8 | 84 | ALA | 3.3 |
| 47 | H8 | 75 | ASN | 3.3 |
| 30 | 29 | 181 | LEU | 3.3 |
| 45 | B5 | 92 | LEU | 3.3 |
| 47 | H8 | 91 | LEU | 3.3 |
| 37 | 35 | 95 | VAL | 3.3 |
| 30 | 29 | 1 | MET | 3.3 |
| 4 | 3E | 151 | LYS | 3.3 |
| 7 | 62 | 7 | ALA | 3.3 |
| 43 | 95 | 95 | LEU | 3.3 |
| 2 | 1E | 159 | PRO | 3.3 |
| 52 | M8 | 42 | PHE | 3.3 |
| 49 | J8 | 95 | LEU | 3.3 |
| 37 | 35 | 64 | LYS | 3.3 |
| 34 | 69 | 64 | GLU | 3.3 |
| 45 | F8 | 29 | TRP | 3.3 |
| 34 | 69 | 13 | GLY | 3.3 |
| 45 | F8 | 86 | GLY | 3.3 |
| 37 | 78 | 105 | LEU | 3.3 |
| 3 | 22 | 186 | PHE | 3.3 |
| 28 | 71 | 29 | VAL | 3.3 |
| 29 | 19 | 208 | LYS | 3.3 |
| 39 | 98 | 99 | LYS | 3.3 |
| 51 | H5 | 58 | VAL | 3.3 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 40 | 65 | 20 | ARG | 3.2 |
| 48 | I8 | 41 | ARG | 3.2 |
| 51 | H5 | 38 | GLU | 3.2 |
| 40 | A8 | 102 | ALA | 3.2 |
| 47 | D5 | 5 | LEU | 3.2 |
| 30 | 29 | 2 | LYS | 3.2 |
| 34 | 61 | 103 | ARG | 3.2 |
| 32 | 49 | 94 | LEU | 3.2 |
| 47 | H8 | 5 | LEU | 3.2 |
| 7 | 62 | 32 | ARG | 3.2 |
| 12 | 3A | 48 | PRO | 3.2 |
| 17 | 8I | 80 | GLY | 3.2 |
| 4 | 3E | 108 | LEU | 3.2 |
| 29 | 19 | 212 | SER | 3.2 |
| 6 | 5E | 97 | PHE | 3.2 |
| 47 | D5 | 96 | VAL | 3.2 |
| 15 | 6I | 39 | LEU | 3.2 |
| 37 | 35 | 82 | GLY | 3.2 |
| 42 | 85 | 68 | ALA | 3.2 |
| 51 | L8 | 8 | LEU | 3.2 |
| 49 | J8 | 70 | VAL | 3.2 |
| 28 | 71 | 27 | HIS | 3.2 |
| 6 | 5E | 14 | LEU | 3.2 |
| 19 | AI | 15 | LEU | 3.2 |
| 33 | 51 | 96 | ALA | 3.2 |
| 34 | 69 | 61 | ARG | 3.2 |
| 47 | D5 | 165 | VAL | 3.2 |
| 12 | 3A | 57 | LYS | 3.2 |
| 39 | 98 | 9 | LYS | 3.2 |
| 40 | 65 | 33 | LYS | 3.2 |
| 23 | 2L | 40 | C | 3.2 |
| 15 | 6I | 63 | ARG | 3.2 |
| 6 | 5E | 10 | LEU | 3.2 |
| 42 | 85 | 63 | VAL | 3.2 |
| 51 | H5 | 36 | VAL | 3.2 |
| 51 | H5 | 54 | VAL | 3.2 |
| 54 | L5 | 14 | LYS | 3.2 |
| 55 | M5 | 49 | VAL | 3.2 |
| 30 | 29 | 58 | ARG | 3.2 |
| 33 | 51 | 170 | ARG | 3.2 |
| 28 | 71 | 3 | HIS | 3.2 |
| 38 | 88 | 36 | ALA | 3.2 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 3 | 22 | 16 | ARG | 3.2 |
| 45 | F8 | 15 | GLU | 3.2 |
| 18 | 9I | 76 | LEU | 3.2 |
| 12 | 3A | 39 | VAL | 3.2 |
| 38 | 45 | 102 | VAL | 3.2 |
| 47 | H8 | 8 | TYR | 3.2 |
| 47 | H8 | 71 | VAL | 3.2 |
| 51 | H5 | 16 | PRO | 3.2 |
| 2 | 1E | 115 | LEU | 3.2 |
| 34 | 61 | 138 | ILE | 3.2 |
| 6 | 52 | 89 | MET | 3.2 |
| 4 | 3E | 111 | ALA | 3.2 |
| 7 | 62 | 2 | ALA | 3.2 |
| 9 | 82 | 122 | ALA | 3.2 |
| 45 | B5 | 3 | THR | 3.2 |
| 46 | C5 | 30 | VAL | 3.2 |
| 30 | 29 | 50 | GLY | 3.2 |
| 43 | 95 | 85 | LYS | 3.2 |
| 42 | 85 | 55 | ARG | 3.2 |
| 15 | 6I | 4 | THR | 3.2 |
| 43 | 95 | 15 | GLU | 3.2 |
| 21 | 1B | 3 | LYS | 3.1 |
| 29 | 19 | 36 | PRO | 3.1 |
| 3 | 22 | 155 | GLY | 3.1 |
| 12 | 3A | 27 | LEU | 3.1 |
| 29 | 19 | 214 | TRP | 3.1 |
| 51 | L8 | 59 | VAL | 3.1 |
| 33 | 59 | 157 | TYR | 3.1 |
| 39 | 98 | 42 | LYS | 3.1 |
| 30 | 21 | 58 | ARG | 3.1 |
| 32 | 49 | 63 | ILE | 3.1 |
| 40 | A8 | 35 | ILE | 3.1 |
| 40 | A8 | 40 | ILE | 3.1 |
| 40 | 65 | 108 | GLY | 3.1 |
| 55 | M5 | 16 | ILE | 3.1 |
| 4 | 32 | 34 | GLU | 3.1 |
| 4 | 32 | 161 | ASN | 3.1 |
| 51 | H5 | 46 | ASN | 3.1 |
| 16 | 7I | 49 | LEU | 3.1 |
| 45 | F8 | 7 | VAL | 3.1 |
| 45 | F8 | 49 | VAL | 3.1 |
| 42 | 85 | 47 | TYR | 3.1 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 40 | A8 | 46 | VAL | 3.1 |
| 2 | 1E | 155 | LEU | 3.1 |
| 26 | 1H | 2126 | A | 3.1 |
| 35 | 15 | 34 | LEU | 3.1 |
| 51 | L8 | 53 | LEU | 3.1 |
| 36 | 25 | 42 | SER | 3.1 |
| 45 | F8 | 45 | THR | 3.1 |
| 45 | B5 | 33 | LYS | 3.1 |
| 4 | 32 | 112 | VAL | 3.1 |
| 32 | 41 | 64 | THR | 3.1 |
| 15 | 6I | 67 | LEU | 3.1 |
| 37 | 35 | 18 | ARG | 3.1 |
| 47 | D5 | 158 | PRO | 3.1 |
| 29 | 19 | 2 | ALA | 3.1 |
| 32 | 41 | 75 | LYS | 3.1 |
| 43 | 95 | 18 | LEU | 3.1 |
| 40 | A8 | 90 | GLY | 3.1 |
| 7 | 62 | 31 | MET | 3.1 |
| 14 | 5A | 26 | ARG | 3.1 |
| 21 | 1B | 7 | ARG | 3.1 |
| 26 | 1H | 2798 | C | 3.1 |
| 3 | 2E | 150 | LYS | 3.1 |
| 2 | 12 | 37 | ASN | 3.1 |
| 4 | 32 | 111 | ALA | 3.1 |
| 32 | 49 | 135 | LEU | 3.1 |
| 40 | A8 | 78 | LEU | 3.1 |
| 47 | H8 | 155 | LEU | 3.1 |
| 14 | 5A | 45 | ARG | 3.1 |
| 48 | I8 | 42 | GLY | 3.1 |
| 26 | 1H | 2117 | A | 3.1 |
| 26 | 14 | 1185 | C | 3.1 |
| 47 | H8 | 171 | ILE | 3.1 |
| 54 | L5 | 18 | PHE | 3.1 |
| 43 | 95 | 89 | GLN | 3.1 |
| 17 | 8I | 9 | VAL | 3.1 |
| 17 | 8I | 52 | LYS | 3.1 |
| 19 | AI | 60 | VAL | 3.1 |
| 37 | 78 | 125 | VAL | 3.1 |
| 40 | A8 | 11 | LYS | 3.1 |
| 43 | D8 | 60 | GLU | 3.1 |
| 39 | 98 | 113 | LEU | 3.1 |
| 34 | 69 | 14 | ASP | 3.0 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 56 | 1L | 4 | U | 3.0 |
| 32 | 41 | 72 | ARG | 3.0 |
| 16 | 7I | 37 | GLY | 3.0 |
| 40 | A8 | 12 | PHE | 3.0 |
| 19 | AI | 49 | ILE | 3.0 |
| 32 | 49 | 41 | GLN | 3.0 |
| 35 | 15 | 13 | TRP | 3.0 |
| 20 | BA | 10 | LEU | 3.0 |
| 43 | 95 | 39 | LEU | 3.0 |
| 34 | 69 | 36 | ALA | 3.0 |
| 11 | 2I | 118 | GLY | 3.0 |
| 33 | 51 | 86 | GLU | 3.0 |
| 53 | N8 | 35 | GLU | 3.0 |
| 56 | 1L | 66 | A | 3.0 |
| 2 | 1E | 149 | LEU | 3.0 |
| 24 | 3K | 16 | U | 3.0 |
| 49 | F5 | 32 | LYS | 3.0 |
| 28 | 71 | 174 | PRO | 3.0 |
| 46 | C5 | 44 | ILE | 3.0 |
| 11 | 2I | 109 | VAL | 3.0 |
| 22 | 1K | 71 | C | 3.0 |
| 32 | 41 | 23 | PHE | 3.0 |
| 3 | 22 | 184 | TYR | 3.0 |
| 39 | 98 | 55 | ALA | 3.0 |
| 28 | 71 | 59 | ARG | 3.0 |
| 53 | J5 | 55 | ARG | 3.0 |
| 37 | 35 | 125 | VAL | 3.0 |
| 2 | 12 | 133 | LYS | 3.0 |
| 3 | 2E | 154 | SER | 3.0 |
| 48 | I8 | 61 | ALA | 3.0 |
| 11 | 2I | 119 | CYS | 3.0 |
| 38 | 88 | 12 | GLN | 3.0 |
| 4 | 32 | 35 | ARG | 3.0 |
| 4 | 32 | 118 | ARG | 3.0 |
| 17 | 8I | 79 | SER | 3.0 |
| 12 | 3A | 63 | GLY | 3.0 |
| 34 | 61 | 65 | ALA | 3.0 |
| 33 | 59 | 160 | LYS | 3.0 |
| 38 | 88 | 98 | LYS | 3.0 |
| 4 | 3E | 148 | VAL | 3.0 |
| 26 | 14 | 1184 | G | 3.0 |
| 2 | 12 | 80 | ILE | 3.0 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 4 | 32 | 117 | ALA | 3.0 |
| 39 | 98 | 32 | GLY | 3.0 |
| 30 | 29 | 75 | VAL | 3.0 |
| 37 | 78 | 130 | PHE | 3.0 |
| 26 | 14 | 274 | G | 3.0 |
| 35 | 15 | 50 | ASP | 3.0 |
| 47 | D5 | 51 | ALA | 3.0 |
| 3 | 22 | 179 | ARG | 3.0 |
| 17 | 8I | 7 | THR | 3.0 |
| 34 | 61 | 82 | ARG | 3.0 |
| 11 | 2I | 73 | MET | 3.0 |
| 14 | 5I | 15 | LYS | 3.0 |
| 19 | AI | 42 | PRO | 3.0 |
| 6 | 5E | 29 | ALA | 3.0 |
| 40 | A8 | 86 | ALA | 3.0 |
| 51 | H5 | 43 | ILE | 3.0 |
| 1 | 1G | 1286 | A | 3.0 |
| 47 | H8 | 90 | VAL | 3.0 |
| 51 | H5 | 59 | VAL | 3.0 |
| 4 | 3E | 154 | ASN | 3.0 |
| 11 | 2I | 116 | HIS | 3.0 |
| 47 | H8 | 127 | LYS | 3.0 |
| 4 | 3E | 5 | ILE | 3.0 |
| 43 | D8 | 100 | ARG | 3.0 |
| 34 | 69 | 68 | LEU | 3.0 |
| 39 | 98 | 100 | LEU | 3.0 |
| 47 | D5 | 126 | VAL | 3.0 |
| 50 | K8 | 21 | LEU | 3.0 |
| 21 | 1B | 12 | LYS | 3.0 |
| 38 | 88 | 128 | LYS | 3.0 |
| 46 | C5 | 79 | CYS | 3.0 |
| 48 | I8 | 45 | PHE | 3.0 |
| 28 | 71 | 207 | THR | 3.0 |
| 47 | D5 | 50 | GLN | 3.0 |
| 33 | 59 | 142 | GLY | 2.9 |
| 43 | D8 | 3 | ALA | 2.9 |
| 43 | 95 | 4 | ILE | 2.9 |
| 11 | 2I | 82 | VAL | 2.9 |
| 47 | H8 | 89 | PHE | 2.9 |
| 21 | 1B | 8 | THR | 2.9 |
| 34 | 69 | 135 | GLU | 2.9 |
| 16 | 7I | 19 | ILE | 2.9 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 47 | H8 | 163 | LEU | 2.9 |
| 52 | M8 | 35 | VAL | 2.9 |
| 3 | 2E | 179 | ARG | 2.9 |
| 40 | A8 | 30 | ARG | 2.9 |
| 26 | 14 | 277 | C | 2.9 |
| 9 | 82 | 65 | VAL | 2.9 |
| 25 | 4K | 13 | A | 2.9 |
| 12 | 3A | 32 | PHE | 2.9 |
| 13 | 4A | 100 | GLY | 2.9 |
| 48 | I8 | 68 | GLU | 2.9 |
| 28 | 71 | 41 | VAL | 2.9 |
| 34 | 61 | 12 | LEU | 2.9 |
| 51 | H5 | 52 | HIS | 2.9 |
| 47 | H8 | 99 | TYR | 2.9 |
| 2 | 1E | 217 | ARG | 2.9 |
| 15 | 6I | 77 | ARG | 2.9 |
| 48 | I8 | 69 | PHE | 2.9 |
| 35 | 15 | 58 | ASP | 2.9 |
| 39 | 98 | 46 | GLY | 2.9 |
| 40 | A8 | 41 | ASP | 2.9 |
| 18 | 9I | 70 | ILE | 2.9 |
| 42 | 85 | 71 | GLN | 2.9 |
| 45 | F8 | 10 | ALA | 2.9 |
| 47 | D5 | 134 | PRO | 2.9 |
| 3 | 22 | 19 | GLU | 2.9 |
| 29 | 19 | 216 | GLY | 2.9 |
| 11 | 2I | 84 | VAL | 2.9 |
| 16 | 7I | 39 | TYR | 2.9 |
| 39 | 98 | 84 | ALA | 2.9 |
| 47 | H8 | 82 | ARG | 2.9 |
| 30 | 29 | 67 | PHE | 2.9 |
| 43 | 95 | 76 | LYS | 2.9 |
| 3 | 22 | 52 | LEU | 2.9 |
| 17 | 8I | 74 | LEU | 2.9 |
| 38 | 88 | 25 | ASP | 2.9 |
| 47 | D5 | 91 | LEU | 2.9 |
| 48 | E5 | 71 | ASP | 2.9 |
| 28 | 71 | 16 | PRO | 2.9 |
| 38 | 88 | 89 | ASN | 2.9 |
| 37 | 78 | 136 | GLU | 2.9 |
| 29 | 19 | 13 | ARG | 2.9 |
| 47 | H8 | 24 | LEU | 2.9 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 36 | 25 | 41 | ALA | 2.9 |
| 34 | 61 | 13 | GLY | 2.9 |
| 11 | 2I | 77 | MET | 2.9 |
| 28 | 71 | 43 | VAL | 2.9 |
| 14 | 5A | 10 | ALA | 2.9 |
| 38 | 45 | 69 | PHE | 2.9 |
| 19 | AI | 29 | ARG | 2.9 |
| 20 | BI | 87 | LYS | 2.9 |
| 29 | 11 | 270 | ILE | 2.9 |
| 32 | 41 | 19 | LEU | 2.9 |
| 47 | H8 | 69 | THR | 2.9 |
| 11 | 2I | 22 | HIS | 2.9 |
| 39 | 55 | 8 | ARG | 2.9 |
| 18 | 9I | 71 | LYS | 2.9 |
| 17 | 8I | 53 | LEU | 2.9 |
| 33 | 51 | 107 | VAL | 2.9 |
| 37 | 35 | 45 | LEU | 2.9 |
| 37 | 35 | 30 | THR | 2.9 |
| 14 | 5I | 8 | GLU | 2.9 |
| 34 | 61 | 70 | GLU | 2.9 |
| 43 | D8 | 34 | GLU | 2.9 |
| 38 | 88 | 11 | LYS | 2.9 |
| 19 | AI | 16 | LEU | 2.9 |
| 30 | 21 | 6 | GLY | 2.9 |
| 7 | 62 | 30 | ILE | 2.8 |
| 29 | 19 | 51 | VAL | 2.8 |
| 4 | 32 | 4 | TYR | 2.8 |
| 13 | 4A | 73 | GLU | 2.8 |
| 35 | 15 | 26 | LEU | 2.8 |
| 11 | 2I | 21 | ILE | 2.8 |
| 39 | 98 | 31 | HIS | 2.8 |
| 4 | 32 | 196 | LEU | 2.8 |
| 3 | 22 | 14 | ILE | 2.8 |
| 15 | 6I | 36 | ILE | 2.8 |
| 32 | 41 | 63 | ILE | 2.8 |
| 1 | 1G | 973 | G | 2.8 |
| 4 | 3E | 145 | GLU | 2.8 |
| 15 | 6I | 62 | GLN | 2.8 |
| 12 | 3A | 77 | LEU | 2.8 |
| 2 | 1E | 55 | PHE | 2.8 |
| 29 | 19 | 219 | PRO | 2.8 |
| 39 | 98 | 47 | PHE | 2.8 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 50 | K8 | 29 | LYS | 2.8 |
| 3 | 22 | 28 | GLN | 2.8 |
| 11 | 2I | 16 | SER | 2.8 |
| 14 | 5A | 42 | ILE | 2.8 |
| 47 | H8 | 36 | LYS | 2.8 |
| 55 | M5 | 22 | VAL | 2.8 |
| 50 | K8 | 20 | GLU | 2.8 |
| 11 | 2I | 120 | ARG | 2.8 |
| 12 | 3A | 21 | LYS | 2.8 |
| 39 | 98 | 57 | ARG | 2.8 |
| 48 | I8 | 25 | ARG | 2.8 |
| 16 | 7I | 51 | VAL | 2.8 |
| 17 | 8I | 73 | VAL | 2.8 |
| 43 | 95 | 36 | PRO | 2.8 |
| 45 | F8 | 6 | ASP | 2.8 |
| 56 | 1L | 22 | G | 2.8 |
| 38 | 88 | 40 | ALA | 2.8 |
| 15 | 6I | 85 | LEU | 2.8 |
| 40 | A8 | 83 | LYS | 2.8 |
| 48 | I8 | 26 | TYR | 2.8 |
| 29 | 19 | 56 | GLY | 2.8 |
| 54 | L5 | 2 | LYS | 2.8 |
| 4 | 32 | 146 | ILE | 2.8 |
| 35 | 15 | 46 | VAL | 2.8 |
| 38 | 88 | 65 | PHE | 2.8 |
| 17 | 8I | 18 | THR | 2.8 |
| 38 | 88 | 129 | THR | 2.8 |
| 30 | 21 | 5 | LEU | 2.8 |
| 47 | H8 | 150 | LEU | 2.8 |
| 17 | 8I | 90 | ILE | 2.8 |
| 40 | A8 | 29 | PHE | 2.8 |
| 43 | 95 | 34 | GLU | 2.8 |
| 3 | 2E | 199 | LYS | 2.8 |
| 7 | 62 | 104 | LEU | 2.8 |
| 11 | 2I | 50 | TYR | 2.8 |
| 30 | 29 | 5 | LEU | 2.8 |
| 39 | 55 | 60 | LEU | 2.8 |
| 6 | 5E | 40 | VAL | 2.8 |
| 28 | 71 | 14 | VAL | 2.8 |
| 34 | 61 | 109 | ILE | 2.8 |
| 2 | 1E | 83 | MET | 2.8 |
| 37 | 35 | 46 | LYS | 2.8 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 37 | 35 | 72 | PRO | 2.8 |
| 37 | 78 | 124 | LYS | 2.8 |
| 4 | 3E | 181 | MET | 2.8 |
| 4 | 32 | 186 | LEU | 2.8 |
| 1 | 1G | 1190 | G | 2.8 |
| 21 | 1B | 4 | GLY | 2.8 |
| 26 | 14 | 931 | G | 2.8 |
| 17 | 8I | 4 | LYS | 2.8 |
| 30 | 29 | 96 | PHE | 2.8 |
| 47 | H8 | 77 | ASP | 2.8 |
| 56 | 1L | 27 | G | 2.8 |
| 40 | A8 | 89 | ARG | 2.8 |
| 6 | 52 | 66 | GLU | 2.8 |
| 26 | 1H | 2132 | U | 2.8 |
| 38 | 88 | 48 | GLU | 2.8 |
| 43 | 95 | 60 | GLU | 2.8 |
| 26 | 14 | 933 | A | 2.8 |
| 17 | 8I | 84 | LEU | 2.8 |
| 34 | 69 | 18 | VAL | 2.8 |
| 42 | 85 | 57 | PHE | 2.8 |
| 2 | 12 | 79 | ASP | 2.8 |
| 39 | 98 | 81 | ASP | 2.8 |
| 46 | C5 | 6 | HIS | 2.8 |
| 4 | 32 | 164 | ALA | 2.7 |
| 14 | 5A | 23 | ARG | 2.7 |
| 17 | 8I | 91 | ARG | 2.7 |
| 28 | 71 | 167 | LYS | 2.7 |
| 39 | 98 | 106 | GLY | 2.7 |
| 35 | 15 | 53 | VAL | 2.7 |
| 15 | 6I | 43 | LEU | 2.7 |
| 26 | 1H | 2151 | G | 2.7 |
| 47 | D5 | 52 | SER | 2.7 |
| 37 | 35 | 68 | GLN | 2.7 |
| 51 | L8 | 32 | GLN | 2.7 |
| 53 | N8 | 43 | HIS | 2.7 |
| 19 | AI | 30 | LEU | 2.7 |
| 38 | 88 | 18 | LYS | 2.7 |
| 39 | 98 | 79 | LEU | 2.7 |
| 2 | 1E | 148 | TYR | 2.7 |
| 29 | 19 | 147 | LEU | 2.7 |
| 29 | 19 | 235 | GLY | 2.7 |
| 30 | 21 | 51 | PHE | 2.7 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 51 | H5 | 17 | LYS | 2.7 |
| 4 | 32 | 154 | ASN | 2.7 |
| 7 | 62 | 38 | LEU | 2.7 |
| 18 | 9I | 85 | LEU | 2.7 |
| 35 | 15 | 43 | THR | 2.7 |
| 38 | 88 | 7 | MET | 2.7 |
| 39 | 98 | 80 | PHE | 2.7 |
| 3 | 22 | 44 | GLU | 2.7 |
| 31 | 31 | 123 | LEU | 2.7 |
| 45 | F8 | 24 | GLY | 2.7 |
| 37 | 78 | 94 | GLU | 2.7 |
| 40 | A8 | 51 | ALA | 2.7 |
| 42 | 85 | 62 | ILE | 2.7 |
| 29 | 19 | 206 | LEU | 2.7 |
| 2 | 1E | 88 | ALA | 2.7 |
| 4 | 32 | 134 | ASP | 2.7 |
| 6 | 5E | 74 | ASP | 2.7 |
| 29 | 19 | 247 | ALA | 2.7 |
| 38 | 88 | 102 | VAL | 2.7 |
| 38 | 88 | 136 | ALA | 2.7 |
| 17 | 8I | 36 | ILE | 2.7 |
| 20 | BI | 91 | LEU | 2.7 |
| 20 | BI | 92 | LEU | 2.7 |
| 17 | 8I | 40 | LYS | 2.7 |
| 47 | D5 | 49 | ARG | 2.7 |
| 38 | 88 | 26 | TYR | 2.7 |
| 4 | 32 | 19 | LEU | 2.7 |
| 20 | BA | 104 | LEU | 2.7 |
| 51 | L8 | 28 | LEU | 2.7 |
| 37 | 35 | 51 | PHE | 2.7 |
| 9 | 82 | 119 | ALA | 2.7 |
| 11 | 2I | 117 | ASN | 2.7 |
| 16 | 7I | 48 | TRP | 2.7 |
| 28 | 71 | 170 | ALA | 2.7 |
| 37 | 78 | 114 | ILE | 2.7 |
| 4 | 3E | 125 | HIS | 2.7 |
| 38 | 45 | 91 | GLU | 2.7 |
| 13 | 4A | 31 | LYS | 2.7 |
| 4 | 32 | 114 | ARG | 2.7 |
| 13 | 4A | 88 | ARG | 2.7 |
| 40 | A8 | 25 | ARG | 2.7 |
| 29 | 19 | 53 | PHE | 2.7 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 42 | C8 | 90 | VAL | 2.7 |
| 9 | 82 | 62 | TYR | 2.6 |
| 43 | D8 | 27 | ALA | 2.7 |
| 39 | 98 | 10 | LEU | 2.6 |
| 2 | 12 | 163 | PHE | 2.6 |
| 34 | 61 | 78 | THR | 2.6 |
| 42 | 85 | 40 | PHE | 2.6 |
| 43 | D8 | 32 | THR | 2.6 |
| 46 | C5 | 62 | GLU | 2.6 |
| 26 | 1H | 2129 | C | 2.6 |
| 47 | H8 | 57 | ILE | 2.6 |
| 35 | 15 | 91 | LEU | 2.6 |
| 39 | 98 | 98 | LEU | 2.6 |
| 53 | J5 | 51 | TYR | 2.6 |
| 30 | 29 | 41 | LYS | 2.6 |
| 34 | 61 | 73 | GLU | 2.6 |
| 37 | 78 | 113 | LYS | 2.6 |
| 46 | C5 | 7 | VAL | 2.6 |
| 4 | 3E | 146 | ILE | 2.6 |
| 19 | AI | 20 | LEU | 2.6 |
| 40 | 65 | 112 | PHE | 2.6 |
| 2 | 12 | 156 | LYS | 2.6 |
| 4 | 32 | 128 | VAL | 2.6 |
| 19 | AI | 44 | MET | 2.6 |
| 38 | 88 | 91 | GLU | 2.6 |
| 48 | I8 | 46 | LYS | 2.6 |
| 49 | F5 | 26 | ARG | 2.6 |
| 2 | 1E | 68 | ILE | 2.6 |
| 2 | 12 | 155 | LEU | 2.6 |
| 34 | 69 | 9 | LEU | 2.6 |
| 38 | 88 | 74 | TYR | 2.6 |
| 43 | 95 | 70 | ILE | 2.6 |
| 51 | L8 | 4 | LEU | 2.6 |
| 55 | M5 | 58 | ILE | 2.6 |
| 49 | J8 | 91 | LYS | 2.6 |
| 15 | 6I | 74 | ASP | 2.6 |
| 30 | 29 | 79 | ARG | 2.6 |
| 35 | 15 | 56 | ASN | 2.6 |
| 35 | 15 | 127 | ASP | 2.6 |
| 47 | D5 | 98 | MET | 2.6 |
| 12 | 3A | 84 | LEU | 2.6 |
| 28 | 71 | 215 | THR | 2.6 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 51 | H5 | 22 | ALA | 2.6 |
| 7 | 62 | 29 | LYS | 2.6 |
| 29 | 19 | 234 | GLY | 2.6 |
| 38 | 88 | 10 | ARG | 2.6 |
| 42 | 85 | 70 | ARG | 2.6 |
| 45 | F8 | 12 | VAL | 2.6 |
| 46 | C5 | 58 | GLY | 2.6 |
| 11 | 2I | 71 | LYS | 2.6 |
| 35 | 15 | 57 | ALA | 2.6 |
| 19 | AI | 76 | PRO | 2.6 |
| 2 | 1E | 227 | GLY | 2.6 |
| 34 | 69 | 21 | VAL | 2.6 |
| 13 | 4A | 115 | LYS | 2.6 |
| 4 | 3E | 127 | THR | 2.6 |
| 26 | 1H | 2140 | C | 2.6 |
| 28 | 71 | 7 | TYR | 2.6 |
| 35 | 15 | 121 | LYS | 2.6 |
| 39 | 98 | 56 | LYS | 2.6 |
| 45 | B5 | 55 | ASN | 2.6 |
| 11 | 2I | 18 | ARG | 2.6 |
| 30 | 21 | 76 | ARG | 2.6 |
| 30 | 21 | 75 | VAL | 2.6 |
| 37 | 35 | 92 | GLU | 2.6 |
| 49 | F5 | 49 | VAL | 2.6 |
| 9 | 82 | 112 | LYS | 2.6 |
| 11 | 2I | 32 | ILE | 2.6 |
| 34 | 69 | 4 | ILE | 2.6 |
| 3 | 2E | 172 | ARG | 2.6 |
| 39 | 98 | 41 | ALA | 2.6 |
| 45 | F8 | 91 | ALA | 2.6 |
| 6 | 5E | 51 | PRO | 2.6 |
| 15 | 6I | 27 | VAL | 2.6 |
| 28 | 71 | 197 | GLU | 2.6 |
| 29 | 19 | 254 | THR | 2.6 |
| 30 | 29 | 7 | VAL | 2.6 |
| 35 | 15 | 44 | PRO | 2.6 |
| 43 | D8 | 58 | VAL | 2.6 |
| 47 | H8 | 167 | PRO | 2.6 |
| 47 | D5 | 70 | LEU | 2.6 |
| 50 | K8 | 16 | LEU | 2.6 |
| 4 | 3E | 131 | ARG | 2.6 |
| 29 | 19 | 217 | ARG | 2.6 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 37 | 35 | 16 | ARG | 2.6 |
| 4 | 3E | 137 | SER | 2.6 |
| 35 | 15 | 72 | TYR | 2.6 |
| 12 | 3A | 87 | GLY | 2.6 |
| 28 | 71 | 165 | ASN | 2.6 |
| 28 | 71 | 40 | THR | 2.6 |
| 46 | C5 | 42 | VAL | 2.6 |
| 47 | D5 | 128 | VAL | 2.6 |
| 12 | 3A | 99 | HIS | 2.6 |
| 23 | 2L | 39 | A | 2.6 |
| 28 | 71 | 210 | ARG | 2.6 |
| 55 | M5 | 50 | LEU | 2.6 |
| 32 | 41 | 37 | VAL | 2.6 |
| 3 | 22 | 174 | PRO | 2.6 |
| 3 | 22 | 101 | LEU | 2.6 |
| 13 | 4A | 96 | LEU | 2.6 |
| 29 | 19 | 58 | HIS | 2.6 |
| 34 | 69 | 72 | LEU | 2.6 |
| 35 | 15 | 99 | LEU | 2.6 |
| 46 | C5 | 75 | ILE | 2.6 |
| 51 | H5 | 33 | GLN | 2.6 |
| 10 | 1I | 61 | GLU | 2.6 |
| 37 | 35 | 14 | LYS | 2.6 |
| 48 | I8 | 76 | GLY | 2.6 |
| 2 | 1E | 96 | ARG | 2.6 |
| 55 | M5 | 23 | VAL | 2.6 |
| 6 | 5E | 98 | LEU | 2.6 |
| 53 | N8 | 47 | PRO | 2.6 |
| 32 | 41 | 88 | ILE | 2.6 |
| 35 | 15 | 117 | PHE | 2.5 |
| 4 | 3E | 150 | GLU | 2.5 |
| 26 | 14 | 2900 | A | 2.5 |
| 56 | 1L | 65 | C | 2.5 |
| 34 | 61 | 123 | LEU | 2.5 |
| 32 | 49 | 140 | ILE | 2.5 |
| 45 | B5 | 80 | ILE | 2.5 |
| 47 | H8 | 68 | PRO | 2.5 |
| 51 | H5 | 13 | ILE | 2.5 |
| 5 | 42 | 94 | ALA | 2.5 |
| 12 | 3A | 41 | ARG | 2.5 |
| 14 | 5A | 48 | ALA | 2.5 |
| 40 | A8 | 81 | GLY | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 48 | I8 | 79 | VAL | 2.5 |
| 4 | 32 | 175 | SER | 2.5 |
| 18 | 9I | 44 | LEU | 2.5 |
| 5 | 42 | 109 | ILE | 2.5 |
| 45 | B5 | 28 | PHE | 2.5 |
| 2 | 1E | 157 | ARG | 2.5 |
| 11 | 2I | 45 | GLY | 2.5 |
| 47 | D5 | 161 | VAL | 2.5 |
| 2 | 1E | 118 | LEU | 2.5 |
| 2 | 12 | 115 | LEU | 2.5 |
| 15 | 6I | 81 | LEU | 2.5 |
| 15 | 6A | 15 | PHE | 2.5 |
| 38 | 88 | 69 | PHE | 2.5 |
| 38 | 88 | 88 | GLY | 2.5 |
| 56 | 1L | 15 | G | 2.5 |
| 2 | 1E | 102 | LEU | 2.5 |
| 2 | 1E | 187 | LEU | 2.5 |
| 43 | 95 | 24 | LYS | 2.5 |
| 51 | H5 | 57 | GLU | 2.5 |
| 2 | 12 | 112 | VAL | 2.5 |
| 3 | 22 | 176 | HIS | 2.5 |
| 31 | 31 | 6 | VAL | 2.5 |
| 38 | 88 | 23 | GLY | 2.5 |
| 43 | 95 | 32 | THR | 2.5 |
| 26 | 1H | 2141 | G | 2.5 |
| 6 | 52 | 38 | GLU | 2.5 |
| 33 | 51 | 124 | GLU | 2.5 |
| 38 | 88 | 4 | PRO | 2.5 |
| 17 | 8I | 95 | TYR | 2.5 |
| 29 | 19 | 18 | VAL | 2.5 |
| 34 | 69 | 19 | VAL | 2.5 |
| 38 | 88 | 141 | GLN | 2.5 |
| 44 | E8 | 38 | TYR | 2.5 |
| 45 | B5 | 24 | GLY | 2.5 |
| 53 | J5 | 54 | GLY | 2.5 |
| 37 | 78 | 79 | ARG | 2.5 |
| 51 | H5 | 40 | THR | 2.5 |
| 26 | 14 | 1177 | A | 2.5 |
| 4 | 3E | 147 | ALA | 2.5 |
| 10 | 1A | 34 | VAL | 2.5 |
| 34 | 69 | 16 | GLY | 2.5 |
| 34 | 69 | 34 | GLY | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 1 | 1G | 1115 | C | 2.5 |
| 43 | 95 | 28 | GLU | 2.5 |
| 2 | 1E | 111 | ARG | 2.5 |
| 2 | 12 | 131 | PRO | 2.5 |
| 15 | 6I | 31 | LEU | 2.5 |
| 28 | 71 | 209 | LEU | 2.5 |
| 29 | 11 | 166 | GLN | 2.5 |
| 35 | 15 | 67 | LEU | 2.5 |
| 43 | D8 | 92 | THR | 2.5 |
| 38 | 88 | 79 | LEU | 2.5 |
| 51 | H5 | 47 | VAL | 2.5 |
| 2 | 1E | 216 | SER | 2.5 |
| 43 | D8 | 2 | PHE | 2.5 |
| 47 | H8 | 78 | LYS | 2.5 |
| 46 | C5 | 64 | GLU | 2.5 |
| 3 | 2E | 164 | ARG | 2.5 |
| 37 | 35 | 111 | ARG | 2.5 |
| 3 | 2E | 151 | VAL | 2.5 |
| 3 | 22 | 66 | VAL | 2.5 |
| 32 | 49 | 152 | LEU | 2.5 |
| 37 | 78 | 95 | VAL | 2.5 |
| 3 | 22 | 17 | ASP | 2.5 |
| 15 | 6I | 28 | GLN | 2.5 |
| 28 | 71 | 46 | LYS | 2.5 |
| 43 | D8 | 26 | ASP | 2.5 |
| 29 | 11 | 262 | ARG | 2.5 |
| 55 | M5 | 40 | GLU | 2.5 |
| 19 | AI | 23 | ASN | 2.5 |
| 2 | 1E | 213 | LEU | 2.5 |
| 40 | A8 | 73 | LEU | 2.5 |
| 43 | 95 | 46 | VAL | 2.5 |
| 3 | 2E | 203 | PHE | 2.5 |
| 22 | 1K | 64 | G | 2.5 |
| 30 | 29 | 81 | ILE | 2.5 |
| 32 | 49 | 157 | ILE | 2.5 |
| 42 | 85 | 56 | ASP | 2.5 |
| 39 | 98 | 14 | SER | 2.5 |
| 43 | D8 | 53 | GLU | 2.5 |
| 45 | F8 | 31 | HIS | 2.5 |
| 4 | 3E | 120 | LEU | 2.4 |
| 30 | 29 | 182 | LEU | 2.4 |
| 45 | B5 | 53 | LYS | 2.4 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 47 | H8 | 4 | ARG | 2.4 |
| 51 | H5 | 55 | ARG | 2.4 |
| 2 | 1E | 101 | MET | 2.4 |
| 30 | 21 | 25 | VAL | 2.4 |
| 30 | 21 | 78 | LEU | 2.4 |
| 32 | 41 | 94 | LEU | 2.4 |
| 42 | 85 | 85 | LYS | 2.4 |
| 26 | 14 | 2161 | C | 2.4 |
| 40 | A8 | 79 | ALA | 2.4 |
| 48 | I8 | 78 | TYR | 2.4 |
| 26 | 1H | 2167 | U | 2.4 |
| 30 | 21 | 90 | THR | 2.4 |
| 33 | 51 | 3 | ARG | 2.4 |
| 48 | I8 | 82 | ARG | 2.4 |
| 4 | 32 | 15 | GLU | 2.4 |
| 11 | 2I | 113 | PRO | 2.4 |
| 17 | 8I | 24 | GLU | 2.4 |
| 39 | 55 | 91 | GLN | 2.4 |
| 48 | I8 | 56 | ASP | 2.4 |
| 3 | 2E | 196 | LEU | 2.4 |
| 16 | 7I | 53 | VAL | 2.4 |
| 16 | 7I | 42 | ARG | 2.4 |
| 29 | 19 | 153 | ALA | 2.4 |
| 26 | 1H | 2152 | G | 2.4 |
| 26 | 14 | 2899 | G | 2.4 |
| 33 | 51 | 85 | LYS | 2.4 |
| 39 | 98 | 39 | PRO | 2.4 |
| 47 | H8 | 83 | PRO | 2.4 |
| 20 | BI | 99 | LEU | 2.4 |
| 39 | 55 | 51 | LEU | 2.4 |
| 40 | 65 | 48 | LEU | 2.4 |
| 40 | A8 | 13 | ARG | 2.4 |
| 45 | F8 | 60 | ARG | 2.4 |
| 32 | 41 | 146 | TYR | 2.4 |
| 34 | 69 | 10 | GLU | 2.4 |
| 34 | 69 | 60 | GLU | 2.4 |
| 38 | 88 | 42 | ILE | 2.4 |
| 42 | C8 | 88 | ILE | 2.4 |
| 19 | AA | 76 | PRO | 2.4 |
| 17 | 8I | 75 | ARG | 2.4 |
| 18 | 9I | 48 | GLY | 2.4 |
| 21 | 1B | 24 | ARG | 2.4 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 37 | 35 | 79 | ARG | 2.4 |
| 38 | 88 | 35 | VAL | 2.4 |
| 47 | H8 | 160 | GLY | 2.4 |
| 39 | 98 | 25 | ALA | 2.4 |
| 45 | B5 | 8 | ILE | 2.4 |
| 13 | 4A | 106 | ASN | 2.4 |
| 24 | 3K | 5 | C | 2.4 |
| 43 | 95 | 84 | LYS | 2.4 |
| 45 | F8 | 21 | PHE | 2.4 |
| 55 | M5 | 7 | HIS | 2.4 |
| 55 | M5 | 8 | LYS | 2.4 |
| 56 | 1L | 31 | A | 2.4 |
| 1 | 1G | 1187 | G | 2.4 |
| 35 | 15 | 138 | LEU | 2.4 |
| 46 | C5 | 59 | GLY | 2.4 |
| 2 | 1E | 59 | GLU | 2.4 |
| 3 | 22 | 60 | ALA | 2.4 |
| 20 | BA | 66 | ALA | 2.4 |
| 26 | 1H | 2162 | G | 2.4 |
| 46 | C5 | 88 | LYS | 2.4 |
| 37 | 78 | 122 | PRO | 2.4 |
| 37 | 35 | 50 | ARG | 2.4 |
| 40 | A8 | 88 | ASP | 2.4 |
| 51 | H5 | 21 | ALA | 2.4 |
| 17 | 8I | 16 | GLN | 2.4 |
| 28 | 71 | 176 | GLY | 2.4 |
| 2 | 1E | 236 | TYR | 2.4 |
| 20 | BI | 89 | ARG | 2.4 |
| 29 | 19 | 27 | THR | 2.4 |
| 40 | A8 | 15 | ARG | 2.4 |
| 53 | J5 | 52 | TYR | 2.4 |
| 35 | 15 | 38 | HIS | 2.4 |
| 15 | 6I | 49 | ASP | 2.4 |
| 30 | 29 | 195 | LEU | 2.4 |
| 34 | 69 | 140 | LEU | 2.4 |
| 43 | 95 | 35 | LEU | 2.4 |
| 49 | J8 | 69 | LYS | 2.4 |
| 2 | 12 | 164 | VAL | 2.4 |
| 15 | 6I | 13 | GLN | 2.4 |
| 28 | 71 | 214 | VAL | 2.4 |
| 57 | 3L | 35 | U | 2.4 |
| 31 | 31 | 207 | GLY | 2.4 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 48 | I8 | 70 | GLN | 2.4 |
| 4 | 32 | 115 | ARG | 2.4 |
| 22 | 1K | 65 | C | 2.4 |
| 6 | 5E | 96 | PRO | 2.4 |
| 34 | 61 | 83 | ALA | 2.4 |
| 3 | 22 | 43 | LEU | 2.4 |
| 45 | F8 | 57 | LEU | 2.4 |
| 26 | 14 | 845 | G | 2.4 |
| 29 | 19 | 223 | GLY | 2.4 |
| 29 | 19 | 14 | ARG | 2.4 |
| 33 | 51 | 171 | LEU | 2.4 |
| 3 | 2E | 183 | ASP | 2.3 |
| 30 | 29 | 29 | GLY | 2.3 |
| 43 | D8 | 52 | VAL | 2.3 |
| 4 | 3E | 4 | TYR | 2.3 |
| 15 | 6I | 78 | TYR | 2.3 |
| 52 | M8 | 32 | TYR | 2.3 |
| 35 | 15 | 116 | LEU | 2.3 |
| 12 | 3A | 35 | GLY | 2.3 |
| 21 | 1B | 11 | GLY | 2.3 |
| 30 | 29 | 198 | VAL | 2.3 |
| 37 | 35 | 27 | HIS | 2.3 |
| 38 | 88 | 94 | VAL | 2.3 |
| 46 | C5 | 15 | VAL | 2.3 |
| 47 | H8 | 80 | ARG | 2.3 |
| 48 | I8 | 57 | PHE | 2.3 |
| 16 | 7I | 76 | GLN | 2.3 |
| 2 | 1E | 138 | LEU | 2.3 |
| 2 | 12 | 118 | LEU | 2.3 |
| 39 | 98 | 101 | ALA | 2.3 |
| 11 | 2I | 47 | VAL | 2.3 |
| 34 | 61 | 108 | THR | 2.3 |
| 3 | 22 | 200 | ALA | 2.3 |
| 3 | 22 | 201 | TYR | 2.3 |
| 29 | 11 | 111 | LEU | 2.3 |
| 29 | 19 | 224 | ALA | 2.3 |
| 42 | 85 | 74 | LEU | 2.3 |
| 43 | D8 | 4 | ILE | 2.3 |
| 43 | 95 | 71 | LEU | 2.3 |
| 4 | 3E | 130 | GLY | 2.3 |
| 33 | 51 | 123 | PHE | 2.3 |
| 38 | 88 | 76 | LYS | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 3 | 2E | 167 | TRP | 2.3 |
| 3 | 22 | 22 | TRP | 2.3 |
| 4 | 32 | 156 | GLU | 2.3 |
| 38 | 88 | 45 | GLN | 2.3 |
| 3 | 22 | 196 | LEU | 2.3 |
| 37 | 35 | 80 | TYR | 2.3 |
| 47 | H8 | 29 | TYR | 2.3 |
| 32 | 49 | 179 | PRO | 2.3 |
| 49 | F5 | 33 | LYS | 2.3 |
| 2 | 1E | 122 | PHE | 2.3 |
| 26 | 14 | 849 | A | 2.3 |
| 56 | 1L | 43 | U | 2.3 |
| 4 | 3E | 163 | GLU | 2.3 |
| 29 | 19 | 40 | THR | 2.3 |
| 4 | 3E | 101 | LEU | 2.3 |
| 6 | 5E | 39 | LYS | 2.3 |
| 32 | 41 | 46 | ALA | 2.3 |
| 33 | 59 | 165 | ALA | 2.3 |
| 47 | H8 | 9 | TYR | 2.3 |
| 4 | 3E | 170 | VAL | 2.3 |
| 37 | 35 | 122 | PRO | 2.3 |
| 51 | L8 | 6 | VAL | 2.3 |
| 9 | 8E | 126 | SER | 2.3 |
| 33 | 51 | 130 | ARG | 2.3 |
| 15 | 6I | 34 | LEU | 2.3 |
| 45 | F8 | 53 | LYS | 2.3 |
| 49 | F5 | 23 | LYS | 2.3 |
| 45 | B5 | 26 | TYR | 2.3 |
| 32 | 41 | 102 | PHE | 2.3 |
| 6 | 5E | 80 | ARG | 2.3 |
| 12 | 3A | 71 | PRO | 2.3 |
| 17 | 8I | 92 | ARG | 2.3 |
| 43 | D8 | 97 | LYS | 2.3 |
| 3 | 2E | 188 | LEU | 2.3 |
| 4 | 3E | 97 | LEU | 2.3 |
| 33 | 51 | 162 | ILE | 2.3 |
| 35 | 15 | 23 | LEU | 2.3 |
| 38 | 88 | 47 | ILE | 2.3 |
| 38 | 88 | 93 | TYR | 2.3 |
| 39 | 98 | 30 | THR | 2.3 |
| 32 | 41 | 178 | PHE | 2.3 |
| 40 | A8 | 69 | VAL | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 30 | 21 | 106 | GLY | 2.3 |
| 30 | 29 | 10 | GLY | 2.3 |
| 35 | 15 | 59 | LYS | 2.3 |
| 47 | D5 | 135 | GLU | 2.3 |
| 34 | 61 | 72 | LEU | 2.3 |
| 43 | D8 | 25 | LEU | 2.3 |
| 6 | 5E | 81 | ILE | 2.3 |
| 19 | AI | 74 | PHE | 2.3 |
| 45 | F8 | 56 | THR | 2.3 |
| 9 | 82 | 118 | LYS | 2.3 |
| 22 | 1K | 76 | A | 2.3 |
| 26 | 1H | 2799 | A | 2.3 |
| 28 | 71 | 171 | ILE | 2.3 |
| 4 | 3E | 105 | VAL | 2.3 |
| 4 | 32 | 17 | VAL | 2.3 |
| 28 | 71 | 9 | ALA | 2.3 |
| 26 | 1H | 2174 | C | 2.3 |
| 30 | 29 | 47 | VAL | 2.3 |
| 34 | 69 | 25 | TYR | 2.3 |
| 37 | 78 | 121 | LYS | 2.3 |
| 45 | F8 | 77 | LYS | 2.3 |
| 56 | 1L | 50 | C | 2.3 |
| 30 | 29 | 32 | PRO | 2.3 |
| 1 | 1G | 1225 | A | 2.3 |
| 3 | 22 | 37 | GLN | 2.3 |
| 6 | 5E | 85 | VAL | 2.3 |
| 40 | A8 | 85 | VAL | 2.3 |
| 47 | H8 | 67 | LEU | 2.3 |
| 51 | L8 | 7 | LYS | 2.3 |
| 55 | M5 | 29 | LYS | 2.3 |
| 48 | I8 | 22 | GLY | 2.2 |
| 56 | 1L | 76 | A | 2.3 |
| 49 | J8 | 6 | GLU | 2.2 |
| 20 | BA | 14 | LYS | 2.2 |
| 26 | 1H | 2797 | U | 2.2 |
| 28 | 71 | 166 | ASP | 2.2 |
| 55 | M5 | 17 | THR | 2.2 |
| 35 | 15 | 84 | LYS | 2.2 |
| 49 | J8 | 60 | PHE | 2.2 |
| 34 | 69 | 139 | GLN | 2.2 |
| 45 | F8 | 82 | GLN | 2.2 |
| 33 | 51 | 161 | GLY | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 35 | 15 | 36 | GLY | 2.2 |
| 40 | A8 | 50 | SER | 2.2 |
| 6 | 5E | 28 | ARG | 2.2 |
| 49 | F5 | 20 | ARG | 2.2 |
| 28 | 71 | 10 | LEU | 2.2 |
| 11 | 2I | 28 | THR | 2.2 |
| 26 | 1H | 2793 | G | 2.2 |
| 11 | 2I | 95 | ILE | 2.2 |
| 4 | 32 | 167 | GLY | 2.2 |
| 32 | 41 | 25 | TYR | 2.2 |
| 4 | 3E | 115 | ARG | 2.2 |
| 45 | F8 | 62 | LYS | 2.2 |
| 46 | C5 | 31 | LEU | 2.2 |
| 47 | D5 | 46 | LYS | 2.2 |
| 37 | 78 | 1 | MET | 2.2 |
| 38 | 45 | 103 | MET | 2.2 |
| 20 | BA | 71 | THR | 2.2 |
| 32 | 49 | 150 | ASP | 2.2 |
| 47 | D5 | 133 | ILE | 2.2 |
| 3 | 2E | 184 | TYR | 2.2 |
| 6 | 5E | 99 | ALA | 2.2 |
| 12 | 3A | 34 | ARG | 2.2 |
| 20 | BA | 17 | ARG | 2.2 |
| 29 | 11 | 168 | ARG | 2.2 |
| 32 | 49 | 104 | GLU | 2.2 |
| 38 | 45 | 33 | GLY | 2.2 |
| 39 | 98 | 68 | ARG | 2.2 |
| 43 | 95 | 6 | LYS | 2.2 |
| 34 | 61 | 128 | LEU | 2.2 |
| 50 | K8 | 35 | LEU | 2.2 |
| 17 | 8I | 57 | VAL | 2.2 |
| 2 | 12 | 153 | ARG | 2.2 |
| 32 | 49 | 25 | TYR | 2.2 |
| 39 | 55 | 63 | ARG | 2.2 |
| 4 | 3E | 149 | ALA | 2.2 |
| 29 | 11 | 184 | LYS | 2.2 |
| 38 | 88 | 77 | LYS | 2.2 |
| 47 | D5 | 83 | PRO | 2.2 |
| 53 | N8 | 46 | CYS | 2.2 |
| 43 | 95 | 38 | LEU | 2.2 |
| 51 | L8 | 23 | LEU | 2.2 |
| 34 | 61 | 142 | VAL | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 35 | 15 | 119 | ARG | 2.2 |
| 12 | 3A | 98 | TYR | 2.2 |
| 35 | 15 | 109 | LYS | 2.2 |
| 4 | 3E | 119 | GLN | 2.2 |
| 29 | 19 | 203 | ASN | 2.2 |
| 45 | F8 | 18 | TYR | 2.2 |
| 19 | AI | 14 | HIS | 2.2 |
| 34 | 69 | 133 | HIS | 2.2 |
| 19 | AI | 28 | LYS | 2.2 |
| 34 | 69 | 144 | VAL | 2.2 |
| 38 | 88 | 67 | ARG | 2.2 |
| 38 | 45 | 130 | LYS | 2.2 |
| 45 | F8 | 25 | LYS | 2.2 |
| 46 | C5 | 61 | ILE | 2.2 |
| 4 | 3E | 180 | GLY | 2.2 |
| 14 | 5A | 11 | LYS | 2.2 |
| 25 | 4L | 13 | A | 2.2 |
| 29 | 19 | 258 | LYS | 2.2 |
| 30 | 21 | 198 | VAL | 2.2 |
| 45 | B5 | 89 | ILE | 2.2 |
| 32 | 49 | 154 | GLY | 2.2 |
| 48 | E5 | 22 | GLY | 2.2 |
| 34 | 61 | 104 | GLN | 2.2 |
| 14 | 5I | 16 | PHE | 2.2 |
| 24 | 3K | 15 | G | 2.2 |
| 2 | 12 | 113 | HIS | 2.2 |
| 5 | 42 | 66 | MET | 2.2 |
| 16 | 7I | 36 | ILE | 2.2 |
| 17 | 8I | 29 | HIS | 2.2 |
| 2 | 12 | 134 | GLU | 2.2 |
| 37 | 78 | 119 | GLU | 2.2 |
| 2 | 1E | 79 | ASP | 2.2 |
| 9 | 82 | 124 | GLN | 2.2 |
| 29 | 19 | 111 | LEU | 2.2 |
| 35 | 15 | 37 | LYS | 2.2 |
| 37 | 35 | 81 | GLN | 2.2 |
| 40 | 65 | 24 | LEU | 2.2 |
| 45 | F8 | 4 | ALA | 2.2 |
| 45 | B5 | 13 | LEU | 2.2 |
| 48 | I8 | 21 | LEU | 2.2 |
| 28 | 71 | 168 | THR | 2.2 |
| 30 | 21 | 4 | ILE | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 33 | 59 | 151 | ILE | 2.2 |
| 33 | 59 | 158 | HIS | 2.2 |
| 37 | 35 | 128 | HIS | 2.2 |
| 56 | 1L | 68 | G | 2.2 |
| 4 | 32 | 107 | ARG | 2.2 |
| 4 | 32 | 194 | LEU | 2.2 |
| 37 | 78 | 110 | TYR | 2.2 |
| 43 | 95 | 77 | ALA | 2.2 |
| 49 | F5 | 24 | ALA | 2.2 |
| 49 | F5 | 71 | TYR | 2.2 |
| 37 | 35 | 48 | PRO | 2.2 |
| 47 | H8 | 48 | PHE | 2.2 |
| 29 | 19 | 10 | THR | 2.2 |
| 47 | H8 | 128 | VAL | 2.2 |
| 2 | 1E | 114 | ARG | 2.2 |
| 2 | 12 | 33 | TYR | 2.2 |
| 18 | 9I | 84 | LYS | 2.2 |
| 33 | 51 | 94 | TYR | 2.2 |
| 33 | 51 | 95 | ARG | 2.2 |
| 29 | 11 | 175 | LEU | 2.2 |
| 37 | 35 | 59 | LEU | 2.2 |
| 43 | D8 | 94 | LEU | 2.2 |
| 55 | M5 | 5 | LYS | 2.2 |
| 6 | 5E | 27 | GLN | 2.2 |
| 34 | 61 | 127 | VAL | 2.2 |
| 35 | 15 | 54 | VAL | 2.2 |
| 39 | 55 | 69 | ASP | 2.2 |
| 47 | H8 | 134 | PRO | 2.2 |
| 18 | 9I | 37 | VAL | 2.2 |
| 19 | AA | 66 | MET | 2.2 |
| 29 | 19 | 3 | VAL | 2.2 |
| 40 | A8 | 75 | GLU | 2.2 |
| 47 | D5 | 57 | ILE | 2.2 |
| 17 | 8I | 14 | LYS | 2.2 |
| 35 | 15 | 104 | LYS | 2.2 |
| 43 | D8 | 31 | ALA | 2.1 |
| 4 | 3E | 141 | ARG | 2.1 |
| 8 | 7E | 131 | GLY | 2.1 |
| 21 | 1B | 25 | LYS | 2.1 |
| 55 | M5 | 13 | ARG | 2.1 |
| 55 | M5 | 59 | LYS | 2.1 |
| 1 | 1G | 1111 | A | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 3 | 22 | 29 | TYR | 2.1 |
| 13 | 4A | 109 | THR | 2.1 |
| 32 | 49 | 90 | LEU | 2.1 |
| 48 | I8 | 37 | LEU | 2.1 |
| 54 | L5 | 15 | THR | 2.1 |
| 37 | 78 | 126 | VAL | 2.1 |
| 37 | 78 | 145 | PRO | 2.1 |
| 38 | 88 | 106 | VAL | 2.1 |
| 43 | 95 | 90 | PRO | 2.1 |
| 4 | 3E | 21 | LEU | 2.1 |
| 4 | 32 | 120 | LEU | 2.1 |
| 43 | D8 | 95 | LEU | 2.1 |
| 19 | AI | 48 | THR | 2.1 |
| 31 | 31 | 21 | ALA | 2.1 |
| 43 | D8 | 7 | THR | 2.1 |
| 46 | C5 | 55 | TYR | 2.1 |
| 34 | 61 | 121 | LYS | 2.1 |
| 39 | 55 | 118 | GLU | 2.1 |
| 40 | A8 | 9 | ARG | 2.1 |
| 11 | 2I | 108 | ILE | 2.1 |
| 13 | 4A | 25 | ILE | 2.1 |
| 43 | 95 | 79 | VAL | 2.1 |
| 50 | K8 | 22 | GLU | 2.1 |
| 28 | 71 | 221 | SER | 2.1 |
| 23 | 2L | 29 | C | 2.1 |
| 56 | 1L | 13 | C | 2.1 |
| 2 | 12 | 161 | ALA | 2.1 |
| 19 | AI | 61 | TYR | 2.1 |
| 47 | H8 | 34 | ASN | 2.1 |
| 4 | 32 | 119 | GLN | 2.1 |
| 12 | 3A | 70 | ILE | 2.1 |
| 30 | 21 | 7 | VAL | 2.1 |
| 38 | 45 | 68 | ILE | 2.1 |
| 50 | K8 | 41 | ILE | 2.1 |
| 3 | 22 | 197 | GLY | 2.1 |
| 29 | 11 | 167 | GLY | 2.1 |
| 29 | 19 | 226 | MET | 2.1 |
| 11 | 2I | 66 | LEU | 2.1 |
| 56 | 1L | 10 | G | 2.1 |
| 3 | 2E | 169 | ALA | 2.1 |
| 4 | 3E | 68 | TYR | 2.1 |
| 6 | 5E | 77 | ARG | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 11 | 2I | 70 | LYS | 2.1 |
| 29 | 19 | 9 | TYR | 2.1 |
| 47 | D5 | 9 | TYR | 2.1 |
| 4 | 3E | 123 | HIS | 2.1 |
| 3 | 2E | 165 | THR | 2.1 |
| 2 | 12 | 146 | GLN | 2.1 |
| 3 | 22 | 64 | VAL | 2.1 |
| 21 | 1B | 17 | THR | 2.1 |
| 31 | 31 | 183 | VAL | 2.1 |
| 47 | H8 | 60 | GLU | 2.1 |
| 33 | 51 | 105 | LEU | 2.1 |
| 14 | 5I | 29 | ARG | 2.1 |
| 19 | AI | 38 | SER | 2.1 |
| 38 | 88 | 78 | PRO | 2.1 |
| 29 | 19 | 218 | ARG | 2.1 |
| 43 | 95 | 82 | ARG | 2.1 |
| 47 | D5 | 136 | PHE | 2.1 |
| 6 | 52 | 101 | ALA | 2.1 |
| 26 | 14 | 1555 | G | 2.1 |
| 2 | 12 | 165 | VAL | 2.1 |
| 19 | AI | 19 | VAL | 2.1 |
| 30 | 21 | 59 | VAL | 2.1 |
| 43 | 95 | 11 | GLN | 2.1 |
| 53 | N8 | 44 | THR | 2.1 |
| 3 | 22 | 147 | LYS | 2.1 |
| 12 | 3A | 60 | LEU | 2.1 |
| 30 | 21 | 193 | GLY | 2.1 |
| 42 | 85 | 60 | LEU | 2.1 |
| 51 | H5 | 45 | GLY | 2.1 |
| 2 | 1E | 105 | PHE | 2.1 |
| 47 | H8 | 130 | PRO | 2.1 |
| 40 | A8 | 52 | SER | 2.1 |
| 35 | 15 | 122 | VAL | 2.1 |
| 39 | 98 | 76 | VAL | 2.1 |
| 4 | 32 | 176 | LEU | 2.1 |
| 12 | 3A | 47 | LYS | 2.1 |
| 12 | 3A | 53 | ARG | 2.1 |
| 28 | 71 | 6 | ARG | 2.1 |
| 38 | 88 | 75 | THR | 2.1 |
| 43 | D8 | 44 | LYS | 2.1 |
| 48 | E5 | 52 | GLY | 2.1 |
| 50 | G5 | 43 | GLN | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 4 | 32 | 197 | PRO | 2.1 |
| 2 | 1E | 235 | SER | 2.1 |
| 5 | 42 | 115 | VAL | 2.1 |
| 11 | 2I | 124 | LYS | 2.1 |
| 12 | 3A | 40 | VAL | 2.1 |
| 35 | 15 | 16 | ILE | 2.1 |
| 43 | 95 | 58 | VAL | 2.1 |
| 44 | E8 | 94 | ASP | 2.1 |
| 47 | D5 | 12 | GLY | 2.1 |
| 1 | 1G | 1236 | A | 2.1 |
| 26 | 14 | 764 | A | 2.1 |
| 22 | 1K | 74 | C | 2.1 |
| 15 | 6I | 6 | GLU | 2.1 |
| 37 | 78 | 134 | ALA | 2.1 |
| 38 | 88 | 44 | ALA | 2.1 |
| 20 | BA | 22 | ARG | 2.1 |
| 45 | F8 | 14 | SER | 2.1 |
| 47 | H8 | 10 | ARG | 2.1 |
| 47 | D5 | 27 | VAL | 2.1 |
| 2 | 1E | 66 | GLY | 2.1 |
| 15 | 6I | 25 | THR | 2.1 |
| 26 | 1H | 2109 | U | 2.1 |
| 26 | 14 | 1438 | U | 2.1 |
| 28 | 71 | 39 | GLU | 2.1 |
| 35 | 15 | 108 | PRO | 2.1 |
| 26 | 1H | 277 | C | 2.1 |
| 26 | 14 | 766 | C | 2.1 |
| 30 | 29 | 33 | VAL | 2.1 |
| 38 | 88 | 64 | ILE | 2.1 |
| 7 | 62 | 103 | TRP | 2.1 |
| 2 | 1E | 209 | ARG | 2.1 |
| 10 | 1I | 95 | GLU | 2.1 |
| 12 | 3A | 46 | LYS | 2.1 |
| 14 | 5A | 8 | GLU | 2.1 |
| 19 | AI | 27 | GLU | 2.1 |
| 3 | 22 | 173 | VAL | 2.1 |
| 32 | 41 | 73 | ALA | 2.1 |
| 37 | 35 | 126 | VAL | 2.1 |
| 40 | A8 | 4 | LEU | 2.1 |
| 20 | BA | 21 | LYS | 2.0 |
| 28 | 71 | 172 | HIS | 2.1 |
| 39 | 55 | 47 | PHE | 2.0 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 42 | 85 | 106 | PHE | 2.0 |
| 2 | 12 | 129 | GLU | 2.0 |
| 4 | 32 | 159 | ARG | 2.0 |
| 5 | 42 | 8 | GLU | 2.0 |
| 26 | 14 | 1183 | G | 2.0 |
| 7 | 62 | 39 | ALA | 2.0 |
| 12 | 3A | 38 | THR | 2.0 |
| 33 | 51 | 129 | THR | 2.0 |
| 38 | 45 | 90 | VAL | 2.0 |
| 12 | 3A | 100 | ILE | 2.0 |
| 34 | 61 | 106 | GLY | 2.0 |
| 38 | 45 | 34 | LEU | 2.0 |
| 47 | H8 | 53 | ILE | 2.0 |
| 19 | AI | 26 | GLY | 2.0 |
| 4 | 3E | 182 | LYS | 2.0 |
| 45 | F8 | 33 | LYS | 2.0 |
| 2 | 1E | 160 | ASP | 2.0 |
| 17 | 8I | 55 | ASP | 2.0 |
| 35 | 58 | 133 | GLN | 2.0 |
| 42 | 85 | 50 | ARG | 2.0 |
| 55 | Q8 | 46 | ARG | 2.0 |
| 2 | 12 | 116 | GLU | 2.0 |
| 5 | 42 | 7 | GLU | 2.0 |
| 9 | 82 | 76 | ALA | 2.0 |
| 38 | 88 | 27 | VAL | 2.0 |
| 40 | A8 | 77 | ALA | 2.0 |
| 47 | D5 | 164 | ALA | 2.0 |
| 3 | 2E | 101 | LEU | 2.0 |
| 3 | 22 | 175 | LEU | 2.0 |
| 34 | 61 | 116 | LEU | 2.0 |
| 43 | 95 | 29 | PRO | 2.0 |
| 6 | 5E | 54 | LYS | 2.0 |
| 33 | 51 | 90 | LYS | 2.0 |
| 28 | 71 | 37 | PHE | 2.0 |
| 48 | I8 | 77 | ARG | 2.0 |
| 40 | 65 | 52 | SER | 2.0 |
| 2 | 12 | 34 | ALA | 2.0 |
| 3 | 2E | 148 | GLY | 2.0 |
| 4 | 32 | 191 | ARG | 2.0 |
| 9 | 82 | 69 | GLY | 2.0 |
| 41 | 75 | 35 | LYS | 2.0 |
| 45 | F8 | 78 | LYS | 2.0 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 28 | 71 | 192 | PHE | 2.0 |
| 38 | 88 | 29 | PHE | 2.0 |
| 26 | 1H | 2189 | U | 2.0 |
| 15 | 6I | 41 | GLU | 2.0 |
| 4 | 32 | 184 | LYS | 2.0 |
| 36 | 25 | 58 | VAL | 2.0 |
| 6 | 5E | 30 | LEU | 2.0 |
| 18 | 9I | 27 | GLY | 2.0 |
| 29 | 19 | 60 | ARG | 2.0 |
| 31 | 31 | 156 | LEU | 2.0 |
| 36 | 25 | 2 | ILE | 2.0 |
| 43 | D8 | 62 | LEU | 2.0 |
| 43 | 95 | 69 | LYS | 2.0 |
| 45 | F8 | 79 | ALA | 2.0 |
| 50 | K8 | 14 | ARG | 2.0 |
| 50 | K8 | 32 | LEU | 2.0 |
| 26 | 1H | 2107 | C | 2.0 |
| 30 | 29 | 180 | ASN | 2.0 |
| 2 | 1E | 116 | GLU | 2.0 |
| 6 | 5E | 78 | GLU | 2.0 |
| 38 | 88 | 46 | GLN | 2.0 |
| 35 | 15 | 137 | LYS | 2.0 |
| 37 | 78 | 139 | LYS | 2.0 |
| 3 | 22 | 40 | ARG | 2.0 |
| 20 | BA | 25 | ARG | 2.0 |
| 37 | 35 | 62 | LEU | 2.0 |
| 39 | 98 | 75 | LEU | 2.0 |
| 43 | 95 | 59 | ALA | 2.0 |
| 46 | C5 | 65 | ALA | 2.0 |
| 41 | 75 | 36 | GLU | 2.0 |
| 56 | 1L | 69 | A | 2.0 |
| 18 | 9I | 68 | LYS | 2.0 |
| 34 | 61 | 131 | LYS | 2.0 |
| 39 | 55 | 117 | VAL | 2.0 |

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|-----|-------|------|------|----------------------------|-------|
| 22 | PSU | 1K | 55 | 20/21 | 0.86 | 0.16 | 143,175,183,183 | 0 |
| 23 | PSU | 2L | 56 | 20/21 | 0.87 | 0.15 | 143,152,158,162 | 0 |
| 56 | PSU | 1L | 55 | 20/21 | 0.88 | 0.12 | 176,201,207,207 | 0 |
| 23 | 4SU | 2L | 8 | 20/21 | 0.88 | 0.16 | 131,155,165,169 | 0 |
| 22 | 5MU | 1K | 54 | 21/22 | 0.88 | 0.21 | 155,171,185,188 | 0 |
| 22 | T6A | 1K | 37 | 32/33 | 0.89 | 0.25 | 100,113,152,156 | 0 |
| 56 | PSU | 1L | 39 | 20/21 | 0.90 | 0.31 | 155,179,185,187 | 0 |
| 23 | 5MU | 2L | 55 | 21/22 | 0.91 | 0.15 | 146,159,164,166 | 0 |
| 23 | G7M | 2L | 47 | 24/25 | 0.92 | 0.13 | 161,169,178,179 | 0 |
| 23 | 4SU | 2K | 8 | 20/21 | 0.92 | 0.15 | 111,120,124,128 | 0 |
| 56 | 5MU | 1L | 54 | 21/22 | 0.92 | 0.17 | 184,194,212,217 | 0 |
| 23 | OMC | 2L | 33 | 21/22 | 0.93 | 0.23 | 132,140,144,151 | 0 |
| 57 | PSU | 3L | 39 | 20/21 | 0.93 | 0.12 | 160,164,169,170 | 0 |
| 23 | PSU | 2K | 56 | 20/21 | 0.94 | 0.12 | 122,127,139,140 | 0 |
| 23 | 5MU | 2K | 55 | 21/22 | 0.94 | 0.15 | 122,135,144,159 | 0 |
| 23 | G7M | 2K | 47 | 24/25 | 0.95 | 0.10 | 124,132,139,146 | 0 |
| 22 | PSU | 1K | 39 | 20/21 | 0.95 | 0.17 | 98,124,139,139 | 0 |
| 23 | OMC | 2K | 33 | 21/22 | 0.96 | 0.12 | 95,105,111,117 | 0 |
| 22 | U8U | 1K | 34 | 23/24 | 0.96 | 0.12 | 116,123,130,131 | 0 |

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 1H | 3033 | 1/1 | 0.15 | 0.55 | 109,109,109,109 | 0 |
| 58 | MG | 13 | 1705 | 1/1 | 0.17 | 0.30 | 150,150,150,150 | 0 |
| 58 | MG | 1H | 3331 | 1/1 | 0.23 | 0.23 | 120,120,120,120 | 0 |
| 58 | MG | 5E | 201 | 1/1 | 0.25 | 0.83 | 107,107,107,107 | 0 |
| 58 | MG | 1H | 3313 | 1/1 | 0.32 | 0.68 | 114,114,114,114 | 0 |
| 58 | MG | 29 | 303 | 1/1 | 0.33 | 0.24 | 106,106,106,106 | 0 |
| 58 | MG | 1H | 3340 | 1/1 | 0.35 | 0.60 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3155 | 1/1 | 0.36 | 0.21 | 86,86,86,86 | 0 |
| 58 | MG | 13 | 1627 | 1/1 | 0.37 | 0.42 | 105,105,105,105 | 0 |
| 58 | MG | 2K | 102 | 1/1 | 0.37 | 0.63 | 109,109,109,109 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 14 | 3028 | 1/1 | 0.39 | 0.41 | 124,124,124,124 | 0 |
| 58 | MG | 14 | 3319 | 1/1 | 0.39 | 0.17 | 128,128,128,128 | 0 |
| 58 | MG | 1H | 3262 | 1/1 | 0.39 | 0.26 | 100,100,100,100 | 0 |
| 58 | MG | 1H | 3316 | 1/1 | 0.40 | 0.38 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3264 | 1/1 | 0.42 | 0.24 | 122,122,122,122 | 0 |
| 58 | MG | 1G | 1645 | 1/1 | 0.43 | 0.56 | 122,122,122,122 | 0 |
| 58 | MG | 1G | 1628 | 1/1 | 0.44 | 0.40 | 120,120,120,120 | 0 |
| 58 | MG | 1H | 3146 | 1/1 | 0.46 | 0.46 | 103,103,103,103 | 0 |
| 58 | MG | 1H | 3256 | 1/1 | 0.47 | 0.39 | 104,104,104,104 | 0 |
| 58 | MG | 1G | 1640 | 1/1 | 0.47 | 0.42 | 115,115,115,115 | 0 |
| 58 | MG | 32 | 301 | 1/1 | 0.48 | 0.61 | 128,128,128,128 | 0 |
| 58 | MG | 13 | 1625 | 1/1 | 0.48 | 0.55 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3234 | 1/1 | 0.49 | 0.49 | 85,85,85,85 | 0 |
| 58 | MG | 14 | 3263 | 1/1 | 0.49 | 0.49 | 102,102,102,102 | 0 |
| 58 | MG | 13 | 1703 | 1/1 | 0.49 | 0.37 | 128,128,128,128 | 0 |
| 58 | MG | 14 | 3227 | 1/1 | 0.49 | 1.17 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3317 | 1/1 | 0.50 | 0.45 | 106,106,106,106 | 0 |
| 58 | MG | 1H | 3350 | 1/1 | 0.51 | 0.61 | 113,113,113,113 | 0 |
| 58 | MG | 1H | 3176 | 1/1 | 0.51 | 0.29 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3279 | 1/1 | 0.51 | 0.59 | 103,103,103,103 | 0 |
| 58 | MG | 14 | 3150 | 1/1 | 0.51 | 0.86 | 102,102,102,102 | 0 |
| 58 | MG | 1G | 1668 | 1/1 | 0.51 | 0.27 | 138,138,138,138 | 0 |
| 58 | MG | 13 | 1680 | 1/1 | 0.52 | 0.59 | 125,125,125,125 | 0 |
| 58 | MG | 13 | 1689 | 1/1 | 0.52 | 0.24 | 182,182,182,182 | 0 |
| 58 | MG | 1H | 3285 | 1/1 | 0.53 | 0.23 | 115,115,115,115 | 0 |
| 58 | MG | 1H | 3036 | 1/1 | 0.54 | 0.15 | 118,118,118,118 | 0 |
| 58 | MG | 14 | 3303 | 1/1 | 0.55 | 0.54 | 115,115,115,115 | 0 |
| 58 | MG | 13 | 1603 | 1/1 | 0.55 | 0.40 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3032 | 1/1 | 0.55 | 0.35 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3299 | 1/1 | 0.56 | 0.36 | 118,118,118,118 | 0 |
| 58 | MG | 1G | 1641 | 1/1 | 0.56 | 0.18 | 131,131,131,131 | 0 |
| 58 | MG | 16 | 203 | 1/1 | 0.56 | 0.16 | 112,112,112,112 | 0 |
| 58 | MG | 14 | 3417 | 1/1 | 0.56 | 0.08 | 140,140,140,140 | 0 |
| 58 | MG | 14 | 3026 | 1/1 | 0.56 | 0.36 | 115,115,115,115 | 0 |
| 58 | MG | 14 | 3295 | 1/1 | 0.57 | 0.77 | 96,96,96,96 | 0 |
| 58 | MG | 1H | 3347 | 1/1 | 0.57 | 0.18 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3301 | 1/1 | 0.58 | 0.17 | 115,115,115,115 | 0 |
| 58 | MG | 13 | 1678 | 1/1 | 0.58 | 0.19 | 121,121,121,121 | 0 |
| 58 | MG | 13 | 1687 | 1/1 | 0.58 | 1.49 | 100,100,100,100 | 0 |
| 58 | MG | 14 | 3296 | 1/1 | 0.58 | 0.32 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3179 | 1/1 | 0.58 | 0.45 | 102,102,102,102 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 1H | 3199 | 1/1 | 0.59 | 0.69 | 87,87,87,87 | 0 |
| 58 | MG | 1H | 3276 | 1/1 | 0.59 | 0.28 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3316 | 1/1 | 0.59 | 0.29 | 111,111,111,111 | 0 |
| 58 | MG | 14 | 3062 | 1/1 | 0.60 | 0.56 | 129,129,129,129 | 0 |
| 58 | MG | 1G | 1621 | 1/1 | 0.60 | 0.76 | 110,110,110,110 | 0 |
| 58 | MG | 1H | 3322 | 1/1 | 0.60 | 0.30 | 121,121,121,121 | 0 |
| 58 | MG | 1H | 3105 | 1/1 | 0.60 | 0.90 | 86,86,86,86 | 0 |
| 58 | MG | 14 | 3267 | 1/1 | 0.61 | 0.59 | 104,104,104,104 | 0 |
| 58 | MG | 14 | 3324 | 1/1 | 0.61 | 0.27 | 104,104,104,104 | 0 |
| 58 | MG | 14 | 3277 | 1/1 | 0.62 | 0.50 | 111,111,111,111 | 0 |
| 58 | MG | 1H | 3263 | 1/1 | 0.62 | 0.68 | 92,92,92,92 | 0 |
| 58 | MG | 13 | 1688 | 1/1 | 0.62 | 0.51 | 96,96,96,96 | 0 |
| 58 | MG | 2K | 103 | 1/1 | 0.62 | 0.21 | 134,134,134,134 | 0 |
| 58 | MG | 14 | 3171 | 1/1 | 0.62 | 0.95 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3174 | 1/1 | 0.62 | 0.38 | 98,98,98,98 | 0 |
| 58 | MG | 85 | 202 | 1/1 | 0.62 | 0.65 | 100,100,100,100 | 0 |
| 58 | MG | 1G | 1643 | 1/1 | 0.63 | 0.57 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3337 | 1/1 | 0.63 | 0.52 | 140,140,140,140 | 0 |
| 58 | MG | 14 | 3024 | 1/1 | 0.63 | 1.13 | 106,106,106,106 | 0 |
| 58 | MG | 13 | 1702 | 1/1 | 0.64 | 0.45 | 114,114,114,114 | 0 |
| 58 | MG | 1G | 1602 | 1/1 | 0.64 | 0.75 | 133,133,133,133 | 0 |
| 58 | MG | 1H | 3341 | 1/1 | 0.64 | 0.61 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3233 | 1/1 | 0.64 | 0.63 | 108,108,108,108 | 0 |
| 58 | MG | 1H | 3351 | 1/1 | 0.64 | 0.33 | 122,122,122,122 | 0 |
| 58 | MG | 1H | 3187 | 1/1 | 0.65 | 0.53 | 105,105,105,105 | 0 |
| 58 | MG | 1H | 3336 | 1/1 | 0.65 | 0.12 | 93,93,93,93 | 0 |
| 58 | MG | 13 | 1634 | 1/1 | 0.65 | 0.52 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3338 | 1/1 | 0.65 | 0.21 | 112,112,112,112 | 0 |
| 58 | MG | 14 | 3030 | 1/1 | 0.65 | 0.34 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3286 | 1/1 | 0.65 | 0.42 | 109,109,109,109 | 0 |
| 58 | MG | 1H | 3289 | 1/1 | 0.65 | 1.02 | 86,86,86,86 | 0 |
| 58 | MG | 14 | 3260 | 1/1 | 0.66 | 1.01 | 115,115,115,115 | 0 |
| 58 | MG | 1G | 1644 | 1/1 | 0.66 | 0.70 | 110,110,110,110 | 0 |
| 58 | MG | 1H | 3332 | 1/1 | 0.66 | 0.81 | 93,93,93,93 | 0 |
| 58 | MG | 13 | 1708 | 1/1 | 0.66 | 0.82 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3183 | 1/1 | 0.66 | 0.34 | 89,89,89,89 | 0 |
| 58 | MG | 13 | 1650 | 1/1 | 0.66 | 0.30 | 134,134,134,134 | 0 |
| 58 | MG | 14 | 3110 | 1/1 | 0.66 | 0.33 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3288 | 1/1 | 0.66 | 0.31 | 99,99,99,99 | 0 |
| 58 | MG | 14 | 3059 | 1/1 | 0.67 | 0.17 | 92,92,92,92 | 0 |
| 58 | MG | 13 | 1606 | 1/1 | 0.67 | 1.05 | 119,119,119,119 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 13 | 1699 | 1/1 | 0.67 | 0.49 | 97,97,97,97 | 0 |
| 58 | MG | 1G | 1632 | 1/1 | 0.68 | 0.40 | 130,130,130,130 | 0 |
| 58 | MG | 1G | 1647 | 1/1 | 0.68 | 0.27 | 101,101,101,101 | 0 |
| 58 | MG | 1G | 1635 | 1/1 | 0.68 | 0.81 | 111,111,111,111 | 0 |
| 58 | MG | 16 | 207 | 1/1 | 0.68 | 0.27 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3323 | 1/1 | 0.68 | 0.31 | 122,122,122,122 | 0 |
| 58 | MG | 1H | 3269 | 1/1 | 0.68 | 0.71 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3126 | 1/1 | 0.68 | 0.26 | 83,83,83,83 | 0 |
| 58 | MG | C5 | 201 | 1/1 | 0.68 | 0.35 | 137,137,137,137 | 0 |
| 58 | MG | 1H | 3128 | 1/1 | 0.69 | 0.42 | 90,90,90,90 | 0 |
| 58 | MG | 16 | 208 | 1/1 | 0.69 | 0.43 | 111,111,111,111 | 0 |
| 58 | MG | 14 | 3192 | 1/1 | 0.69 | 0.44 | 104,104,104,104 | 0 |
| 58 | MG | 14 | 3201 | 1/1 | 0.69 | 0.49 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3297 | 1/1 | 0.69 | 0.21 | 133,133,133,133 | 0 |
| 58 | MG | 13 | 1621 | 1/1 | 0.69 | 0.33 | 99,99,99,99 | 0 |
| 58 | MG | 14 | 3315 | 1/1 | 0.69 | 0.49 | 114,114,114,114 | 0 |
| 58 | MG | 13 | 1679 | 1/1 | 0.69 | 0.25 | 122,122,122,122 | 0 |
| 58 | MG | 14 | 3235 | 1/1 | 0.69 | 0.36 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3030 | 1/1 | 0.69 | 0.67 | 85,85,85,85 | 0 |
| 58 | MG | 14 | 3261 | 1/1 | 0.69 | 0.43 | 101,101,101,101 | 0 |
| 58 | MG | 13 | 1659 | 1/1 | 0.69 | 0.27 | 116,116,116,116 | 0 |
| 58 | MG | 45 | 203 | 1/1 | 0.69 | 0.78 | 104,104,104,104 | 0 |
| 58 | MG | 1G | 1636 | 1/1 | 0.69 | 0.34 | 111,111,111,111 | 0 |
| 58 | MG | 1G | 1639 | 1/1 | 0.69 | 0.81 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3327 | 1/1 | 0.70 | 0.76 | 120,120,120,120 | 0 |
| 58 | MG | 1H | 3144 | 1/1 | 0.70 | 0.27 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3095 | 1/1 | 0.70 | 0.87 | 95,95,95,95 | 0 |
| 58 | MG | 13 | 1684 | 1/1 | 0.70 | 0.26 | 141,141,141,141 | 0 |
| 58 | MG | 1H | 3230 | 1/1 | 0.70 | 0.12 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3163 | 1/1 | 0.70 | 0.49 | 84,84,84,84 | 0 |
| 58 | MG | 1H | 3257 | 1/1 | 0.70 | 1.55 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3175 | 1/1 | 0.70 | 0.15 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3182 | 1/1 | 0.70 | 0.21 | 105,105,105,105 | 0 |
| 58 | MG | 14 | 3034 | 1/1 | 0.71 | 0.29 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3272 | 1/1 | 0.71 | 0.48 | 96,96,96,96 | 0 |
| 58 | MG | 1J | 202 | 1/1 | 0.71 | 0.33 | 110,110,110,110 | 0 |
| 58 | MG | 13 | 1673 | 1/1 | 0.71 | 0.40 | 106,106,106,106 | 0 |
| 58 | MG | 45 | 202 | 1/1 | 0.71 | 0.15 | 122,122,122,122 | 0 |
| 58 | MG | 14 | 3023 | 1/1 | 0.71 | 0.47 | 103,103,103,103 | 0 |
| 58 | MG | 14 | 3089 | 1/1 | 0.71 | 1.15 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3206 | 1/1 | 0.71 | 0.58 | 100,100,100,100 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 1G | 1652 | 1/1 | 0.72 | 0.31 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3321 | 1/1 | 0.72 | 0.43 | 109,109,109,109 | 0 |
| 58 | MG | 14 | 3284 | 1/1 | 0.72 | 0.67 | 112,112,112,112 | 0 |
| 58 | MG | 1G | 1666 | 1/1 | 0.72 | 0.77 | 121,121,121,121 | 0 |
| 58 | MG | 1H | 3212 | 1/1 | 0.72 | 0.40 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3272 | 1/1 | 0.72 | 0.63 | 118,118,118,118 | 0 |
| 58 | MG | 1H | 3166 | 1/1 | 0.72 | 0.42 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3303 | 1/1 | 0.72 | 0.24 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3235 | 1/1 | 0.72 | 0.68 | 112,112,112,112 | 0 |
| 58 | MG | 13 | 1649 | 1/1 | 0.72 | 0.15 | 118,118,118,118 | 0 |
| 58 | MG | 14 | 3404 | 1/1 | 0.73 | 0.29 | 101,101,101,101 | 0 |
| 58 | MG | 1G | 1633 | 1/1 | 0.73 | 0.25 | 137,137,137,137 | 0 |
| 58 | MG | 1H | 3292 | 1/1 | 0.73 | 0.28 | 82,82,82,82 | 0 |
| 58 | MG | 14 | 3194 | 1/1 | 0.73 | 0.30 | 93,93,93,93 | 0 |
| 58 | MG | 1G | 1660 | 1/1 | 0.73 | 0.93 | 111,111,111,111 | 0 |
| 58 | MG | 14 | 3262 | 1/1 | 0.73 | 0.16 | 109,109,109,109 | 0 |
| 58 | MG | 13 | 1707 | 1/1 | 0.73 | 0.43 | 114,114,114,114 | 0 |
| 58 | MG | 14 | 3132 | 1/1 | 0.73 | 0.69 | 86,86,86,86 | 0 |
| 58 | MG | 14 | 3217 | 1/1 | 0.74 | 0.74 | 89,89,89,89 | 0 |
| 58 | MG | 13 | 1644 | 1/1 | 0.74 | 0.38 | 120,120,120,120 | 0 |
| 58 | MG | 1H | 3141 | 1/1 | 0.74 | 0.93 | 83,83,83,83 | 0 |
| 58 | MG | 1G | 1662 | 1/1 | 0.74 | 0.14 | 118,118,118,118 | 0 |
| 58 | MG | 14 | 3108 | 1/1 | 0.74 | 0.35 | 88,88,88,88 | 0 |
| 58 | MG | 14 | 3195 | 1/1 | 0.74 | 0.54 | 107,107,107,107 | 0 |
| 58 | MG | 14 | 3196 | 1/1 | 0.74 | 0.29 | 98,98,98,98 | 0 |
| 58 | MG | 13 | 1628 | 1/1 | 0.74 | 0.68 | 94,94,94,94 | 0 |
| 58 | MG | 13 | 1653 | 1/1 | 0.75 | 0.29 | 144,144,144,144 | 0 |
| 58 | MG | 1G | 1648 | 1/1 | 0.75 | 0.40 | 128,128,128,128 | 0 |
| 58 | MG | 1H | 3054 | 1/1 | 0.75 | 0.13 | 110,110,110,110 | 0 |
| 58 | MG | 13 | 1661 | 1/1 | 0.75 | 0.50 | 90,90,90,90 | 0 |
| 58 | MG | 14 | 3310 | 1/1 | 0.75 | 0.38 | 124,124,124,124 | 0 |
| 58 | MG | 1H | 3483 | 1/1 | 0.75 | 0.11 | 119,119,119,119 | 0 |
| 58 | MG | 1H | 3343 | 1/1 | 0.75 | 0.12 | 137,137,137,137 | 0 |
| 58 | MG | 14 | 3286 | 1/1 | 0.75 | 0.63 | 117,117,117,117 | 0 |
| 58 | MG | 14 | 3109 | 1/1 | 0.75 | 0.57 | 94,94,94,94 | 0 |
| 58 | MG | E5 | 101 | 1/1 | 0.75 | 0.66 | 100,100,100,100 | 0 |
| 58 | MG | 13 | 1623 | 1/1 | 0.76 | 0.72 | 88,88,88,88 | 0 |
| 58 | MG | 14 | 3149 | 1/1 | 0.76 | 0.58 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3275 | 1/1 | 0.76 | 0.47 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3209 | 1/1 | 0.76 | 0.53 | 99,99,99,99 | 0 |
| 58 | MG | 14 | 3224 | 1/1 | 0.76 | 0.35 | 105,105,105,105 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 14 | 3280 | 1/1 | 0.76 | 0.61 | 98,98,98,98 | 0 |
| 58 | MG | 1H | 3319 | 1/1 | 0.76 | 0.62 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3140 | 1/1 | 0.76 | 0.29 | 89,89,89,89 | 0 |
| 58 | MG | 5E | 202 | 1/1 | 0.76 | 0.18 | 111,111,111,111 | 0 |
| 58 | MG | 13 | 1692 | 1/1 | 0.76 | 0.41 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3330 | 1/1 | 0.76 | 0.14 | 105,105,105,105 | 0 |
| 58 | MG | 14 | 3018 | 1/1 | 0.76 | 0.39 | 111,111,111,111 | 0 |
| 58 | MG | 1H | 3304 | 1/1 | 0.76 | 0.49 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3287 | 1/1 | 0.76 | 0.31 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3278 | 1/1 | 0.77 | 0.45 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3243 | 1/1 | 0.77 | 0.09 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3246 | 1/1 | 0.77 | 0.36 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3334 | 1/1 | 0.77 | 0.29 | 77,77,77,77 | 0 |
| 58 | MG | 13 | 1674 | 1/1 | 0.77 | 0.27 | 121,121,121,121 | 0 |
| 58 | MG | 14 | 3288 | 1/1 | 0.77 | 0.79 | 120,120,120,120 | 0 |
| 58 | MG | 1H | 3479 | 1/1 | 0.77 | 0.20 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3069 | 1/1 | 0.77 | 0.16 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3486 | 1/1 | 0.77 | 0.31 | 106,106,106,106 | 0 |
| 58 | MG | 14 | 3231 | 1/1 | 0.77 | 0.79 | 107,107,107,107 | 0 |
| 58 | MG | 14 | 3302 | 1/1 | 0.77 | 0.81 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3031 | 1/1 | 0.77 | 0.47 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3308 | 1/1 | 0.77 | 0.54 | 104,104,104,104 | 0 |
| 58 | MG | 7A | 101 | 1/1 | 0.77 | 0.23 | 104,104,104,104 | 0 |
| 58 | MG | 14 | 3199 | 1/1 | 0.78 | 0.61 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3344 | 1/1 | 0.78 | 0.32 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3031 | 1/1 | 0.78 | 0.71 | 115,115,115,115 | 0 |
| 58 | MG | 14 | 3331 | 1/1 | 0.78 | 0.52 | 108,108,108,108 | 0 |
| 58 | MG | 1H | 3247 | 1/1 | 0.78 | 0.43 | 101,101,101,101 | 0 |
| 58 | MG | 1G | 1638 | 1/1 | 0.78 | 0.43 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3309 | 1/1 | 0.78 | 0.48 | 126,126,126,126 | 0 |
| 58 | MG | 1H | 3270 | 1/1 | 0.78 | 0.25 | 87,87,87,87 | 0 |
| 58 | MG | 1H | 3342 | 1/1 | 0.78 | 0.48 | 105,105,105,105 | 0 |
| 58 | MG | 1G | 1631 | 1/1 | 0.78 | 0.40 | 97,97,97,97 | 0 |
| 58 | MG | 14 | 3240 | 1/1 | 0.78 | 0.21 | 111,111,111,111 | 0 |
| 58 | MG | 1H | 3192 | 1/1 | 0.78 | 0.45 | 85,85,85,85 | 0 |
| 58 | MG | 14 | 3259 | 1/1 | 0.78 | 0.54 | 111,111,111,111 | 0 |
| 58 | MG | 1G | 1627 | 1/1 | 0.79 | 0.49 | 142,142,142,142 | 0 |
| 58 | MG | 14 | 3325 | 1/1 | 0.79 | 0.53 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3328 | 1/1 | 0.79 | 1.40 | 107,107,107,107 | 0 |
| 58 | MG | 1H | 3333 | 1/1 | 0.79 | 0.34 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3145 | 1/1 | 0.79 | 0.56 | 117,117,117,117 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 1H | 3077 | 1/1 | 0.79 | 0.46 | 65,65,65,65 | 0 |
| 58 | MG | 14 | 3146 | 1/1 | 0.79 | 0.35 | 77,77,77,77 | 0 |
| 58 | MG | 13 | 1710 | 1/1 | 0.79 | 0.33 | 118,118,118,118 | 0 |
| 58 | MG | 13 | 1704 | 1/1 | 0.79 | 0.08 | 134,134,134,134 | 0 |
| 58 | MG | 1G | 1646 | 1/1 | 0.79 | 0.17 | 126,126,126,126 | 0 |
| 58 | MG | 1H | 3196 | 1/1 | 0.79 | 0.45 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3175 | 1/1 | 0.79 | 0.19 | 93,93,93,93 | 0 |
| 58 | MG | 13 | 1660 | 1/1 | 0.79 | 0.12 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3154 | 1/1 | 0.80 | 0.49 | 106,106,106,106 | 0 |
| 58 | MG | 1G | 1653 | 1/1 | 0.80 | 0.14 | 118,118,118,118 | 0 |
| 58 | MG | 14 | 3140 | 1/1 | 0.80 | 0.09 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3181 | 1/1 | 0.80 | 0.20 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3186 | 1/1 | 0.80 | 0.39 | 96,96,96,96 | 0 |
| 58 | MG | 1G | 1664 | 1/1 | 0.80 | 0.34 | 122,122,122,122 | 0 |
| 58 | MG | 14 | 3159 | 1/1 | 0.80 | 0.43 | 81,81,81,81 | 0 |
| 58 | MG | 13 | 1709 | 1/1 | 0.80 | 0.36 | 112,112,112,112 | 0 |
| 58 | MG | 14 | 3270 | 1/1 | 0.80 | 0.50 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3076 | 1/1 | 0.80 | 0.36 | 78,78,78,78 | 0 |
| 58 | MG | 13 | 1641 | 1/1 | 0.80 | 0.14 | 112,112,112,112 | 0 |
| 58 | MG | 1H | 3173 | 1/1 | 0.80 | 0.23 | 108,108,108,108 | 0 |
| 58 | MG | 14 | 3313 | 1/1 | 0.80 | 0.35 | 107,107,107,107 | 0 |
| 58 | MG | 1G | 1637 | 1/1 | 0.80 | 0.42 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3029 | 1/1 | 0.80 | 0.42 | 92,92,92,92 | 0 |
| 58 | MG | 1G | 1618 | 1/1 | 0.81 | 0.13 | 131,131,131,131 | 0 |
| 58 | MG | 13 | 1686 | 1/1 | 0.81 | 0.17 | 79,79,79,79 | 0 |
| 58 | MG | 13 | 1637 | 1/1 | 0.81 | 0.43 | 123,123,123,123 | 0 |
| 58 | MG | 1H | 3208 | 1/1 | 0.81 | 0.92 | 99,99,99,99 | 0 |
| 58 | MG | 14 | 3165 | 1/1 | 0.81 | 0.45 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3322 | 1/1 | 0.81 | 0.96 | 117,117,117,117 | 0 |
| 58 | MG | 14 | 3058 | 1/1 | 0.81 | 0.26 | 107,107,107,107 | 0 |
| 58 | MG | 1H | 3039 | 1/1 | 0.81 | 0.54 | 100,100,100,100 | 0 |
| 58 | MG | 1G | 1677 | 1/1 | 0.81 | 0.06 | 185,185,185,185 | 0 |
| 58 | MG | 14 | 3330 | 1/1 | 0.81 | 0.67 | 104,104,104,104 | 0 |
| 58 | MG | 14 | 3085 | 1/1 | 0.81 | 0.44 | 85,85,85,85 | 0 |
| 58 | MG | 14 | 3339 | 1/1 | 0.81 | 0.63 | 120,120,120,120 | 0 |
| 58 | MG | 13 | 1638 | 1/1 | 0.81 | 0.53 | 82,82,82,82 | 0 |
| 58 | MG | 1H | 3109 | 1/1 | 0.81 | 0.70 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3346 | 1/1 | 0.81 | 0.32 | 113,113,113,113 | 0 |
| 58 | MG | 1J | 204 | 1/1 | 0.81 | 0.07 | 119,119,119,119 | 0 |
| 58 | MG | 1H | 3012 | 1/1 | 0.81 | 0.40 | 93,93,93,93 | 0 |
| 58 | MG | 35 | 201 | 1/1 | 0.81 | 0.51 | 90,90,90,90 | 0 |
| 58 | MG | 41 | 201 | 1/1 | 0.81 | 0.10 | 102,102,102,102 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 1H | 3349 | 1/1 | 0.81 | 0.16 | 119,119,119,119 | 0 |
| 58 | MG | 14 | 3143 | 1/1 | 0.81 | 0.41 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3200 | 1/1 | 0.81 | 0.55 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3311 | 1/1 | 0.81 | 0.34 | 105,105,105,105 | 0 |
| 60 | ZN | C5 | 202 | 1/1 | 0.81 | 0.13 | 183,183,183,183 | 0 |
| 58 | MG | 14 | 3082 | 1/1 | 0.82 | 0.34 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3155 | 1/1 | 0.82 | 0.35 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3011 | 1/1 | 0.82 | 0.47 | 71,71,71,71 | 0 |
| 58 | MG | 14 | 3160 | 1/1 | 0.82 | 0.37 | 98,98,98,98 | 0 |
| 58 | MG | 1H | 3295 | 1/1 | 0.82 | 0.53 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3266 | 1/1 | 0.82 | 0.47 | 99,99,99,99 | 0 |
| 58 | MG | 14 | 3202 | 1/1 | 0.82 | 0.33 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3085 | 1/1 | 0.82 | 0.46 | 92,92,92,92 | 0 |
| 58 | MG | 13 | 1666 | 1/1 | 0.82 | 0.18 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3251 | 1/1 | 0.82 | 0.13 | 75,75,75,75 | 0 |
| 58 | MG | 1H | 3178 | 1/1 | 0.82 | 0.53 | 93,93,93,93 | 0 |
| 58 | MG | 13 | 1735 | 1/1 | 0.82 | 0.09 | 146,146,146,146 | 0 |
| 58 | MG | 1H | 3142 | 1/1 | 0.82 | 0.45 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3185 | 1/1 | 0.82 | 0.71 | 113,113,113,113 | 0 |
| 58 | MG | 14 | 3282 | 1/1 | 0.82 | 0.33 | 96,96,96,96 | 0 |
| 58 | MG | 13 | 1698 | 1/1 | 0.82 | 0.46 | 96,96,96,96 | 0 |
| 58 | MG | 1H | 3189 | 1/1 | 0.82 | 0.80 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3134 | 1/1 | 0.83 | 0.23 | 103,103,103,103 | 0 |
| 58 | MG | 16 | 205 | 1/1 | 0.83 | 0.37 | 106,106,106,106 | 0 |
| 58 | MG | 1H | 3123 | 1/1 | 0.83 | 0.09 | 85,85,85,85 | 0 |
| 58 | MG | 1H | 3174 | 1/1 | 0.83 | 0.54 | 99,99,99,99 | 0 |
| 58 | MG | 14 | 3271 | 1/1 | 0.83 | 0.27 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3016 | 1/1 | 0.83 | 0.44 | 105,105,105,105 | 0 |
| 58 | MG | 13 | 1612 | 1/1 | 0.83 | 0.36 | 108,108,108,108 | 0 |
| 58 | MG | 1H | 3217 | 1/1 | 0.83 | 0.22 | 81,81,81,81 | 0 |
| 58 | MG | 14 | 3032 | 1/1 | 0.83 | 0.18 | 109,109,109,109 | 0 |
| 58 | MG | 1H | 3279 | 1/1 | 0.83 | 0.30 | 106,106,106,106 | 0 |
| 58 | MG | 1G | 1667 | 1/1 | 0.83 | 0.30 | 111,111,111,111 | 0 |
| 58 | MG | 14 | 3248 | 1/1 | 0.83 | 0.52 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3468 | 1/1 | 0.83 | 0.15 | 122,122,122,122 | 0 |
| 58 | MG | 1H | 3282 | 1/1 | 0.83 | 0.47 | 106,106,106,106 | 0 |
| 58 | MG | 1H | 3328 | 1/1 | 0.83 | 0.46 | 119,119,119,119 | 0 |
| 58 | MG | 1H | 3133 | 1/1 | 0.83 | 0.11 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3250 | 1/1 | 0.84 | 0.13 | 94,94,94,94 | 0 |
| 58 | MG | 13 | 1690 | 1/1 | 0.84 | 0.69 | 113,113,113,113 | 0 |
| 58 | MG | 1H | 3254 | 1/1 | 0.84 | 1.18 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3202 | 1/1 | 0.84 | 0.33 | 95,95,95,95 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 14 | 3257 | 1/1 | 0.84 | 0.16 | 143,143,143,143 | 0 |
| 58 | MG | 14 | 3168 | 1/1 | 0.84 | 0.29 | 122,122,122,122 | 0 |
| 58 | MG | 14 | 3314 | 1/1 | 0.84 | 1.12 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3037 | 1/1 | 0.84 | 0.25 | 87,87,87,87 | 0 |
| 58 | MG | 1H | 3261 | 1/1 | 0.84 | 0.52 | 115,115,115,115 | 0 |
| 58 | MG | 1H | 3158 | 1/1 | 0.84 | 0.34 | 105,105,105,105 | 0 |
| 58 | MG | 1H | 3162 | 1/1 | 0.84 | 0.39 | 106,106,106,106 | 0 |
| 58 | MG | 16 | 209 | 1/1 | 0.84 | 0.14 | 106,106,106,106 | 0 |
| 58 | MG | 1H | 3211 | 1/1 | 0.84 | 0.54 | 90,90,90,90 | 0 |
| 58 | MG | J8 | 101 | 1/1 | 0.84 | 0.29 | 89,89,89,89 | 0 |
| 58 | MG | 13 | 1738 | 1/1 | 0.84 | 0.05 | 106,106,106,106 | 0 |
| 58 | MG | 1H | 3305 | 1/1 | 0.84 | 0.57 | 96,96,96,96 | 0 |
| 58 | MG | 13 | 1694 | 1/1 | 0.84 | 0.18 | 114,114,114,114 | 0 |
| 58 | MG | 14 | 3090 | 1/1 | 0.84 | 0.24 | 83,83,83,83 | 0 |
| 58 | MG | 14 | 3381 | 1/1 | 0.84 | 0.12 | 116,116,116,116 | 0 |
| 58 | MG | 1H | 3311 | 1/1 | 0.84 | 0.18 | 77,77,77,77 | 0 |
| 58 | MG | 1H | 3168 | 1/1 | 0.84 | 0.40 | 82,82,82,82 | 0 |
| 58 | MG | 1H | 3275 | 1/1 | 0.84 | 0.12 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3010 | 1/1 | 0.84 | 0.21 | 98,98,98,98 | 0 |
| 58 | MG | 14 | 3137 | 1/1 | 0.84 | 0.27 | 119,119,119,119 | 0 |
| 58 | MG | 1H | 3108 | 1/1 | 0.84 | 0.73 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3280 | 1/1 | 0.84 | 0.15 | 114,114,114,114 | 0 |
| 58 | MG | 1H | 3198 | 1/1 | 0.84 | 0.35 | 119,119,119,119 | 0 |
| 58 | MG | 14 | 3232 | 1/1 | 0.84 | 0.41 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3297 | 1/1 | 0.84 | 0.55 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3324 | 1/1 | 0.84 | 0.11 | 97,97,97,97 | 0 |
| 58 | MG | 14 | 3019 | 1/1 | 0.84 | 0.39 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3252 | 1/1 | 0.85 | 0.19 | 106,106,106,106 | 0 |
| 58 | MG | 14 | 3254 | 1/1 | 0.85 | 0.45 | 83,83,83,83 | 0 |
| 58 | MG | 13 | 1652 | 1/1 | 0.85 | 0.32 | 138,138,138,138 | 0 |
| 58 | MG | 14 | 3258 | 1/1 | 0.85 | 0.27 | 93,93,93,93 | 0 |
| 58 | MG | 14 | 3022 | 1/1 | 0.85 | 0.57 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3226 | 1/1 | 0.85 | 0.32 | 88,88,88,88 | 0 |
| 58 | MG | 1G | 1651 | 1/1 | 0.85 | 0.14 | 128,128,128,128 | 0 |
| 58 | MG | 14 | 3189 | 1/1 | 0.85 | 0.46 | 87,87,87,87 | 0 |
| 58 | MG | 1H | 3345 | 1/1 | 0.85 | 0.18 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3315 | 1/1 | 0.85 | 0.22 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3227 | 1/1 | 0.85 | 0.52 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3117 | 1/1 | 0.85 | 0.30 | 75,75,75,75 | 0 |
| 58 | MG | 14 | 3148 | 1/1 | 0.85 | 0.40 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3093 | 1/1 | 0.85 | 0.88 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3302 | 1/1 | 0.85 | 0.42 | 89,89,89,89 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 14 | 3276 | 1/1 | 0.85 | 0.10 | 130,130,130,130 | 0 |
| 58 | MG | 14 | 3154 | 1/1 | 0.85 | 0.17 | 84,84,84,84 | 0 |
| 58 | MG | 1G | 1611 | 1/1 | 0.85 | 0.33 | 129,129,129,129 | 0 |
| 58 | MG | 14 | 3341 | 1/1 | 0.85 | 0.36 | 105,105,105,105 | 0 |
| 58 | MG | 14 | 3157 | 1/1 | 0.85 | 0.15 | 81,81,81,81 | 0 |
| 58 | MG | 1G | 1614 | 1/1 | 0.85 | 0.26 | 127,127,127,127 | 0 |
| 58 | MG | 1G | 1675 | 1/1 | 0.85 | 0.11 | 150,150,150,150 | 0 |
| 58 | MG | 1J | 201 | 1/1 | 0.85 | 0.31 | 100,100,100,100 | 0 |
| 58 | MG | 14 | 3163 | 1/1 | 0.85 | 0.57 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3075 | 1/1 | 0.85 | 0.93 | 82,82,82,82 | 0 |
| 58 | MG | 14 | 3084 | 1/1 | 0.85 | 0.48 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3291 | 1/1 | 0.85 | 0.26 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3292 | 1/1 | 0.85 | 0.99 | 83,83,83,83 | 0 |
| 58 | MG | 14 | 3169 | 1/1 | 0.85 | 0.42 | 69,69,69,69 | 0 |
| 58 | MG | 85 | 201 | 1/1 | 0.85 | 0.20 | 85,85,85,85 | 0 |
| 58 | MG | 1H | 3161 | 1/1 | 0.85 | 0.46 | 115,115,115,115 | 0 |
| 58 | MG | 13 | 1739 | 1/1 | 0.85 | 0.17 | 113,113,113,113 | 0 |
| 58 | MG | 14 | 3247 | 1/1 | 0.85 | 0.90 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3024 | 1/1 | 0.85 | 0.28 | 99,99,99,99 | 0 |
| 58 | MG | 1G | 1612 | 1/1 | 0.86 | 0.36 | 105,105,105,105 | 0 |
| 58 | MG | 14 | 3178 | 1/1 | 0.86 | 0.25 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3131 | 1/1 | 0.86 | 0.33 | 88,88,88,88 | 0 |
| 58 | MG | 14 | 3029 | 1/1 | 0.86 | 0.95 | 90,90,90,90 | 0 |
| 58 | MG | 14 | 3335 | 1/1 | 0.86 | 0.24 | 124,124,124,124 | 0 |
| 58 | MG | 1H | 3185 | 1/1 | 0.86 | 0.22 | 68,68,68,68 | 0 |
| 58 | MG | 14 | 3101 | 1/1 | 0.86 | 0.27 | 108,108,108,108 | 0 |
| 58 | MG | 1H | 3147 | 1/1 | 0.86 | 0.75 | 93,93,93,93 | 0 |
| 58 | MG | 13 | 1662 | 1/1 | 0.86 | 0.29 | 116,116,116,116 | 0 |
| 58 | MG | 13 | 1670 | 1/1 | 0.86 | 0.27 | 119,119,119,119 | 0 |
| 58 | MG | 14 | 3274 | 1/1 | 0.86 | 0.14 | 97,97,97,97 | 0 |
| 58 | MG | 14 | 3117 | 1/1 | 0.86 | 0.67 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3312 | 1/1 | 0.86 | 0.38 | 103,103,103,103 | 0 |
| 58 | MG | 14 | 3197 | 1/1 | 0.86 | 0.51 | 124,124,124,124 | 0 |
| 58 | MG | 14 | 3250 | 1/1 | 0.86 | 0.47 | 79,79,79,79 | 0 |
| 58 | MG | 14 | 3251 | 1/1 | 0.86 | 0.17 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3299 | 1/1 | 0.86 | 0.31 | 94,94,94,94 | 0 |
| 58 | MG | 1G | 1604 | 1/1 | 0.86 | 0.29 | 119,119,119,119 | 0 |
| 58 | MG | 14 | 3320 | 1/1 | 0.86 | 0.21 | 119,119,119,119 | 0 |
| 58 | MG | 14 | 3080 | 1/1 | 0.86 | 0.41 | 105,105,105,105 | 0 |
| 58 | MG | 1H | 3035 | 1/1 | 0.86 | 0.64 | 123,123,123,123 | 0 |
| 58 | MG | 14 | 3208 | 1/1 | 0.86 | 0.21 | 93,93,93,93 | 0 |
| 58 | MG | 14 | 3020 | 1/1 | 0.87 | 0.31 | 93,93,93,93 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 1H | 3326 | 1/1 | 0.87 | 0.42 | 97,97,97,97 | 0 |
| 58 | MG | 14 | 3287 | 1/1 | 0.87 | 0.20 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3278 | 1/1 | 0.87 | 0.41 | 90,90,90,90 | 0 |
| 58 | MG | 14 | 3166 | 1/1 | 0.87 | 0.58 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3354 | 1/1 | 0.87 | 0.33 | 98,98,98,98 | 0 |
| 58 | MG | 14 | 3332 | 1/1 | 0.87 | 0.25 | 98,98,98,98 | 0 |
| 58 | MG | 14 | 3294 | 1/1 | 0.87 | 0.80 | 100,100,100,100 | 0 |
| 58 | MG | 14 | 3336 | 1/1 | 0.87 | 0.31 | 120,120,120,120 | 0 |
| 58 | MG | 1G | 1658 | 1/1 | 0.87 | 0.75 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3188 | 1/1 | 0.87 | 0.40 | 84,84,84,84 | 0 |
| 58 | MG | 14 | 3366 | 1/1 | 0.87 | 0.12 | 114,114,114,114 | 0 |
| 58 | MG | 1G | 1661 | 1/1 | 0.87 | 0.06 | 169,169,169,169 | 0 |
| 58 | MG | 14 | 3264 | 1/1 | 0.87 | 0.51 | 106,106,106,106 | 0 |
| 58 | MG | 1H | 3119 | 1/1 | 0.87 | 0.59 | 81,81,81,81 | 0 |
| 58 | MG | 14 | 3420 | 1/1 | 0.87 | 0.07 | 118,118,118,118 | 0 |
| 58 | MG | 1H | 3290 | 1/1 | 0.87 | 0.51 | 103,103,103,103 | 0 |
| 58 | MG | 13 | 1734 | 1/1 | 0.87 | 0.08 | 131,131,131,131 | 0 |
| 58 | MG | 1H | 3205 | 1/1 | 0.87 | 0.65 | 114,114,114,114 | 0 |
| 58 | MG | 14 | 3055 | 1/1 | 0.87 | 0.32 | 77,77,77,77 | 0 |
| 58 | MG | 1H | 3169 | 1/1 | 0.87 | 0.21 | 95,95,95,95 | 0 |
| 58 | MG | 1G | 1623 | 1/1 | 0.87 | 0.65 | 100,100,100,100 | 0 |
| 58 | MG | 16 | 206 | 1/1 | 0.87 | 0.06 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3298 | 1/1 | 0.87 | 0.49 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3348 | 1/1 | 0.87 | 0.36 | 111,111,111,111 | 0 |
| 58 | MG | 1H | 3325 | 1/1 | 0.87 | 0.23 | 100,100,100,100 | 0 |
| 58 | MG | 1G | 1650 | 1/1 | 0.87 | 0.32 | 98,98,98,98 | 0 |
| 58 | MG | L5 | 101 | 1/1 | 0.87 | 0.89 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3253 | 1/1 | 0.87 | 0.27 | 90,90,90,90 | 0 |
| 58 | MG | 14 | 3207 | 1/1 | 0.88 | 0.15 | 107,107,107,107 | 0 |
| 58 | MG | 1H | 3318 | 1/1 | 0.88 | 0.36 | 116,116,116,116 | 0 |
| 58 | MG | 14 | 3273 | 1/1 | 0.88 | 0.15 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3054 | 1/1 | 0.88 | 0.26 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3232 | 1/1 | 0.88 | 0.44 | 98,98,98,98 | 0 |
| 58 | MG | 1H | 3265 | 1/1 | 0.88 | 1.01 | 100,100,100,100 | 0 |
| 58 | MG | 1H | 3267 | 1/1 | 0.88 | 0.48 | 85,85,85,85 | 0 |
| 58 | MG | 13 | 1693 | 1/1 | 0.88 | 0.54 | 108,108,108,108 | 0 |
| 58 | MG | 1H | 3183 | 1/1 | 0.88 | 0.93 | 94,94,94,94 | 0 |
| 58 | MG | Q8 | 101 | 1/1 | 0.88 | 0.39 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3246 | 1/1 | 0.88 | 0.33 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3333 | 1/1 | 0.88 | 0.67 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3334 | 1/1 | 0.88 | 0.73 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3283 | 1/1 | 0.88 | 0.67 | 98,98,98,98 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 1H | 3124 | 1/1 | 0.88 | 0.42 | 77,77,77,77 | 0 |
| 58 | MG | 2L | 102 | 1/1 | 0.88 | 1.72 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3004 | 1/1 | 0.88 | 0.70 | 76,76,76,76 | 0 |
| 58 | MG | 14 | 3342 | 1/1 | 0.88 | 0.35 | 120,120,120,120 | 0 |
| 58 | MG | 14 | 3177 | 1/1 | 0.88 | 0.53 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3013 | 1/1 | 0.88 | 0.20 | 98,98,98,98 | 0 |
| 58 | MG | 14 | 3382 | 1/1 | 0.88 | 0.14 | 112,112,112,112 | 0 |
| 58 | MG | 1H | 3100 | 1/1 | 0.88 | 0.85 | 82,82,82,82 | 0 |
| 58 | MG | 14 | 3412 | 1/1 | 0.88 | 0.12 | 128,128,128,128 | 0 |
| 58 | MG | 1H | 3027 | 1/1 | 0.88 | 0.17 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3252 | 1/1 | 0.88 | 0.26 | 75,75,75,75 | 0 |
| 58 | MG | 14 | 3021 | 1/1 | 0.88 | 0.40 | 73,73,73,73 | 0 |
| 58 | MG | 14 | 3186 | 1/1 | 0.88 | 0.69 | 100,100,100,100 | 0 |
| 58 | MG | 1H | 3129 | 1/1 | 0.88 | 0.60 | 85,85,85,85 | 0 |
| 58 | MG | 29 | 302 | 1/1 | 0.88 | 0.54 | 94,94,94,94 | 0 |
| 58 | MG | 13 | 1683 | 1/1 | 0.88 | 0.77 | 119,119,119,119 | 0 |
| 58 | MG | 1H | 3472 | 1/1 | 0.88 | 0.08 | 108,108,108,108 | 0 |
| 58 | MG | 13 | 1668 | 1/1 | 0.88 | 0.22 | 117,117,117,117 | 0 |
| 58 | MG | 1H | 3259 | 1/1 | 0.88 | 0.12 | 106,106,106,106 | 0 |
| 58 | MG | 14 | 3309 | 1/1 | 0.88 | 0.20 | 109,109,109,109 | 0 |
| 58 | MG | 13 | 1723 | 1/1 | 0.88 | 0.15 | 134,134,134,134 | 0 |
| 58 | MG | 1G | 1659 | 1/1 | 0.88 | 0.31 | 142,142,142,142 | 0 |
| 58 | MG | 1H | 3139 | 1/1 | 0.88 | 0.18 | 75,75,75,75 | 0 |
| 58 | MG | 14 | 3152 | 1/1 | 0.88 | 0.58 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3020 | 1/1 | 0.88 | 0.38 | 84,84,84,84 | 0 |
| 58 | MG | 1H | 3488 | 1/1 | 0.89 | 0.09 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3339 | 1/1 | 0.89 | 0.38 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3148 | 1/1 | 0.89 | 0.21 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3255 | 1/1 | 0.89 | 0.39 | 105,105,105,105 | 0 |
| 58 | MG | 1H | 3086 | 1/1 | 0.89 | 0.59 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3234 | 1/1 | 0.89 | 1.04 | 90,90,90,90 | 0 |
| 58 | MG | 14 | 3051 | 1/1 | 0.89 | 0.37 | 158,158,158,158 | 0 |
| 58 | MG | 13 | 1696 | 1/1 | 0.89 | 0.43 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3240 | 1/1 | 0.89 | 0.49 | 96,96,96,96 | 0 |
| 58 | MG | 1H | 3156 | 1/1 | 0.89 | 0.05 | 121,121,121,121 | 0 |
| 58 | MG | 13 | 1635 | 1/1 | 0.89 | 0.36 | 111,111,111,111 | 0 |
| 58 | MG | 13 | 1626 | 1/1 | 0.89 | 0.33 | 113,113,113,113 | 0 |
| 58 | MG | 14 | 3068 | 1/1 | 0.89 | 0.78 | 108,108,108,108 | 0 |
| 58 | MG | 14 | 3411 | 1/1 | 0.89 | 0.05 | 134,134,134,134 | 0 |
| 58 | MG | 1H | 3248 | 1/1 | 0.89 | 1.57 | 93,93,93,93 | 0 |
| 58 | MG | 14 | 3269 | 1/1 | 0.89 | 0.29 | 115,115,115,115 | 0 |
| 58 | MG | 1H | 3101 | 1/1 | 0.89 | 0.33 | 59,59,59,59 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 14 | 3005 | 1/1 | 0.89 | 0.34 | 101,101,101,101 | 0 |
| 58 | MG | 13 | 1614 | 1/1 | 0.89 | 0.20 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3164 | 1/1 | 0.89 | 0.24 | 86,86,86,86 | 0 |
| 58 | MG | 13 | 1669 | 1/1 | 0.89 | 0.12 | 120,120,120,120 | 0 |
| 58 | MG | 14 | 3173 | 1/1 | 0.89 | 0.14 | 96,96,96,96 | 0 |
| 58 | MG | 1H | 3213 | 1/1 | 0.89 | 0.17 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3284 | 1/1 | 0.89 | 0.19 | 97,97,97,97 | 0 |
| 58 | MG | 13 | 1695 | 1/1 | 0.89 | 0.30 | 122,122,122,122 | 0 |
| 58 | MG | 1H | 3481 | 1/1 | 0.89 | 0.15 | 133,133,133,133 | 0 |
| 58 | MG | 14 | 3323 | 1/1 | 0.89 | 0.07 | 159,159,159,159 | 0 |
| 58 | MG | 1H | 3110 | 1/1 | 0.89 | 0.35 | 83,83,83,83 | 0 |
| 58 | MG | 14 | 3123 | 1/1 | 0.89 | 0.20 | 109,109,109,109 | 0 |
| 58 | MG | 1G | 1630 | 1/1 | 0.89 | 0.42 | 120,120,120,120 | 0 |
| 58 | MG | 1H | 3170 | 1/1 | 0.89 | 0.07 | 92,92,92,92 | 0 |
| 58 | MG | 13 | 1740 | 1/1 | 0.90 | 0.20 | 107,107,107,107 | 0 |
| 58 | MG | 1G | 1609 | 1/1 | 0.90 | 0.09 | 113,113,113,113 | 0 |
| 58 | MG | 1H | 3066 | 1/1 | 0.90 | 0.53 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3237 | 1/1 | 0.90 | 0.15 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3151 | 1/1 | 0.90 | 0.13 | 90,90,90,90 | 0 |
| 58 | MG | 1G | 1616 | 1/1 | 0.90 | 0.34 | 118,118,118,118 | 0 |
| 58 | MG | 1H | 3242 | 1/1 | 0.90 | 0.41 | 90,90,90,90 | 0 |
| 58 | MG | 13 | 1648 | 1/1 | 0.90 | 0.60 | 108,108,108,108 | 0 |
| 58 | MG | 14 | 3337 | 1/1 | 0.90 | 0.51 | 125,125,125,125 | 0 |
| 58 | MG | 1H | 3471 | 1/1 | 0.90 | 0.04 | 128,128,128,128 | 0 |
| 58 | MG | 1H | 3274 | 1/1 | 0.90 | 0.53 | 105,105,105,105 | 0 |
| 58 | MG | 1H | 3074 | 1/1 | 0.90 | 0.40 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3298 | 1/1 | 0.90 | 0.29 | 104,104,104,104 | 0 |
| 58 | MG | 14 | 3372 | 1/1 | 0.90 | 0.08 | 134,134,134,134 | 0 |
| 58 | MG | 13 | 1663 | 1/1 | 0.90 | 0.66 | 86,86,86,86 | 0 |
| 58 | MG | 5I | 101 | 1/1 | 0.90 | 0.14 | 110,110,110,110 | 0 |
| 58 | MG | 1H | 3159 | 1/1 | 0.90 | 0.38 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3405 | 1/1 | 0.90 | 0.17 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3023 | 1/1 | 0.90 | 0.45 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3304 | 1/1 | 0.90 | 0.67 | 87,87,87,87 | 0 |
| 58 | MG | 13 | 1681 | 1/1 | 0.90 | 0.49 | 124,124,124,124 | 0 |
| 58 | MG | 14 | 3214 | 1/1 | 0.90 | 0.31 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3314 | 1/1 | 0.90 | 0.23 | 107,107,107,107 | 0 |
| 58 | MG | 14 | 3221 | 1/1 | 0.90 | 0.68 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3215 | 1/1 | 0.90 | 0.24 | 69,69,69,69 | 0 |
| 58 | MG | 1J | 205 | 1/1 | 0.90 | 0.26 | 122,122,122,122 | 0 |
| 58 | MG | 1J | 206 | 1/1 | 0.90 | 0.05 | 130,130,130,130 | 0 |
| 58 | MG | 1H | 3120 | 1/1 | 0.90 | 0.57 | 107,107,107,107 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 14 | 3229 | 1/1 | 0.90 | 0.46 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3143 | 1/1 | 0.90 | 0.35 | 101,101,101,101 | 0 |
| 58 | MG | 13 | 1677 | 1/1 | 0.90 | 0.52 | 113,113,113,113 | 0 |
| 58 | MG | 11 | 301 | 1/1 | 0.90 | 0.31 | 73,73,73,73 | 0 |
| 58 | MG | 21 | 302 | 1/1 | 0.90 | 0.12 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3229 | 1/1 | 0.90 | 0.76 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3321 | 1/1 | 0.90 | 0.42 | 84,84,84,84 | 0 |
| 58 | MG | 1H | 3038 | 1/1 | 0.90 | 0.23 | 102,102,102,102 | 0 |
| 58 | MG | 13 | 1672 | 1/1 | 0.90 | 0.15 | 133,133,133,133 | 0 |
| 58 | MG | 14 | 3327 | 1/1 | 0.90 | 0.46 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3112 | 1/1 | 0.91 | 0.72 | 101,101,101,101 | 0 |
| 58 | MG | 14 | 3317 | 1/1 | 0.91 | 0.16 | 122,122,122,122 | 0 |
| 58 | MG | 1H | 3116 | 1/1 | 0.91 | 0.39 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3204 | 1/1 | 0.91 | 0.25 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3181 | 1/1 | 0.91 | 1.18 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3167 | 1/1 | 0.91 | 0.62 | 96,96,96,96 | 0 |
| 58 | MG | 1H | 3034 | 1/1 | 0.91 | 0.33 | 145,145,145,145 | 0 |
| 58 | MG | 1H | 3320 | 1/1 | 0.91 | 0.47 | 107,107,107,107 | 0 |
| 58 | MG | 13 | 1706 | 1/1 | 0.91 | 0.24 | 91,91,91,91 | 0 |
| 58 | MG | 13 | 1701 | 1/1 | 0.91 | 0.46 | 103,103,103,103 | 0 |
| 58 | MG | 14 | 3191 | 1/1 | 0.91 | 0.53 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3121 | 1/1 | 0.91 | 0.37 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3355 | 1/1 | 0.91 | 0.54 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3398 | 1/1 | 0.91 | 0.19 | 76,76,76,76 | 0 |
| 58 | MG | 1H | 3457 | 1/1 | 0.91 | 0.30 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3465 | 1/1 | 0.91 | 0.07 | 112,112,112,112 | 0 |
| 58 | MG | 13 | 1676 | 1/1 | 0.91 | 0.29 | 130,130,130,130 | 0 |
| 58 | MG | 14 | 3122 | 1/1 | 0.91 | 0.44 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3089 | 1/1 | 0.91 | 0.33 | 83,83,83,83 | 0 |
| 58 | MG | 14 | 3129 | 1/1 | 0.91 | 0.40 | 84,84,84,84 | 0 |
| 58 | MG | 1H | 3149 | 1/1 | 0.91 | 0.42 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3007 | 1/1 | 0.91 | 0.50 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3026 | 1/1 | 0.91 | 0.40 | 80,80,80,80 | 0 |
| 58 | MG | 14 | 3015 | 1/1 | 0.91 | 0.66 | 82,82,82,82 | 0 |
| 58 | MG | 14 | 3375 | 1/1 | 0.91 | 0.11 | 117,117,117,117 | 0 |
| 58 | MG | 1H | 3480 | 1/1 | 0.91 | 0.07 | 114,114,114,114 | 0 |
| 58 | MG | 14 | 3223 | 1/1 | 0.91 | 0.19 | 116,116,116,116 | 0 |
| 58 | MG | 1H | 3153 | 1/1 | 0.91 | 0.13 | 86,86,86,86 | 0 |
| 58 | MG | 13 | 1617 | 1/1 | 0.91 | 0.29 | 97,97,97,97 | 0 |
| 58 | MG | 13 | 1604 | 1/1 | 0.91 | 0.47 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3487 | 1/1 | 0.91 | 0.14 | 96,96,96,96 | 0 |
| 58 | MG | 13 | 1717 | 1/1 | 0.91 | 0.06 | 123,123,123,123 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 1H | 3157 | 1/1 | 0.91 | 0.94 | 88,88,88,88 | 0 |
| 58 | MG | 14 | 3156 | 1/1 | 0.91 | 0.70 | 88,88,88,88 | 0 |
| 58 | MG | 14 | 3025 | 1/1 | 0.91 | 0.80 | 87,87,87,87 | 0 |
| 58 | MG | 16 | 204 | 1/1 | 0.91 | 0.10 | 106,106,106,106 | 0 |
| 58 | MG | 14 | 3300 | 1/1 | 0.91 | 0.10 | 118,118,118,118 | 0 |
| 58 | MG | 1H | 3014 | 1/1 | 0.91 | 0.15 | 65,65,65,65 | 0 |
| 58 | MG | 14 | 3162 | 1/1 | 0.91 | 0.67 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3073 | 1/1 | 0.91 | 0.60 | 84,84,84,84 | 0 |
| 58 | MG | 1H | 3307 | 1/1 | 0.91 | 0.56 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3308 | 1/1 | 0.91 | 0.24 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3136 | 1/1 | 0.91 | 0.25 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3195 | 1/1 | 0.91 | 0.74 | 96,96,96,96 | 0 |
| 58 | MG | 13 | 1609 | 1/1 | 0.91 | 0.24 | 99,99,99,99 | 0 |
| 58 | MG | 14 | 3312 | 1/1 | 0.91 | 0.39 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3277 | 1/1 | 0.91 | 0.18 | 122,122,122,122 | 0 |
| 58 | MG | 1H | 3017 | 1/1 | 0.91 | 0.49 | 79,79,79,79 | 0 |
| 58 | MG | 1G | 1655 | 1/1 | 0.91 | 0.04 | 176,176,176,176 | 0 |
| 58 | MG | 1H | 3152 | 1/1 | 0.92 | 0.60 | 108,108,108,108 | 0 |
| 58 | MG | 14 | 3176 | 1/1 | 0.92 | 0.37 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3120 | 1/1 | 0.92 | 0.25 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3242 | 1/1 | 0.92 | 0.10 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3245 | 1/1 | 0.92 | 0.43 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3062 | 1/1 | 0.92 | 0.44 | 103,103,103,103 | 0 |
| 58 | MG | 1H | 3092 | 1/1 | 0.92 | 0.36 | 76,76,76,76 | 0 |
| 58 | MG | 14 | 3293 | 1/1 | 0.92 | 0.69 | 109,109,109,109 | 0 |
| 58 | MG | 1H | 3137 | 1/1 | 0.92 | 0.35 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3301 | 1/1 | 0.92 | 0.54 | 99,99,99,99 | 0 |
| 58 | MG | 13 | 1618 | 1/1 | 0.92 | 0.22 | 108,108,108,108 | 0 |
| 58 | MG | 14 | 3139 | 1/1 | 0.92 | 0.12 | 75,75,75,75 | 0 |
| 58 | MG | 14 | 3369 | 1/1 | 0.92 | 0.10 | 105,105,105,105 | 0 |
| 58 | MG | 1H | 3177 | 1/1 | 0.92 | 0.67 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3207 | 1/1 | 0.92 | 0.45 | 93,93,93,93 | 0 |
| 58 | MG | 1G | 1669 | 1/1 | 0.92 | 0.14 | 151,151,151,151 | 0 |
| 58 | MG | 14 | 3045 | 1/1 | 0.92 | 0.21 | 89,89,89,89 | 0 |
| 58 | MG | 1G | 1673 | 1/1 | 0.92 | 0.17 | 145,145,145,145 | 0 |
| 58 | MG | 13 | 1656 | 1/1 | 0.92 | 0.10 | 105,105,105,105 | 0 |
| 58 | MG | 14 | 3151 | 1/1 | 0.92 | 0.29 | 109,109,109,109 | 0 |
| 58 | MG | 1H | 3374 | 1/1 | 0.92 | 0.13 | 77,77,77,77 | 0 |
| 58 | MG | 14 | 3415 | 1/1 | 0.92 | 0.07 | 126,126,126,126 | 0 |
| 58 | MG | 14 | 3153 | 1/1 | 0.92 | 0.51 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3418 | 1/1 | 0.92 | 0.08 | 88,88,88,88 | 0 |
| 58 | MG | I8 | 101 | 1/1 | 0.92 | 0.42 | 70,70,70,70 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 13 | 1697 | 1/1 | 0.92 | 0.51 | 98,98,98,98 | 0 |
| 58 | MG | 14 | 3061 | 1/1 | 0.92 | 0.12 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3205 | 1/1 | 0.92 | 0.15 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3122 | 1/1 | 0.92 | 0.15 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3184 | 1/1 | 0.92 | 0.76 | 94,94,94,94 | 0 |
| 58 | MG | 13 | 1619 | 1/1 | 0.92 | 0.26 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3253 | 1/1 | 0.92 | 0.45 | 84,84,84,84 | 0 |
| 58 | MG | 13 | 1630 | 1/1 | 0.92 | 0.14 | 74,74,74,74 | 0 |
| 58 | MG | 45 | 201 | 1/1 | 0.92 | 0.27 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3028 | 1/1 | 0.92 | 0.44 | 82,82,82,82 | 0 |
| 58 | MG | 1H | 3127 | 1/1 | 0.92 | 0.34 | 79,79,79,79 | 0 |
| 58 | MG | 55 | 201 | 1/1 | 0.92 | 0.28 | 96,96,96,96 | 0 |
| 58 | MG | 13 | 1732 | 1/1 | 0.92 | 0.14 | 127,127,127,127 | 0 |
| 58 | MG | 14 | 3228 | 1/1 | 0.92 | 0.29 | 96,96,96,96 | 0 |
| 58 | MG | 3I | 201 | 1/1 | 0.92 | 0.19 | 87,87,87,87 | 0 |
| 58 | MG | 13 | 1645 | 1/1 | 0.92 | 0.38 | 113,113,113,113 | 0 |
| 58 | MG | 1H | 3115 | 1/1 | 0.92 | 0.26 | 70,70,70,70 | 0 |
| 58 | MG | 1H | 3233 | 1/1 | 0.92 | 0.19 | 93,93,93,93 | 0 |
| 58 | MG | 13 | 1633 | 1/1 | 0.93 | 0.57 | 88,88,88,88 | 0 |
| 58 | MG | 13 | 1620 | 1/1 | 0.93 | 0.24 | 117,117,117,117 | 0 |
| 58 | MG | 1H | 3238 | 1/1 | 0.93 | 0.24 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3043 | 1/1 | 0.93 | 0.31 | 75,75,75,75 | 0 |
| 58 | MG | 1H | 3048 | 1/1 | 0.93 | 0.36 | 80,80,80,80 | 0 |
| 58 | MG | 14 | 3238 | 1/1 | 0.93 | 0.70 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3271 | 1/1 | 0.93 | 0.58 | 87,87,87,87 | 0 |
| 58 | MG | 1H | 3083 | 1/1 | 0.93 | 0.27 | 74,74,74,74 | 0 |
| 58 | MG | 14 | 3244 | 1/1 | 0.93 | 0.12 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3482 | 1/1 | 0.93 | 0.06 | 119,119,119,119 | 0 |
| 58 | MG | 14 | 3318 | 1/1 | 0.93 | 0.30 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3335 | 1/1 | 0.93 | 0.16 | 100,100,100,100 | 0 |
| 58 | MG | 1G | 1642 | 1/1 | 0.93 | 0.44 | 114,114,114,114 | 0 |
| 58 | MG | 1H | 3306 | 1/1 | 0.93 | 0.42 | 77,77,77,77 | 0 |
| 58 | MG | 1H | 3244 | 1/1 | 0.93 | 0.47 | 103,103,103,103 | 0 |
| 58 | MG | 13 | 1611 | 1/1 | 0.93 | 0.22 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3113 | 1/1 | 0.93 | 0.15 | 59,59,59,59 | 0 |
| 58 | MG | 14 | 3164 | 1/1 | 0.93 | 0.31 | 93,93,93,93 | 0 |
| 58 | MG | 14 | 3044 | 1/1 | 0.93 | 0.28 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3310 | 1/1 | 0.93 | 0.54 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3167 | 1/1 | 0.93 | 0.21 | 105,105,105,105 | 0 |
| 58 | MG | 13 | 1636 | 1/1 | 0.93 | 0.10 | 123,123,123,123 | 0 |
| 58 | MG | 1H | 3191 | 1/1 | 0.93 | 0.36 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3063 | 1/1 | 0.93 | 0.44 | 57,57,57,57 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 14 | 3057 | 1/1 | 0.93 | 0.22 | 119,119,119,119 | 0 |
| 58 | MG | 1H | 3222 | 1/1 | 0.93 | 0.25 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3225 | 1/1 | 0.93 | 0.33 | 70,70,70,70 | 0 |
| 58 | MG | 1H | 3090 | 1/1 | 0.93 | 0.43 | 76,76,76,76 | 0 |
| 58 | MG | 1H | 3255 | 1/1 | 0.93 | 0.79 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3067 | 1/1 | 0.93 | 0.27 | 100,100,100,100 | 0 |
| 58 | MG | 13 | 1655 | 1/1 | 0.93 | 0.08 | 106,106,106,106 | 0 |
| 58 | MG | 14 | 3351 | 1/1 | 0.93 | 0.06 | 80,80,80,80 | 0 |
| 58 | MG | 14 | 3072 | 1/1 | 0.93 | 0.35 | 84,84,84,84 | 0 |
| 58 | MG | 78 | 201 | 1/1 | 0.93 | 0.26 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3197 | 1/1 | 0.93 | 0.49 | 68,68,68,68 | 0 |
| 58 | MG | 1H | 3258 | 1/1 | 0.93 | 0.33 | 99,99,99,99 | 0 |
| 58 | MG | J8 | 102 | 1/1 | 0.93 | 0.46 | 77,77,77,77 | 0 |
| 58 | MG | 1G | 1665 | 1/1 | 0.93 | 0.33 | 122,122,122,122 | 0 |
| 58 | MG | 14 | 3397 | 1/1 | 0.93 | 0.09 | 103,103,103,103 | 0 |
| 58 | MG | 13 | 1647 | 1/1 | 0.93 | 0.28 | 108,108,108,108 | 0 |
| 58 | MG | 1H | 3353 | 1/1 | 0.93 | 0.53 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3105 | 1/1 | 0.93 | 0.84 | 110,110,110,110 | 0 |
| 58 | MG | 1H | 3260 | 1/1 | 0.93 | 1.54 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3413 | 1/1 | 0.93 | 0.04 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3291 | 1/1 | 0.93 | 0.64 | 116,116,116,116 | 0 |
| 58 | MG | 14 | 3416 | 1/1 | 0.93 | 0.04 | 124,124,124,124 | 0 |
| 58 | MG | 14 | 3281 | 1/1 | 0.93 | 0.91 | 103,103,103,103 | 0 |
| 58 | MG | 1H | 3070 | 1/1 | 0.93 | 0.45 | 100,100,100,100 | 0 |
| 58 | MG | 14 | 3111 | 1/1 | 0.93 | 0.55 | 82,82,82,82 | 0 |
| 58 | MG | 14 | 3113 | 1/1 | 0.93 | 0.49 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3115 | 1/1 | 0.93 | 0.33 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3396 | 1/1 | 0.93 | 0.06 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3096 | 1/1 | 0.93 | 0.32 | 76,76,76,76 | 0 |
| 58 | MG | 14 | 3206 | 1/1 | 0.93 | 0.09 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3411 | 1/1 | 0.93 | 0.16 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3420 | 1/1 | 0.93 | 0.11 | 81,81,81,81 | 0 |
| 58 | MG | 14 | 3213 | 1/1 | 0.93 | 0.27 | 114,114,114,114 | 0 |
| 58 | MG | 1G | 1620 | 1/1 | 0.93 | 0.58 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3432 | 1/1 | 0.93 | 0.12 | 111,111,111,111 | 0 |
| 58 | MG | 14 | 3218 | 1/1 | 0.93 | 0.15 | 97,97,97,97 | 0 |
| 58 | MG | 14 | 3134 | 1/1 | 0.93 | 0.39 | 100,100,100,100 | 0 |
| 58 | MG | 1H | 3433 | 1/1 | 0.93 | 0.28 | 113,113,113,113 | 0 |
| 58 | MG | 1H | 3438 | 1/1 | 0.93 | 0.10 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3225 | 1/1 | 0.93 | 0.46 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3445 | 1/1 | 0.93 | 0.17 | 71,71,71,71 | 0 |
| 58 | MG | 1H | 3450 | 1/1 | 0.93 | 0.17 | 75,75,75,75 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 13 | 1631 | 1/1 | 0.93 | 0.27 | 82,82,82,82 | 0 |
| 58 | MG | 16 | 202 | 1/1 | 0.94 | 0.18 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3144 | 1/1 | 0.94 | 0.17 | 112,112,112,112 | 0 |
| 58 | MG | 1H | 3068 | 1/1 | 0.94 | 0.45 | 70,70,70,70 | 0 |
| 58 | MG | 14 | 3147 | 1/1 | 0.94 | 0.34 | 110,110,110,110 | 0 |
| 58 | MG | 1H | 3409 | 1/1 | 0.94 | 0.12 | 85,85,85,85 | 0 |
| 58 | MG | 1H | 3410 | 1/1 | 0.94 | 0.08 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3114 | 1/1 | 0.94 | 0.15 | 77,77,77,77 | 0 |
| 58 | MG | 1H | 3300 | 1/1 | 0.94 | 0.86 | 99,99,99,99 | 0 |
| 58 | MG | 14 | 3060 | 1/1 | 0.94 | 0.08 | 103,103,103,103 | 0 |
| 58 | MG | 1G | 1678 | 1/1 | 0.94 | 0.14 | 119,119,119,119 | 0 |
| 58 | MG | 14 | 3212 | 1/1 | 0.94 | 0.17 | 105,105,105,105 | 0 |
| 58 | MG | 1H | 3429 | 1/1 | 0.94 | 0.14 | 82,82,82,82 | 0 |
| 58 | MG | 1H | 3431 | 1/1 | 0.94 | 0.10 | 111,111,111,111 | 0 |
| 58 | MG | 1H | 3190 | 1/1 | 0.94 | 0.24 | 108,108,108,108 | 0 |
| 58 | MG | 14 | 3338 | 1/1 | 0.94 | 0.07 | 114,114,114,114 | 0 |
| 58 | MG | 1H | 3160 | 1/1 | 0.94 | 0.40 | 88,88,88,88 | 0 |
| 58 | MG | 14 | 3340 | 1/1 | 0.94 | 0.22 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3219 | 1/1 | 0.94 | 0.23 | 83,83,83,83 | 0 |
| 58 | MG | 14 | 3158 | 1/1 | 0.94 | 0.36 | 92,92,92,92 | 0 |
| 58 | MG | 13 | 1665 | 1/1 | 0.94 | 0.10 | 105,105,105,105 | 0 |
| 58 | MG | 14 | 3353 | 1/1 | 0.94 | 0.11 | 73,73,73,73 | 0 |
| 58 | MG | 14 | 3358 | 1/1 | 0.94 | 0.17 | 107,107,107,107 | 0 |
| 58 | MG | 14 | 3006 | 1/1 | 0.94 | 0.29 | 72,72,72,72 | 0 |
| 58 | MG | 14 | 3368 | 1/1 | 0.94 | 0.15 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3083 | 1/1 | 0.94 | 0.28 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3285 | 1/1 | 0.94 | 0.21 | 77,77,77,77 | 0 |
| 58 | MG | 1H | 3193 | 1/1 | 0.94 | 0.40 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3194 | 1/1 | 0.94 | 0.24 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3086 | 1/1 | 0.94 | 0.71 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3289 | 1/1 | 0.94 | 0.34 | 116,116,116,116 | 0 |
| 58 | MG | 14 | 3230 | 1/1 | 0.94 | 0.15 | 122,122,122,122 | 0 |
| 58 | MG | 1H | 3451 | 1/1 | 0.94 | 0.20 | 85,85,85,85 | 0 |
| 58 | MG | 1H | 3150 | 1/1 | 0.94 | 0.40 | 63,63,63,63 | 0 |
| 58 | MG | 14 | 3094 | 1/1 | 0.94 | 0.55 | 82,82,82,82 | 0 |
| 58 | MG | 1H | 3459 | 1/1 | 0.94 | 0.25 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3170 | 1/1 | 0.94 | 0.29 | 119,119,119,119 | 0 |
| 58 | MG | 14 | 3237 | 1/1 | 0.94 | 0.21 | 181,181,181,181 | 0 |
| 58 | MG | 14 | 3104 | 1/1 | 0.94 | 0.38 | 78,78,78,78 | 0 |
| 58 | MG | 1H | 3055 | 1/1 | 0.94 | 0.17 | 74,74,74,74 | 0 |
| 58 | MG | 1H | 3218 | 1/1 | 0.94 | 0.17 | 68,68,68,68 | 0 |
| 58 | MG | 1H | 3469 | 1/1 | 0.94 | 0.24 | 124,124,124,124 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 1H | 3058 | 1/1 | 0.94 | 0.15 | 76,76,76,76 | 0 |
| 58 | MG | 1H | 3329 | 1/1 | 0.94 | 0.10 | 105,105,105,105 | 0 |
| 58 | MG | 1G | 1654 | 1/1 | 0.94 | 0.25 | 110,110,110,110 | 0 |
| 58 | MG | 1H | 3477 | 1/1 | 0.94 | 0.05 | 114,114,114,114 | 0 |
| 58 | MG | 14 | 3180 | 1/1 | 0.94 | 0.34 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3059 | 1/1 | 0.94 | 0.12 | 110,110,110,110 | 0 |
| 58 | MG | 1H | 3130 | 1/1 | 0.94 | 0.36 | 79,79,79,79 | 0 |
| 58 | MG | 13 | 1671 | 1/1 | 0.94 | 0.20 | 107,107,107,107 | 0 |
| 58 | MG | 1H | 3203 | 1/1 | 0.94 | 0.22 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3006 | 1/1 | 0.94 | 0.27 | 71,71,71,71 | 0 |
| 58 | MG | 14 | 3256 | 1/1 | 0.94 | 0.28 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3188 | 1/1 | 0.94 | 1.22 | 93,93,93,93 | 0 |
| 58 | MG | 1H | 3273 | 1/1 | 0.94 | 0.18 | 85,85,85,85 | 0 |
| 58 | MG | 14 | 3041 | 1/1 | 0.94 | 0.39 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3385 | 1/1 | 0.94 | 0.07 | 91,91,91,91 | 0 |
| 58 | MG | 13 | 1667 | 1/1 | 0.94 | 0.58 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3050 | 1/1 | 0.94 | 0.12 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3204 | 1/1 | 0.95 | 0.25 | 73,73,73,73 | 0 |
| 58 | MG | 14 | 3329 | 1/1 | 0.95 | 1.16 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3171 | 1/1 | 0.95 | 0.79 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3172 | 1/1 | 0.95 | 0.30 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3223 | 1/1 | 0.95 | 0.22 | 96,96,96,96 | 0 |
| 58 | MG | 13 | 1730 | 1/1 | 0.95 | 0.10 | 108,108,108,108 | 0 |
| 58 | MG | 14 | 3211 | 1/1 | 0.95 | 0.21 | 78,78,78,78 | 0 |
| 58 | MG | 13 | 1640 | 1/1 | 0.95 | 0.71 | 73,73,73,73 | 0 |
| 58 | MG | 1H | 3430 | 1/1 | 0.95 | 0.08 | 81,81,81,81 | 0 |
| 58 | MG | 2L | 103 | 1/1 | 0.95 | 0.51 | 128,128,128,128 | 0 |
| 58 | MG | 14 | 3069 | 1/1 | 0.95 | 0.32 | 106,106,106,106 | 0 |
| 58 | MG | 14 | 3070 | 1/1 | 0.95 | 0.16 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3001 | 1/1 | 0.95 | 0.93 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3022 | 1/1 | 0.95 | 0.35 | 69,69,69,69 | 0 |
| 58 | MG | 1H | 3118 | 1/1 | 0.95 | 0.60 | 104,104,104,104 | 0 |
| 58 | MG | 14 | 3347 | 1/1 | 0.95 | 0.05 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3348 | 1/1 | 0.95 | 0.11 | 86,86,86,86 | 0 |
| 58 | MG | 14 | 3161 | 1/1 | 0.95 | 0.54 | 80,80,80,80 | 0 |
| 58 | MG | 13 | 1685 | 1/1 | 0.95 | 0.39 | 107,107,107,107 | 0 |
| 58 | MG | 13 | 1658 | 1/1 | 0.95 | 0.58 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3179 | 1/1 | 0.95 | 0.37 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3001 | 1/1 | 0.95 | 0.43 | 66,66,66,66 | 0 |
| 58 | MG | 14 | 3088 | 1/1 | 0.95 | 0.40 | 78,78,78,78 | 0 |
| 58 | MG | 13 | 1737 | 1/1 | 0.95 | 0.04 | 116,116,116,116 | 0 |
| 58 | MG | 1H | 3453 | 1/1 | 0.95 | 0.08 | 93,93,93,93 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 14 | 3377 | 1/1 | 0.95 | 0.05 | 106,106,106,106 | 0 |
| 58 | MG | 14 | 3378 | 1/1 | 0.95 | 0.09 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3042 | 1/1 | 0.95 | 0.34 | 59,59,59,59 | 0 |
| 58 | MG | 13 | 1642 | 1/1 | 0.95 | 0.47 | 104,104,104,104 | 0 |
| 58 | MG | 14 | 3390 | 1/1 | 0.95 | 0.08 | 114,114,114,114 | 0 |
| 58 | MG | 14 | 3395 | 1/1 | 0.95 | 0.06 | 85,85,85,85 | 0 |
| 58 | MG | 14 | 3102 | 1/1 | 0.95 | 0.25 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3293 | 1/1 | 0.95 | 0.30 | 94,94,94,94 | 0 |
| 58 | MG | 1G | 1603 | 1/1 | 0.95 | 0.57 | 132,132,132,132 | 0 |
| 58 | MG | 14 | 3407 | 1/1 | 0.95 | 0.07 | 121,121,121,121 | 0 |
| 58 | MG | 1H | 3239 | 1/1 | 0.95 | 0.25 | 71,71,71,71 | 0 |
| 58 | MG | 14 | 3241 | 1/1 | 0.95 | 0.47 | 115,115,115,115 | 0 |
| 58 | MG | 13 | 1713 | 1/1 | 0.95 | 0.05 | 117,117,117,117 | 0 |
| 58 | MG | 1H | 3268 | 1/1 | 0.95 | 0.55 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3053 | 1/1 | 0.95 | 0.17 | 81,81,81,81 | 0 |
| 58 | MG | 14 | 3112 | 1/1 | 0.95 | 0.10 | 108,108,108,108 | 0 |
| 58 | MG | 1G | 1613 | 1/1 | 0.95 | 0.28 | 114,114,114,114 | 0 |
| 58 | MG | 13 | 1716 | 1/1 | 0.95 | 0.10 | 108,108,108,108 | 0 |
| 58 | MG | 1G | 1615 | 1/1 | 0.95 | 0.22 | 142,142,142,142 | 0 |
| 58 | MG | 14 | 3119 | 1/1 | 0.95 | 0.27 | 83,83,83,83 | 0 |
| 58 | MG | 1J | 203 | 1/1 | 0.95 | 0.33 | 124,124,124,124 | 0 |
| 58 | MG | 1H | 3111 | 1/1 | 0.95 | 0.28 | 64,64,64,64 | 0 |
| 58 | MG | 14 | 3033 | 1/1 | 0.95 | 0.79 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3187 | 1/1 | 0.95 | 0.30 | 96,96,96,96 | 0 |
| 58 | MG | 13 | 1651 | 1/1 | 0.95 | 0.31 | 96,96,96,96 | 0 |
| 58 | MG | 1H | 3363 | 1/1 | 0.95 | 0.21 | 81,81,81,81 | 0 |
| 58 | MG | 14 | 3043 | 1/1 | 0.95 | 0.38 | 69,69,69,69 | 0 |
| 58 | MG | 1H | 3214 | 1/1 | 0.95 | 0.28 | 65,65,65,65 | 0 |
| 58 | MG | 1H | 3375 | 1/1 | 0.95 | 0.16 | 81,81,81,81 | 0 |
| 58 | MG | 14 | 3048 | 1/1 | 0.95 | 0.21 | 90,90,90,90 | 0 |
| 58 | MG | 1G | 1625 | 1/1 | 0.95 | 0.26 | 136,136,136,136 | 0 |
| 58 | MG | 1H | 3057 | 1/1 | 0.95 | 0.27 | 75,75,75,75 | 0 |
| 58 | MG | 14 | 3052 | 1/1 | 0.95 | 0.14 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3249 | 1/1 | 0.95 | 0.15 | 83,83,83,83 | 0 |
| 58 | MG | 1G | 1629 | 1/1 | 0.95 | 0.34 | 121,121,121,121 | 0 |
| 58 | MG | 13 | 1700 | 1/1 | 0.95 | 0.07 | 123,123,123,123 | 0 |
| 58 | MG | 14 | 3203 | 1/1 | 0.95 | 0.28 | 84,84,84,84 | 0 |
| 58 | MG | 1H | 3283 | 1/1 | 0.96 | 1.29 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3236 | 1/1 | 0.96 | 0.09 | 121,121,121,121 | 0 |
| 58 | MG | 1H | 3060 | 1/1 | 0.96 | 0.57 | 111,111,111,111 | 0 |
| 58 | MG | 1H | 3061 | 1/1 | 0.96 | 0.84 | 79,79,79,79 | 0 |
| 58 | MG | 14 | 3239 | 1/1 | 0.96 | 0.67 | 90,90,90,90 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 1H | 3452 | 1/1 | 0.96 | 0.21 | 102,102,102,102 | 0 |
| 58 | MG | 1G | 1672 | 1/1 | 0.96 | 0.05 | 115,115,115,115 | 0 |
| 58 | MG | 1H | 3228 | 1/1 | 0.96 | 0.80 | 74,74,74,74 | 0 |
| 58 | MG | 13 | 1639 | 1/1 | 0.96 | 0.24 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3079 | 1/1 | 0.96 | 0.25 | 87,87,87,87 | 0 |
| 58 | MG | 1H | 3200 | 1/1 | 0.96 | 0.29 | 79,79,79,79 | 0 |
| 58 | MG | 1G | 1617 | 1/1 | 0.96 | 0.05 | 159,159,159,159 | 0 |
| 58 | MG | 14 | 3326 | 1/1 | 0.96 | 0.65 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3460 | 1/1 | 0.96 | 0.19 | 86,86,86,86 | 0 |
| 58 | MG | 14 | 3249 | 1/1 | 0.96 | 0.06 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3463 | 1/1 | 0.96 | 0.19 | 103,103,103,103 | 0 |
| 58 | MG | 1H | 3201 | 1/1 | 0.96 | 0.73 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3040 | 1/1 | 0.96 | 0.41 | 71,71,71,71 | 0 |
| 58 | MG | 14 | 3087 | 1/1 | 0.96 | 0.42 | 68,68,68,68 | 0 |
| 58 | MG | 1G | 1624 | 1/1 | 0.96 | 0.58 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3005 | 1/1 | 0.96 | 0.33 | 79,79,79,79 | 0 |
| 58 | MG | 13 | 1720 | 1/1 | 0.96 | 0.06 | 126,126,126,126 | 0 |
| 58 | MG | 1H | 3352 | 1/1 | 0.96 | 0.27 | 75,75,75,75 | 0 |
| 58 | MG | 14 | 3098 | 1/1 | 0.96 | 0.34 | 86,86,86,86 | 0 |
| 58 | MG | 14 | 3099 | 1/1 | 0.96 | 0.25 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3236 | 1/1 | 0.96 | 0.19 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3008 | 1/1 | 0.96 | 0.39 | 77,77,77,77 | 0 |
| 58 | MG | 14 | 3009 | 1/1 | 0.96 | 0.51 | 74,74,74,74 | 0 |
| 58 | MG | 14 | 3184 | 1/1 | 0.96 | 0.26 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3011 | 1/1 | 0.96 | 0.56 | 85,85,85,85 | 0 |
| 58 | MG | 14 | 3265 | 1/1 | 0.96 | 0.14 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3106 | 1/1 | 0.96 | 0.36 | 85,85,85,85 | 0 |
| 58 | MG | 1H | 3182 | 1/1 | 0.96 | 0.52 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3355 | 1/1 | 0.96 | 0.07 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3296 | 1/1 | 0.96 | 0.89 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3266 | 1/1 | 0.96 | 0.29 | 65,65,65,65 | 0 |
| 58 | MG | 14 | 3367 | 1/1 | 0.96 | 0.07 | 86,86,86,86 | 0 |
| 58 | MG | 14 | 3190 | 1/1 | 0.96 | 0.22 | 91,91,91,91 | 0 |
| 58 | MG | 1H | 3372 | 1/1 | 0.96 | 0.07 | 73,73,73,73 | 0 |
| 58 | MG | 1H | 3047 | 1/1 | 0.96 | 0.56 | 71,71,71,71 | 0 |
| 58 | MG | 14 | 3193 | 1/1 | 0.96 | 0.58 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3485 | 1/1 | 0.96 | 0.15 | 83,83,83,83 | 0 |
| 58 | MG | 14 | 3114 | 1/1 | 0.96 | 0.57 | 66,66,66,66 | 0 |
| 58 | MG | 14 | 3379 | 1/1 | 0.96 | 0.04 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3380 | 1/1 | 0.96 | 0.08 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3097 | 1/1 | 0.96 | 0.43 | 72,72,72,72 | 0 |
| 58 | MG | 14 | 3116 | 1/1 | 0.96 | 0.45 | 75,75,75,75 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 14 | 3386 | 1/1 | 0.96 | 0.13 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3378 | 1/1 | 0.96 | 0.10 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3099 | 1/1 | 0.96 | 0.45 | 74,74,74,74 | 0 |
| 58 | MG | 16 | 201 | 1/1 | 0.96 | 0.11 | 114,114,114,114 | 0 |
| 58 | MG | 1H | 3390 | 1/1 | 0.96 | 0.12 | 74,74,74,74 | 0 |
| 58 | MG | 1H | 3392 | 1/1 | 0.96 | 0.17 | 81,81,81,81 | 0 |
| 58 | MG | 14 | 3406 | 1/1 | 0.96 | 0.06 | 121,121,121,121 | 0 |
| 58 | MG | 14 | 3124 | 1/1 | 0.96 | 0.47 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3021 | 1/1 | 0.96 | 0.36 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3165 | 1/1 | 0.96 | 0.43 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3405 | 1/1 | 0.96 | 0.19 | 75,75,75,75 | 0 |
| 58 | MG | 14 | 3136 | 1/1 | 0.96 | 0.42 | 93,93,93,93 | 0 |
| 58 | MG | 14 | 3209 | 1/1 | 0.96 | 0.31 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3007 | 1/1 | 0.96 | 0.31 | 65,65,65,65 | 0 |
| 58 | MG | 1H | 3103 | 1/1 | 0.96 | 0.57 | 72,72,72,72 | 0 |
| 58 | MG | 1H | 3104 | 1/1 | 0.96 | 0.31 | 66,66,66,66 | 0 |
| 58 | MG | 14 | 3040 | 1/1 | 0.96 | 0.40 | 72,72,72,72 | 0 |
| 58 | MG | 1H | 3412 | 1/1 | 0.96 | 0.06 | 84,84,84,84 | 0 |
| 58 | MG | 14 | 3145 | 1/1 | 0.96 | 0.26 | 76,76,76,76 | 0 |
| 58 | MG | 1H | 3009 | 1/1 | 0.96 | 0.27 | 98,98,98,98 | 0 |
| 58 | MG | 13 | 1721 | 1/1 | 0.96 | 0.05 | 100,100,100,100 | 0 |
| 58 | MG | 14 | 3222 | 1/1 | 0.96 | 0.82 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3056 | 1/1 | 0.96 | 0.22 | 89,89,89,89 | 0 |
| 58 | MG | C8 | 201 | 1/1 | 0.96 | 0.20 | 74,74,74,74 | 0 |
| 58 | MG | 1H | 3219 | 1/1 | 0.96 | 0.16 | 120,120,120,120 | 0 |
| 58 | MG | 1G | 1657 | 1/1 | 0.96 | 0.16 | 163,163,163,163 | 0 |
| 58 | MG | 13 | 1610 | 1/1 | 0.96 | 0.30 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3306 | 1/1 | 0.96 | 0.20 | 129,129,129,129 | 0 |
| 58 | MG | 14 | 3307 | 1/1 | 0.96 | 0.10 | 80,80,80,80 | 0 |
| 58 | MG | 13 | 1605 | 1/1 | 0.96 | 0.20 | 134,134,134,134 | 0 |
| 58 | MG | 1H | 3434 | 1/1 | 0.96 | 0.13 | 82,82,82,82 | 0 |
| 58 | MG | 13 | 1646 | 1/1 | 0.96 | 0.24 | 129,129,129,129 | 0 |
| 58 | MG | 1H | 3439 | 1/1 | 0.96 | 0.14 | 72,72,72,72 | 0 |
| 58 | MG | 1H | 3444 | 1/1 | 0.96 | 0.13 | 85,85,85,85 | 0 |
| 60 | ZN | G8 | 201 | 1/1 | 0.96 | 0.05 | 171,171,171,171 | 0 |
| 58 | MG | 1G | 1608 | 1/1 | 0.96 | 0.20 | 119,119,119,119 | 0 |
| 58 | MG | 1G | 1663 | 1/1 | 0.97 | 0.44 | 133,133,133,133 | 0 |
| 58 | MG | 1H | 3079 | 1/1 | 0.97 | 0.45 | 68,68,68,68 | 0 |
| 58 | MG | 1H | 3415 | 1/1 | 0.97 | 0.17 | 90,90,90,90 | 0 |
| 58 | MG | 14 | 3198 | 1/1 | 0.97 | 0.16 | 109,109,109,109 | 0 |
| 58 | MG | 16 | 210 | 1/1 | 0.97 | 0.08 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3093 | 1/1 | 0.97 | 0.64 | 71,71,71,71 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 16 | 211 | 1/1 | 0.97 | 0.12 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3095 | 1/1 | 0.97 | 0.71 | 75,75,75,75 | 0 |
| 58 | MG | 16 | 212 | 1/1 | 0.97 | 0.11 | 104,104,104,104 | 0 |
| 58 | MG | 1H | 3417 | 1/1 | 0.97 | 0.10 | 77,77,77,77 | 0 |
| 58 | MG | 1G | 1670 | 1/1 | 0.97 | 0.05 | 112,112,112,112 | 0 |
| 58 | MG | 1H | 3418 | 1/1 | 0.97 | 0.10 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3419 | 1/1 | 0.97 | 0.09 | 76,76,76,76 | 0 |
| 58 | MG | 1H | 3081 | 1/1 | 0.97 | 0.21 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3421 | 1/1 | 0.97 | 0.04 | 129,129,129,129 | 0 |
| 58 | MG | 1H | 3423 | 1/1 | 0.97 | 0.20 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3425 | 1/1 | 0.97 | 0.12 | 77,77,77,77 | 0 |
| 58 | MG | 1H | 3427 | 1/1 | 0.97 | 0.03 | 106,106,106,106 | 0 |
| 58 | MG | P8 | 101 | 1/1 | 0.97 | 0.12 | 101,101,101,101 | 0 |
| 58 | MG | 14 | 3215 | 1/1 | 0.97 | 0.37 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3216 | 1/1 | 0.97 | 0.28 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3428 | 1/1 | 0.97 | 0.21 | 89,89,89,89 | 0 |
| 58 | MG | 13 | 1741 | 1/1 | 0.97 | 0.17 | 88,88,88,88 | 0 |
| 58 | MG | 14 | 3003 | 1/1 | 0.97 | 0.34 | 76,76,76,76 | 0 |
| 58 | MG | 13 | 1602 | 1/1 | 0.97 | 0.35 | 98,98,98,98 | 0 |
| 58 | MG | 1H | 3008 | 1/1 | 0.97 | 0.36 | 99,99,99,99 | 0 |
| 58 | MG | 1G | 1606 | 1/1 | 0.97 | 0.53 | 93,93,93,93 | 0 |
| 58 | MG | 14 | 3118 | 1/1 | 0.97 | 0.26 | 73,73,73,73 | 0 |
| 58 | MG | 1G | 1607 | 1/1 | 0.97 | 0.18 | 109,109,109,109 | 0 |
| 58 | MG | 14 | 3226 | 1/1 | 0.97 | 0.28 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3088 | 1/1 | 0.97 | 0.22 | 81,81,81,81 | 0 |
| 58 | MG | 14 | 3121 | 1/1 | 0.97 | 0.39 | 69,69,69,69 | 0 |
| 58 | MG | 13 | 1664 | 1/1 | 0.97 | 0.08 | 105,105,105,105 | 0 |
| 58 | MG | 1G | 1610 | 1/1 | 0.97 | 0.31 | 118,118,118,118 | 0 |
| 58 | MG | 13 | 1675 | 1/1 | 0.97 | 0.29 | 149,149,149,149 | 0 |
| 58 | MG | 14 | 3128 | 1/1 | 0.97 | 0.58 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3436 | 1/1 | 0.97 | 0.10 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3130 | 1/1 | 0.97 | 0.28 | 93,93,93,93 | 0 |
| 58 | MG | 14 | 3016 | 1/1 | 0.97 | 0.43 | 68,68,68,68 | 0 |
| 58 | MG | 14 | 3017 | 1/1 | 0.97 | 0.42 | 68,68,68,68 | 0 |
| 58 | MG | 14 | 3135 | 1/1 | 0.97 | 0.28 | 115,115,115,115 | 0 |
| 58 | MG | 1H | 3437 | 1/1 | 0.97 | 0.06 | 85,85,85,85 | 0 |
| 58 | MG | 1H | 3241 | 1/1 | 0.97 | 0.08 | 100,100,100,100 | 0 |
| 58 | MG | 1H | 3041 | 1/1 | 0.97 | 0.29 | 73,73,73,73 | 0 |
| 58 | MG | 1H | 3442 | 1/1 | 0.97 | 0.25 | 63,63,63,63 | 0 |
| 58 | MG | 13 | 1719 | 1/1 | 0.97 | 0.14 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3243 | 1/1 | 0.97 | 0.24 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3350 | 1/1 | 0.97 | 0.04 | 116,116,116,116 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 1H | 3094 | 1/1 | 0.97 | 0.35 | 77,77,77,77 | 0 |
| 58 | MG | 1H | 3446 | 1/1 | 0.97 | 0.11 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3180 | 1/1 | 0.97 | 0.13 | 97,97,97,97 | 0 |
| 58 | MG | 1G | 1622 | 1/1 | 0.97 | 0.46 | 103,103,103,103 | 0 |
| 58 | MG | 14 | 3365 | 1/1 | 0.97 | 0.09 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3027 | 1/1 | 0.97 | 0.45 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3210 | 1/1 | 0.97 | 0.47 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3064 | 1/1 | 0.97 | 0.26 | 82,82,82,82 | 0 |
| 58 | MG | 1H | 3065 | 1/1 | 0.97 | 0.34 | 77,77,77,77 | 0 |
| 58 | MG | 1H | 3454 | 1/1 | 0.97 | 0.25 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3373 | 1/1 | 0.97 | 0.14 | 86,86,86,86 | 0 |
| 58 | MG | 13 | 1607 | 1/1 | 0.97 | 0.23 | 101,101,101,101 | 0 |
| 58 | MG | 1H | 3125 | 1/1 | 0.97 | 0.38 | 75,75,75,75 | 0 |
| 58 | MG | 1H | 3044 | 1/1 | 0.97 | 0.36 | 68,68,68,68 | 0 |
| 58 | MG | 14 | 3038 | 1/1 | 0.97 | 0.35 | 67,67,67,67 | 0 |
| 58 | MG | 1H | 3462 | 1/1 | 0.97 | 0.15 | 90,90,90,90 | 0 |
| 58 | MG | 13 | 1643 | 1/1 | 0.97 | 0.35 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3464 | 1/1 | 0.97 | 0.10 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3385 | 1/1 | 0.97 | 0.05 | 92,92,92,92 | 0 |
| 58 | MG | 1H | 3361 | 1/1 | 0.97 | 0.18 | 72,72,72,72 | 0 |
| 58 | MG | 1H | 3467 | 1/1 | 0.97 | 0.12 | 115,115,115,115 | 0 |
| 58 | MG | 14 | 3394 | 1/1 | 0.97 | 0.20 | 88,88,88,88 | 0 |
| 58 | MG | 14 | 3046 | 1/1 | 0.97 | 0.26 | 86,86,86,86 | 0 |
| 58 | MG | 14 | 3047 | 1/1 | 0.97 | 0.17 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3402 | 1/1 | 0.97 | 0.14 | 83,83,83,83 | 0 |
| 58 | MG | 14 | 3403 | 1/1 | 0.97 | 0.18 | 114,114,114,114 | 0 |
| 58 | MG | 1H | 3015 | 1/1 | 0.97 | 0.96 | 77,77,77,77 | 0 |
| 58 | MG | 1H | 3365 | 1/1 | 0.97 | 0.17 | 64,64,64,64 | 0 |
| 58 | MG | 1H | 3102 | 1/1 | 0.97 | 0.71 | 73,73,73,73 | 0 |
| 58 | MG | 1H | 3220 | 1/1 | 0.97 | 0.26 | 115,115,115,115 | 0 |
| 58 | MG | 14 | 3410 | 1/1 | 0.97 | 0.09 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3268 | 1/1 | 0.97 | 0.30 | 84,84,84,84 | 0 |
| 58 | MG | 1H | 3474 | 1/1 | 0.97 | 0.05 | 110,110,110,110 | 0 |
| 58 | MG | 1H | 3476 | 1/1 | 0.97 | 0.03 | 122,122,122,122 | 0 |
| 58 | MG | 14 | 3414 | 1/1 | 0.97 | 0.15 | 108,108,108,108 | 0 |
| 58 | MG | 1H | 3052 | 1/1 | 0.97 | 0.27 | 69,69,69,69 | 0 |
| 58 | MG | 1H | 3478 | 1/1 | 0.97 | 0.06 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3172 | 1/1 | 0.97 | 0.23 | 75,75,75,75 | 0 |
| 58 | MG | 13 | 1622 | 1/1 | 0.97 | 0.30 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3380 | 1/1 | 0.97 | 0.10 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3381 | 1/1 | 0.97 | 0.15 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3002 | 1/1 | 0.97 | 0.45 | 64,64,64,64 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 14 | 3063 | 1/1 | 0.97 | 0.41 | 79,79,79,79 | 0 |
| 58 | MG | 14 | 3065 | 1/1 | 0.97 | 0.27 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3386 | 1/1 | 0.97 | 0.06 | 109,109,109,109 | 0 |
| 58 | MG | 1H | 3294 | 1/1 | 0.97 | 0.09 | 103,103,103,103 | 0 |
| 58 | MG | 1H | 3106 | 1/1 | 0.97 | 0.10 | 82,82,82,82 | 0 |
| 58 | MG | 1H | 3394 | 1/1 | 0.97 | 0.07 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3071 | 1/1 | 0.97 | 0.34 | 69,69,69,69 | 0 |
| 58 | MG | 1H | 3135 | 1/1 | 0.97 | 0.12 | 69,69,69,69 | 0 |
| 58 | MG | 14 | 3074 | 1/1 | 0.97 | 0.50 | 70,70,70,70 | 0 |
| 58 | MG | 14 | 3076 | 1/1 | 0.97 | 0.30 | 83,83,83,83 | 0 |
| 58 | MG | 14 | 3078 | 1/1 | 0.97 | 0.44 | 82,82,82,82 | 0 |
| 58 | MG | 1H | 3107 | 1/1 | 0.97 | 0.35 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3401 | 1/1 | 0.97 | 0.15 | 71,71,71,71 | 0 |
| 58 | MG | 1H | 3004 | 1/1 | 0.97 | 0.26 | 60,60,60,60 | 0 |
| 58 | MG | 1H | 3406 | 1/1 | 0.97 | 0.08 | 82,82,82,82 | 0 |
| 58 | MG | 13 | 1729 | 1/1 | 0.97 | 0.13 | 96,96,96,96 | 0 |
| 58 | MG | 1H | 3231 | 1/1 | 0.97 | 0.69 | 85,85,85,85 | 0 |
| 60 | ZN | 5A | 101 | 1/1 | 0.97 | 0.07 | 164,164,164,164 | 0 |
| 58 | MG | 1H | 3078 | 1/1 | 0.97 | 0.28 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3370 | 1/1 | 0.98 | 0.09 | 68,68,68,68 | 0 |
| 58 | MG | 1H | 3371 | 1/1 | 0.98 | 0.06 | 77,77,77,77 | 0 |
| 58 | MG | 14 | 3056 | 1/1 | 0.98 | 0.21 | 109,109,109,109 | 0 |
| 58 | MG | 13 | 1629 | 1/1 | 0.98 | 0.50 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3443 | 1/1 | 0.98 | 0.24 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3373 | 1/1 | 0.98 | 0.15 | 86,86,86,86 | 0 |
| 58 | MG | 13 | 1654 | 1/1 | 0.98 | 0.21 | 111,111,111,111 | 0 |
| 58 | MG | 13 | 1613 | 1/1 | 0.98 | 0.09 | 109,109,109,109 | 0 |
| 58 | MG | 1H | 3447 | 1/1 | 0.98 | 0.11 | 115,115,115,115 | 0 |
| 58 | MG | 1H | 3448 | 1/1 | 0.98 | 0.21 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3376 | 1/1 | 0.98 | 0.05 | 106,106,106,106 | 0 |
| 58 | MG | 14 | 3066 | 1/1 | 0.98 | 0.33 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3377 | 1/1 | 0.98 | 0.05 | 119,119,119,119 | 0 |
| 58 | MG | 13 | 1736 | 1/1 | 0.98 | 0.09 | 126,126,126,126 | 0 |
| 58 | MG | 1G | 1671 | 1/1 | 0.98 | 0.15 | 121,121,121,121 | 0 |
| 58 | MG | 1H | 3379 | 1/1 | 0.98 | 0.17 | 103,103,103,103 | 0 |
| 58 | MG | 13 | 1624 | 1/1 | 0.98 | 0.55 | 118,118,118,118 | 0 |
| 58 | MG | 1G | 1674 | 1/1 | 0.98 | 0.06 | 124,124,124,124 | 0 |
| 58 | MG | 1H | 3455 | 1/1 | 0.98 | 0.13 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3075 | 1/1 | 0.98 | 0.97 | 96,96,96,96 | 0 |
| 58 | MG | 1G | 1676 | 1/1 | 0.98 | 0.21 | 134,134,134,134 | 0 |
| 58 | MG | 14 | 3077 | 1/1 | 0.98 | 0.16 | 83,83,83,83 | 0 |
| 58 | MG | 13 | 1714 | 1/1 | 0.98 | 0.11 | 98,98,98,98 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 14 | 3346 | 1/1 | 0.98 | 0.09 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3458 | 1/1 | 0.98 | 0.13 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3382 | 1/1 | 0.98 | 0.23 | 71,71,71,71 | 0 |
| 58 | MG | 14 | 3081 | 1/1 | 0.98 | 0.27 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3383 | 1/1 | 0.98 | 0.14 | 75,75,75,75 | 0 |
| 58 | MG | 14 | 3352 | 1/1 | 0.98 | 0.05 | 84,84,84,84 | 0 |
| 58 | MG | 13 | 1657 | 1/1 | 0.98 | 0.17 | 103,103,103,103 | 0 |
| 58 | MG | 13 | 1632 | 1/1 | 0.98 | 0.21 | 83,83,83,83 | 0 |
| 58 | MG | 14 | 3356 | 1/1 | 0.98 | 0.18 | 85,85,85,85 | 0 |
| 58 | MG | 13 | 1718 | 1/1 | 0.98 | 0.12 | 110,110,110,110 | 0 |
| 58 | MG | 14 | 3359 | 1/1 | 0.98 | 0.10 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3361 | 1/1 | 0.98 | 0.11 | 79,79,79,79 | 0 |
| 58 | MG | 14 | 3364 | 1/1 | 0.98 | 0.16 | 105,105,105,105 | 0 |
| 58 | MG | 13 | 1601 | 1/1 | 0.98 | 0.27 | 86,86,86,86 | 0 |
| 58 | MG | 13 | 1691 | 1/1 | 0.98 | 0.81 | 94,94,94,94 | 0 |
| 58 | MG | 1G | 1619 | 1/1 | 0.98 | 0.27 | 109,109,109,109 | 0 |
| 58 | MG | 1H | 3395 | 1/1 | 0.98 | 0.17 | 103,103,103,103 | 0 |
| 58 | MG | 1H | 3098 | 1/1 | 0.98 | 0.66 | 70,70,70,70 | 0 |
| 58 | MG | 14 | 3370 | 1/1 | 0.98 | 0.04 | 94,94,94,94 | 0 |
| 58 | MG | 1H | 3470 | 1/1 | 0.98 | 0.13 | 85,85,85,85 | 0 |
| 58 | MG | 1H | 3397 | 1/1 | 0.98 | 0.14 | 82,82,82,82 | 0 |
| 58 | MG | 14 | 3010 | 1/1 | 0.98 | 0.29 | 73,73,73,73 | 0 |
| 58 | MG | 14 | 3376 | 1/1 | 0.98 | 0.03 | 124,124,124,124 | 0 |
| 58 | MG | 14 | 3096 | 1/1 | 0.98 | 0.39 | 57,57,57,57 | 0 |
| 58 | MG | 1H | 3018 | 1/1 | 0.98 | 0.58 | 66,66,66,66 | 0 |
| 58 | MG | 1H | 3473 | 1/1 | 0.98 | 0.11 | 89,89,89,89 | 0 |
| 58 | MG | 1G | 1626 | 1/1 | 0.98 | 0.27 | 118,118,118,118 | 0 |
| 58 | MG | 1H | 3019 | 1/1 | 0.98 | 0.56 | 65,65,65,65 | 0 |
| 58 | MG | 14 | 3103 | 1/1 | 0.98 | 0.32 | 81,81,81,81 | 0 |
| 58 | MG | 14 | 3383 | 1/1 | 0.98 | 0.11 | 137,137,137,137 | 0 |
| 58 | MG | 14 | 3384 | 1/1 | 0.98 | 0.10 | 96,96,96,96 | 0 |
| 58 | MG | 1H | 3475 | 1/1 | 0.98 | 0.10 | 89,89,89,89 | 0 |
| 58 | MG | 1H | 3071 | 1/1 | 0.98 | 0.41 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3387 | 1/1 | 0.98 | 0.08 | 88,88,88,88 | 0 |
| 58 | MG | 14 | 3389 | 1/1 | 0.98 | 0.11 | 92,92,92,92 | 0 |
| 58 | MG | 13 | 1615 | 1/1 | 0.98 | 0.20 | 90,90,90,90 | 0 |
| 58 | MG | 14 | 3391 | 1/1 | 0.98 | 0.09 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3393 | 1/1 | 0.98 | 0.15 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3107 | 1/1 | 0.98 | 0.41 | 80,80,80,80 | 0 |
| 58 | MG | 13 | 1722 | 1/1 | 0.98 | 0.06 | 99,99,99,99 | 0 |
| 58 | MG | 14 | 3396 | 1/1 | 0.98 | 0.29 | 96,96,96,96 | 0 |
| 58 | MG | 1H | 3245 | 1/1 | 0.98 | 0.21 | 100,100,100,100 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 14 | 3398 | 1/1 | 0.98 | 0.07 | 111,111,111,111 | 0 |
| 58 | MG | 14 | 3401 | 1/1 | 0.98 | 0.10 | 127,127,127,127 | 0 |
| 58 | MG | 13 | 1616 | 1/1 | 0.98 | 0.05 | 121,121,121,121 | 0 |
| 58 | MG | 1G | 1634 | 1/1 | 0.98 | 0.34 | 127,127,127,127 | 0 |
| 58 | MG | 13 | 1724 | 1/1 | 0.98 | 0.11 | 99,99,99,99 | 0 |
| 58 | MG | 1H | 3413 | 1/1 | 0.98 | 0.11 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3216 | 1/1 | 0.98 | 0.15 | 65,65,65,65 | 0 |
| 58 | MG | 1H | 3281 | 1/1 | 0.98 | 0.69 | 108,108,108,108 | 0 |
| 58 | MG | 14 | 3408 | 1/1 | 0.98 | 0.07 | 130,130,130,130 | 0 |
| 58 | MG | 14 | 3409 | 1/1 | 0.98 | 0.32 | 85,85,85,85 | 0 |
| 58 | MG | 1H | 3132 | 1/1 | 0.98 | 0.51 | 87,87,87,87 | 0 |
| 58 | MG | 13 | 1725 | 1/1 | 0.98 | 0.10 | 101,101,101,101 | 0 |
| 58 | MG | 13 | 1727 | 1/1 | 0.98 | 0.08 | 87,87,87,87 | 0 |
| 58 | MG | 1H | 3003 | 1/1 | 0.98 | 0.58 | 72,72,72,72 | 0 |
| 58 | MG | 1H | 3221 | 1/1 | 0.98 | 0.27 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3080 | 1/1 | 0.98 | 0.27 | 73,73,73,73 | 0 |
| 58 | MG | 1H | 3426 | 1/1 | 0.98 | 0.25 | 109,109,109,109 | 0 |
| 58 | MG | 14 | 3036 | 1/1 | 0.98 | 0.23 | 70,70,70,70 | 0 |
| 58 | MG | 14 | 3210 | 1/1 | 0.98 | 0.13 | 113,113,113,113 | 0 |
| 58 | MG | 13 | 1682 | 1/1 | 0.98 | 0.17 | 93,93,93,93 | 0 |
| 58 | MG | 14 | 3126 | 1/1 | 0.98 | 0.25 | 95,95,95,95 | 0 |
| 58 | MG | 14 | 3127 | 1/1 | 0.98 | 0.27 | 67,67,67,67 | 0 |
| 58 | MG | 1H | 3224 | 1/1 | 0.98 | 0.55 | 76,76,76,76 | 0 |
| 58 | MG | 1H | 3356 | 1/1 | 0.98 | 0.15 | 67,67,67,67 | 0 |
| 58 | MG | 1H | 3357 | 1/1 | 0.98 | 0.11 | 79,79,79,79 | 0 |
| 58 | MG | 14 | 3131 | 1/1 | 0.98 | 0.33 | 79,79,79,79 | 0 |
| 58 | MG | 29 | 301 | 1/1 | 0.98 | 0.42 | 69,69,69,69 | 0 |
| 58 | MG | 14 | 3305 | 1/1 | 0.98 | 0.24 | 127,127,127,127 | 0 |
| 58 | MG | 1H | 3138 | 1/1 | 0.98 | 0.17 | 67,67,67,67 | 0 |
| 58 | MG | 14 | 3133 | 1/1 | 0.98 | 0.39 | 98,98,98,98 | 0 |
| 58 | MG | 14 | 3220 | 1/1 | 0.98 | 0.40 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3362 | 1/1 | 0.98 | 0.12 | 71,71,71,71 | 0 |
| 58 | MG | 13 | 1608 | 1/1 | 0.98 | 0.19 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3364 | 1/1 | 0.98 | 0.20 | 74,74,74,74 | 0 |
| 58 | MG | 1H | 3084 | 1/1 | 0.98 | 0.59 | 57,57,57,57 | 0 |
| 58 | MG | 14 | 3138 | 1/1 | 0.98 | 0.18 | 96,96,96,96 | 0 |
| 58 | MG | 14 | 3049 | 1/1 | 0.98 | 0.49 | 74,74,74,74 | 0 |
| 58 | MG | 1G | 1656 | 1/1 | 0.98 | 0.57 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3142 | 1/1 | 0.98 | 0.13 | 99,99,99,99 | 0 |
| 60 | ZN | 5I | 102 | 1/1 | 0.98 | 0.14 | 114,114,114,114 | 0 |
| 58 | MG | 21 | 301 | 1/1 | 0.98 | 0.43 | 69,69,69,69 | 0 |
| 58 | MG | 1H | 3367 | 1/1 | 0.98 | 0.18 | 84,84,84,84 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 14 | 3053 | 1/1 | 0.98 | 0.56 | 82,82,82,82 | 0 |
| 58 | MG | 1H | 3369 | 1/1 | 0.99 | 0.16 | 90,90,90,90 | 0 |
| 58 | MG | 14 | 3360 | 1/1 | 0.99 | 0.08 | 78,78,78,78 | 0 |
| 58 | MG | 14 | 3014 | 1/1 | 0.99 | 0.58 | 82,82,82,82 | 0 |
| 58 | MG | 14 | 3362 | 1/1 | 0.99 | 0.08 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3407 | 1/1 | 0.99 | 0.15 | 83,83,83,83 | 0 |
| 58 | MG | 1H | 3408 | 1/1 | 0.99 | 0.23 | 72,72,72,72 | 0 |
| 58 | MG | 1H | 3051 | 1/1 | 0.99 | 0.32 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3067 | 1/1 | 0.99 | 0.22 | 74,74,74,74 | 0 |
| 58 | MG | 1H | 3456 | 1/1 | 0.99 | 0.23 | 68,68,68,68 | 0 |
| 58 | MG | 14 | 3290 | 1/1 | 0.99 | 0.29 | 113,113,113,113 | 0 |
| 58 | MG | 88 | 201 | 1/1 | 0.99 | 0.23 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3371 | 1/1 | 0.99 | 0.06 | 95,95,95,95 | 0 |
| 58 | MG | 13 | 1733 | 1/1 | 0.99 | 0.03 | 102,102,102,102 | 0 |
| 58 | MG | 1H | 3087 | 1/1 | 0.99 | 0.29 | 69,69,69,69 | 0 |
| 58 | MG | 14 | 3374 | 1/1 | 0.99 | 0.17 | 107,107,107,107 | 0 |
| 58 | MG | 1G | 1649 | 1/1 | 0.99 | 0.37 | 128,128,128,128 | 0 |
| 58 | MG | 13 | 1712 | 1/1 | 0.99 | 0.14 | 98,98,98,98 | 0 |
| 58 | MG | 1H | 3414 | 1/1 | 0.99 | 0.21 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3461 | 1/1 | 0.99 | 0.20 | 97,97,97,97 | 0 |
| 58 | MG | 13 | 1728 | 1/1 | 0.99 | 0.07 | 105,105,105,105 | 0 |
| 58 | MG | 14 | 3091 | 1/1 | 0.99 | 0.37 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3092 | 1/1 | 0.99 | 0.34 | 91,91,91,91 | 0 |
| 58 | MG | 1G | 1601 | 1/1 | 0.99 | 0.20 | 115,115,115,115 | 0 |
| 58 | MG | 1H | 3416 | 1/1 | 0.99 | 0.18 | 83,83,83,83 | 0 |
| 58 | MG | 13 | 1715 | 1/1 | 0.99 | 0.20 | 113,113,113,113 | 0 |
| 58 | MG | 1H | 3091 | 1/1 | 0.99 | 0.49 | 58,58,58,58 | 0 |
| 58 | MG | 14 | 3097 | 1/1 | 0.99 | 0.29 | 83,83,83,83 | 0 |
| 58 | MG | 1G | 1605 | 1/1 | 0.99 | 0.37 | 125,125,125,125 | 0 |
| 58 | MG | 14 | 3388 | 1/1 | 0.99 | 0.23 | 88,88,88,88 | 0 |
| 58 | MG | 1H | 3466 | 1/1 | 0.99 | 0.07 | 94,94,94,94 | 0 |
| 58 | MG | 14 | 3100 | 1/1 | 0.99 | 0.10 | 107,107,107,107 | 0 |
| 58 | MG | 1H | 3072 | 1/1 | 0.99 | 0.17 | 120,120,120,120 | 0 |
| 58 | MG | 14 | 3392 | 1/1 | 0.99 | 0.05 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3035 | 1/1 | 0.99 | 0.29 | 89,89,89,89 | 0 |
| 58 | MG | 13 | 1711 | 1/1 | 0.99 | 0.18 | 85,85,85,85 | 0 |
| 58 | MG | 14 | 3037 | 1/1 | 0.99 | 0.18 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3013 | 1/1 | 0.99 | 0.42 | 71,71,71,71 | 0 |
| 58 | MG | 14 | 3039 | 1/1 | 0.99 | 0.58 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3422 | 1/1 | 0.99 | 0.15 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3399 | 1/1 | 0.99 | 0.03 | 116,116,116,116 | 0 |
| 58 | MG | 14 | 3400 | 1/1 | 0.99 | 0.11 | 113,113,113,113 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 58 | MG | 13 | 1731 | 1/1 | 0.99 | 0.08 | 108,108,108,108 | 0 |
| 58 | MG | 14 | 3042 | 1/1 | 0.99 | 0.26 | 74,74,74,74 | 0 |
| 58 | MG | 1H | 3424 | 1/1 | 0.99 | 0.12 | 81,81,81,81 | 0 |
| 58 | MG | 2K | 101 | 1/1 | 0.99 | 0.43 | 84,84,84,84 | 0 |
| 58 | MG | 1H | 3045 | 1/1 | 0.99 | 0.37 | 68,68,68,68 | 0 |
| 58 | MG | 1H | 3384 | 1/1 | 0.99 | 0.20 | 87,87,87,87 | 0 |
| 58 | MG | 1H | 3358 | 1/1 | 0.99 | 0.12 | 70,70,70,70 | 0 |
| 58 | MG | 1H | 3359 | 1/1 | 0.99 | 0.15 | 71,71,71,71 | 0 |
| 58 | MG | 1H | 3388 | 1/1 | 0.99 | 0.12 | 78,78,78,78 | 0 |
| 58 | MG | 1H | 3360 | 1/1 | 0.99 | 0.16 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3391 | 1/1 | 0.99 | 0.19 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3046 | 1/1 | 0.99 | 0.29 | 61,61,61,61 | 0 |
| 58 | MG | 1H | 3393 | 1/1 | 0.99 | 0.08 | 95,95,95,95 | 0 |
| 58 | MG | 1H | 3435 | 1/1 | 0.99 | 0.07 | 85,85,85,85 | 0 |
| 58 | MG | 1H | 3484 | 1/1 | 0.99 | 0.18 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3025 | 1/1 | 0.99 | 0.36 | 55,55,55,55 | 0 |
| 58 | MG | 13 | 1726 | 1/1 | 0.99 | 0.07 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3125 | 1/1 | 0.99 | 0.30 | 102,102,102,102 | 0 |
| 58 | MG | 14 | 3419 | 1/1 | 0.99 | 0.09 | 90,90,90,90 | 0 |
| 58 | MG | 1H | 3049 | 1/1 | 0.99 | 0.47 | 82,82,82,82 | 0 |
| 58 | MG | 2L | 101 | 1/1 | 0.99 | 0.52 | 97,97,97,97 | 0 |
| 58 | MG | 1H | 3082 | 1/1 | 0.99 | 0.48 | 79,79,79,79 | 0 |
| 58 | MG | 1H | 3440 | 1/1 | 0.99 | 0.12 | 70,70,70,70 | 0 |
| 58 | MG | 1H | 3441 | 1/1 | 0.99 | 0.13 | 92,92,92,92 | 0 |
| 58 | MG | 14 | 3002 | 1/1 | 0.99 | 0.12 | 65,65,65,65 | 0 |
| 58 | MG | 14 | 3064 | 1/1 | 0.99 | 0.13 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3366 | 1/1 | 0.99 | 0.10 | 73,73,73,73 | 0 |
| 58 | MG | 1H | 3399 | 1/1 | 0.99 | 0.18 | 75,75,75,75 | 0 |
| 58 | MG | 14 | 3343 | 1/1 | 0.99 | 0.20 | 87,87,87,87 | 0 |
| 58 | MG | 14 | 3344 | 1/1 | 0.99 | 0.08 | 91,91,91,91 | 0 |
| 58 | MG | 14 | 3345 | 1/1 | 0.99 | 0.16 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3400 | 1/1 | 0.99 | 0.19 | 86,86,86,86 | 0 |
| 58 | MG | 1H | 3050 | 1/1 | 0.99 | 0.23 | 74,74,74,74 | 0 |
| 58 | MG | 1H | 3402 | 1/1 | 0.99 | 0.10 | 76,76,76,76 | 0 |
| 58 | MG | 1H | 3403 | 1/1 | 0.99 | 0.13 | 81,81,81,81 | 0 |
| 58 | MG | 1H | 3404 | 1/1 | 0.99 | 0.06 | 84,84,84,84 | 0 |
| 58 | MG | 1H | 3449 | 1/1 | 0.99 | 0.13 | 89,89,89,89 | 0 |
| 58 | MG | 14 | 3141 | 1/1 | 0.99 | 0.29 | 76,76,76,76 | 0 |
| 58 | MG | 14 | 3354 | 1/1 | 0.99 | 0.11 | 87,87,87,87 | 0 |
| 59 | SF4 | 3E | 301 | 8/8 | 0.99 | 0.18 | 95,111,117,118 | 0 |
| 59 | SF4 | 32 | 302 | 8/8 | 0.99 | 0.14 | 127,146,153,155 | 0 |
| 58 | MG | 14 | 3073 | 1/1 | 0.99 | 0.15 | 67,67,67,67 | 0 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 58 | MG | 1H | 3368 | 1/1 | 0.99 | 0.21 | 76,76,76,76 | 0 |
| 58 | MG | 14 | 3357 | 1/1 | 0.99 | 0.07 | 76,76,76,76 | 0 |
| 58 | MG | 14 | 3012 | 1/1 | 0.99 | 0.38 | 67,67,67,67 | 0 |
| 58 | MG | 1H | 3387 | 1/1 | 1.00 | 0.18 | 60,60,60,60 | 0 |
| 58 | MG | 14 | 3363 | 1/1 | 1.00 | 0.23 | 80,80,80,80 | 0 |
| 58 | MG | 1H | 3389 | 1/1 | 1.00 | 0.12 | 71,71,71,71 | 0 |
| 58 | MG | 14 | 3349 | 1/1 | 1.00 | 0.18 | 95,95,95,95 | 0 |

6.5 Other polymers [\(i\)](#)

There are no such residues in this entry.