



Full wwPDB EM Validation Report ⓘ

Feb 23, 2026 – 04:16 PM EST

PDB ID : 9O3W / pdb_00009o3w
EMDB ID : EMD-70084
Title : Human 80S ribosome bound to IDB-001 stalled on MYC nascent chain
Authors : Sauer, P.V.; Schuller, A.P.; Hamann, L.G.
Deposited on : 2025-04-07
Resolution : 1.90 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

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:

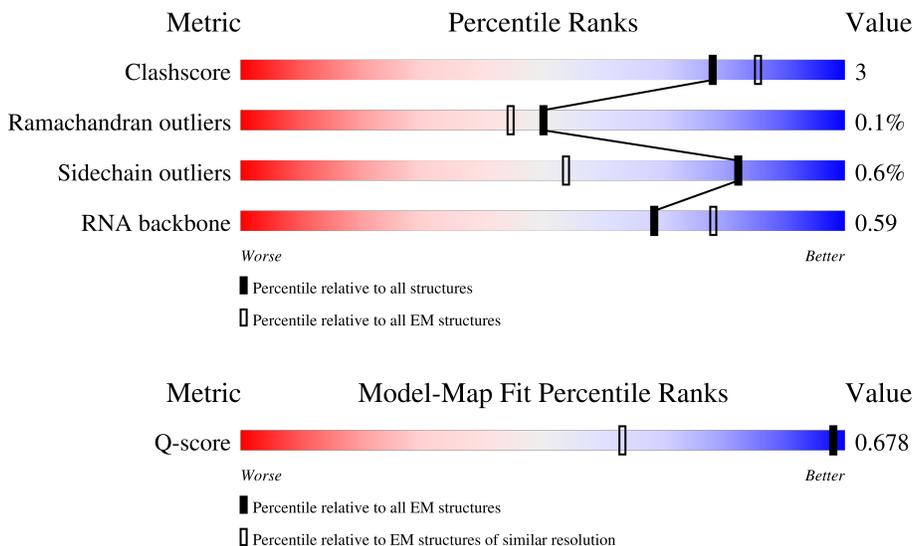
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.48.1

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 1.90 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) | EM structures (#Entries) | Similar EM resolution (#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|-----------------------------|--|
| Clashscore | 210492 | 15764 | - |
| Ramachandran outliers | 207382 | 16835 | - |
| Sidechain outliers | 206894 | 16415 | - |
| RNA backbone | 6643 | 2191 | - |
| Q-score | - | 25397 | 1185 (1.40 - 2.40) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--------------------|
| 1 | L5 | 5069 | 9% 50% 17% 30% |
| 2 | L7 | 120 | 87% 12% |
| 3 | L8 | 156 | 6% 74% 23% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 4 | LA | 257 | 93% 5% |
| 5 | LB | 403 | 95% 5% |
| 6 | LC | 427 | 83% 14% |
| 7 | LD | 297 | 95% 7% |
| 8 | LE | 288 | 70% 7% 23% |
| 9 | LF | 248 | 86% 5% 9% |
| 10 | LG | 266 | 84% 6% 9% |
| 11 | LH | 192 | 97% |
| 12 | LI | 214 | 93% 6% |
| 13 | LJ | 178 | 88% 8% |
| 14 | LL | 211 | 94% |
| 15 | LM | 215 | 62% 37% |
| 16 | LN | 204 | 92% 7% |
| 17 | LO | 203 | 97% |
| 18 | LP | 184 | 79% 17% |
| 19 | LQ | 188 | 96% |
| 20 | LR | 196 | 94% 5% |
| 21 | LS | 176 | 97% |
| 22 | LT | 160 | 97% |
| 23 | LU | 128 | 70% 8% 23% |
| 24 | LV | 140 | 91% 5% |
| 25 | LW | 157 | 43% 57% |
| 26 | LX | 156 | 72% 24% |
| 27 | LY | 145 | 89% 8% |
| 28 | LZ | 136 | 93% 5% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 29 | La | 148 | 97% |
| 30 | Lb | 159 | 19% 64% 5% 30% |
| 31 | Lc | 115 | 5% 81% 5% 14% |
| 32 | Ld | 125 | 7% 82% 5% 14% |
| 33 | Le | 135 | 90% 5% |
| 34 | Lf | 110 | 95% 5% |
| 35 | Lg | 117 | 8% 95% |
| 36 | Lh | 123 | 95% |
| 37 | Li | 105 | 7% 95% |
| 38 | Lj | 97 | 85% 11% |
| 39 | Lk | 70 | 19% 96% |
| 40 | Ll | 51 | 94% |
| 41 | Lm | 128 | 41% 59% |
| 42 | Ln | 25 | 96% |
| 43 | Lo | 106 | 98% |
| 44 | Lp | 92 | 95% |
| 45 | Lr | 137 | 90% 8% |
| 46 | NC | 19 | 58% 89% 11% |
| 47 | Pt | 75 | 10% 65% 24% 9% |
| 48 | S2 | 1869 | 10% 62% 23% 11% |
| 49 | SA | 295 | 12% 70% 5% 24% |
| 50 | SB | 264 | 7% 80% 5% 16% |
| 51 | SC | 293 | 9% 68% 8% 24% |
| 52 | SD | 243 | 38% 84% 9% 7% |
| 53 | SE | 263 | 12% 92% 7% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|-----------------------|
| 54 | SF | 204 | 13% 85% 7% 7% |
| 55 | SG | 249 | 46% 89% 6% 5% |
| 56 | SH | 194 | 51% 86% 11% |
| 57 | SI | 208 | 16% 90% 9% |
| 58 | SJ | 194 | 19% 89% 6% 5% |
| 59 | SK | 165 | 39% 55% 42% |
| 60 | SL | 158 | 8% 91% 8% |
| 61 | SM | 132 | 92% 72% 18% 8% |
| 62 | SN | 151 | 93% 6% |
| 63 | SO | 151 | 6% 87% 11% |
| 64 | SP | 145 | 43% 78% 12% 10% |
| 65 | SQ | 146 | 25% 89% 8% |
| 66 | SR | 135 | 41% 90% 9% |
| 67 | SS | 152 | 24% 88% 9% |
| 68 | ST | 145 | 24% 90% 8% |
| 69 | SU | 119 | 43% 72% 13% 15% |
| 70 | SV | 84 | 17% 93% 7% |
| 71 | SW | 130 | 92% 8% |
| 72 | SX | 143 | 92% 5% |
| 73 | SY | 133 | 31% 84% 14% |
| 74 | SZ | 125 | 28% 57% 11% 32% |
| 75 | Sa | 115 | 80% 6% 14% |
| 76 | Sb | 84 | 19% 90% 8% |
| 77 | Sc | 69 | 25% 83% 12% 6% |
| 78 | Sd | 56 | 9% 93% 5% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 79 | Se | 133 | |
| 80 | Sf | 156 | |
| 81 | Sg | 317 | |
| 82 | mR | 832 | |

2 Entry composition

There are 90 unique types of molecules in this entry. The entry contains 219527 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 28S rRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|-------|-------|------|---------|-------|
| | | | Total | C | N | O | P | | |
| 1 | L5 | 3546 | 76136 | 33944 | 13925 | 24720 | 3547 | 2 | 0 |

- Molecule 2 is a RNA chain called 5S rRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|-----|---------|-------|
| | | | Total | C | N | O | P | | |
| 2 | L7 | 120 | 2558 | 1141 | 456 | 842 | 119 | 0 | 0 |

- Molecule 3 is a RNA chain called 5.8S rRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|------|-----|---------|-------|
| | | | Total | C | N | O | P | | |
| 3 | L8 | 156 | 3316 | 1482 | 585 | 1094 | 155 | 0 | 0 |

- Molecule 4 is a protein called 60S ribosomal protein L8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 4 | LA | 251 | 1921 | 1204 | 393 | 318 | 6 | 0 | 0 |

- Molecule 5 is a protein called Large ribosomal subunit protein uL3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 5 | LB | 402 | 3240 | 2061 | 608 | 557 | 14 | 0 | 0 |

- Molecule 6 is a protein called Large ribosomal subunit protein uL4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 6 | LC | 366 | 2914 | 1832 | 581 | 487 | 14 | 0 | 0 |

- Molecule 7 is a protein called Large ribosomal subunit protein uL18.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 7 | LD | 294 | 2391 | 1513 | 436 | 428 | 14 | 0 | 0 |

- Molecule 8 is a protein called Large ribosomal subunit protein eL6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 8 | LE | 223 | 1787 | 1150 | 339 | 294 | 4 | 0 | 0 |

- Molecule 9 is a protein called 60S ribosomal protein L7.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 9 | LF | 225 | 1870 | 1202 | 358 | 301 | 9 | 0 | 0 |

- Molecule 10 is a protein called Large ribosomal subunit protein eL8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 10 | LG | 241 | 1927 | 1228 | 371 | 324 | 4 | 0 | 0 |

- Molecule 11 is a protein called Large ribosomal subunit protein uL6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 11 | LH | 190 | 1518 | 956 | 284 | 272 | 6 | 0 | 0 |

- Molecule 12 is a protein called Large ribosomal subunit protein uL16.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 12 | LI | 213 | 1716 | 1086 | 331 | 285 | 14 | 0 | 0 |

- Molecule 13 is a protein called Large ribosomal subunit protein uL5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 13 | LJ | 170 | 1362 | 861 | 254 | 241 | 6 | 0 | 0 |

- Molecule 14 is a protein called Large ribosomal subunit protein eL13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 14 | LL | 206 | Total | C | N | O | S | 0 | 0 |
| | | | 1664 | 1041 | 345 | 274 | 4 | | |

- Molecule 15 is a protein called Large ribosomal subunit protein eL14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 15 | LM | 136 | Total | C | N | O | S | 0 | 0 |
| | | | 1120 | 719 | 215 | 179 | 7 | | |

- Molecule 16 is a protein called Large ribosomal subunit protein eL15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 16 | LN | 203 | Total | C | N | O | S | 0 | 0 |
| | | | 1701 | 1072 | 359 | 266 | 4 | | |

- Molecule 17 is a protein called Large ribosomal subunit protein uL13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 17 | LO | 202 | Total | C | N | O | S | 0 | 0 |
| | | | 1655 | 1066 | 322 | 262 | 5 | | |

- Molecule 18 is a protein called Large ribosomal subunit protein uL22.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 18 | LP | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1242 | 776 | 241 | 216 | 9 | | |

- Molecule 19 is a protein called Large ribosomal subunit protein eL18.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 19 | LQ | 187 | Total | C | N | O | S | 0 | 0 |
| | | | 1513 | 944 | 314 | 250 | 5 | | |

- Molecule 20 is a protein called Large ribosomal subunit protein eL19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 20 | LR | 187 | Total | C | N | O | S | 0 | 0 |
| | | | 1566 | 971 | 336 | 250 | 9 | | |

- Molecule 21 is a protein called Large ribosomal subunit protein eL20.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 21 | LS | 176 | 1461 | 930 | 284 | 236 | 11 | 0 | 0 |

- Molecule 22 is a protein called Large ribosomal subunit protein eL21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 22 | LT | 159 | 1298 | 823 | 252 | 217 | 6 | 0 | 0 |

- Molecule 23 is a protein called Large ribosomal subunit protein eL22.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 23 | LU | 99 | 808 | 518 | 141 | 147 | 2 | 0 | 0 |

- Molecule 24 is a protein called Large ribosomal subunit protein uL14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 24 | LV | 133 | 989 | 623 | 186 | 175 | 5 | 0 | 0 |

- Molecule 25 is a protein called Large ribosomal subunit protein eL24.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 25 | LW | 68 | 562 | 356 | 111 | 92 | 3 | 0 | 0 |

- Molecule 26 is a protein called Large ribosomal subunit protein uL23.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 26 | LX | 118 | 967 | 618 | 181 | 167 | 1 | 0 | 0 |

- Molecule 27 is a protein called Large ribosomal subunit protein uL24.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 27 | LY | 134 | 1115 | 700 | 226 | 186 | 3 | 0 | 0 |

- Molecule 28 is a protein called Large ribosomal subunit protein eL27.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 28 | LZ | 135 | 1107 | 714 | 208 | 182 | 3 | 0 | 0 |

- Molecule 29 is a protein called 60S ribosomal protein L27a.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 29 | La | 147 | 1162 | 736 | 237 | 186 | 3 | 0 | 0 |

- Molecule 30 is a protein called Large ribosomal subunit protein eL29.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 30 | Lb | 111 | 898 | 560 | 195 | 139 | 4 | 0 | 0 |

- Molecule 31 is a protein called Large ribosomal subunit protein eL30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 31 | Lc | 99 | 770 | 488 | 136 | 140 | 6 | 0 | 0 |

- Molecule 32 is a protein called Large ribosomal subunit protein eL31.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 32 | Ld | 107 | 888 | 560 | 171 | 155 | 2 | 0 | 0 |

- Molecule 33 is a protein called Large ribosomal subunit protein eL32.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 33 | Le | 128 | 1053 | 667 | 216 | 165 | 5 | 0 | 0 |

- Molecule 34 is a protein called Large ribosomal subunit protein eL33.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 34 | Lf | 110 | 884 | 560 | 175 | 145 | 4 | 0 | 0 |

- Molecule 35 is a protein called Large ribosomal subunit protein eL34.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 35 | Lg | 114 | 906 | 566 | 187 | 147 | 6 | 0 | 0 |

- Molecule 36 is a protein called Large ribosomal subunit protein uL29.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 36 | Lh | 122 | 1015 | 641 | 205 | 168 | 1 | 0 | 0 |

- Molecule 37 is a protein called Large ribosomal subunit protein eL36.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 37 | Li | 102 | 832 | 521 | 177 | 129 | 5 | 0 | 0 |

- Molecule 38 is a protein called Large ribosomal subunit protein eL37.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 38 | Lj | 86 | 705 | 434 | 155 | 111 | 5 | 0 | 0 |

- Molecule 39 is a protein called Large ribosomal subunit protein eL38.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 39 | Lk | 69 | 569 | 366 | 103 | 99 | 1 | 0 | 0 |

- Molecule 40 is a protein called Large ribosomal subunit protein eL39.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 40 | Ll | 50 | 444 | 281 | 98 | 64 | 1 | 0 | 0 |

- Molecule 41 is a protein called Ubiquitin-ribosomal protein eL40 fusion protein.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 41 | Lm | 52 | 432 | 269 | 90 | 67 | 6 | 0 | 0 |

- Molecule 42 is a protein called Small ribosomal subunit protein eS32.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 42 | Ln | 25 | Total | C | N | O | S | 0 | 0 |
| | | | 240 | 145 | 64 | 28 | 3 | | |

- Molecule 43 is a protein called Large ribosomal subunit protein eL42.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 43 | Lo | 105 | Total | C | N | O | S | 0 | 0 |
| | | | 864 | 543 | 175 | 140 | 6 | | |

- Molecule 44 is a protein called Large ribosomal subunit protein eL43.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 44 | Lp | 91 | Total | C | N | O | S | 0 | 0 |
| | | | 708 | 445 | 136 | 120 | 7 | | |

- Molecule 45 is a protein called Large ribosomal subunit protein eL28.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 45 | Lr | 126 | Total | C | N | O | S | 0 | 0 |
| | | | 1005 | 624 | 207 | 169 | 5 | | |

There is a discrepancy between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|-------------|------------|
| Lr | 2 | ACE | - | acetylation | UNP P46779 |

- Molecule 46 is a protein called Nascent chain.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|----|----|----|---------|-------|
| 46 | NC | 19 | Total | C | N | O | 0 | 0 |
| | | | 118 | 68 | 20 | 30 | | |

- Molecule 47 is a RNA chain called P-site glutamyl-tRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 47 | Pt | 75 | Total | C | N | O | P | 0 | 0 |
| | | | 1597 | 713 | 275 | 534 | 75 | | |

- Molecule 48 is a RNA chain called 18S rRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|------|-------|------|---------|-------|
| | | | Total | C | N | O | P | | |
| 48 | S2 | 1672 | 35736 | 15981 | 6403 | 11681 | 1671 | 0 | 0 |

- Molecule 49 is a protein called Small ribosomal subunit protein uS2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 49 | SA | 223 | 1750 | 1111 | 306 | 325 | 8 | 0 | 0 |

There is a discrepancy between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|-------------|------------|
| SA | 2 | ACE | - | acetylation | UNP P08865 |

- Molecule 50 is a protein called Small ribosomal subunit protein eS1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 50 | SB | 223 | 1806 | 1145 | 325 | 322 | 14 | 0 | 0 |

- Molecule 51 is a protein called Small ribosomal subunit protein uS5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 51 | SC | 222 | 1725 | 1115 | 298 | 302 | 10 | 0 | 0 |

- Molecule 52 is a protein called Small ribosomal subunit protein uS3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 52 | SD | 226 | 1756 | 1119 | 315 | 314 | 8 | 0 | 0 |

- Molecule 53 is a protein called Small ribosomal subunit protein eS4, X isoform.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 53 | SE | 262 | 2076 | 1324 | 386 | 358 | 8 | 0 | 0 |

- Molecule 54 is a protein called Small ribosomal subunit protein uS7.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 54 | SF | 189 | Total | C | N | O | S | 0 | 0 |
| | | | 1495 | 934 | 284 | 270 | 7 | | |

- Molecule 55 is a protein called Small ribosomal subunit protein eS6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 55 | SG | 237 | Total | C | N | O | S | 0 | 0 |
| | | | 1923 | 1200 | 387 | 329 | 7 | | |

- Molecule 56 is a protein called Small ribosomal subunit protein eS7.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 56 | SH | 189 | Total | C | N | O | S | 0 | 0 |
| | | | 1517 | 966 | 279 | 271 | 1 | | |

- Molecule 57 is a protein called Small ribosomal subunit protein eS8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 57 | SI | 206 | Total | C | N | O | S | 0 | 0 |
| | | | 1686 | 1058 | 332 | 291 | 5 | | |

- Molecule 58 is a protein called Small ribosomal subunit protein uS4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 58 | SJ | 185 | Total | C | N | O | S | 0 | 0 |
| | | | 1525 | 969 | 306 | 248 | 2 | | |

- Molecule 59 is a protein called Small ribosomal subunit protein eS10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 59 | SK | 96 | Total | C | N | O | S | 0 | 0 |
| | | | 810 | 530 | 143 | 131 | 6 | | |

- Molecule 60 is a protein called Small ribosomal subunit protein uS17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 60 | SL | 146 | Total | C | N | O | S | 0 | 0 |
| | | | 1200 | 766 | 226 | 202 | 6 | | |

- Molecule 61 is a protein called Small ribosomal subunit protein eS12.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 61 | SM | 122 | 950 | 596 | 168 | 177 | 9 | 0 | 0 |

- Molecule 62 is a protein called Small ribosomal subunit protein uS15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 62 | SN | 150 | 1208 | 773 | 229 | 205 | 1 | 0 | 0 |

- Molecule 63 is a protein called Small ribosomal subunit protein uS11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 63 | SO | 135 | 1010 | 618 | 198 | 188 | 6 | 0 | 0 |

- Molecule 64 is a protein called Small ribosomal subunit protein uS19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 64 | SP | 131 | 1078 | 684 | 204 | 183 | 7 | 0 | 0 |

- Molecule 65 is a protein called Small ribosomal subunit protein uS9.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 65 | SQ | 141 | 1124 | 715 | 212 | 194 | 3 | 0 | 0 |

- Molecule 66 is a protein called Small ribosomal subunit protein eS17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 66 | SR | 134 | 1083 | 680 | 201 | 198 | 4 | 0 | 0 |

- Molecule 67 is a protein called Small ribosomal subunit protein uS13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 67 | SS | 148 | 1214 | 761 | 245 | 207 | 1 | 0 | 0 |

- Molecule 68 is a protein called Small ribosomal subunit protein eS19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 68 | ST | 142 | 1103 | 691 | 212 | 197 | 3 | 0 | 0 |

- Molecule 69 is a protein called Small ribosomal subunit protein uS10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 69 | SU | 101 | 803 | 504 | 153 | 142 | 4 | 0 | 0 |

- Molecule 70 is a protein called 40S ribosomal protein S21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 70 | SV | 84 | 640 | 395 | 117 | 123 | 5 | 0 | 0 |

There is a discrepancy between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|-------------|------------|
| SV | 0 | ACE | - | acetylation | UNP P63220 |

- Molecule 71 is a protein called Small ribosomal subunit protein uS8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 71 | SW | 129 | 1034 | 659 | 193 | 176 | 6 | 0 | 0 |

- Molecule 72 is a protein called Small ribosomal subunit protein uS12.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 72 | SX | 140 | 1088 | 687 | 215 | 183 | 3 | 0 | 0 |

- Molecule 73 is a protein called 40S ribosomal protein S24.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 73 | SY | 131 | 1065 | 673 | 209 | 178 | 5 | 0 | 0 |

- Molecule 74 is a protein called Small ribosomal subunit protein eS25.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 74 | SZ | 85 | Total | C | N | O | S | 0 | 0 |
| | | | 683 | 439 | 128 | 115 | 1 | | |

- Molecule 75 is a protein called Small ribosomal subunit protein eS26.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 75 | Sa | 99 | Total | C | N | O | S | 0 | 0 |
| | | | 792 | 492 | 165 | 130 | 5 | | |

- Molecule 76 is a protein called Small ribosomal subunit protein eS27.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 76 | Sb | 83 | Total | C | N | O | S | 0 | 0 |
| | | | 651 | 408 | 121 | 115 | 7 | | |

- Molecule 77 is a protein called Small ribosomal subunit protein eS28.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 77 | Sc | 65 | Total | C | N | O | S | 0 | 0 |
| | | | 512 | 311 | 103 | 96 | 2 | | |

- Molecule 78 is a protein called Small ribosomal subunit protein uS14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 78 | Sd | 55 | Total | C | N | O | S | 0 | 0 |
| | | | 459 | 286 | 94 | 74 | 5 | | |

- Molecule 79 is a protein called FAU ubiquitin-like and ribosomal protein S30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 79 | Se | 50 | Total | C | N | O | S | 0 | 0 |
| | | | 395 | 241 | 88 | 65 | 1 | | |

- Molecule 80 is a protein called Ubiquitin-ribosomal protein eS31 fusion protein.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 80 | Sf | 63 | Total | C | N | O | S | 0 | 0 |
| | | | 515 | 324 | 98 | 86 | 7 | | |

- Molecule 81 is a protein called Receptor of activated protein C kinase 1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 81 | Sg | 313 | 2436 | 1535 | 424 | 465 | 12 | 0 | 0 |

- Molecule 82 is a RNA chain called mRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|----|----|----|---|---------|-------|
| | | | Total | C | N | O | P | | |
| 82 | mR | 6 | 133 | 59 | 27 | 41 | 6 | 0 | 0 |

- Molecule 83 is POTASSIUM ION (CCD ID: K) (formula: K).

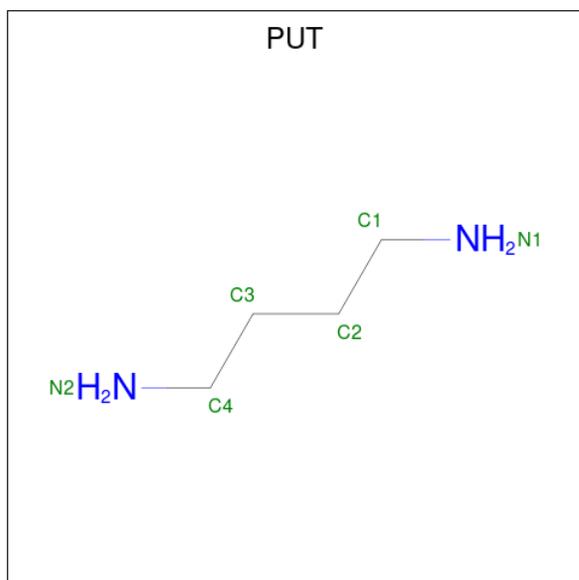
| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|--------------|----------|---------|
| 83 | L5 | 114 | Total 114 | K 114 | 0 |
| 83 | L7 | 3 | Total 3 | K 3 | 0 |
| 83 | L8 | 5 | Total 5 | K 5 | 0 |
| 83 | LA | 3 | Total 3 | K 3 | 0 |
| 83 | LH | 1 | Total 1 | K 1 | 0 |
| 83 | LI | 1 | Total 1 | K 1 | 0 |
| 83 | LL | 1 | Total 1 | K 1 | 0 |
| 83 | LN | 1 | Total 1 | K 1 | 0 |
| 83 | LQ | 1 | Total 1 | K 1 | 0 |
| 83 | Lb | 1 | Total 1 | K 1 | 0 |
| 83 | Le | 1 | Total 1 | K 1 | 0 |
| 83 | Lf | 1 | Total 1 | K 1 | 0 |
| 83 | Ll | 1 | Total 1 | K 1 | 0 |
| 83 | S2 | 32 | Total 32 | K 32 | 0 |
| 83 | SL | 1 | Total 1 | K 1 | 0 |
| 83 | SO | 1 | Total 1 | K 1 | 0 |

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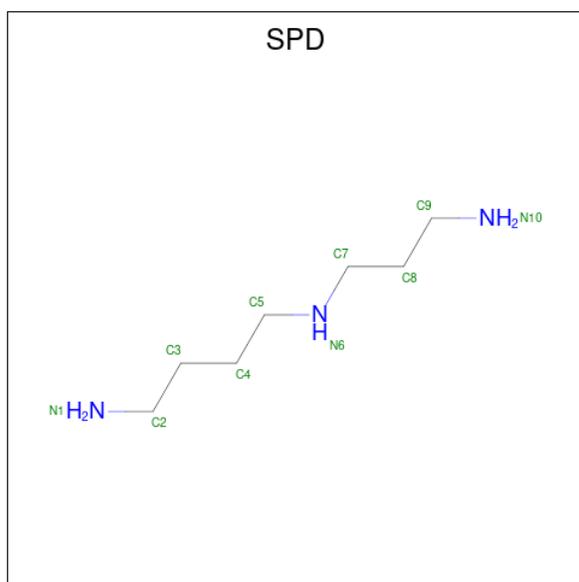
| Mol | Chain | Residues | Atoms | AltConf |
|-----|-------|----------|----------------|---------|
| 83 | ST | 1 | Total K 1 1 | 0 |
| 83 | Sa | 1 | Total K 1 1 | 0 |

- Molecule 84 is 1,4-DIAMINOBTUTANE (CCD ID: PUT) (formula: C₄H₁₂N₂).



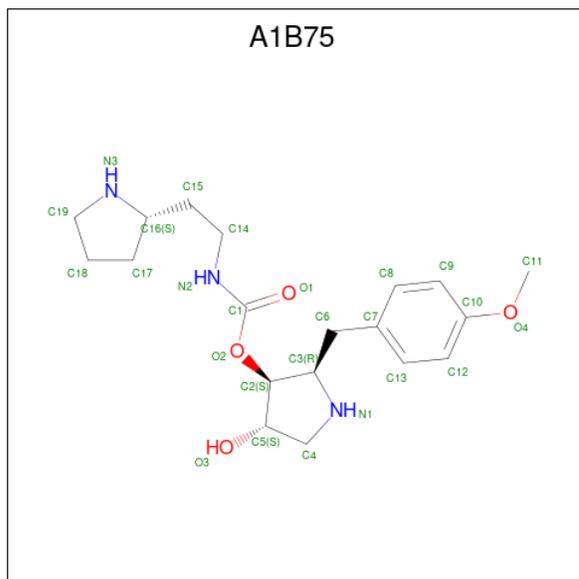
| Mol | Chain | Residues | Atoms | AltConf |
|-----|-------|----------|--------------------|---------|
| 84 | L5 | 1 | Total C N 6 4 2 | 0 |
| 84 | L5 | 1 | Total C N 6 4 2 | 0 |
| 84 | L5 | 1 | Total C N 6 4 2 | 0 |
| 84 | L5 | 1 | Total C N 6 4 2 | 0 |
| 84 | L5 | 1 | Total C N 6 4 2 | 0 |
| 84 | L5 | 1 | Total C N 6 4 2 | 0 |
| 84 | L5 | 1 | Total C N 6 4 2 | 0 |

- Molecule 85 is SPERMIDINE (CCD ID: SPD) (formula: C₇H₁₉N₃).



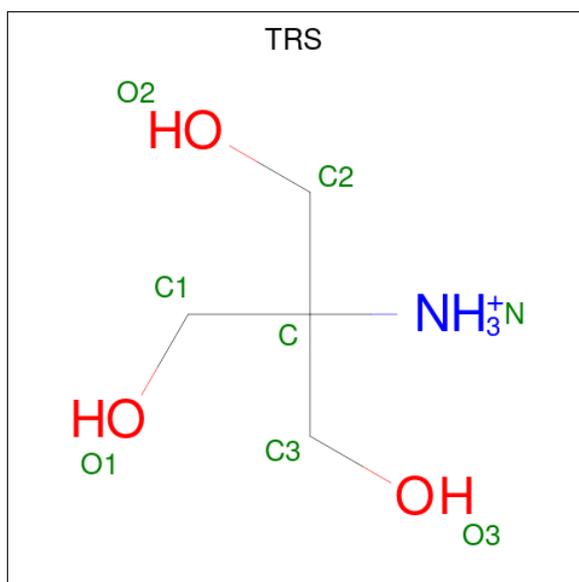
| Mol | Chain | Residues | Atoms | | | AltConf |
|-----|-------|----------|-------|---|---|---------|
| | | | Total | C | N | |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | L5 | 1 | 10 | 7 | 3 | 0 |
| 85 | S2 | 1 | 10 | 7 | 3 | 0 |
| 85 | S2 | 1 | 10 | 7 | 3 | 0 |

- Molecule 86 is (2R,3S,4S)-4-hydroxy-2-[(4-methoxyphenyl)methyl]pyrrolidin-3-yl {2-[(2S)-pyrrolidin-2-yl]ethyl}carbamate (CCD ID: A1B75) (formula: $C_{19}H_{29}N_3O_4$) (labeled as "Ligand of Interest" by depositor).



| Mol | Chain | Residues | Atoms | | | | AltConf |
|-----|-------|----------|-------|----|---|---|---------|
| | | | Total | C | N | O | |
| 86 | L5 | 1 | 26 | 19 | 3 | 4 | 0 |

- Molecule 87 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (CCD ID: TRS) (formula: $C_4H_{12}NO_3$).



| Mol | Chain | Residues | Atoms | | | | AltConf |
|-----|-------|----------|-------|---|---|---|---------|
| 87 | L5 | 1 | Total | C | N | O | 0 |
| | | | 8 | 4 | 1 | 3 | |
| 87 | L5 | 1 | Total | C | N | O | 0 |
| | | | 8 | 4 | 1 | 3 | |

- Molecule 88 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|-------|-----|---------|
| 88 | L5 | 271 | Total | Mg | 0 |
| | | | 271 | 271 | |
| 88 | L7 | 5 | Total | Mg | 0 |
| | | | 5 | 5 | |
| 88 | L8 | 6 | Total | Mg | 0 |
| | | | 6 | 6 | |
| 88 | LL | 1 | Total | Mg | 0 |
| | | | 1 | 1 | |
| 88 | LN | 2 | Total | Mg | 0 |
| | | | 2 | 2 | |
| 88 | Lj | 1 | Total | Mg | 0 |
| | | | 1 | 1 | |
| 88 | Lo | 1 | Total | Mg | 0 |
| | | | 1 | 1 | |
| 88 | S2 | 83 | Total | Mg | 0 |
| | | | 83 | 83 | |
| 88 | Sd | 1 | Total | Mg | 0 |
| | | | 1 | 1 | |

- Molecule 89 is ZINC ION (CCD ID: ZN) (formula: Zn).

| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|-------|----|---------|
| 89 | Lg | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |
| 89 | Lj | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |
| 89 | Lm | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |
| 89 | Lo | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |
| 89 | Lp | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |
| 89 | Sa | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |
| 89 | Sd | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |

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| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|------------|---------|---------|
| 89 | Sf | 1 | Total 1 | Zn 1 | 0 |

- Molecule 90 is water.

| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|---------------|-----------|---------|
| 90 | L5 | 337 | Total 337 | O 337 | 0 |
| 90 | L5 | 60 | Total 60 | O 60 | 0 |
| 90 | L5 | 1 | Total 1 | O 1 | 0 |
| 90 | L5 | 1 | Total 1 | O 1 | 0 |
| 90 | L5 | 1 | Total 1 | O 1 | 0 |
| 90 | L5 | 42 | Total 42 | O 42 | 0 |
| 90 | L5 | 1 | Total 1 | O 1 | 0 |
| 90 | L5 | 24 | Total 24 | O 24 | 0 |
| 90 | L5 | 3910 | Total 3910 | O 3910 | 0 |
| 90 | L5 | 65 | Total 65 | O 65 | 0 |
| 90 | L7 | 33 | Total 33 | O 33 | 0 |
| 90 | L7 | 48 | Total 48 | O 48 | 0 |
| 90 | L8 | 1 | Total 1 | O 1 | 0 |
| 90 | L8 | 11 | Total 11 | O 11 | 0 |
| 90 | L8 | 3 | Total 3 | O 3 | 0 |
| 90 | LA | 90 | Total 90 | O 90 | 0 |
| 90 | LA | 40 | Total 40 | O 40 | 0 |
| 90 | LB | 142 | Total 142 | O 142 | 0 |

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| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|--------------|----------|---------|
| 90 | LC | 116 | Total 116 | O 116 | 0 |
| 90 | LD | 38 | Total 38 | O 38 | 0 |
| 90 | LE | 7 | Total 7 | O 7 | 0 |
| 90 | LF | 54 | Total 54 | O 54 | 0 |
| 90 | LG | 17 | Total 17 | O 17 | 0 |
| 90 | LH | 2 | Total 2 | O 2 | 0 |
| 90 | LH | 15 | Total 15 | O 15 | 0 |
| 90 | LI | 22 | Total 22 | O 22 | 0 |
| 90 | LI | 40 | Total 40 | O 40 | 0 |
| 90 | LJ | 3 | Total 3 | O 3 | 0 |
| 90 | LL | 28 | Total 28 | O 28 | 0 |
| 90 | LL | 11 | Total 11 | O 11 | 0 |
| 90 | LL | 18 | Total 18 | O 18 | 0 |
| 90 | LM | 11 | Total 11 | O 11 | 0 |
| 90 | LN | 7 | Total 7 | O 7 | 0 |
| 90 | LN | 92 | Total 92 | O 92 | 0 |
| 90 | LN | 22 | Total 22 | O 22 | 0 |
| 90 | LO | 79 | Total 79 | O 79 | 0 |
| 90 | LP | 62 | Total 62 | O 62 | 0 |
| 90 | LQ | 41 | Total 41 | O 41 | 0 |
| 90 | LQ | 46 | Total 46 | O 46 | 0 |

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| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|-------------|---------|---------|
| 90 | LR | 57 | Total 57 | O 57 | 0 |
| 90 | LS | 46 | Total 46 | O 46 | 0 |
| 90 | LT | 64 | Total 64 | O 64 | 0 |
| 90 | LV | 43 | Total 43 | O 43 | 0 |
| 90 | LW | 12 | Total 12 | O 12 | 0 |
| 90 | LX | 22 | Total 22 | O 22 | 0 |
| 90 | LY | 16 | Total 16 | O 16 | 0 |
| 90 | LZ | 5 | Total 5 | O 5 | 0 |
| 90 | La | 87 | Total 87 | O 87 | 0 |
| 90 | Lb | 33 | Total 33 | O 33 | 0 |
| 90 | Lc | 8 | Total 8 | O 8 | 0 |
| 90 | Ld | 29 | Total 29 | O 29 | 0 |
| 90 | Le | 21 | Total 21 | O 21 | 0 |
| 90 | Le | 67 | Total 67 | O 67 | 0 |
| 90 | Lf | 4 | Total 4 | O 4 | 0 |
| 90 | Lf | 34 | Total 34 | O 34 | 0 |
| 90 | Lg | 33 | Total 33 | O 33 | 0 |
| 90 | Lg | 27 | Total 27 | O 27 | 0 |
| 90 | Lh | 15 | Total 15 | O 15 | 0 |
| 90 | Li | 11 | Total 11 | O 11 | 0 |
| 90 | Lj | 26 | Total 26 | O 26 | 0 |

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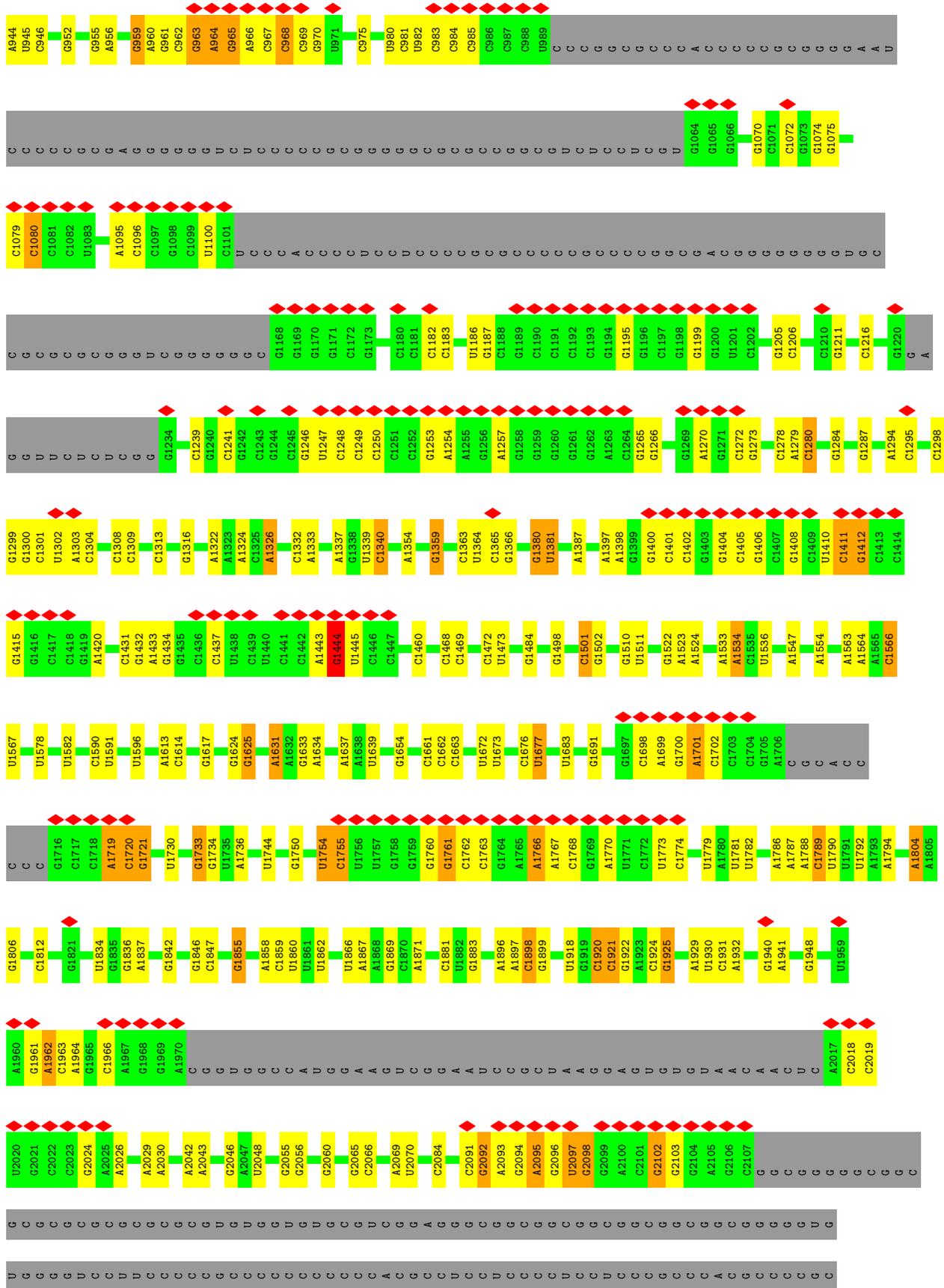
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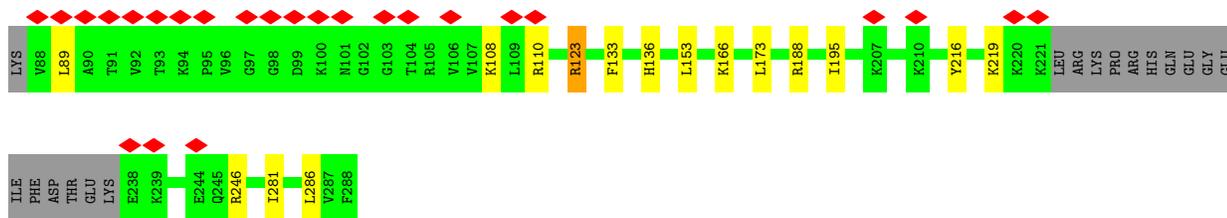
| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|--------------|----------|---------|
| 90 | Lj | 19 | Total 19 | O 19 | 0 |
| 90 | Lj | 16 | Total 16 | O 16 | 0 |
| 90 | Lk | 1 | Total 1 | O 1 | 0 |
| 90 | Ll | 33 | Total 33 | O 33 | 0 |
| 90 | Lm | 16 | Total 16 | O 16 | 0 |
| 90 | Ln | 13 | Total 13 | O 13 | 0 |
| 90 | Lo | 28 | Total 28 | O 28 | 0 |
| 90 | Lo | 1 | Total 1 | O 1 | 0 |
| 90 | Lo | 13 | Total 13 | O 13 | 0 |
| 90 | Lp | 29 | Total 29 | O 29 | 0 |
| 90 | Lp | 1 | Total 1 | O 1 | 0 |
| 90 | Lr | 19 | Total 19 | O 19 | 0 |
| 90 | NC | 5 | Total 5 | O 5 | 0 |
| 90 | Pt | 3 | Total 3 | O 3 | 0 |
| 90 | S2 | 80 | Total 80 | O 80 | 0 |
| 90 | S2 | 111 | Total 111 | O 111 | 0 |
| 90 | S2 | 10 | Total 10 | O 10 | 0 |
| 90 | S2 | 105 | Total 105 | O 105 | 0 |
| 90 | S2 | 76 | Total 76 | O 76 | 0 |
| 90 | S2 | 23 | Total 23 | O 23 | 0 |
| 90 | S2 | 2 | Total 2 | O 2 | 0 |

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| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|--------------|----------|---------|
| 90 | S2 | 44 | Total 44 | O 44 | 0 |
| 90 | S2 | 281 | Total 281 | O 281 | 0 |
| 90 | S2 | 1 | Total 1 | O 1 | 0 |
| 90 | S2 | 18 | Total 18 | O 18 | 0 |
| 90 | S2 | 97 | Total 97 | O 97 | 0 |
| 90 | S2 | 2 | Total 2 | O 2 | 0 |
| 90 | Sb | 6 | Total 6 | O 6 | 0 |
| 90 | Se | 2 | Total 2 | O 2 | 0 |
| 90 | mR | 3 | Total 3 | O 3 | 0 |

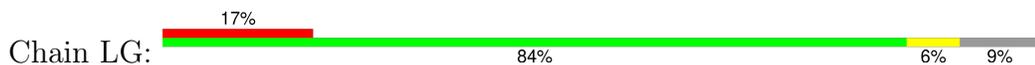




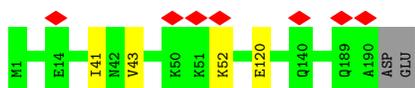
• Molecule 9: 60S ribosomal protein L7



• Molecule 10: Large ribosomal subunit protein eL8



• Molecule 11: Large ribosomal subunit protein uL6



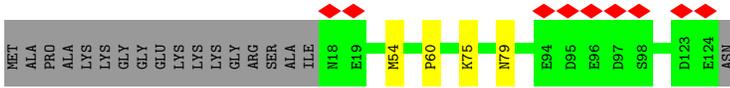
• Molecule 12: Large ribosomal subunit protein uL16



• Molecule 13: Large ribosomal subunit protein uL5



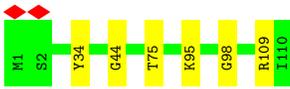
• Molecule 14: Large ribosomal subunit protein eL13



- Molecule 33: Large ribosomal subunit protein eL32



- Molecule 34: Large ribosomal subunit protein eL33



- Molecule 35: Large ribosomal subunit protein eL34



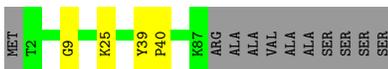
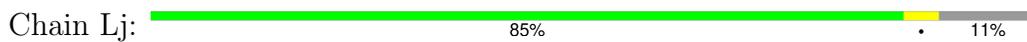
- Molecule 36: Large ribosomal subunit protein uL29



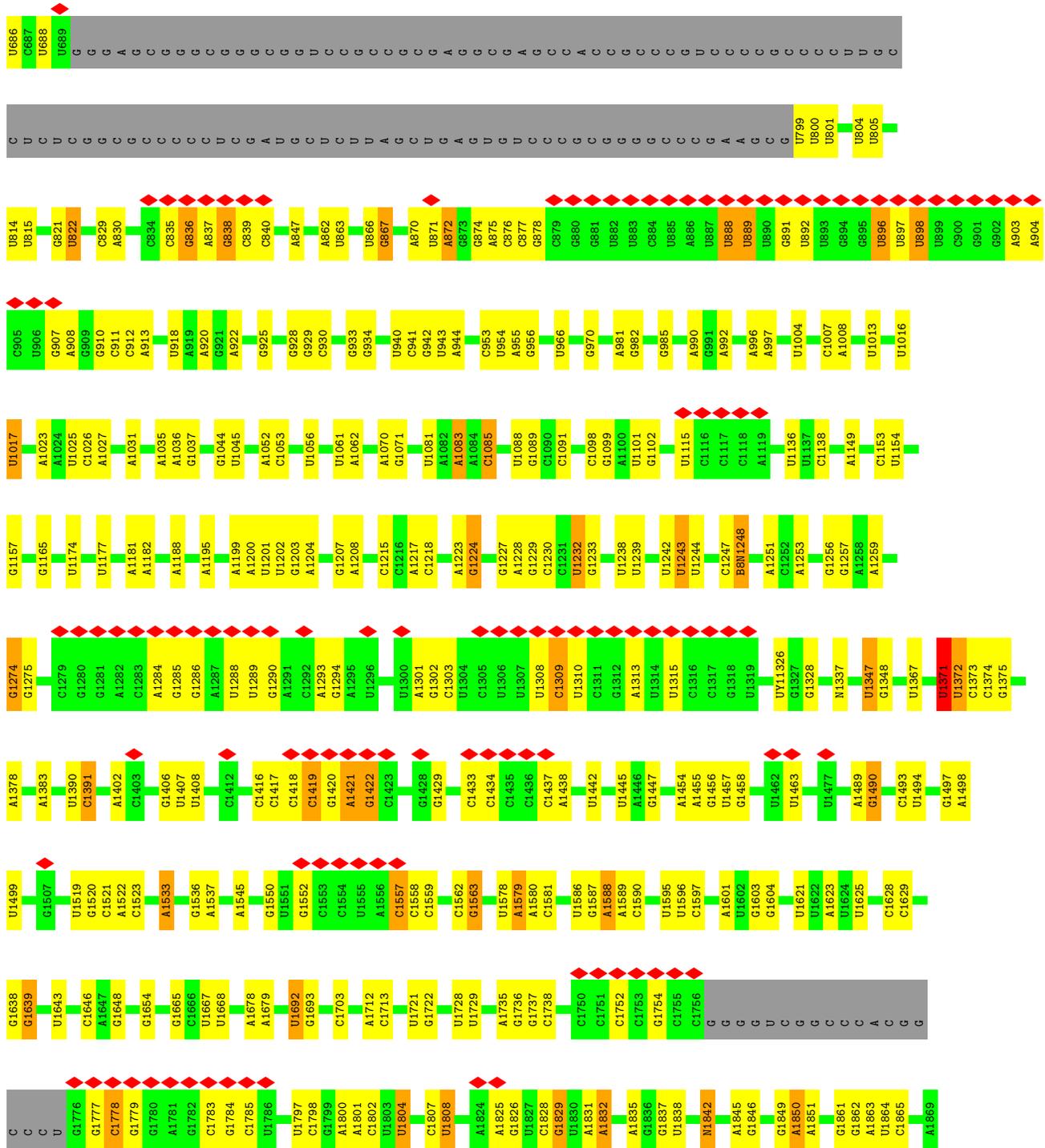
- Molecule 37: Large ribosomal subunit protein eL36



- Molecule 38: Large ribosomal subunit protein eL37

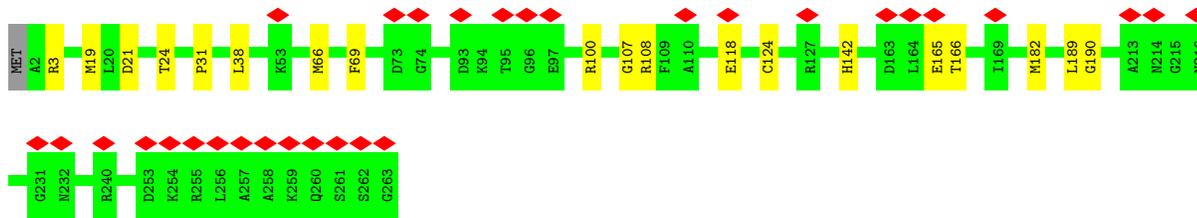


- Molecule 39: Large ribosomal subunit protein eL38

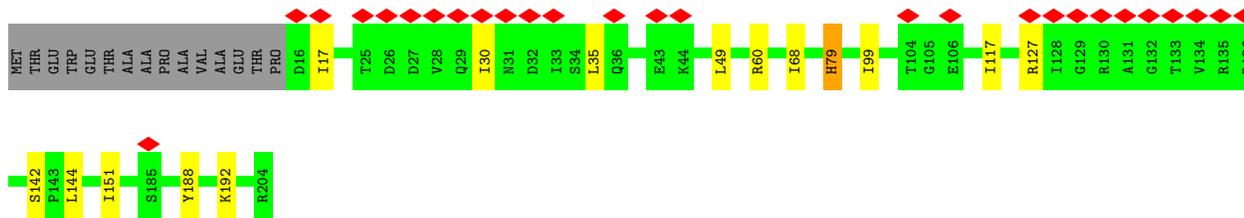
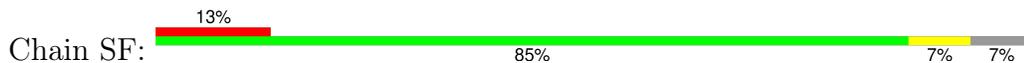


• Molecule 49: Small ribosomal subunit protein uS2

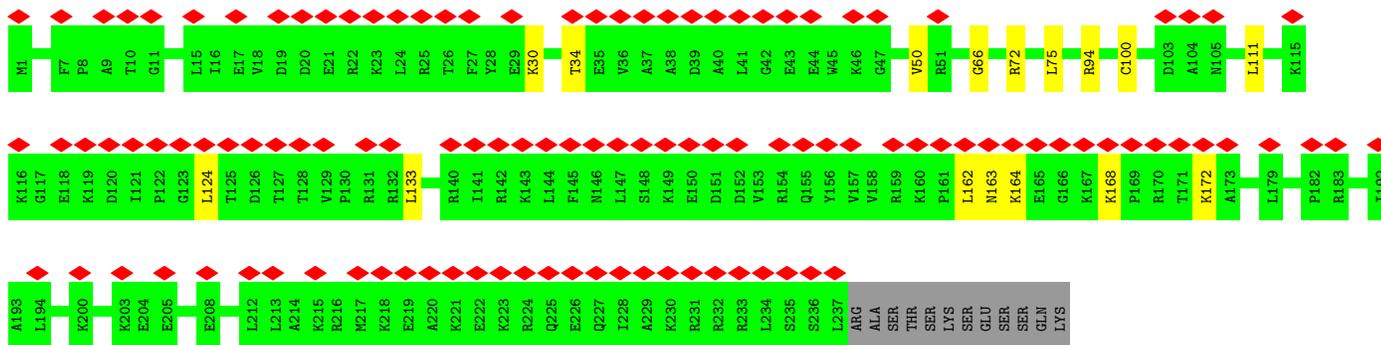




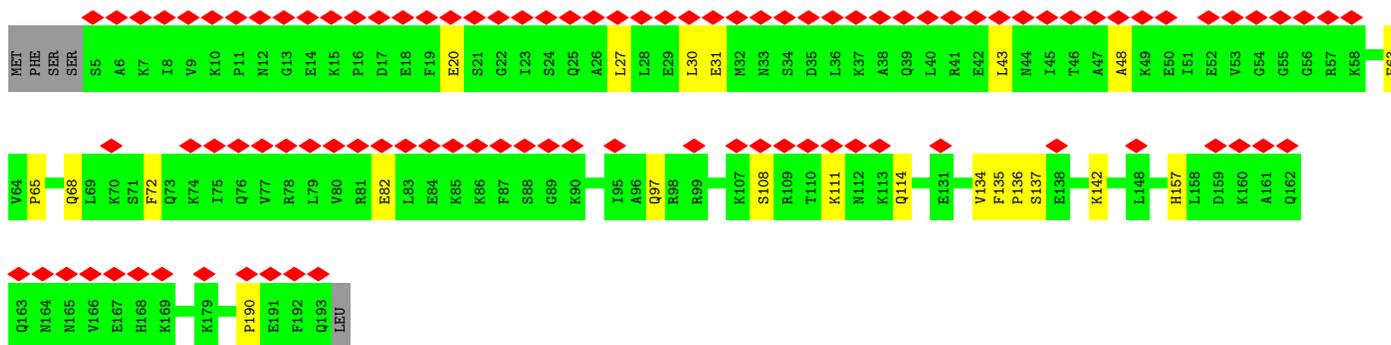
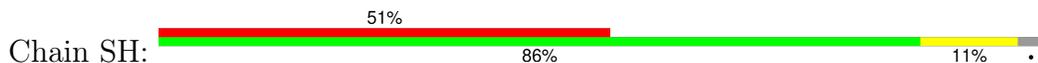
• Molecule 54: Small ribosomal subunit protein uS7



• Molecule 55: Small ribosomal subunit protein eS6



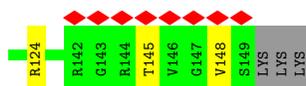
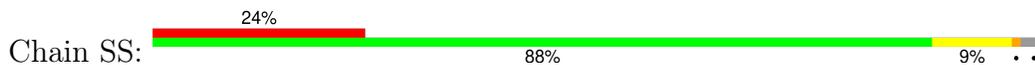
• Molecule 56: Small ribosomal subunit protein eS7



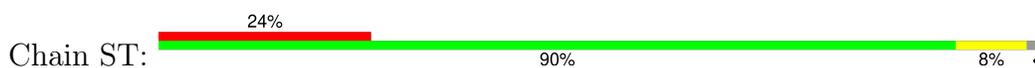
• Molecule 57: Small ribosomal subunit protein eS8



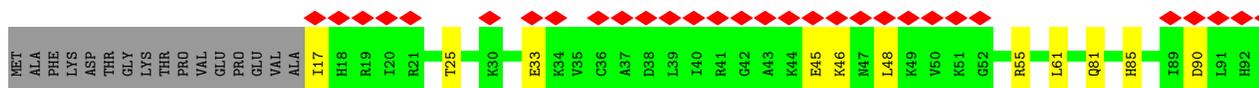
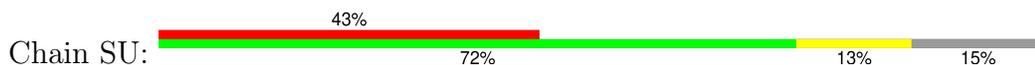
- Molecule 67: Small ribosomal subunit protein uS13



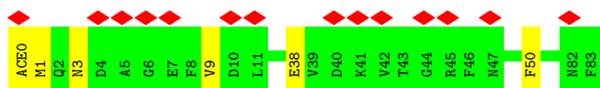
- Molecule 68: Small ribosomal subunit protein eS19



- Molecule 69: Small ribosomal subunit protein uS10



- Molecule 70: 40S ribosomal protein S21



- Molecule 71: Small ribosomal subunit protein uS8

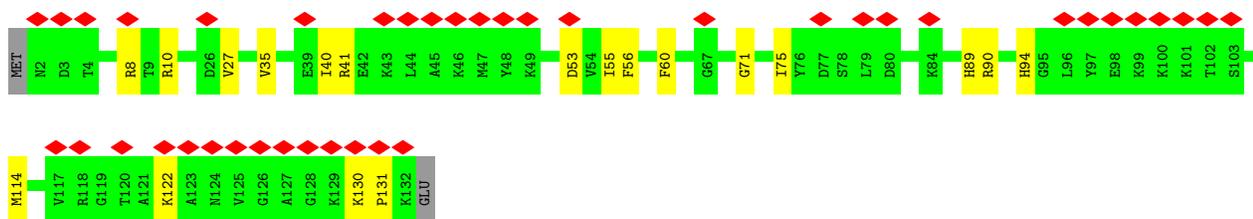
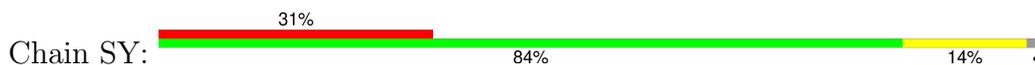




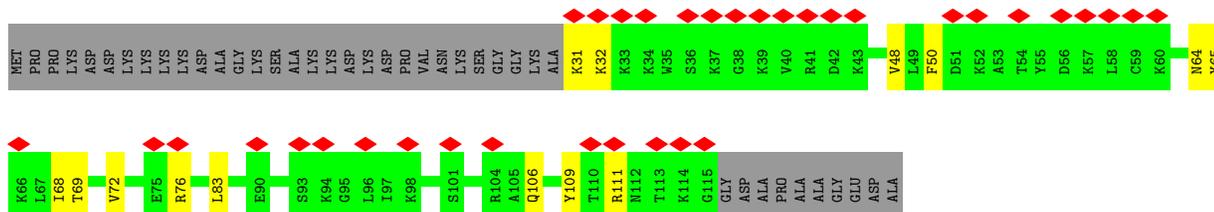
- Molecule 72: Small ribosomal subunit protein uS12



- Molecule 73: 40S ribosomal protein S24



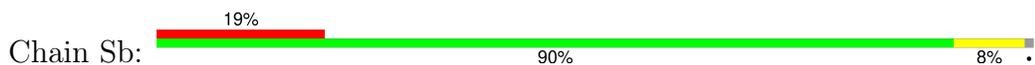
- Molecule 74: Small ribosomal subunit protein eS25



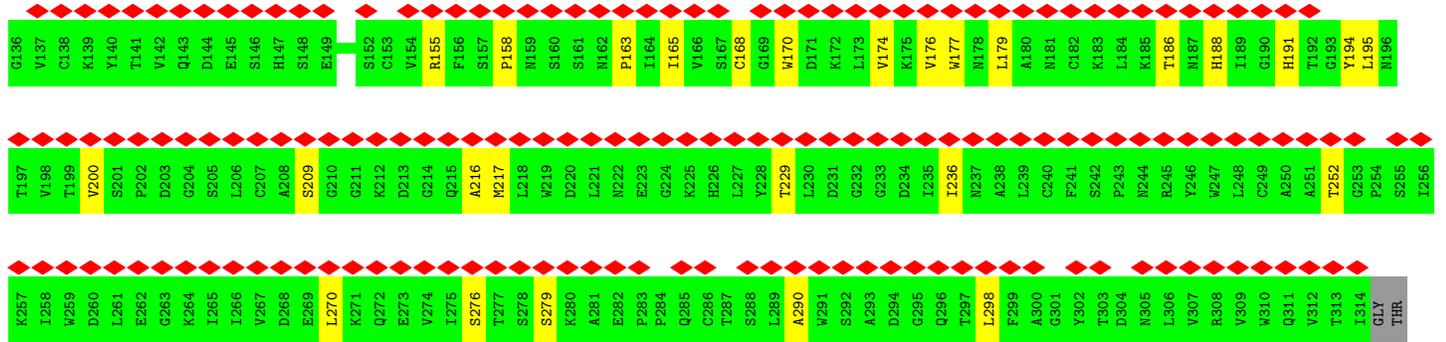
- Molecule 75: Small ribosomal subunit protein eS26



- Molecule 76: Small ribosomal subunit protein eS27



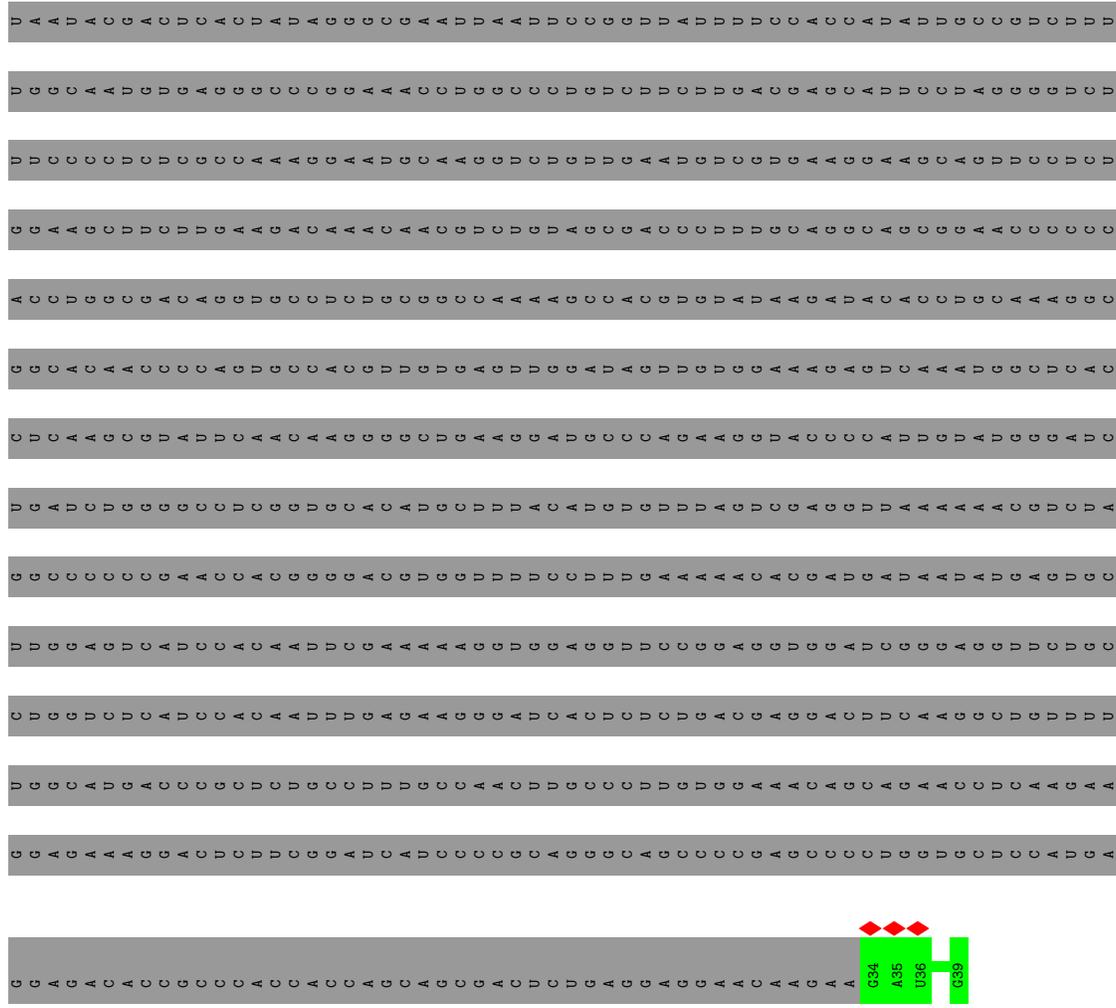
- Molecule 77: Small ribosomal subunit protein eS28



ARG

• Molecule 82: mRNA

Chain mR: 99%



4 Experimental information

| Property | Value | Source |
|--------------------------------------|---|-----------|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, Not provided | |
| Number of particles used | 538472 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope | TFS KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 50 | Depositor |
| Minimum defocus (nm) | 900 | Depositor |
| Maximum defocus (nm) | 2000 | Depositor |
| Magnification | Not provided | |
| Image detector | GATAN K3 BIOQUANTUM (6k x 4k) | Depositor |
| Maximum map value | 1.479 | Depositor |
| Minimum map value | -0.471 | Depositor |
| Average map value | 0.003 | Depositor |
| Map value standard deviation | 0.034 | Depositor |
| Recommended contour level | 0.112 | Depositor |
| Map size (Å) | 427.008, 427.008, 427.008 | wwPDB |
| Map dimensions | 512, 512, 512 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 0.834, 0.834, 0.834 | Depositor |

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: 4AC, HIC, PSU, M3L, 6MZ, 5MC, UR3, HY3, G7M, A2M, SPD, ACE, A1B75, OMC, MA6, K, ZN, B8N, 2MU, PUT, OMG, 1MA, OMU, MLZ, 2MG, UY1, MG, H2U, TRS

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 | L5 | 0.52 | 4/82102 (0.0%) | 0.65 | 8/128082 (0.0%) |
| 2 | L7 | 0.51 | 0/2858 | 0.63 | 2/4455 (0.0%) |
| 3 | L8 | 0.52 | 0/3609 | 0.63 | 0/5623 |
| 4 | LA | 0.41 | 0/1959 | 0.62 | 0/2627 |
| 5 | LB | 0.36 | 0/3295 | 0.59 | 0/4406 |
| 6 | LC | 0.37 | 0/2968 | 0.56 | 0/3985 |
| 7 | LD | 0.33 | 0/2437 | 0.52 | 0/3263 |
| 8 | LE | 0.31 | 0/1821 | 0.52 | 0/2442 |
| 9 | LF | 0.37 | 0/1905 | 0.53 | 0/2539 |
| 10 | LG | 0.31 | 0/1960 | 0.61 | 2/2637 (0.1%) |
| 11 | LH | 0.34 | 0/1537 | 0.52 | 0/2066 |
| 12 | LI | 0.34 | 0/1755 | 0.53 | 0/2344 |
| 13 | LJ | 0.30 | 0/1385 | 0.54 | 0/1852 |
| 14 | LL | 0.31 | 0/1695 | 0.51 | 0/2270 |
| 15 | LM | 0.34 | 0/1142 | 0.51 | 0/1527 |
| 16 | LN | 0.41 | 0/1746 | 0.59 | 0/2338 |
| 17 | LO | 0.37 | 0/1687 | 0.54 | 0/2257 |
| 18 | LP | 0.40 | 0/1268 | 0.58 | 0/1701 |
| 19 | LQ | 0.37 | 0/1537 | 0.58 | 0/2052 |
| 20 | LR | 0.33 | 0/1582 | 0.48 | 0/2091 |
| 21 | LS | 0.36 | 0/1501 | 0.51 | 0/2013 |
| 22 | LT | 0.36 | 0/1326 | 0.56 | 0/1770 |
| 23 | LU | 0.31 | 0/822 | 0.53 | 0/1103 |
| 24 | LV | 0.37 | 0/1003 | 0.54 | 0/1345 |
| 25 | LW | 0.36 | 0/574 | 0.55 | 0/763 |
| 26 | LX | 0.34 | 0/984 | 0.54 | 0/1323 |
| 27 | LY | 0.34 | 0/1132 | 0.54 | 0/1504 |
| 28 | LZ | 0.36 | 0/1130 | 0.58 | 0/1507 |
| 29 | La | 0.41 | 0/1191 | 0.59 | 0/1591 |
| 30 | Lb | 0.33 | 0/900 | 0.52 | 0/1187 |
| 31 | Lc | 0.36 | 0/780 | 0.54 | 0/1046 |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|----------------|-------------|----------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 32 | Ld | 0.36 | 0/903 | 0.54 | 0/1216 |
| 33 | Le | 0.39 | 0/1071 | 0.57 | 0/1429 |
| 34 | Lf | 0.39 | 0/903 | 0.60 | 0/1208 |
| 35 | Lg | 0.35 | 0/916 | 0.52 | 0/1220 |
| 36 | Lh | 0.32 | 0/1023 | 0.49 | 0/1351 |
| 37 | Li | 0.31 | 0/843 | 0.48 | 0/1115 |
| 38 | Lj | 0.42 | 0/720 | 0.65 | 0/952 |
| 39 | Lk | 0.30 | 0/575 | 0.51 | 0/761 |
| 40 | Ll | 0.38 | 0/454 | 0.60 | 0/599 |
| 41 | Lm | 0.35 | 0/426 | 0.52 | 0/564 |
| 42 | Ln | 0.38 | 0/241 | 0.59 | 0/305 |
| 43 | Lo | 0.37 | 0/867 | 0.55 | 0/1141 |
| 44 | Lp | 0.39 | 0/718 | 0.61 | 0/953 |
| 45 | Lr | 0.36 | 0/1018 | 0.49 | 0/1366 |
| 46 | NC | 0.31 | 0/52 | 0.73 | 0/68 |
| 47 | Pt | 0.37 | 0/1640 | 0.71 | 1/2555 (0.0%) |
| 48 | S2 | 0.45 | 2/37935 (0.0%) | 0.61 | 4/59125 (0.0%) |
| 49 | SA | 0.29 | 0/1785 | 0.48 | 0/2426 |
| 50 | SB | 0.33 | 0/1832 | 0.50 | 0/2449 |
| 51 | SC | 0.32 | 0/1762 | 0.47 | 0/2381 |
| 52 | SD | 0.26 | 0/1784 | 0.46 | 0/2403 |
| 53 | SE | 0.31 | 0/2118 | 0.53 | 0/2849 |
| 54 | SF | 0.28 | 0/1516 | 0.53 | 0/2037 |
| 55 | SG | 0.26 | 0/1946 | 0.51 | 0/2590 |
| 56 | SH | 0.27 | 0/1540 | 0.51 | 0/2064 |
| 57 | SI | 0.33 | 0/1715 | 0.53 | 0/2287 |
| 58 | SJ | 0.30 | 0/1550 | 0.54 | 0/2069 |
| 59 | SK | 0.24 | 0/834 | 0.47 | 0/1125 |
| 60 | SL | 0.34 | 0/1221 | 0.50 | 0/1632 |
| 61 | SM | 0.20 | 0/960 | 0.50 | 0/1286 |
| 62 | SN | 0.31 | 0/1232 | 0.49 | 0/1656 |
| 63 | SO | 0.34 | 0/1023 | 0.57 | 0/1372 |
| 64 | SP | 0.25 | 0/1100 | 0.54 | 0/1470 |
| 65 | SQ | 0.29 | 0/1142 | 0.51 | 0/1528 |
| 66 | SR | 0.26 | 0/1098 | 0.50 | 0/1474 |
| 67 | SS | 0.27 | 0/1232 | 0.50 | 0/1651 |
| 68 | ST | 0.27 | 0/1122 | 0.49 | 0/1504 |
| 69 | SU | 0.28 | 0/813 | 0.51 | 0/1092 |
| 70 | SV | 0.38 | 1/645 (0.2%) | 0.54 | 0/862 |
| 71 | SW | 0.34 | 0/1051 | 0.48 | 0/1406 |
| 72 | SX | 0.34 | 0/1096 | 0.57 | 0/1461 |
| 73 | SY | 0.26 | 0/1083 | 0.53 | 0/1438 |
| 74 | SZ | 0.25 | 0/691 | 0.57 | 0/922 |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|-----------------|-------------|------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 75 | Sa | 0.35 | 0/805 | 0.54 | 0/1079 |
| 76 | Sb | 0.30 | 0/665 | 0.55 | 0/891 |
| 77 | Sc | 0.29 | 0/514 | 0.59 | 0/688 |
| 78 | Sd | 0.28 | 0/470 | 0.50 | 0/623 |
| 79 | Se | 0.28 | 0/397 | 0.54 | 0/519 |
| 80 | Sf | 0.21 | 0/525 | 0.58 | 0/695 |
| 81 | Sg | 0.22 | 0/2493 | 0.51 | 0/3394 |
| 82 | mR | 0.37 | 0/149 | 0.97 | 0/231 |
| All | All | 0.43 | 7/221805 (0.0%) | 0.60 | 17/325191 (0.0%) |

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 |
|-----|-------|---------------------|---------------------|
| 6 | LC | 0 | 1 |
| 8 | LE | 0 | 1 |
| 9 | LF | 0 | 1 |
| 10 | LG | 0 | 2 |
| 12 | LI | 0 | 1 |
| 13 | LJ | 0 | 1 |
| 14 | LL | 0 | 1 |
| 16 | LN | 0 | 1 |
| 18 | LP | 0 | 1 |
| 23 | LU | 0 | 1 |
| 30 | Lb | 0 | 1 |
| 34 | Lf | 0 | 2 |
| 43 | Lo | 0 | 1 |
| 50 | SB | 0 | 1 |
| 58 | SJ | 0 | 1 |
| 63 | SO | 0 | 2 |
| 65 | SQ | 0 | 1 |
| 67 | SS | 0 | 2 |
| 72 | SX | 0 | 1 |
| All | All | 0 | 23 |

All (7) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|------|-------------|----------|
| 70 | SV | 0 | ACE | C-N | 5.97 | 1.45 | 1.33 |
| 1 | L5 | 4590 | A2M | O3'-P | 5.29 | 1.61 | 1.56 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|------|-------------|----------|
| 1 | L5 | 1871 | A2M | O3'-P | 5.23 | 1.61 | 1.56 |
| 1 | L5 | 3718 | A2M | O3'-P | 5.12 | 1.61 | 1.56 |
| 48 | S2 | 1804 | OMU | O3'-P | 5.07 | 1.61 | 1.56 |
| 48 | S2 | 99 | A2M | O3'-P | 5.05 | 1.61 | 1.56 |
| 1 | L5 | 3724 | A2M | O3'-P | 5.03 | 1.61 | 1.56 |

All (17) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 417 | G | O4'-C1'-N9 | 5.81 | 116.92 | 108.20 |
| 1 | L5 | 3756 | A | O4'-C1'-N9 | 5.78 | 116.87 | 108.20 |
| 1 | L5 | 1444 | G | N9-C1'-C2' | 5.74 | 120.60 | 112.00 |
| 1 | L5 | 1523 | A | N9-C1'-C2' | 5.63 | 120.44 | 112.00 |
| 48 | S2 | 1247 | C | C4'-C3'-O3' | 5.57 | 117.75 | 109.40 |
| 48 | S2 | 482 | G | P-O5'-C5' | 5.51 | 129.16 | 120.90 |
| 1 | L5 | 2304 | U | O4'-C1'-C2' | 5.49 | 111.29 | 105.80 |
| 2 | L7 | 53 | U | C5'-C4'-C3' | -5.47 | 106.99 | 115.20 |
| 2 | L7 | 7 | G | O5'-C5'-C4' | -5.31 | 103.54 | 111.50 |
| 1 | L5 | 312 | G | C5'-C4'-C3' | -5.25 | 108.12 | 116.00 |
| 10 | LG | 104 | PRO | CA-C-N | 5.21 | 129.48 | 121.19 |
| 10 | LG | 104 | PRO | C-N-CA | 5.21 | 129.48 | 121.19 |
| 1 | L5 | 311 | G | O3'-P-O5' | -5.20 | 96.20 | 104.00 |
| 48 | S2 | 666 | U | N1-C1'-C2' | 5.15 | 119.73 | 112.00 |
| 1 | L5 | 4510 | A | N9-C1'-C2' | 5.14 | 119.72 | 112.00 |
| 48 | S2 | 1371 | U | C5'-C4'-O4' | 5.14 | 116.81 | 109.10 |
| 47 | Pt | 1 | U | N1-C1'-C2' | 5.09 | 119.63 | 112.00 |

There are no chirality outliers.

All (23) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 6 | LC | 201 | ARG | Sidechain |
| 8 | LE | 123 | ARG | Sidechain |
| 9 | LF | 245 | ARG | Sidechain |
| 10 | LG | 139 | GLY | Peptide |
| 10 | LG | 62 | ARG | Sidechain |
| 12 | LI | 4 | ARG | Sidechain |
| 13 | LJ | 75 | ARG | Peptide |
| 14 | LL | 35 | ARG | Sidechain |
| 16 | LN | 50 | ARG | Sidechain |
| 18 | LP | 131 | ARG | Sidechain |
| 23 | LU | 101 | ARG | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 30 | Lb | 14 | ARG | Sidechain |
| 34 | Lf | 44 | GLY | Peptide |
| 34 | Lf | 98 | GLY | Peptide |
| 43 | Lo | 40 | ARG | Sidechain |
| 50 | SB | 51 | ARG | Sidechain |
| 58 | SJ | 5 | ARG | Sidechain |
| 63 | SO | 137 | SER | Peptide |
| 63 | SO | 138 | ASP | Peptide |
| 65 | SQ | 58 | LEU | Peptide |
| 67 | SS | 38 | ARG | Sidechain |
| 67 | SS | 99 | LEU | Peptide |
| 72 | SX | 89 | GLY | 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 | L5 | 76136 | 0 | 38528 | 396 | 0 |
| 2 | L7 | 2558 | 0 | 1295 | 8 | 0 |
| 3 | L8 | 3316 | 0 | 1687 | 17 | 0 |
| 4 | LA | 1921 | 0 | 2022 | 11 | 0 |
| 5 | LB | 3240 | 0 | 3377 | 16 | 0 |
| 6 | LC | 2914 | 0 | 3087 | 6 | 0 |
| 7 | LD | 2391 | 0 | 2426 | 7 | 0 |
| 8 | LE | 1787 | 0 | 1945 | 12 | 0 |
| 9 | LF | 1870 | 0 | 1996 | 9 | 0 |
| 10 | LG | 1927 | 0 | 2074 | 10 | 0 |
| 11 | LH | 1518 | 0 | 1600 | 3 | 0 |
| 12 | LI | 1716 | 0 | 1765 | 9 | 0 |
| 13 | LJ | 1362 | 0 | 1399 | 10 | 0 |
| 14 | LL | 1664 | 0 | 1773 | 3 | 0 |
| 15 | LM | 1120 | 0 | 1187 | 1 | 0 |
| 16 | LN | 1701 | 0 | 1749 | 9 | 0 |
| 17 | LO | 1655 | 0 | 1799 | 3 | 0 |
| 18 | LP | 1242 | 0 | 1269 | 5 | 0 |
| 19 | LQ | 1513 | 0 | 1628 | 5 | 0 |
| 20 | LR | 1566 | 0 | 1729 | 1 | 0 |
| 21 | LS | 1461 | 0 | 1502 | 4 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 22 | LT | 1298 | 0 | 1366 | 3 | 0 |
| 23 | LU | 808 | 0 | 831 | 5 | 0 |
| 24 | LV | 989 | 0 | 1047 | 3 | 0 |
| 25 | LW | 562 | 0 | 569 | 1 | 0 |
| 26 | LX | 967 | 0 | 1040 | 3 | 0 |
| 27 | LY | 1115 | 0 | 1205 | 3 | 0 |
| 28 | LZ | 1107 | 0 | 1182 | 5 | 0 |
| 29 | La | 1162 | 0 | 1213 | 3 | 0 |
| 30 | Lb | 898 | 0 | 983 | 7 | 0 |
| 31 | Lc | 770 | 0 | 809 | 5 | 0 |
| 32 | Ld | 888 | 0 | 930 | 2 | 0 |
| 33 | Le | 1053 | 0 | 1147 | 3 | 0 |
| 34 | Lf | 884 | 0 | 923 | 2 | 0 |
| 35 | Lg | 906 | 0 | 998 | 1 | 0 |
| 36 | Lh | 1015 | 0 | 1148 | 4 | 0 |
| 37 | Li | 832 | 0 | 917 | 2 | 0 |
| 38 | Lj | 705 | 0 | 737 | 2 | 0 |
| 39 | Lk | 569 | 0 | 637 | 1 | 0 |
| 40 | Ll | 444 | 0 | 482 | 3 | 0 |
| 41 | Lm | 432 | 0 | 471 | 0 | 0 |
| 42 | Ln | 240 | 0 | 289 | 0 | 0 |
| 43 | Lo | 864 | 0 | 929 | 0 | 0 |
| 44 | Lp | 708 | 0 | 756 | 5 | 0 |
| 45 | Lr | 1005 | 0 | 1072 | 2 | 0 |
| 46 | NC | 118 | 0 | 55 | 2 | 0 |
| 47 | Pt | 1597 | 0 | 817 | 13 | 0 |
| 48 | S2 | 35736 | 0 | 18083 | 224 | 0 |
| 49 | SA | 1750 | 0 | 1755 | 11 | 0 |
| 50 | SB | 1806 | 0 | 1888 | 6 | 0 |
| 51 | SC | 1725 | 0 | 1813 | 16 | 0 |
| 52 | SD | 1756 | 0 | 1852 | 12 | 0 |
| 53 | SE | 2076 | 0 | 2177 | 13 | 0 |
| 54 | SF | 1495 | 0 | 1549 | 12 | 0 |
| 55 | SG | 1923 | 0 | 2089 | 11 | 0 |
| 56 | SH | 1517 | 0 | 1605 | 12 | 0 |
| 57 | SI | 1686 | 0 | 1772 | 10 | 0 |
| 58 | SJ | 1525 | 0 | 1640 | 6 | 0 |
| 59 | SK | 810 | 0 | 836 | 3 | 0 |
| 60 | SL | 1200 | 0 | 1271 | 4 | 0 |
| 61 | SM | 950 | 0 | 987 | 16 | 0 |
| 62 | SN | 1208 | 0 | 1293 | 5 | 0 |
| 63 | SO | 1010 | 0 | 1034 | 3 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 64 | SP | 1078 | 0 | 1121 | 11 | 0 |
| 65 | SQ | 1124 | 0 | 1193 | 9 | 0 |
| 66 | SR | 1083 | 0 | 1137 | 9 | 0 |
| 67 | SS | 1214 | 0 | 1275 | 9 | 0 |
| 68 | ST | 1103 | 0 | 1133 | 8 | 0 |
| 69 | SU | 803 | 0 | 873 | 7 | 0 |
| 70 | SV | 640 | 0 | 638 | 5 | 0 |
| 71 | SW | 1034 | 0 | 1080 | 7 | 0 |
| 72 | SX | 1088 | 0 | 1149 | 3 | 0 |
| 73 | SY | 1065 | 0 | 1142 | 13 | 0 |
| 74 | SZ | 683 | 0 | 761 | 7 | 0 |
| 75 | Sa | 792 | 0 | 841 | 4 | 0 |
| 76 | Sb | 651 | 0 | 672 | 4 | 0 |
| 77 | Sc | 512 | 0 | 541 | 6 | 0 |
| 78 | Sd | 459 | 0 | 448 | 2 | 0 |
| 79 | Se | 395 | 0 | 434 | 1 | 0 |
| 80 | Sf | 515 | 0 | 521 | 12 | 0 |
| 81 | Sg | 2436 | 0 | 2393 | 22 | 0 |
| 82 | mR | 133 | 0 | 66 | 0 | 0 |
| 83 | L5 | 114 | 0 | 0 | 0 | 0 |
| 83 | L7 | 3 | 0 | 0 | 0 | 0 |
| 83 | L8 | 5 | 0 | 0 | 0 | 0 |
| 83 | LA | 3 | 0 | 0 | 0 | 0 |
| 83 | LH | 1 | 0 | 0 | 0 | 0 |
| 83 | LI | 1 | 0 | 0 | 0 | 0 |
| 83 | LL | 1 | 0 | 0 | 0 | 0 |
| 83 | LN | 1 | 0 | 0 | 0 | 0 |
| 83 | LQ | 1 | 0 | 0 | 0 | 0 |
| 83 | Lb | 1 | 0 | 0 | 0 | 0 |
| 83 | Le | 1 | 0 | 0 | 0 | 0 |
| 83 | Lf | 1 | 0 | 0 | 0 | 0 |
| 83 | Ll | 1 | 0 | 0 | 0 | 0 |
| 83 | S2 | 32 | 0 | 0 | 0 | 0 |
| 83 | SL | 1 | 0 | 0 | 0 | 0 |
| 83 | SO | 1 | 0 | 0 | 0 | 0 |
| 83 | ST | 1 | 0 | 0 | 0 | 0 |
| 83 | Sa | 1 | 0 | 0 | 0 | 0 |
| 84 | L5 | 42 | 0 | 84 | 5 | 0 |
| 85 | L5 | 120 | 0 | 228 | 2 | 0 |
| 85 | S2 | 20 | 0 | 38 | 0 | 0 |
| 86 | L5 | 26 | 0 | 0 | 1 | 0 |
| 87 | L5 | 16 | 0 | 24 | 1 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 88 | L5 | 271 | 0 | 0 | 0 | 0 |
| 88 | L7 | 5 | 0 | 0 | 0 | 0 |
| 88 | L8 | 6 | 0 | 0 | 0 | 0 |
| 88 | LL | 1 | 0 | 0 | 0 | 0 |
| 88 | LN | 2 | 0 | 0 | 0 | 0 |
| 88 | Lj | 1 | 0 | 0 | 0 | 0 |
| 88 | Lo | 1 | 0 | 0 | 0 | 0 |
| 88 | S2 | 83 | 0 | 0 | 0 | 0 |
| 88 | Sd | 1 | 0 | 0 | 0 | 0 |
| 89 | Lg | 1 | 0 | 0 | 0 | 0 |
| 89 | Lj | 1 | 0 | 0 | 0 | 0 |
| 89 | Lm | 1 | 0 | 0 | 0 | 0 |
| 89 | Lo | 1 | 0 | 0 | 0 | 0 |
| 89 | Lp | 1 | 0 | 0 | 0 | 0 |
| 89 | Sa | 1 | 0 | 0 | 0 | 0 |
| 89 | Sd | 1 | 0 | 0 | 0 | 0 |
| 89 | Sf | 1 | 0 | 0 | 0 | 0 |
| 90 | L5 | 4442 | 0 | 0 | 1 | 0 |
| 90 | L7 | 81 | 0 | 0 | 0 | 0 |
| 90 | L8 | 15 | 0 | 0 | 0 | 0 |
| 90 | LA | 130 | 0 | 0 | 0 | 0 |
| 90 | LB | 142 | 0 | 0 | 1 | 0 |
| 90 | LC | 116 | 0 | 0 | 0 | 0 |
| 90 | LD | 38 | 0 | 0 | 0 | 0 |
| 90 | LE | 7 | 0 | 0 | 0 | 0 |
| 90 | LF | 54 | 0 | 0 | 0 | 0 |
| 90 | LG | 17 | 0 | 0 | 0 | 0 |
| 90 | LH | 17 | 0 | 0 | 0 | 0 |
| 90 | LI | 62 | 0 | 0 | 0 | 0 |
| 90 | LJ | 3 | 0 | 0 | 0 | 0 |
| 90 | LL | 57 | 0 | 0 | 0 | 0 |
| 90 | LM | 11 | 0 | 0 | 0 | 0 |
| 90 | LN | 121 | 0 | 0 | 0 | 0 |
| 90 | LO | 79 | 0 | 0 | 0 | 0 |
| 90 | LP | 62 | 0 | 0 | 0 | 0 |
| 90 | LQ | 87 | 0 | 0 | 0 | 0 |
| 90 | LR | 57 | 0 | 0 | 0 | 0 |
| 90 | LS | 46 | 0 | 0 | 0 | 0 |
| 90 | LT | 64 | 0 | 0 | 0 | 0 |
| 90 | LV | 43 | 0 | 0 | 0 | 0 |
| 90 | LW | 12 | 0 | 0 | 0 | 0 |
| 90 | LX | 22 | 0 | 0 | 0 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 90 | LY | 16 | 0 | 0 | 0 | 0 |
| 90 | LZ | 5 | 0 | 0 | 0 | 0 |
| 90 | La | 87 | 0 | 0 | 0 | 0 |
| 90 | Lb | 33 | 0 | 0 | 0 | 0 |
| 90 | Lc | 8 | 0 | 0 | 0 | 0 |
| 90 | Ld | 29 | 0 | 0 | 0 | 0 |
| 90 | Le | 88 | 0 | 0 | 0 | 0 |
| 90 | Lf | 38 | 0 | 0 | 0 | 0 |
| 90 | Lg | 60 | 0 | 0 | 0 | 0 |
| 90 | Lh | 15 | 0 | 0 | 0 | 0 |
| 90 | Li | 11 | 0 | 0 | 0 | 0 |
| 90 | Lj | 61 | 0 | 0 | 0 | 0 |
| 90 | Lk | 1 | 0 | 0 | 0 | 0 |
| 90 | Ll | 33 | 0 | 0 | 0 | 0 |
| 90 | Lm | 16 | 0 | 0 | 0 | 0 |
| 90 | Ln | 13 | 0 | 0 | 0 | 0 |
| 90 | Lo | 42 | 0 | 0 | 0 | 0 |
| 90 | Lp | 30 | 0 | 0 | 0 | 0 |
| 90 | Lr | 19 | 0 | 0 | 0 | 0 |
| 90 | NC | 5 | 0 | 0 | 0 | 0 |
| 90 | Pt | 3 | 0 | 0 | 0 | 0 |
| 90 | S2 | 850 | 0 | 0 | 2 | 0 |
| 90 | Sb | 6 | 0 | 0 | 0 | 0 |
| 90 | Se | 2 | 0 | 0 | 0 | 0 |
| 90 | mR | 3 | 0 | 0 | 0 | 0 |
| All | All | 219527 | 0 | 157826 | 989 | 0 |

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 3.

All (989) 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) |
|--------------------|-------------------|--------------------------|-------------------|
| 1:L5:2485:U:H3 | 1:L5:2493:G:H1 | 1.09 | 0.99 |
| 1:L5:3946:G:N2 | 1:L5:4067:U:O2 | 2.06 | 0.87 |
| 47:Pt:18:G:H1 | 47:Pt:55:PSU:HN3 | 1.25 | 0.84 |
| 1:L5:3944:OMG:HM22 | 1:L5:3945:A:H5'' | 1.62 | 0.81 |
| 61:SM:52:LEU:HB2 | 61:SM:78:LYS:HE3 | 1.62 | 0.81 |
| 1:L5:4108:G:H2' | 1:L5:4109:G:C8 | 2.18 | 0.79 |
| 48:S2:73:C:H42 | 55:SG:168:LYS:HD3 | 1.48 | 0.79 |
| 48:S2:925:G:H1 | 48:S2:1017:U:H3 | 1.32 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 48:S2:1285:G:H1 | 61:SM:57:ASP:HB3 | 1.50 | 0.76 |
| 1:L5:517:C:H2' | 1:L5:518:G:C8 | 2.21 | 0.74 |
| 48:S2:1286:G:H21 | 48:S2:1313:A:H62 | 1.35 | 0.74 |
| 1:L5:1100:U:H3 | 1:L5:1195:G:H1 | 1.36 | 0.73 |
| 48:S2:903:A:H2' | 48:S2:904:A:C8 | 2.23 | 0.73 |
| 48:S2:1286:G:N2 | 48:S2:1313:A:H62 | 1.86 | 0.73 |
| 61:SM:81:ASP:HB3 | 61:SM:84:LYS:HG2 | 1.71 | 0.73 |
| 48:S2:928:G:H1 | 48:S2:1013:U:H3 | 1.35 | 0.72 |
| 1:L5:3946:G:H1 | 1:L5:4067:U:H3 | 1.39 | 0.71 |
| 48:S2:1228:A:H2' | 48:S2:1229:G:C8 | 2.25 | 0.71 |
| 48:S2:546:G:H2' | 48:S2:547:G:H8 | 1.56 | 0.69 |
| 1:L5:3756:A:HO2' | 1:L5:3757:G:H8 | 1.41 | 0.68 |
| 48:S2:145:G:H2' | 48:S2:146:G:C8 | 2.28 | 0.68 |
| 1:L5:517:C:H2' | 1:L5:518:G:N7 | 2.09 | 0.67 |
| 1:L5:1339:U:H2' | 1:L5:1340:OMC:C6 | 2.29 | 0.67 |
| 73:SY:114:MET:HE2 | 73:SY:122:LYS:HE2 | 1.75 | 0.67 |
| 48:S2:1091:C:HO2' | 71:SW:2:VAL:N | 1.92 | 0.66 |
| 48:S2:367:U:H4' | 48:S2:371:A:C8 | 2.30 | 0.66 |
| 62:SN:16:LEU:HD12 | 62:SN:17:PRO:HD2 | 1.78 | 0.66 |
| 40:L1:9:ILE:HD12 | 40:L1:51:LEU:HD11 | 1.77 | 0.66 |
| 52:SD:40:ARG:HB2 | 52:SD:47:GLU:HB2 | 1.78 | 0.65 |
| 57:SI:34:ALA:HB2 | 57:SI:56:ARG:HD2 | 1.78 | 0.65 |
| 66:SR:17:ILE:HD11 | 66:SR:54:VAL:HG13 | 1.77 | 0.65 |
| 1:L5:3653:A:H4' | 4:LA:179:ILE:O | 1.97 | 0.65 |
| 81:Sg:236:ILE:HG22 | 81:Sg:252:THR:HG22 | 1.77 | 0.64 |
| 13:LJ:15:LEU:HD21 | 13:LJ:134:LEU:HD13 | 1.80 | 0.64 |
| 1:L5:1404:G:H2' | 1:L5:1405:C:C6 | 2.32 | 0.64 |
| 1:L5:3908[A]:A:H61 | 46:NC:27:GLU:HB3 | 1.60 | 0.64 |
| 1:L5:2351:OMC:HM22 | 1:L5:2352:U:H5' | 1.78 | 0.63 |
| 16:LN:123:GLU:HG2 | 16:LN:128:LYS:HG2 | 1.81 | 0.63 |
| 81:Sg:5:MET:HE3 | 81:Sg:270:LEU:HD11 | 1.80 | 0.63 |
| 1:L5:496:G:H2' | 1:L5:497:G:C8 | 2.34 | 0.63 |
| 48:S2:546:G:H2' | 48:S2:547:G:C8 | 2.34 | 0.63 |
| 48:S2:1371:U:H5'' | 48:S2:1372:U:H5 | 1.64 | 0.62 |
| 1:L5:490:C:H2' | 1:L5:491:G:H8 | 1.65 | 0.62 |
| 67:SS:34:LYS:HG2 | 67:SS:103:LEU:HD23 | 1.82 | 0.62 |
| 1:L5:2495:U:H2' | 1:L5:2496:G:H8 | 1.65 | 0.62 |
| 31:Lc:17:ARG:HD3 | 31:Lc:104:ILE:HA | 1.82 | 0.61 |
| 1:L5:1400:G:H2' | 1:L5:1401:C:C6 | 2.35 | 0.61 |
| 48:S2:319:C:H2' | 48:S2:320:G:C8 | 2.35 | 0.61 |
| 1:L5:492:U:H2' | 1:L5:493:G:C8 | 2.36 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 48:S2:888:U:H3' | 48:S2:889:U:H5' | 1.82 | 0.61 |
| 1:L5:664:G:N2 | 1:L5:667:A:H61 | 1.98 | 0.61 |
| 48:S2:494:C:N4 | 48:S2:509:OMG:HN22 | 1.97 | 0.61 |
| 54:SF:30:ILE:HG23 | 54:SF:117:ILE:HD11 | 1.82 | 0.61 |
| 3:L8:128:C:H2' | 3:L8:129:C:C6 | 2.35 | 0.61 |
| 48:S2:115:U:H2' | 48:S2:116:OMU:C6 | 2.32 | 0.60 |
| 1:L5:492:U:H2' | 1:L5:493:G:H8 | 1.66 | 0.60 |
| 51:SC:263:LYS:HE2 | 70:SV:50:PHE:HZ | 1.66 | 0.60 |
| 1:L5:4727:A:H5' | 5:LB:129:ALA:O | 2.01 | 0.60 |
| 1:L5:4935:C:H2' | 1:L5:4936:G:C8 | 2.36 | 0.60 |
| 81:Sg:133:ASN:O | 81:Sg:134:THR:HG22 | 2.01 | 0.60 |
| 52:SD:16:ILE:HD11 | 78:Sd:36:LEU:HD23 | 1.84 | 0.60 |
| 1:L5:4260:U:H2' | 1:L5:4261:C:C6 | 2.37 | 0.60 |
| 1:L5:4220:6MZ:O5' | 1:L5:4220:6MZ:H8 | 2.02 | 0.60 |
| 48:S2:1417:C:H2' | 48:S2:1418:C:C6 | 2.37 | 0.60 |
| 9:LF:143:GLY:HA3 | 9:LF:240:ILE:HB | 1.82 | 0.59 |
| 48:S2:145:G:H2' | 48:S2:146:G:H8 | 1.67 | 0.59 |
| 48:S2:441:C:H4' | 48:S2:1737:G:O2' | 2.02 | 0.59 |
| 1:L5:4873:G:C8 | 17:LO:179:LYS:HE3 | 2.37 | 0.59 |
| 1:L5:516:C:H2' | 1:L5:517:C:C6 | 2.38 | 0.59 |
| 1:L5:2492:C:H2' | 1:L5:2493:G:H8 | 1.66 | 0.59 |
| 48:S2:877:C:H2' | 48:S2:878:G:C8 | 2.37 | 0.59 |
| 48:S2:981:A:H2' | 48:S2:982:G:C8 | 2.36 | 0.59 |
| 1:L5:488:G:H2' | 1:L5:489:C:C6 | 2.38 | 0.59 |
| 48:S2:74:G:H1' | 48:S2:76:U:C4 | 2.38 | 0.59 |
| 1:L5:1278:C:H2' | 1:L5:1279:A:O4' | 2.02 | 0.59 |
| 1:L5:4881:U:H4' | 1:L5:4882:U:C5 | 2.38 | 0.59 |
| 47:Pt:34:C:H2' | 47:Pt:35:U:H5'' | 1.85 | 0.59 |
| 48:S2:394:G:H5'' | 60:SL:81:LYS:HB3 | 1.83 | 0.59 |
| 48:S2:1667:U:H2' | 48:S2:1668:U:C6 | 2.38 | 0.59 |
| 1:L5:4400:G:H4' | 84:L5:5615:PUT:H41 | 1.85 | 0.58 |
| 48:S2:382:C:H2' | 48:S2:383:G:H8 | 1.69 | 0.58 |
| 48:S2:195:C:H2' | 48:S2:196:C:C6 | 2.37 | 0.58 |
| 1:L5:4067:U:H2' | 1:L5:4068:U:C6 | 2.38 | 0.58 |
| 81:Sg:87:LEU:HB2 | 81:Sg:101:PHE:HB2 | 1.86 | 0.58 |
| 58:SJ:130:ILE:O | 58:SJ:143:ASN:HA | 2.04 | 0.57 |
| 1:L5:1411:C:H2' | 1:L5:1412:G:C8 | 2.39 | 0.57 |
| 48:S2:903:A:H2' | 48:S2:904:A:H8 | 1.70 | 0.57 |
| 48:S2:1778:C:H2' | 48:S2:1779:G:C8 | 2.40 | 0.57 |
| 81:Sg:191:HIS:CG | 81:Sg:195:LEU:HD21 | 2.39 | 0.57 |
| 1:L5:1205:G:H2' | 1:L5:1206:C:C6 | 2.40 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:L5:1404:G:H2' | 1:L5:1405:C:H6 | 1.70 | 0.57 |
| 1:L5:1437:C:H1' | 1:L5:2098:G:H3' | 1.85 | 0.57 |
| 48:S2:1588:A:H2' | 48:S2:1589:A:C8 | 2.39 | 0.57 |
| 59:SK:15:LEU:HD22 | 59:SK:49:MET:HE1 | 1.86 | 0.57 |
| 59:SK:85:LEU:HD22 | 59:SK:89:ILE:HD12 | 1.87 | 0.56 |
| 1:L5:490:C:H2' | 1:L5:491:G:C8 | 2.39 | 0.56 |
| 1:L5:4919:G:H2' | 1:L5:4920:C:C6 | 2.40 | 0.56 |
| 48:S2:555:A:H2' | 48:S2:556:U:C6 | 2.41 | 0.56 |
| 81:Sg:174:VAL:HB | 81:Sg:188:HIS:HB2 | 1.86 | 0.56 |
| 1:L5:4935:C:H2' | 1:L5:4936:G:H8 | 1.71 | 0.56 |
| 48:S2:1801:A:H2' | 48:S2:1802:C:C6 | 2.41 | 0.56 |
| 1:L5:664:G:H21 | 1:L5:667:A:H61 | 1.53 | 0.56 |
| 48:S2:140:C:H42 | 48:S2:313:A:H61 | 1.53 | 0.56 |
| 23:LU:26:THR:HA | 23:LU:68:SER:HB3 | 1.88 | 0.56 |
| 48:S2:1390:U:H2' | 48:S2:1391:OMC:C6 | 2.41 | 0.56 |
| 48:S2:550:C:H2' | 48:S2:551:U:C6 | 2.41 | 0.55 |
| 48:S2:1679:A:C2 | 54:SF:60:ARG:HA | 2.42 | 0.55 |
| 1:L5:2809:G:N7 | 85:L5:5607:SPD:H92 | 2.20 | 0.55 |
| 23:LU:28:PRO:HB2 | 23:LU:34:MET:HG2 | 1.89 | 0.55 |
| 48:S2:545:A:H3' | 48:S2:546:G:C8 | 2.41 | 0.55 |
| 68:ST:65:TYR:HE2 | 68:ST:128:GLN:HG3 | 1.71 | 0.55 |
| 21:LS:164:LYS:HE3 | 34:Lf:34:TYR:HB2 | 1.89 | 0.55 |
| 58:SJ:164:PRO:HA | 58:SJ:168:GLY:HA2 | 1.87 | 0.55 |
| 48:S2:455:A:H2' | 48:S2:456:C:C6 | 2.42 | 0.55 |
| 50:SB:136:ARG:HB2 | 50:SB:218:LEU:HD11 | 1.89 | 0.55 |
| 81:Sg:165:ILE:HG23 | 81:Sg:179:LEU:HD11 | 1.87 | 0.55 |
| 1:L5:4591:U:H2' | 1:L5:4592:C:C6 | 2.41 | 0.55 |
| 50:SB:22:VAL:HG11 | 63:SO:84:ARG:HH22 | 1.71 | 0.55 |
| 1:L5:2491:C:H2' | 1:L5:2492:C:C6 | 2.42 | 0.55 |
| 54:SF:17:ILE:HD11 | 65:SQ:57:LEU:HD21 | 1.88 | 0.55 |
| 48:S2:382:C:H2' | 48:S2:383:G:C8 | 2.42 | 0.55 |
| 71:SW:28:ARG:HG3 | 71:SW:60:LYS:HE3 | 1.89 | 0.55 |
| 1:L5:959:G:C8 | 8:LE:123:ARG:HG2 | 2.41 | 0.55 |
| 1:L5:3717:A:H2' | 1:L5:3718:A2M:C8 | 2.36 | 0.55 |
| 1:L5:982:U:H2' | 1:L5:983:C:C6 | 2.42 | 0.54 |
| 1:L5:496:G:H2' | 1:L5:497:G:H8 | 1.70 | 0.54 |
| 26:LX:73:HIS:CE1 | 26:LX:115:LYS:HD3 | 2.41 | 0.54 |
| 48:S2:1421:A:H1' | 48:S2:1422:G:H2' | 1.90 | 0.54 |
| 1:L5:1280:C:O2 | 87:L5:5618:TRS:H22 | 2.06 | 0.54 |
| 1:L5:3923:A:H2' | 1:L5:3924:C:C6 | 2.42 | 0.54 |
| 1:L5:4265:U:O2 | 7:LD:16:TYR:O | 2.26 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:L5:2018:C:H2' | 1:L5:2019:C:C6 | 2.43 | 0.54 |
| 21:LS:11:LYS:HE3 | 21:LS:29:ARG:HD3 | 1.89 | 0.54 |
| 1:L5:1789:C:H2' | 1:L5:1790:U:C6 | 2.43 | 0.54 |
| 1:L5:2562:G:O5' | 1:L5:2562:G:H8 | 1.91 | 0.54 |
| 1:L5:5034:A:H2' | 1:L5:5035:U:O4' | 2.08 | 0.54 |
| 31:Lc:27:TYR:HE1 | 31:Lc:29:LEU:HD11 | 1.73 | 0.54 |
| 48:S2:116:OMU:H6 | 48:S2:116:OMU:O5' | 2.08 | 0.54 |
| 76:Sb:34:ASP:O | 76:Sb:79:PHE:HA | 2.07 | 0.54 |
| 1:L5:691:C:H2' | 1:L5:692:A:C8 | 2.43 | 0.54 |
| 1:L5:4266:G:N3 | 1:L5:4266:G:H2' | 2.21 | 0.54 |
| 1:L5:4934:A:H2' | 1:L5:4935:C:C6 | 2.43 | 0.54 |
| 48:S2:1737:G:H2' | 48:S2:1738:C:C6 | 2.43 | 0.53 |
| 1:L5:1719:A:H2' | 1:L5:1720:C:H1' | 1.89 | 0.53 |
| 1:L5:1617:G:H1' | 1:L5:2513:A:N6 | 2.23 | 0.53 |
| 1:L5:1755:C:N3 | 7:LD:3:PHE:HB3 | 2.23 | 0.53 |
| 1:L5:4731:G:H1' | 1:L5:4732:G:C2 | 2.43 | 0.53 |
| 29:La:125:LYS:HG2 | 29:La:145:VAL:HB | 1.90 | 0.53 |
| 48:S2:525:A:H2' | 48:S2:526:A:H8 | 1.73 | 0.53 |
| 1:L5:93:G:H2' | 1:L5:94:A:C8 | 2.44 | 0.53 |
| 1:L5:4274:A:H2' | 1:L5:4275:G:C8 | 2.44 | 0.53 |
| 48:S2:1536:G:H2' | 48:S2:1537:A:C8 | 2.43 | 0.53 |
| 1:L5:970:G:C2 | 8:LE:123:ARG:HD3 | 2.44 | 0.53 |
| 1:L5:1300:G:H2' | 1:L5:1301:C:C6 | 2.43 | 0.53 |
| 1:L5:4488:A:H4' | 1:L5:4489:G:C8 | 2.43 | 0.53 |
| 48:S2:1628:C:H2' | 48:S2:1629:C:C6 | 2.43 | 0.53 |
| 51:SC:196:ILE:HB | 51:SC:223:TYR:HB2 | 1.91 | 0.53 |
| 52:SD:51:LEU:HD23 | 52:SD:89:GLU:HB2 | 1.91 | 0.53 |
| 3:L8:128:C:H2' | 3:L8:129:C:H6 | 1.73 | 0.53 |
| 1:L5:4739:C:H2' | 1:L5:4740:G:H5' | 1.91 | 0.53 |
| 48:S2:562:U:H2' | 48:S2:563:G:C8 | 2.44 | 0.53 |
| 48:S2:640:A:H2' | 48:S2:641:A:C8 | 2.43 | 0.53 |
| 77:Sc:46:VAL:HG11 | 77:Sc:50:VAL:HG11 | 1.91 | 0.53 |
| 1:L5:1766:A:C2' | 67:SS:116:LYS:HB2 | 2.39 | 0.53 |
| 1:L5:4105:A:H1' | 1:L5:4106:G:N2 | 2.24 | 0.53 |
| 1:L5:106:A:H2' | 1:L5:107:G:O4' | 2.09 | 0.53 |
| 1:L5:280:G:H5'' | 16:LN:14:LYS:HE2 | 1.91 | 0.53 |
| 77:Sc:42:ILE:HD12 | 77:Sc:44:ARG:HD3 | 1.91 | 0.53 |
| 48:S2:1849:G:H2' | 48:S2:1850:MA6:C8 | 2.38 | 0.52 |
| 49:SA:63:ARG:NH1 | 70:SV:38:GLU:HA | 2.24 | 0.52 |
| 48:S2:1203:G:H2' | 48:S2:1204:A:C8 | 2.44 | 0.52 |
| 1:L5:3736:A:H2' | 1:L5:3737:A:C8 | 2.45 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:L5:3749:C:H4' | 4:LA:221:LYS:O | 2.09 | 0.52 |
| 1:L5:3756:A:O2' | 1:L5:3757:G:H8 | 1.92 | 0.52 |
| 32:Ld:54:MET:HE2 | 32:Ld:60:PRO:HA | 1.90 | 0.52 |
| 1:L5:1760:G:H5'' | 1:L5:1761:G:OP2 | 2.10 | 0.52 |
| 48:S2:118:C:H1' | 48:S2:445:A:C5 | 2.45 | 0.52 |
| 68:ST:27:LYS:HB2 | 68:ST:110:LEU:HD21 | 1.91 | 0.52 |
| 18:LP:54:GLN:HA | 18:LP:83:TRP:CD1 | 2.44 | 0.52 |
| 54:SF:99:ILE:HD11 | 74:SZ:106:GLN:HE21 | 1.73 | 0.52 |
| 1:L5:5065:U:H1' | 18:LP:75:GLN:NE2 | 2.25 | 0.52 |
| 48:S2:12:U:H2' | 48:S2:13:C:C6 | 2.44 | 0.52 |
| 48:S2:1181:A:H2' | 48:S2:1182:A:C8 | 2.44 | 0.52 |
| 65:SQ:50:LYS:HA | 65:SQ:50:LYS:HE2 | 1.91 | 0.52 |
| 1:L5:4573:G:H2' | 1:L5:4574:U:C6 | 2.45 | 0.52 |
| 1:L5:4771:C:H2' | 1:L5:4772:C:C6 | 2.45 | 0.52 |
| 48:S2:1289:U:H4' | 59:SK:2:LEU:HD11 | 1.92 | 0.52 |
| 1:L5:952:G:H4' | 34:Lf:75:THR:HG23 | 1.92 | 0.52 |
| 48:S2:484:A2M:O5' | 48:S2:484:A2M:H8 | 2.10 | 0.52 |
| 48:S2:394:G:H5'' | 60:SL:81:LYS:CB | 2.39 | 0.52 |
| 48:S2:433:A:H5'' | 57:SI:22:HIS:HB3 | 1.92 | 0.52 |
| 48:S2:1536:G:H2' | 48:S2:1537:A:H8 | 1.74 | 0.52 |
| 1:L5:4152:G:H2' | 1:L5:4153:C:C6 | 2.45 | 0.52 |
| 48:S2:191:A:H2' | 48:S2:192:C:O4' | 2.10 | 0.52 |
| 28:LZ:100:VAL:HG13 | 28:LZ:107:LYS:HA | 1.91 | 0.51 |
| 51:SC:69:LEU:HD21 | 51:SC:273:LEU:HG | 1.92 | 0.51 |
| 48:S2:67:C:C5 | 55:SG:162:LEU:HB3 | 2.45 | 0.51 |
| 1:L5:1410:U:H4' | 1:L5:1411:C:H4' | 1.92 | 0.51 |
| 1:L5:2479:G:H2' | 1:L5:2480:G:H8 | 1.75 | 0.51 |
| 1:L5:4992:G:H2' | 1:L5:4993:G:C8 | 2.46 | 0.51 |
| 48:S2:1217:A:H2' | 48:S2:1218:C:C6 | 2.44 | 0.51 |
| 1:L5:1762:C:H42 | 1:L5:1770:A:H61 | 1.58 | 0.51 |
| 1:L5:2485:U:H2' | 1:L5:2486:G:C8 | 2.46 | 0.51 |
| 1:L5:4954:G:H2' | 1:L5:4955:A:C8 | 2.44 | 0.51 |
| 47:Pt:65:U:H2' | 47:Pt:66:C:C6 | 2.46 | 0.51 |
| 48:S2:381:C:H5' | 57:SI:48:VAL:HG13 | 1.93 | 0.51 |
| 1:L5:1074:G:H2' | 1:L5:1075:G:H8 | 1.76 | 0.51 |
| 1:L5:2492:C:H2' | 1:L5:2493:G:C8 | 2.45 | 0.51 |
| 1:L5:3747:A:C8 | 4:LA:245:ARG:HD3 | 2.46 | 0.51 |
| 4:LA:180:LEU:HG | 44:Lp:18:TYR:CG | 2.46 | 0.51 |
| 48:S2:59:U:H5'' | 48:S2:503:C:N4 | 2.26 | 0.51 |
| 48:S2:70:G:H21 | 48:S2:79:A:H2 | 1.59 | 0.51 |
| 61:SM:32:ALA:HB3 | 61:SM:110:VAL:HB | 1.92 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:L5:1662:C:H2' | 1:L5:1663:C:C6 | 2.45 | 0.51 |
| 1:L5:3868:G:H22 | 1:L5:3900:G:H1' | 1.75 | 0.51 |
| 1:L5:4459:U:H2' | 1:L5:4460:U:C6 | 2.46 | 0.51 |
| 14:LL:60:ARG:HD2 | 14:LL:67:HIS:O | 2.11 | 0.51 |
| 48:S2:1037:G:H4' | 48:S2:1845:A:H4' | 1.91 | 0.51 |
| 58:SJ:32:ILE:HD11 | 58:SJ:40:LYS:HD3 | 1.91 | 0.51 |
| 1:L5:2483:G:C6 | 1:L5:2496:G:C6 | 2.99 | 0.51 |
| 1:L5:4069:U:H2' | 1:L5:4070:U:C6 | 2.45 | 0.51 |
| 1:L5:4111:U:H2' | 1:L5:4112:C:C6 | 2.46 | 0.51 |
| 51:SC:137:VAL:HG22 | 51:SC:217:ALA:HA | 1.91 | 0.51 |
| 1:L5:1730:U:H1' | 22:LT:101:SER:HB3 | 1.91 | 0.51 |
| 1:L5:2602:G:H2' | 1:L5:2603:C:C6 | 2.46 | 0.51 |
| 1:L5:4859:C:H3' | 1:L5:4860:G:H8 | 1.75 | 0.51 |
| 48:S2:1407:U:H2' | 48:S2:1408:U:C6 | 2.46 | 0.51 |
| 47:Pt:34:C:C2' | 47:Pt:35:U:H5'' | 2.41 | 0.51 |
| 49:SA:2(A):SER:O | 49:SA:8:LEU:HD12 | 2.10 | 0.51 |
| 74:SZ:64:ASN:O | 74:SZ:111:ARG:HG2 | 2.11 | 0.51 |
| 1:L5:4065:G:H2' | 1:L5:4066:U:C6 | 2.46 | 0.50 |
| 1:L5:4771:C:H6 | 1:L5:4771:C:O5' | 1.94 | 0.50 |
| 32:Ld:75:LYS:HE3 | 32:Ld:79:ASN:O | 2.12 | 0.50 |
| 48:S2:5:U:H2' | 48:S2:6:G:H8 | 1.77 | 0.50 |
| 47:Pt:18:G:H3' | 47:Pt:19:U:H5'' | 1.93 | 0.50 |
| 48:S2:67:C:C5 | 55:SG:164:LYS:HB2 | 2.46 | 0.50 |
| 52:SD:142:LEU:HD13 | 52:SD:150:MET:SD | 2.51 | 0.50 |
| 53:SE:124:CYS:HA | 53:SE:142:HIS:CE1 | 2.46 | 0.50 |
| 9:LF:43:ARG:HG3 | 9:LF:43:ARG:HH11 | 1.76 | 0.50 |
| 48:S2:74:G:H1' | 48:S2:76:U:C5 | 2.46 | 0.50 |
| 48:S2:838:G:O6 | 73:SY:10:ARG:HA | 2.11 | 0.50 |
| 1:L5:385:A:N3 | 1:L5:387:G:H5'' | 2.27 | 0.50 |
| 1:L5:469:C:H2' | 1:L5:470:A:C8 | 2.46 | 0.50 |
| 1:L5:489:C:H2' | 1:L5:490:C:C6 | 2.47 | 0.50 |
| 1:L5:3718:A2M:O5' | 1:L5:3718:A2M:H8 | 2.11 | 0.50 |
| 48:S2:79:A:H3' | 48:S2:80:G:H8 | 1.75 | 0.50 |
| 48:S2:467:G:H5' | 55:SG:72:ARG:NH2 | 2.25 | 0.50 |
| 1:L5:1762:C:H2' | 1:L5:1763:C:C6 | 2.47 | 0.50 |
| 1:L5:1898:C:O3' | 84:L5:5616:PUT:H11 | 2.11 | 0.50 |
| 1:L5:1920:C:H3' | 1:L5:1921:C:H5'' | 1.93 | 0.50 |
| 1:L5:2485:U:O4 | 1:L5:2493:G:O6 | 2.30 | 0.50 |
| 1:L5:2504:C:H5 | 1:L5:2506:G:H21 | 1.56 | 0.50 |
| 1:L5:3911:C:H2' | 1:L5:3912:U:C6 | 2.46 | 0.50 |
| 81:Sg:191:HIS:CD2 | 81:Sg:195:LEU:HD21 | 2.47 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 47:Pt:35:U:H6 | 47:Pt:35:U:C5' | 2.25 | 0.50 |
| 48:S2:528:A:H2' | 48:S2:529:A:H8 | 1.77 | 0.50 |
| 48:S2:1308:U:H2' | 48:S2:1309:C:C6 | 2.47 | 0.50 |
| 61:SM:72:HIS:HB3 | 61:SM:74:ILE:HD13 | 1.94 | 0.50 |
| 48:S2:1101:U:H2' | 48:S2:1102:G:C8 | 2.46 | 0.50 |
| 54:Sf:144:LEU:HD23 | 77:Sc:49:PRO:HG2 | 1.94 | 0.50 |
| 1:L5:455:C:H2' | 1:L5:456:C:C6 | 2.47 | 0.49 |
| 4:LA:178:PRO:HG2 | 44:Lp:26:VAL:HG23 | 1.94 | 0.49 |
| 40:Ll:51:LEU:HD13 | 40:Ll:51:LEU:O | 2.12 | 0.49 |
| 48:S2:1597:C:H4' | 48:S2:1603:G:O6 | 2.12 | 0.49 |
| 52:SD:26:THR:O | 52:SD:30:ALA:HB2 | 2.12 | 0.49 |
| 53:SE:31:PRO:HG2 | 53:SE:38:LEU:HG | 1.94 | 0.49 |
| 1:L5:134:G:O6 | 36:Lh:74:LYS:HE2 | 2.12 | 0.49 |
| 1:L5:457:G:H2' | 1:L5:458:C:C6 | 2.46 | 0.49 |
| 10:LG:83:PHE:HA | 10:LG:183:ILE:HD13 | 1.93 | 0.49 |
| 10:LG:121:LYS:HG2 | 10:LG:127:ASP:HA | 1.94 | 0.49 |
| 80:Sf:132:MET:SD | 80:Sf:141:CYS:HB2 | 2.52 | 0.49 |
| 1:L5:455:C:H2' | 1:L5:456:C:H6 | 1.76 | 0.49 |
| 1:L5:2351:OMC:HM23 | 6:LC:95:MET:HG3 | 1.95 | 0.49 |
| 1:L5:4966:A:H5'' | 5:LB:128:LYS:HG3 | 1.93 | 0.49 |
| 3:L8:141:C:H2' | 3:L8:142:U:C6 | 2.47 | 0.49 |
| 12:LI:140:THR:HG23 | 12:LI:141:LYS:O | 2.11 | 0.49 |
| 51:SC:137:VAL:O | 51:SC:162:ILE:HA | 2.13 | 0.49 |
| 56:SH:65:PRO:HB2 | 56:SH:68:GLN:HG3 | 1.94 | 0.49 |
| 64:SP:45:LEU:HD21 | 64:SP:84:ILE:HD11 | 1.94 | 0.49 |
| 74:SZ:68:ILE:HB | 74:SZ:109:TYR:HB2 | 1.94 | 0.49 |
| 61:SM:31:LEU:HD23 | 61:SM:109:VAL:HG21 | 1.94 | 0.49 |
| 1:L5:469:C:H2' | 1:L5:470:A:H8 | 1.77 | 0.49 |
| 1:L5:1672:U:H2' | 1:L5:1673:U:C6 | 2.47 | 0.49 |
| 1:L5:2792:C:O2 | 38:Lj:9:GLY:HA2 | 2.12 | 0.49 |
| 1:L5:4524:G:C2 | 5:LB:252:ALA:HB1 | 2.47 | 0.49 |
| 48:S2:354:OMU:HM22 | 48:S2:355:G:O4' | 2.13 | 0.49 |
| 48:S2:1228:A:H2' | 48:S2:1229:G:H8 | 1.77 | 0.49 |
| 1:L5:1566:C:H2' | 1:L5:1567:U:H6 | 1.78 | 0.49 |
| 1:L5:2874:U:O4 | 1:L5:3823:G:C8 | 2.65 | 0.49 |
| 48:S2:552:G:H2' | 48:S2:553:U:C5 | 2.46 | 0.49 |
| 80:Sf:119:ARG:O | 80:Sf:132:MET:HG2 | 2.13 | 0.49 |
| 1:L5:4238:G:H2' | 1:L5:4239:A:C8 | 2.47 | 0.49 |
| 1:L5:4859:C:H3' | 1:L5:4860:G:C8 | 2.48 | 0.49 |
| 48:S2:1597:C:H4' | 48:S2:1603:G:C6 | 2.48 | 0.49 |
| 64:SP:34:MET:CG | 64:SP:42:ARG:HG3 | 2.43 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 81:Sg:163:PRO:HB2 | 81:Sg:179:LEU:HB2 | 1.93 | 0.49 |
| 1:L5:963:G:N2 | 9:LF:32:ARG:HH12 | 2.11 | 0.49 |
| 1:L5:1079:C:H2' | 1:L5:1080:C:H5' | 1.94 | 0.49 |
| 1:L5:2065:G:H2' | 1:L5:2066:C:O4' | 2.13 | 0.49 |
| 1:L5:2539:C:H2' | 1:L5:2540:C:C6 | 2.48 | 0.49 |
| 1:L5:3707:U:H2' | 1:L5:3708:C:C6 | 2.48 | 0.49 |
| 48:S2:1712:A:H2' | 48:S2:1713:C:C6 | 2.48 | 0.49 |
| 49:SA:38:ILE:HD11 | 49:SA:150:THR:HG22 | 1.94 | 0.49 |
| 1:L5:4504:C:H2' | 1:L5:4505:C:C6 | 2.48 | 0.48 |
| 80:Sf:139:HIS:CE1 | 80:Sf:148:TYR:HB2 | 2.47 | 0.48 |
| 1:L5:4161:G:C6 | 10:LG:53:ARG:HD2 | 2.47 | 0.48 |
| 7:LD:291:GLN:NE2 | 12:LI:214:SER:HA | 2.28 | 0.48 |
| 48:S2:804:U:H2' | 48:S2:805:U:C6 | 2.48 | 0.48 |
| 1:L5:711:A:H2' | 1:L5:712:C:C6 | 2.49 | 0.48 |
| 1:L5:2493:G:H2' | 1:L5:2494:U:C6 | 2.49 | 0.48 |
| 1:L5:3946:G:H2' | 1:L5:3947:A:C8 | 2.49 | 0.48 |
| 48:S2:107:A:H2' | 48:S2:108:G:C8 | 2.48 | 0.48 |
| 48:S2:1284:A:C5 | 61:SM:91:LEU:HD22 | 2.48 | 0.48 |
| 48:S2:1418:C:H2' | 48:S2:1419:C:O4' | 2.13 | 0.48 |
| 48:S2:1545:A:H5'' | 65:SQ:74:GLY:HA2 | 1.95 | 0.48 |
| 1:L5:187:U:H1' | 1:L5:188:G:N7 | 2.28 | 0.48 |
| 1:L5:2487:G:C2 | 1:L5:2488:C:H1' | 2.49 | 0.48 |
| 4:LA:46:LYS:HE2 | 4:LA:62:VAL:HG21 | 1.95 | 0.48 |
| 52:SD:163:PRO:HA | 52:SD:166:TYR:CZ | 2.48 | 0.48 |
| 53:SE:107:GLY:HA2 | 53:SE:189:LEU:HG | 1.94 | 0.48 |
| 62:SN:33:VAL:HG21 | 62:SN:66:VAL:HG11 | 1.95 | 0.48 |
| 68:ST:108:GLU:OE2 | 68:ST:121:ARG:HD3 | 2.12 | 0.48 |
| 1:L5:664:G:H2' | 1:L5:667:A:H62 | 1.79 | 0.48 |
| 1:L5:3910:C:H2' | 1:L5:3911:C:C6 | 2.48 | 0.48 |
| 1:L5:4065:G:H2' | 1:L5:4066:U:H6 | 1.78 | 0.48 |
| 1:L5:5065:U:H1' | 18:LP:75:GLN:HE21 | 1.78 | 0.48 |
| 10:LG:259:LYS:O | 10:LG:263:THR:HG23 | 2.13 | 0.48 |
| 48:S2:1406:G:H2' | 48:S2:1407:U:C6 | 2.49 | 0.48 |
| 51:SC:188:CYS:SG | 51:SC:238:LYS:HE3 | 2.53 | 0.48 |
| 54:SF:188:TYR:CZ | 54:SF:192:LYS:HE2 | 2.48 | 0.48 |
| 51:SC:74:LYS:HB3 | 51:SC:269:PHE:CE1 | 2.47 | 0.48 |
| 1:L5:4187:G:OP1 | 85:L5:5610:SPD:H52 | 2.13 | 0.48 |
| 12:LI:110:ARG:HG2 | 47:Pt:73:C:C5 | 2.49 | 0.48 |
| 16:LN:138:PHE:HA | 16:LN:143:ARG:HD2 | 1.95 | 0.48 |
| 48:S2:1371:U:H5'' | 48:S2:1372:U:C5 | 2.48 | 0.48 |
| 1:L5:116:G:H2' | 1:L5:117:C:C6 | 2.48 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:L5:659:G:H2' | 1:L5:660:A:C8 | 2.49 | 0.48 |
| 1:L5:2029:A:H2' | 1:L5:2030:A:C8 | 2.48 | 0.48 |
| 48:S2:872:A:H2' | 48:S2:872:A:N3 | 2.28 | 0.48 |
| 48:S2:1692:PSU:H2' | 48:S2:1693:G:C8 | 2.49 | 0.48 |
| 1:L5:1074:G:H2' | 1:L5:1075:G:C8 | 2.49 | 0.48 |
| 1:L5:1846:G:H2' | 1:L5:1847:C:C6 | 2.48 | 0.48 |
| 3:L8:87:G:H8 | 3:L8:87:G:OP2 | 1.97 | 0.48 |
| 58:SJ:133:ARG:HH11 | 58:SJ:133:ARG:HG2 | 1.78 | 0.48 |
| 81:Sg:83:TRP:HA | 81:Sg:107:ASP:HB3 | 1.95 | 0.48 |
| 1:L5:690:C:H2' | 1:L5:691:C:H6 | 1.79 | 0.47 |
| 8:LE:281:ILE:HG23 | 8:LE:286:LEU:HD21 | 1.96 | 0.47 |
| 48:S2:608:C:H5' | 48:S2:608:C:C6 | 2.49 | 0.47 |
| 48:S2:940:U:H2' | 48:S2:941:C:C6 | 2.49 | 0.47 |
| 48:S2:1421:A:H4' | 48:S2:1422:G:H5' | 1.96 | 0.47 |
| 51:SC:263:LYS:HE2 | 70:SV:50:PHE:CZ | 2.48 | 0.47 |
| 1:L5:1186:U:H2' | 1:L5:1187:G:N3 | 2.29 | 0.47 |
| 1:L5:1637:A:OP1 | 1:L5:1639:U:H5 | 1.97 | 0.47 |
| 1:L5:4254:G:N3 | 1:L5:4254:G:H2' | 2.29 | 0.47 |
| 1:L5:4978:G:H2' | 1:L5:4979:A:H5'' | 1.97 | 0.47 |
| 48:S2:99:A2M:H2' | 48:S2:100:U:O4' | 2.15 | 0.47 |
| 48:S2:1227:G:C2 | 48:S2:1228:A:C8 | 3.01 | 0.47 |
| 62:SN:31:ASP:O | 62:SN:35:GLU:HG2 | 2.14 | 0.47 |
| 1:L5:182:G:N2 | 1:L5:256:G:H1' | 2.29 | 0.47 |
| 1:L5:288:G:H2' | 1:L5:289:C:C6 | 2.50 | 0.47 |
| 1:L5:1786:A:H2' | 1:L5:1789:C:C5 | 2.49 | 0.47 |
| 1:L5:3705:G:H2' | 1:L5:3706:C:C6 | 2.48 | 0.47 |
| 1:L5:4169:G:H4' | 1:L5:4171:C:C2 | 2.48 | 0.47 |
| 80:Sf:119:ARG:H | 80:Sf:119:ARG:HD2 | 1.80 | 0.47 |
| 48:S2:195:C:C2 | 48:S2:196:C:C5 | 3.03 | 0.47 |
| 48:S2:928:G:H2' | 48:S2:929:G:C8 | 2.50 | 0.47 |
| 56:SH:30:LEU:HD21 | 56:SH:82:GLU:HG3 | 1.96 | 0.47 |
| 70:SV:1:MET:O | 70:SV:9:VAL:HG22 | 2.14 | 0.47 |
| 84:L5:5616:PUT:H21 | 90:L5:8556:HOH:O | 2.14 | 0.47 |
| 16:LN:60:VAL:HG22 | 16:LN:134:LEU:HB2 | 1.96 | 0.47 |
| 48:S2:532:C:H2' | 48:S2:533:A:C8 | 2.49 | 0.47 |
| 64:SP:108:LYS:HB2 | 67:SS:117:ILE:HD11 | 1.95 | 0.47 |
| 76:Sb:46:VAL:HG11 | 76:Sb:64:CYS:SG | 2.54 | 0.47 |
| 1:L5:1265:G:H5'' | 30:Lb:95:ARG:HH12 | 1.80 | 0.47 |
| 1:L5:1308:C:H2' | 1:L5:1309:C:C6 | 2.50 | 0.47 |
| 1:L5:2486:G:H2' | 1:L5:2487:G:C8 | 2.50 | 0.47 |
| 1:L5:3782:5MC:H2' | 1:L5:3783:A:H5'' | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 61:SM:49:LEU:HG | 61:SM:127:TYR:OH | 2.15 | 0.47 |
| 61:SM:121:LYS:HA | 61:SM:124:ILE:HB | 1.97 | 0.47 |
| 1:L5:325:U:H2' | 1:L5:326:C:C6 | 2.49 | 0.47 |
| 1:L5:445:U:H2' | 1:L5:446:C:O4' | 2.14 | 0.47 |
| 1:L5:1766:A:H2' | 67:SS:116:LYS:HB2 | 1.96 | 0.47 |
| 1:L5:2091:C:H4' | 1:L5:2092:G:H5' | 1.96 | 0.47 |
| 1:L5:4488:A:H4' | 1:L5:4489:G:H8 | 1.79 | 0.47 |
| 8:LE:173:LEU:O | 8:LE:188:ARG:HA | 2.14 | 0.47 |
| 53:SE:182:MET:HE2 | 53:SE:190:GLY:HA2 | 1.97 | 0.47 |
| 65:SQ:59:GLY:HA2 | 65:SQ:63:PHE:HD1 | 1.79 | 0.47 |
| 74:SZ:69:THR:H | 74:SZ:72:VAL:HG12 | 1.80 | 0.47 |
| 1:L5:3908[A]:A:N6 | 46:NC:27:GLU:HB3 | 2.29 | 0.47 |
| 47:Pt:19:U:O2 | 47:Pt:19:U:H2' | 2.15 | 0.47 |
| 48:S2:542:U:H2' | 48:S2:543:C:C6 | 2.50 | 0.47 |
| 54:SF:35:LEU:HD12 | 54:SF:117:ILE:HG12 | 1.97 | 0.47 |
| 55:SG:162:LEU:HD11 | 55:SG:172:LYS:HG3 | 1.95 | 0.47 |
| 1:L5:984:C:H2' | 1:L5:985:C:H6 | 1.80 | 0.47 |
| 1:L5:3867:A2M:HM'3 | 1:L5:3880:G:N2 | 2.30 | 0.47 |
| 1:L5:4289:U:H2' | 1:L5:4290:U:C6 | 2.50 | 0.47 |
| 2:L7:55:A:H4' | 13:LJ:155:HIS:HB2 | 1.97 | 0.47 |
| 16:LN:178:HIS:HA | 16:LN:181:HIS:NE2 | 2.28 | 0.47 |
| 48:S2:1845:A:H2' | 48:S2:1846:G:C8 | 2.50 | 0.47 |
| 64:SP:60:LEU:HD22 | 64:SP:92:SER:OG | 2.15 | 0.47 |
| 66:SR:66:VAL:HG12 | 66:SR:67:ARG:N | 2.30 | 0.47 |
| 69:SU:33:GLU:CD | 69:SU:55:ARG:HH12 | 2.23 | 0.47 |
| 1:L5:3765:G:H1' | 1:L5:3766:A:C2 | 2.50 | 0.47 |
| 8:LE:216:TYR:OH | 8:LE:246:ARG:HD3 | 2.15 | 0.47 |
| 9:LF:181:LYS:HE3 | 9:LF:182:TYR:CZ | 2.50 | 0.47 |
| 48:S2:1274:G:H5' | 48:S2:1274:G:N3 | 2.30 | 0.47 |
| 48:S2:1374:C:H2' | 48:S2:1375:G:O4' | 2.15 | 0.47 |
| 49:SA:39:TYR:CE2 | 66:SR:105:MET:HB2 | 2.50 | 0.47 |
| 55:SG:30:LYS:HE3 | 55:SG:34:THR:HG21 | 1.97 | 0.47 |
| 23:LU:20:LYS:HB2 | 23:LU:20:LYS:HE2 | 1.76 | 0.46 |
| 48:S2:5:U:H2' | 48:S2:6:G:C8 | 2.51 | 0.46 |
| 48:S2:615:C:H2' | 48:S2:616:A:O4' | 2.15 | 0.46 |
| 65:SQ:41:MET:HE3 | 68:ST:8:ASP:O | 2.15 | 0.46 |
| 1:L5:260:C:H2' | 1:L5:261:G:H8 | 1.81 | 0.46 |
| 1:L5:5065:U:H2' | 1:L5:5066:U:O4' | 2.15 | 0.46 |
| 28:LZ:97:ASN:C | 28:LZ:97:ASN:HD22 | 2.22 | 0.46 |
| 48:S2:159:A2M:O5' | 48:S2:159:A2M:H8 | 2.15 | 0.46 |
| 48:S2:528:A:H2' | 48:S2:529:A:C8 | 2.50 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 48:S2:896:U:H5 | 48:S2:898:U:C4 | 2.34 | 0.46 |
| 48:S2:1831:A:H2' | 48:S2:1832:6MZ:H8 | 1.96 | 0.46 |
| 48:S2:1849:G:H2' | 48:S2:1850:MA6:H8 | 1.96 | 0.46 |
| 76:Sb:67:THR:HG22 | 76:Sb:68:GLY:N | 2.31 | 0.46 |
| 9:LF:37:PHE:HZ | 30:Lb:113:ALA:HB1 | 1.80 | 0.46 |
| 10:LG:121:LYS:HA | 10:LG:126:GLY:O | 2.15 | 0.46 |
| 48:S2:1347:PSU:H2' | 48:S2:1348:G:N3 | 2.30 | 0.46 |
| 1:L5:454:U:H2' | 1:L5:455:C:C6 | 2.50 | 0.46 |
| 1:L5:1720:C:H3' | 1:L5:1721:G:H5'' | 1.96 | 0.46 |
| 1:L5:3911:C:H2' | 1:L5:3912:U:H6 | 1.79 | 0.46 |
| 1:L5:4524:G:N3 | 5:LB:252:ALA:HB1 | 2.31 | 0.46 |
| 48:S2:394:G:C5' | 60:SL:81:LYS:HB3 | 2.44 | 0.46 |
| 48:S2:1595:U:H2' | 48:S2:1596:U:C6 | 2.50 | 0.46 |
| 1:L5:4584:A:H2' | 1:L5:4585:U:O4' | 2.16 | 0.46 |
| 8:LE:108:LYS:HE3 | 8:LE:110:ARG:O | 2.15 | 0.46 |
| 12:LI:36:LEU:HD13 | 12:LI:69:ARG:NH1 | 2.31 | 0.46 |
| 23:LU:45:GLU:O | 23:LU:53:ALA:HB1 | 2.15 | 0.46 |
| 48:S2:29:G:H2' | 48:S2:30:C:C6 | 2.51 | 0.46 |
| 48:S2:1523:C:H4' | 67:SS:145:THR:HA | 1.98 | 0.46 |
| 48:S2:1804:OMU:H1' | 48:S2:1804:OMU:HM23 | 1.61 | 0.46 |
| 1:L5:18:C:H4' | 16:LN:138:PHE:CD1 | 2.51 | 0.46 |
| 1:L5:184:U:H2' | 1:L5:186:G:C8 | 2.51 | 0.46 |
| 1:L5:964:A:N3 | 1:L5:964:A:H2' | 2.29 | 0.46 |
| 33:Le:35:TRP:CZ2 | 33:Le:56:PRO:HD2 | 2.50 | 0.46 |
| 48:S2:159:A2M:HM'3 | 48:S2:159:A2M:H1' | 1.46 | 0.46 |
| 48:S2:379:C:H5' | 57:SI:33:ALA:HA | 1.98 | 0.46 |
| 48:S2:888:U:C3' | 48:S2:889:U:H5' | 2.45 | 0.46 |
| 81:Sg:158:PRO:HD3 | 81:Sg:200:VAL:HG21 | 1.96 | 0.46 |
| 1:L5:111:C:OP1 | 36:Lh:110:LYS:HE3 | 2.15 | 0.46 |
| 1:L5:4239:A:H2' | 1:L5:4240:G:C8 | 2.50 | 0.46 |
| 10:LG:261:LEU:O | 10:LG:264:LYS:HB3 | 2.15 | 0.46 |
| 48:S2:15:U:H2' | 48:S2:16:G:O4' | 2.16 | 0.46 |
| 48:S2:576:A2M:HM'3 | 48:S2:576:A2M:H1' | 1.66 | 0.46 |
| 56:SH:63:PHE:HB3 | 56:SH:97:GLN:HG3 | 1.98 | 0.46 |
| 60:SL:75:GLY:HA3 | 60:SL:88:ILE:HD12 | 1.97 | 0.46 |
| 64:SP:135:ALA:HB3 | 67:SS:148:VAL:CG2 | 2.46 | 0.46 |
| 68:ST:72:VAL:O | 68:ST:76:THR:HG23 | 2.16 | 0.46 |
| 1:L5:2351:OMC:HM23 | 6:LC:95:MET:CG | 2.46 | 0.46 |
| 24:LV:60:MET:HE3 | 24:LV:129:TRP:CH2 | 2.51 | 0.46 |
| 47:Pt:42:C:H2' | 47:Pt:43:G:O4' | 2.15 | 0.46 |
| 48:S2:467:G:H5' | 55:SG:72:ARG:HH21 | 1.81 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 48:S2:1232:PSU:H2' | 48:S2:1233:G:C8 | 2.51 | 0.46 |
| 65:SQ:59:GLY:HA2 | 65:SQ:63:PHE:CD1 | 2.50 | 0.46 |
| 1:L5:1788:A:H2' | 12:LI:22:PHE:CZ | 2.51 | 0.46 |
| 1:L5:2673:G:H5' | 1:L5:2673:G:N3 | 2.30 | 0.46 |
| 1:L5:2876:OMG:HM22 | 1:L5:2877:G:H5' | 1.98 | 0.46 |
| 1:L5:4536:OMC:HM23 | 1:L5:4536:OMC:H1' | 1.79 | 0.46 |
| 73:SY:89:HIS:CE1 | 73:SY:90:ARG:HG3 | 2.50 | 0.46 |
| 1:L5:187:U:O4 | 1:L5:1365:C:C2 | 2.69 | 0.46 |
| 1:L5:664:G:H21 | 1:L5:667:A:N6 | 2.14 | 0.46 |
| 1:L5:2815:A2M:H3' | 1:L5:2815:A2M:OP1 | 2.16 | 0.46 |
| 1:L5:3946:G:H2' | 1:L5:3947:A:H8 | 1.81 | 0.46 |
| 48:S2:1406:G:H2' | 48:S2:1407:U:H6 | 1.79 | 0.46 |
| 1:L5:1401:C:H2' | 1:L5:1402:C:C6 | 2.50 | 0.45 |
| 1:L5:2396:A:C8 | 1:L5:2814:C:H2' | 2.51 | 0.45 |
| 1:L5:4456:OMC:HM21 | 5:LB:241:PRO:HD3 | 1.98 | 0.45 |
| 40:LI:9:ILE:CD1 | 40:LI:51:LEU:HD11 | 2.46 | 0.45 |
| 48:S2:867:OMG:HM23 | 48:S2:867:OMG:H1' | 1.58 | 0.45 |
| 48:S2:1035:A:H2' | 48:S2:1036:A:O4' | 2.15 | 0.45 |
| 51:SC:173:LYS:O | 70:SV:3:ASN:HB2 | 2.15 | 0.45 |
| 75:Sa:21:ILE:C | 75:Sa:21:ILE:HD12 | 2.40 | 0.45 |
| 81:Sg:217:MET:HG2 | 81:Sg:229:THR:HG23 | 1.98 | 0.45 |
| 1:L5:1566:C:H2' | 1:L5:1567:U:C6 | 2.50 | 0.45 |
| 1:L5:4740:G:C6 | 1:L5:4960:G:C6 | 3.05 | 0.45 |
| 1:L5:4750:G:H2' | 1:L5:4751:G:C8 | 2.50 | 0.45 |
| 48:S2:79:A:N3 | 48:S2:79:A:H5' | 2.31 | 0.45 |
| 52:SD:46:THR:HG23 | 52:SD:84:VAL:HG12 | 1.98 | 0.45 |
| 81:Sg:59:LEU:HD23 | 81:Sg:90:TRP:CD2 | 2.51 | 0.45 |
| 1:L5:1762:C:H42 | 1:L5:1770:A:N6 | 2.13 | 0.45 |
| 1:L5:3761:C:H2' | 1:L5:3762:PSU:C6 | 2.52 | 0.45 |
| 37:Li:2:ALA:HB3 | 37:Li:5:TYR:CZ | 2.51 | 0.45 |
| 47:Pt:12:C:H2' | 47:Pt:13:PSU:C6 | 2.51 | 0.45 |
| 69:SU:46:LYS:HB2 | 69:SU:48:LEU:HG | 1.99 | 0.45 |
| 13:LJ:15:LEU:HD22 | 13:LJ:165:TRP:CD1 | 2.51 | 0.45 |
| 15:LM:36:ALA:HB2 | 15:LM:52:PHE:CE1 | 2.51 | 0.45 |
| 47:Pt:35:U:H5' | 47:Pt:35:U:C6 | 2.52 | 0.45 |
| 48:S2:468:A2M:HM'3 | 48:S2:468:A2M:H1' | 1.81 | 0.45 |
| 56:SH:142:LYS:HE2 | 56:SH:142:LYS:HB3 | 1.76 | 0.45 |
| 1:L5:516:C:H2' | 1:L5:517:C:C5 | 2.52 | 0.45 |
| 1:L5:3873:G:H2' | 1:L5:3874:G:C8 | 2.51 | 0.45 |
| 1:L5:3907:G:H5' | 1:L5:4449:A:N1 | 2.31 | 0.45 |
| 1:L5:4967:A:H2' | 1:L5:4968:A:C8 | 2.52 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 49:SA:80:ARG:NH2 | 49:SA:82:THR:HG21 | 2.31 | 0.45 |
| 61:SM:11:VAL:O | 61:SM:14:VAL:HG22 | 2.16 | 0.45 |
| 74:SZ:65:TYR:OH | 74:SZ:76:ARG:HG2 | 2.16 | 0.45 |
| 3:L8:92:U:H2' | 3:L8:93:C:O4' | 2.17 | 0.45 |
| 16:LN:120:TRP:HE1 | 16:LN:123:GLU:HG3 | 1.82 | 0.45 |
| 53:SE:19:MET:SD | 53:SE:108:ARG:HD2 | 2.56 | 0.45 |
| 53:SE:165:GLU:HG3 | 53:SE:166:THR:HG23 | 1.99 | 0.45 |
| 55:SG:50:VAL:CG1 | 55:SG:111:LEU:HB3 | 2.47 | 0.45 |
| 1:L5:384:A:N1 | 1:L5:405:U:H4' | 2.31 | 0.45 |
| 1:L5:690:C:H2' | 1:L5:691:C:C6 | 2.52 | 0.45 |
| 2:L7:110:G:H2' | 2:L7:111:C:C6 | 2.52 | 0.45 |
| 4:LA:178:PRO:HG2 | 44:Lp:26:VAL:CG2 | 2.47 | 0.45 |
| 48:S2:552:G:O5' | 48:S2:552:G:H8 | 1.99 | 0.45 |
| 65:SQ:102:GLU:HB3 | 81:Sg:55:PRO:O | 2.16 | 0.45 |
| 71:SW:77:PRO:HB2 | 72:SX:7:LEU:HG | 1.98 | 0.45 |
| 75:Sa:46:GLU:O | 75:Sa:50:VAL:HG23 | 2.16 | 0.45 |
| 1:L5:980:U:H2' | 1:L5:981:C:C6 | 2.51 | 0.45 |
| 1:L5:3942:A:H2' | 1:L5:3943:A:C8 | 2.52 | 0.45 |
| 1:L5:4732:G:H1' | 1:L5:4733:C:C6 | 2.52 | 0.45 |
| 5:LB:258:HIS:HA | 5:LB:259:PRO:C | 2.40 | 0.45 |
| 10:LG:78:PRO:HD3 | 10:LG:237:TRP:CE2 | 2.52 | 0.45 |
| 1:L5:4343:U:H2' | 1:L5:4344:U:C6 | 2.52 | 0.45 |
| 1:L5:4537:C:H2' | 1:L5:4538:G:C8 | 2.52 | 0.45 |
| 12:LI:4:ARG:HB2 | 12:LI:5:PRO:HD2 | 1.99 | 0.45 |
| 13:LJ:44:THR:HG21 | 13:LJ:72:CYS:SG | 2.57 | 0.45 |
| 48:S2:376:A:H2' | 48:S2:377:G:O4' | 2.16 | 0.45 |
| 48:S2:1044:G:HO2' | 48:S2:1045:U:H5 | 1.65 | 0.45 |
| 53:SE:124:CYS:HA | 53:SE:142:HIS:HE1 | 1.82 | 0.45 |
| 1:L5:669:C:H5' | 45:Lr:68:SER:HB2 | 1.99 | 0.45 |
| 1:L5:924:C:H5'' | 1:L5:925:C:OP2 | 2.16 | 0.45 |
| 1:L5:2528:G:H2' | 1:L5:2529:A:O4' | 2.17 | 0.45 |
| 1:L5:4147:G:H2' | 1:L5:4148:C:C6 | 2.52 | 0.45 |
| 48:S2:674:C:H2' | 48:S2:675:U:C6 | 2.52 | 0.45 |
| 1:L5:3792:OMG:H2' | 1:L5:3793:U:C6 | 2.52 | 0.44 |
| 28:LZ:41:ALA:HB2 | 28:LZ:77:TYR:HE1 | 1.82 | 0.44 |
| 31:Lc:27:TYR:CE1 | 31:Lc:29:LEU:HD11 | 2.51 | 0.44 |
| 35:Lg:69:LYS:HA | 35:Lg:72:LYS:HZ2 | 1.82 | 0.44 |
| 48:S2:160:U:O2' | 48:S2:161:U:H3' | 2.17 | 0.44 |
| 75:Sa:39:PHE:CE2 | 75:Sa:41:ILE:HD11 | 2.52 | 0.44 |
| 81:Sg:276:SER:OG | 81:Sg:279:SER:HB2 | 2.17 | 0.44 |
| 1:L5:644:G:OP1 | 14:LL:162:LYS:HD3 | 2.17 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:L5:665:C:H1' | 1:L5:668:C:N4 | 2.32 | 0.44 |
| 1:L5:1095:A:H2' | 1:L5:1096:C:C6 | 2.52 | 0.44 |
| 3:L8:8:U:H2' | 3:L8:9:A:C8 | 2.52 | 0.44 |
| 3:L8:123:U:O2 | 3:L8:123:U:H2' | 2.17 | 0.44 |
| 27:LY:109:LEU:O | 27:LY:110:LYS:C | 2.61 | 0.44 |
| 31:Lc:17:ARG:HG2 | 31:Lc:104:ILE:HB | 1.99 | 0.44 |
| 48:S2:835:C:C4 | 73:SY:8:ARG:HD3 | 2.52 | 0.44 |
| 48:S2:1289:U:C5 | 80:Sf:97:LYS:HE3 | 2.52 | 0.44 |
| 51:SC:94:ILE:HG21 | 51:SC:162:ILE:HD12 | 1.99 | 0.44 |
| 62:SN:25:TRP:CE3 | 76:Sb:82:LYS:HE2 | 2.52 | 0.44 |
| 81:Sg:170:TRP:CG | 81:Sg:194:TYR:HB2 | 2.52 | 0.44 |
| 1:L5:984:C:H2' | 1:L5:985:C:C6 | 2.52 | 0.44 |
| 1:L5:1332:C:H2' | 1:L5:1333:A:H8 | 1.81 | 0.44 |
| 5:LB:399:LYS:HD2 | 5:LB:400:GLU:N | 2.31 | 0.44 |
| 12:LI:36:LEU:HD13 | 12:LI:69:ARG:HH11 | 1.83 | 0.44 |
| 1:L5:758:G:OP1 | 11:LH:52:LYS:HD2 | 2.17 | 0.44 |
| 1:L5:1701:A:H5' | 6:LC:304:ALA:HB3 | 2.00 | 0.44 |
| 1:L5:4965:U:H4' | 1:L5:4966:A:H5' | 2.00 | 0.44 |
| 48:S2:533:A:N7 | 48:S2:534:G:C8 | 2.85 | 0.44 |
| 56:SH:27:LEU:O | 56:SH:31:GLU:HG3 | 2.17 | 0.44 |
| 1:L5:1265:G:H5'' | 30:Lb:95:ARG:NH1 | 2.32 | 0.44 |
| 1:L5:1733:G:N3 | 1:L5:4214:A:H2' | 2.33 | 0.44 |
| 27:LY:62:TYR:CG | 27:LY:85:VAL:HG13 | 2.53 | 0.44 |
| 48:S2:449:A:H4' | 53:SE:3:ARG:HD3 | 2.00 | 0.44 |
| 48:S2:1578:U:H5' | 48:S2:1579:A:N3 | 2.33 | 0.44 |
| 81:Sg:126:ASP:C | 81:Sg:126:ASP:OD1 | 2.60 | 0.44 |
| 1:L5:1554:A:H5' | 44:Lp:9:GLY:C | 2.42 | 0.44 |
| 1:L5:2097:U:H3 | 9:LF:39:GLN:NE2 | 2.15 | 0.44 |
| 1:L5:3765:G:H1' | 1:L5:3766:A:H2 | 1.82 | 0.44 |
| 5:LB:288:GLY:HA3 | 5:LB:330:PHE:CE2 | 2.52 | 0.44 |
| 13:LJ:44:THR:HA | 13:LJ:82:ILE:HD11 | 2.00 | 0.44 |
| 13:LJ:119:TYR:CE1 | 67:SS:12:ILE:HD12 | 2.53 | 0.44 |
| 23:LU:80:LYS:HE2 | 23:LU:110:TYR:CZ | 2.52 | 0.44 |
| 48:S2:1550:G:H3' | 48:S2:1579:A:H61 | 1.83 | 0.44 |
| 80:Sf:133:ALA:O | 80:Sf:139:HIS:HA | 2.18 | 0.44 |
| 1:L5:1380:G:H4' | 1:L5:1381:U:H6 | 1.83 | 0.44 |
| 1:L5:2500:U:H2' | 1:L5:2501:C:C6 | 2.53 | 0.44 |
| 1:L5:2638:G:N7 | 1:L5:2697:A:N1 | 2.66 | 0.44 |
| 1:L5:4637:OMG:HM23 | 1:L5:4637:OMG:H1' | 1.78 | 0.44 |
| 1:L5:5013:C:H4' | 1:L5:5014:A:C5' | 2.47 | 0.44 |
| 7:LD:72:ASP:O | 7:LD:73:MET:HE2 | 2.17 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 48:S2:1499:U:H4' | 52:SD:176:LEU:HD13 | 1.98 | 0.44 |
| 64:SP:21:ASP:OD1 | 64:SP:21:ASP:C | 2.60 | 0.44 |
| 1:L5:123:C:H2' | 1:L5:124:C:C6 | 2.52 | 0.44 |
| 1:L5:2094:G:H2' | 1:L5:2095:A:N3 | 2.33 | 0.44 |
| 1:L5:4457:PSU:H1' | 5:LB:252:ALA:HB3 | 1.99 | 0.44 |
| 1:L5:4919:G:H2' | 1:L5:4920:C:H6 | 1.82 | 0.44 |
| 7:LD:52:ILE:O | 7:LD:62:CYS:HA | 2.18 | 0.44 |
| 31:Lc:20:LEU:HD23 | 31:Lc:102:SER:HA | 1.99 | 0.44 |
| 48:S2:862:A:C8 | 71:SW:107:SER:HA | 2.51 | 0.44 |
| 64:SP:34:MET:HG3 | 64:SP:42:ARG:HG3 | 1.99 | 0.44 |
| 1:L5:123:C:H2' | 1:L5:124:C:H6 | 1.83 | 0.44 |
| 1:L5:424:U:H2' | 1:L5:425:U:C6 | 2.52 | 0.44 |
| 1:L5:653:U:H2' | 1:L5:654:C:C6 | 2.53 | 0.44 |
| 1:L5:2864:A:H2' | 1:L5:2865:U:C6 | 2.53 | 0.44 |
| 1:L5:3726:A:H2' | 1:L5:3727:A:C8 | 2.53 | 0.44 |
| 1:L5:4612:C:N3 | 11:LH:120:GLU:O | 2.51 | 0.44 |
| 48:S2:370:G:H1' | 90:S2:8894:HOH:O | 2.18 | 0.44 |
| 56:SH:43:LEU:HB3 | 56:SH:72:PHE:CE2 | 2.53 | 0.44 |
| 67:SS:6:PRO:HB2 | 67:SS:9:PHE:HB2 | 1.99 | 0.44 |
| 73:SY:41:ARG:NH2 | 73:SY:53:ASP:HA | 2.32 | 0.44 |
| 5:LB:245:HIC:HD2 | 90:LB:6133:HOH:O | 2.17 | 0.43 |
| 26:LX:82:THR:HG22 | 26:LX:155:ILE:HG23 | 1.98 | 0.43 |
| 28:LZ:9:LYS:HD2 | 28:LZ:83:THR:O | 2.18 | 0.43 |
| 38:Lj:39:TYR:CD1 | 38:Lj:40:PRO:HA | 2.52 | 0.43 |
| 48:S2:1797:U:H2' | 48:S2:1798:C:C6 | 2.53 | 0.43 |
| 80:Sf:108:VAL:HG22 | 80:Sf:114:ILE:HG12 | 2.00 | 0.43 |
| 1:L5:233:U:C6 | 1:L5:234:G:H8 | 2.36 | 0.43 |
| 1:L5:2664:G:H4' | 1:L5:2677:G:H4' | 2.00 | 0.43 |
| 33:Le:82:VAL:HG13 | 33:Le:114:ARG:HG2 | 1.99 | 0.43 |
| 48:S2:996:A:H2' | 48:S2:997:A:C8 | 2.53 | 0.43 |
| 51:SC:183:LYS:HD3 | 51:SC:194:ARG:NH2 | 2.34 | 0.43 |
| 66:SR:5:ARG:O | 66:SR:10:LYS:HE2 | 2.18 | 0.43 |
| 73:SY:60:PHE:CD1 | 73:SY:71:GLY:HA3 | 2.53 | 0.43 |
| 1:L5:1631:A:N7 | 4:LA:199:VAL:HG21 | 2.33 | 0.43 |
| 1:L5:2739:C:H5'' | 44:Lp:69:TRP:CH2 | 2.53 | 0.43 |
| 48:S2:616:A:H1' | 79:Se:86:VAL:HG23 | 2.00 | 0.43 |
| 57:SI:151:GLU:O | 57:SI:154:LYS:HG2 | 2.19 | 0.43 |
| 1:L5:515:C:H2' | 1:L5:516:C:C6 | 2.53 | 0.43 |
| 1:L5:2570:U:H2' | 1:L5:2571:C:C6 | 2.54 | 0.43 |
| 1:L5:2815:A2M:HM'3 | 1:L5:2815:A2M:H1' | 1.83 | 0.43 |
| 5:LB:107:ALA:HB2 | 5:LB:201:LEU:HG | 2.01 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 48:S2:4:C:H4' | 51:SC:207:ALA:HB2 | 2.01 | 0.43 |
| 48:S2:197:U:H5'' | 48:S2:198:U:OP2 | 2.18 | 0.43 |
| 49:SA:164:ASN:HB3 | 49:SA:170:SER:OG | 2.19 | 0.43 |
| 77:Sc:43:ILE:HD11 | 77:Sc:67:ARG:HH21 | 1.82 | 0.43 |
| 1:L5:150:U:H4' | 1:L5:151:G:OP2 | 2.18 | 0.43 |
| 1:L5:1754:U:H1' | 1:L5:1755:C:H5 | 1.83 | 0.43 |
| 1:L5:1789:C:H2' | 1:L5:1790:U:H6 | 1.81 | 0.43 |
| 1:L5:2497:C:H2' | 1:L5:2498:C:H6 | 1.82 | 0.43 |
| 1:L5:3880:G:H2' | 1:L5:3881:G:C8 | 2.53 | 0.43 |
| 45:Lr:4:HIS:O | 45:Lr:8:MET:HG2 | 2.19 | 0.43 |
| 48:S2:178:C:H2' | 48:S2:179:C:C6 | 2.53 | 0.43 |
| 48:S2:344:U:H2' | 48:S2:345:U:C6 | 2.53 | 0.43 |
| 48:S2:1562:C:O2' | 48:S2:1563:G:H5' | 2.18 | 0.43 |
| 51:SC:65:LYS:HG2 | 51:SC:68:ARG:HH21 | 1.83 | 0.43 |
| 53:SE:31:PRO:CG | 53:SE:38:LEU:HG | 2.48 | 0.43 |
| 55:SG:66:GLY:N | 55:SG:100:CYS:SG | 2.91 | 0.43 |
| 68:ST:65:TYR:CE2 | 68:ST:128:GLN:HG3 | 2.50 | 0.43 |
| 1:L5:1510:G:H2' | 1:L5:1511:U:C6 | 2.53 | 0.43 |
| 1:L5:2326:G:H5'' | 33:Le:127:ALA:HB2 | 2.00 | 0.43 |
| 1:L5:3712:A:C2 | 48:S2:970:G:C6 | 3.06 | 0.43 |
| 2:L7:75:G:H5'' | 21:LS:49:SER:O | 2.18 | 0.43 |
| 48:S2:1025:U:H2' | 48:S2:1026:C:O4' | 2.18 | 0.43 |
| 56:SH:135:PHE:CG | 56:SH:136:PRO:HA | 2.53 | 0.43 |
| 64:SP:17:TYR:CD2 | 64:SP:18:ARG:HG2 | 2.54 | 0.43 |
| 73:SY:27:VAL:HG11 | 73:SY:35:VAL:HG11 | 1.99 | 0.43 |
| 73:SY:55:ILE:HD12 | 73:SY:75:ILE:HG12 | 2.01 | 0.43 |
| 1:L5:1332:C:H2' | 1:L5:1333:A:C8 | 2.54 | 0.43 |
| 1:L5:1431:C:H2' | 1:L5:1432:G:O4' | 2.18 | 0.43 |
| 1:L5:5006:U:H4' | 1:L5:5007:A:H5' | 2.01 | 0.43 |
| 3:L8:6:C:H2' | 3:L8:7:U:C6 | 2.54 | 0.43 |
| 10:LG:139:GLY:HA2 | 10:LG:201:THR:O | 2.18 | 0.43 |
| 36:Lh:106:LYS:HG2 | 36:Lh:110:LYS:HE2 | 2.01 | 0.43 |
| 47:Pt:35:U:H6 | 47:Pt:35:U:H5' | 1.84 | 0.43 |
| 48:S2:178:C:H2' | 48:S2:179:C:H6 | 1.83 | 0.43 |
| 48:S2:829:C:OP1 | 53:SE:21:ASP:HB2 | 2.19 | 0.43 |
| 48:S2:874:G:H21 | 56:SH:114:GLN:HE22 | 1.66 | 0.43 |
| 48:S2:907:G:H2' | 48:S2:908:A:C8 | 2.54 | 0.43 |
| 48:S2:1083:A:H4' | 48:S2:1085:C:C4 | 2.54 | 0.43 |
| 56:SH:108:SER:HA | 56:SH:111:LYS:HE3 | 2.01 | 0.43 |
| 61:SM:35:ILE:HD13 | 61:SM:61:TYR:CE1 | 2.53 | 0.43 |
| 1:L5:665:C:H1' | 1:L5:668:C:H42 | 1.84 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 37:Li:2:ALA:HB3 | 37:Li:5:TYR:CE1 | 2.52 | 0.43 |
| 48:S2:942:G:H2' | 48:S2:943:U:C6 | 2.53 | 0.43 |
| 48:S2:1070:A:H2' | 48:S2:1071:G:O4' | 2.19 | 0.43 |
| 48:S2:1149:A:N3 | 48:S2:1149:A:H2' | 2.33 | 0.43 |
| 58:SJ:11:LYS:HE3 | 58:SJ:13:TYR:O | 2.18 | 0.43 |
| 73:SY:40:ILE:HD13 | 73:SY:60:PHE:CZ | 2.53 | 0.43 |
| 73:SY:41:ARG:CZ | 73:SY:94:HIS:CE1 | 3.01 | 0.43 |
| 75:Sa:59:PHE:HB2 | 75:Sa:62:TYR:HB2 | 2.00 | 0.43 |
| 81:Sg:168:CYS:HB2 | 81:Sg:195:LEU:HD13 | 2.01 | 0.43 |
| 1:L5:1359:G:H4' | 16:LN:203:TYR:HB2 | 2.01 | 0.43 |
| 1:L5:3641:U:C6 | 1:L5:3645:U:C4 | 3.06 | 0.43 |
| 1:L5:3718:A2M:H2 | 1:L5:3934:G:O4' | 2.19 | 0.43 |
| 1:L5:4250:G:H4' | 13:LJ:106:GLY:C | 2.43 | 0.43 |
| 1:L5:4594:U:H2' | 1:L5:4595:G:H8 | 1.84 | 0.43 |
| 1:L5:4699:U:H1' | 1:L5:4700:A:H5'' | 2.01 | 0.43 |
| 7:LD:265:ARG:HD3 | 7:LD:269:PRO:HD3 | 2.00 | 0.43 |
| 8:LE:67:ALA:HA | 8:LE:69:TYR:CE2 | 2.53 | 0.43 |
| 50:SB:48:LEU:HD23 | 50:SB:48:LEU:H | 1.84 | 0.43 |
| 1:L5:106:A:H1' | 1:L5:336:A:N3 | 2.34 | 0.43 |
| 1:L5:1766:A:H1' | 1:L5:1767:A:C5 | 2.54 | 0.43 |
| 1:L5:1773:U:H2' | 1:L5:1774:C:C6 | 2.54 | 0.43 |
| 1:L5:2640:G:H2' | 1:L5:2641:A:C8 | 2.54 | 0.43 |
| 1:L5:4134:C:H2' | 1:L5:4135:G:O4' | 2.18 | 0.43 |
| 1:L5:4771:C:H2' | 1:L5:4772:C:C5 | 2.53 | 0.43 |
| 2:L7:3:C:H2' | 2:L7:4:U:H6 | 1.84 | 0.43 |
| 48:S2:553:U:C5 | 48:S2:555:A:C8 | 3.06 | 0.43 |
| 48:S2:1728:U:H2' | 48:S2:1729:U:O4' | 2.19 | 0.43 |
| 48:S2:1737:G:H2' | 48:S2:1738:C:H6 | 1.84 | 0.43 |
| 71:SW:83:LEU:HD11 | 71:SW:120:HIS:C | 2.43 | 0.43 |
| 74:SZ:31:LYS:HB3 | 74:SZ:32:LYS:H | 1.62 | 0.43 |
| 1:L5:975:C:OP1 | 9:LF:43:ARG:HD3 | 2.20 | 0.42 |
| 1:L5:2563:C:H3' | 1:L5:2564:G:C8 | 2.53 | 0.42 |
| 1:L5:4114:C:H2' | 1:L5:4115:G:N3 | 2.33 | 0.42 |
| 7:LD:38:ILE:HD12 | 22:LT:30:TYR:HB2 | 2.00 | 0.42 |
| 24:LV:75:LYS:HB3 | 24:LV:75:LYS:HE3 | 1.67 | 0.42 |
| 48:S2:572:PSU:H5'' | 73:SY:60:PHE:O | 2.19 | 0.42 |
| 49:SA:39:TYR:CD2 | 66:SR:105:MET:HB2 | 2.54 | 0.42 |
| 50:SB:168:MET:HG2 | 50:SB:197:ILE:HG21 | 2.01 | 0.42 |
| 1:L5:665:C:H4' | 1:L5:668:C:H41 | 1.83 | 0.42 |
| 1:L5:1804:A:O4' | 1:L5:1806:G:C8 | 2.71 | 0.42 |
| 1:L5:2424:OMG:H1' | 1:L5:2424:OMG:HM23 | 1.81 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 1:L5:2862:G:N3 | 1:L5:3624:A:H2' | 2.33 | 0.42 |
| 1:L5:4438:U:H2' | 1:L5:4439:U:O4' | 2.19 | 0.42 |
| 1:L5:4749:C:H2' | 1:L5:4750:G:O4' | 2.19 | 0.42 |
| 48:S2:1223:A:H2' | 48:S2:1224:G:O4' | 2.19 | 0.42 |
| 54:SF:188:TYR:OH | 54:SF:192:LYS:HE2 | 2.19 | 0.42 |
| 57:SI:129:LEU:HB2 | 57:SI:133:GLU:HB2 | 2.01 | 0.42 |
| 1:L5:231:U:H4' | 27:LY:100:HIS:CD2 | 2.53 | 0.42 |
| 1:L5:495:C:H3' | 1:L5:496:G:H5'' | 2.01 | 0.42 |
| 1:L5:658:C:H2' | 1:L5:659:G:C8 | 2.55 | 0.42 |
| 1:L5:966:A:C2 | 1:L5:2092:G:C2 | 3.07 | 0.42 |
| 1:L5:2364:OMG:H1' | 1:L5:2364:OMG:HM23 | 1.69 | 0.42 |
| 1:L5:2412:A:H2' | 1:L5:2413:U:C6 | 2.54 | 0.42 |
| 1:L5:2486:G:C6 | 1:L5:2487:G:C6 | 3.08 | 0.42 |
| 3:L8:6:C:H2' | 3:L8:7:U:H6 | 1.84 | 0.42 |
| 48:S2:191:A:OP2 | 57:SI:145:ILE:HD12 | 2.19 | 0.42 |
| 48:S2:464:A:H3' | 48:S2:465:A:H8 | 1.83 | 0.42 |
| 48:S2:1552:G:O6 | 48:S2:1557:C:H2' | 2.19 | 0.42 |
| 1:L5:1563:A:H2' | 1:L5:1564:A:O4' | 2.19 | 0.42 |
| 1:L5:1855:G:OP1 | 30:Lb:4:SER:HB2 | 2.19 | 0.42 |
| 1:L5:1866:U:H2' | 1:L5:1867:A:O4' | 2.19 | 0.42 |
| 1:L5:3837:C:H2' | 1:L5:3838:U:O4' | 2.18 | 0.42 |
| 1:L5:4111:U:H2' | 1:L5:4112:C:H6 | 1.83 | 0.42 |
| 1:L5:5028:G:H2' | 1:L5:5029:C:C6 | 2.54 | 0.42 |
| 48:S2:176:U:H2' | 48:S2:177:G:C8 | 2.54 | 0.42 |
| 80:Sf:143:LYS:C | 80:Sf:145:CYS:H | 2.27 | 0.42 |
| 1:L5:423:G:H2' | 1:L5:424:U:O4' | 2.19 | 0.42 |
| 1:L5:750:U:H1' | 1:L5:917:A:C8 | 2.54 | 0.42 |
| 1:L5:1249:C:H2' | 1:L5:1250:C:C6 | 2.54 | 0.42 |
| 1:L5:1962:A:H2' | 1:L5:1963:C:C6 | 2.55 | 0.42 |
| 1:L5:2874:U:O4 | 1:L5:3823:G:H8 | 2.02 | 0.42 |
| 1:L5:4524:G:H4' | 1:L5:4524:G:OP2 | 2.19 | 0.42 |
| 1:L5:4539:U:O4 | 4:LA:216:HIS:HE1 | 2.02 | 0.42 |
| 10:LG:139:GLY:HA2 | 10:LG:201:THR:HG23 | 2.02 | 0.42 |
| 48:S2:836:G:H2' | 48:S2:837:A:C6 | 2.55 | 0.42 |
| 48:S2:1052:A:H2' | 48:S2:1053:C:O4' | 2.20 | 0.42 |
| 81:Sg:290:ALA:O | 81:Sg:298:LEU:HD12 | 2.19 | 0.42 |
| 1:L5:1247:U:H2' | 1:L5:1248:C:C6 | 2.55 | 0.42 |
| 1:L5:1437:C:C2 | 1:L5:2098:G:C8 | 3.08 | 0.42 |
| 1:L5:1883:G:O6 | 1:L5:1896:A:H2 | 2.02 | 0.42 |
| 1:L5:4274:A:H2' | 1:L5:4275:G:H8 | 1.84 | 0.42 |
| 1:L5:4941:G:OP1 | 8:LE:219:LYS:HG3 | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 48:S2:223:C:H2' | 48:S2:224:A:C8 | 2.54 | 0.42 |
| 48:S2:555:A:H2' | 48:S2:556:U:H6 | 1.84 | 0.42 |
| 48:S2:929:G:H2' | 48:S2:930:C:O4' | 2.19 | 0.42 |
| 48:S2:1807:C:H2' | 48:S2:1808:U:O4' | 2.20 | 0.42 |
| 50:SB:89:GLU:HG3 | 50:SB:228:LEU:HD13 | 2.00 | 0.42 |
| 54:SF:142:SER:HB2 | 77:Sc:50:VAL:HG13 | 2.02 | 0.42 |
| 69:SU:106:ILE:HD12 | 69:SU:106:ILE:HA | 1.93 | 0.42 |
| 72:SX:52:LEU:HD12 | 72:SX:53:GLU:HG2 | 2.01 | 0.42 |
| 73:SY:130:LYS:HB3 | 73:SY:131:PRO:HD3 | 2.01 | 0.42 |
| 1:L5:1247:U:H2' | 1:L5:1248:C:H6 | 1.84 | 0.42 |
| 1:L5:1363:C:H2' | 1:L5:1364:U:O4' | 2.19 | 0.42 |
| 1:L5:1468:C:H2' | 1:L5:1469:C:C6 | 2.55 | 0.42 |
| 1:L5:1736:A:C2 | 1:L5:1794:A:C4 | 3.08 | 0.42 |
| 1:L5:1964:A:C2 | 1:L5:4694:G:C4 | 3.08 | 0.42 |
| 1:L5:2415:OMU:C4 | 1:L5:2416:G:C6 | 3.03 | 0.42 |
| 3:L8:14:OMU:H1' | 3:L8:14:OMU:HM23 | 1.62 | 0.42 |
| 5:LB:24:ARG:HH11 | 5:LB:276:HIS:CD2 | 2.38 | 0.42 |
| 6:LC:174:LEU:HD23 | 6:LC:174:LEU:HA | 1.78 | 0.42 |
| 18:LP:40:HIS:NE2 | 18:LP:110:ASP:O | 2.47 | 0.42 |
| 29:La:125:LYS:HA | 29:La:145:VAL:O | 2.19 | 0.42 |
| 48:S2:155:G:H2' | 48:S2:156:G:C8 | 2.55 | 0.42 |
| 48:S2:1223:A:OP1 | 54:SF:79:HIS:HA | 2.20 | 0.42 |
| 48:S2:1842:4AC:H6 | 48:S2:1842:4AC:O5' | 2.19 | 0.42 |
| 52:SD:106:ARG:CG | 52:SD:175:VAL:HG22 | 2.50 | 0.42 |
| 52:SD:106:ARG:HG3 | 52:SD:175:VAL:HG22 | 2.02 | 0.42 |
| 56:SH:157:HIS:HB3 | 56:SH:190:PRO:HG3 | 2.01 | 0.42 |
| 1:L5:642:G:H2' | 1:L5:643:C:C6 | 2.55 | 0.42 |
| 1:L5:2070:U:O4' | 84:L5:5616:PUT:H31 | 2.20 | 0.42 |
| 1:L5:4345:C:H2' | 1:L5:4346:U:C6 | 2.54 | 0.42 |
| 1:L5:4481:U:H2' | 1:L5:4482:U:H6 | 1.85 | 0.42 |
| 4:LA:206:PRO:HD3 | 4:LA:213:GLY:CA | 2.50 | 0.42 |
| 48:S2:441:C:H2' | 48:S2:442:C:C6 | 2.55 | 0.42 |
| 48:S2:1286:G:OP1 | 80:Sf:101:ALA:HA | 2.19 | 0.42 |
| 48:S2:1589:A:H2' | 48:S2:1590:C:C6 | 2.55 | 0.42 |
| 54:SF:68:ILE:HD11 | 54:SF:151:ILE:HD11 | 2.00 | 0.42 |
| 48:S2:1201:U:H2' | 48:S2:1202:U:C6 | 2.55 | 0.42 |
| 48:S2:1372:U:H2' | 48:S2:1373:C:O4' | 2.20 | 0.42 |
| 52:SD:138:VAL:HG13 | 52:SD:182:LEU:HD21 | 2.01 | 0.42 |
| 63:SO:83:GLN:NE2 | 77:Sc:5:ARG:HH21 | 2.17 | 0.42 |
| 80:Sf:143:LYS:O | 80:Sf:144:CYS:SG | 2.77 | 0.42 |
| 81:Sg:209:SER:O | 81:Sg:216:ALA:HA | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:L5:417:G:N3 | 3:L8:16:G:C2 | 2.88 | 0.42 |
| 1:L5:489:C:H2' | 1:L5:490:C:H6 | 1.84 | 0.42 |
| 1:L5:2305:U:H4' | 1:L5:2306:G:OP2 | 2.20 | 0.42 |
| 1:L5:4674:C:H2' | 1:L5:4675:U:C6 | 2.55 | 0.42 |
| 2:L7:111:C:H2' | 2:L7:112:U:O4' | 2.20 | 0.42 |
| 24:LV:43:LYS:HE2 | 24:LV:62:MET:SD | 2.59 | 0.42 |
| 48:S2:121:OMU:H6 | 48:S2:121:OMU:O5' | 2.19 | 0.42 |
| 48:S2:416:U:H2' | 48:S2:417:C:O4' | 2.19 | 0.42 |
| 48:S2:955:A:N3 | 48:S2:956:G:H1' | 2.34 | 0.42 |
| 48:S2:1199:A:H2' | 48:S2:1200:A:C8 | 2.54 | 0.42 |
| 53:SE:100:ARG:HH21 | 53:SE:118:GLU:HG2 | 1.85 | 0.42 |
| 64:SP:75:VAL:HG11 | 64:SP:104:GLN:HG2 | 2.02 | 0.42 |
| 69:SU:61:LEU:O | 69:SU:81:GLN:HA | 2.19 | 0.42 |
| 1:L5:268:G:H2' | 1:L5:269:G:H8 | 1.84 | 0.41 |
| 1:L5:300:A:H5' | 16:LN:95:ALA:O | 2.20 | 0.41 |
| 1:L5:2520:C:H2' | 1:L5:2521:G:C8 | 2.55 | 0.41 |
| 1:L5:2787:A2M:HM'1 | 1:L5:2789:A:H3' | 2.02 | 0.41 |
| 1:L5:3771:C:H2' | 1:L5:3772:U:O4' | 2.19 | 0.41 |
| 84:L5:5621:PUT:H11 | 6:LC:202:ILE:HD12 | 2.02 | 0.41 |
| 8:LE:66:LYS:HE2 | 8:LE:68:MET:SD | 2.59 | 0.41 |
| 13:LJ:15:LEU:HD13 | 13:LJ:165:TRP:HB2 | 2.02 | 0.41 |
| 22:LT:158:PHE:CE1 | 22:LT:159:MET:HE3 | 2.56 | 0.41 |
| 30:Lb:69:ALA:O | 30:Lb:72:ILE:HB | 2.19 | 0.41 |
| 48:S2:449:A:H5'' | 90:S2:6249:HOH:O | 2.20 | 0.41 |
| 53:SE:21:ASP:OD2 | 53:SE:24:THR:HG23 | 2.20 | 0.41 |
| 58:SJ:46:VAL:HG12 | 58:SJ:102:ILE:HG13 | 2.00 | 0.41 |
| 62:SN:54:LEU:HB3 | 62:SN:60:VAL:HB | 2.01 | 0.41 |
| 65:SQ:39:LEU:HD11 | 65:SQ:51:LEU:HB3 | 2.02 | 0.41 |
| 73:SY:56:PHE:CE2 | 73:SY:94:HIS:CD2 | 3.08 | 0.41 |
| 1:L5:1406:G:C2 | 1:L5:1412:G:C6 | 3.08 | 0.41 |
| 5:LB:245:HIC:C | 5:LB:246:ARG:HG3 | 2.50 | 0.41 |
| 17:LO:190:ASP:OD1 | 17:LO:191:LYS:N | 2.53 | 0.41 |
| 26:LX:73:HIS:CD2 | 26:LX:112:ALA:HA | 2.55 | 0.41 |
| 48:S2:1293:A:H2' | 48:S2:1294:G:C8 | 2.55 | 0.41 |
| 48:S2:1416:C:OP1 | 68:ST:129:ARG:HG3 | 2.20 | 0.41 |
| 57:SI:63:GLY:HA3 | 57:SI:185:ALA:O | 2.20 | 0.41 |
| 64:SP:15:PHE:CE2 | 64:SP:109:PRO:HB2 | 2.55 | 0.41 |
| 1:L5:119:G:H3' | 1:L5:120:A:H5'' | 2.02 | 0.41 |
| 1:L5:380:U:P | 1:L5:413:G:H21 | 2.43 | 0.41 |
| 1:L5:717:U:H2' | 1:L5:718:C:C6 | 2.56 | 0.41 |
| 1:L5:1501:C:O2 | 1:L5:1501:C:H2' | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:L5:1924:C:H2' | 1:L5:1925:G:O4' | 2.20 | 0.41 |
| 1:L5:3656:A:H2' | 1:L5:3657:U:H6 | 1.85 | 0.41 |
| 1:L5:5013:C:H41 | 1:L5:5029:C:P | 2.43 | 0.41 |
| 1:L5:1460:C:H5'' | 19:LQ:144:LYS:HG2 | 2.01 | 0.41 |
| 1:L5:3656:A:H2' | 1:L5:3657:U:C6 | 2.56 | 0.41 |
| 5:LB:356:LYS:HE3 | 5:LB:356:LYS:HB2 | 1.87 | 0.41 |
| 54:SF:49:LEU:HD12 | 65:SQ:50:LYS:HG2 | 2.03 | 0.41 |
| 61:SM:124:ILE:HA | 61:SM:127:TYR:CD2 | 2.56 | 0.41 |
| 69:SU:17:ILE:HG21 | 69:SU:94:PRO:HB3 | 2.02 | 0.41 |
| 72:SX:105:PHE:HB2 | 72:SX:119:ARG:C | 2.45 | 0.41 |
| 1:L5:260:C:H2' | 1:L5:261:G:C8 | 2.55 | 0.41 |
| 1:L5:2415:OMU:H1' | 1:L5:2415:OMU:HM23 | 1.70 | 0.41 |
| 1:L5:2709:C:H1' | 20:LR:39:GLN:HG2 | 2.02 | 0.41 |
| 2:L7:3:C:H2' | 2:L7:4:U:C6 | 2.55 | 0.41 |
| 2:L7:89:G:H2' | 2:L7:90:A:C8 | 2.55 | 0.41 |
| 8:LE:133:PHE:HA | 8:LE:136:HIS:CE1 | 2.55 | 0.41 |
| 12:LI:193:ASP:OD2 | 12:LI:198:LYS:HE3 | 2.21 | 0.41 |
| 30:Lb:49:HIS:HB3 | 30:Lb:52:LYS:HE2 | 2.02 | 0.41 |
| 48:S2:204:G:C6 | 48:S2:205:G:C5 | 3.08 | 0.41 |
| 48:S2:1828:C:H2' | 48:S2:1829:G:O4' | 2.21 | 0.41 |
| 48:S2:1850:MA6:H8 | 48:S2:1850:MA6:O5' | 2.21 | 0.41 |
| 71:SW:86:LEU:HD21 | 71:SW:113:HIS:HB2 | 2.02 | 0.41 |
| 81:Sg:176:VAL:CG2 | 81:Sg:186:THR:HB | 2.50 | 0.41 |
| 1:L5:1405:C:C4 | 1:L5:1406:G:N7 | 2.88 | 0.41 |
| 1:L5:2264:C:H2' | 1:L5:2265:G:O4' | 2.21 | 0.41 |
| 1:L5:3620:G:C2 | 1:L5:4642:U:H5' | 2.55 | 0.41 |
| 12:LI:47:PRO:HB3 | 12:LI:171:TRP:CZ2 | 2.56 | 0.41 |
| 25:LW:44:ARG:HG3 | 25:LW:44:ARG:HH11 | 1.86 | 0.41 |
| 39:Lk:13:LEU:HD23 | 39:Lk:13:LEU:HA | 1.96 | 0.41 |
| 48:S2:1098:C:H2' | 48:S2:1099:G:C8 | 2.55 | 0.41 |
| 48:S2:1289:U:H2' | 48:S2:1290:G:C8 | 2.55 | 0.41 |
| 48:S2:1457:U:H2' | 48:S2:1458:G:C8 | 2.55 | 0.41 |
| 49:SA:134:LEU:HD22 | 49:SA:144:THR:HG21 | 2.02 | 0.41 |
| 61:SM:35:ILE:HD13 | 61:SM:61:TYR:HE1 | 1.84 | 0.41 |
| 1:L5:2487:G:H2' | 1:L5:2488:C:O4' | 2.20 | 0.41 |
| 1:L5:2632:PSU:H2' | 1:L5:2633:U:C6 | 2.55 | 0.41 |
| 3:L8:80:A:N3 | 3:L8:80:A:H2' | 2.35 | 0.41 |
| 3:L8:85:U:H5'' | 3:L8:86:U:H3' | 2.02 | 0.41 |
| 14:LL:139:SER:HB2 | 14:LL:143:GLU:OE2 | 2.20 | 0.41 |
| 48:S2:65:C:C2 | 55:SG:133:LEU:HD22 | 2.55 | 0.41 |
| 48:S2:462:OMC:HM23 | 48:S2:462:OMC:H1' | 1.73 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 48:S2:1088:U:H4' | 48:S2:1089:G:OP2 | 2.20 | 0.41 |
| 48:S2:1229:G:H2' | 48:S2:1230:C:O4' | 2.21 | 0.41 |
| 52:SD:113:LEU:HD23 | 52:SD:118:ALA:HB2 | 2.03 | 0.41 |
| 1:L5:968:C:O2' | 1:L5:969:C:H3' | 2.20 | 0.41 |
| 1:L5:1472:C:H2' | 1:L5:1473:U:C6 | 2.55 | 0.41 |
| 1:L5:4967:A:H2' | 1:L5:4968:A:H8 | 1.84 | 0.41 |
| 47:Pt:19:U:O2' | 47:Pt:20:H2U:H5' | 2.21 | 0.41 |
| 48:S2:166:A2M:H1' | 48:S2:166:A2M:HM'3 | 1.88 | 0.41 |
| 48:S2:1735:A:H2' | 48:S2:1736:G:O4' | 2.21 | 0.41 |
| 49:SA:16:LEU:HD22 | 66:SR:96:ILE:HD12 | 2.03 | 0.41 |
| 50:SB:123:ALA:HB2 | 50:SB:165:ARG:HG3 | 2.02 | 0.41 |
| 74:SZ:48:VAL:C | 74:SZ:83:LEU:HD22 | 2.46 | 0.41 |
| 1:L5:135:G:C5 | 36:Lh:97:LYS:HE3 | 2.55 | 0.41 |
| 1:L5:357:U:C2 | 1:L5:359:A:N7 | 2.89 | 0.41 |
| 1:L5:434:A:H2' | 1:L5:435:A:O4' | 2.20 | 0.41 |
| 1:L5:456:C:H2' | 1:L5:457:G:C8 | 2.56 | 0.41 |
| 1:L5:1298:C:H2' | 1:L5:1299:G:C8 | 2.55 | 0.41 |
| 1:L5:1433:A:H2' | 1:L5:1434:G:O4' | 2.21 | 0.41 |
| 1:L5:3793:U:H2' | 1:L5:3794:C:C6 | 2.56 | 0.41 |
| 1:L5:4173:G:H2' | 1:L5:4174:U:C6 | 2.56 | 0.41 |
| 1:L5:4219:A:H2' | 1:L5:4220:6MZ:C8 | 2.51 | 0.41 |
| 1:L5:4258:C:OP1 | 13:LJ:53:ALA:HA | 2.21 | 0.41 |
| 1:L5:4458:C:H2' | 1:L5:4459:U:C6 | 2.56 | 0.41 |
| 2:L7:39:C:H4' | 13:LJ:47:THR:HG23 | 2.01 | 0.41 |
| 5:LB:223:THR:O | 5:LB:274:TYR:HA | 2.21 | 0.41 |
| 9:LF:179:LEU:HB3 | 9:LF:184:ILE:HB | 2.02 | 0.41 |
| 19:LQ:43:PHE:CD1 | 19:LQ:133:GLY:HA3 | 2.55 | 0.41 |
| 19:LQ:175:GLU:HA | 29:La:51:GLY:C | 2.46 | 0.41 |
| 48:S2:16:G:H2' | 48:S2:17:C:C6 | 2.55 | 0.41 |
| 48:S2:495:U:H2' | 48:S2:496:C:O4' | 2.21 | 0.41 |
| 48:S2:538:U:H2' | 48:S2:539:C:C6 | 2.56 | 0.41 |
| 48:S2:799:U:H2' | 48:S2:800:U:C6 | 2.56 | 0.41 |
| 48:S2:1284:A:C6 | 61:SM:91:LEU:HD22 | 2.56 | 0.41 |
| 51:SC:79:GLU:OE1 | 51:SC:82:TYR:HD2 | 2.04 | 0.41 |
| 51:SC:182:CYS:HB2 | 71:SW:95:PRO:HB2 | 2.03 | 0.41 |
| 64:SP:107:ILE:HA | 64:SP:111:MET:SD | 2.60 | 0.41 |
| 66:SR:33:ARG:HD2 | 81:Sg:125:ARG:NH1 | 2.36 | 0.41 |
| 68:ST:34:VAL:HG23 | 68:ST:52:TRP:CZ2 | 2.56 | 0.41 |
| 1:L5:1246:G:H2' | 1:L5:1247:U:C6 | 2.56 | 0.41 |
| 1:L5:3606:U:H2' | 1:L5:3607:U:C6 | 2.56 | 0.41 |
| 1:L5:3946:G:C2 | 1:L5:4067:U:O2 | 2.70 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 1:L5:4291:G:H5'' | 1:L5:4293:PSU:C6 | 2.56 | 0.41 |
| 1:L5:4738:C:H2' | 1:L5:4739:C:C6 | 2.56 | 0.41 |
| 19:LQ:49:LYS:HE2 | 19:LQ:49:LYS:HB3 | 1.78 | 0.41 |
| 61:SM:120:ALA:O | 61:SM:123:VAL:HG22 | 2.21 | 0.41 |
| 80:Sf:141:CYS:SG | 80:Sf:143:LYS:O | 2.79 | 0.41 |
| 1:L5:1404:G:C2 | 1:L5:1405:C:C4 | 3.09 | 0.40 |
| 1:L5:1444:G:C2 | 1:L5:2102:G:C8 | 3.09 | 0.40 |
| 1:L5:2258:C:C2 | 8:LE:89:LEU:HD12 | 2.57 | 0.40 |
| 1:L5:2293:U:H2' | 1:L5:2294:G:C8 | 2.55 | 0.40 |
| 1:L5:2497:C:H2' | 1:L5:2498:C:C6 | 2.57 | 0.40 |
| 1:L5:3823:G:H2' | 1:L5:3824:A:C8 | 2.56 | 0.40 |
| 3:L8:19:C:H2' | 3:L8:20:A:C8 | 2.56 | 0.40 |
| 3:L8:75:OMG:HM23 | 3:L8:75:OMG:H1' | 1.95 | 0.40 |
| 3:L8:129:C:H2' | 3:L8:130:C:C6 | 2.56 | 0.40 |
| 5:LB:56:ILE:HD12 | 5:LB:56:ILE:C | 2.46 | 0.40 |
| 9:LF:43:ARG:HG3 | 9:LF:43:ARG:NH1 | 2.36 | 0.40 |
| 11:LH:41:ILE:HG22 | 11:LH:43:VAL:HG13 | 2.03 | 0.40 |
| 48:S2:171:A:O2' | 48:S2:172:OMU:H3' | 2.21 | 0.40 |
| 48:S2:501:C:H2' | 48:S2:502:C:H5'' | 2.03 | 0.40 |
| 48:S2:534:G:H4' | 48:S2:534:G:OP1 | 2.20 | 0.40 |
| 56:SH:20:GLU:HG2 | 56:SH:48:ALA:HB3 | 2.03 | 0.40 |
| 57:SI:57:ALA:HB2 | 57:SI:183:GLY:HA2 | 2.04 | 0.40 |
| 1:L5:21:G:H1' | 3:L8:103:A:N3 | 2.36 | 0.40 |
| 1:L5:440:U:H2' | 1:L5:441:G:H8 | 1.86 | 0.40 |
| 1:L5:2335:C:H2' | 1:L5:2336:G:H8 | 1.86 | 0.40 |
| 1:L5:2741:U:H2' | 4:LA:50:HIS:CD2 | 2.56 | 0.40 |
| 1:L5:4238:G:H2' | 1:L5:4239:A:H8 | 1.85 | 0.40 |
| 1:L5:4449:A:H1' | 86:L5:5700:A1B75:O1 | 2.21 | 0.40 |
| 1:L5:4653:C:H2' | 1:L5:4654:C:C6 | 2.57 | 0.40 |
| 10:LG:99:ALA:HB1 | 10:LG:136:LEU:HD11 | 2.03 | 0.40 |
| 19:LQ:154:LYS:HE3 | 19:LQ:154:LYS:HB3 | 1.90 | 0.40 |
| 48:S2:655:A:H5' | 48:S2:655:A:N3 | 2.37 | 0.40 |
| 48:S2:943:U:C2 | 48:S2:944:A:C8 | 3.10 | 0.40 |
| 48:S2:953:C:H2' | 48:S2:954:U:O4' | 2.21 | 0.40 |
| 48:S2:1286:G:P | 80:Sf:101:ALA:HA | 2.61 | 0.40 |
| 48:S2:1390:U:H2' | 48:S2:1391:OMC:H6 | 1.84 | 0.40 |
| 48:S2:1455:A:C2 | 48:S2:1456:G:C8 | 3.09 | 0.40 |
| 48:S2:1533:A:C8 | 48:S2:1604:G:H1' | 2.56 | 0.40 |
| 48:S2:1558:C:H2' | 48:S2:1559:C:C6 | 2.56 | 0.40 |
| 49:SA:10:MET:O | 66:SR:111:PHE:HZ | 2.04 | 0.40 |
| 56:SH:134:VAL:HG12 | 56:SH:137:SER:O | 2.21 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 61:SM:75:ASN:OD1 | 61:SM:131:LYS:HE3 | 2.22 | 0.40 |
| 1:L5:10:A:H2' | 1:L5:11:G:C8 | 2.56 | 0.40 |
| 1:L5:118:C:H5'' | 1:L5:119:G:OP2 | 2.21 | 0.40 |
| 1:L5:695:G:H3' | 1:L5:696:C:H4' | 2.03 | 0.40 |
| 1:L5:1812:C:O2' | 30:Lb:53:GLY:HA3 | 2.22 | 0.40 |
| 1:L5:2804:OMC:H1' | 1:L5:2804:OMC:HM23 | 1.74 | 0.40 |
| 1:L5:3621:A:H2' | 1:L5:3622:C:O4' | 2.22 | 0.40 |
| 8:LE:153:LEU:HD11 | 8:LE:195:ILE:HG13 | 2.02 | 0.40 |
| 17:LO:191:LYS:HE3 | 17:LO:192:TYR:CZ | 2.56 | 0.40 |
| 48:S2:875:A:H2' | 48:S2:876:C:C6 | 2.57 | 0.40 |
| 48:S2:985:G:H4' | 63:SO:138:ASP:OD2 | 2.21 | 0.40 |
| 48:S2:1007:C:H2' | 48:S2:1008:A:C8 | 2.56 | 0.40 |
| 51:SC:69:LEU:HD11 | 51:SC:273:LEU:HD11 | 2.03 | 0.40 |
| 55:SG:75:LEU:O | 55:SG:94:ARG:HA | 2.21 | 0.40 |
| 1:L5:964:A:C3' | 1:L5:965:G:H4' | 2.52 | 0.40 |
| 1:L5:1858:A:H2' | 1:L5:1859:C:C6 | 2.56 | 0.40 |
| 1:L5:2857:A:H2' | 1:L5:2858:A:O4' | 2.22 | 0.40 |
| 1:L5:3859:G:H4' | 18:LP:139:TYR:CE1 | 2.57 | 0.40 |
| 1:L5:4481:U:H2' | 1:L5:4482:U:C6 | 2.55 | 0.40 |
| 28:LZ:87:VAL:HG23 | 28:LZ:87:VAL:O | 2.22 | 0.40 |
| 48:S2:27:A2M:HM'3 | 48:S2:27:A2M:H1' | 1.90 | 0.40 |
| 48:S2:502:C:O4' | 53:SE:66:MET:HG3 | 2.21 | 0.40 |
| 48:S2:1309:C:C4 | 48:S2:1310:U:C4 | 3.10 | 0.40 |
| 49:SA:78:SER:OG | 49:SA:83:GLY:HA3 | 2.22 | 0.40 |
| 66:SR:40:ILE:O | 66:SR:40:ILE:HG13 | 2.22 | 0.40 |
| 67:SS:60:THR:O | 67:SS:64:VAL:HG23 | 2.21 | 0.40 |
| 1:L5:384:A:C6 | 1:L5:386:A:C6 | 3.10 | 0.40 |
| 1:L5:946:C:H5' | 6:LC:336:ARG:HD3 | 2.03 | 0.40 |
| 1:L5:1402:C:O5' | 1:L5:1402:C:H6 | 2.05 | 0.40 |
| 1:L5:1443:A:C4 | 1:L5:1444:G:C8 | 3.10 | 0.40 |
| 1:L5:1754:U:H1' | 1:L5:1755:C:C5 | 2.56 | 0.40 |
| 1:L5:2060:G:N2 | 21:LS:115:ALA:HB2 | 2.37 | 0.40 |
| 1:L5:2479:G:H2' | 1:L5:2480:G:C8 | 2.54 | 0.40 |
| 48:S2:1293:A:H2' | 48:S2:1294:G:H8 | 1.87 | 0.40 |
| 57:SI:139:LYS:O | 57:SI:141:ARG:HD2 | 2.21 | 0.40 |
| 69:SU:25:THR:HA | 69:SU:85:HIS:O | 2.21 | 0.40 |
| 69:SU:97:ILE:O | 69:SU:100:GLN:HG2 | 2.20 | 0.40 |
| 78:Sd:10:HIS:HA | 78:Sd:11:PRO:HD3 | 1.98 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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 | |
|-----|-------|---------------|------------|---------|----------|-------------|-----|
| 4 | LA | 249/257 (97%) | 241 (97%) | 8 (3%) | 0 | 100 | 100 |
| 5 | LB | 399/403 (99%) | 388 (97%) | 11 (3%) | 0 | 100 | 100 |
| 6 | LC | 364/427 (85%) | 357 (98%) | 7 (2%) | 0 | 100 | 100 |
| 7 | LD | 292/297 (98%) | 284 (97%) | 7 (2%) | 1 (0%) | 37 | 29 |
| 8 | LE | 217/288 (75%) | 205 (94%) | 11 (5%) | 1 (0%) | 25 | 17 |
| 9 | LF | 223/248 (90%) | 218 (98%) | 4 (2%) | 1 (0%) | 30 | 22 |
| 10 | LG | 239/266 (90%) | 231 (97%) | 8 (3%) | 0 | 100 | 100 |
| 11 | LH | 188/192 (98%) | 183 (97%) | 5 (3%) | 0 | 100 | 100 |
| 12 | LI | 211/214 (99%) | 206 (98%) | 5 (2%) | 0 | 100 | 100 |
| 13 | LJ | 168/178 (94%) | 164 (98%) | 4 (2%) | 0 | 100 | 100 |
| 14 | LL | 204/211 (97%) | 200 (98%) | 4 (2%) | 0 | 100 | 100 |
| 15 | LM | 134/215 (62%) | 133 (99%) | 1 (1%) | 0 | 100 | 100 |
| 16 | LN | 201/204 (98%) | 193 (96%) | 7 (4%) | 1 (0%) | 25 | 17 |
| 17 | LO | 200/203 (98%) | 195 (98%) | 5 (2%) | 0 | 100 | 100 |
| 18 | LP | 151/184 (82%) | 148 (98%) | 3 (2%) | 0 | 100 | 100 |
| 19 | LQ | 185/188 (98%) | 181 (98%) | 4 (2%) | 0 | 100 | 100 |
| 20 | LR | 185/196 (94%) | 185 (100%) | 0 | 0 | 100 | 100 |
| 21 | LS | 174/176 (99%) | 173 (99%) | 1 (1%) | 0 | 100 | 100 |
| 22 | LT | 157/160 (98%) | 155 (99%) | 2 (1%) | 0 | 100 | 100 |
| 23 | LU | 97/128 (76%) | 97 (100%) | 0 | 0 | 100 | 100 |
| 24 | LV | 131/140 (94%) | 127 (97%) | 4 (3%) | 0 | 100 | 100 |
| 25 | LW | 64/157 (41%) | 63 (98%) | 1 (2%) | 0 | 100 | 100 |
| 26 | LX | 116/156 (74%) | 114 (98%) | 2 (2%) | 0 | 100 | 100 |
| 27 | LY | 132/145 (91%) | 128 (97%) | 4 (3%) | 0 | 100 | 100 |
| 28 | LZ | 133/136 (98%) | 130 (98%) | 3 (2%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|------------|---------|----------|-------------|-----|
| 29 | La | 145/148 (98%) | 136 (94%) | 8 (6%) | 1 (1%) | 19 | 11 |
| 30 | Lb | 106/159 (67%) | 103 (97%) | 3 (3%) | 0 | 100 | 100 |
| 31 | Lc | 97/115 (84%) | 97 (100%) | 0 | 0 | 100 | 100 |
| 32 | Ld | 105/125 (84%) | 103 (98%) | 2 (2%) | 0 | 100 | 100 |
| 33 | Le | 126/135 (93%) | 126 (100%) | 0 | 0 | 100 | 100 |
| 34 | Lf | 108/110 (98%) | 108 (100%) | 0 | 0 | 100 | 100 |
| 35 | Lg | 112/117 (96%) | 109 (97%) | 3 (3%) | 0 | 100 | 100 |
| 36 | Lh | 120/123 (98%) | 119 (99%) | 1 (1%) | 0 | 100 | 100 |
| 37 | Li | 100/105 (95%) | 98 (98%) | 2 (2%) | 0 | 100 | 100 |
| 38 | Lj | 84/97 (87%) | 81 (96%) | 3 (4%) | 0 | 100 | 100 |
| 39 | Lk | 67/70 (96%) | 67 (100%) | 0 | 0 | 100 | 100 |
| 40 | Ll | 48/51 (94%) | 48 (100%) | 0 | 0 | 100 | 100 |
| 41 | Lm | 49/128 (38%) | 49 (100%) | 0 | 0 | 100 | 100 |
| 42 | Ln | 23/25 (92%) | 23 (100%) | 0 | 0 | 100 | 100 |
| 43 | Lo | 102/106 (96%) | 101 (99%) | 1 (1%) | 0 | 100 | 100 |
| 44 | Lp | 89/92 (97%) | 86 (97%) | 3 (3%) | 0 | 100 | 100 |
| 45 | Lr | 124/137 (90%) | 123 (99%) | 1 (1%) | 0 | 100 | 100 |
| 46 | NC | 4/19 (21%) | 3 (75%) | 1 (25%) | 0 | 100 | 100 |
| 49 | SA | 221/295 (75%) | 219 (99%) | 2 (1%) | 0 | 100 | 100 |
| 50 | SB | 219/264 (83%) | 215 (98%) | 4 (2%) | 0 | 100 | 100 |
| 51 | SC | 220/293 (75%) | 215 (98%) | 5 (2%) | 0 | 100 | 100 |
| 52 | SD | 224/243 (92%) | 223 (100%) | 1 (0%) | 0 | 100 | 100 |
| 53 | SE | 260/263 (99%) | 253 (97%) | 7 (3%) | 0 | 100 | 100 |
| 54 | SF | 187/204 (92%) | 177 (95%) | 9 (5%) | 1 (0%) | 25 | 17 |
| 55 | SG | 235/249 (94%) | 233 (99%) | 2 (1%) | 0 | 100 | 100 |
| 56 | SH | 187/194 (96%) | 180 (96%) | 7 (4%) | 0 | 100 | 100 |
| 57 | SI | 204/208 (98%) | 196 (96%) | 7 (3%) | 1 (0%) | 25 | 17 |
| 58 | SJ | 183/194 (94%) | 179 (98%) | 4 (2%) | 0 | 100 | 100 |
| 59 | SK | 94/165 (57%) | 92 (98%) | 2 (2%) | 0 | 100 | 100 |
| 60 | SL | 142/158 (90%) | 139 (98%) | 3 (2%) | 0 | 100 | 100 |
| 61 | SM | 120/132 (91%) | 114 (95%) | 6 (5%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-------------------|-------------|----------|----------|-------------|-----|
| 62 | SN | 148/151 (98%) | 146 (99%) | 2 (1%) | 0 | 100 | 100 |
| 63 | SO | 133/151 (88%) | 130 (98%) | 3 (2%) | 0 | 100 | 100 |
| 64 | SP | 129/145 (89%) | 126 (98%) | 3 (2%) | 0 | 100 | 100 |
| 65 | SQ | 139/146 (95%) | 133 (96%) | 6 (4%) | 0 | 100 | 100 |
| 66 | SR | 132/135 (98%) | 128 (97%) | 4 (3%) | 0 | 100 | 100 |
| 67 | SS | 146/152 (96%) | 143 (98%) | 3 (2%) | 0 | 100 | 100 |
| 68 | ST | 140/145 (97%) | 138 (99%) | 2 (1%) | 0 | 100 | 100 |
| 69 | SU | 99/119 (83%) | 98 (99%) | 1 (1%) | 0 | 100 | 100 |
| 70 | SV | 82/84 (98%) | 80 (98%) | 2 (2%) | 0 | 100 | 100 |
| 71 | SW | 127/130 (98%) | 125 (98%) | 2 (2%) | 0 | 100 | 100 |
| 72 | SX | 137/143 (96%) | 135 (98%) | 2 (2%) | 0 | 100 | 100 |
| 73 | SY | 129/133 (97%) | 127 (98%) | 2 (2%) | 0 | 100 | 100 |
| 74 | SZ | 83/125 (66%) | 81 (98%) | 2 (2%) | 0 | 100 | 100 |
| 75 | Sa | 97/115 (84%) | 95 (98%) | 2 (2%) | 0 | 100 | 100 |
| 76 | Sb | 81/84 (96%) | 80 (99%) | 1 (1%) | 0 | 100 | 100 |
| 77 | Sc | 63/69 (91%) | 60 (95%) | 3 (5%) | 0 | 100 | 100 |
| 78 | Sd | 53/56 (95%) | 53 (100%) | 0 | 0 | 100 | 100 |
| 79 | Se | 46/133 (35%) | 45 (98%) | 1 (2%) | 0 | 100 | 100 |
| 80 | Sf | 61/156 (39%) | 55 (90%) | 6 (10%) | 0 | 100 | 100 |
| 81 | Sg | 311/317 (98%) | 297 (96%) | 12 (4%) | 2 (1%) | 22 | 13 |
| All | All | 11255/12782 (88%) | 10989 (98%) | 257 (2%) | 9 (0%) | 50 | 41 |

All (9) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 8 | LE | 166 | LYS |
| 57 | SI | 131 | PRO |
| 9 | LF | 237 | GLU |
| 16 | LN | 157 | LYS |
| 7 | LD | 17 | GLN |
| 54 | SF | 79 | HIS |
| 81 | Sg | 134 | THR |
| 29 | La | 15 | VAL |
| 81 | Sg | 13 | GLY |

5.3.2 Protein sidechains

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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 | |
|-----|-------|----------------|------------|----------|-------------|-----|
| 4 | LA | 193/199 (97%) | 192 (100%) | 1 (0%) | 86 | 88 |
| 5 | LB | 347/348 (100%) | 346 (100%) | 1 (0%) | 91 | 92 |
| 6 | LC | 305/348 (88%) | 301 (99%) | 4 (1%) | 65 | 65 |
| 7 | LD | 247/250 (99%) | 247 (100%) | 0 | 100 | 100 |
| 8 | LE | 196/252 (78%) | 196 (100%) | 0 | 100 | 100 |
| 9 | LF | 194/215 (90%) | 194 (100%) | 0 | 100 | 100 |
| 10 | LG | 203/223 (91%) | 203 (100%) | 0 | 100 | 100 |
| 11 | LH | 169/171 (99%) | 169 (100%) | 0 | 100 | 100 |
| 12 | LI | 180/181 (99%) | 180 (100%) | 0 | 100 | 100 |
| 13 | LJ | 143/149 (96%) | 141 (99%) | 2 (1%) | 62 | 62 |
| 14 | LL | 172/177 (97%) | 171 (99%) | 1 (1%) | 84 | 86 |
| 15 | LM | 116/161 (72%) | 115 (99%) | 1 (1%) | 75 | 77 |
| 16 | LN | 171/172 (99%) | 170 (99%) | 1 (1%) | 84 | 86 |
| 17 | LO | 173/174 (99%) | 172 (99%) | 1 (1%) | 84 | 86 |
| 18 | LP | 134/163 (82%) | 133 (99%) | 1 (1%) | 81 | 83 |
| 19 | LQ | 164/165 (99%) | 163 (99%) | 1 (1%) | 84 | 86 |
| 20 | LR | 166/175 (95%) | 164 (99%) | 2 (1%) | 67 | 68 |
| 21 | LS | 157/157 (100%) | 157 (100%) | 0 | 100 | 100 |
| 22 | LT | 139/140 (99%) | 139 (100%) | 0 | 100 | 100 |
| 23 | LU | 89/115 (77%) | 89 (100%) | 0 | 100 | 100 |
| 24 | LV | 102/107 (95%) | 101 (99%) | 1 (1%) | 73 | 74 |
| 25 | LW | 58/126 (46%) | 58 (100%) | 0 | 100 | 100 |
| 26 | LX | 106/133 (80%) | 106 (100%) | 0 | 100 | 100 |
| 27 | LY | 124/135 (92%) | 124 (100%) | 0 | 100 | 100 |
| 28 | LZ | 117/118 (99%) | 116 (99%) | 1 (1%) | 75 | 77 |
| 29 | La | 120/121 (99%) | 120 (100%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|------------|----------|-------------|-----|
| 30 | Lb | 90/125 (72%) | 89 (99%) | 1 (1%) | 70 | 71 |
| 31 | Lc | 84/97 (87%) | 84 (100%) | 0 | 100 | 100 |
| 32 | Ld | 98/110 (89%) | 98 (100%) | 0 | 100 | 100 |
| 33 | Le | 114/121 (94%) | 113 (99%) | 1 (1%) | 75 | 77 |
| 34 | Lf | 89/89 (100%) | 87 (98%) | 2 (2%) | 47 | 43 |
| 35 | Lg | 98/100 (98%) | 97 (99%) | 1 (1%) | 73 | 74 |
| 36 | Lh | 109/110 (99%) | 108 (99%) | 1 (1%) | 75 | 77 |
| 37 | Li | 86/89 (97%) | 86 (100%) | 0 | 100 | 100 |
| 38 | Lj | 73/80 (91%) | 72 (99%) | 1 (1%) | 62 | 62 |
| 39 | Lk | 64/65 (98%) | 63 (98%) | 1 (2%) | 58 | 56 |
| 40 | Ll | 47/48 (98%) | 47 (100%) | 0 | 100 | 100 |
| 41 | Lm | 47/115 (41%) | 47 (100%) | 0 | 100 | 100 |
| 42 | Ln | 24/24 (100%) | 23 (96%) | 1 (4%) | 25 | 18 |
| 43 | Lo | 92/93 (99%) | 92 (100%) | 0 | 100 | 100 |
| 44 | Lp | 74/75 (99%) | 74 (100%) | 0 | 100 | 100 |
| 45 | Lr | 109/120 (91%) | 109 (100%) | 0 | 100 | 100 |
| 46 | NC | 6/6 (100%) | 5 (83%) | 1 (17%) | 2 | 0 |
| 49 | SA | 184/242 (76%) | 183 (100%) | 1 (0%) | 86 | 88 |
| 50 | SB | 202/231 (87%) | 201 (100%) | 1 (0%) | 86 | 88 |
| 51 | SC | 188/225 (84%) | 186 (99%) | 2 (1%) | 70 | 71 |
| 52 | SD | 189/202 (94%) | 188 (100%) | 1 (0%) | 86 | 88 |
| 53 | SE | 224/225 (100%) | 223 (100%) | 1 (0%) | 89 | 90 |
| 54 | SF | 159/170 (94%) | 158 (99%) | 1 (1%) | 84 | 86 |
| 55 | SG | 207/218 (95%) | 205 (99%) | 2 (1%) | 73 | 74 |
| 56 | SH | 168/174 (97%) | 168 (100%) | 0 | 100 | 100 |
| 57 | SI | 178/180 (99%) | 175 (98%) | 3 (2%) | 56 | 54 |
| 58 | SJ | 161/168 (96%) | 160 (99%) | 1 (1%) | 84 | 86 |
| 59 | SK | 87/136 (64%) | 87 (100%) | 0 | 100 | 100 |
| 60 | SL | 132/142 (93%) | 132 (100%) | 0 | 100 | 100 |
| 61 | SM | 104/108 (96%) | 98 (94%) | 6 (6%) | 17 | 9 |
| 62 | SN | 130/131 (99%) | 130 (100%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|------------------|------------|----------|-------------|-----|
| 63 | SO | 105/119 (88%) | 105 (100%) | 0 | 100 | 100 |
| 64 | SP | 117/130 (90%) | 116 (99%) | 1 (1%) | 75 | 77 |
| 65 | SQ | 117/121 (97%) | 116 (99%) | 1 (1%) | 75 | 77 |
| 66 | SR | 121/122 (99%) | 120 (99%) | 1 (1%) | 79 | 80 |
| 67 | SS | 128/132 (97%) | 126 (98%) | 2 (2%) | 58 | 56 |
| 68 | ST | 112/115 (97%) | 112 (100%) | 0 | 100 | 100 |
| 69 | SU | 93/107 (87%) | 91 (98%) | 2 (2%) | 47 | 43 |
| 70 | SV | 67/67 (100%) | 67 (100%) | 0 | 100 | 100 |
| 71 | SW | 112/113 (99%) | 112 (100%) | 0 | 100 | 100 |
| 72 | SX | 111/114 (97%) | 109 (98%) | 2 (2%) | 54 | 52 |
| 73 | SY | 113/115 (98%) | 113 (100%) | 0 | 100 | 100 |
| 74 | SZ | 75/103 (73%) | 74 (99%) | 1 (1%) | 65 | 65 |
| 75 | Sa | 86/98 (88%) | 86 (100%) | 0 | 100 | 100 |
| 76 | Sb | 75/76 (99%) | 75 (100%) | 0 | 100 | 100 |
| 77 | Sc | 58/62 (94%) | 58 (100%) | 0 | 100 | 100 |
| 78 | Sd | 48/49 (98%) | 48 (100%) | 0 | 100 | 100 |
| 79 | Se | 40/104 (38%) | 40 (100%) | 0 | 100 | 100 |
| 80 | Sf | 56/140 (40%) | 54 (96%) | 2 (4%) | 30 | 23 |
| 81 | Sg | 272/275 (99%) | 269 (99%) | 3 (1%) | 70 | 71 |
| All | All | 9808/10856 (90%) | 9746 (99%) | 62 (1%) | 82 | 86 |

All (62) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 4 | LA | 208 | GLU |
| 5 | LB | 19 | ARG |
| 6 | LC | 9 | SER |
| 6 | LC | 140 | LYS |
| 6 | LC | 189 | MET |
| 6 | LC | 366 | ASP |
| 13 | LJ | 26 | VAL |
| 13 | LJ | 169 | LYS |
| 14 | LL | 59 | VAL |
| 15 | LM | 105 | THR |
| 16 | LN | 10 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 17 | LO | 22 | ILE |
| 18 | LP | 2 | VAL |
| 19 | LQ | 14 | ARG |
| 20 | LR | 34 | ASN |
| 20 | LR | 36 | ASN |
| 24 | LV | 92 | ASP |
| 28 | LZ | 97 | ASN |
| 30 | Lb | 14 | ARG |
| 33 | Le | 87 | VAL |
| 34 | Lf | 95 | LYS |
| 34 | Lf | 109 | ARG |
| 35 | Lg | 76 | ARG |
| 36 | Lh | 105 | LYS |
| 38 | Lj | 25 | LYS |
| 39 | Lk | 6 | GLU |
| 42 | Ln | 1 | MET |
| 46 | NC | 30 | ASP |
| 49 | SA | 2(A) | SER |
| 50 | SB | 151 | ARG |
| 51 | SC | 120 | GLN |
| 51 | SC | 248 | TYR |
| 52 | SD | 156 | LEU |
| 53 | SE | 69 | PHE |
| 54 | SF | 127 | ARG |
| 55 | SG | 124 | LEU |
| 55 | SG | 163 | ASN |
| 57 | SI | 3 | ILE |
| 57 | SI | 48 | VAL |
| 57 | SI | 58 | LEU |
| 58 | SJ | 133 | ARG |
| 61 | SM | 14 | VAL |
| 61 | SM | 15 | ASN |
| 61 | SM | 36 | ARG |
| 61 | SM | 49 | LEU |
| 61 | SM | 55 | ASN |
| 61 | SM | 123 | VAL |
| 64 | SP | 24 | GLN |
| 65 | SQ | 16 | LYS |
| 66 | SR | 127 | ASN |
| 67 | SS | 116 | LYS |
| 67 | SS | 124 | ARG |
| 69 | SU | 45 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 69 | SU | 90 | ASP |
| 72 | SX | 105 | PHE |
| 72 | SX | 115 | ILE |
| 74 | SZ | 50 | PHE |
| 80 | Sf | 140 | TYR |
| 80 | Sf | 145 | CYS |
| 81 | Sg | 107 | ASP |
| 81 | Sg | 155 | ARG |
| 81 | Sg | 177 | TRP |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (91) such sidechains are listed below:

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 4 | LA | 216 | HIS |
| 5 | LB | 109 | HIS |
| 5 | LB | 184 | GLN |
| 5 | LB | 209 | GLN |
| 6 | LC | 43 | ASN |
| 6 | LC | 89 | GLN |
| 6 | LC | 310 | HIS |
| 7 | LD | 45 | ASN |
| 7 | LD | 291 | GLN |
| 10 | LG | 94 | GLN |
| 10 | LG | 236 | HIS |
| 11 | LH | 138 | GLN |
| 12 | LI | 59 | GLN |
| 12 | LI | 73 | ASN |
| 12 | LI | 123 | GLN |
| 12 | LI | 166 | HIS |
| 13 | LJ | 46 | GLN |
| 13 | LJ | 97 | ASN |
| 13 | LJ | 98 | ASN |
| 14 | LL | 149 | GLN |
| 15 | LM | 33 | GLN |
| 17 | LO | 26 | GLN |
| 17 | LO | 42 | ASN |
| 17 | LO | 199 | HIS |
| 18 | LP | 54 | GLN |
| 18 | LP | 56 | GLN |
| 18 | LP | 133 | HIS |
| 19 | LQ | 160 | HIS |
| 20 | LR | 34 | ASN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 20 | LR | 40 | GLN |
| 22 | LT | 79 | GLN |
| 23 | LU | 95 | ASN |
| 26 | LX | 93 | ASN |
| 27 | LY | 18 | HIS |
| 27 | LY | 56 | GLN |
| 27 | LY | 96 | HIS |
| 28 | LZ | 97 | ASN |
| 29 | La | 67 | GLN |
| 30 | Lb | 49 | HIS |
| 30 | Lb | 60 | ASN |
| 31 | Lc | 19 | GLN |
| 32 | Ld | 116 | ASN |
| 35 | Lg | 73 | HIS |
| 36 | Lh | 20 | GLN |
| 38 | Lj | 66 | HIS |
| 40 | Ll | 19 | GLN |
| 40 | Ll | 33 | ASN |
| 42 | Ln | 22 | GLN |
| 43 | Lo | 25 | GLN |
| 43 | Lo | 90 | HIS |
| 43 | Lo | 102 | GLN |
| 50 | SB | 118 | GLN |
| 50 | SB | 179 | ASN |
| 50 | SB | 208 | HIS |
| 51 | SC | 113 | GLN |
| 52 | SD | 174 | HIS |
| 53 | SE | 36 | HIS |
| 53 | SE | 98 | ASN |
| 53 | SE | 138 | HIS |
| 53 | SE | 188 | ASN |
| 54 | SF | 179 | ASN |
| 55 | SG | 56 | ASN |
| 56 | SH | 39 | GLN |
| 56 | SH | 76 | GLN |
| 56 | SH | 114 | GLN |
| 56 | SH | 186 | ASN |
| 56 | SH | 193 | GLN |
| 57 | SI | 88 | ASN |
| 57 | SI | 116 | HIS |
| 60 | SL | 39 | ASN |
| 60 | SL | 94 | HIS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 61 | SM | 46 | GLN |
| 61 | SM | 72 | HIS |
| 62 | SN | 69 | ASN |
| 62 | SN | 105 | ASN |
| 63 | SO | 83 | GLN |
| 64 | SP | 53 | GLN |
| 65 | SQ | 11 | GLN |
| 65 | SQ | 48 | GLN |
| 65 | SQ | 114 | GLN |
| 66 | SR | 127 | ASN |
| 67 | SS | 17 | ASN |
| 67 | SS | 101 | ASN |
| 68 | ST | 12 | GLN |
| 70 | SV | 35 | ASN |
| 72 | SX | 92 | ASN |
| 73 | SY | 94 | HIS |
| 74 | SZ | 46 | ASN |
| 81 | Sg | 117 | ASN |
| 81 | Sg | 178 | ASN |
| 81 | Sg | 222 | ASN |

5.3.3 RNA [i](#)

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|-----|-------|-----------------|-------------------|-----------------|
| 1 | L5 | 3529/5069 (69%) | 454 (12%) | 76 (2%) |
| 2 | L7 | 119/120 (99%) | 6 (5%) | 0 |
| 3 | L8 | 155/156 (99%) | 17 (10%) | 4 (2%) |
| 47 | Pt | 74/75 (98%) | 15 (20%) | 0 |
| 48 | S2 | 1667/1869 (89%) | 209 (12%) | 31 (1%) |
| 82 | mR | 5/832 (0%) | 0 | 0 |
| All | All | 5549/8121 (68%) | 701 (12%) | 111 (2%) |

All (701) RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | L5 | 25 | A |
| 1 | L5 | 39 | A |
| 1 | L5 | 42 | A |
| 1 | L5 | 43 | U |
| 1 | L5 | 48 | G |
| 1 | L5 | 59 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 64 | A |
| 1 | L5 | 65 | A |
| 1 | L5 | 73 | A |
| 1 | L5 | 85 | G |
| 1 | L5 | 91 | G |
| 1 | L5 | 109 | G |
| 1 | L5 | 119 | G |
| 1 | L5 | 120 | A |
| 1 | L5 | 122 | U |
| 1 | L5 | 132 | G |
| 1 | L5 | 135 | G |
| 1 | L5 | 136 | C |
| 1 | L5 | 141 | C |
| 1 | L5 | 142 | G |
| 1 | L5 | 159 | C |
| 1 | L5 | 160 | G |
| 1 | L5 | 179 | G |
| 1 | L5 | 180 | C |
| 1 | L5 | 181 | C |
| 1 | L5 | 184 | U |
| 1 | L5 | 186 | G |
| 1 | L5 | 189 | G |
| 1 | L5 | 200 | U |
| 1 | L5 | 201 | C |
| 1 | L5 | 209 | U |
| 1 | L5 | 218 | A |
| 1 | L5 | 219 | G |
| 1 | L5 | 220 | C |
| 1 | L5 | 233 | U |
| 1 | L5 | 234 | G |
| 1 | L5 | 256 | G |
| 1 | L5 | 257 | C |
| 1 | L5 | 262 | G |
| 1 | L5 | 266 | C |
| 1 | L5 | 280 | G |
| 1 | L5 | 294 | G |
| 1 | L5 | 295 | A |
| 1 | L5 | 296 | A |
| 1 | L5 | 297 | U |
| 1 | L5 | 306 | A |
| 1 | L5 | 315 | G |
| 1 | L5 | 316 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 340 | C |
| 1 | L5 | 349 | A |
| 1 | L5 | 357 | U |
| 1 | L5 | 387 | G |
| 1 | L5 | 408 | A |
| 1 | L5 | 409 | G |
| 1 | L5 | 410 | A |
| 1 | L5 | 412 | G |
| 1 | L5 | 413 | G |
| 1 | L5 | 450 | G |
| 1 | L5 | 453 | G |
| 1 | L5 | 454 | U |
| 1 | L5 | 461 | G |
| 1 | L5 | 484 | U |
| 1 | L5 | 485 | C |
| 1 | L5 | 489 | C |
| 1 | L5 | 496 | G |
| 1 | L5 | 498 | C |
| 1 | L5 | 504 | G |
| 1 | L5 | 509 | A |
| 1 | L5 | 510 | U |
| 1 | L5 | 513 | U |
| 1 | L5 | 514 | U |
| 1 | L5 | 518 | G |
| 1 | L5 | 663 | G |
| 1 | L5 | 664 | G |
| 1 | L5 | 665 | C |
| 1 | L5 | 666 | G |
| 1 | L5 | 667 | A |
| 1 | L5 | 692 | A |
| 1 | L5 | 696 | C |
| 1 | L5 | 697 | G |
| 1 | L5 | 704 | C |
| 1 | L5 | 705 | G |
| 1 | L5 | 730 | G |
| 1 | L5 | 731 | G |
| 1 | L5 | 738 | C |
| 1 | L5 | 739 | G |
| 1 | L5 | 740 | G |
| 1 | L5 | 915 | A |
| 1 | L5 | 917 | A |
| 1 | L5 | 925 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 926 | G |
| 1 | L5 | 932 | A |
| 1 | L5 | 933 | G |
| 1 | L5 | 936 | C |
| 1 | L5 | 937 | U |
| 1 | L5 | 943 | A |
| 1 | L5 | 944 | A |
| 1 | L5 | 945 | U |
| 1 | L5 | 955 | G |
| 1 | L5 | 956 | A |
| 1 | L5 | 959 | G |
| 1 | L5 | 960 | A |
| 1 | L5 | 961 | G |
| 1 | L5 | 962 | C |
| 1 | L5 | 963 | G |
| 1 | L5 | 964 | A |
| 1 | L5 | 965 | G |
| 1 | L5 | 967 | C |
| 1 | L5 | 968 | C |
| 1 | L5 | 1070 | G |
| 1 | L5 | 1072 | C |
| 1 | L5 | 1080 | C |
| 1 | L5 | 1182 | C |
| 1 | L5 | 1183 | C |
| 1 | L5 | 1199 | G |
| 1 | L5 | 1211 | G |
| 1 | L5 | 1216 | C |
| 1 | L5 | 1239 | C |
| 1 | L5 | 1241 | C |
| 1 | L5 | 1253 | G |
| 1 | L5 | 1254 | A |
| 1 | L5 | 1257 | A |
| 1 | L5 | 1266 | G |
| 1 | L5 | 1270 | A |
| 1 | L5 | 1272 | C |
| 1 | L5 | 1273 | G |
| 1 | L5 | 1280 | C |
| 1 | L5 | 1284 | G |
| 1 | L5 | 1287 | G |
| 1 | L5 | 1294 | A |
| 1 | L5 | 1295 | C |
| 1 | L5 | 1302 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 1303 | A |
| 1 | L5 | 1304 | C |
| 1 | L5 | 1313 | C |
| 1 | L5 | 1326 | A2M |
| 1 | L5 | 1337 | A |
| 1 | L5 | 1354 | A |
| 1 | L5 | 1359 | G |
| 1 | L5 | 1366 | G |
| 1 | L5 | 1380 | G |
| 1 | L5 | 1381 | U |
| 1 | L5 | 1387 | A |
| 1 | L5 | 1397 | A |
| 1 | L5 | 1398 | A |
| 1 | L5 | 1408 | G |
| 1 | L5 | 1411 | C |
| 1 | L5 | 1412 | G |
| 1 | L5 | 1415 | G |
| 1 | L5 | 1420 | A |
| 1 | L5 | 1444 | G |
| 1 | L5 | 1445 | U |
| 1 | L5 | 1484 | G |
| 1 | L5 | 1498 | G |
| 1 | L5 | 1501 | C |
| 1 | L5 | 1502 | G |
| 1 | L5 | 1533 | A |
| 1 | L5 | 1534 | A2M |
| 1 | L5 | 1547 | A |
| 1 | L5 | 1566 | C |
| 1 | L5 | 1578 | U |
| 1 | L5 | 1591 | U |
| 1 | L5 | 1596 | U |
| 1 | L5 | 1613 | A |
| 1 | L5 | 1614 | C |
| 1 | L5 | 1624 | G |
| 1 | L5 | 1625 | OMG |
| 1 | L5 | 1631 | A |
| 1 | L5 | 1633 | G |
| 1 | L5 | 1634 | A |
| 1 | L5 | 1654 | G |
| 1 | L5 | 1661 | C |
| 1 | L5 | 1676 | C |
| 1 | L5 | 1677 | PSU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 1691 | G |
| 1 | L5 | 1698 | C |
| 1 | L5 | 1699 | A |
| 1 | L5 | 1700 | G |
| 1 | L5 | 1701 | A |
| 1 | L5 | 1702 | C |
| 1 | L5 | 1719 | A |
| 1 | L5 | 1720 | C |
| 1 | L5 | 1721 | G |
| 1 | L5 | 1733 | G |
| 1 | L5 | 1734 | G |
| 1 | L5 | 1750 | G |
| 1 | L5 | 1755 | C |
| 1 | L5 | 1761 | G |
| 1 | L5 | 1766 | A |
| 1 | L5 | 1768 | C |
| 1 | L5 | 1787 | A |
| 1 | L5 | 1789 | C |
| 1 | L5 | 1804 | A |
| 1 | L5 | 1834 | U |
| 1 | L5 | 1836 | G |
| 1 | L5 | 1837 | A |
| 1 | L5 | 1842 | G |
| 1 | L5 | 1855 | G |
| 1 | L5 | 1869 | G |
| 1 | L5 | 1897 | A |
| 1 | L5 | 1899 | G |
| 1 | L5 | 1918 | U |
| 1 | L5 | 1920 | C |
| 1 | L5 | 1921 | C |
| 1 | L5 | 1922 | G |
| 1 | L5 | 1925 | G |
| 1 | L5 | 1929 | A |
| 1 | L5 | 1930 | U |
| 1 | L5 | 1931 | C |
| 1 | L5 | 1932 | A |
| 1 | L5 | 1940 | G |
| 1 | L5 | 1941 | A |
| 1 | L5 | 1948 | G |
| 1 | L5 | 1961 | G |
| 1 | L5 | 1962 | A |
| 1 | L5 | 1966 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 2024 | G |
| 1 | L5 | 2026 | A |
| 1 | L5 | 2042 | A |
| 1 | L5 | 2043 | A |
| 1 | L5 | 2046 | G |
| 1 | L5 | 2048 | U |
| 1 | L5 | 2055 | G |
| 1 | L5 | 2056 | G |
| 1 | L5 | 2069 | A |
| 1 | L5 | 2084 | C |
| 1 | L5 | 2092 | G |
| 1 | L5 | 2093 | A |
| 1 | L5 | 2095 | A |
| 1 | L5 | 2096 | G |
| 1 | L5 | 2097 | U |
| 1 | L5 | 2098 | G |
| 1 | L5 | 2102 | G |
| 1 | L5 | 2103 | G |
| 1 | L5 | 2289 | C |
| 1 | L5 | 2300 | A |
| 1 | L5 | 2301 | G |
| 1 | L5 | 2313 | A |
| 1 | L5 | 2332 | A |
| 1 | L5 | 2333 | G |
| 1 | L5 | 2348 | G |
| 1 | L5 | 2351 | OMC |
| 1 | L5 | 2360 | A |
| 1 | L5 | 2395 | A |
| 1 | L5 | 2397 | G |
| 1 | L5 | 2421 | G |
| 1 | L5 | 2422 | OMC |
| 1 | L5 | 2470 | C |
| 1 | L5 | 2471 | G |
| 1 | L5 | 2474 | G |
| 1 | L5 | 2475 | G |
| 1 | L5 | 2476 | G |
| 1 | L5 | 2483 | G |
| 1 | L5 | 2489 | C |
| 1 | L5 | 2503 | G |
| 1 | L5 | 2504 | C |
| 1 | L5 | 2505 | C |
| 1 | L5 | 2506 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 2513 | A |
| 1 | L5 | 2519 | U |
| 1 | L5 | 2520 | C |
| 1 | L5 | 2554 | U |
| 1 | L5 | 2587 | A |
| 1 | L5 | 2588 | C |
| 1 | L5 | 2601 | A |
| 1 | L5 | 2638 | G |
| 1 | L5 | 2653 | C |
| 1 | L5 | 2660 | A |
| 1 | L5 | 2662 | G |
| 1 | L5 | 2669 | C |
| 1 | L5 | 2687 | U |
| 1 | L5 | 2694 | G |
| 1 | L5 | 2695 | A |
| 1 | L5 | 2696 | A |
| 1 | L5 | 2708 | U |
| 1 | L5 | 2710 | C |
| 1 | L5 | 2711 | G |
| 1 | L5 | 2739 | C |
| 1 | L5 | 2743 | A |
| 1 | L5 | 2762 | G |
| 1 | L5 | 2764 | A |
| 1 | L5 | 2770 | C |
| 1 | L5 | 2788 | U |
| 1 | L5 | 2790 | U |
| 1 | L5 | 2794 | C |
| 1 | L5 | 2795 | A |
| 1 | L5 | 2796 | G |
| 1 | L5 | 2798 | A |
| 1 | L5 | 2814 | C |
| 1 | L5 | 2815 | A2M |
| 1 | L5 | 2826 | U |
| 1 | L5 | 2827 | G |
| 1 | L5 | 2855 | G |
| 1 | L5 | 2856 | C |
| 1 | L5 | 2877 | G |
| 1 | L5 | 3597 | G |
| 1 | L5 | 3614 | G |
| 1 | L5 | 3615 | G |
| 1 | L5 | 3626 | G |
| 1 | L5 | 3635 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 3644 | U |
| 1 | L5 | 3662 | A |
| 1 | L5 | 3711 | A |
| 1 | L5 | 3712 | A |
| 1 | L5 | 3748 | A |
| 1 | L5 | 3753 | G |
| 1 | L5 | 3757 | G |
| 1 | L5 | 3761 | C |
| 1 | L5 | 3763 | A |
| 1 | L5 | 3772 | U |
| 1 | L5 | 3776 | G |
| 1 | L5 | 3777 | G |
| 1 | L5 | 3783 | A |
| 1 | L5 | 3784 | A |
| 1 | L5 | 3785 | A2M |
| 1 | L5 | 3811 | G |
| 1 | L5 | 3814 | U |
| 1 | L5 | 3817 | A |
| 1 | L5 | 3819 | G |
| 1 | L5 | 3839 | G |
| 1 | L5 | 3840 | U |
| 1 | L5 | 3876 | A |
| 1 | L5 | 3877 | A |
| 1 | L5 | 3878 | C |
| 1 | L5 | 3879 | G |
| 1 | L5 | 3897 | G |
| 1 | L5 | 3898 | G |
| 1 | L5 | 3901 | A |
| 1 | L5 | 3904 | G |
| 1 | L5 | 3905 | A |
| 1 | L5 | 3906 | A |
| 1 | L5 | 3907 | G |
| 1 | L5 | 3915 | U |
| 1 | L5 | 3945 | A |
| 1 | L5 | 3946 | G |
| 1 | L5 | 3948 | C |
| 1 | L5 | 4076 | G |
| 1 | L5 | 4084 | G |
| 1 | L5 | 4096 | C |
| 1 | L5 | 4097 | G |
| 1 | L5 | 4102 | C |
| 1 | L5 | 4103 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 4105 | A |
| 1 | L5 | 4108 | G |
| 1 | L5 | 4115 | G |
| 1 | L5 | 4116 | C |
| 1 | L5 | 4119 | C |
| 1 | L5 | 4121 | G |
| 1 | L5 | 4122 | G |
| 1 | L5 | 4127 | A |
| 1 | L5 | 4135 | G |
| 1 | L5 | 4140 | C |
| 1 | L5 | 4141 | G |
| 1 | L5 | 4142 | C |
| 1 | L5 | 4145 | C |
| 1 | L5 | 4150 | G |
| 1 | L5 | 4163 | U |
| 1 | L5 | 4164 | C |
| 1 | L5 | 4170 | A |
| 1 | L5 | 4183 | G |
| 1 | L5 | 4184 | G |
| 1 | L5 | 4191 | G |
| 1 | L5 | 4214 | A |
| 1 | L5 | 4222 | G |
| 1 | L5 | 4229 | U |
| 1 | L5 | 4233 | A |
| 1 | L5 | 4251 | A |
| 1 | L5 | 4254 | G |
| 1 | L5 | 4258 | C |
| 1 | L5 | 4266 | G |
| 1 | L5 | 4273 | A |
| 1 | L5 | 4281 | A |
| 1 | L5 | 4291 | G |
| 1 | L5 | 4305 | G |
| 1 | L5 | 4306 | OMU |
| 1 | L5 | 4314 | C |
| 1 | L5 | 4317 | A |
| 1 | L5 | 4330 | G |
| 1 | L5 | 4339 | A |
| 1 | L5 | 4373 | G |
| 1 | L5 | 4376 | A |
| 1 | L5 | 4377 | G |
| 1 | L5 | 4378 | A |
| 1 | L5 | 4379 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 4387 | C |
| 1 | L5 | 4394 | A |
| 1 | L5 | 4422 | A |
| 1 | L5 | 4448 | G |
| 1 | L5 | 4452 | U |
| 1 | L5 | 4464 | A |
| 1 | L5 | 4500 | PSU |
| 1 | L5 | 4512 | U |
| 1 | L5 | 4513 | A |
| 1 | L5 | 4519 | C |
| 1 | L5 | 4524 | G |
| 1 | L5 | 4548 | A |
| 1 | L5 | 4549 | G |
| 1 | L5 | 4567 | G |
| 1 | L5 | 4573 | G |
| 1 | L5 | 4575 | G |
| 1 | L5 | 4590 | A2M |
| 1 | L5 | 4600 | G |
| 1 | L5 | 4635 | A |
| 1 | L5 | 4636 | PSU |
| 1 | L5 | 4637 | OMG |
| 1 | L5 | 4656 | A |
| 1 | L5 | 4670 | C |
| 1 | L5 | 4672 | A |
| 1 | L5 | 4700 | A |
| 1 | L5 | 4708 | A |
| 1 | L5 | 4709 | U |
| 1 | L5 | 4727 | A |
| 1 | L5 | 4730 | C |
| 1 | L5 | 4731 | G |
| 1 | L5 | 4732 | G |
| 1 | L5 | 4733 | C |
| 1 | L5 | 4740 | G |
| 1 | L5 | 4742 | G |
| 1 | L5 | 4743 | G |
| 1 | L5 | 4750 | G |
| 1 | L5 | 4754 | G |
| 1 | L5 | 4757 | C |
| 1 | L5 | 4759 | C |
| 1 | L5 | 4761 | G |
| 1 | L5 | 4765 | G |
| 1 | L5 | 4772 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 4860 | G |
| 1 | L5 | 4870 | G |
| 1 | L5 | 4871 | C |
| 1 | L5 | 4882 | U |
| 1 | L5 | 4883 | C |
| 1 | L5 | 4895 | C |
| 1 | L5 | 4900 | C |
| 1 | L5 | 4909 | A |
| 1 | L5 | 4910 | G |
| 1 | L5 | 4912 | G |
| 1 | L5 | 4913 | G |
| 1 | L5 | 4914 | C |
| 1 | L5 | 4938 | A |
| 1 | L5 | 4943 | A |
| 1 | L5 | 4944 | C |
| 1 | L5 | 4976 | U |
| 1 | L5 | 4979 | A |
| 1 | L5 | 4988 | U |
| 1 | L5 | 4989 | U |
| 1 | L5 | 4990 | C |
| 1 | L5 | 4991 | U |
| 1 | L5 | 4994 | G |
| 1 | L5 | 5007 | A |
| 1 | L5 | 5017 | G |
| 1 | L5 | 5041 | G |
| 1 | L5 | 5050 | C |
| 1 | L5 | 5055 | G |
| 1 | L5 | 5062 | G |
| 2 | L7 | 42 | A |
| 2 | L7 | 53 | U |
| 2 | L7 | 64 | G |
| 2 | L7 | 100 | A |
| 2 | L7 | 110 | G |
| 2 | L7 | 120 | U |
| 3 | L8 | 34 | U |
| 3 | L8 | 35 | C |
| 3 | L8 | 51 | U |
| 3 | L8 | 52 | A |
| 3 | L8 | 59 | A |
| 3 | L8 | 62 | A |
| 3 | L8 | 63 | U |
| 3 | L8 | 84 | A |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | L8 | 87 | G |
| 3 | L8 | 88 | A |
| 3 | L8 | 104 | A |
| 3 | L8 | 105 | C |
| 3 | L8 | 110 | U |
| 3 | L8 | 123 | U |
| 3 | L8 | 124 | U |
| 3 | L8 | 126 | C |
| 3 | L8 | 127 | U |
| 47 | Pt | 7 | G |
| 47 | Pt | 8 | U |
| 47 | Pt | 9 | G |
| 47 | Pt | 10 | 2MG |
| 47 | Pt | 17 | G |
| 47 | Pt | 18 | G |
| 47 | Pt | 19 | U |
| 47 | Pt | 20 | H2U |
| 47 | Pt | 35 | U |
| 47 | Pt | 36 | C |
| 47 | Pt | 47 | C |
| 47 | Pt | 48 | C |
| 47 | Pt | 73 | C |
| 47 | Pt | 74 | C |
| 47 | Pt | 75 | A |
| 48 | S2 | 3 | C |
| 48 | S2 | 4 | C |
| 48 | S2 | 17 | C |
| 48 | S2 | 33 | G |
| 48 | S2 | 46 | A |
| 48 | S2 | 55 | U |
| 48 | S2 | 56 | G |
| 48 | S2 | 67 | C |
| 48 | S2 | 79 | A |
| 48 | S2 | 80 | G |
| 48 | S2 | 99 | A2M |
| 48 | S2 | 102 | A |
| 48 | S2 | 103 | A |
| 48 | S2 | 113 | G |
| 48 | S2 | 115 | U |
| 48 | S2 | 126 | G |
| 48 | S2 | 130 | G |
| 48 | S2 | 140 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 48 | S2 | 143 | U |
| 48 | S2 | 161 | U |
| 48 | S2 | 162 | C |
| 48 | S2 | 168 | C |
| 48 | S2 | 184 | G |
| 48 | S2 | 198 | U |
| 48 | S2 | 199 | C |
| 48 | S2 | 200 | G |
| 48 | S2 | 202 | G |
| 48 | S2 | 204 | G |
| 48 | S2 | 205 | G |
| 48 | S2 | 206 | G |
| 48 | S2 | 215 | G |
| 48 | S2 | 216 | C |
| 48 | S2 | 309 | G |
| 48 | S2 | 312 | G |
| 48 | S2 | 319 | C |
| 48 | S2 | 320 | G |
| 48 | S2 | 326 | C |
| 48 | S2 | 327 | G |
| 48 | S2 | 328 | U |
| 48 | S2 | 347 | G |
| 48 | S2 | 362 | C |
| 48 | S2 | 364 | A |
| 48 | S2 | 370 | G |
| 48 | S2 | 385 | G |
| 48 | S2 | 386 | C |
| 48 | S2 | 394 | G |
| 48 | S2 | 407 | G |
| 48 | S2 | 409 | C |
| 48 | S2 | 448 | A |
| 48 | S2 | 449 | A |
| 48 | S2 | 450 | C |
| 48 | S2 | 467 | G |
| 48 | S2 | 472 | C |
| 48 | S2 | 474 | G |
| 48 | S2 | 482 | G |
| 48 | S2 | 487 | U |
| 48 | S2 | 492 | C |
| 48 | S2 | 502 | C |
| 48 | S2 | 516 | A |
| 48 | S2 | 517 | OMC |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 48 | S2 | 525 | A |
| 48 | S2 | 534 | G |
| 48 | S2 | 545 | A |
| 48 | S2 | 546 | G |
| 48 | S2 | 554 | A |
| 48 | S2 | 561 | A |
| 48 | S2 | 564 | A |
| 48 | S2 | 587 | A |
| 48 | S2 | 589 | G |
| 48 | S2 | 590 | A2M |
| 48 | S2 | 591 | U |
| 48 | S2 | 606 | G |
| 48 | S2 | 607 | U |
| 48 | S2 | 608 | C |
| 48 | S2 | 609 | PSU |
| 48 | S2 | 614 | C |
| 48 | S2 | 620 | G |
| 48 | S2 | 621 | C |
| 48 | S2 | 643 | A |
| 48 | S2 | 644 | OMG |
| 48 | S2 | 655 | A |
| 48 | S2 | 668 | A2M |
| 48 | S2 | 669 | A |
| 48 | S2 | 671 | A |
| 48 | S2 | 672 | A |
| 48 | S2 | 673 | G |
| 48 | S2 | 688 | U |
| 48 | S2 | 821 | G |
| 48 | S2 | 822 | PSU |
| 48 | S2 | 830 | A |
| 48 | S2 | 836 | G |
| 48 | S2 | 838 | G |
| 48 | S2 | 839 | C |
| 48 | S2 | 840 | C |
| 48 | S2 | 847 | A |
| 48 | S2 | 870 | A |
| 48 | S2 | 871 | U |
| 48 | S2 | 872 | A |
| 48 | S2 | 889 | U |
| 48 | S2 | 891 | G |
| 48 | S2 | 892 | U |
| 48 | S2 | 896 | U |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 48 | S2 | 897 | U |
| 48 | S2 | 898 | U |
| 48 | S2 | 910 | G |
| 48 | S2 | 911 | C |
| 48 | S2 | 912 | C |
| 48 | S2 | 913 | A |
| 48 | S2 | 920 | A |
| 48 | S2 | 922 | A |
| 48 | S2 | 933 | G |
| 48 | S2 | 934 | G |
| 48 | S2 | 990 | A |
| 48 | S2 | 992 | A |
| 48 | S2 | 1016 | U |
| 48 | S2 | 1017 | U |
| 48 | S2 | 1023 | A |
| 48 | S2 | 1027 | A |
| 48 | S2 | 1061 | U |
| 48 | S2 | 1062 | A |
| 48 | S2 | 1083 | A |
| 48 | S2 | 1085 | C |
| 48 | S2 | 1115 | U |
| 48 | S2 | 1138 | C |
| 48 | S2 | 1153 | C |
| 48 | S2 | 1154 | U |
| 48 | S2 | 1157 | G |
| 48 | S2 | 1188 | A |
| 48 | S2 | 1195 | A |
| 48 | S2 | 1207 | G |
| 48 | S2 | 1208 | A |
| 48 | S2 | 1215 | C |
| 48 | S2 | 1224 | G |
| 48 | S2 | 1242 | U |
| 48 | S2 | 1243 | PSU |
| 48 | S2 | 1248 | B8N |
| 48 | S2 | 1251 | A |
| 48 | S2 | 1253 | A |
| 48 | S2 | 1256 | G |
| 48 | S2 | 1257 | G |
| 48 | S2 | 1259 | A |
| 48 | S2 | 1274 | G |
| 48 | S2 | 1275 | G |
| 48 | S2 | 1301 | A |

Continued on next page...

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 48 | S2 | 1302 | G |
| 48 | S2 | 1303 | C |
| 48 | S2 | 1309 | C |
| 48 | S2 | 1315 | U |
| 48 | S2 | 1371 | U |
| 48 | S2 | 1372 | U |
| 48 | S2 | 1378 | A |
| 48 | S2 | 1402 | A |
| 48 | S2 | 1419 | C |
| 48 | S2 | 1420 | G |
| 48 | S2 | 1421 | A |
| 48 | S2 | 1422 | G |
| 48 | S2 | 1429 | G |
| 48 | S2 | 1433 | C |
| 48 | S2 | 1434 | C |
| 48 | S2 | 1437 | C |
| 48 | S2 | 1438 | A |
| 48 | S2 | 1454 | A |
| 48 | S2 | 1463 | U |
| 48 | S2 | 1489 | A |
| 48 | S2 | 1490 | OMG |
| 48 | S2 | 1493 | C |
| 48 | S2 | 1494 | U |
| 48 | S2 | 1497 | G |
| 48 | S2 | 1498 | A |
| 48 | S2 | 1521 | C |
| 48 | S2 | 1522 | A |
| 48 | S2 | 1533 | A |
| 48 | S2 | 1557 | C |
| 48 | S2 | 1563 | G |
| 48 | S2 | 1579 | A |
| 48 | S2 | 1580 | A |
| 48 | S2 | 1581 | C |
| 48 | S2 | 1586 | U |
| 48 | S2 | 1587 | G |
| 48 | S2 | 1588 | A |
| 48 | S2 | 1601 | A |
| 48 | S2 | 1621 | U |
| 48 | S2 | 1623 | A |
| 48 | S2 | 1638 | G |
| 48 | S2 | 1639 | G7M |
| 48 | S2 | 1648 | G |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 48 | S2 | 1654 | G |
| 48 | S2 | 1665 | G |
| 48 | S2 | 1721 | U |
| 48 | S2 | 1722 | G |
| 48 | S2 | 1752 | C |
| 48 | S2 | 1754 | G |
| 48 | S2 | 1777 | G |
| 48 | S2 | 1778 | C |
| 48 | S2 | 1783 | C |
| 48 | S2 | 1785 | C |
| 48 | S2 | 1800 | A |
| 48 | S2 | 1808 | U |
| 48 | S2 | 1825 | A |
| 48 | S2 | 1826 | G |
| 48 | S2 | 1829 | G |
| 48 | S2 | 1835 | A |
| 48 | S2 | 1837 | G |
| 48 | S2 | 1838 | U |
| 48 | S2 | 1861 | G |
| 48 | S2 | 1862 | G |
| 48 | S2 | 1863 | A |
| 48 | S2 | 1864 | U |
| 48 | S2 | 1865 | C |

All (111) RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 42 | A |
| 1 | L5 | 179 | G |
| 1 | L5 | 183 | C |
| 1 | L5 | 200 | U |
| 1 | L5 | 218 | A |
| 1 | L5 | 219 | G |
| 1 | L5 | 278 | G |
| 1 | L5 | 294 | G |
| 1 | L5 | 296 | A |
| 1 | L5 | 408 | A |
| 1 | L5 | 413 | G |
| 1 | L5 | 453 | G |
| 1 | L5 | 483 | G |
| 1 | L5 | 664 | G |
| 1 | L5 | 704 | C |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 738 | C |
| 1 | L5 | 749 | G |
| 1 | L5 | 936 | C |
| 1 | L5 | 955 | G |
| 1 | L5 | 959 | G |
| 1 | L5 | 962 | C |
| 1 | L5 | 964 | A |
| 1 | L5 | 1253 | G |
| 1 | L5 | 1266 | G |
| 1 | L5 | 1294 | A |
| 1 | L5 | 1324 | A |
| 1 | L5 | 1380 | G |
| 1 | L5 | 1444 | G |
| 1 | L5 | 1501 | C |
| 1 | L5 | 1590 | C |
| 1 | L5 | 1613 | A |
| 1 | L5 | 1625 | OMG |
| 1 | L5 | 1633 | G |
| 1 | L5 | 1654 | G |
| 1 | L5 | 1698 | C |
| 1 | L5 | 1699 | A |
| 1 | L5 | 1700 | G |
| 1 | L5 | 1701 | A |
| 1 | L5 | 1719 | A |
| 1 | L5 | 1733 | G |
| 1 | L5 | 1754 | U |
| 1 | L5 | 1898 | C |
| 1 | L5 | 1929 | A |
| 1 | L5 | 1961 | G |
| 1 | L5 | 2042 | A |
| 1 | L5 | 2055 | G |
| 1 | L5 | 2095 | A |
| 1 | L5 | 2475 | G |
| 1 | L5 | 2488 | C |
| 1 | L5 | 2587 | A |
| 1 | L5 | 2707 | U |
| 1 | L5 | 2794 | C |
| 1 | L5 | 3614 | G |
| 1 | L5 | 3648 | A |
| 1 | L5 | 3762 | PSU |
| 1 | L5 | 3876 | A |
| 1 | L5 | 3878 | C |

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Continued from previous page...

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L5 | 3904 | G |
| 1 | L5 | 3907 | G |
| 1 | L5 | 3945 | A |
| 1 | L5 | 3947 | A |
| 1 | L5 | 4102 | C |
| 1 | L5 | 4115 | G |
| 1 | L5 | 4281 | A |
| 1 | L5 | 4291 | G |
| 1 | L5 | 4464 | A |
| 1 | L5 | 4527 | G |
| 1 | L5 | 4626 | A |
| 1 | L5 | 4699 | U |
| 1 | L5 | 4731 | G |
| 1 | L5 | 4732 | G |
| 1 | L5 | 4870 | G |
| 1 | L5 | 4909 | A |
| 1 | L5 | 4938 | A |
| 1 | L5 | 4965 | U |
| 1 | L5 | 4990 | C |
| 3 | L8 | 51 | U |
| 3 | L8 | 87 | G |
| 3 | L8 | 94 | G |
| 3 | L8 | 104 | A |
| 48 | S2 | 102 | A |
| 48 | S2 | 198 | U |
| 48 | S2 | 215 | G |
| 48 | S2 | 312 | G |
| 48 | S2 | 326 | C |
| 48 | S2 | 370 | G |
| 48 | S2 | 448 | A |
| 48 | S2 | 545 | A |
| 48 | S2 | 560 | A |
| 48 | S2 | 607 | U |
| 48 | S2 | 620 | G |
| 48 | S2 | 838 | G |
| 48 | S2 | 870 | A |
| 48 | S2 | 888 | U |
| 48 | S2 | 889 | U |
| 48 | S2 | 896 | U |
| 48 | S2 | 910 | G |
| 48 | S2 | 912 | C |
| 48 | S2 | 1016 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 48 | S2 | 1061 | U |
| 48 | S2 | 1165 | G |
| 48 | S2 | 1215 | C |
| 48 | S2 | 1371 | U |
| 48 | S2 | 1437 | C |
| 48 | S2 | 1493 | C |
| 48 | S2 | 1519 | U |
| 48 | S2 | 1520 | G |
| 48 | S2 | 1646 | C |
| 48 | S2 | 1777 | G |
| 48 | S2 | 1784 | G |
| 48 | S2 | 1825 | A |

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

229 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 |
| 1 | OMG | L5 | 3899 | 1,88 | 19,26,27 | 1.42 | 2 (10%) | 21,38,41 | 0.94 | 1 (4%) |
| 48 | OMG | S2 | 436 | 48 | 19,26,27 | 1.31 | 3 (15%) | 21,38,41 | 0.86 | 1 (4%) |
| 48 | PSU | S2 | 1177 | 48 | 18,21,22 | 1.08 | 2 (11%) | 21,30,33 | 1.50 | 4 (19%) |
| 48 | PSU | S2 | 1692 | 48 | 18,21,22 | 1.06 | 2 (11%) | 21,30,33 | 1.49 | 4 (19%) |
| 1 | PSU | L5 | 1779 | 1 | 18,21,22 | 1.10 | 2 (11%) | 21,30,33 | 1.53 | 4 (19%) |
| 1 | OMG | L5 | 4623 | 1 | 19,26,27 | 1.25 | 3 (15%) | 21,38,41 | 1.07 | 1 (4%) |
| 47 | H2U | Pt | 20 | 47 | 18,21,22 | 0.55 | 0 | 19,30,33 | 1.18 | 1 (5%) |
| 47 | PSU | Pt | 55 | 47 | 18,21,22 | 1.22 | 2 (11%) | 21,30,33 | 1.55 | 4 (19%) |
| 1 | PSU | L5 | 1782 | 1 | 18,21,22 | 0.98 | 1 (5%) | 21,30,33 | 1.54 | 4 (19%) |
| 48 | A2M | S2 | 1383 | 48 | 18,25,26 | 1.28 | 2 (11%) | 20,36,39 | 1.92 | 5 (25%) |
| 1 | PSU | L5 | 1744 | 83,1 | 18,21,22 | 1.13 | 2 (11%) | 21,30,33 | 1.60 | 4 (19%) |
| 1 | OMC | L5 | 2804 | 1 | 19,22,23 | 0.77 | 0 | 25,31,34 | 0.50 | 0 |
| 48 | A2M | S2 | 576 | 48 | 18,25,26 | 1.49 | 3 (16%) | 20,36,39 | 1.92 | 6 (30%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|----------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 48 | OMG | S2 | 644 | 48 | 19,26,27 | 1.29 | 3 (15%) | 21,38,41 | 1.02 | 1 (4%) |
| 1 | PSU | L5 | 3920 | 1,88 | 18,21,22 | 1.28 | 2 (11%) | 21,30,33 | 1.65 | 5 (23%) |
| 48 | OMG | S2 | 601 | 48 | 19,26,27 | 1.28 | 3 (15%) | 21,38,41 | 0.94 | 1 (4%) |
| 1 | A2M | L5 | 1871 | 1,88 | 18,25,26 | 1.49 | 2 (11%) | 20,36,39 | 1.62 | 4 (20%) |
| 1 | PSU | L5 | 4403 | 83,1 | 18,21,22 | 1.11 | 1 (5%) | 21,30,33 | 1.60 | 4 (19%) |
| 48 | PSU | S2 | 572 | 48 | 18,21,22 | 1.01 | 2 (11%) | 21,30,33 | 1.64 | 5 (23%) |
| 48 | PSU | S2 | 573 | 48 | 18,21,22 | 1.10 | 1 (5%) | 21,30,33 | 1.59 | 4 (19%) |
| 1 | PSU | L5 | 2508 | 1 | 18,21,22 | 1.26 | 2 (11%) | 21,30,33 | 1.49 | 4 (19%) |
| 48 | PSU | S2 | 918 | 48 | 18,21,22 | 0.95 | 2 (11%) | 21,30,33 | 1.72 | 5 (23%) |
| 1 | PSU | L5 | 4579 | 1 | 18,21,22 | 0.98 | 1 (5%) | 21,30,33 | 1.68 | 4 (19%) |
| 1 | OMG | L5 | 3744 | 1 | 19,26,27 | 1.38 | 3 (15%) | 21,38,41 | 0.86 | 1 (4%) |
| 1 | UR3 | L5 | 4530 | 1 | 19,22,23 | 2.64 | 7 (36%) | 26,32,35 | 1.76 | 4 (15%) |
| 48 | A2M | S2 | 590 | 48 | 18,25,26 | 1.55 | 3 (16%) | 20,36,39 | 1.91 | 7 (35%) |
| 48 | OMC | S2 | 462 | 48 | 19,22,23 | 0.60 | 0 | 25,31,34 | 0.49 | 0 |
| 1 | 6MZ | L5 | 4220 | 1 | 17,25,26 | 4.41 | 7 (41%) | 15,36,39 | 2.64 | 5 (33%) |
| 48 | A2M | S2 | 668 | 48,88 | 18,25,26 | 1.82 | 5 (27%) | 20,36,39 | 1.65 | 6 (30%) |
| 1 | A2M | L5 | 1524 | 1 | 18,25,26 | 1.63 | 4 (22%) | 20,36,39 | 1.85 | 5 (25%) |
| 1 | A2M | L5 | 2815 | 1,88 | 18,25,26 | 1.38 | 3 (16%) | 20,36,39 | 1.59 | 4 (20%) |
| 48 | PSU | S2 | 686 | 48 | 18,21,22 | 1.14 | 2 (11%) | 21,30,33 | 1.53 | 4 (19%) |
| 48 | 6MZ | S2 | 1832 | 48,83,88 | 17,25,26 | 4.51 | 7 (41%) | 15,36,39 | 2.96 | 5 (33%) |
| 1 | OMU | L5 | 3925 | 1 | 19,22,23 | 0.80 | 1 (5%) | 25,31,34 | 1.31 | 4 (16%) |
| 48 | A2M | S2 | 159 | 48 | 18,25,26 | 1.39 | 3 (16%) | 20,36,39 | 2.16 | 6 (30%) |
| 48 | MA6 | S2 | 1851 | 48 | 19,26,27 | 1.59 | 3 (15%) | 18,38,41 | 3.03 | 4 (22%) |
| 43 | MLZ | Lo | 53 | 43 | 8,9,10 | 0.66 | 0 | 4,9,11 | 0.70 | 0 |
| 1 | OMC | L5 | 3887 | 1 | 19,22,23 | 0.85 | 1 (5%) | 25,31,34 | 0.72 | 0 |
| 48 | PSU | S2 | 1081 | 48 | 18,21,22 | 1.10 | 3 (16%) | 21,30,33 | 1.42 | 4 (19%) |
| 1 | PSU | L5 | 1862 | 1 | 18,21,22 | 1.26 | 1 (5%) | 21,30,33 | 1.67 | 4 (19%) |
| 1 | PSU | L5 | 2632 | 1 | 18,21,22 | 1.09 | 2 (11%) | 21,30,33 | 1.55 | 4 (19%) |
| 48 | OMC | S2 | 174 | 48,88 | 19,22,23 | 0.63 | 0 | 25,31,34 | 0.64 | 0 |
| 1 | OMC | L5 | 1340 | 1 | 19,22,23 | 0.86 | 2 (10%) | 25,31,34 | 0.67 | 0 |
| 1 | OMC | L5 | 2422 | 1,88 | 19,22,23 | 0.84 | 1 (5%) | 25,31,34 | 0.61 | 0 |
| 48 | PSU | S2 | 1056 | 48 | 18,21,22 | 1.06 | 2 (11%) | 21,30,33 | 1.69 | 5 (23%) |
| 48 | PSU | S2 | 36 | 48 | 18,21,22 | 0.99 | 1 (5%) | 21,30,33 | 1.43 | 3 (14%) |
| 48 | PSU | S2 | 105 | 48 | 18,21,22 | 0.92 | 0 | 21,30,33 | 1.71 | 4 (19%) |
| 1 | PSU | L5 | 3770 | 1 | 18,21,22 | 1.13 | 2 (11%) | 21,30,33 | 1.59 | 4 (19%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|---------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 48 | A2M | S2 | 512 | 48 | 18,25,26 | 1.30 | 2 (11%) | 20,36,39 | 1.86 | 4 (20%) |
| 3 | OMU | L8 | 14 | 3,83,1 | 19,22,23 | 0.65 | 1 (5%) | 25,31,34 | 1.34 | 5 (20%) |
| 48 | PSU | S2 | 815 | 48 | 18,21,22 | 1.15 | 3 (16%) | 21,30,33 | 1.62 | 4 (19%) |
| 1 | OMU | L5 | 2837 | 1 | 19,22,23 | 0.62 | 0 | 25,31,34 | 1.41 | 5 (20%) |
| 47 | 2MU | Pt | 54 | 47 | 20,23,24 | 1.42 | 2 (10%) | 27,33,36 | 1.95 | 7 (25%) |
| 1 | PSU | L5 | 4293 | 1 | 18,21,22 | 1.20 | 2 (11%) | 21,30,33 | 1.53 | 4 (19%) |
| 1 | OMG | L5 | 4196 | 1,47,88 | 19,26,27 | 1.41 | 3 (15%) | 21,38,41 | 1.11 | 2 (9%) |
| 1 | OMU | L5 | 4498 | 83,1 | 19,22,23 | 0.72 | 0 | 25,31,34 | 1.34 | 4 (16%) |
| 1 | PSU | L5 | 3734 | 1 | 18,21,22 | 0.91 | 1 (5%) | 21,30,33 | 1.54 | 5 (23%) |
| 1 | PSU | L5 | 1860 | 1 | 18,21,22 | 1.13 | 2 (11%) | 21,30,33 | 1.65 | 4 (19%) |
| 48 | PSU | S2 | 296 | 48 | 18,21,22 | 0.87 | 0 | 21,30,33 | 1.55 | 4 (19%) |
| 41 | M3L | Lm | 98 | 41 | 10,11,12 | 0.47 | 0 | 9,14,16 | 0.46 | 0 |
| 48 | A2M | S2 | 468 | 48 | 18,25,26 | 1.34 | 3 (16%) | 20,36,39 | 1.90 | 6 (30%) |
| 3 | PSU | L8 | 55 | 3 | 18,21,22 | 1.13 | 2 (11%) | 21,30,33 | 1.54 | 4 (19%) |
| 48 | OMG | S2 | 1328 | 48 | 19,26,27 | 1.27 | 3 (15%) | 21,38,41 | 0.81 | 1 (4%) |
| 1 | PSU | L5 | 4296 | 1 | 18,21,22 | 1.24 | 3 (16%) | 21,30,33 | 1.66 | 4 (19%) |
| 1 | PSU | L5 | 1781 | 1 | 18,21,22 | 0.94 | 1 (5%) | 21,30,33 | 1.47 | 4 (19%) |
| 48 | OMG | S2 | 683 | 48 | 19,26,27 | 1.29 | 3 (15%) | 21,38,41 | 1.10 | 1 (4%) |
| 1 | OMC | L5 | 2861 | 1 | 19,22,23 | 0.59 | 0 | 25,31,34 | 0.52 | 0 |
| 48 | OMU | S2 | 428 | 48 | 19,22,23 | 0.47 | 0 | 25,31,34 | 1.33 | 6 (24%) |
| 1 | PSU | L5 | 4299 | 1 | 18,21,22 | 0.91 | 1 (5%) | 21,30,33 | 1.34 | 3 (14%) |
| 1 | PSU | L5 | 4312 | 1 | 18,21,22 | 0.96 | 1 (5%) | 21,30,33 | 1.55 | 5 (23%) |
| 48 | OMU | S2 | 1804 | 48 | 19,22,23 | 0.67 | 0 | 25,31,34 | 1.49 | 5 (20%) |
| 48 | PSU | S2 | 1367 | 48 | 18,21,22 | 0.99 | 1 (5%) | 21,30,33 | 1.63 | 4 (19%) |
| 1 | OMG | L5 | 4618 | 83,1 | 19,26,27 | 1.38 | 3 (15%) | 21,38,41 | 0.98 | 1 (4%) |
| 1 | A2M | L5 | 3760 | 48,1 | 18,25,26 | 1.70 | 5 (27%) | 20,36,39 | 2.25 | 8 (40%) |
| 1 | PSU | L5 | 1582 | 1 | 18,21,22 | 1.18 | 1 (5%) | 21,30,33 | 1.36 | 4 (19%) |
| 48 | PSU | S2 | 1238 | 48 | 18,21,22 | 1.02 | 1 (5%) | 21,30,33 | 1.58 | 4 (19%) |
| 1 | OMC | L5 | 3808 | 1 | 19,22,23 | 0.75 | 0 | 25,31,34 | 0.67 | 0 |
| 1 | PSU | L5 | 4361 | 1 | 18,21,22 | 1.19 | 2 (11%) | 21,30,33 | 1.54 | 4 (19%) |
| 1 | PSU | L5 | 4576 | 1 | 18,21,22 | 1.03 | 1 (5%) | 21,30,33 | 1.49 | 4 (19%) |
| 48 | OMG | S2 | 1447 | 48 | 19,26,27 | 1.21 | 3 (15%) | 21,38,41 | 1.01 | 1 (4%) |
| 48 | PSU | S2 | 119 | 48 | 18,21,22 | 1.13 | 1 (5%) | 21,30,33 | 1.47 | 4 (19%) |
| 48 | PSU | S2 | 1136 | 48 | 18,21,22 | 1.11 | 2 (11%) | 21,30,33 | 1.67 | 4 (19%) |
| 48 | A2M | S2 | 166 | 48 | 18,25,26 | 1.43 | 3 (16%) | 20,36,39 | 2.01 | 4 (20%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|-------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 1 | PSU | L5 | 1536 | 1 | 18,21,22 | 1.71 | 2 (11%) | 21,30,33 | 1.71 | 6 (28%) |
| 48 | PSU | S2 | 34 | 48 | 18,21,22 | 1.05 | 2 (11%) | 21,30,33 | 1.50 | 4 (19%) |
| 48 | PSU | S2 | 406 | 48 | 18,21,22 | 1.06 | 2 (11%) | 21,30,33 | 1.51 | 4 (19%) |
| 48 | OMG | S2 | 509 | 48 | 19,26,27 | 1.25 | 3 (15%) | 21,38,41 | 0.89 | 1 (4%) |
| 48 | UY1 | S2 | 1326 | 48,88 | 19,22,23 | 4.10 | 7 (36%) | 21,31,34 | 2.27 | 5 (23%) |
| 1 | OMG | L5 | 4392 | 1 | 19,26,27 | 1.35 | 3 (15%) | 21,38,41 | 0.89 | 1 (4%) |
| 1 | PSU | L5 | 5010 | 1 | 18,21,22 | 1.19 | 2 (11%) | 21,30,33 | 1.53 | 4 (19%) |
| 48 | 4AC | S2 | 1337 | 48 | 21,24,25 | 3.06 | 11 (52%) | 28,34,37 | 1.13 | 2 (7%) |
| 1 | PSU | L5 | 2839 | 1 | 18,21,22 | 1.24 | 2 (11%) | 21,30,33 | 1.49 | 5 (23%) |
| 48 | PSU | S2 | 1625 | 48 | 18,21,22 | 0.97 | 1 (5%) | 21,30,33 | 1.54 | 4 (19%) |
| 1 | PSU | L5 | 3768 | 1 | 18,21,22 | 1.05 | 1 (5%) | 21,30,33 | 1.64 | 4 (19%) |
| 48 | PSU | S2 | 966 | 48 | 18,21,22 | 0.84 | 1 (5%) | 21,30,33 | 1.46 | 4 (19%) |
| 1 | PSU | L5 | 3762 | 1 | 18,21,22 | 0.99 | 1 (5%) | 21,30,33 | 1.38 | 4 (19%) |
| 48 | PSU | S2 | 681 | 48 | 18,21,22 | 1.28 | 2 (11%) | 21,30,33 | 1.36 | 3 (14%) |
| 3 | PSU | L8 | 69 | 3 | 18,21,22 | 1.11 | 2 (11%) | 21,30,33 | 1.58 | 5 (23%) |
| 1 | A2M | L5 | 3724 | 1 | 18,25,26 | 1.45 | 3 (16%) | 20,36,39 | 1.72 | 6 (30%) |
| 1 | PSU | L5 | 3844 | 1 | 18,21,22 | 1.32 | 1 (5%) | 21,30,33 | 1.48 | 4 (19%) |
| 1 | PSU | L5 | 4552 | 1 | 18,21,22 | 1.35 | 1 (5%) | 21,30,33 | 1.42 | 4 (19%) |
| 48 | PSU | S2 | 649 | 48 | 18,21,22 | 1.07 | 2 (11%) | 21,30,33 | 1.60 | 4 (19%) |
| 1 | PSU | L5 | 3639 | 1 | 18,21,22 | 1.39 | 2 (11%) | 21,30,33 | 1.37 | 4 (19%) |
| 1 | PSU | L5 | 4442 | 1 | 18,21,22 | 0.99 | 2 (11%) | 21,30,33 | 1.83 | 5 (23%) |
| 48 | PSU | S2 | 109 | 48 | 18,21,22 | 1.00 | 1 (5%) | 21,30,33 | 1.69 | 4 (19%) |
| 1 | PSU | L5 | 1677 | 1 | 18,21,22 | 1.18 | 3 (16%) | 21,30,33 | 1.61 | 5 (23%) |
| 1 | OMG | L5 | 2364 | 1 | 19,26,27 | 1.34 | 3 (15%) | 21,38,41 | 0.89 | 1 (4%) |
| 1 | A2M | L5 | 400 | 1 | 18,25,26 | 1.50 | 3 (16%) | 20,36,39 | 1.51 | 5 (25%) |
| 1 | PSU | L5 | 4471 | 1 | 18,21,22 | 1.20 | 2 (11%) | 21,30,33 | 1.59 | 4 (19%) |
| 48 | PSU | S2 | 1244 | 48 | 18,21,22 | 1.03 | 1 (5%) | 21,30,33 | 1.58 | 4 (19%) |
| 48 | PSU | S2 | 1004 | 48 | 18,21,22 | 1.21 | 2 (11%) | 21,30,33 | 1.48 | 4 (19%) |
| 48 | OMU | S2 | 121 | 48 | 19,22,23 | 0.64 | 0 | 25,31,34 | 1.12 | 2 (8%) |
| 1 | PSU | L5 | 4500 | 1 | 18,21,22 | 1.02 | 2 (11%) | 21,30,33 | 1.77 | 4 (19%) |
| 48 | PSU | S2 | 218 | 48 | 18,21,22 | 0.95 | 1 (5%) | 21,30,33 | 1.53 | 4 (19%) |
| 1 | 5MC | L5 | 4447 | 83,1 | 19,22,23 | 3.53 | 8 (42%) | 26,32,35 | 1.28 | 3 (11%) |
| 48 | PSU | S2 | 1243 | 48 | 18,21,22 | 1.20 | 2 (11%) | 21,30,33 | 1.60 | 4 (19%) |
| 1 | PSU | L5 | 3695 | 83,1 | 18,21,22 | 1.00 | 1 (5%) | 21,30,33 | 1.42 | 4 (19%) |
| 1 | PSU | L5 | 4636 | 1 | 18,21,22 | 1.23 | 2 (11%) | 21,30,33 | 1.42 | 4 (19%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|-------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 48 | PSU | S2 | 1239 | 48 | 18,21,22 | 1.23 | 3 (16%) | 21,30,33 | 1.64 | 4 (19%) |
| 1 | A2M | L5 | 2363 | 1,88 | 18,25,26 | 1.55 | 3 (16%) | 20,36,39 | 1.77 | 6 (30%) |
| 48 | PSU | S2 | 1232 | 48 | 18,21,22 | 1.08 | 2 (11%) | 21,30,33 | 1.56 | 4 (19%) |
| 1 | PSU | L5 | 4431 | 1 | 18,21,22 | 1.13 | 2 (11%) | 21,30,33 | 1.66 | 4 (19%) |
| 48 | OMC | S2 | 517 | 48 | 19,22,23 | 0.73 | 1 (5%) | 25,31,34 | 0.56 | 0 |
| 48 | PSU | S2 | 1445 | 48 | 18,21,22 | 1.07 | 2 (11%) | 21,30,33 | 1.57 | 4 (19%) |
| 1 | PSU | L5 | 4531 | 1 | 18,21,22 | 1.09 | 1 (5%) | 21,30,33 | 1.91 | 3 (14%) |
| 1 | PSU | L5 | 3764 | 1 | 18,21,22 | 1.66 | 2 (11%) | 21,30,33 | 1.44 | 2 (9%) |
| 1 | OMC | L5 | 4536 | 1,88 | 19,22,23 | 0.89 | 1 (5%) | 25,31,34 | 0.68 | 0 |
| 1 | OMG | L5 | 4637 | 83,1 | 19,26,27 | 1.40 | 3 (15%) | 21,38,41 | 0.81 | 1 (4%) |
| 1 | PSU | L5 | 4420 | 1 | 18,21,22 | 1.20 | 4 (22%) | 21,30,33 | 1.54 | 4 (19%) |
| 48 | A2M | S2 | 484 | 48 | 18,25,26 | 1.20 | 1 (5%) | 20,36,39 | 1.59 | 3 (15%) |
| 1 | A2M | L5 | 3785 | 1 | 18,25,26 | 1.94 | 4 (22%) | 20,36,39 | 2.24 | 7 (35%) |
| 1 | PSU | L5 | 4689 | 1 | 18,21,22 | 1.13 | 2 (11%) | 21,30,33 | 1.42 | 3 (14%) |
| 1 | OMG | L5 | 3627 | 1 | 19,26,27 | 1.31 | 3 (15%) | 21,38,41 | 0.94 | 1 (4%) |
| 1 | PSU | L5 | 4493 | 83,1 | 18,21,22 | 1.24 | 2 (11%) | 21,30,33 | 1.48 | 4 (19%) |
| 1 | OMG | L5 | 3792 | 1 | 19,26,27 | 1.34 | 3 (15%) | 21,38,41 | 0.87 | 1 (4%) |
| 1 | OMG | L5 | 1316 | 1 | 19,26,27 | 1.44 | 3 (15%) | 21,38,41 | 0.95 | 1 (4%) |
| 1 | A2M | L5 | 3830 | 1 | 18,25,26 | 1.55 | 4 (22%) | 20,36,39 | 1.75 | 5 (25%) |
| 48 | A2M | S2 | 27 | 48,88 | 18,25,26 | 1.46 | 2 (11%) | 20,36,39 | 1.73 | 5 (25%) |
| 1 | PSU | L5 | 4972 | 83,1 | 18,21,22 | 1.15 | 2 (11%) | 21,30,33 | 1.51 | 4 (19%) |
| 47 | 2MG | Pt | 10 | 47 | 18,26,27 | 1.45 | 3 (16%) | 16,38,41 | 1.94 | 4 (25%) |
| 1 | OMG | L5 | 2876 | 1 | 19,26,27 | 1.44 | 3 (15%) | 21,38,41 | 0.88 | 0 |
| 1 | A2M | L5 | 3718 | 1 | 18,25,26 | 1.41 | 2 (11%) | 20,36,39 | 1.63 | 6 (30%) |
| 1 | OMC | L5 | 3869 | 1 | 19,22,23 | 0.75 | 0 | 25,31,34 | 0.55 | 0 |
| 48 | OMU | S2 | 1288 | 48 | 19,22,23 | 0.70 | 0 | 25,31,34 | 1.39 | 5 (20%) |
| 48 | OMC | S2 | 1391 | 48 | 19,22,23 | 0.75 | 1 (5%) | 25,31,34 | 0.61 | 0 |
| 1 | A2M | L5 | 3867 | 1 | 18,25,26 | 1.65 | 4 (22%) | 20,36,39 | 1.58 | 3 (15%) |
| 48 | B8N | S2 | 1248 | 48 | 25,29,30 | 0.64 | 0 | 28,42,45 | 1.14 | 2 (7%) |
| 1 | OMG | L5 | 4370 | 1 | 19,26,27 | 1.27 | 2 (10%) | 21,38,41 | 0.96 | 1 (4%) |
| 30 | MLZ | Lb | 5 | 83,30 | 8,9,10 | 0.79 | 0 | 4,9,11 | 0.66 | 0 |
| 1 | PSU | L5 | 3729 | 1 | 18,21,22 | 1.25 | 2 (11%) | 21,30,33 | 1.67 | 4 (19%) |
| 1 | A2M | L5 | 2401 | 1,88 | 18,25,26 | 1.33 | 1 (5%) | 20,36,39 | 1.46 | 4 (20%) |
| 1 | A2M | L5 | 4590 | 1 | 18,25,26 | 1.13 | 2 (11%) | 20,36,39 | 1.51 | 3 (15%) |
| 48 | PSU | S2 | 822 | 48 | 18,21,22 | 1.15 | 2 (11%) | 21,30,33 | 1.49 | 5 (23%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|---------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 48 | PSU | S2 | 801 | 48 | 18,21,22 | 1.06 | 1 (5%) | 21,30,33 | 1.71 | 4 (19%) |
| 48 | OMU | S2 | 172 | 48 | 19,22,23 | 0.50 | 0 | 25,31,34 | 1.45 | 6 (24%) |
| 1 | A2M | L5 | 4523 | 1,88 | 18,25,26 | 1.54 | 4 (22%) | 20,36,39 | 1.52 | 3 (15%) |
| 1 | PSU | L5 | 4673 | 1,88 | 18,21,22 | 1.31 | 1 (5%) | 21,30,33 | 1.50 | 4 (19%) |
| 1 | PSU | L5 | 4532 | 1 | 18,21,22 | 0.99 | 1 (5%) | 21,30,33 | 1.43 | 4 (19%) |
| 1 | PSU | L5 | 4457 | 1 | 18,21,22 | 1.32 | 2 (11%) | 21,30,33 | 1.28 | 4 (19%) |
| 48 | OMG | S2 | 1490 | 48,88 | 19,26,27 | 1.25 | 3 (15%) | 21,38,41 | 0.99 | 1 (4%) |
| 3 | OMG | L8 | 75 | 3 | 19,26,27 | 1.30 | 3 (15%) | 21,38,41 | 0.88 | 1 (4%) |
| 1 | PSU | L5 | 3884 | 1 | 18,21,22 | 1.17 | 2 (11%) | 21,30,33 | 1.62 | 4 (19%) |
| 1 | OMG | L5 | 4494 | 1 | 19,26,27 | 1.22 | 2 (10%) | 21,38,41 | 0.98 | 1 (4%) |
| 48 | 4AC | S2 | 1842 | 48 | 21,24,25 | 2.93 | 11 (52%) | 28,34,37 | 0.84 | 1 (3%) |
| 1 | OMG | L5 | 3944 | 1 | 19,26,27 | 1.14 | 2 (10%) | 21,38,41 | 0.94 | 1 (4%) |
| 48 | PSU | S2 | 1347 | 48 | 18,21,22 | 1.06 | 1 (5%) | 21,30,33 | 1.59 | 4 (19%) |
| 1 | OMC | L5 | 2824 | 1 | 19,22,23 | 0.86 | 1 (5%) | 25,31,34 | 0.56 | 0 |
| 48 | PSU | S2 | 1643 | 48,88 | 18,21,22 | 1.00 | 2 (11%) | 21,30,33 | 1.50 | 4 (19%) |
| 1 | PSU | L5 | 3715 | 1 | 18,21,22 | 1.01 | 1 (5%) | 21,30,33 | 1.64 | 4 (19%) |
| 1 | OMC | L5 | 2365 | 1 | 19,22,23 | 0.71 | 0 | 25,31,34 | 0.63 | 0 |
| 48 | PSU | S2 | 1174 | 48,83 | 18,21,22 | 1.10 | 1 (5%) | 21,30,33 | 1.43 | 4 (19%) |
| 1 | PSU | L5 | 4353 | 1 | 18,21,22 | 1.00 | 2 (11%) | 21,30,33 | 1.68 | 4 (19%) |
| 1 | PSU | L5 | 2843 | 1 | 18,21,22 | 1.47 | 3 (16%) | 21,30,33 | 1.52 | 4 (19%) |
| 1 | OMG | L5 | 1625 | 83,1 | 19,26,27 | 1.26 | 3 (15%) | 21,38,41 | 0.80 | 0 |
| 48 | A2M | S2 | 99 | 48,88 | 18,25,26 | 1.32 | 2 (11%) | 20,36,39 | 1.53 | 4 (20%) |
| 47 | PSU | Pt | 13 | 47 | 18,21,22 | 1.06 | 2 (11%) | 21,30,33 | 1.54 | 4 (19%) |
| 1 | UY1 | L5 | 3818 | 83,1 | 19,22,23 | 3.85 | 8 (42%) | 21,31,34 | 2.53 | 6 (28%) |
| 1 | A2M | L5 | 3723 | 1 | 18,25,26 | 1.45 | 3 (16%) | 20,36,39 | 1.80 | 6 (30%) |
| 1 | OMG | L5 | 2424 | 1 | 19,26,27 | 1.32 | 3 (15%) | 21,38,41 | 0.83 | 1 (4%) |
| 48 | PSU | S2 | 609 | 48 | 18,21,22 | 0.99 | 1 (5%) | 21,30,33 | 1.47 | 4 (19%) |
| 48 | G7M | S2 | 1639 | 48,47 | 20,26,27 | 2.28 | 6 (30%) | 16,39,42 | 1.23 | 2 (12%) |
| 1 | PSU | L5 | 3853 | 83,1,88 | 18,21,22 | 1.38 | 3 (16%) | 21,30,33 | 1.45 | 4 (19%) |
| 48 | PSU | S2 | 814 | 48 | 18,21,22 | 0.92 | 1 (5%) | 21,30,33 | 1.49 | 3 (14%) |
| 48 | OMU | S2 | 1442 | 48,88 | 19,22,23 | 0.62 | 0 | 25,31,34 | 1.31 | 6 (24%) |
| 1 | OMC | L5 | 4456 | 1 | 19,22,23 | 0.80 | 1 (5%) | 25,31,34 | 0.63 | 0 |
| 48 | PSU | S2 | 93 | 48 | 18,21,22 | 0.87 | 1 (5%) | 21,30,33 | 1.52 | 4 (19%) |
| 48 | OMG | S2 | 867 | 48 | 19,26,27 | 1.16 | 2 (10%) | 21,38,41 | 0.87 | 1 (4%) |
| 1 | PSU | L5 | 4569 | 1 | 18,21,22 | 1.27 | 4 (22%) | 21,30,33 | 1.30 | 3 (14%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|---------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 1 | PSU | L5 | 4521 | 83,1,88 | 18,21,22 | 1.05 | 2 (11%) | 21,30,33 | 1.62 | 4 (19%) |
| 1 | PSU | L5 | 1683 | 83,1 | 18,21,22 | 1.20 | 1 (5%) | 21,30,33 | 1.41 | 3 (14%) |
| 1 | OMC | L5 | 1881 | 1,88 | 19,22,23 | 0.81 | 2 (10%) | 25,31,34 | 0.82 | 0 |
| 1 | 1MA | L5 | 1322 | 1,88 | 17,25,26 | 1.20 | 2 (11%) | 17,37,40 | 1.24 | 1 (5%) |
| 48 | MA6 | S2 | 1850 | 48 | 19,26,27 | 1.57 | 3 (15%) | 18,38,41 | 3.08 | 4 (22%) |
| 1 | OMC | L5 | 3841 | 1 | 19,22,23 | 0.84 | 2 (10%) | 25,31,34 | 0.81 | 1 (4%) |
| 48 | PSU | S2 | 863 | 48 | 18,21,22 | 0.92 | 0 | 21,30,33 | 1.44 | 4 (19%) |
| 1 | OMG | L5 | 4499 | 1 | 19,26,27 | 1.18 | 3 (15%) | 21,38,41 | 0.84 | 1 (4%) |
| 48 | OMU | S2 | 116 | 48 | 19,22,23 | 0.70 | 0 | 25,31,34 | 1.11 | 2 (8%) |
| 1 | A2M | L5 | 2787 | 1 | 18,25,26 | 1.41 | 1 (5%) | 20,36,39 | 1.49 | 4 (20%) |
| 1 | PSU | L5 | 3758 | 1 | 18,21,22 | 1.02 | 1 (5%) | 21,30,33 | 1.47 | 4 (19%) |
| 1 | OMU | L5 | 4306 | 1 | 19,22,23 | 0.66 | 0 | 25,31,34 | 1.35 | 5 (20%) |
| 48 | PSU | S2 | 651 | 48 | 18,21,22 | 0.94 | 1 (5%) | 21,30,33 | 1.62 | 4 (19%) |
| 48 | PSU | S2 | 866 | 48 | 18,21,22 | 1.10 | 1 (5%) | 21,30,33 | 1.72 | 4 (19%) |
| 47 | 5MC | Pt | 49 | 47 | 19,22,23 | 3.69 | 8 (42%) | 26,32,35 | 0.99 | 1 (3%) |
| 1 | OMU | L5 | 2415 | 1 | 19,22,23 | 0.58 | 0 | 25,31,34 | 1.31 | 5 (20%) |
| 72 | HY3 | SX | 62 | 72 | 7,8,9 | 6.30 | 5 (71%) | 7,10,12 | 1.29 | 1 (14%) |
| 1 | OMU | L5 | 4620 | 1 | 19,22,23 | 0.59 | 0 | 25,31,34 | 1.40 | 4 (16%) |
| 1 | PSU | L5 | 4628 | 1 | 18,21,22 | 1.06 | 2 (11%) | 21,30,33 | 1.66 | 4 (19%) |
| 1 | A2M | L5 | 1534 | 1,88 | 18,25,26 | 1.62 | 4 (22%) | 20,36,39 | 1.73 | 4 (20%) |
| 1 | PSU | L5 | 4423 | 1 | 18,21,22 | 0.99 | 1 (5%) | 21,30,33 | 1.50 | 4 (19%) |
| 48 | A2M | S2 | 1031 | 48 | 18,25,26 | 1.38 | 3 (16%) | 20,36,39 | 1.52 | 4 (20%) |
| 1 | PSU | L5 | 3851 | 83,1 | 18,21,22 | 1.48 | 2 (11%) | 21,30,33 | 1.80 | 4 (19%) |
| 48 | A2M | S2 | 1678 | 48 | 18,25,26 | 1.70 | 4 (22%) | 20,36,39 | 1.88 | 8 (40%) |
| 48 | OMU | S2 | 354 | 48 | 19,22,23 | 0.53 | 0 | 25,31,34 | 1.37 | 6 (24%) |
| 48 | OMU | S2 | 627 | 48 | 19,22,23 | 0.59 | 0 | 25,31,34 | 1.40 | 5 (20%) |
| 1 | OMC | L5 | 3701 | 83,1 | 19,22,23 | 0.72 | 1 (5%) | 25,31,34 | 0.73 | 0 |
| 1 | A2M | L5 | 398 | 1 | 18,25,26 | 1.33 | 2 (11%) | 20,36,39 | 1.54 | 3 (15%) |
| 1 | A2M | L5 | 4571 | 1 | 18,25,26 | 1.78 | 4 (22%) | 20,36,39 | 1.73 | 6 (30%) |
| 1 | 5MC | L5 | 3782 | 1,88 | 19,22,23 | 3.37 | 8 (42%) | 26,32,35 | 1.11 | 2 (7%) |
| 1 | OMG | L5 | 4228 | 1 | 19,26,27 | 1.33 | 3 (15%) | 21,38,41 | 0.97 | 2 (9%) |
| 1 | PSU | L5 | 1792 | 83,1 | 18,21,22 | 1.12 | 2 (11%) | 21,30,33 | 1.52 | 4 (19%) |
| 1 | A2M | L5 | 3825 | 1 | 18,25,26 | 1.45 | 2 (11%) | 20,36,39 | 1.51 | 5 (25%) |
| 1 | OMU | L5 | 4227 | 1 | 19,22,23 | 0.84 | 1 (5%) | 25,31,34 | 1.45 | 4 (16%) |
| 1 | OMC | L5 | 2351 | 1,88 | 19,22,23 | 0.76 | 0 | 25,31,34 | 0.88 | 0 |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|-------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 1 | A2M | L5 | 1326 | 1 | 18,25,26 | 1.37 | 3 (16%) | 20,36,39 | 1.67 | 3 (15%) |
| 48 | OMC | S2 | 1703 | 48,83 | 19,22,23 | 0.79 | 1 (5%) | 25,31,34 | 0.58 | 0 |
| 1 | PSU | L5 | 3637 | 83,1 | 18,21,22 | 1.16 | 2 (11%) | 21,30,33 | 1.35 | 4 (19%) |
| 1 | OMG | L5 | 1522 | 1 | 19,26,27 | 1.30 | 3 (15%) | 21,38,41 | 0.95 | 2 (9%) |
| 5 | HIC | LB | 245 | 5 | 8,11,12 | 1.22 | 1 (12%) | 5,14,16 | 0.81 | 0 |
| 1 | PSU | L5 | 5001 | 1,88 | 18,21,22 | 1.00 | 1 (5%) | 21,30,33 | 1.74 | 4 (19%) |

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 |
|-----|------|-------|------|------|---------|-----------|---------|
| 1 | OMG | L5 | 3899 | 1,88 | - | 0/5/27/28 | 0/3/3/3 |
| 48 | OMG | S2 | 436 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 48 | PSU | S2 | 1177 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 1692 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 1779 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 4623 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 47 | H2U | Pt | 20 | 47 | - | 3/7/38/39 | 0/2/2/2 |
| 47 | PSU | Pt | 55 | 47 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 1782 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | A2M | S2 | 1383 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 1744 | 83,1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMC | L5 | 2804 | 1 | - | 1/9/27/28 | 0/2/2/2 |
| 48 | A2M | S2 | 576 | 48 | - | 1/5/27/28 | 0/3/3/3 |
| 48 | OMG | S2 | 644 | 48 | - | 3/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 3920 | 1,88 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMG | S2 | 601 | 48 | - | 1/5/27/28 | 0/3/3/3 |
| 1 | A2M | L5 | 1871 | 1,88 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4403 | 83,1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 572 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 573 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 2508 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 918 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4579 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 3744 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | UR3 | L5 | 4530 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | A2M | S2 | 590 | 48 | - | 2/5/27/28 | 0/3/3/3 |
| 48 | OMC | S2 | 462 | 48 | - | 1/9/27/28 | 0/2/2/2 |
| 1 | 6MZ | L5 | 4220 | 1 | - | 0/5/27/28 | 0/3/3/3 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|----------|---------|-----------|---------|
| 48 | A2M | S2 | 668 | 48,88 | - | 2/5/27/28 | 0/3/3/3 |
| 1 | A2M | L5 | 1524 | 1 | - | 1/5/27/28 | 0/3/3/3 |
| 1 | A2M | L5 | 2815 | 1,88 | - | 2/5/27/28 | 0/3/3/3 |
| 48 | PSU | S2 | 686 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | 6MZ | S2 | 1832 | 48,83,88 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | OMU | L5 | 3925 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | A2M | S2 | 159 | 48 | - | 1/5/27/28 | 0/3/3/3 |
| 48 | MA6 | S2 | 1851 | 48 | - | 3/7/29/30 | 0/3/3/3 |
| 43 | MLZ | Lo | 53 | 43 | - | 0/7/8/10 | - |
| 1 | OMC | L5 | 3887 | 1 | - | 1/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 1081 | 48 | - | 1/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 1862 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 2632 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMC | S2 | 174 | 48,88 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | OMC | L5 | 1340 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | OMC | L5 | 2422 | 1,88 | - | 2/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 1056 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 36 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 105 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 3770 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | A2M | S2 | 512 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 3 | OMU | L8 | 14 | 3,83,1 | - | 1/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 815 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMU | L5 | 2837 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 47 | 2MU | Pt | 54 | 47 | - | 1/9/27/28 | 0/2/2/2 |
| 1 | PSU | L5 | 4293 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 4196 | 1,47,88 | - | 1/5/27/28 | 0/3/3/3 |
| 1 | OMU | L5 | 4498 | 83,1 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | PSU | L5 | 3734 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 1860 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 296 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 41 | M3L | Lm | 98 | 41 | - | 0/9/10/12 | - |
| 48 | A2M | S2 | 468 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 3 | PSU | L8 | 55 | 3 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMG | S2 | 1328 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4296 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 1781 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMG | S2 | 683 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | OMC | L5 | 2861 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | OMU | S2 | 428 | 48 | - | 5/9/27/28 | 0/2/2/2 |
| 1 | PSU | L5 | 4299 | 1 | - | 0/7/25/26 | 0/2/2/2 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|-------|---------|------------|---------|
| 1 | PSU | L5 | 4312 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMU | S2 | 1804 | 48 | - | 1/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 1367 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 4618 | 83,1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | A2M | L5 | 3760 | 48,1 | - | 2/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 1582 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 1238 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMC | L5 | 3808 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | PSU | L5 | 4361 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4576 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMG | S2 | 1447 | 48 | - | 1/5/27/28 | 0/3/3/3 |
| 48 | PSU | S2 | 119 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 1136 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | A2M | S2 | 166 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 1536 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 34 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 406 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMG | S2 | 509 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 48 | UY1 | S2 | 1326 | 48,88 | - | 2/9/27/28 | 0/2/2/2 |
| 1 | OMG | L5 | 4392 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 5010 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | 4AC | S2 | 1337 | 48 | - | 0/11/29/30 | 0/2/2/2 |
| 1 | PSU | L5 | 2839 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 1625 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 3768 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 966 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 3762 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 681 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 3 | PSU | L8 | 69 | 3 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | A2M | L5 | 3724 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 3844 | 1 | - | 1/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4552 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 649 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 3639 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4442 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 109 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 1677 | 1 | - | 3/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 2364 | 1 | - | 1/5/27/28 | 0/3/3/3 |
| 1 | A2M | L5 | 400 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4471 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 1244 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 1004 | 48 | - | 0/7/25/26 | 0/2/2/2 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|-------|---------|------------|---------|
| 48 | OMU | S2 | 121 | 48 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | PSU | L5 | 4500 | 1 | - | 1/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 218 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | 5MC | L5 | 4447 | 83,1 | - | 4/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 1243 | 48 | - | 3/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 3695 | 83,1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4636 | 1 | - | 2/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 1239 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | A2M | L5 | 2363 | 1,88 | - | 0/5/27/28 | 0/3/3/3 |
| 48 | PSU | S2 | 1232 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4431 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMC | S2 | 517 | 48 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 1445 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4531 | 1 | - | 1/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 3764 | 1 | - | 2/7/25/26 | 0/2/2/2 |
| 1 | OMC | L5 | 4536 | 1,88 | - | 1/9/27/28 | 0/2/2/2 |
| 1 | OMG | L5 | 4637 | 83,1 | - | 1/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4420 | 1 | - | 2/7/25/26 | 0/2/2/2 |
| 48 | A2M | S2 | 484 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | A2M | L5 | 3785 | 1 | - | 2/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4689 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 3627 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4493 | 83,1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 3792 | 1 | - | 1/5/27/28 | 0/3/3/3 |
| 1 | OMG | L5 | 1316 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | A2M | L5 | 3830 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 48 | A2M | S2 | 27 | 48,88 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4972 | 83,1 | - | 0/7/25/26 | 0/2/2/2 |
| 47 | 2MG | Pt | 10 | 47 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | OMG | L5 | 2876 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | A2M | L5 | 3718 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | OMC | L5 | 3869 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | OMU | S2 | 1288 | 48 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | OMC | S2 | 1391 | 48 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | A2M | L5 | 3867 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 48 | B8N | S2 | 1248 | 48 | - | 5/16/34/35 | 0/2/2/2 |
| 1 | OMG | L5 | 4370 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 30 | MLZ | Lb | 5 | 83,30 | - | 2/7/8/10 | - |
| 1 | PSU | L5 | 3729 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | A2M | L5 | 2401 | 1,88 | - | 1/5/27/28 | 0/3/3/3 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|---------|---------|------------|---------|
| 1 | A2M | L5 | 4590 | 1 | - | 1/5/27/28 | 0/3/3/3 |
| 48 | PSU | S2 | 822 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 801 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMU | S2 | 172 | 48 | - | 1/9/27/28 | 0/2/2/2 |
| 1 | A2M | L5 | 4523 | 1,88 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4673 | 1,88 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4532 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4457 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMG | S2 | 1490 | 48,88 | - | 4/5/27/28 | 0/3/3/3 |
| 3 | OMG | L8 | 75 | 3 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 3884 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 4494 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 48 | 4AC | S2 | 1842 | 48 | - | 0/11/29/30 | 0/2/2/2 |
| 1 | OMG | L5 | 3944 | 1 | - | 1/5/27/28 | 0/3/3/3 |
| 48 | PSU | S2 | 1347 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMC | L5 | 2824 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 1643 | 48,88 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 3715 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMC | L5 | 2365 | 1 | - | 1/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 1174 | 48,83 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4353 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 2843 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 1625 | 83,1 | - | 1/5/27/28 | 0/3/3/3 |
| 48 | A2M | S2 | 99 | 48,88 | - | 1/5/27/28 | 0/3/3/3 |
| 47 | PSU | Pt | 13 | 47 | - | 1/7/25/26 | 0/2/2/2 |
| 1 | UY1 | L5 | 3818 | 83,1 | - | 2/9/27/28 | 0/2/2/2 |
| 1 | A2M | L5 | 3723 | 1 | - | 1/5/27/28 | 0/3/3/3 |
| 1 | OMG | L5 | 2424 | 1 | - | 1/5/27/28 | 0/3/3/3 |
| 48 | PSU | S2 | 609 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | G7M | S2 | 1639 | 48,47 | - | 0/3/25/26 | 0/3/3/3 |
| 1 | PSU | L5 | 3853 | 83,1,88 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 814 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMU | S2 | 1442 | 48,88 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | OMC | L5 | 4456 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 93 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | OMG | S2 | 867 | 48 | - | 1/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4569 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 4521 | 83,1,88 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | PSU | L5 | 1683 | 83,1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMC | L5 | 1881 | 1,88 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | 1MA | L5 | 1322 | 1,88 | - | 0/3/25/26 | 0/3/3/3 |
| 48 | MA6 | S2 | 1850 | 48 | - | 0/7/29/30 | 0/3/3/3 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|-------|---------|-----------|---------|
| 1 | OMC | L5 | 3841 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 863 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 4499 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 48 | OMU | S2 | 116 | 48 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | A2M | L5 | 2787 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 3758 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMU | L5 | 4306 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | PSU | S2 | 651 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | PSU | S2 | 866 | 48 | - | 0/7/25/26 | 0/2/2/2 |
| 47 | 5MC | Pt | 49 | 47 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMU | L5 | 2415 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 72 | HY3 | SX | 62 | 72 | - | 0/1/12/14 | 0/1/1/1 |
| 1 | OMU | L5 | 4620 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | PSU | L5 | 4628 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | A2M | L5 | 1534 | 1,88 | - | 1/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 4423 | 1 | - | 0/7/25/26 | 0/2/2/2 |
| 48 | A2M | S2 | 1031 | 48 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 3851 | 83,1 | - | 1/7/25/26 | 0/2/2/2 |
| 48 | A2M | S2 | 1678 | 48 | - | 1/5/27/28 | 0/3/3/3 |
| 48 | OMU | S2 | 354 | 48 | - | 0/9/27/28 | 0/2/2/2 |
| 48 | OMU | S2 | 627 | 48 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | OMC | L5 | 3701 | 83,1 | - | 4/9/27/28 | 0/2/2/2 |
| 1 | A2M | L5 | 398 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | A2M | L5 | 4571 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | 5MC | L5 | 3782 | 1,88 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 4228 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | PSU | L5 | 1792 | 83,1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | A2M | L5 | 3825 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 1 | OMU | L5 | 4227 | 1 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | OMC | L5 | 2351 | 1,88 | - | 1/9/27/28 | 0/2/2/2 |
| 1 | A2M | L5 | 1326 | 1 | - | 2/5/27/28 | 0/3/3/3 |
| 48 | OMC | S2 | 1703 | 48,83 | - | 0/9/27/28 | 0/2/2/2 |
| 1 | PSU | L5 | 3637 | 83,1 | - | 0/7/25/26 | 0/2/2/2 |
| 1 | OMG | L5 | 1522 | 1 | - | 0/5/27/28 | 0/3/3/3 |
| 5 | HIC | LB | 245 | 5 | - | 0/5/6/8 | 0/1/1/1 |
| 1 | PSU | L5 | 5001 | 1,88 | - | 0/7/25/26 | 0/2/2/2 |

All (483) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 48 | S2 | 1832 | 6MZ | O4'-C1' | 11.17 | 1.55 | 1.40 |
| 48 | S2 | 1326 | UY1 | C6-C5 | 11.04 | 1.47 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 1 | L5 | 4220 | 6MZ | O4'-C1' | 10.98 | 1.55 | 1.40 |
| 72 | SX | 62 | HY3 | C4-C3 | -10.57 | 1.33 | 1.52 |
| 1 | L5 | 3818 | UY1 | C6-C5 | 9.56 | 1.45 | 1.35 |
| 48 | S2 | 1326 | UY1 | C2-N1 | 9.39 | 1.48 | 1.36 |
| 72 | SX | 62 | HY3 | C3-CA | 9.08 | 1.64 | 1.55 |
| 1 | L5 | 3818 | UY1 | C2-N1 | 9.07 | 1.48 | 1.36 |
| 47 | Pt | 49 | 5MC | C6-C5 | 8.89 | 1.49 | 1.34 |
| 1 | L5 | 4447 | 5MC | C6-C5 | 8.69 | 1.48 | 1.34 |
| 48 | S2 | 1832 | 6MZ | C3'-C2' | -8.46 | 1.30 | 1.53 |
| 1 | L5 | 3782 | 5MC | C6-C5 | 8.38 | 1.48 | 1.34 |
| 72 | SX | 62 | HY3 | CA-N | -8.27 | 1.34 | 1.48 |
| 1 | L5 | 4220 | 6MZ | C3'-C2' | -7.91 | 1.31 | 1.53 |
| 48 | S2 | 1326 | UY1 | C2-N3 | 7.19 | 1.49 | 1.37 |
| 48 | S2 | 1832 | 6MZ | C1'-N9 | -7.16 | 1.32 | 1.49 |
| 1 | L5 | 3818 | UY1 | C2-N3 | 7.04 | 1.49 | 1.37 |
| 1 | L5 | 4220 | 6MZ | C1'-N9 | -6.87 | 1.32 | 1.49 |
| 1 | L5 | 4447 | 5MC | C5-C4 | 6.63 | 1.49 | 1.44 |
| 47 | Pt | 49 | 5MC | C5-C4 | 6.52 | 1.49 | 1.44 |
| 47 | Pt | 49 | 5MC | C4-N3 | 6.38 | 1.44 | 1.34 |
| 48 | S2 | 1337 | 4AC | C4-N3 | 6.35 | 1.43 | 1.32 |
| 48 | S2 | 1842 | 4AC | C4-N3 | 6.35 | 1.43 | 1.32 |
| 1 | L5 | 3782 | 5MC | C4-N3 | 6.18 | 1.44 | 1.34 |
| 1 | L5 | 1536 | PSU | O4-C4 | -6.18 | 1.11 | 1.23 |
| 1 | L5 | 4530 | UR3 | C2-N1 | 6.12 | 1.47 | 1.38 |
| 1 | L5 | 4530 | UR3 | C6-C5 | 6.06 | 1.49 | 1.35 |
| 48 | S2 | 1337 | 4AC | C6-C5 | 5.99 | 1.49 | 1.35 |
| 47 | Pt | 49 | 5MC | C2-N3 | 5.85 | 1.48 | 1.36 |
| 1 | L5 | 3764 | PSU | O4-C4 | -5.82 | 1.12 | 1.23 |
| 48 | S2 | 1842 | 4AC | C6-C5 | 5.78 | 1.48 | 1.35 |
| 48 | S2 | 1832 | 6MZ | O4'-C4' | -5.77 | 1.32 | 1.45 |
| 1 | L5 | 4220 | 6MZ | O4'-C4' | -5.72 | 1.32 | 1.45 |
| 48 | S2 | 1639 | G7M | C2-N2 | 5.70 | 1.47 | 1.34 |
| 1 | L5 | 4447 | 5MC | C4-N3 | 5.44 | 1.42 | 1.34 |
| 48 | S2 | 1337 | 4AC | C2-N3 | 5.41 | 1.47 | 1.36 |
| 1 | L5 | 4447 | 5MC | C2-N3 | 5.38 | 1.47 | 1.36 |
| 1 | L5 | 3782 | 5MC | C5-C4 | 5.34 | 1.48 | 1.44 |
| 1 | L5 | 4530 | UR3 | C2-N3 | 5.29 | 1.49 | 1.39 |
| 48 | S2 | 1832 | 6MZ | C6-C5 | -5.10 | 1.37 | 1.44 |
| 1 | L5 | 3782 | 5MC | C2-N3 | 5.06 | 1.46 | 1.36 |
| 48 | S2 | 1639 | G7M | C4-N3 | 4.91 | 1.49 | 1.37 |
| 48 | S2 | 1842 | 4AC | C2-N3 | 4.83 | 1.45 | 1.36 |
| 1 | L5 | 4220 | 6MZ | C6-C5 | -4.79 | 1.37 | 1.44 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 48 | S2 | 1326 | UY1 | C6-N1 | 4.77 | 1.44 | 1.36 |
| 1 | L5 | 3844 | PSU | O4-C4 | -4.75 | 1.14 | 1.23 |
| 1 | L5 | 3639 | PSU | O4-C4 | -4.71 | 1.14 | 1.23 |
| 1 | L5 | 4220 | 6MZ | C3'-C4' | 4.57 | 1.64 | 1.53 |
| 1 | L5 | 4552 | PSU | O4-C4 | -4.54 | 1.14 | 1.23 |
| 47 | Pt | 10 | 2MG | C2-N2 | 4.48 | 1.42 | 1.33 |
| 1 | L5 | 3785 | A2M | O5'-C5' | -4.48 | 1.31 | 1.44 |
| 1 | L5 | 3851 | PSU | O4-C4 | -4.45 | 1.15 | 1.23 |
| 47 | Pt | 54 | 2MU | O5'-C5' | -4.39 | 1.31 | 1.44 |
| 1 | L5 | 1862 | PSU | O4-C4 | -4.39 | 1.15 | 1.23 |
| 47 | Pt | 49 | 5MC | C6-N1 | 4.39 | 1.45 | 1.38 |
| 1 | L5 | 3867 | A2M | O5'-C5' | -4.31 | 1.31 | 1.44 |
| 1 | L5 | 1871 | A2M | O5'-C5' | -4.28 | 1.31 | 1.44 |
| 48 | S2 | 1639 | G7M | C2-N3 | 4.26 | 1.43 | 1.33 |
| 48 | S2 | 1850 | MA6 | C6-C5 | -4.26 | 1.38 | 1.44 |
| 1 | L5 | 3818 | UY1 | C6-N1 | 4.25 | 1.43 | 1.36 |
| 48 | S2 | 27 | A2M | O5'-C5' | -4.25 | 1.31 | 1.44 |
| 1 | L5 | 2876 | OMG | C8-N7 | -4.24 | 1.28 | 1.34 |
| 47 | Pt | 49 | 5MC | C4-N4 | 4.21 | 1.44 | 1.34 |
| 48 | S2 | 1851 | MA6 | C6-C5 | -4.20 | 1.38 | 1.44 |
| 1 | L5 | 4523 | A2M | O5'-C5' | -4.17 | 1.32 | 1.44 |
| 1 | L5 | 4196 | OMG | C8-N7 | -4.17 | 1.28 | 1.34 |
| 1 | L5 | 4673 | PSU | O4-C4 | -4.13 | 1.15 | 1.23 |
| 48 | S2 | 1337 | 4AC | C7-N4 | 4.12 | 1.45 | 1.37 |
| 48 | S2 | 576 | A2M | O5'-C5' | -4.10 | 1.32 | 1.44 |
| 48 | S2 | 1832 | 6MZ | C3'-C4' | 4.09 | 1.63 | 1.53 |
| 1 | L5 | 2508 | PSU | O4-C4 | -4.08 | 1.15 | 1.23 |
| 48 | S2 | 668 | A2M | O4'-C4' | -4.08 | 1.35 | 1.45 |
| 48 | S2 | 1842 | 4AC | O2-C2 | -4.07 | 1.16 | 1.23 |
| 1 | L5 | 2401 | A2M | O5'-C5' | -4.04 | 1.32 | 1.44 |
| 1 | L5 | 4571 | A2M | O3'-C3' | -4.03 | 1.33 | 1.43 |
| 1 | L5 | 4447 | 5MC | C6-N1 | 4.03 | 1.44 | 1.38 |
| 1 | L5 | 3718 | A2M | O5'-C5' | -4.02 | 1.32 | 1.44 |
| 1 | L5 | 2843 | PSU | C2-N1 | 4.01 | 1.41 | 1.36 |
| 1 | L5 | 1316 | OMG | C8-N7 | -3.99 | 1.28 | 1.34 |
| 48 | S2 | 484 | A2M | O5'-C5' | -3.92 | 1.32 | 1.44 |
| 48 | S2 | 1337 | 4AC | C5-C4 | 3.92 | 1.49 | 1.41 |
| 1 | L5 | 3920 | PSU | O4-C4 | -3.89 | 1.16 | 1.23 |
| 1 | L5 | 1524 | A2M | O5'-C5' | -3.88 | 1.32 | 1.44 |
| 1 | L5 | 4457 | PSU | O4-C4 | -3.87 | 1.16 | 1.23 |
| 1 | L5 | 4361 | PSU | O4-C4 | -3.87 | 1.16 | 1.23 |
| 1 | L5 | 4637 | OMG | C8-N7 | -3.85 | 1.28 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | L5 | 3899 | OMG | C8-N7 | -3.82 | 1.28 | 1.34 |
| 1 | L5 | 1534 | A2M | O5'-C5' | -3.81 | 1.33 | 1.44 |
| 48 | S2 | 1842 | 4AC | C7-N4 | 3.81 | 1.44 | 1.37 |
| 1 | L5 | 1582 | PSU | O4-C4 | -3.80 | 1.16 | 1.23 |
| 1 | L5 | 3825 | A2M | O5'-C5' | -3.80 | 1.33 | 1.44 |
| 48 | S2 | 1842 | 4AC | C5-C4 | 3.79 | 1.49 | 1.41 |
| 1 | L5 | 3785 | A2M | O4'-C1' | -3.78 | 1.35 | 1.40 |
| 1 | L5 | 2363 | A2M | O5'-C5' | -3.78 | 1.33 | 1.44 |
| 48 | S2 | 1678 | A2M | O5'-C5' | -3.78 | 1.33 | 1.44 |
| 47 | Pt | 49 | 5MC | C2-N1 | 3.77 | 1.48 | 1.40 |
| 48 | S2 | 681 | PSU | O4-C4 | -3.77 | 1.16 | 1.23 |
| 1 | L5 | 3744 | OMG | C8-N7 | -3.75 | 1.29 | 1.34 |
| 1 | L5 | 4571 | A2M | O5'-C5' | -3.74 | 1.33 | 1.44 |
| 1 | L5 | 3782 | 5MC | C6-N1 | 3.73 | 1.44 | 1.38 |
| 1 | L5 | 4618 | OMG | C8-N7 | -3.73 | 1.29 | 1.34 |
| 48 | S2 | 1850 | MA6 | C6-N6 | 3.72 | 1.46 | 1.37 |
| 1 | L5 | 2364 | OMG | C8-N7 | -3.71 | 1.29 | 1.34 |
| 48 | S2 | 512 | A2M | O5'-C5' | -3.71 | 1.33 | 1.44 |
| 1 | L5 | 4447 | 5MC | O2-C2 | -3.70 | 1.16 | 1.23 |
| 48 | S2 | 1031 | A2M | O5'-C5' | -3.70 | 1.33 | 1.44 |
| 48 | S2 | 590 | A2M | O5'-C5' | -3.70 | 1.33 | 1.44 |
| 1 | L5 | 3724 | A2M | O5'-C5' | -3.69 | 1.33 | 1.44 |
| 1 | L5 | 400 | A2M | O5'-C5' | -3.68 | 1.33 | 1.44 |
| 48 | S2 | 1842 | 4AC | C2-N1 | 3.67 | 1.47 | 1.40 |
| 1 | L5 | 3782 | 5MC | C2-N1 | 3.66 | 1.47 | 1.40 |
| 1 | L5 | 4493 | PSU | O4-C4 | -3.63 | 1.16 | 1.23 |
| 1 | L5 | 3830 | A2M | O5'-C5' | -3.61 | 1.33 | 1.44 |
| 1 | L5 | 4447 | 5MC | C4-N4 | 3.61 | 1.43 | 1.34 |
| 48 | S2 | 1851 | MA6 | C6-N6 | 3.60 | 1.45 | 1.37 |
| 48 | S2 | 1337 | 4AC | C4-N4 | 3.59 | 1.45 | 1.39 |
| 48 | S2 | 1337 | 4AC | O2-C2 | -3.56 | 1.17 | 1.23 |
| 1 | L5 | 4228 | OMG | C8-N7 | -3.56 | 1.29 | 1.34 |
| 1 | L5 | 398 | A2M | O5'-C5' | -3.55 | 1.33 | 1.44 |
| 1 | L5 | 1625 | OMG | C8-N7 | -3.54 | 1.29 | 1.34 |
| 1 | L5 | 3760 | A2M | O5'-C5' | -3.53 | 1.33 | 1.44 |
| 1 | L5 | 3729 | PSU | C2-N1 | 3.53 | 1.41 | 1.36 |
| 1 | L5 | 4403 | PSU | O4-C4 | -3.52 | 1.16 | 1.23 |
| 1 | L5 | 1683 | PSU | O4-C4 | -3.51 | 1.16 | 1.23 |
| 1 | L5 | 4689 | PSU | O4-C4 | -3.50 | 1.16 | 1.23 |
| 48 | S2 | 159 | A2M | O5'-C5' | -3.50 | 1.34 | 1.44 |
| 1 | L5 | 4370 | OMG | C8-N7 | -3.50 | 1.29 | 1.34 |
| 1 | L5 | 2839 | PSU | C2-N1 | 3.49 | 1.41 | 1.36 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | L5 | 3782 | 5MC | C4-N4 | 3.49 | 1.43 | 1.34 |
| 48 | S2 | 1383 | A2M | O5'-C5' | -3.49 | 1.34 | 1.44 |
| 48 | S2 | 1337 | 4AC | C2-N1 | 3.49 | 1.47 | 1.40 |
| 1 | L5 | 4392 | OMG | C8-N7 | -3.48 | 1.29 | 1.34 |
| 48 | S2 | 1326 | UY1 | C4-N3 | 3.47 | 1.45 | 1.38 |
| 48 | S2 | 1678 | A2M | O3'-C3' | -3.46 | 1.34 | 1.43 |
| 48 | S2 | 668 | A2M | O5'-C5' | -3.46 | 1.34 | 1.44 |
| 1 | L5 | 3785 | A2M | C1'-N9 | -3.44 | 1.41 | 1.49 |
| 3 | L8 | 75 | OMG | C8-N7 | -3.44 | 1.29 | 1.34 |
| 1 | L5 | 2843 | PSU | O4-C4 | -3.44 | 1.17 | 1.23 |
| 1 | L5 | 2424 | OMG | C8-N7 | -3.43 | 1.29 | 1.34 |
| 1 | L5 | 3818 | UY1 | O4-C4 | -3.40 | 1.17 | 1.23 |
| 1 | L5 | 1522 | OMG | C8-N7 | -3.38 | 1.29 | 1.34 |
| 1 | L5 | 4447 | 5MC | C2-N1 | 3.37 | 1.47 | 1.40 |
| 1 | L5 | 3782 | 5MC | O2-C2 | -3.37 | 1.17 | 1.23 |
| 1 | L5 | 1792 | PSU | O4-C4 | -3.37 | 1.17 | 1.23 |
| 1 | L5 | 4293 | PSU | O4-C4 | -3.35 | 1.17 | 1.23 |
| 1 | L5 | 3851 | PSU | C2-N1 | 3.35 | 1.41 | 1.36 |
| 48 | S2 | 468 | A2M | O5'-C5' | -3.34 | 1.34 | 1.44 |
| 1 | L5 | 3792 | OMG | C8-N7 | -3.34 | 1.29 | 1.34 |
| 1 | L5 | 3723 | A2M | O5'-C5' | -3.33 | 1.34 | 1.44 |
| 48 | S2 | 166 | A2M | O5'-C5' | -3.33 | 1.34 | 1.44 |
| 48 | S2 | 601 | OMG | C8-N7 | -3.32 | 1.29 | 1.34 |
| 1 | L5 | 1322 | 1MA | C8-N7 | -3.31 | 1.29 | 1.34 |
| 47 | Pt | 55 | PSU | C2-N1 | 3.31 | 1.41 | 1.36 |
| 48 | S2 | 406 | PSU | O4-C4 | -3.30 | 1.17 | 1.23 |
| 3 | L8 | 55 | PSU | O4-C4 | -3.30 | 1.17 | 1.23 |
| 48 | S2 | 801 | PSU | C2-N1 | 3.29 | 1.41 | 1.36 |
| 1 | L5 | 1860 | PSU | O4-C4 | -3.29 | 1.17 | 1.23 |
| 1 | L5 | 4296 | PSU | C2-N1 | 3.28 | 1.40 | 1.36 |
| 48 | S2 | 436 | OMG | C8-N7 | -3.27 | 1.29 | 1.34 |
| 1 | L5 | 3853 | PSU | C2-N1 | 3.27 | 1.40 | 1.36 |
| 48 | S2 | 644 | OMG | C8-N7 | -3.26 | 1.29 | 1.34 |
| 48 | S2 | 683 | OMG | C8-N7 | -3.26 | 1.29 | 1.34 |
| 1 | L5 | 3818 | UY1 | O2-C2 | -3.25 | 1.16 | 1.23 |
| 48 | S2 | 1177 | PSU | O4-C4 | -3.25 | 1.17 | 1.23 |
| 1 | L5 | 3627 | OMG | C8-N7 | -3.25 | 1.29 | 1.34 |
| 48 | S2 | 119 | PSU | C2-N1 | 3.24 | 1.40 | 1.36 |
| 48 | S2 | 1337 | 4AC | C6-N1 | 3.23 | 1.45 | 1.38 |
| 1 | L5 | 2787 | A2M | O5'-C5' | -3.23 | 1.34 | 1.44 |
| 1 | L5 | 1779 | PSU | O4-C4 | -3.20 | 1.17 | 1.23 |
| 48 | S2 | 1347 | PSU | O4-C4 | -3.18 | 1.17 | 1.23 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 48 | S2 | 509 | OMG | C8-N7 | -3.17 | 1.29 | 1.34 |
| 48 | S2 | 590 | A2M | O4'-C4' | -3.16 | 1.38 | 1.45 |
| 1 | L5 | 3760 | A2M | C1'-N9 | -3.15 | 1.42 | 1.49 |
| 1 | L5 | 4494 | OMG | C8-N7 | -3.14 | 1.29 | 1.34 |
| 48 | S2 | 1328 | OMG | C8-N7 | -3.14 | 1.29 | 1.34 |
| 1 | L5 | 4471 | PSU | O4-C4 | -3.14 | 1.17 | 1.23 |
| 1 | L5 | 1326 | A2M | O5'-C5' | -3.09 | 1.35 | 1.44 |
| 1 | L5 | 4628 | PSU | O4-C4 | -3.08 | 1.17 | 1.23 |
| 1 | L5 | 1524 | A2M | C1'-N9 | -3.06 | 1.42 | 1.49 |
| 1 | L5 | 3818 | UY1 | C4-N3 | 3.06 | 1.44 | 1.38 |
| 48 | S2 | 1243 | PSU | C2-N1 | 3.05 | 1.40 | 1.36 |
| 48 | S2 | 1678 | A2M | C1'-N9 | -3.05 | 1.42 | 1.49 |
| 1 | L5 | 4530 | UR3 | O4-C4 | -3.05 | 1.17 | 1.23 |
| 48 | S2 | 1239 | PSU | C2-N1 | 3.04 | 1.40 | 1.36 |
| 48 | S2 | 1490 | OMG | C8-N7 | -3.03 | 1.30 | 1.34 |
| 47 | Pt | 49 | 5MC | O2-C2 | -3.03 | 1.18 | 1.23 |
| 1 | L5 | 4972 | PSU | C2-N1 | 3.02 | 1.40 | 1.36 |
| 1 | L5 | 5010 | PSU | O4-C4 | -3.02 | 1.17 | 1.23 |
| 1 | L5 | 4576 | PSU | O4-C4 | -3.01 | 1.17 | 1.23 |
| 1 | L5 | 4499 | OMG | C8-N7 | -3.01 | 1.30 | 1.34 |
| 48 | S2 | 1004 | PSU | O4-C4 | -3.01 | 1.17 | 1.23 |
| 48 | S2 | 99 | A2M | C1'-N9 | -3.01 | 1.42 | 1.49 |
| 1 | L5 | 4623 | OMG | C8-N7 | -3.00 | 1.30 | 1.34 |
| 48 | S2 | 1639 | G7M | C2-N1 | 2.99 | 1.44 | 1.37 |
| 1 | L5 | 1744 | PSU | O4-C4 | -2.99 | 1.17 | 1.23 |
| 1 | L5 | 3764 | PSU | C2-N1 | 2.98 | 1.40 | 1.36 |
| 1 | L5 | 3830 | A2M | C1'-N9 | -2.98 | 1.42 | 1.49 |
| 1 | L5 | 2632 | PSU | O4-C4 | -2.97 | 1.17 | 1.23 |
| 1 | L5 | 3899 | OMG | C5-C6 | -2.97 | 1.41 | 1.47 |
| 48 | S2 | 218 | PSU | C2-N1 | 2.97 | 1.40 | 1.36 |
| 1 | L5 | 3760 | A2M | O3'-C3' | -2.96 | 1.35 | 1.43 |
| 48 | S2 | 1842 | 4AC | C6-N1 | 2.95 | 1.45 | 1.38 |
| 1 | L5 | 2876 | OMG | C5-C6 | -2.95 | 1.41 | 1.47 |
| 1 | L5 | 4636 | PSU | O4-C4 | -2.95 | 1.18 | 1.23 |
| 1 | L5 | 2363 | A2M | O3'-C3' | -2.94 | 1.35 | 1.43 |
| 48 | S2 | 34 | PSU | C2-N1 | 2.93 | 1.40 | 1.36 |
| 1 | L5 | 4220 | 6MZ | C2-N3 | 2.93 | 1.36 | 1.32 |
| 1 | L5 | 3944 | OMG | C8-N7 | -2.93 | 1.30 | 1.34 |
| 1 | L5 | 3637 | PSU | C2-N1 | 2.92 | 1.40 | 1.36 |
| 48 | S2 | 1136 | PSU | C2-N1 | 2.90 | 1.40 | 1.36 |
| 1 | L5 | 3770 | PSU | O4-C4 | -2.90 | 1.18 | 1.23 |
| 1 | L5 | 4431 | PSU | O4-C4 | -2.90 | 1.18 | 1.23 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 48 | S2 | 668 | A2M | C1'-N9 | -2.88 | 1.42 | 1.49 |
| 1 | L5 | 1534 | A2M | C1'-N9 | -2.87 | 1.42 | 1.49 |
| 1 | L5 | 400 | A2M | O3'-C3' | -2.87 | 1.35 | 1.43 |
| 1 | L5 | 1871 | A2M | C1'-N9 | -2.86 | 1.42 | 1.49 |
| 48 | S2 | 1447 | OMG | C8-N7 | -2.86 | 1.30 | 1.34 |
| 1 | L5 | 2424 | OMG | C5-C6 | -2.84 | 1.41 | 1.47 |
| 1 | L5 | 2363 | A2M | C1'-N9 | -2.82 | 1.43 | 1.49 |
| 5 | LB | 245 | HIC | CE1-ND1 | -2.81 | 1.30 | 1.34 |
| 48 | S2 | 1639 | G7M | C5-C6 | 2.81 | 1.52 | 1.45 |
| 48 | S2 | 815 | PSU | C2-N1 | 2.81 | 1.40 | 1.36 |
| 48 | S2 | 436 | OMG | C5-C6 | -2.81 | 1.41 | 1.47 |
| 1 | L5 | 4569 | PSU | C2-N1 | 2.80 | 1.40 | 1.36 |
| 1 | L5 | 3744 | OMG | C5-C6 | -2.80 | 1.41 | 1.47 |
| 48 | S2 | 1678 | A2M | O4'-C4' | -2.80 | 1.38 | 1.45 |
| 1 | L5 | 3884 | PSU | O4-C4 | -2.79 | 1.18 | 1.23 |
| 48 | S2 | 166 | A2M | O3'-C3' | -2.78 | 1.36 | 1.43 |
| 48 | S2 | 109 | PSU | O4-C4 | -2.78 | 1.18 | 1.23 |
| 1 | L5 | 1322 | 1MA | C5-C4 | -2.78 | 1.36 | 1.43 |
| 48 | S2 | 644 | OMG | C5-C6 | -2.77 | 1.42 | 1.47 |
| 48 | S2 | 576 | A2M | C1'-N9 | -2.77 | 1.43 | 1.49 |
| 72 | SX | 62 | HY3 | C4-C5 | 2.76 | 1.57 | 1.53 |
| 48 | S2 | 1328 | OMG | C5-C6 | -2.76 | 1.42 | 1.47 |
| 1 | L5 | 3715 | PSU | C2-N1 | 2.75 | 1.40 | 1.36 |
| 1 | L5 | 4972 | PSU | O4-C4 | -2.74 | 1.18 | 1.23 |
| 1 | L5 | 4312 | PSU | O4-C4 | -2.74 | 1.18 | 1.23 |
| 1 | L5 | 3867 | A2M | O4'-C4' | -2.73 | 1.38 | 1.45 |
| 1 | L5 | 5010 | PSU | C2-N1 | 2.73 | 1.40 | 1.36 |
| 1 | L5 | 4532 | PSU | O4-C4 | -2.72 | 1.18 | 1.23 |
| 1 | L5 | 1326 | A2M | O3'-C3' | -2.71 | 1.36 | 1.43 |
| 48 | S2 | 1238 | PSU | C2-N1 | 2.71 | 1.40 | 1.36 |
| 1 | L5 | 4636 | PSU | C2-N1 | 2.70 | 1.40 | 1.36 |
| 1 | L5 | 3884 | PSU | C2-N1 | 2.70 | 1.40 | 1.36 |
| 1 | L5 | 2815 | A2M | O4'-C4' | -2.70 | 1.39 | 1.45 |
| 48 | S2 | 468 | A2M | C1'-N9 | -2.70 | 1.43 | 1.49 |
| 48 | S2 | 1326 | UY1 | O4-C4 | -2.70 | 1.18 | 1.23 |
| 48 | S2 | 1490 | OMG | C5-C6 | -2.70 | 1.42 | 1.47 |
| 48 | S2 | 686 | PSU | O4-C4 | -2.69 | 1.18 | 1.23 |
| 48 | S2 | 601 | OMG | C5-C6 | -2.69 | 1.42 | 1.47 |
| 48 | S2 | 1447 | OMG | C5-C6 | -2.68 | 1.42 | 1.47 |
| 1 | L5 | 1536 | PSU | C2-N1 | 2.68 | 1.40 | 1.36 |
| 1 | L5 | 3729 | PSU | O4-C4 | -2.68 | 1.18 | 1.23 |
| 48 | S2 | 867 | OMG | C8-N7 | -2.67 | 1.30 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | L5 | 4590 | A2M | O5'-C5' | -2.67 | 1.36 | 1.44 |
| 1 | L5 | 4196 | OMG | C5-C6 | -2.67 | 1.42 | 1.47 |
| 1 | L5 | 3853 | PSU | O4-C4 | -2.67 | 1.18 | 1.23 |
| 1 | L5 | 4521 | PSU | C2-N1 | 2.67 | 1.40 | 1.36 |
| 1 | L5 | 4618 | OMG | C5-C6 | -2.66 | 1.42 | 1.47 |
| 1 | L5 | 4420 | PSU | C2-N1 | 2.65 | 1.40 | 1.36 |
| 1 | L5 | 3723 | A2M | O4'-C4' | -2.65 | 1.39 | 1.45 |
| 1 | L5 | 4392 | OMG | C5-C6 | -2.65 | 1.42 | 1.47 |
| 48 | S2 | 1004 | PSU | C2-N1 | 2.65 | 1.40 | 1.36 |
| 48 | S2 | 822 | PSU | O4'-C1' | -2.64 | 1.40 | 1.43 |
| 1 | L5 | 1860 | PSU | C2-N1 | 2.64 | 1.40 | 1.36 |
| 3 | L8 | 75 | OMG | C5-C6 | -2.64 | 1.42 | 1.47 |
| 1 | L5 | 3768 | PSU | C2-N1 | 2.64 | 1.40 | 1.36 |
| 1 | L5 | 4530 | UR3 | C6-N1 | 2.63 | 1.44 | 1.38 |
| 48 | S2 | 1243 | PSU | O4-C4 | -2.63 | 1.18 | 1.23 |
| 48 | S2 | 159 | A2M | C1'-N9 | -2.62 | 1.43 | 1.49 |
| 1 | L5 | 4637 | OMG | C5-C6 | -2.61 | 1.42 | 1.47 |
| 1 | L5 | 3760 | A2M | O4'-C4' | -2.61 | 1.39 | 1.45 |
| 1 | L5 | 3867 | A2M | O3'-C3' | -2.61 | 1.36 | 1.43 |
| 1 | L5 | 3792 | OMG | C5-C6 | -2.61 | 1.42 | 1.47 |
| 3 | L8 | 69 | PSU | O4-C4 | -2.61 | 1.18 | 1.23 |
| 1 | L5 | 4571 | A2M | O4'-C4' | -2.60 | 1.39 | 1.45 |
| 48 | S2 | 1445 | PSU | C2-N1 | 2.58 | 1.40 | 1.36 |
| 48 | S2 | 1031 | A2M | O3'-C3' | -2.57 | 1.36 | 1.43 |
| 1 | L5 | 1316 | OMG | C5-C6 | -2.56 | 1.42 | 1.47 |
| 48 | S2 | 1850 | MA6 | C2-N3 | 2.56 | 1.36 | 1.32 |
| 1 | L5 | 1677 | PSU | C2-N1 | 2.55 | 1.40 | 1.36 |
| 48 | S2 | 1625 | PSU | C2-N1 | 2.55 | 1.40 | 1.36 |
| 1 | L5 | 4227 | OMU | C2-N1 | 2.54 | 1.42 | 1.38 |
| 48 | S2 | 590 | A2M | C1'-N9 | -2.54 | 1.43 | 1.49 |
| 48 | S2 | 822 | PSU | C2-N1 | 2.54 | 1.40 | 1.36 |
| 48 | S2 | 99 | A2M | O5'-C5' | -2.54 | 1.36 | 1.44 |
| 48 | S2 | 1367 | PSU | C2-N1 | 2.53 | 1.40 | 1.36 |
| 48 | S2 | 681 | PSU | C2-N1 | 2.53 | 1.40 | 1.36 |
| 1 | L5 | 4579 | PSU | O4-C4 | -2.53 | 1.18 | 1.23 |
| 48 | S2 | 1174 | PSU | C2-N1 | 2.52 | 1.40 | 1.36 |
| 1 | L5 | 3724 | A2M | C1'-N9 | -2.52 | 1.43 | 1.49 |
| 48 | S2 | 1643 | PSU | O4-C4 | -2.52 | 1.18 | 1.23 |
| 48 | S2 | 683 | OMG | C5-C6 | -2.52 | 1.42 | 1.47 |
| 48 | S2 | 1326 | UY1 | O2-C2 | -2.52 | 1.18 | 1.23 |
| 1 | L5 | 2508 | PSU | C2-N1 | 2.50 | 1.39 | 1.36 |
| 48 | S2 | 576 | A2M | O3'-C3' | -2.50 | 1.36 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | L5 | 4521 | PSU | O4-C4 | -2.50 | 1.18 | 1.23 |
| 47 | Pt | 10 | 2MG | C6-N1 | 2.50 | 1.41 | 1.37 |
| 48 | S2 | 866 | PSU | C2-N1 | 2.50 | 1.39 | 1.36 |
| 1 | L5 | 4494 | OMG | C5-C6 | -2.49 | 1.42 | 1.47 |
| 48 | S2 | 573 | PSU | C2-N1 | 2.49 | 1.39 | 1.36 |
| 3 | L8 | 69 | PSU | C2-N1 | 2.49 | 1.39 | 1.36 |
| 48 | S2 | 1232 | PSU | C2-N1 | 2.49 | 1.39 | 1.36 |
| 1 | L5 | 3639 | PSU | C2-N1 | 2.48 | 1.39 | 1.36 |
| 1 | L5 | 4536 | OMC | C4-N3 | -2.48 | 1.29 | 1.34 |
| 48 | S2 | 686 | PSU | C2-N1 | 2.47 | 1.39 | 1.36 |
| 48 | S2 | 1851 | MA6 | C2-N3 | 2.47 | 1.35 | 1.32 |
| 48 | S2 | 509 | OMG | C5-C6 | -2.47 | 1.42 | 1.47 |
| 48 | S2 | 814 | PSU | C2-N1 | 2.46 | 1.39 | 1.36 |
| 48 | S2 | 668 | A2M | O3'-C3' | -2.46 | 1.36 | 1.43 |
| 48 | S2 | 1692 | PSU | C2-N1 | 2.46 | 1.39 | 1.36 |
| 47 | Pt | 13 | PSU | C2-N1 | 2.44 | 1.39 | 1.36 |
| 1 | L5 | 4571 | A2M | C1'-N9 | -2.44 | 1.43 | 1.49 |
| 48 | S2 | 609 | PSU | C2-N1 | 2.44 | 1.39 | 1.36 |
| 3 | L8 | 55 | PSU | C2-N1 | 2.44 | 1.39 | 1.36 |
| 48 | S2 | 649 | PSU | O4-C4 | -2.44 | 1.18 | 1.23 |
| 1 | L5 | 4442 | PSU | O4'-C1' | -2.43 | 1.40 | 1.43 |
| 1 | L5 | 4353 | PSU | C2-N1 | 2.43 | 1.39 | 1.36 |
| 48 | S2 | 918 | PSU | C2-N1 | 2.43 | 1.39 | 1.36 |
| 48 | S2 | 651 | PSU | O4-C4 | -2.43 | 1.19 | 1.23 |
| 1 | L5 | 2815 | A2M | C5'-C4' | 2.43 | 1.58 | 1.51 |
| 1 | L5 | 4442 | PSU | C2-N1 | 2.42 | 1.39 | 1.36 |
| 1 | L5 | 1340 | OMC | C4-N3 | -2.42 | 1.30 | 1.34 |
| 1 | L5 | 2843 | PSU | C6-N1 | 2.41 | 1.40 | 1.36 |
| 48 | S2 | 649 | PSU | C2-N1 | 2.40 | 1.39 | 1.36 |
| 1 | L5 | 4299 | PSU | O4-C4 | -2.40 | 1.19 | 1.23 |
| 48 | S2 | 867 | OMG | C5-C6 | -2.39 | 1.42 | 1.47 |
| 1 | L5 | 3627 | OMG | C5-C6 | -2.39 | 1.42 | 1.47 |
| 1 | L5 | 3944 | OMG | C5-C6 | -2.39 | 1.42 | 1.47 |
| 48 | S2 | 668 | A2M | O4'-C1' | -2.39 | 1.37 | 1.40 |
| 48 | S2 | 815 | PSU | O4-C4 | -2.39 | 1.19 | 1.23 |
| 1 | L5 | 3637 | PSU | C6-N1 | 2.39 | 1.40 | 1.36 |
| 1 | L5 | 4370 | OMG | C5-C6 | -2.38 | 1.42 | 1.47 |
| 1 | L5 | 4423 | PSU | O4-C4 | -2.38 | 1.19 | 1.23 |
| 47 | Pt | 54 | 2MU | C2'-C1' | 2.37 | 1.59 | 1.53 |
| 48 | S2 | 572 | PSU | C2-N1 | 2.36 | 1.39 | 1.36 |
| 48 | S2 | 1056 | PSU | C2-N1 | 2.36 | 1.39 | 1.36 |
| 1 | L5 | 4499 | OMG | C5-C6 | -2.35 | 1.42 | 1.47 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | L5 | 4531 | PSU | C2-N1 | 2.35 | 1.39 | 1.36 |
| 1 | L5 | 3920 | PSU | C2-N1 | 2.35 | 1.39 | 1.36 |
| 1 | L5 | 4523 | A2M | C1'-N9 | -2.35 | 1.44 | 1.49 |
| 72 | SX | 62 | HY3 | C5-N | 2.35 | 1.57 | 1.49 |
| 1 | L5 | 2364 | OMG | C5-C6 | -2.34 | 1.42 | 1.47 |
| 48 | S2 | 159 | A2M | O3'-C3' | -2.34 | 1.37 | 1.43 |
| 1 | L5 | 5001 | PSU | O4-C4 | -2.34 | 1.19 | 1.23 |
| 1 | L5 | 4420 | PSU | O4'-C1' | -2.33 | 1.40 | 1.43 |
| 1 | L5 | 4293 | PSU | C2-N1 | 2.33 | 1.39 | 1.36 |
| 48 | S2 | 1842 | 4AC | O7-C7 | -2.33 | 1.18 | 1.23 |
| 47 | Pt | 10 | 2MG | C5-C6 | -2.33 | 1.42 | 1.47 |
| 1 | L5 | 4569 | PSU | O4-C4 | -2.32 | 1.19 | 1.23 |
| 1 | L5 | 2422 | OMC | C4-N3 | -2.32 | 1.30 | 1.34 |
| 1 | L5 | 4228 | OMG | C5-C6 | -2.31 | 1.42 | 1.47 |
| 1 | L5 | 1792 | PSU | C2-N1 | 2.31 | 1.39 | 1.36 |
| 1 | L5 | 4353 | PSU | O4-C4 | -2.31 | 1.19 | 1.23 |
| 1 | L5 | 2824 | OMC | C4-N3 | -2.31 | 1.30 | 1.34 |
| 48 | S2 | 36 | PSU | O4-C4 | -2.31 | 1.19 | 1.23 |
| 1 | L5 | 3830 | A2M | O3'-C3' | -2.31 | 1.37 | 1.43 |
| 48 | S2 | 1136 | PSU | O4-C4 | -2.31 | 1.19 | 1.23 |
| 1 | L5 | 4500 | PSU | O4-C4 | -2.29 | 1.19 | 1.23 |
| 1 | L5 | 3723 | A2M | C1'-N9 | -2.29 | 1.44 | 1.49 |
| 48 | S2 | 1337 | 4AC | O7-C7 | -2.29 | 1.18 | 1.23 |
| 1 | L5 | 3760 | A2M | C2-N3 | 2.29 | 1.35 | 1.32 |
| 1 | L5 | 2632 | PSU | C2-N1 | 2.28 | 1.39 | 1.36 |
| 1 | L5 | 1781 | PSU | C2-N1 | 2.28 | 1.39 | 1.36 |
| 48 | S2 | 517 | OMC | C4-N3 | -2.27 | 1.30 | 1.34 |
| 1 | L5 | 4228 | OMG | C5-C4 | -2.27 | 1.37 | 1.43 |
| 1 | L5 | 3770 | PSU | C2-N1 | 2.27 | 1.39 | 1.36 |
| 48 | S2 | 1244 | PSU | C2-N1 | 2.26 | 1.39 | 1.36 |
| 1 | L5 | 3841 | OMC | C4-N3 | -2.25 | 1.30 | 1.34 |
| 1 | L5 | 4500 | PSU | C2-N1 | 2.25 | 1.39 | 1.36 |
| 1 | L5 | 1677 | PSU | O4-C4 | -2.24 | 1.19 | 1.23 |
| 1 | L5 | 3792 | OMG | C5-C4 | -2.24 | 1.37 | 1.43 |
| 1 | L5 | 3825 | A2M | C1'-N9 | -2.24 | 1.44 | 1.49 |
| 48 | S2 | 1445 | PSU | O4-C4 | -2.24 | 1.19 | 1.23 |
| 1 | L5 | 3718 | A2M | O3'-C3' | -2.23 | 1.37 | 1.43 |
| 48 | S2 | 1232 | PSU | O4-C4 | -2.23 | 1.19 | 1.23 |
| 1 | L5 | 4523 | A2M | O3'-C3' | -2.23 | 1.37 | 1.43 |
| 1 | L5 | 1677 | PSU | O4'-C1' | -2.23 | 1.40 | 1.43 |
| 48 | S2 | 1056 | PSU | O4-C4 | -2.22 | 1.19 | 1.23 |
| 48 | S2 | 27 | A2M | C1'-N9 | -2.22 | 1.44 | 1.49 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | L5 | 4296 | PSU | O4-C4 | -2.22 | 1.19 | 1.23 |
| 1 | L5 | 2839 | PSU | C6-N1 | 2.22 | 1.39 | 1.36 |
| 1 | L5 | 1524 | A2M | O3'-C3' | -2.22 | 1.37 | 1.43 |
| 1 | L5 | 1522 | OMG | C5-C6 | -2.22 | 1.43 | 1.47 |
| 48 | S2 | 966 | PSU | C2-N1 | 2.21 | 1.39 | 1.36 |
| 1 | L5 | 3818 | UY1 | O4'-C1' | -2.21 | 1.40 | 1.43 |
| 48 | S2 | 468 | A2M | O4'-C4' | -2.21 | 1.40 | 1.45 |
| 1 | L5 | 4196 | OMG | C5-C4 | -2.21 | 1.37 | 1.43 |
| 1 | L5 | 4623 | OMG | C5-C6 | -2.21 | 1.43 | 1.47 |
| 48 | S2 | 1842 | 4AC | CM7-C7 | 2.21 | 1.55 | 1.50 |
| 1 | L5 | 4637 | OMG | C5-C4 | -2.20 | 1.37 | 1.43 |
| 1 | L5 | 1534 | A2M | O3'-C3' | -2.20 | 1.37 | 1.43 |
| 1 | L5 | 2815 | A2M | O5'-C5' | -2.20 | 1.37 | 1.44 |
| 48 | S2 | 1081 | PSU | C4-N3 | 2.20 | 1.43 | 1.38 |
| 1 | L5 | 398 | A2M | O4'-C1' | 2.20 | 1.43 | 1.40 |
| 48 | S2 | 1239 | PSU | O4'-C1' | -2.20 | 1.40 | 1.43 |
| 48 | S2 | 512 | A2M | O3'-C3' | -2.20 | 1.37 | 1.43 |
| 1 | L5 | 4499 | OMG | C5-C4 | -2.19 | 1.37 | 1.43 |
| 1 | L5 | 1782 | PSU | O4-C4 | -2.19 | 1.19 | 1.23 |
| 48 | S2 | 572 | PSU | O4'-C1' | -2.19 | 1.40 | 1.43 |
| 1 | L5 | 400 | A2M | O4'-C4' | -2.19 | 1.40 | 1.45 |
| 1 | L5 | 2876 | OMG | C5-C4 | -2.19 | 1.37 | 1.43 |
| 1 | L5 | 1522 | OMG | C5-C4 | -2.18 | 1.37 | 1.43 |
| 1 | L5 | 4493 | PSU | C2-N1 | 2.18 | 1.39 | 1.36 |
| 1 | L5 | 4431 | PSU | C2-N1 | 2.18 | 1.39 | 1.36 |
| 1 | L5 | 3695 | PSU | O4-C4 | -2.18 | 1.19 | 1.23 |
| 1 | L5 | 1316 | OMG | C5-C4 | -2.18 | 1.37 | 1.43 |
| 1 | L5 | 3887 | OMC | C4-N3 | -2.17 | 1.30 | 1.34 |
| 48 | S2 | 601 | OMG | C5-C4 | -2.17 | 1.37 | 1.43 |
| 1 | L5 | 3853 | PSU | C6-N1 | 2.17 | 1.39 | 1.36 |
| 1 | L5 | 3762 | PSU | C2-N1 | 2.17 | 1.39 | 1.36 |
| 1 | L5 | 3758 | PSU | C2-N1 | 2.16 | 1.39 | 1.36 |
| 3 | L8 | 75 | OMG | C5-C4 | -2.16 | 1.37 | 1.43 |
| 1 | L5 | 3627 | OMG | C5-C4 | -2.16 | 1.37 | 1.43 |
| 48 | S2 | 93 | PSU | C2-N1 | 2.15 | 1.39 | 1.36 |
| 48 | S2 | 1239 | PSU | O4-C4 | -2.14 | 1.19 | 1.23 |
| 1 | L5 | 1744 | PSU | C2-N1 | 2.13 | 1.39 | 1.36 |
| 48 | S2 | 509 | OMG | C5-C4 | -2.13 | 1.37 | 1.43 |
| 1 | L5 | 4618 | OMG | C5-C4 | -2.13 | 1.37 | 1.43 |
| 48 | S2 | 1328 | OMG | C5-C4 | -2.13 | 1.37 | 1.43 |
| 48 | S2 | 1643 | PSU | O4'-C1' | -2.13 | 1.40 | 1.43 |
| 1 | L5 | 4471 | PSU | C2-N1 | 2.12 | 1.39 | 1.36 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | L5 | 4420 | PSU | C2-N3 | 2.12 | 1.41 | 1.37 |
| 48 | S2 | 918 | PSU | O4'-C1' | -2.11 | 1.40 | 1.43 |
| 1 | L5 | 3830 | A2M | O4'-C4' | -2.11 | 1.40 | 1.45 |
| 48 | S2 | 436 | OMG | C5-C4 | -2.11 | 1.37 | 1.43 |
| 48 | S2 | 1177 | PSU | C2-N1 | 2.11 | 1.39 | 1.36 |
| 48 | S2 | 1337 | 4AC | CM7-C7 | 2.10 | 1.54 | 1.50 |
| 1 | L5 | 4689 | PSU | C2-N1 | 2.10 | 1.39 | 1.36 |
| 1 | L5 | 2364 | OMG | C5-C4 | -2.10 | 1.37 | 1.43 |
| 48 | S2 | 1703 | OMC | C4-N3 | -2.09 | 1.30 | 1.34 |
| 1 | L5 | 3744 | OMG | C5-C4 | -2.09 | 1.38 | 1.43 |
| 1 | L5 | 1881 | OMC | C4-N3 | -2.09 | 1.30 | 1.34 |
| 1 | L5 | 3841 | OMC | O2-C2 | -2.09 | 1.19 | 1.23 |
| 1 | L5 | 1326 | A2M | C8-N7 | -2.09 | 1.30 | 1.34 |
| 1 | L5 | 1340 | OMC | O2-C2 | -2.09 | 1.19 | 1.23 |
| 48 | S2 | 1490 | OMG | C5-C4 | -2.08 | 1.38 | 1.43 |
| 1 | L5 | 3724 | A2M | O4'-C4' | -2.08 | 1.40 | 1.45 |
| 48 | S2 | 1081 | PSU | O4'-C1' | -2.08 | 1.41 | 1.43 |
| 48 | S2 | 34 | PSU | C4-N3 | 2.08 | 1.42 | 1.38 |
| 1 | L5 | 1524 | A2M | O4'-C4' | -2.08 | 1.40 | 1.45 |
| 1 | L5 | 4530 | UR3 | C5-C4 | 2.08 | 1.49 | 1.43 |
| 48 | S2 | 1692 | PSU | O4-C4 | -2.08 | 1.19 | 1.23 |
| 1 | L5 | 4296 | PSU | O4'-C1' | -2.08 | 1.41 | 1.43 |
| 47 | Pt | 55 | PSU | O4'-C1' | -2.08 | 1.41 | 1.43 |
| 1 | L5 | 4457 | PSU | C6-N1 | 2.08 | 1.39 | 1.36 |
| 1 | L5 | 3867 | A2M | C1'-N9 | -2.07 | 1.44 | 1.49 |
| 1 | L5 | 3701 | OMC | C4-N3 | -2.07 | 1.30 | 1.34 |
| 1 | L5 | 4361 | PSU | C2-N1 | 2.07 | 1.39 | 1.36 |
| 48 | S2 | 1447 | OMG | C5-C4 | -2.07 | 1.38 | 1.43 |
| 1 | L5 | 2424 | OMG | C5-C4 | -2.06 | 1.38 | 1.43 |
| 48 | S2 | 1639 | G7M | O6-C6 | -2.06 | 1.18 | 1.23 |
| 1 | L5 | 1625 | OMG | C5-C4 | -2.06 | 1.38 | 1.43 |
| 48 | S2 | 1842 | 4AC | C4-N4 | 2.06 | 1.43 | 1.39 |
| 1 | L5 | 3925 | OMU | O4-C4 | -2.06 | 1.20 | 1.24 |
| 3 | L8 | 14 | OMU | O4-C4 | -2.06 | 1.20 | 1.24 |
| 48 | S2 | 1832 | 6MZ | O2'-C2' | 2.06 | 1.48 | 1.43 |
| 1 | L5 | 4590 | A2M | C1'-N9 | -2.05 | 1.44 | 1.49 |
| 48 | S2 | 1391 | OMC | C4-N3 | -2.05 | 1.30 | 1.34 |
| 1 | L5 | 4392 | OMG | C5-C4 | -2.05 | 1.38 | 1.43 |
| 48 | S2 | 1031 | A2M | C1'-N9 | -2.05 | 1.44 | 1.49 |
| 48 | S2 | 683 | OMG | C5-C4 | -2.05 | 1.38 | 1.43 |
| 1 | L5 | 1881 | OMC | O2-C2 | -2.05 | 1.19 | 1.23 |
| 47 | Pt | 13 | PSU | O4'-C1' | -2.04 | 1.41 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | L5 | 3734 | PSU | C2-N1 | 2.04 | 1.39 | 1.36 |
| 1 | L5 | 4628 | PSU | O4'-C1' | -2.04 | 1.41 | 1.43 |
| 48 | S2 | 815 | PSU | C6-N1 | 2.03 | 1.39 | 1.36 |
| 1 | L5 | 4523 | A2M | O4'-C4' | -2.03 | 1.40 | 1.45 |
| 1 | L5 | 4530 | UR3 | O2-C2 | -2.03 | 1.18 | 1.22 |
| 1 | L5 | 4456 | OMC | O2-C2 | -2.03 | 1.19 | 1.23 |
| 1 | L5 | 3785 | A2M | O4'-C4' | -2.02 | 1.40 | 1.45 |
| 1 | L5 | 1779 | PSU | C2-N1 | 2.02 | 1.39 | 1.36 |
| 1 | L5 | 1534 | A2M | C8-N7 | -2.02 | 1.31 | 1.34 |
| 48 | S2 | 1081 | PSU | C2-N1 | 2.02 | 1.39 | 1.36 |
| 48 | S2 | 1383 | A2M | O3'-C3' | -2.02 | 1.38 | 1.43 |
| 1 | L5 | 4623 | OMG | C5-C4 | -2.02 | 1.38 | 1.43 |
| 1 | L5 | 4569 | PSU | O4'-C1' | -2.01 | 1.41 | 1.43 |
| 1 | L5 | 4569 | PSU | C4-N3 | 2.01 | 1.42 | 1.38 |
| 48 | S2 | 166 | A2M | C1'-N9 | -2.01 | 1.45 | 1.49 |
| 1 | L5 | 4420 | PSU | C6-N1 | 2.01 | 1.39 | 1.36 |
| 48 | S2 | 406 | PSU | C2-N1 | 2.01 | 1.39 | 1.36 |
| 48 | S2 | 644 | OMG | C5-C4 | -2.00 | 1.38 | 1.43 |
| 1 | L5 | 1625 | OMG | C5-C6 | -2.00 | 1.43 | 1.47 |

All (762) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | S2 | 1850 | MA6 | N1-C6-N6 | -9.07 | 106.35 | 116.83 |
| 48 | S2 | 1851 | MA6 | N1-C6-N6 | -8.82 | 106.64 | 116.83 |
| 48 | S2 | 1832 | 6MZ | C9-N6-C6 | -7.92 | 115.51 | 122.85 |
| 48 | S2 | 1850 | MA6 | N3-C2-N1 | -7.13 | 118.99 | 128.67 |
| 48 | S2 | 1851 | MA6 | N3-C2-N1 | -6.62 | 119.69 | 128.67 |
| 1 | L5 | 3785 | A2M | C4'-O4'-C1' | -6.54 | 103.94 | 109.92 |
| 1 | L5 | 4531 | PSU | C6-C5-C4 | 6.51 | 122.57 | 118.17 |
| 48 | S2 | 1832 | 6MZ | N3-C2-N1 | -6.46 | 119.90 | 128.67 |
| 1 | L5 | 4220 | 6MZ | N3-C2-N1 | -5.98 | 120.56 | 128.67 |
| 1 | L5 | 3818 | UY1 | C4-N3-C2 | -5.96 | 118.16 | 126.37 |
| 1 | L5 | 4530 | UR3 | C4-N3-C2 | -5.96 | 119.78 | 124.58 |
| 1 | L5 | 3760 | A2M | C4'-O4'-C1' | -5.65 | 104.75 | 109.92 |
| 1 | L5 | 3818 | UY1 | C6-C5-C4 | 5.53 | 121.91 | 118.17 |
| 1 | L5 | 3818 | UY1 | N1-C2-N3 | 5.46 | 120.93 | 115.17 |
| 47 | Pt | 54 | 2MU | C6-C5-C4 | 5.46 | 122.52 | 118.02 |
| 1 | L5 | 4220 | 6MZ | C9-N6-C6 | 5.28 | 127.74 | 122.85 |
| 48 | S2 | 866 | PSU | C6-C5-C4 | 5.21 | 121.69 | 118.17 |
| 48 | S2 | 576 | A2M | C4'-O4'-C1' | -5.14 | 105.22 | 109.92 |
| 48 | S2 | 1326 | UY1 | C4-N3-C2 | -5.06 | 119.40 | 126.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | S2 | 512 | A2M | C4'-O4'-C1' | -5.06 | 105.29 | 109.92 |
| 1 | L5 | 1524 | A2M | C4'-O4'-C1' | -5.05 | 105.30 | 109.92 |
| 1 | L5 | 3851 | PSU | C6-C5-C4 | 5.03 | 121.57 | 118.17 |
| 48 | S2 | 1851 | MA6 | C1'-N9-C4 | -5.02 | 117.82 | 126.64 |
| 48 | S2 | 1326 | UY1 | N1-C2-N3 | 5.00 | 120.44 | 115.17 |
| 1 | L5 | 5001 | PSU | C6-C5-C4 | 4.93 | 121.50 | 118.17 |
| 48 | S2 | 1056 | PSU | C6-C5-C4 | 4.86 | 121.45 | 118.17 |
| 48 | S2 | 1326 | UY1 | C6-C5-C4 | 4.78 | 121.40 | 118.17 |
| 1 | L5 | 4431 | PSU | C6-C5-C4 | 4.77 | 121.39 | 118.17 |
| 48 | S2 | 801 | PSU | C6-C5-C4 | 4.76 | 121.39 | 118.17 |
| 1 | L5 | 3884 | PSU | C6-C5-C4 | 4.75 | 121.38 | 118.17 |
| 48 | S2 | 590 | A2M | C4'-O4'-C1' | -4.74 | 105.58 | 109.92 |
| 1 | L5 | 3729 | PSU | C6-C5-C4 | 4.68 | 121.33 | 118.17 |
| 1 | L5 | 4442 | PSU | C6-C5-C4 | 4.65 | 121.31 | 118.17 |
| 1 | L5 | 1326 | A2M | C4'-O4'-C1' | -4.62 | 105.69 | 109.92 |
| 47 | Pt | 55 | PSU | C6-C5-C4 | 4.60 | 121.28 | 118.17 |
| 1 | L5 | 4296 | PSU | C6-C5-C4 | 4.60 | 121.28 | 118.17 |
| 48 | S2 | 572 | PSU | C6-C5-C4 | 4.57 | 121.26 | 118.17 |
| 48 | S2 | 1136 | PSU | C6-C5-C4 | 4.55 | 121.25 | 118.17 |
| 48 | S2 | 1239 | PSU | C6-C5-C4 | 4.48 | 121.20 | 118.17 |
| 47 | Pt | 10 | 2MG | CM2-N2-C2 | -4.46 | 114.06 | 123.65 |
| 48 | S2 | 109 | PSU | C6-C5-C4 | 4.46 | 121.18 | 118.17 |
| 48 | S2 | 1238 | PSU | C6-C5-C4 | 4.46 | 121.18 | 118.17 |
| 48 | S2 | 1367 | PSU | C6-C5-C4 | 4.45 | 121.18 | 118.17 |
| 48 | S2 | 159 | A2M | C4'-O4'-C1' | -4.45 | 105.85 | 109.92 |
| 48 | S2 | 573 | PSU | C6-C5-C4 | 4.44 | 121.17 | 118.17 |
| 1 | L5 | 4500 | PSU | C6-C5-C4 | 4.43 | 121.16 | 118.17 |
| 1 | L5 | 3715 | PSU | C6-C5-C4 | 4.42 | 121.16 | 118.17 |
| 48 | S2 | 918 | PSU | C6-C5-C4 | 4.40 | 121.14 | 118.17 |
| 48 | S2 | 1850 | MA6 | C1'-N9-C4 | -4.36 | 118.98 | 126.64 |
| 48 | S2 | 468 | A2M | C4'-O4'-C1' | -4.35 | 105.94 | 109.92 |
| 48 | S2 | 1445 | PSU | C6-C5-C4 | 4.34 | 121.11 | 118.17 |
| 1 | L5 | 3734 | PSU | C6-C5-C4 | 4.33 | 121.10 | 118.17 |
| 1 | L5 | 1860 | PSU | C6-C5-C4 | 4.28 | 121.06 | 118.17 |
| 48 | S2 | 159 | A2M | C1'-N9-C4 | -4.26 | 119.15 | 126.64 |
| 48 | S2 | 36 | PSU | C6-C5-C4 | 4.24 | 121.04 | 118.17 |
| 48 | S2 | 166 | A2M | C4'-O4'-C1' | -4.23 | 106.05 | 109.92 |
| 1 | L5 | 2839 | PSU | C6-C5-C4 | 4.20 | 121.01 | 118.17 |
| 48 | S2 | 651 | PSU | C6-C5-C4 | 4.19 | 121.00 | 118.17 |
| 1 | L5 | 4530 | UR3 | C6-N1-C2 | -4.19 | 118.38 | 121.80 |
| 48 | S2 | 1383 | A2M | C4'-O4'-C1' | -4.17 | 106.11 | 109.92 |
| 47 | Pt | 13 | PSU | C6-C5-C4 | 4.16 | 120.98 | 118.17 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | S2 | 105 | PSU | C6-C5-C4 | 4.15 | 120.97 | 118.17 |
| 48 | S2 | 1244 | PSU | C6-C5-C4 | 4.13 | 120.96 | 118.17 |
| 1 | L5 | 3768 | PSU | C6-C5-C4 | 4.08 | 120.93 | 118.17 |
| 1 | L5 | 4353 | PSU | C6-C5-C4 | 4.07 | 120.92 | 118.17 |
| 1 | L5 | 4673 | PSU | C6-C5-C4 | 4.02 | 120.89 | 118.17 |
| 1 | L5 | 4579 | PSU | C6-C5-C4 | 4.02 | 120.89 | 118.17 |
| 48 | S2 | 1383 | A2M | C3'-C2'-C1' | -4.02 | 95.12 | 102.81 |
| 48 | S2 | 1347 | PSU | C6-C5-C4 | 4.01 | 120.88 | 118.17 |
| 47 | Pt | 10 | 2MG | N1-C2-N2 | -4.00 | 112.47 | 116.56 |
| 1 | L5 | 3920 | PSU | C6-C5-C4 | 4.00 | 120.88 | 118.17 |
| 48 | S2 | 686 | PSU | C6-C5-C4 | 3.97 | 120.85 | 118.17 |
| 48 | S2 | 1232 | PSU | C6-C5-C4 | 3.97 | 120.85 | 118.17 |
| 3 | L8 | 69 | PSU | C6-C5-C4 | 3.95 | 120.84 | 118.17 |
| 48 | S2 | 649 | PSU | C6-C5-C4 | 3.92 | 120.82 | 118.17 |
| 1 | L5 | 3724 | A2M | C1'-N9-C4 | -3.92 | 119.76 | 126.64 |
| 1 | L5 | 1534 | A2M | C4'-O4'-C1' | -3.90 | 106.35 | 109.92 |
| 1 | L5 | 1862 | PSU | C6-C5-C4 | 3.88 | 120.79 | 118.17 |
| 1 | L5 | 1534 | A2M | C3'-C2'-C1' | -3.87 | 95.39 | 102.81 |
| 47 | Pt | 20 | H2U | C5-C4-N3 | -3.87 | 112.57 | 116.69 |
| 1 | L5 | 2363 | A2M | C1'-N9-C4 | -3.87 | 119.85 | 126.64 |
| 1 | L5 | 4420 | PSU | C6-C5-C4 | 3.85 | 120.77 | 118.17 |
| 1 | L5 | 1779 | PSU | C6-C5-C4 | 3.85 | 120.77 | 118.17 |
| 1 | L5 | 4689 | PSU | C6-C5-C4 | 3.84 | 120.77 | 118.17 |
| 48 | S2 | 1850 | MA6 | C2-N1-C6 | 3.84 | 120.60 | 116.84 |
| 1 | L5 | 4628 | PSU | C6-C5-C4 | 3.83 | 120.76 | 118.17 |
| 48 | S2 | 1643 | PSU | C6-C5-C4 | 3.83 | 120.76 | 118.17 |
| 48 | S2 | 27 | A2M | C1'-N9-C4 | -3.83 | 119.92 | 126.64 |
| 48 | S2 | 815 | PSU | C6-C5-C4 | 3.82 | 120.75 | 118.17 |
| 48 | S2 | 27 | A2M | C4'-O4'-C1' | -3.82 | 106.43 | 109.92 |
| 1 | L5 | 4447 | 5MC | C5-C6-N1 | -3.81 | 119.17 | 123.31 |
| 1 | L5 | 2363 | A2M | C4'-O4'-C1' | -3.81 | 106.44 | 109.92 |
| 1 | L5 | 1781 | PSU | C6-C5-C4 | 3.80 | 120.74 | 118.17 |
| 48 | S2 | 93 | PSU | C6-C5-C4 | 3.80 | 120.74 | 118.17 |
| 1 | L5 | 3782 | 5MC | C5-C6-N1 | -3.80 | 119.19 | 123.31 |
| 48 | S2 | 296 | PSU | C6-C5-C4 | 3.80 | 120.73 | 118.17 |
| 48 | S2 | 966 | PSU | C6-C5-C4 | 3.79 | 120.73 | 118.17 |
| 48 | S2 | 1177 | PSU | C6-C5-C4 | 3.78 | 120.72 | 118.17 |
| 1 | L5 | 3764 | PSU | O4-C4-N3 | -3.76 | 113.03 | 120.11 |
| 1 | L5 | 4423 | PSU | C6-C5-C4 | 3.76 | 120.71 | 118.17 |
| 1 | L5 | 4403 | PSU | C6-C5-C4 | 3.75 | 120.70 | 118.17 |
| 1 | L5 | 5010 | PSU | C6-C5-C4 | 3.74 | 120.70 | 118.17 |
| 48 | S2 | 1031 | A2M | C4'-O4'-C1' | -3.72 | 106.52 | 109.92 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 1871 | A2M | C4'-O4'-C1' | -3.72 | 106.52 | 109.92 |
| 48 | S2 | 166 | A2M | O3'-C3'-C2' | 3.71 | 121.58 | 111.19 |
| 48 | S2 | 1243 | PSU | C6-C5-C4 | 3.71 | 120.68 | 118.17 |
| 1 | L5 | 3830 | A2M | C4'-O4'-C1' | -3.71 | 106.53 | 109.92 |
| 48 | S2 | 166 | A2M | C3'-C2'-C1' | -3.71 | 95.71 | 102.81 |
| 1 | L5 | 4521 | PSU | C6-C5-C4 | 3.70 | 120.67 | 118.17 |
| 1 | L5 | 3758 | PSU | C6-C5-C4 | 3.68 | 120.66 | 118.17 |
| 1 | L5 | 4220 | 6MZ | C2-N1-C6 | 3.68 | 119.45 | 116.60 |
| 47 | Pt | 10 | 2MG | O6-C6-C5 | 3.68 | 131.61 | 124.32 |
| 1 | L5 | 3760 | A2M | C1'-N9-C4 | -3.68 | 120.18 | 126.64 |
| 48 | S2 | 34 | PSU | C6-C5-C4 | 3.67 | 120.65 | 118.17 |
| 1 | L5 | 3718 | A2M | C4'-O4'-C1' | -3.67 | 106.57 | 109.92 |
| 47 | Pt | 54 | 2MU | C4-N3-C2 | -3.65 | 122.56 | 127.34 |
| 48 | S2 | 99 | A2M | C4'-O4'-C1' | -3.62 | 106.61 | 109.92 |
| 1 | L5 | 3723 | A2M | C1'-N9-C4 | -3.62 | 120.29 | 126.64 |
| 1 | L5 | 1744 | PSU | C6-C5-C4 | 3.61 | 120.61 | 118.17 |
| 1 | L5 | 3785 | A2M | O4'-C1'-N9 | 3.60 | 113.52 | 108.75 |
| 1 | L5 | 3760 | A2M | C3'-C2'-C1' | -3.58 | 95.95 | 102.81 |
| 3 | L8 | 55 | PSU | C6-C5-C4 | 3.58 | 120.59 | 118.17 |
| 1 | L5 | 1536 | PSU | O4-C4-N3 | -3.58 | 113.39 | 120.11 |
| 1 | L5 | 3770 | PSU | C6-C5-C4 | 3.58 | 120.59 | 118.17 |
| 48 | S2 | 1625 | PSU | C6-C5-C4 | 3.57 | 120.58 | 118.17 |
| 48 | S2 | 1678 | A2M | C4'-O4'-C1' | -3.57 | 106.66 | 109.92 |
| 48 | S2 | 1851 | MA6 | C2-N1-C6 | 3.56 | 120.33 | 116.84 |
| 1 | L5 | 1677 | PSU | C4-N3-C2 | -3.56 | 121.47 | 126.37 |
| 48 | S2 | 814 | PSU | C6-C5-C4 | 3.55 | 120.57 | 118.17 |
| 1 | L5 | 4471 | PSU | C6-C5-C4 | 3.55 | 120.57 | 118.17 |
| 1 | L5 | 4552 | PSU | C6-C5-C4 | 3.53 | 120.56 | 118.17 |
| 48 | S2 | 512 | A2M | C1'-N9-C4 | -3.53 | 120.43 | 126.64 |
| 47 | Pt | 54 | 2MU | C5-C6-N1 | -3.53 | 119.48 | 123.31 |
| 1 | L5 | 4299 | PSU | C6-C5-C4 | 3.53 | 120.56 | 118.17 |
| 1 | L5 | 1782 | PSU | C6-C5-C4 | 3.53 | 120.55 | 118.17 |
| 1 | L5 | 4498 | OMU | C4-N3-C2 | -3.50 | 122.26 | 126.61 |
| 1 | L5 | 4523 | A2M | C4'-O4'-C1' | -3.50 | 106.72 | 109.92 |
| 48 | S2 | 105 | PSU | C4-N3-C2 | -3.48 | 121.57 | 126.37 |
| 1 | L5 | 4293 | PSU | C6-C5-C4 | 3.48 | 120.52 | 118.17 |
| 1 | L5 | 3851 | PSU | C4-N3-C2 | -3.47 | 121.59 | 126.37 |
| 48 | S2 | 822 | PSU | C6-C5-C4 | 3.46 | 120.51 | 118.17 |
| 48 | S2 | 218 | PSU | C6-C5-C4 | 3.45 | 120.50 | 118.17 |
| 48 | S2 | 576 | A2M | C1'-N9-C4 | -3.45 | 120.57 | 126.64 |
| 1 | L5 | 4361 | PSU | C4-N3-C2 | -3.45 | 121.61 | 126.37 |
| 48 | S2 | 1326 | UY1 | C6-N1-C2 | -3.45 | 119.49 | 122.69 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | S2 | 159 | A2M | O3'-C3'-C2' | 3.44 | 120.82 | 111.19 |
| 1 | L5 | 398 | A2M | C4'-O4'-C1' | -3.44 | 106.77 | 109.92 |
| 1 | L5 | 2843 | PSU | C6-C5-C4 | 3.44 | 120.50 | 118.17 |
| 1 | L5 | 1744 | PSU | C4-N3-C2 | -3.43 | 121.65 | 126.37 |
| 1 | L5 | 4576 | PSU | C6-C5-C4 | 3.42 | 120.48 | 118.17 |
| 1 | L5 | 1782 | PSU | C4-N3-C2 | -3.42 | 121.66 | 126.37 |
| 1 | L5 | 3818 | UY1 | O2-C2-N1 | -3.41 | 119.27 | 122.79 |
| 1 | L5 | 3853 | PSU | O4-C4-N3 | -3.41 | 113.71 | 120.11 |
| 48 | S2 | 159 | A2M | O4'-C1'-C2' | 3.40 | 112.41 | 106.61 |
| 48 | S2 | 609 | PSU | C6-C5-C4 | 3.40 | 120.47 | 118.17 |
| 1 | L5 | 4628 | PSU | C4-N3-C2 | -3.39 | 121.69 | 126.37 |
| 48 | S2 | 1678 | A2M | C1'-N9-C4 | -3.39 | 120.68 | 126.64 |
| 48 | S2 | 1243 | PSU | C4-N3-C2 | -3.39 | 121.70 | 126.37 |
| 1 | L5 | 4471 | PSU | C4-N3-C2 | -3.39 | 121.71 | 126.37 |
| 48 | S2 | 863 | PSU | C4-N3-C2 | -3.37 | 121.73 | 126.37 |
| 1 | L5 | 4493 | PSU | C6-C5-C4 | 3.36 | 120.44 | 118.17 |
| 48 | S2 | 801 | PSU | C4-N3-C2 | -3.36 | 121.74 | 126.37 |
| 1 | L5 | 1792 | PSU | O4-C4-N3 | -3.36 | 113.80 | 120.11 |
| 1 | L5 | 4447 | 5MC | C1'-N1-C6 | 3.36 | 126.68 | 121.15 |
| 48 | S2 | 1639 | G7M | C2-N1-C6 | -3.35 | 118.97 | 125.11 |
| 1 | L5 | 1536 | PSU | C4-N3-C2 | -3.35 | 121.76 | 126.37 |
| 1 | L5 | 4227 | OMU | O4-C4-N3 | -3.35 | 114.42 | 119.27 |
| 48 | S2 | 166 | A2M | C1'-N9-C4 | -3.34 | 120.77 | 126.64 |
| 1 | L5 | 5001 | PSU | C4-N3-C2 | -3.34 | 121.77 | 126.37 |
| 1 | L5 | 4569 | PSU | C6-C5-C4 | 3.34 | 120.43 | 118.17 |
| 1 | L5 | 1677 | PSU | O4-C4-N3 | -3.33 | 113.85 | 120.11 |
| 48 | S2 | 1232 | PSU | C4-N3-C2 | -3.32 | 121.79 | 126.37 |
| 1 | L5 | 4531 | PSU | C4-N3-C2 | -3.32 | 121.80 | 126.37 |
| 1 | L5 | 3715 | PSU | C4-N3-C2 | -3.31 | 121.81 | 126.37 |
| 1 | L5 | 4312 | PSU | C4-N3-C2 | -3.30 | 121.82 | 126.37 |
| 1 | L5 | 4972 | PSU | C6-C5-C4 | 3.30 | 120.40 | 118.17 |
| 1 | L5 | 3770 | PSU | C4-N3-C2 | -3.29 | 121.83 | 126.37 |
| 1 | L5 | 2508 | PSU | C6-C5-C4 | 3.29 | 120.40 | 118.17 |
| 1 | L5 | 1683 | PSU | C4-N3-C2 | -3.29 | 121.84 | 126.37 |
| 1 | L5 | 3844 | PSU | C6-C5-C4 | 3.29 | 120.39 | 118.17 |
| 48 | S2 | 1136 | PSU | C4-N3-C2 | -3.29 | 121.84 | 126.37 |
| 1 | L5 | 2632 | PSU | C6-C5-C4 | 3.28 | 120.39 | 118.17 |
| 1 | L5 | 4296 | PSU | C4-N3-C2 | -3.28 | 121.86 | 126.37 |
| 1 | L5 | 3768 | PSU | C4-N3-C2 | -3.27 | 121.86 | 126.37 |
| 48 | S2 | 686 | PSU | C4-N3-C2 | -3.27 | 121.86 | 126.37 |
| 48 | S2 | 468 | A2M | C3'-C2'-C1' | -3.27 | 96.55 | 102.81 |
| 1 | L5 | 4530 | UR3 | C5-C4-N3 | 3.27 | 119.34 | 115.04 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 4532 | PSU | O4-C4-N3 | -3.26 | 113.99 | 120.11 |
| 48 | S2 | 1625 | PSU | C4-N3-C2 | -3.26 | 121.88 | 126.37 |
| 48 | S2 | 1692 | PSU | C4-N3-C2 | -3.24 | 121.91 | 126.37 |
| 48 | S2 | 1004 | PSU | C6-C5-C4 | 3.24 | 120.36 | 118.17 |
| 1 | L5 | 3723 | A2M | C4'-O4'-C1' | -3.24 | 106.96 | 109.92 |
| 1 | L5 | 4442 | PSU | C4-N3-C2 | -3.23 | 121.92 | 126.37 |
| 1 | L5 | 1683 | PSU | O4-C4-N3 | -3.23 | 114.04 | 120.11 |
| 1 | L5 | 2815 | A2M | C1'-N9-C4 | -3.23 | 120.97 | 126.64 |
| 48 | S2 | 1804 | OMU | O4-C4-N3 | -3.22 | 114.60 | 119.27 |
| 1 | L5 | 4293 | PSU | C4-N3-C2 | -3.22 | 121.94 | 126.37 |
| 1 | L5 | 2843 | PSU | O4-C4-N3 | -3.22 | 114.06 | 120.11 |
| 48 | S2 | 109 | PSU | C4-N3-C2 | -3.22 | 121.94 | 126.37 |
| 48 | S2 | 1081 | PSU | C4-N3-C2 | -3.21 | 121.94 | 126.37 |
| 1 | L5 | 4579 | PSU | C4-N3-C2 | -3.21 | 121.95 | 126.37 |
| 1 | L5 | 4431 | PSU | C4-N3-C2 | -3.21 | 121.95 | 126.37 |
| 1 | L5 | 3695 | PSU | C6-C5-C4 | 3.20 | 120.33 | 118.17 |
| 1 | L5 | 3825 | A2M | C4'-O4'-C1' | -3.20 | 106.99 | 109.92 |
| 48 | S2 | 609 | PSU | C4-N3-C2 | -3.20 | 121.96 | 126.37 |
| 48 | S2 | 668 | A2M | C1'-N9-C4 | -3.20 | 121.02 | 126.64 |
| 48 | S2 | 572 | PSU | C4-N3-C2 | -3.20 | 121.96 | 126.37 |
| 1 | L5 | 4500 | PSU | C4-N3-C2 | -3.20 | 121.96 | 126.37 |
| 1 | L5 | 4220 | 6MZ | C6-C5-C4 | 3.20 | 121.07 | 117.68 |
| 1 | L5 | 4571 | A2M | C4'-O4'-C1' | -3.20 | 107.00 | 109.92 |
| 1 | L5 | 3764 | PSU | C4-N3-C2 | -3.19 | 121.97 | 126.37 |
| 1 | L5 | 1860 | PSU | C4-N3-C2 | -3.19 | 121.98 | 126.37 |
| 1 | L5 | 4293 | PSU | O4-C4-N3 | -3.19 | 114.12 | 120.11 |
| 1 | L5 | 1779 | PSU | C4-N3-C2 | -3.18 | 121.99 | 126.37 |
| 48 | S2 | 406 | PSU | C6-C5-C4 | 3.18 | 120.32 | 118.17 |
| 48 | S2 | 484 | A2M | C1'-N9-C4 | -3.18 | 121.06 | 126.64 |
| 48 | S2 | 34 | PSU | C4-N3-C2 | -3.17 | 122.00 | 126.37 |
| 1 | L5 | 4620 | OMU | O4-C4-N3 | -3.17 | 114.68 | 119.27 |
| 1 | L5 | 3729 | PSU | C4-N3-C2 | -3.17 | 122.01 | 126.37 |
| 48 | S2 | 1056 | PSU | C4-N3-C2 | -3.17 | 122.01 | 126.37 |
| 48 | S2 | 1239 | PSU | C4-N3-C2 | -3.16 | 122.01 | 126.37 |
| 1 | L5 | 1582 | PSU | O4-C4-N3 | -3.16 | 114.18 | 120.11 |
| 48 | S2 | 1174 | PSU | C4-N3-C2 | -3.16 | 122.02 | 126.37 |
| 1 | L5 | 3639 | PSU | C6-C5-C4 | 3.15 | 120.30 | 118.17 |
| 1 | L5 | 3851 | PSU | N1-C2-N3 | 3.15 | 118.49 | 115.17 |
| 48 | S2 | 406 | PSU | O4-C4-N3 | -3.15 | 114.19 | 120.11 |
| 1 | L5 | 4590 | A2M | C1'-N9-C4 | -3.14 | 121.12 | 126.64 |
| 48 | S2 | 1692 | PSU | O4-C4-N3 | -3.14 | 114.21 | 120.11 |
| 1 | L5 | 2632 | PSU | O4-C4-N3 | -3.14 | 114.21 | 120.11 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 4403 | PSU | O4-C4-N3 | -3.14 | 114.22 | 120.11 |
| 48 | S2 | 119 | PSU | C4-N3-C2 | -3.14 | 122.05 | 126.37 |
| 1 | L5 | 4353 | PSU | C4-N3-C2 | -3.13 | 122.05 | 126.37 |
| 48 | S2 | 1445 | PSU | C4-N3-C2 | -3.13 | 122.06 | 126.37 |
| 1 | L5 | 4972 | PSU | C4-N3-C2 | -3.13 | 122.06 | 126.37 |
| 48 | S2 | 815 | PSU | O4-C4-N3 | -3.13 | 114.24 | 120.11 |
| 1 | L5 | 4442 | PSU | N1-C2-N3 | 3.12 | 118.46 | 115.17 |
| 1 | L5 | 3718 | A2M | C3'-C2'-C1' | -3.12 | 96.83 | 102.81 |
| 1 | L5 | 4579 | PSU | N1-C2-N3 | 3.12 | 118.46 | 115.17 |
| 47 | Pt | 13 | PSU | C4-N3-C2 | -3.11 | 122.08 | 126.37 |
| 1 | L5 | 3920 | PSU | C4-N3-C2 | -3.11 | 122.08 | 126.37 |
| 48 | S2 | 468 | A2M | C1'-N9-C4 | -3.10 | 121.19 | 126.64 |
| 47 | Pt | 49 | 5MC | C5-C6-N1 | -3.10 | 119.95 | 123.31 |
| 1 | L5 | 1871 | A2M | C1'-N9-C4 | -3.10 | 121.20 | 126.64 |
| 48 | S2 | 105 | PSU | O4-C4-N3 | -3.10 | 114.29 | 120.11 |
| 1 | L5 | 4403 | PSU | C4-N3-C2 | -3.09 | 122.11 | 126.37 |
| 48 | S2 | 918 | PSU | C4-N3-C2 | -3.09 | 122.11 | 126.37 |
| 48 | S2 | 218 | PSU | O4-C4-N3 | -3.09 | 114.31 | 120.11 |
| 1 | L5 | 4312 | PSU | C6-C5-C4 | 3.09 | 120.26 | 118.17 |
| 48 | S2 | 1383 | A2M | O3'-C3'-C2' | 3.08 | 119.82 | 111.19 |
| 47 | Pt | 54 | 2MU | C2'-C1'-N1 | -3.08 | 108.39 | 114.24 |
| 1 | L5 | 4521 | PSU | O4-C4-N3 | -3.08 | 114.32 | 120.11 |
| 1 | L5 | 4576 | PSU | O4-C4-N3 | -3.08 | 114.32 | 120.11 |
| 1 | L5 | 2632 | PSU | C4-N3-C2 | -3.08 | 122.12 | 126.37 |
| 1 | L5 | 4571 | A2M | C3'-C2'-C1' | -3.08 | 96.91 | 102.81 |
| 1 | L5 | 2508 | PSU | O4-C4-N3 | -3.08 | 114.33 | 120.11 |
| 1 | L5 | 4500 | PSU | N1-C2-N3 | 3.07 | 118.41 | 115.17 |
| 1 | L5 | 3844 | PSU | C4-N3-C2 | -3.07 | 122.14 | 126.37 |
| 48 | S2 | 651 | PSU | C4-N3-C2 | -3.07 | 122.15 | 126.37 |
| 1 | L5 | 3853 | PSU | C4-N3-C2 | -3.06 | 122.15 | 126.37 |
| 48 | S2 | 681 | PSU | C4-N3-C2 | -3.06 | 122.15 | 126.37 |
| 48 | S2 | 1244 | PSU | C4-N3-C2 | -3.06 | 122.15 | 126.37 |
| 1 | L5 | 1792 | PSU | C6-C5-C4 | 3.06 | 120.24 | 118.17 |
| 48 | S2 | 296 | PSU | C4-N3-C2 | -3.06 | 122.16 | 126.37 |
| 1 | L5 | 3925 | OMU | C4-N3-C2 | -3.06 | 122.82 | 126.61 |
| 48 | S2 | 681 | PSU | C6-C5-C4 | 3.06 | 120.24 | 118.17 |
| 1 | L5 | 4353 | PSU | O4-C4-N3 | -3.06 | 114.36 | 120.11 |
| 48 | S2 | 814 | PSU | C4-N3-C2 | -3.05 | 122.17 | 126.37 |
| 1 | L5 | 4636 | PSU | O4-C4-N3 | -3.05 | 114.38 | 120.11 |
| 48 | S2 | 119 | PSU | C6-C5-C4 | 3.05 | 120.23 | 118.17 |
| 48 | S2 | 1238 | PSU | C4-N3-C2 | -3.05 | 122.17 | 126.37 |
| 1 | L5 | 4493 | PSU | C4-N3-C2 | -3.04 | 122.18 | 126.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 2363 | A2M | C3'-C2'-C1' | -3.04 | 96.99 | 102.81 |
| 1 | L5 | 3830 | A2M | C3'-C2'-C1' | -3.04 | 96.99 | 102.81 |
| 48 | S2 | 573 | PSU | C4-N3-C2 | -3.04 | 122.19 | 126.37 |
| 3 | L8 | 55 | PSU | O4-C4-N3 | -3.03 | 114.42 | 120.11 |
| 1 | L5 | 4457 | PSU | C4-N3-C2 | -3.03 | 122.20 | 126.37 |
| 1 | L5 | 1524 | A2M | O4'-C1'-C2' | 3.02 | 111.75 | 106.61 |
| 1 | L5 | 4972 | PSU | O4-C4-N3 | -3.02 | 114.44 | 120.11 |
| 1 | L5 | 4493 | PSU | O4-C4-N3 | -3.01 | 114.44 | 120.11 |
| 1 | L5 | 1792 | PSU | C4-N3-C2 | -3.01 | 122.22 | 126.37 |
| 48 | S2 | 815 | PSU | C4-N3-C2 | -3.01 | 122.22 | 126.37 |
| 1 | L5 | 1862 | PSU | N1-C2-N3 | 3.01 | 118.34 | 115.17 |
| 48 | S2 | 1174 | PSU | C6-C5-C4 | 3.00 | 120.20 | 118.17 |
| 48 | S2 | 119 | PSU | O4-C4-N3 | -3.00 | 114.48 | 120.11 |
| 48 | S2 | 93 | PSU | C4-N3-C2 | -3.00 | 122.24 | 126.37 |
| 1 | L5 | 4628 | PSU | N1-C2-N3 | 3.00 | 118.33 | 115.17 |
| 48 | S2 | 116 | OMU | C4-N3-C2 | -2.98 | 122.91 | 126.61 |
| 48 | S2 | 1243 | PSU | O4-C4-N3 | -2.98 | 114.51 | 120.11 |
| 1 | L5 | 1862 | PSU | C4-N3-C2 | -2.98 | 122.27 | 126.37 |
| 1 | L5 | 4628 | PSU | O4-C4-N3 | -2.98 | 114.52 | 120.11 |
| 1 | L5 | 4361 | PSU | N1-C2-N3 | 2.97 | 118.30 | 115.17 |
| 1 | L5 | 1677 | PSU | C6-C5-C4 | 2.97 | 120.18 | 118.17 |
| 48 | S2 | 1288 | OMU | C4-N3-C2 | -2.97 | 122.92 | 126.61 |
| 3 | L8 | 14 | OMU | O4-C4-N3 | -2.97 | 114.97 | 119.27 |
| 1 | L5 | 4552 | PSU | C4-N3-C2 | -2.97 | 122.28 | 126.37 |
| 3 | L8 | 55 | PSU | C4-N3-C2 | -2.96 | 122.29 | 126.37 |
| 1 | L5 | 4423 | PSU | C4-N3-C2 | -2.96 | 122.29 | 126.37 |
| 48 | S2 | 1326 | UY1 | O2-C2-N1 | -2.96 | 119.73 | 122.79 |
| 1 | L5 | 3734 | PSU | C4-N3-C2 | -2.96 | 122.29 | 126.37 |
| 48 | S2 | 866 | PSU | C4-N3-C2 | -2.96 | 122.29 | 126.37 |
| 1 | L5 | 4471 | PSU | O4-C4-N3 | -2.96 | 114.54 | 120.11 |
| 48 | S2 | 814 | PSU | O4-C4-N3 | -2.96 | 114.54 | 120.11 |
| 48 | S2 | 1177 | PSU | C4-N3-C2 | -2.96 | 122.29 | 126.37 |
| 1 | L5 | 3770 | PSU | O4-C4-N3 | -2.96 | 114.55 | 120.11 |
| 48 | S2 | 159 | A2M | C3'-C2'-C1' | -2.95 | 97.16 | 102.81 |
| 1 | L5 | 2787 | A2M | O3'-C3'-C2' | 2.95 | 119.44 | 111.19 |
| 1 | L5 | 1862 | PSU | O4-C4-N3 | -2.95 | 114.58 | 120.11 |
| 1 | L5 | 3867 | A2M | C4'-O4'-C1' | -2.94 | 107.23 | 109.92 |
| 3 | L8 | 69 | PSU | C4-N3-C2 | -2.94 | 122.32 | 126.37 |
| 1 | L5 | 3723 | A2M | C3'-C2'-C1' | -2.94 | 97.18 | 102.81 |
| 1 | L5 | 3724 | A2M | C4'-O4'-C1' | -2.94 | 107.23 | 109.92 |
| 48 | S2 | 863 | PSU | O4-C4-N3 | -2.94 | 114.59 | 120.11 |
| 1 | L5 | 3724 | A2M | C3'-C2'-C1' | -2.93 | 97.19 | 102.81 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | S2 | 668 | A2M | C4'-O4'-C1' | -2.93 | 107.24 | 109.92 |
| 1 | L5 | 5010 | PSU | O4-C4-N3 | -2.92 | 114.62 | 120.11 |
| 1 | L5 | 3920 | PSU | N1-C2-N3 | 2.92 | 118.25 | 115.17 |
| 47 | Pt | 55 | PSU | C4-N3-C2 | -2.92 | 122.35 | 126.37 |
| 1 | L5 | 4521 | PSU | N1-C2-N3 | 2.92 | 118.24 | 115.17 |
| 48 | S2 | 1347 | PSU | O4-C4-N3 | -2.92 | 114.63 | 120.11 |
| 48 | S2 | 1347 | PSU | C4-N3-C2 | -2.91 | 122.36 | 126.37 |
| 1 | L5 | 4361 | PSU | O4-C4-N3 | -2.91 | 114.64 | 120.11 |
| 48 | S2 | 1367 | PSU | C4-N3-C2 | -2.91 | 122.36 | 126.37 |
| 48 | S2 | 683 | OMG | O6-C6-C5 | 2.91 | 130.08 | 124.32 |
| 1 | L5 | 4579 | PSU | O4-C4-N3 | -2.91 | 114.65 | 120.11 |
| 1 | L5 | 1744 | PSU | N1-C2-N3 | 2.90 | 118.23 | 115.17 |
| 1 | L5 | 3782 | 5MC | CM5-C5-C6 | -2.90 | 118.93 | 122.85 |
| 1 | L5 | 3637 | PSU | O4-C4-N3 | -2.90 | 114.66 | 120.11 |
| 48 | S2 | 93 | PSU | O4-C4-N3 | -2.90 | 114.67 | 120.11 |
| 1 | L5 | 3818 | UY1 | C6-N1-C2 | -2.89 | 120.00 | 122.69 |
| 1 | L5 | 2815 | A2M | C4'-O4'-C1' | -2.89 | 107.28 | 109.92 |
| 48 | S2 | 1490 | OMG | O6-C6-C5 | 2.89 | 130.05 | 124.32 |
| 1 | L5 | 4532 | PSU | C4-N3-C2 | -2.89 | 122.39 | 126.37 |
| 48 | S2 | 1337 | 4AC | C6-C5-C4 | 2.89 | 120.48 | 117.00 |
| 48 | S2 | 627 | OMU | CM2-O2'-C2' | -2.88 | 107.07 | 114.47 |
| 48 | S2 | 484 | A2M | C4'-O4'-C1' | -2.88 | 107.29 | 109.92 |
| 1 | L5 | 1781 | PSU | C4-N3-C2 | -2.88 | 122.40 | 126.37 |
| 48 | S2 | 1383 | A2M | C1'-N9-C4 | -2.88 | 121.59 | 126.64 |
| 1 | L5 | 4306 | OMU | C4-N3-C2 | -2.87 | 123.05 | 126.61 |
| 1 | L5 | 398 | A2M | C3'-C2'-C1' | -2.87 | 97.32 | 102.81 |
| 1 | L5 | 5010 | PSU | C4-N3-C2 | -2.86 | 122.42 | 126.37 |
| 1 | L5 | 3758 | PSU | C4-N3-C2 | -2.86 | 122.43 | 126.37 |
| 48 | S2 | 590 | A2M | O3'-C3'-C2' | 2.86 | 119.19 | 111.19 |
| 48 | S2 | 649 | PSU | C4-N3-C2 | -2.85 | 122.44 | 126.37 |
| 48 | S2 | 1643 | PSU | C4-N3-C2 | -2.84 | 122.45 | 126.37 |
| 1 | L5 | 3762 | PSU | C4-N3-C2 | -2.84 | 122.45 | 126.37 |
| 1 | L5 | 3830 | A2M | O3'-C3'-C2' | 2.84 | 119.14 | 111.19 |
| 48 | S2 | 1248 | B8N | C4-N3-C2 | -2.84 | 122.12 | 125.62 |
| 3 | L8 | 69 | PSU | O4-C4-N3 | -2.84 | 114.77 | 120.11 |
| 1 | L5 | 4618 | OMG | O6-C6-C5 | 2.83 | 129.94 | 124.32 |
| 1 | L5 | 3785 | A2M | C1'-N9-C4 | -2.83 | 121.67 | 126.64 |
| 1 | L5 | 4623 | OMG | O6-C6-C5 | 2.83 | 129.93 | 124.32 |
| 1 | L5 | 1536 | PSU | C6-C5-C4 | 2.83 | 120.08 | 118.17 |
| 1 | L5 | 3729 | PSU | O4-C4-N3 | -2.83 | 114.79 | 120.11 |
| 1 | L5 | 2401 | A2M | C4'-O4'-C1' | -2.83 | 107.33 | 109.92 |
| 48 | S2 | 1004 | PSU | O4-C4-N3 | -2.83 | 114.79 | 120.11 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 3723 | A2M | C4-C5-N7 | 2.82 | 112.32 | 109.34 |
| 1 | L5 | 3695 | PSU | C4-N3-C2 | -2.82 | 122.48 | 126.37 |
| 48 | S2 | 651 | PSU | O4-C4-N3 | -2.82 | 114.82 | 120.11 |
| 1 | L5 | 4620 | OMU | O4-C4-C5 | 2.82 | 130.02 | 125.16 |
| 48 | S2 | 649 | PSU | O4-C4-N3 | -2.81 | 114.82 | 120.11 |
| 48 | S2 | 1625 | PSU | O4-C4-N3 | -2.81 | 114.83 | 120.11 |
| 1 | L5 | 2508 | PSU | C4-N3-C2 | -2.81 | 122.50 | 126.37 |
| 1 | L5 | 4420 | PSU | C4-N3-C2 | -2.81 | 122.50 | 126.37 |
| 1 | L5 | 1536 | PSU | N1-C2-N3 | 2.80 | 118.12 | 115.17 |
| 48 | S2 | 109 | PSU | N1-C2-N3 | 2.80 | 118.12 | 115.17 |
| 1 | L5 | 4306 | OMU | O4-C4-N3 | -2.80 | 115.22 | 119.27 |
| 1 | L5 | 3830 | A2M | C4-C5-N7 | 2.79 | 112.28 | 109.34 |
| 1 | L5 | 3867 | A2M | C1'-N9-C4 | -2.79 | 121.74 | 126.64 |
| 1 | L5 | 4521 | PSU | C4-N3-C2 | -2.78 | 122.54 | 126.37 |
| 1 | L5 | 3768 | PSU | O4-C4-N3 | -2.78 | 114.88 | 120.11 |
| 1 | L5 | 4500 | PSU | O4-C4-N3 | -2.78 | 114.88 | 120.11 |
| 48 | S2 | 1678 | A2M | C2'-C1'-N9 | 2.78 | 118.73 | 112.56 |
| 1 | L5 | 400 | A2M | C3'-C2'-C1' | -2.78 | 97.49 | 102.81 |
| 48 | S2 | 1031 | A2M | C1'-N9-C4 | -2.77 | 121.77 | 126.64 |
| 1 | L5 | 4471 | PSU | N1-C2-N3 | 2.77 | 118.09 | 115.17 |
| 3 | L8 | 14 | OMU | C4-N3-C2 | -2.77 | 123.18 | 126.61 |
| 48 | S2 | 468 | A2M | O3'-C3'-C2' | 2.77 | 118.93 | 111.19 |
| 48 | S2 | 918 | PSU | O4-C4-N3 | -2.77 | 114.91 | 120.11 |
| 48 | S2 | 1004 | PSU | C4-N3-C2 | -2.76 | 122.56 | 126.37 |
| 1 | L5 | 4442 | PSU | O4-C4-N3 | -2.76 | 114.92 | 120.11 |
| 48 | S2 | 590 | A2M | C4-C5-N7 | 2.76 | 112.25 | 109.34 |
| 48 | S2 | 1442 | OMU | C4-N3-C2 | -2.76 | 123.19 | 126.61 |
| 48 | S2 | 1447 | OMG | O6-C6-C5 | 2.76 | 129.79 | 124.32 |
| 1 | L5 | 4590 | A2M | C4'-O4'-C1' | -2.75 | 107.40 | 109.92 |
| 1 | L5 | 3715 | PSU | O4-C4-N3 | -2.75 | 114.95 | 120.11 |
| 1 | L5 | 4523 | A2M | C1'-N9-C4 | -2.75 | 121.81 | 126.64 |
| 48 | S2 | 644 | OMG | O6-C6-C5 | 2.74 | 129.76 | 124.32 |
| 48 | S2 | 1081 | PSU | C6-C5-C4 | 2.74 | 120.02 | 118.17 |
| 48 | S2 | 1367 | PSU | O4-C4-N3 | -2.73 | 114.98 | 120.11 |
| 1 | L5 | 4531 | PSU | N1-C2-N3 | 2.73 | 118.05 | 115.17 |
| 1 | L5 | 4571 | A2M | C1'-N9-C4 | -2.73 | 121.85 | 126.64 |
| 48 | S2 | 609 | PSU | O4-C4-N3 | -2.73 | 114.99 | 120.11 |
| 48 | S2 | 627 | OMU | C4-N3-C2 | -2.73 | 123.23 | 126.61 |
| 48 | S2 | 1174 | PSU | O4-C4-N3 | -2.72 | 114.99 | 120.11 |
| 1 | L5 | 4361 | PSU | C6-C5-C4 | 2.72 | 120.01 | 118.17 |
| 48 | S2 | 651 | PSU | N1-C2-N3 | 2.72 | 118.04 | 115.17 |
| 48 | S2 | 296 | PSU | O4-C4-N3 | -2.72 | 115.01 | 120.11 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 4423 | PSU | O4-C4-N3 | -2.72 | 115.01 | 120.11 |
| 1 | L5 | 4353 | PSU | N1-C2-N3 | 2.72 | 118.03 | 115.17 |
| 1 | L5 | 1582 | PSU | C6-C5-C4 | 2.71 | 120.00 | 118.17 |
| 48 | S2 | 863 | PSU | C6-C5-C4 | 2.70 | 120.00 | 118.17 |
| 48 | S2 | 627 | OMU | O4-C4-N3 | -2.70 | 115.35 | 119.27 |
| 1 | L5 | 1860 | PSU | O4-C4-N3 | -2.70 | 115.03 | 120.11 |
| 1 | L5 | 398 | A2M | O3'-C3'-C2' | 2.70 | 118.75 | 111.19 |
| 1 | L5 | 3785 | A2M | C3'-C2'-C1' | -2.70 | 97.64 | 102.81 |
| 48 | S2 | 966 | PSU | C4-N3-C2 | -2.70 | 122.66 | 126.37 |
| 47 | Pt | 54 | 2MU | O4-C4-C5 | 2.69 | 128.00 | 124.92 |
| 1 | L5 | 4447 | 5MC | C1'-N1-C2 | -2.69 | 112.50 | 118.44 |
| 1 | L5 | 5001 | PSU | N1-C2-N3 | 2.68 | 118.00 | 115.17 |
| 1 | L5 | 4636 | PSU | C6-C5-C4 | 2.68 | 119.98 | 118.17 |
| 1 | L5 | 3830 | A2M | C1'-N9-C4 | -2.67 | 121.95 | 126.64 |
| 48 | S2 | 822 | PSU | C4-N3-C2 | -2.67 | 122.69 | 126.37 |
| 48 | S2 | 218 | PSU | C4-N3-C2 | -2.67 | 122.69 | 126.37 |
| 1 | L5 | 2837 | OMU | O4-C4-N3 | -2.66 | 115.41 | 119.27 |
| 1 | L5 | 3770 | PSU | N1-C2-N3 | 2.66 | 117.97 | 115.17 |
| 1 | L5 | 3639 | PSU | C4-N3-C2 | -2.66 | 122.70 | 126.37 |
| 1 | L5 | 1782 | PSU | O4-C4-N3 | -2.66 | 115.11 | 120.11 |
| 1 | L5 | 3844 | PSU | O4-C4-N3 | -2.66 | 115.11 | 120.11 |
| 1 | L5 | 3762 | PSU | O4-C4-N3 | -2.66 | 115.12 | 120.11 |
| 48 | S2 | 668 | A2M | O4'-C1'-N9 | -2.65 | 105.22 | 108.75 |
| 48 | S2 | 172 | OMU | C4-N3-C2 | -2.65 | 123.32 | 126.61 |
| 1 | L5 | 2415 | OMU | O4-C4-N3 | -2.65 | 115.43 | 119.27 |
| 48 | S2 | 649 | PSU | N1-C2-N3 | 2.65 | 117.96 | 115.17 |
| 48 | S2 | 1643 | PSU | O4-C4-N3 | -2.65 | 115.13 | 120.11 |
| 1 | L5 | 4576 | PSU | C4-N3-C2 | -2.65 | 122.72 | 126.37 |
| 48 | S2 | 1832 | 6MZ | C5'-C4'-C3' | -2.65 | 105.68 | 115.21 |
| 48 | S2 | 1136 | PSU | N1-C2-N3 | 2.65 | 117.96 | 115.17 |
| 1 | L5 | 4569 | PSU | C4-N3-C2 | -2.64 | 122.73 | 126.37 |
| 1 | L5 | 2415 | OMU | C4-N3-C2 | -2.64 | 123.33 | 126.61 |
| 48 | S2 | 1804 | OMU | N3-C2-N1 | 2.64 | 118.33 | 114.89 |
| 1 | L5 | 3844 | PSU | N1-C2-N3 | 2.64 | 117.95 | 115.17 |
| 1 | L5 | 1860 | PSU | N1-C2-N3 | 2.64 | 117.95 | 115.17 |
| 48 | S2 | 512 | A2M | C3'-C2'-C1' | -2.64 | 97.75 | 102.81 |
| 1 | L5 | 3768 | PSU | N1-C2-N3 | 2.64 | 117.95 | 115.17 |
| 1 | L5 | 2815 | A2M | C5'-C4'-C3' | 2.64 | 124.71 | 115.21 |
| 48 | S2 | 121 | OMU | C4-N3-C2 | -2.63 | 123.34 | 126.61 |
| 1 | L5 | 4370 | OMG | O6-C6-C5 | 2.63 | 129.54 | 124.32 |
| 48 | S2 | 1081 | PSU | O4-C4-N3 | -2.63 | 115.17 | 120.11 |
| 1 | L5 | 4673 | PSU | O4-C4-N3 | -2.63 | 115.18 | 120.11 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | S2 | 590 | A2M | C3'-C2'-C1' | -2.62 | 97.78 | 102.81 |
| 1 | L5 | 1779 | PSU | O4-C4-N3 | -2.62 | 115.18 | 120.11 |
| 1 | L5 | 2787 | A2M | C4'-O4'-C1' | -2.62 | 107.52 | 109.92 |
| 48 | S2 | 172 | OMU | O4-C4-N3 | -2.62 | 115.47 | 119.27 |
| 1 | L5 | 2632 | PSU | N1-C2-N3 | 2.62 | 117.93 | 115.17 |
| 1 | L5 | 4673 | PSU | C4-N3-C2 | -2.62 | 122.77 | 126.37 |
| 48 | S2 | 1239 | PSU | O4-C4-N3 | -2.61 | 115.20 | 120.11 |
| 1 | L5 | 4498 | OMU | O4-C4-N3 | -2.61 | 115.49 | 119.27 |
| 48 | S2 | 686 | PSU | O4-C4-N3 | -2.61 | 115.21 | 120.11 |
| 1 | L5 | 1322 | 1MA | N1-C6-N6 | 2.61 | 126.26 | 119.71 |
| 48 | S2 | 966 | PSU | O4-C4-N3 | -2.60 | 115.22 | 120.11 |
| 1 | L5 | 4571 | A2M | C2'-C1'-N9 | 2.60 | 118.34 | 112.56 |
| 48 | S2 | 27 | A2M | C3'-C2'-C1' | -2.60 | 97.83 | 102.81 |
| 1 | L5 | 4312 | PSU | O4-C4-N3 | -2.60 | 115.23 | 120.11 |
| 48 | S2 | 509 | OMG | O6-C6-C5 | 2.60 | 129.47 | 124.32 |
| 1 | L5 | 4532 | PSU | C6-C5-C4 | 2.59 | 119.92 | 118.17 |
| 48 | S2 | 681 | PSU | O4-C4-N3 | -2.59 | 115.25 | 120.11 |
| 48 | S2 | 105 | PSU | N1-C2-N3 | 2.58 | 117.89 | 115.17 |
| 48 | S2 | 590 | A2M | C2'-C1'-N9 | 2.58 | 118.30 | 112.56 |
| 48 | S2 | 109 | PSU | O4-C4-N3 | -2.58 | 115.26 | 120.11 |
| 1 | L5 | 4571 | A2M | C4-C5-N7 | 2.58 | 112.06 | 109.34 |
| 1 | L5 | 1326 | A2M | C1'-N9-C4 | -2.58 | 122.11 | 126.64 |
| 48 | S2 | 428 | OMU | O4-C4-N3 | -2.58 | 115.54 | 119.27 |
| 1 | L5 | 1782 | PSU | N1-C2-N3 | 2.58 | 117.88 | 115.17 |
| 1 | L5 | 1781 | PSU | O4-C4-N3 | -2.58 | 115.27 | 120.11 |
| 48 | S2 | 34 | PSU | O4-C4-N3 | -2.58 | 115.27 | 120.11 |
| 1 | L5 | 3760 | A2M | C4-C5-N7 | 2.57 | 112.06 | 109.34 |
| 48 | S2 | 36 | PSU | C4-N3-C2 | -2.57 | 122.83 | 126.37 |
| 1 | L5 | 3920 | PSU | O4-C4-N3 | -2.57 | 115.28 | 120.11 |
| 48 | S2 | 1692 | PSU | N1-C2-N3 | 2.57 | 117.88 | 115.17 |
| 1 | L5 | 2843 | PSU | C4-N3-C2 | -2.57 | 122.83 | 126.37 |
| 1 | L5 | 3718 | A2M | C1'-N9-C4 | -2.57 | 122.13 | 126.64 |
| 48 | S2 | 1244 | PSU | O4-C4-N3 | -2.56 | 115.30 | 120.11 |
| 1 | L5 | 4306 | OMU | N3-C2-N1 | 2.56 | 118.22 | 114.89 |
| 1 | L5 | 3825 | A2M | C3'-C2'-C1' | -2.56 | 97.91 | 102.81 |
| 48 | S2 | 590 | A2M | O4'-C1'-C2' | 2.55 | 110.95 | 106.61 |
| 1 | L5 | 4312 | PSU | O2-C2-N1 | -2.55 | 120.16 | 122.79 |
| 1 | L5 | 3785 | A2M | O4'-C4'-C3' | 2.55 | 110.21 | 105.15 |
| 48 | S2 | 1832 | 6MZ | C2-N1-C6 | 2.55 | 118.58 | 116.60 |
| 1 | L5 | 3723 | A2M | C2'-C1'-N9 | 2.55 | 118.21 | 112.56 |
| 1 | L5 | 3723 | A2M | O4'-C1'-C2' | 2.54 | 110.94 | 106.61 |
| 48 | S2 | 34 | PSU | N1-C2-N3 | 2.54 | 117.85 | 115.17 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 400 | A2M | C1'-N9-C4 | -2.54 | 122.18 | 126.64 |
| 48 | S2 | 512 | A2M | C4-C5-N7 | 2.54 | 112.02 | 109.34 |
| 48 | S2 | 1678 | A2M | C3'-C2'-C1' | -2.53 | 97.96 | 102.81 |
| 1 | L5 | 3758 | PSU | O4-C4-N3 | -2.53 | 115.36 | 120.11 |
| 48 | S2 | 1678 | A2M | C4-C5-N7 | 2.53 | 112.00 | 109.34 |
| 48 | S2 | 1136 | PSU | O4-C4-N3 | -2.52 | 115.37 | 120.11 |
| 1 | L5 | 1871 | A2M | C3'-C2'-C1' | -2.52 | 97.98 | 102.81 |
| 48 | S2 | 354 | OMU | C4-N3-C2 | -2.52 | 123.48 | 126.61 |
| 1 | L5 | 4494 | OMG | O6-C6-C5 | 2.52 | 129.31 | 124.32 |
| 48 | S2 | 918 | PSU | N1-C2-N3 | 2.52 | 117.82 | 115.17 |
| 48 | S2 | 1804 | OMU | C4-N3-C2 | -2.52 | 123.49 | 126.61 |
| 1 | L5 | 2815 | A2M | O4'-C4'-C3' | 2.51 | 110.14 | 105.15 |
| 48 | S2 | 1056 | PSU | N1-C2-N3 | 2.51 | 117.82 | 115.17 |
| 48 | S2 | 1692 | PSU | C6-C5-C4 | 2.51 | 119.87 | 118.17 |
| 1 | L5 | 3760 | A2M | O3'-C3'-C2' | 2.51 | 118.22 | 111.19 |
| 1 | L5 | 3851 | PSU | O4-C4-N3 | -2.51 | 115.39 | 120.11 |
| 1 | L5 | 400 | A2M | C4-C5-N7 | 2.51 | 111.99 | 109.34 |
| 1 | L5 | 3718 | A2M | C4-C5-N7 | 2.51 | 111.99 | 109.34 |
| 48 | S2 | 815 | PSU | N1-C2-N3 | 2.51 | 117.82 | 115.17 |
| 1 | L5 | 5001 | PSU | O4-C4-N3 | -2.51 | 115.39 | 120.11 |
| 1 | L5 | 4431 | PSU | N1-C2-N3 | 2.51 | 117.81 | 115.17 |
| 1 | L5 | 1744 | PSU | O4-C4-N3 | -2.51 | 115.40 | 120.11 |
| 48 | S2 | 1445 | PSU | O4-C4-N3 | -2.51 | 115.40 | 120.11 |
| 48 | S2 | 1383 | A2M | C4-C5-N7 | 2.51 | 111.98 | 109.34 |
| 48 | S2 | 573 | PSU | O4-C4-N3 | -2.50 | 115.40 | 120.11 |
| 48 | S2 | 801 | PSU | O4-C4-N3 | -2.50 | 115.40 | 120.11 |
| 48 | S2 | 1031 | A2M | C3'-C2'-C1' | -2.50 | 98.01 | 102.81 |
| 48 | S2 | 1804 | OMU | O4-C4-C5 | 2.50 | 129.48 | 125.16 |
| 48 | S2 | 99 | A2M | C4-C5-N7 | 2.50 | 111.98 | 109.34 |
| 1 | L5 | 3944 | OMG | O6-C6-C5 | 2.50 | 129.28 | 124.32 |
| 48 | S2 | 576 | A2M | C3'-C2'-C1' | -2.50 | 98.02 | 102.81 |
| 48 | S2 | 572 | PSU | O4-C4-N3 | -2.50 | 115.42 | 120.11 |
| 1 | L5 | 4312 | PSU | N1-C2-N3 | 2.49 | 117.80 | 115.17 |
| 48 | S2 | 1442 | OMU | O4-C4-N3 | -2.49 | 115.66 | 119.27 |
| 1 | L5 | 4420 | PSU | O4-C4-N3 | -2.49 | 115.43 | 120.11 |
| 48 | S2 | 590 | A2M | C1'-N9-C4 | -2.49 | 122.27 | 126.64 |
| 48 | S2 | 866 | PSU | N1-C2-N3 | 2.49 | 117.79 | 115.17 |
| 48 | S2 | 1288 | OMU | O4-C4-N3 | -2.49 | 115.67 | 119.27 |
| 3 | L8 | 14 | OMU | C6-C5-C4 | 2.48 | 122.70 | 119.53 |
| 1 | L5 | 2837 | OMU | O4-C4-C5 | 2.48 | 129.44 | 125.16 |
| 48 | S2 | 918 | PSU | O4'-C1'-C2' | 2.47 | 108.57 | 105.15 |
| 48 | S2 | 822 | PSU | O4-C4-N3 | -2.47 | 115.47 | 120.11 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | S2 | 1177 | PSU | O4-C4-N3 | -2.47 | 115.47 | 120.11 |
| 48 | S2 | 172 | OMU | C6-C5-C4 | 2.47 | 122.69 | 119.53 |
| 1 | L5 | 1326 | A2M | C3'-C2'-C1' | -2.47 | 98.08 | 102.81 |
| 1 | L5 | 4220 | 6MZ | C1'-N9-C4 | 2.47 | 130.97 | 126.64 |
| 48 | S2 | 27 | A2M | C4-C5-N7 | 2.46 | 111.94 | 109.34 |
| 48 | S2 | 296 | PSU | N1-C2-N3 | 2.46 | 117.76 | 115.17 |
| 48 | S2 | 428 | OMU | C4-N3-C2 | -2.46 | 123.56 | 126.61 |
| 1 | L5 | 3853 | PSU | N1-C2-N3 | 2.46 | 117.76 | 115.17 |
| 1 | L5 | 4689 | PSU | C4-N3-C2 | -2.46 | 122.99 | 126.37 |
| 3 | L8 | 14 | OMU | N3-C2-N1 | 2.45 | 118.09 | 114.89 |
| 1 | L5 | 2787 | A2M | C3'-C2'-C1' | -2.45 | 98.12 | 102.81 |
| 48 | S2 | 1367 | PSU | N1-C2-N3 | 2.44 | 117.75 | 115.17 |
| 1 | L5 | 4296 | PSU | O4-C4-N3 | -2.44 | 115.52 | 120.11 |
| 1 | L5 | 1536 | PSU | C5-C6-N1 | -2.44 | 118.75 | 122.14 |
| 48 | S2 | 1232 | PSU | O4-C4-N3 | -2.44 | 115.53 | 120.11 |
| 48 | S2 | 1238 | PSU | O4-C4-N3 | -2.44 | 115.53 | 120.11 |
| 48 | S2 | 1625 | PSU | N1-C2-N3 | 2.44 | 117.73 | 115.17 |
| 48 | S2 | 1842 | 4AC | O2-C2-N3 | -2.43 | 118.50 | 122.33 |
| 48 | S2 | 601 | OMG | O6-C6-C5 | 2.43 | 129.14 | 124.32 |
| 48 | S2 | 1347 | PSU | N1-C2-N3 | 2.43 | 117.73 | 115.17 |
| 1 | L5 | 4571 | A2M | O4'-C1'-C2' | 2.42 | 110.74 | 106.61 |
| 48 | S2 | 1243 | PSU | N1-C2-N3 | 2.42 | 117.72 | 115.17 |
| 48 | S2 | 1232 | PSU | N1-C2-N3 | 2.42 | 117.72 | 115.17 |
| 48 | S2 | 406 | PSU | C4-N3-C2 | -2.42 | 123.04 | 126.37 |
| 48 | S2 | 406 | PSU | N1-C2-N3 | 2.42 | 117.72 | 115.17 |
| 1 | L5 | 4457 | PSU | O4-C4-N3 | -2.42 | 115.57 | 120.11 |
| 1 | L5 | 3637 | PSU | C6-C5-C4 | 2.42 | 119.81 | 118.17 |
| 48 | S2 | 172 | OMU | CM2-O2'-C2' | -2.41 | 108.28 | 114.47 |
| 1 | L5 | 3785 | A2M | C4-C5-N7 | 2.41 | 111.89 | 109.34 |
| 1 | L5 | 3734 | PSU | O4-C4-N3 | -2.41 | 115.59 | 120.11 |
| 48 | S2 | 866 | PSU | O4-C4-N3 | -2.41 | 115.59 | 120.11 |
| 1 | L5 | 3724 | A2M | C4-C5-N7 | 2.41 | 111.88 | 109.34 |
| 1 | L5 | 4299 | PSU | O4-C4-N3 | -2.40 | 115.60 | 120.11 |
| 1 | L5 | 3825 | A2M | C4-C5-N7 | 2.40 | 111.87 | 109.34 |
| 3 | L8 | 55 | PSU | N1-C2-N3 | 2.40 | 117.70 | 115.17 |
| 1 | L5 | 1524 | A2M | C1'-N9-C4 | -2.40 | 122.43 | 126.64 |
| 1 | L5 | 5010 | PSU | N1-C2-N3 | 2.39 | 117.69 | 115.17 |
| 72 | SX | 62 | HY3 | O-C-CA | -2.39 | 118.53 | 124.86 |
| 1 | L5 | 4403 | PSU | N1-C2-N3 | 2.39 | 117.69 | 115.17 |
| 47 | Pt | 55 | PSU | O4-C4-N3 | -2.39 | 115.62 | 120.11 |
| 1 | L5 | 2363 | A2M | O4'-C1'-C2' | 2.39 | 110.68 | 106.61 |
| 1 | L5 | 1677 | PSU | N1-C2-N3 | 2.39 | 117.69 | 115.17 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 3884 | PSU | O4-C4-N3 | -2.39 | 115.62 | 120.11 |
| 1 | L5 | 1582 | PSU | C4-N3-C2 | -2.39 | 123.08 | 126.37 |
| 48 | S2 | 354 | OMU | O4-C4-N3 | -2.39 | 115.82 | 119.27 |
| 48 | S2 | 576 | A2M | C4-C5-N7 | 2.38 | 111.85 | 109.34 |
| 1 | L5 | 2401 | A2M | C4-C5-N7 | 2.38 | 111.85 | 109.34 |
| 1 | L5 | 3925 | OMU | C6-C5-C4 | 2.38 | 122.57 | 119.53 |
| 3 | L8 | 75 | OMG | O6-C6-C5 | 2.38 | 129.03 | 124.32 |
| 48 | S2 | 863 | PSU | N1-C2-N3 | 2.37 | 117.67 | 115.17 |
| 1 | L5 | 2415 | OMU | C6-C5-C4 | 2.37 | 122.56 | 119.53 |
| 1 | L5 | 4227 | OMU | C4-N3-C2 | -2.37 | 123.67 | 126.61 |
| 47 | Pt | 10 | 2MG | O6-C6-N1 | -2.37 | 117.81 | 120.62 |
| 1 | L5 | 4442 | PSU | O4'-C1'-C2' | 2.36 | 108.42 | 105.15 |
| 1 | L5 | 2839 | PSU | O4-C4-N3 | -2.36 | 115.68 | 120.11 |
| 1 | L5 | 3715 | PSU | N1-C2-N3 | 2.36 | 117.65 | 115.17 |
| 48 | S2 | 119 | PSU | N1-C2-N3 | 2.35 | 117.65 | 115.17 |
| 1 | L5 | 3867 | A2M | C4-C5-N7 | 2.35 | 111.82 | 109.34 |
| 48 | S2 | 218 | PSU | N1-C2-N3 | 2.35 | 117.64 | 115.17 |
| 48 | S2 | 1442 | OMU | CM2-O2'-C2' | -2.35 | 108.45 | 114.47 |
| 1 | L5 | 4392 | OMG | O6-C6-C5 | 2.35 | 128.97 | 124.32 |
| 1 | L5 | 4431 | PSU | O4-C4-N3 | -2.34 | 115.71 | 120.11 |
| 1 | L5 | 4196 | OMG | O6-C6-C5 | 2.34 | 128.96 | 124.32 |
| 1 | L5 | 3724 | A2M | O3'-C3'-C2' | 2.34 | 117.74 | 111.19 |
| 1 | L5 | 4689 | PSU | O4-C4-N3 | -2.34 | 115.71 | 120.11 |
| 48 | S2 | 573 | PSU | N1-C2-N3 | 2.34 | 117.64 | 115.17 |
| 1 | L5 | 4296 | PSU | N1-C2-N3 | 2.34 | 117.63 | 115.17 |
| 1 | L5 | 1779 | PSU | N1-C2-N3 | 2.34 | 117.63 | 115.17 |
| 1 | L5 | 3884 | PSU | N1-C2-N3 | 2.34 | 117.63 | 115.17 |
| 1 | L5 | 3695 | PSU | N1-C2-N3 | 2.33 | 117.63 | 115.17 |
| 48 | S2 | 1244 | PSU | N1-C2-N3 | 2.33 | 117.63 | 115.17 |
| 1 | L5 | 3853 | PSU | C6-C5-C4 | 2.33 | 119.75 | 118.17 |
| 48 | S2 | 1288 | OMU | C6-C5-C4 | 2.33 | 122.51 | 119.53 |
| 1 | L5 | 2401 | A2M | O3'-C3'-C2' | 2.33 | 117.70 | 111.19 |
| 48 | S2 | 1239 | PSU | N1-C2-N3 | 2.32 | 117.62 | 115.17 |
| 3 | L8 | 69 | PSU | N1-C2-N3 | 2.32 | 117.62 | 115.17 |
| 1 | L5 | 4552 | PSU | O4-C4-N3 | -2.32 | 115.75 | 120.11 |
| 1 | L5 | 4493 | PSU | N1-C2-N3 | 2.32 | 117.61 | 115.17 |
| 1 | L5 | 3760 | A2M | C5'-C4'-C3' | -2.32 | 106.86 | 115.21 |
| 48 | S2 | 1678 | A2M | O4'-C1'-C2' | 2.32 | 110.56 | 106.61 |
| 48 | S2 | 1177 | PSU | N1-C2-N3 | 2.32 | 117.61 | 115.17 |
| 48 | S2 | 354 | OMU | C6-C5-C4 | 2.32 | 122.49 | 119.53 |
| 48 | S2 | 1248 | B8N | C31-N3-C4 | 2.31 | 120.44 | 117.18 |
| 1 | L5 | 4299 | PSU | C4-N3-C2 | -2.30 | 123.20 | 126.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 4569 | PSU | O4-C4-N3 | -2.30 | 115.79 | 120.11 |
| 48 | S2 | 468 | A2M | C4-C5-N7 | 2.30 | 111.77 | 109.34 |
| 1 | L5 | 3762 | PSU | C6-C5-C4 | 2.30 | 119.72 | 118.17 |
| 1 | L5 | 2508 | PSU | N1-C2-N3 | 2.30 | 117.59 | 115.17 |
| 1 | L5 | 1781 | PSU | N1-C2-N3 | 2.30 | 117.59 | 115.17 |
| 1 | L5 | 4423 | PSU | N1-C2-N3 | 2.30 | 117.59 | 115.17 |
| 48 | S2 | 576 | A2M | O3'-C3'-C2' | 2.29 | 117.60 | 111.19 |
| 1 | L5 | 1522 | OMG | O6-C6-C5 | 2.29 | 128.86 | 124.32 |
| 1 | L5 | 4196 | OMG | CM2-O2'-C2' | 2.29 | 120.36 | 114.47 |
| 47 | Pt | 54 | 2MU | O2'-C2'-C1' | 2.29 | 113.33 | 108.99 |
| 47 | Pt | 13 | PSU | N1-C2-N3 | 2.29 | 117.58 | 115.17 |
| 1 | L5 | 3729 | PSU | N1-C2-N3 | 2.28 | 117.57 | 115.17 |
| 48 | S2 | 1238 | PSU | N1-C2-N3 | 2.28 | 117.57 | 115.17 |
| 1 | L5 | 4972 | PSU | N1-C2-N3 | 2.28 | 117.57 | 115.17 |
| 1 | L5 | 3825 | A2M | O4'-C1'-C2' | 2.28 | 110.49 | 106.61 |
| 48 | S2 | 468 | A2M | O4'-C1'-C2' | 2.28 | 110.49 | 106.61 |
| 1 | L5 | 2837 | OMU | N3-C2-N1 | 2.28 | 117.86 | 114.89 |
| 1 | L5 | 3760 | A2M | O3'-C3'-C4' | -2.28 | 104.54 | 111.08 |
| 47 | Pt | 54 | 2MU | O4-C4-N3 | -2.27 | 115.84 | 120.11 |
| 1 | L5 | 3925 | OMU | O4-C4-N3 | -2.27 | 115.98 | 119.27 |
| 1 | L5 | 2415 | OMU | N3-C2-N1 | 2.27 | 117.85 | 114.89 |
| 1 | L5 | 1534 | A2M | C1'-N9-C4 | -2.27 | 122.65 | 126.64 |
| 47 | Pt | 13 | PSU | O4-C4-N3 | -2.27 | 115.85 | 120.11 |
| 1 | L5 | 3744 | OMG | O6-C6-C5 | 2.26 | 128.81 | 124.32 |
| 1 | L5 | 3884 | PSU | C4-N3-C2 | -2.26 | 123.25 | 126.37 |
| 48 | S2 | 1174 | PSU | N1-C2-N3 | 2.26 | 117.55 | 115.17 |
| 48 | S2 | 1056 | PSU | O4-C4-N3 | -2.26 | 115.87 | 120.11 |
| 1 | L5 | 3639 | PSU | N1-C2-N3 | 2.26 | 117.55 | 115.17 |
| 48 | S2 | 867 | OMG | O6-C6-C5 | 2.25 | 128.78 | 124.32 |
| 1 | L5 | 3695 | PSU | O4-C4-N3 | -2.25 | 115.89 | 120.11 |
| 1 | L5 | 4499 | OMG | O6-C6-C5 | 2.25 | 128.77 | 124.32 |
| 48 | S2 | 801 | PSU | N1-C2-N3 | 2.24 | 117.53 | 115.17 |
| 1 | L5 | 1524 | A2M | O4'-C1'-N9 | 2.24 | 111.72 | 108.75 |
| 1 | L5 | 3639 | PSU | O4-C4-N3 | -2.24 | 115.90 | 120.11 |
| 1 | L5 | 3760 | A2M | O4'-C1'-C2' | 2.24 | 110.42 | 106.61 |
| 1 | L5 | 3637 | PSU | N1-C2-N3 | 2.24 | 117.53 | 115.17 |
| 1 | L5 | 3792 | OMG | O6-C6-C5 | 2.23 | 128.74 | 124.32 |
| 48 | S2 | 159 | A2M | C4-C5-N7 | 2.23 | 111.69 | 109.34 |
| 48 | S2 | 428 | OMU | CM2-O2'-C2' | -2.23 | 108.75 | 114.47 |
| 48 | S2 | 172 | OMU | O4-C4-C5 | 2.23 | 129.01 | 125.16 |
| 48 | S2 | 1639 | G7M | O4'-C1'-N9 | -2.23 | 105.79 | 108.75 |
| 1 | L5 | 4576 | PSU | N1-C2-N3 | 2.23 | 117.52 | 115.17 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | S2 | 1328 | OMG | O6-C6-C5 | 2.22 | 128.73 | 124.32 |
| 48 | S2 | 354 | OMU | N3-C2-N1 | 2.22 | 117.78 | 114.89 |
| 1 | L5 | 2364 | OMG | O6-C6-C5 | 2.22 | 128.72 | 124.32 |
| 48 | S2 | 966 | PSU | N1-C2-N3 | 2.22 | 117.51 | 115.17 |
| 1 | L5 | 1871 | A2M | O3'-C3'-C2' | 2.22 | 117.40 | 111.19 |
| 1 | L5 | 3758 | PSU | N1-C2-N3 | 2.22 | 117.51 | 115.17 |
| 1 | L5 | 3762 | PSU | N1-C2-N3 | 2.21 | 117.50 | 115.17 |
| 1 | L5 | 4523 | A2M | C3'-C2'-C1' | -2.21 | 98.57 | 102.81 |
| 1 | L5 | 4457 | PSU | N1-C2-N3 | 2.21 | 117.50 | 115.17 |
| 3 | L8 | 14 | OMU | O4-C4-C5 | 2.21 | 128.97 | 125.16 |
| 1 | L5 | 4498 | OMU | N3-C2-N1 | 2.21 | 117.77 | 114.89 |
| 48 | S2 | 822 | PSU | O4'-C1'-C2' | 2.21 | 108.20 | 105.15 |
| 1 | L5 | 3718 | A2M | O4'-C1'-C2' | 2.20 | 110.36 | 106.61 |
| 1 | L5 | 4532 | PSU | N1-C2-N3 | 2.20 | 117.49 | 115.17 |
| 1 | L5 | 2787 | A2M | C4-C5-N7 | 2.20 | 111.66 | 109.34 |
| 48 | S2 | 1004 | PSU | N1-C2-N3 | 2.20 | 117.49 | 115.17 |
| 1 | L5 | 4457 | PSU | C6-C5-C4 | 2.20 | 119.66 | 118.17 |
| 1 | L5 | 2839 | PSU | C4-N3-C2 | -2.20 | 123.34 | 126.37 |
| 48 | S2 | 172 | OMU | N3-C2-N1 | 2.20 | 117.75 | 114.89 |
| 48 | S2 | 436 | OMG | O6-C6-C5 | 2.20 | 128.68 | 124.32 |
| 1 | L5 | 1677 | PSU | O4'-C1'-C2' | 2.20 | 108.19 | 105.15 |
| 48 | S2 | 1081 | PSU | N1-C2-N3 | 2.19 | 117.48 | 115.17 |
| 1 | L5 | 3925 | OMU | N3-C2-N1 | 2.19 | 117.75 | 114.89 |
| 48 | S2 | 1442 | OMU | N3-C2-N1 | 2.19 | 117.75 | 114.89 |
| 48 | S2 | 99 | A2M | C1'-N9-C4 | -2.19 | 122.80 | 126.64 |
| 48 | S2 | 1445 | PSU | N1-C2-N3 | 2.19 | 117.47 | 115.17 |
| 1 | L5 | 4637 | OMG | O6-C6-C5 | 2.19 | 128.66 | 124.32 |
| 1 | L5 | 4293 | PSU | N1-C2-N3 | 2.19 | 117.47 | 115.17 |
| 48 | S2 | 572 | PSU | N1-C2-N3 | 2.18 | 117.47 | 115.17 |
| 1 | L5 | 4420 | PSU | O4'-C1'-C2' | 2.18 | 108.17 | 105.15 |
| 1 | L5 | 3825 | A2M | C1'-N9-C4 | -2.18 | 122.81 | 126.64 |
| 1 | L5 | 2363 | A2M | C6-C5-C4 | -2.18 | 113.66 | 117.90 |
| 1 | L5 | 1792 | PSU | N1-C2-N3 | 2.17 | 117.46 | 115.17 |
| 48 | S2 | 1832 | 6MZ | O4'-C1'-N9 | 2.17 | 111.63 | 108.75 |
| 1 | L5 | 3818 | UY1 | C5-C6-N1 | -2.17 | 119.12 | 122.14 |
| 48 | S2 | 627 | OMU | O4-C4-C5 | 2.17 | 128.91 | 125.16 |
| 48 | S2 | 1643 | PSU | N1-C2-N3 | 2.17 | 117.46 | 115.17 |
| 1 | L5 | 2415 | OMU | O4-C4-C5 | 2.16 | 128.89 | 125.16 |
| 1 | L5 | 4227 | OMU | O2-C2-N3 | -2.16 | 117.50 | 121.49 |
| 1 | L5 | 1534 | A2M | C4-C5-N7 | 2.16 | 111.62 | 109.34 |
| 48 | S2 | 428 | OMU | O4-C4-C5 | 2.16 | 128.88 | 125.16 |
| 48 | S2 | 686 | PSU | N1-C2-N3 | 2.15 | 117.44 | 115.17 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 1582 | PSU | N1-C2-N3 | 2.15 | 117.44 | 115.17 |
| 1 | L5 | 3920 | PSU | C5-C6-N1 | -2.15 | 119.16 | 122.14 |
| 1 | L5 | 400 | A2M | C4'-O4'-C1' | -2.15 | 107.96 | 109.92 |
| 48 | S2 | 99 | A2M | C3'-C2'-C1' | -2.14 | 98.70 | 102.81 |
| 1 | L5 | 4306 | OMU | O4-C4-C5 | 2.14 | 128.85 | 125.16 |
| 48 | S2 | 1288 | OMU | CM2-O2'-C2' | -2.14 | 108.98 | 114.47 |
| 48 | S2 | 572 | PSU | O4'-C1'-C2' | 2.14 | 108.11 | 105.15 |
| 1 | L5 | 4620 | OMU | C6-C5-C4 | 2.13 | 122.26 | 119.53 |
| 1 | L5 | 2837 | OMU | C6-C5-C4 | 2.13 | 122.26 | 119.53 |
| 3 | L8 | 69 | PSU | O4'-C1'-C2' | 2.13 | 108.10 | 105.15 |
| 1 | L5 | 3785 | A2M | O4'-C1'-C2' | 2.13 | 110.23 | 106.61 |
| 47 | Pt | 55 | PSU | N1-C2-N3 | 2.12 | 117.41 | 115.17 |
| 1 | L5 | 1683 | PSU | N1-C2-N3 | 2.12 | 117.40 | 115.17 |
| 48 | S2 | 668 | A2M | O4'-C1'-C2' | 2.12 | 110.22 | 106.61 |
| 1 | L5 | 4673 | PSU | N1-C2-N3 | 2.12 | 117.40 | 115.17 |
| 48 | S2 | 1056 | PSU | O4'-C1'-C2' | 2.11 | 108.08 | 105.15 |
| 1 | L5 | 3637 | PSU | C6-N1-C2 | -2.11 | 120.74 | 122.69 |
| 1 | L5 | 3734 | PSU | N1-C2-N3 | 2.11 | 117.39 | 115.17 |
| 1 | L5 | 4228 | OMG | O6-C6-C5 | 2.10 | 128.49 | 124.32 |
| 1 | L5 | 4530 | UR3 | C3U-N3-C2 | 2.10 | 120.98 | 117.33 |
| 48 | S2 | 576 | A2M | O4'-C1'-C2' | 2.10 | 110.18 | 106.61 |
| 1 | L5 | 1522 | OMG | C8-N7-C5 | 2.09 | 106.11 | 102.55 |
| 1 | L5 | 4636 | PSU | C4-N3-C2 | -2.09 | 123.49 | 126.37 |
| 1 | L5 | 4498 | OMU | C6-C5-C4 | 2.09 | 122.20 | 119.53 |
| 48 | S2 | 428 | OMU | C6-C5-C4 | 2.09 | 122.20 | 119.53 |
| 48 | S2 | 1031 | A2M | C4-C5-N7 | 2.09 | 111.55 | 109.34 |
| 1 | L5 | 400 | A2M | O4'-C1'-C2' | 2.08 | 110.16 | 106.61 |
| 48 | S2 | 116 | OMU | N3-C2-N1 | 2.08 | 117.60 | 114.89 |
| 48 | S2 | 668 | A2M | C4-C5-N7 | 2.08 | 111.53 | 109.34 |
| 1 | L5 | 4227 | OMU | O4-C4-C5 | 2.07 | 128.74 | 125.16 |
| 48 | S2 | 121 | OMU | O4-C4-N3 | -2.07 | 116.27 | 119.27 |
| 48 | S2 | 1288 | OMU | N3-C2-N1 | 2.07 | 117.59 | 114.89 |
| 1 | L5 | 3841 | OMC | C4-N3-C2 | 2.07 | 123.53 | 120.26 |
| 1 | L5 | 2424 | OMG | O6-C6-C5 | 2.07 | 128.43 | 124.32 |
| 1 | L5 | 4306 | OMU | C6-C5-C4 | 2.07 | 122.18 | 119.53 |
| 48 | S2 | 27 | A2M | O4'-C1'-C2' | 2.07 | 110.13 | 106.61 |
| 48 | S2 | 1442 | OMU | C6-C5-C4 | 2.06 | 122.17 | 119.53 |
| 48 | S2 | 627 | OMU | N3-C2-N1 | 2.06 | 117.57 | 114.89 |
| 1 | L5 | 4590 | A2M | C3'-C2'-C1' | -2.06 | 98.87 | 102.81 |
| 1 | L5 | 1536 | PSU | O2-C2-N3 | -2.06 | 118.21 | 121.86 |
| 1 | L5 | 2839 | PSU | N1-C2-N3 | 2.06 | 117.33 | 115.17 |
| 48 | S2 | 1678 | A2M | O3'-C3'-C4' | -2.06 | 105.18 | 111.08 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | L5 | 2843 | PSU | N1-C2-N3 | 2.05 | 117.33 | 115.17 |
| 48 | S2 | 93 | PSU | N1-C2-N3 | 2.05 | 117.32 | 115.17 |
| 1 | L5 | 3724 | A2M | O4'-C1'-C2' | 2.04 | 110.09 | 106.61 |
| 1 | L5 | 2363 | A2M | C4-C5-N7 | 2.04 | 111.50 | 109.34 |
| 1 | L5 | 2839 | PSU | C6-N1-C2 | -2.04 | 120.80 | 122.69 |
| 48 | S2 | 668 | A2M | C6-C5-C4 | -2.04 | 113.93 | 117.90 |
| 1 | L5 | 4552 | PSU | N1-C2-N3 | 2.04 | 117.32 | 115.17 |
| 1 | L5 | 2837 | OMU | C2'-C1'-N1 | -2.04 | 110.37 | 114.24 |
| 1 | L5 | 2401 | A2M | C1'-N9-C4 | -2.04 | 123.06 | 126.64 |
| 48 | S2 | 1678 | A2M | C6-C5-C4 | -2.04 | 113.94 | 117.90 |
| 1 | L5 | 1316 | OMG | O6-C6-C5 | 2.03 | 128.35 | 124.32 |
| 1 | L5 | 3734 | PSU | O4'-C1'-C2' | 2.03 | 107.96 | 105.15 |
| 1 | L5 | 3627 | OMG | O6-C6-C5 | 2.03 | 128.34 | 124.32 |
| 48 | S2 | 428 | OMU | N3-C2-N1 | 2.03 | 117.53 | 114.89 |
| 48 | S2 | 1804 | OMU | C6-C5-C4 | 2.02 | 122.12 | 119.53 |
| 48 | S2 | 354 | OMU | C2'-C1'-N1 | -2.02 | 110.40 | 114.24 |
| 48 | S2 | 1442 | OMU | O4-C4-C5 | 2.02 | 128.65 | 125.16 |
| 1 | L5 | 4228 | OMG | C8-N7-C5 | 2.02 | 105.98 | 102.55 |
| 48 | S2 | 822 | PSU | N1-C2-N3 | 2.02 | 117.29 | 115.17 |
| 48 | S2 | 354 | OMU | O4-C4-C5 | 2.02 | 128.64 | 125.16 |
| 1 | L5 | 3718 | A2M | O3'-C3'-C2' | 2.01 | 116.82 | 111.19 |
| 1 | L5 | 4620 | OMU | N3-C2-N1 | 2.01 | 117.51 | 114.89 |
| 48 | S2 | 1337 | 4AC | C5-C6-N1 | -2.01 | 118.57 | 121.84 |
| 48 | S2 | 484 | A2M | O4'-C1'-C2' | 2.01 | 110.03 | 106.61 |
| 1 | L5 | 1524 | A2M | C4-C5-N7 | 2.01 | 111.46 | 109.34 |
| 1 | L5 | 3899 | OMG | C8-N7-C5 | 2.01 | 105.97 | 102.55 |
| 48 | S2 | 36 | PSU | O4-C4-N3 | -2.01 | 116.34 | 120.11 |
| 48 | S2 | 609 | PSU | N1-C2-N3 | 2.00 | 117.28 | 115.17 |
| 1 | L5 | 4636 | PSU | O4'-C1'-C2' | 2.00 | 107.92 | 105.15 |

There are no chirality outliers.

All (98) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 3 | L8 | 14 | OMU | C1'-C2'-O2'-CM2 |
| 30 | Lb | 5 | MLZ | N-CA-CB-CG |
| 1 | L5 | 1677 | PSU | C2'-C1'-C5-C4 |
| 1 | L5 | 1677 | PSU | O4'-C1'-C5-C4 |
| 1 | L5 | 1677 | PSU | C2'-C1'-C5-C6 |
| 1 | L5 | 2364 | OMG | C1'-C2'-O2'-CM2 |
| 1 | L5 | 2424 | OMG | C1'-C2'-O2'-CM2 |
| 1 | L5 | 2804 | OMC | C1'-C2'-O2'-CM2 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 1 | L5 | 3723 | A2M | C1'-C2'-O2'-CM' |
| 1 | L5 | 3764 | PSU | O4'-C1'-C5-C4 |
| 1 | L5 | 3764 | PSU | O4'-C1'-C5-C6 |
| 1 | L5 | 3792 | OMG | C1'-C2'-O2'-CM2 |
| 1 | L5 | 4196 | OMG | C1'-C2'-O2'-CM2 |
| 1 | L5 | 4536 | OMC | C1'-C2'-O2'-CM2 |
| 1 | L5 | 4590 | A2M | C4'-C5'-O5'-P |
| 47 | Pt | 54 | 2MU | C1'-C2'-O2'-C6' |
| 48 | S2 | 159 | A2M | C1'-C2'-O2'-CM' |
| 48 | S2 | 462 | OMC | C1'-C2'-O2'-CM2 |
| 48 | S2 | 601 | OMG | C1'-C2'-O2'-CM2 |
| 48 | S2 | 867 | OMG | C1'-C2'-O2'-CM2 |
| 48 | S2 | 1243 | PSU | O4'-C4'-C5'-O5' |
| 48 | S2 | 1326 | UY1 | C2'-C1'-C5-C4 |
| 48 | S2 | 1490 | OMG | C1'-C2'-O2'-CM2 |
| 48 | S2 | 1678 | A2M | C1'-C2'-O2'-CM' |
| 48 | S2 | 1804 | OMU | C1'-C2'-O2'-CM2 |
| 1 | L5 | 4420 | PSU | C3'-C4'-C5'-O5' |
| 1 | L5 | 4636 | PSU | C3'-C4'-C5'-O5' |
| 48 | S2 | 644 | OMG | O4'-C4'-C5'-O5' |
| 48 | S2 | 1243 | PSU | C3'-C4'-C5'-O5' |
| 48 | S2 | 1851 | MA6 | O4'-C4'-C5'-O5' |
| 48 | S2 | 1248 | B8N | N34-C33-C34-O36 |
| 48 | S2 | 428 | OMU | C2'-C1'-N1-C6 |
| 1 | L5 | 4420 | PSU | O4'-C4'-C5'-O5' |
| 1 | L5 | 4636 | PSU | O4'-C4'-C5'-O5' |
| 48 | S2 | 590 | A2M | O4'-C4'-C5'-O5' |
| 1 | L5 | 3701 | OMC | C2'-C1'-N1-C6 |
| 1 | L5 | 3701 | OMC | C2'-C1'-N1-C2 |
| 1 | L5 | 1625 | OMG | C3'-C2'-O2'-CM2 |
| 1 | L5 | 2422 | OMC | C3'-C4'-C5'-O5' |
| 47 | Pt | 20 | H2U | C3'-C4'-C5'-O5' |
| 48 | S2 | 590 | A2M | C3'-C4'-C5'-O5' |
| 48 | S2 | 1490 | OMG | O4'-C4'-C5'-O5' |
| 48 | S2 | 1851 | MA6 | C3'-C4'-C5'-O5' |
| 48 | S2 | 428 | OMU | C2'-C1'-N1-C2 |
| 48 | S2 | 644 | OMG | C3'-C4'-C5'-O5' |
| 1 | L5 | 2422 | OMC | O4'-C4'-C5'-O5' |
| 1 | L5 | 2815 | A2M | C3'-C4'-C5'-O5' |
| 1 | L5 | 3785 | A2M | O4'-C4'-C5'-O5' |
| 1 | L5 | 4500 | PSU | C4'-C5'-O5'-P |
| 48 | S2 | 668 | A2M | O4'-C4'-C5'-O5' |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 48 | S2 | 668 | A2M | C3'-C4'-C5'-O5' |
| 48 | S2 | 1248 | B8N | N34-C33-C34-O35 |
| 1 | L5 | 3785 | A2M | C3'-C4'-C5'-O5' |
| 48 | S2 | 576 | A2M | C1'-C2'-O2'-CM' |
| 1 | L5 | 4447 | 5MC | C2'-C1'-N1-C6 |
| 48 | S2 | 1248 | B8N | C4'-C5'-O5'-P |
| 30 | Lb | 5 | MLZ | C-CA-CB-CG |
| 48 | S2 | 428 | OMU | O4'-C1'-N1-C2 |
| 48 | S2 | 172 | OMU | C3'-C2'-O2'-CM2 |
| 48 | S2 | 428 | OMU | C3'-C2'-O2'-CM2 |
| 1 | L5 | 4447 | 5MC | O4'-C1'-N1-C6 |
| 1 | L5 | 3760 | A2M | C4'-C5'-O5'-P |
| 48 | S2 | 428 | OMU | O4'-C1'-N1-C6 |
| 1 | L5 | 1326 | A2M | C4'-C5'-O5'-P |
| 47 | Pt | 20 | H2U | C4'-C5'-O5'-P |
| 1 | L5 | 3701 | OMC | O4'-C1'-N1-C6 |
| 1 | L5 | 2365 | OMC | C3'-C2'-O2'-CM2 |
| 1 | L5 | 2401 | A2M | C3'-C2'-O2'-CM' |
| 1 | L5 | 1534 | A2M | C4'-C5'-O5'-P |
| 1 | L5 | 2815 | A2M | C4'-C5'-O5'-P |
| 1 | L5 | 3818 | UY1 | C4'-C5'-O5'-P |
| 48 | S2 | 1243 | PSU | C4'-C5'-O5'-P |
| 48 | S2 | 1326 | UY1 | O4'-C1'-C5-C4 |
| 1 | L5 | 3701 | OMC | O4'-C1'-N1-C2 |
| 48 | S2 | 1447 | OMG | C3'-C4'-C5'-O5' |
| 48 | S2 | 644 | OMG | C4'-C5'-O5'-P |
| 47 | Pt | 20 | H2U | O4'-C4'-C5'-O5' |
| 1 | L5 | 1326 | A2M | C3'-C2'-O2'-CM' |
| 1 | L5 | 1524 | A2M | C3'-C2'-O2'-CM' |
| 1 | L5 | 3760 | A2M | C3'-C2'-O2'-CM' |
| 48 | S2 | 1490 | OMG | C4'-C5'-O5'-P |
| 1 | L5 | 4447 | 5MC | O4'-C1'-N1-C2 |
| 48 | S2 | 99 | A2M | C4'-C5'-O5'-P |
| 1 | L5 | 4637 | OMG | C1'-C2'-O2'-CM2 |
| 1 | L5 | 3818 | UY1 | O4'-C1'-C5-C6 |
| 1 | L5 | 4531 | PSU | O4'-C1'-C5-C6 |
| 48 | S2 | 1851 | MA6 | C4'-C5'-O5'-P |
| 1 | L5 | 3887 | OMC | C3'-C4'-C5'-O5' |
| 1 | L5 | 3944 | OMG | C3'-C4'-C5'-O5' |
| 47 | Pt | 13 | PSU | O4'-C4'-C5'-O5' |
| 1 | L5 | 3844 | PSU | C4'-C5'-O5'-P |
| 48 | S2 | 1248 | B8N | C32-C33-C34-O36 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 1 | L5 | 3851 | PSU | C3'-C4'-C5'-O5' |
| 1 | L5 | 2351 | OMC | C2'-C1'-N1-C2 |
| 1 | L5 | 4447 | 5MC | C2'-C1'-N1-C2 |
| 48 | S2 | 1490 | OMG | C3'-C4'-C5'-O5' |
| 48 | S2 | 1081 | PSU | C4'-C5'-O5'-P |
| 48 | S2 | 1248 | B8N | C32-C33-C34-O35 |

There are no ring outliers.

51 monomers are involved in 64 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 48 | S2 | 1692 | PSU | 1 | 0 |
| 47 | Pt | 20 | H2U | 1 | 0 |
| 47 | Pt | 55 | PSU | 1 | 0 |
| 1 | L5 | 2804 | OMC | 1 | 0 |
| 48 | S2 | 576 | A2M | 1 | 0 |
| 48 | S2 | 572 | PSU | 1 | 0 |
| 48 | S2 | 462 | OMC | 1 | 0 |
| 1 | L5 | 4220 | 6MZ | 2 | 0 |
| 1 | L5 | 2815 | A2M | 2 | 0 |
| 48 | S2 | 1832 | 6MZ | 1 | 0 |
| 48 | S2 | 159 | A2M | 2 | 0 |
| 1 | L5 | 2632 | PSU | 1 | 0 |
| 1 | L5 | 1340 | OMC | 1 | 0 |
| 3 | L8 | 14 | OMU | 1 | 0 |
| 1 | L5 | 4293 | PSU | 1 | 0 |
| 48 | S2 | 468 | A2M | 1 | 0 |
| 48 | S2 | 1804 | OMU | 1 | 0 |
| 48 | S2 | 166 | A2M | 1 | 0 |
| 48 | S2 | 509 | OMG | 1 | 0 |
| 1 | L5 | 3762 | PSU | 1 | 0 |
| 1 | L5 | 2364 | OMG | 1 | 0 |
| 48 | S2 | 121 | OMU | 1 | 0 |
| 48 | S2 | 1232 | PSU | 1 | 0 |
| 1 | L5 | 4536 | OMC | 1 | 0 |
| 1 | L5 | 4637 | OMG | 1 | 0 |
| 48 | S2 | 484 | A2M | 1 | 0 |
| 1 | L5 | 3792 | OMG | 1 | 0 |
| 48 | S2 | 27 | A2M | 1 | 0 |
| 1 | L5 | 2876 | OMG | 1 | 0 |
| 1 | L5 | 3718 | A2M | 3 | 0 |
| 48 | S2 | 1391 | OMC | 2 | 0 |

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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 1 | L5 | 3867 | A2M | 1 | 0 |
| 48 | S2 | 172 | OMU | 1 | 0 |
| 1 | L5 | 4457 | PSU | 1 | 0 |
| 3 | L8 | 75 | OMG | 1 | 0 |
| 48 | S2 | 1842 | 4AC | 1 | 0 |
| 1 | L5 | 3944 | OMG | 1 | 0 |
| 48 | S2 | 1347 | PSU | 1 | 0 |
| 48 | S2 | 99 | A2M | 1 | 0 |
| 47 | Pt | 13 | PSU | 1 | 0 |
| 1 | L5 | 2424 | OMG | 1 | 0 |
| 1 | L5 | 4456 | OMC | 1 | 0 |
| 48 | S2 | 867 | OMG | 1 | 0 |
| 48 | S2 | 1850 | MA6 | 3 | 0 |
| 48 | S2 | 116 | OMU | 2 | 0 |
| 1 | L5 | 2787 | A2M | 1 | 0 |
| 1 | L5 | 2415 | OMU | 2 | 0 |
| 48 | S2 | 354 | OMU | 1 | 0 |
| 1 | L5 | 3782 | 5MC | 1 | 0 |
| 1 | L5 | 2351 | OMC | 3 | 0 |
| 5 | LB | 245 | HIC | 2 | 0 |

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 573 ligands modelled in this entry, 549 are monoatomic - leaving 24 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 | $\# Z > 2$ |
| 84 | PUT | L5 | 5616 | - | 5,5,5 | 0.11 | 0 | 4,4,4 | 0.27 | 0 |
| 85 | SPD | L5 | 5610 | - | 9,9,9 | 0.29 | 0 | 8,8,8 | 0.41 | 0 |
| 85 | SPD | L5 | 5620 | - | 9,9,9 | 0.22 | 0 | 8,8,8 | 0.49 | 0 |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|-------|-------|------|------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 84 | PUT | L5 | 5615 | - | 5,5,5 | 0.15 | 0 | 4,4,4 | 0.21 | 0 |
| 85 | SPD | L5 | 5601 | - | 9,9,9 | 0.31 | 0 | 8,8,8 | 0.68 | 0 |
| 84 | PUT | L5 | 5621 | - | 5,5,5 | 0.18 | 0 | 4,4,4 | 0.28 | 0 |
| 85 | SPD | S2 | 1902 | - | 9,9,9 | 0.26 | 0 | 8,8,8 | 0.34 | 0 |
| 85 | SPD | L5 | 5606 | - | 9,9,9 | 0.26 | 0 | 8,8,8 | 0.61 | 0 |
| 85 | SPD | L5 | 5605 | - | 9,9,9 | 0.31 | 0 | 8,8,8 | 0.43 | 0 |
| 85 | SPD | L5 | 5600 | - | 9,9,9 | 0.30 | 0 | 8,8,8 | 0.73 | 0 |
| 86 | A1B75 | L5 | 5700 | 83 | 28,28,28 | 1.65 | 4 (14%) | 30,37,37 | 1.39 | 5 (16%) |
| 84 | PUT | L5 | 5614 | - | 5,5,5 | 0.12 | 0 | 4,4,4 | 0.24 | 0 |
| 85 | SPD | L5 | 5608 | - | 9,9,9 | 0.25 | 0 | 8,8,8 | 0.24 | 0 |
| 84 | PUT | L5 | 5613 | - | 5,5,5 | 0.20 | 0 | 4,4,4 | 0.18 | 0 |
| 85 | SPD | S2 | 1901 | - | 9,9,9 | 0.25 | 0 | 8,8,8 | 0.59 | 0 |
| 85 | SPD | L5 | 5609 | - | 9,9,9 | 0.26 | 0 | 8,8,8 | 0.31 | 0 |
| 84 | PUT | L5 | 5612 | - | 5,5,5 | 0.18 | 0 | 4,4,4 | 0.17 | 0 |
| 87 | TRS | L5 | 5618 | - | 7,7,7 | 0.47 | 0 | 9,9,9 | 0.63 | 0 |
| 85 | SPD | L5 | 5603 | - | 9,9,9 | 0.25 | 0 | 8,8,8 | 0.24 | 0 |
| 85 | SPD | L5 | 5604 | - | 9,9,9 | 0.28 | 0 | 8,8,8 | 0.64 | 0 |
| 87 | TRS | L5 | 5617 | - | 7,7,7 | 0.79 | 0 | 9,9,9 | 1.00 | 0 |
| 85 | SPD | L5 | 5607 | - | 9,9,9 | 0.29 | 0 | 8,8,8 | 0.70 | 0 |
| 85 | SPD | L5 | 5602 | - | 9,9,9 | 0.29 | 0 | 8,8,8 | 0.96 | 0 |
| 84 | PUT | L5 | 5611 | - | 5,5,5 | 0.09 | 0 | 4,4,4 | 0.18 | 0 |

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 |
|-----|-------|-------|------|------|---------|------------|---------|
| 84 | PUT | L5 | 5616 | - | - | 3/3/3/3 | - |
| 85 | SPD | L5 | 5610 | - | - | 0/7/7/7 | - |
| 85 | SPD | L5 | 5620 | - | - | 2/7/7/7 | - |
| 84 | PUT | L5 | 5615 | - | - | 0/3/3/3 | - |
| 85 | SPD | L5 | 5601 | - | - | 1/7/7/7 | - |
| 84 | PUT | L5 | 5621 | - | - | 0/3/3/3 | - |
| 85 | SPD | S2 | 1902 | - | - | 0/7/7/7 | - |
| 85 | SPD | L5 | 5606 | - | - | 1/7/7/7 | - |
| 85 | SPD | L5 | 5605 | - | - | 2/7/7/7 | - |
| 85 | SPD | L5 | 5600 | - | - | 0/7/7/7 | - |
| 86 | A1B75 | L5 | 5700 | 83 | - | 1/16/36/36 | 0/3/3/3 |
| 84 | PUT | L5 | 5614 | - | - | 0/3/3/3 | - |
| 85 | SPD | L5 | 5608 | - | - | 2/7/7/7 | - |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|------|---------|----------|-------|
| 84 | PUT | L5 | 5613 | - | - | 2/3/3/3 | - |
| 85 | SPD | S2 | 1901 | - | - | 2/7/7/7 | - |
| 85 | SPD | L5 | 5609 | - | - | 1/7/7/7 | - |
| 84 | PUT | L5 | 5612 | - | - | 1/3/3/3 | - |
| 87 | TRS | L5 | 5618 | - | - | 2/9/9/9 | - |
| 85 | SPD | L5 | 5603 | - | - | 1/7/7/7 | - |
| 85 | SPD | L5 | 5604 | - | - | 2/7/7/7 | - |
| 87 | TRS | L5 | 5617 | - | - | 3/9/9/9 | - |
| 85 | SPD | L5 | 5607 | - | - | 3/7/7/7 | - |
| 85 | SPD | L5 | 5602 | - | - | 1/7/7/7 | - |
| 84 | PUT | L5 | 5611 | - | - | 1/3/3/3 | - |

All (4) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|-------|-------|-------|-------------|----------|
| 86 | L5 | 5700 | A1B75 | C3-N1 | 6.49 | 1.60 | 1.47 |
| 86 | L5 | 5700 | A1B75 | O3-C5 | -2.75 | 1.37 | 1.43 |
| 86 | L5 | 5700 | A1B75 | C1-N2 | 2.60 | 1.39 | 1.34 |
| 86 | L5 | 5700 | A1B75 | C4-N1 | 2.23 | 1.54 | 1.47 |

All (5) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|-------|----------|-------|-------------|----------|
| 86 | L5 | 5700 | A1B75 | C2-O2-C1 | 3.43 | 122.08 | 117.04 |
| 86 | L5 | 5700 | A1B75 | O2-C1-O1 | -3.26 | 119.76 | 124.55 |
| 86 | L5 | 5700 | A1B75 | C4-C5-C2 | 2.62 | 106.68 | 103.32 |
| 86 | L5 | 5700 | A1B75 | O2-C1-N2 | 2.37 | 114.87 | 111.01 |
| 86 | L5 | 5700 | A1B75 | C7-C6-C3 | 2.14 | 117.03 | 113.40 |

There are no chirality outliers.

All (31) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-------------|
| 87 | L5 | 5618 | TRS | N-C-C2-O2 |
| 87 | L5 | 5617 | TRS | N-C-C3-O3 |
| 85 | L5 | 5620 | SPD | C3-C4-C5-N6 |
| 85 | L5 | 5608 | SPD | C3-C4-C5-N6 |
| 85 | L5 | 5607 | SPD | N6-C7-C8-C9 |
| 87 | L5 | 5617 | TRS | C2-C-C3-O3 |
| 85 | L5 | 5605 | SPD | C4-C5-N6-C7 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|-------|----------------|
| 85 | L5 | 5603 | SPD | C4-C5-N6-C7 |
| 85 | L5 | 5607 | SPD | C2-C3-C4-C5 |
| 84 | L5 | 5613 | PUT | C1-C2-C3-C4 |
| 84 | L5 | 5616 | PUT | C1-C2-C3-C4 |
| 85 | S2 | 1901 | SPD | C3-C4-C5-N6 |
| 85 | L5 | 5620 | SPD | C8-C7-N6-C5 |
| 85 | L5 | 5609 | SPD | N1-C2-C3-C4 |
| 86 | L5 | 5700 | A1B75 | C14-C15-C16-N3 |
| 85 | L5 | 5605 | SPD | N1-C2-C3-C4 |
| 85 | L5 | 5607 | SPD | C4-C5-N6-C7 |
| 84 | L5 | 5616 | PUT | C2-C3-C4-N2 |
| 84 | L5 | 5611 | PUT | N1-C1-C2-C3 |
| 85 | L5 | 5604 | SPD | C2-C3-C4-C5 |
| 84 | L5 | 5613 | PUT | N1-C1-C2-C3 |
| 85 | L5 | 5601 | SPD | C4-C5-N6-C7 |
| 85 | L5 | 5608 | SPD | C8-C7-N6-C5 |
| 85 | S2 | 1901 | SPD | C4-C5-N6-C7 |
| 87 | L5 | 5618 | TRS | C1-C-C2-O2 |
| 87 | L5 | 5617 | TRS | C1-C-C3-O3 |
| 85 | L5 | 5606 | SPD | C7-C8-C9-N10 |
| 84 | L5 | 5612 | PUT | C2-C3-C4-N2 |
| 84 | L5 | 5616 | PUT | N1-C1-C2-C3 |
| 85 | L5 | 5602 | SPD | C8-C7-N6-C5 |
| 85 | L5 | 5604 | SPD | C8-C7-N6-C5 |

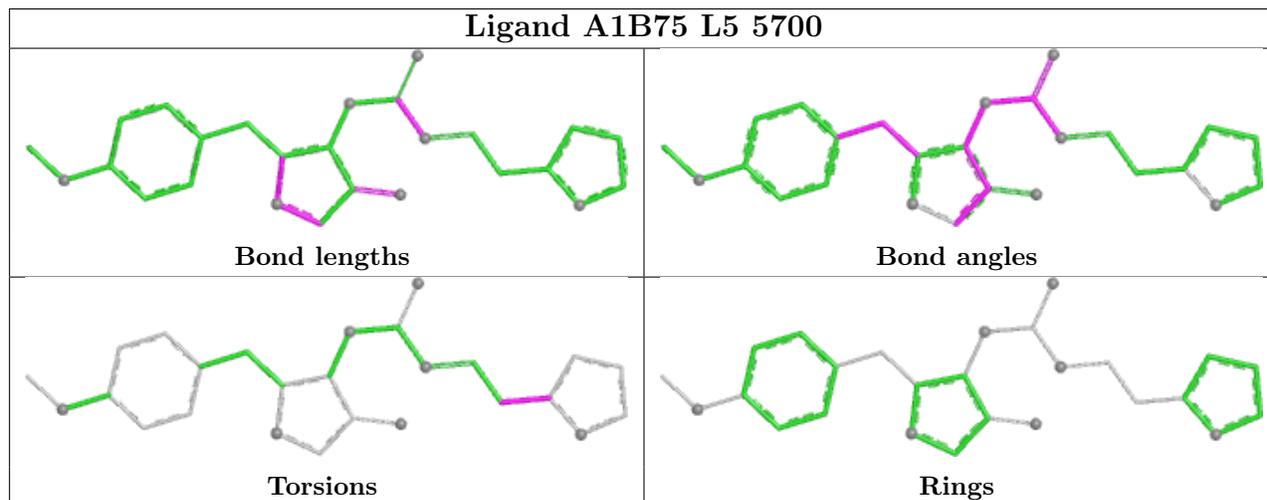
There are no ring outliers.

7 monomers are involved in 9 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|------|-------|---------|--------------|
| 84 | L5 | 5616 | PUT | 3 | 0 |
| 85 | L5 | 5610 | SPD | 1 | 0 |
| 84 | L5 | 5615 | PUT | 1 | 0 |
| 84 | L5 | 5621 | PUT | 1 | 0 |
| 86 | L5 | 5700 | A1B75 | 1 | 0 |
| 87 | L5 | 5618 | TRS | 1 | 0 |
| 85 | L5 | 5607 | SPD | 1 | 0 |

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier.

Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



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 |
|-----|-------|------------------|
| 46 | NC | 1 |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1 | NC | 20:UNK | C | 26:GLU | N | 16.32 |

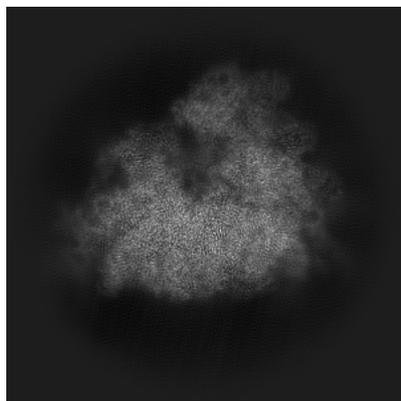
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-70084. These allow visual inspection of the internal detail of the map and identification of artifacts.

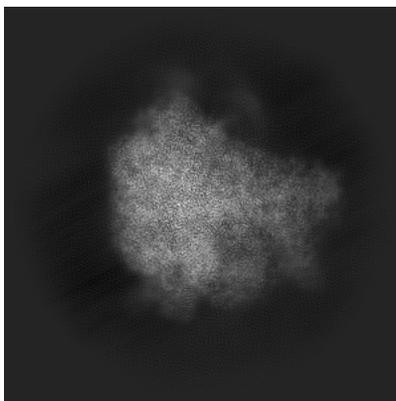
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

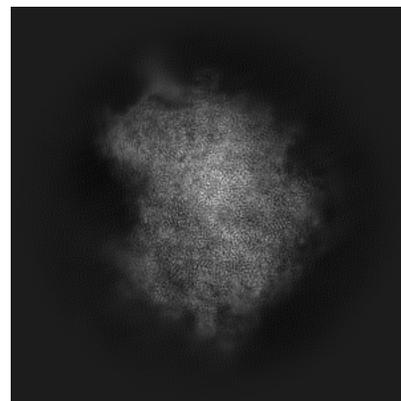
6.1.1 Primary map



X

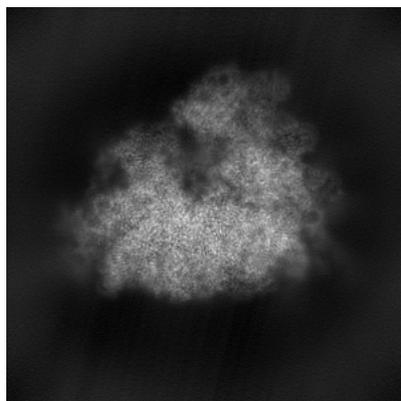


Y

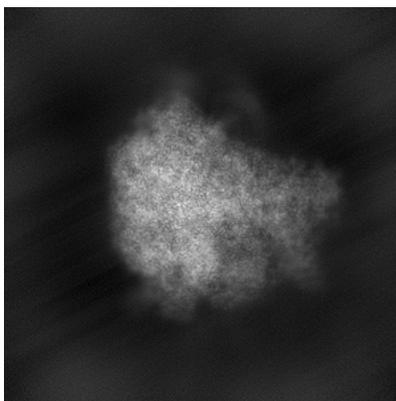


Z

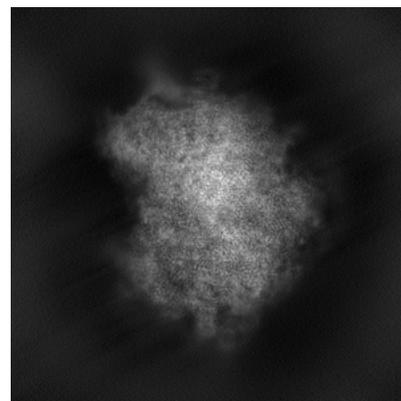
6.1.2 Raw map



X



Y

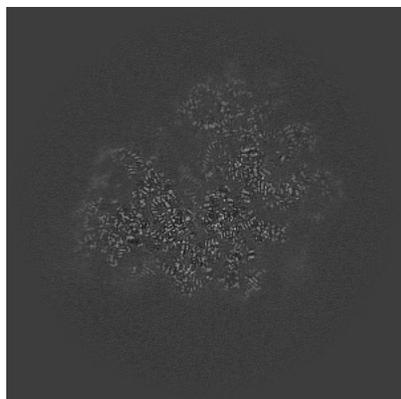


Z

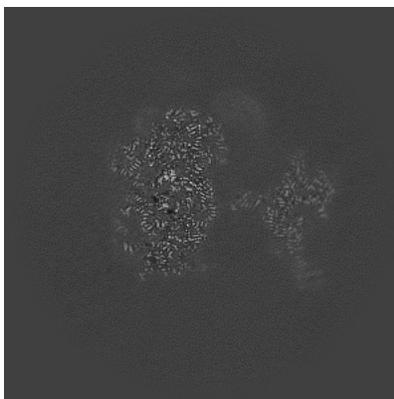
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

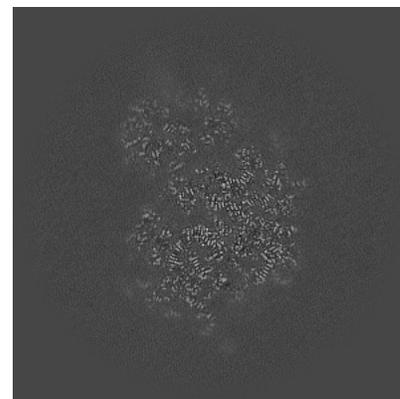
6.2.1 Primary map



X Index: 256

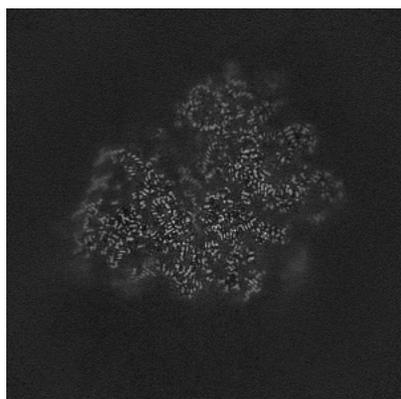


Y Index: 256

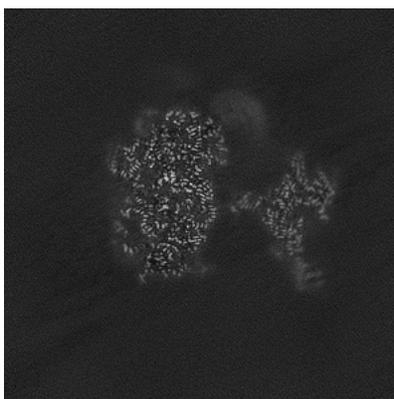


Z Index: 256

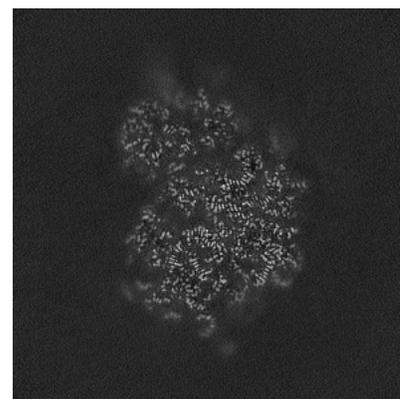
6.2.2 Raw map



X Index: 256



Y Index: 256

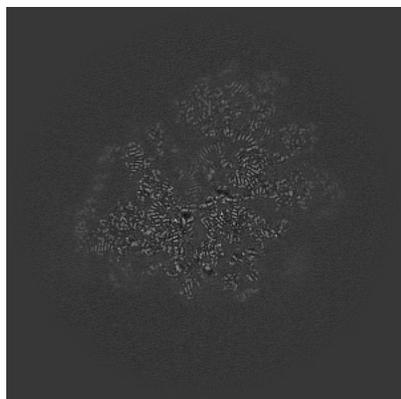


Z Index: 256

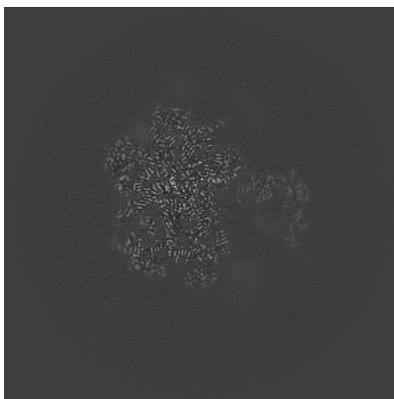
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

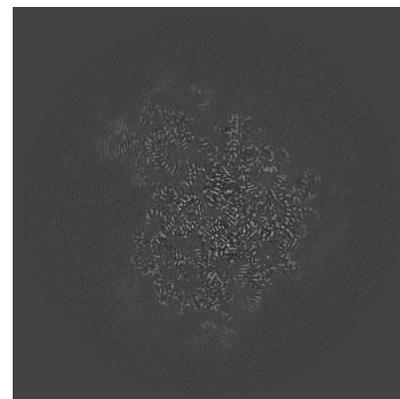
6.3.1 Primary map



X Index: 261

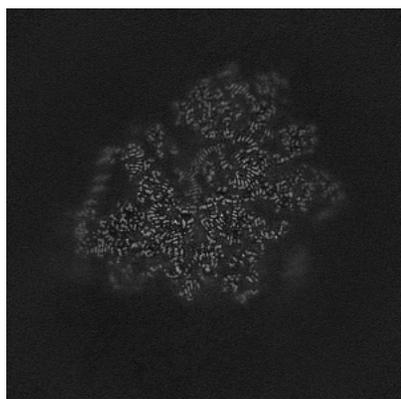


Y Index: 218

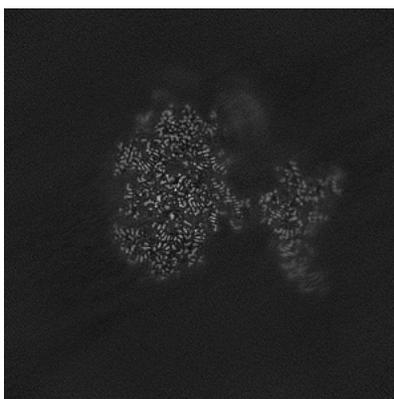


Z Index: 237

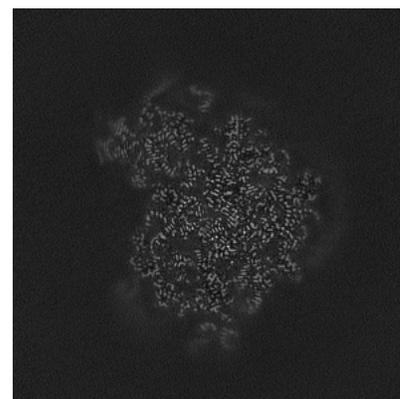
6.3.2 Raw map



X Index: 261



Y Index: 265

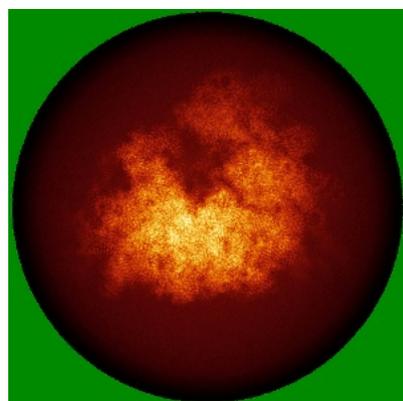


Z Index: 237

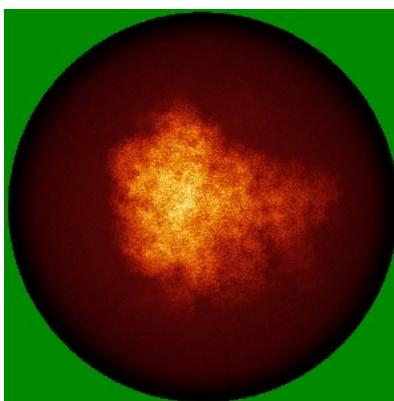
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

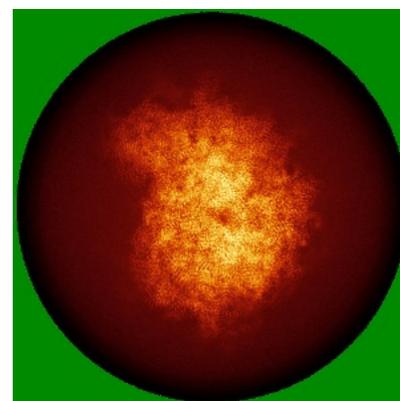
6.4.1 Primary map



X

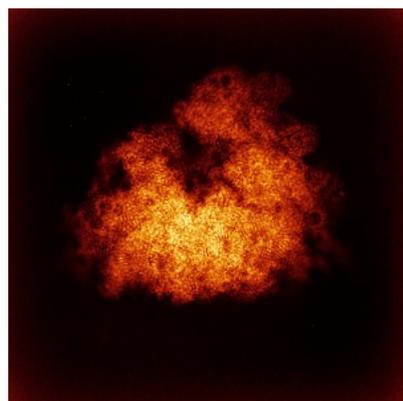


Y

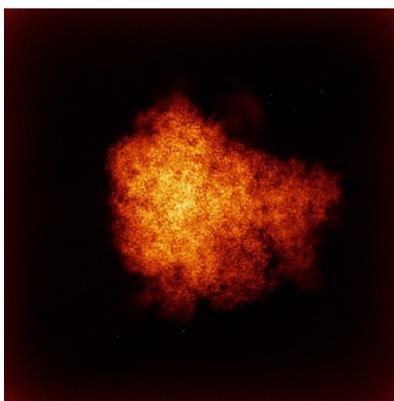


Z

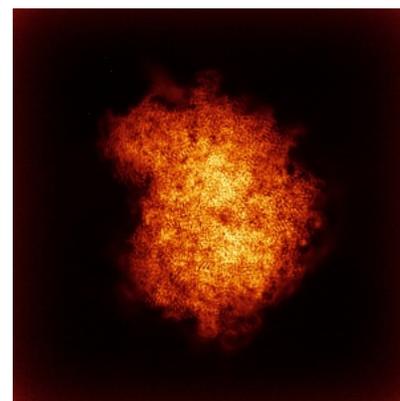
6.4.2 Raw map



X



Y

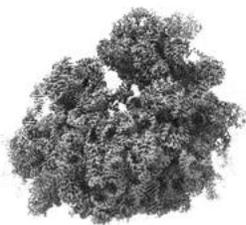


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.112. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

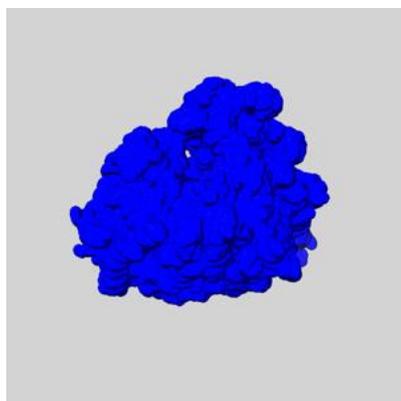
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

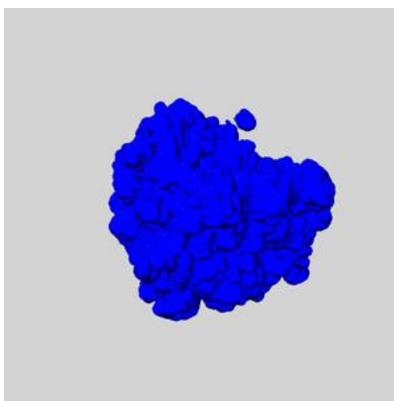
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

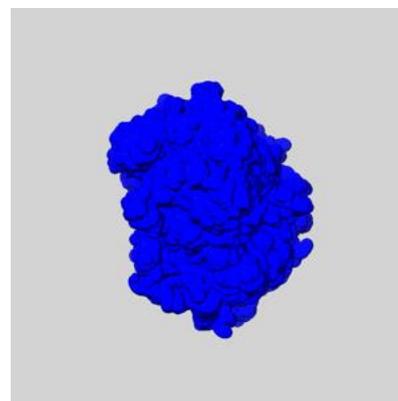
6.6.1 emd_70084_msk_1.map [i](#)



X



Y

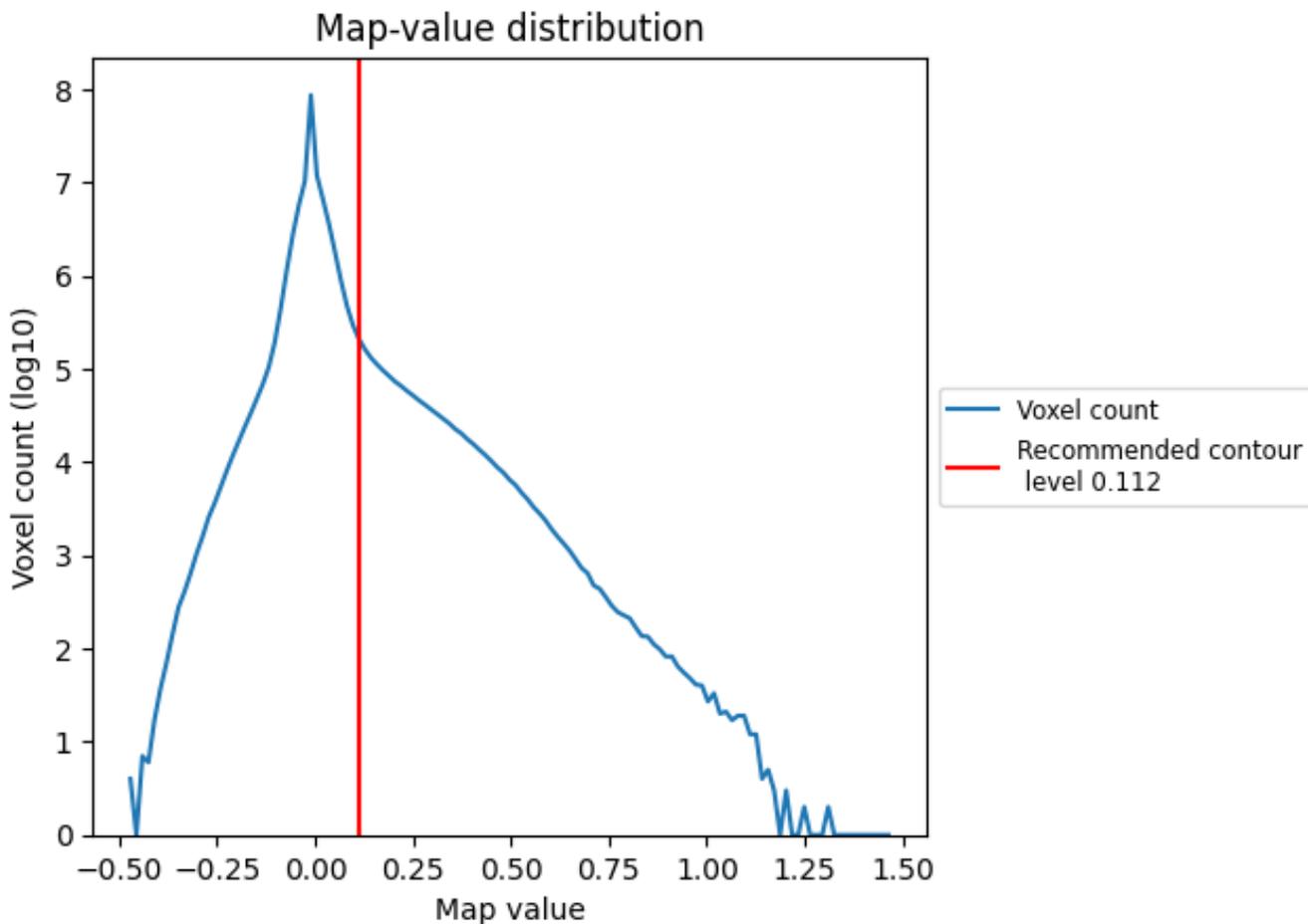


Z

7 Map analysis [i](#)

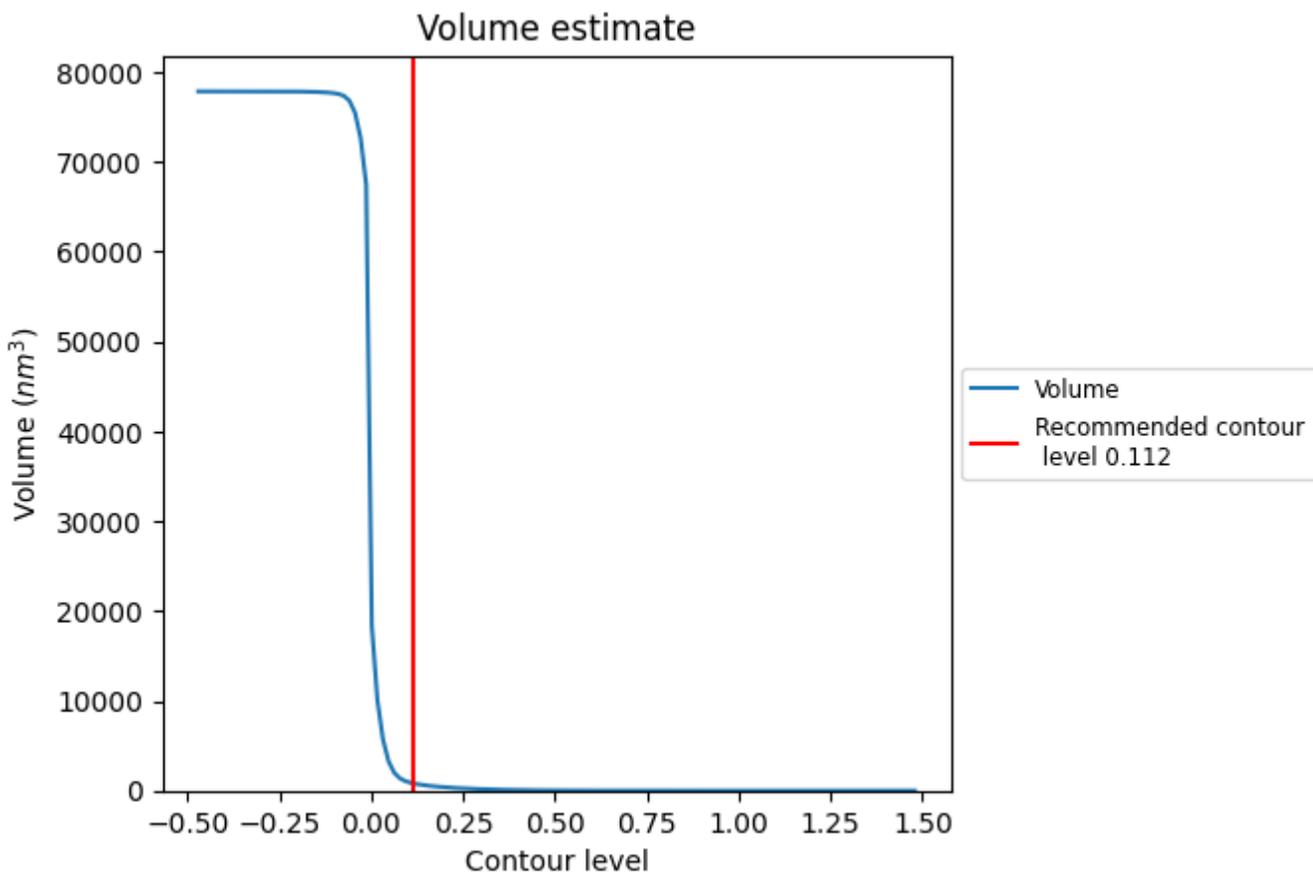
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

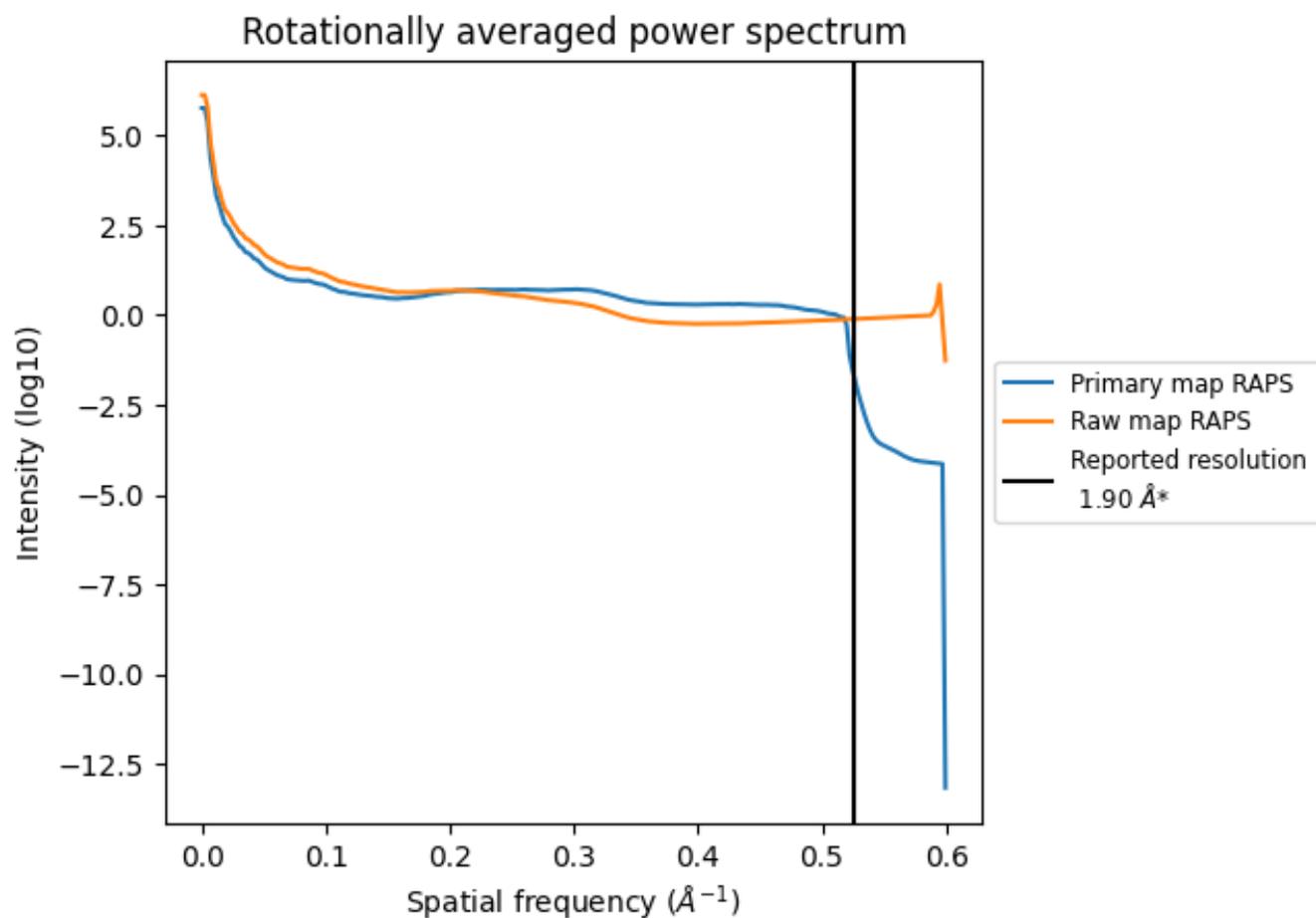
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 834 nm³; this corresponds to an approximate mass of 753 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum i

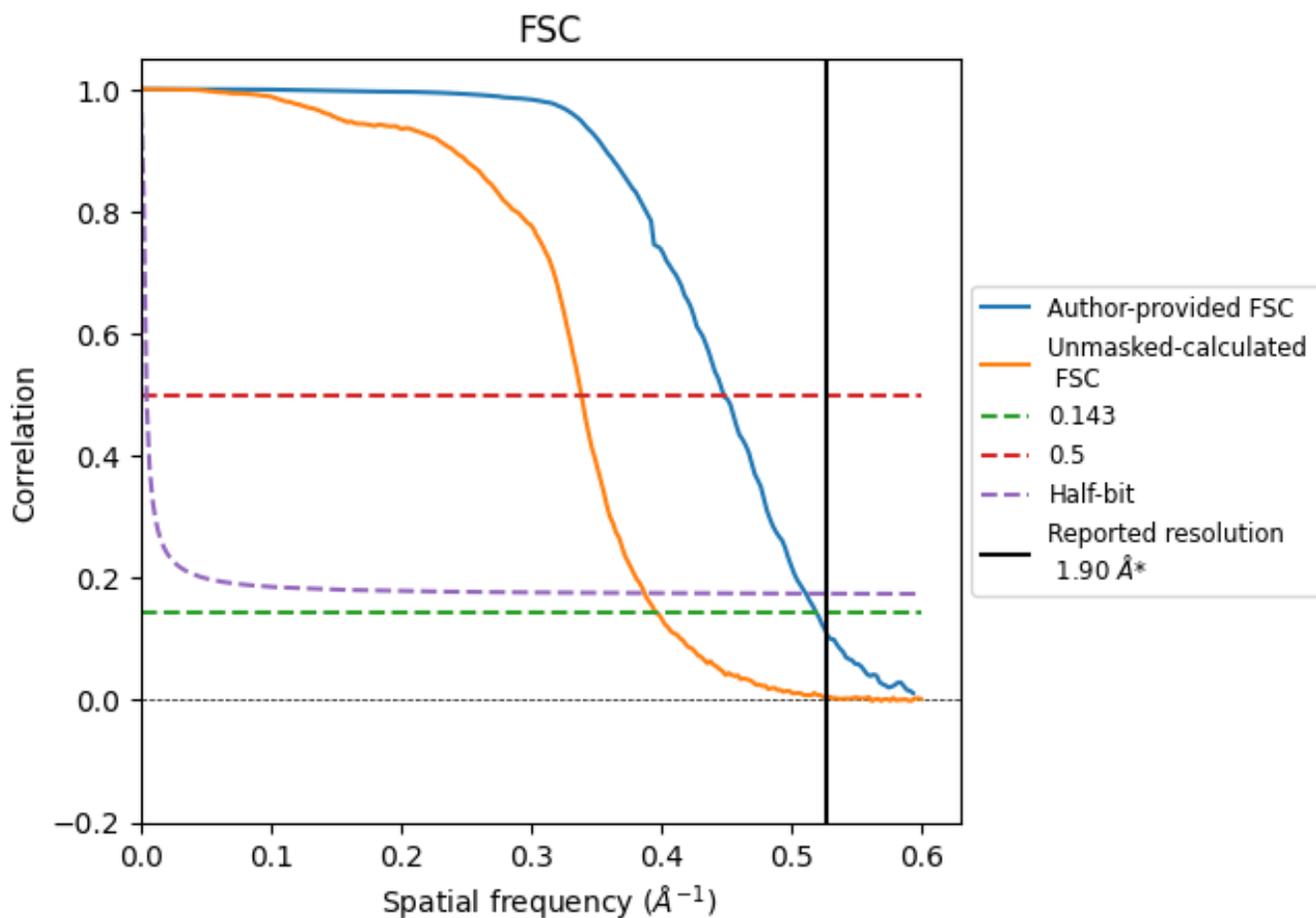


*Reported resolution corresponds to spatial frequency of 0.526 \AA^{-1}

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.526 Å⁻¹

8.2 Resolution estimates [i](#)

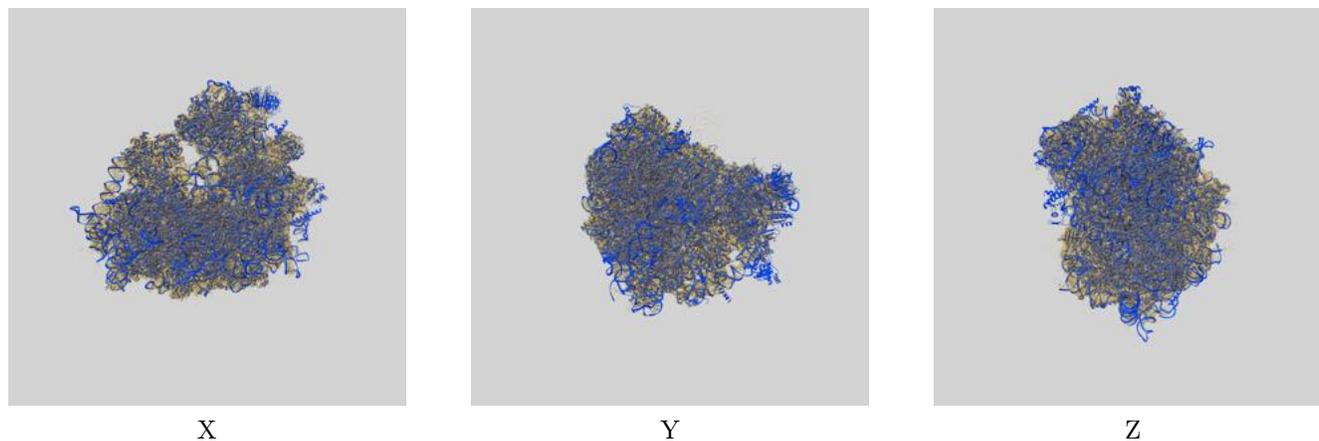
| Resolution estimate (Å) | Estimation criterion (FSC cut-off) | | |
|---------------------------|------------------------------------|------|----------|
| | 0.143 | 0.5 | Half-bit |
| Reported by author | 1.90 | - | - |
| Author-provided FSC curve | 1.93 | 2.23 | 1.96 |
| Unmasked-calculated* | 2.53 | 2.95 | 2.58 |

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 2.53 differs from the reported value 1.9 by more than 10 %

9 Map-model fit [i](#)

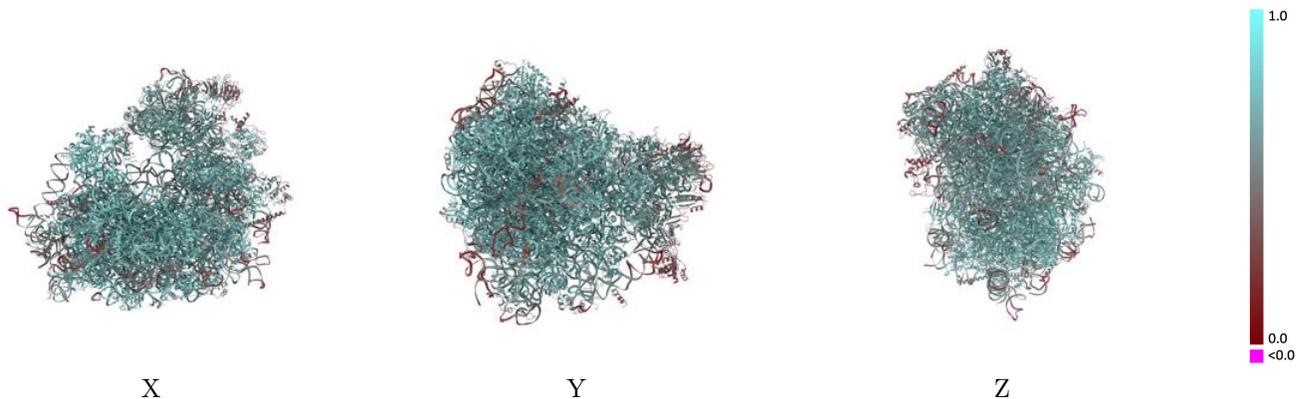
This section contains information regarding the fit between EMDB map EMD-70084 and PDB model 9O3W. Per-residue inclusion information can be found in section [3](#) on page [29](#).

9.1 Map-model overlay [i](#)



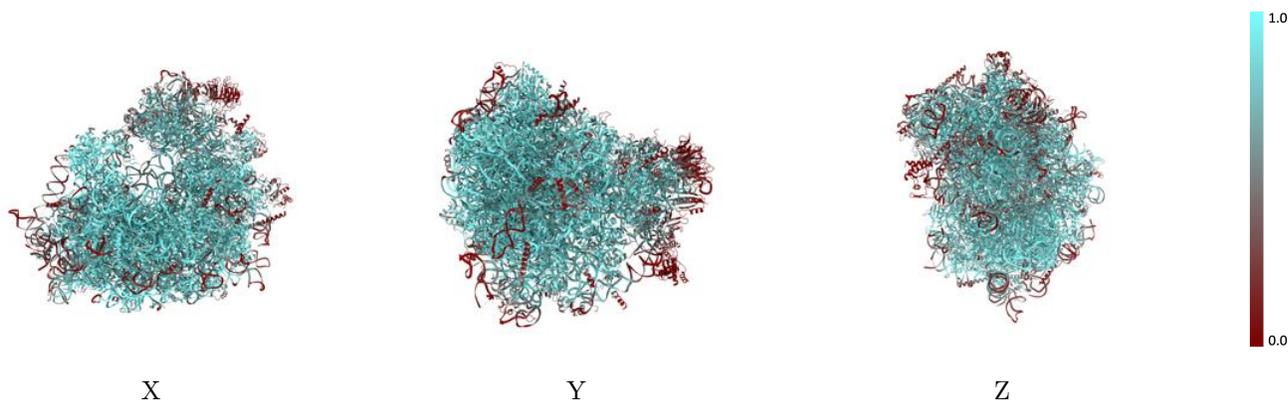
The images above show the 3D surface view of the map at the recommended contour level 0.112 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



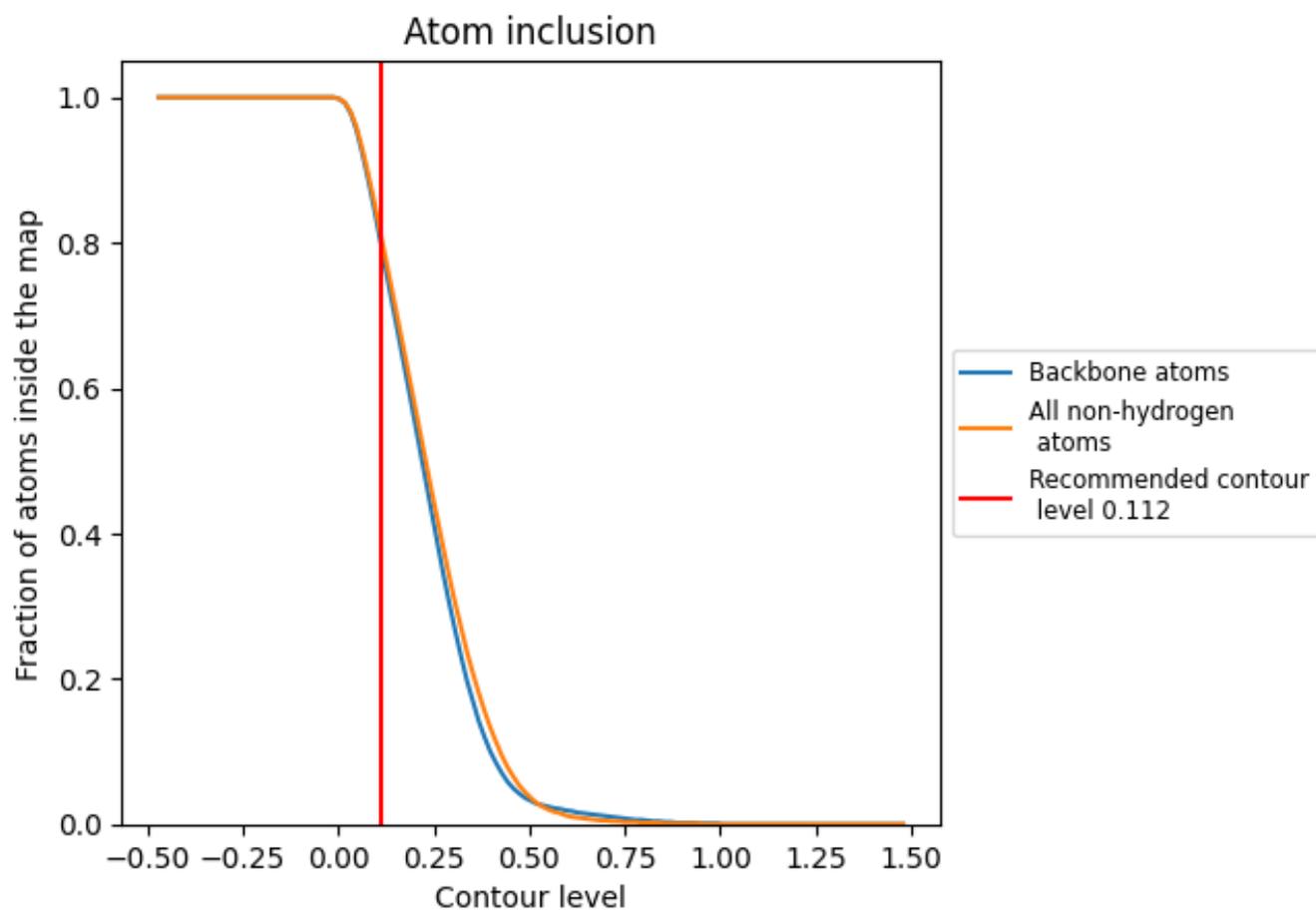
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.112).

9.4 Atom inclusion [i](#)

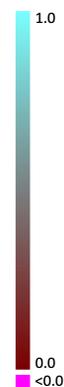


At the recommended contour level, 80% of all backbone atoms, 81% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.112) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|-------|--|--|
| All |  0.8090 |  0.6780 |
| L5 |  0.8520 |  0.6900 |
| L7 |  0.9830 |  0.7430 |
| L8 |  0.9050 |  0.7100 |
| LA |  0.9610 |  0.7770 |
| LB |  0.9100 |  0.7510 |
| LC |  0.9120 |  0.7390 |
| LD |  0.8570 |  0.7120 |
| LE |  0.7770 |  0.6670 |
| LF |  0.9140 |  0.7530 |
| LG |  0.7500 |  0.6580 |
| LH |  0.8760 |  0.7170 |
| LI |  0.8760 |  0.7240 |
| LJ |  0.8060 |  0.6790 |
| LL |  0.8590 |  0.7120 |
| LM |  0.8900 |  0.7140 |
| LN |  0.9830 |  0.7820 |
| LO |  0.9140 |  0.7500 |
| LP |  0.9280 |  0.7570 |
| LQ |  0.9570 |  0.7670 |
| LR |  0.8060 |  0.6910 |
| LS |  0.9500 |  0.7630 |
| LT |  0.8560 |  0.7220 |
| LU |  0.7220 |  0.6350 |
| LV |  0.9330 |  0.7630 |
| LW |  0.8520 |  0.7140 |
| LX |  0.8880 |  0.7240 |
| LY |  0.8600 |  0.7100 |
| LZ |  0.8740 |  0.7130 |
| La |  0.9440 |  0.7640 |
| Lb |  0.6690 |  0.6440 |
| Lc |  0.8750 |  0.7170 |
| Ld |  0.8600 |  0.7270 |
| Le |  0.9550 |  0.7640 |
| Lf |  0.9440 |  0.7590 |



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| Chain | Atom inclusion | Q-score |
|-------|--|--|
| Lg |  0.8870 |  0.7360 |
| Lh |  0.8550 |  0.7110 |
| Li |  0.8420 |  0.7100 |
| Lj |  0.9730 |  0.7730 |
| Lk |  0.6910 |  0.6390 |
| Ll |  0.9320 |  0.7420 |
| Lm |  0.8900 |  0.7340 |
| Ln |  0.8860 |  0.7430 |
| Lo |  0.8820 |  0.7450 |
| Lp |  0.9170 |  0.7600 |
| Lr |  0.9150 |  0.7320 |
| NC |  0.3640 |  0.4800 |
| Pt |  0.7330 |  0.6350 |
| S2 |  0.8300 |  0.6590 |
| SA |  0.7140 |  0.6450 |
| SB |  0.7980 |  0.6760 |
| SC |  0.7690 |  0.6780 |
| SD |  0.4760 |  0.5530 |
| SE |  0.7220 |  0.6490 |
| SF |  0.6950 |  0.6380 |
| SG |  0.4100 |  0.5190 |
| SH |  0.4200 |  0.5270 |
| SI |  0.7770 |  0.6740 |
| SJ |  0.6850 |  0.6220 |
| SK |  0.3250 |  0.4850 |
| SL |  0.8520 |  0.7120 |
| SM |  0.0030 |  0.2580 |
| SN |  0.8800 |  0.7230 |
| SO |  0.8680 |  0.7130 |
| SP |  0.4640 |  0.5450 |
| SQ |  0.6170 |  0.6330 |
| SR |  0.4650 |  0.5620 |
| SS |  0.6000 |  0.6190 |
| ST |  0.6140 |  0.6180 |
| SU |  0.4280 |  0.5280 |
| SV |  0.7020 |  0.6590 |
| SW |  0.9090 |  0.7250 |
| SX |  0.8810 |  0.7190 |
| SY |  0.5120 |  0.5500 |
| SZ |  0.4660 |  0.5570 |
| Sa |  0.8810 |  0.7200 |
| Sb |  0.7000 |  0.6520 |

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| Chain | Atom inclusion | Q-score |
|-------|--|--|
| Sc |  0.5870 |  0.5880 |
| Sd |  0.7880 |  0.6730 |
| Se |  0.6130 |  0.6020 |
| Sf |  0.0180 |  0.2740 |
| Sg |  0.1770 |  0.4600 |
| mR |  0.3530 |  0.5920 |