



Full wwPDB EM Validation Report ⓘ

Nov 29, 2022 – 02:12 AM JST

PDB ID : 7VNY
EMDB ID : EMD-32047
Title : Rba sphaeroides WT RC-LH1 monomer
Authors : Bracun, L.; Yamagata, A.; Liu, L.N.; Shirouzu, M.
Deposited on : 2021-10-12
Resolution : 2.79 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:

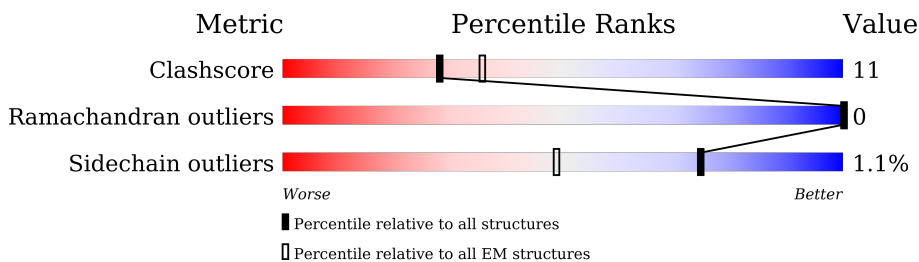
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.79 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.



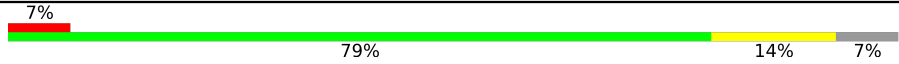

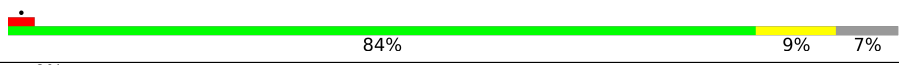

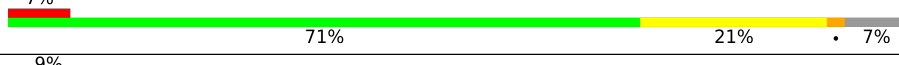
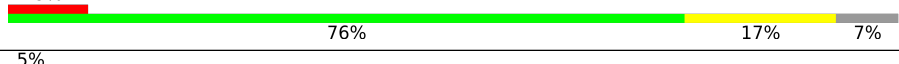
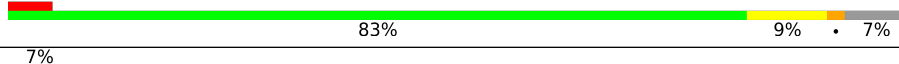

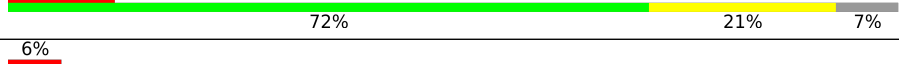


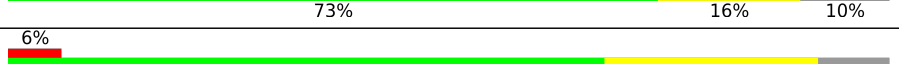
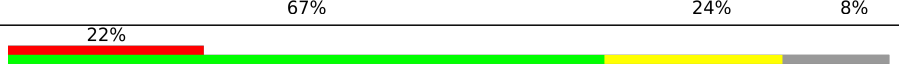
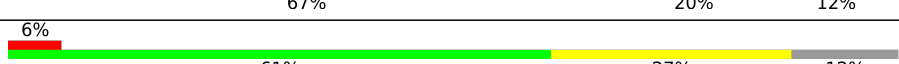

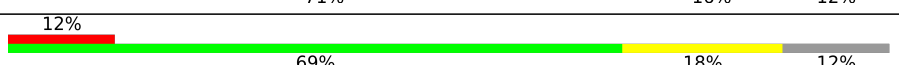
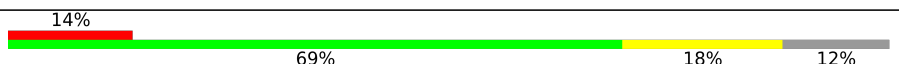
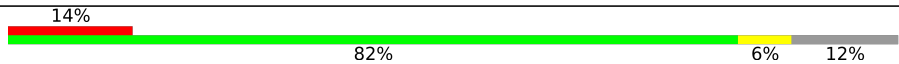
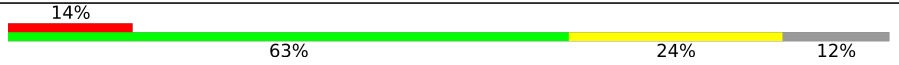


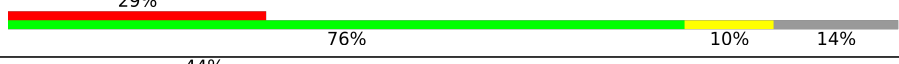
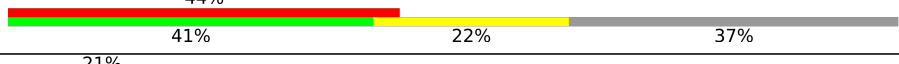


| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|-----------------------|--------------------------|--------------------------|
| Clashscore | 158937 | 4297 |
| Ramachandran outliers | 154571 | 4023 |
| Sidechain outliers | 154315 | 3826 |

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 | L | 282 | 83% 17% |
| 2 | M | 308 | 81% 18% |
| 3 | H | 260 | 79% 15% 7% 5% |
| 4 | 1 | 58 | 74% 17% 38% 9% |
| 4 | 3 | 58 | 74% 19% 17% 7% |
| 4 | 7 | 58 | 62% 17% 10% 21% |
| 4 | 9 | 58 | 78% 16% 5% 7% |
| 4 | A | 58 | 69% 24% 5% 7% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 4 | D | 58 |  |
| 4 | F | 58 |  |
| 4 | I | 58 |  |
| 4 | K | 58 |  |
| 4 | O | 58 |  |
| 4 | Q | 58 |  |
| 4 | S | 58 |  |
| 4 | U | 58 |  |
| 4 | W | 58 |  |
| 5 | 0 | 49 |  |
| 5 | 2 | 49 |  |
| 5 | 8 | 49 |  |
| 5 | B | 49 |  |
| 5 | C | 49 |  |
| 5 | E | 49 |  |
| 5 | G | 49 |  |
| 5 | J | 49 |  |
| 5 | N | 49 |  |
| 5 | P | 49 |  |
| 5 | R | 49 |  |
| 5 | T | 49 |  |
| 5 | V | 49 |  |
| 5 | Z | 49 |  |
| 6 | X | 82 |  |
| 7 | Y | 53 |  |

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

| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 13 | SPO | 0 | 101 | - | X | - | - |
| 13 | SPO | 3 | 102 | - | X | - | - |
| 13 | SPO | 3 | 104 | - | X | - | - |
| 13 | SPO | 8 | 102 | - | X | - | - |
| 13 | SPO | 9 | 102 | - | X | - | - |
| 13 | SPO | B | 101 | - | X | - | - |
| 13 | SPO | D | 102 | - | X | - | - |
| 13 | SPO | D | 103 | - | X | - | - |
| 13 | SPO | E | 102 | - | X | - | - |
| 13 | SPO | F | 102 | - | X | - | - |
| 13 | SPO | G | 101 | - | X | - | - |
| 13 | SPO | I | 102 | - | X | - | - |
| 13 | SPO | J | 101 | - | X | - | - |
| 13 | SPO | J | 103 | - | X | - | - |
| 13 | SPO | M | 405 | - | X | - | - |
| 13 | SPO | N | 102 | - | X | - | - |
| 13 | SPO | O | 102 | - | X | - | - |
| 13 | SPO | O | 104 | - | X | - | - |
| 13 | SPO | P | 101 | - | X | - | - |
| 13 | SPO | T | 101 | - | X | - | - |
| 13 | SPO | T | 102 | - | X | - | - |
| 13 | SPO | U | 102 | - | X | - | - |
| 13 | SPO | U | 104 | - | X | - | - |
| 13 | SPO | V | 101 | - | X | - | - |
| 13 | SPO | W | 103 | - | X | - | - |
| 13 | SPO | X | 101 | - | X | - | - |

2 Entry composition [i](#)

There are 14 unique types of molecules in this entry. The entry contains 22472 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 protein called Reaction center protein L chain.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 1 | L | 281 | 2232 | 1507 | 355 | 362 | 8 | 0 | 0 |

- Molecule 2 is a protein called Reaction center protein M chain.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 2 | M | 305 | 2431 | 1623 | 397 | 400 | 11 | 0 | 0 |

- Molecule 3 is a protein called Reaction center protein H chain.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 3 | H | 247 | 1875 | 1202 | 318 | 345 | 10 | 0 | 0 |

- Molecule 4 is a protein called Light-harvesting protein B-875 alpha chain.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 4 | A | 54 | 455 | 310 | 73 | 69 | 3 | 0 | 0 |
| 4 | D | 54 | 455 | 310 | 73 | 69 | 3 | 0 | 0 |
| 4 | F | 54 | 455 | 310 | 73 | 69 | 3 | 0 | 0 |
| 4 | I | 54 | 455 | 310 | 73 | 69 | 3 | 0 | 0 |
| 4 | K | 54 | 455 | 310 | 73 | 69 | 3 | 0 | 0 |
| 4 | O | 54 | 455 | 310 | 73 | 69 | 3 | 0 | 0 |
| 4 | Q | 54 | 455 | 310 | 73 | 69 | 3 | 0 | 0 |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 4 | S | 54 | Total | C | N | O | S | 0 | 0 |
| | | | 455 | 310 | 73 | 69 | 3 | | |
| 4 | U | 54 | Total | C | N | O | S | 0 | 0 |
| | | | 455 | 310 | 73 | 69 | 3 | | |
| 4 | W | 54 | Total | C | N | O | S | 0 | 0 |
| | | | 455 | 310 | 73 | 69 | 3 | | |
| 4 | 3 | 54 | Total | C | N | O | S | 0 | 0 |
| | | | 455 | 310 | 73 | 69 | 3 | | |
| 4 | 1 | 53 | Total | C | N | O | S | 0 | 0 |
| | | | 447 | 305 | 72 | 68 | 2 | | |
| 4 | 7 | 46 | Total | C | N | O | S | 0 | 0 |
| | | | 392 | 271 | 60 | 58 | 3 | | |
| 4 | 9 | 54 | Total | C | N | O | S | 0 | 0 |
| | | | 455 | 310 | 73 | 69 | 3 | | |

- Molecule 5 is a protein called Light-harvesting protein B-875 beta chain.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 5 | B | 45 | Total | C | N | O | S | 0 | 0 |
| | | | 365 | 243 | 57 | 64 | 1 | | |
| 5 | E | 43 | Total | C | N | O | S | 0 | 0 |
| | | | 351 | 236 | 55 | 59 | 1 | | |
| 5 | G | 43 | Total | C | N | O | S | 0 | 0 |
| | | | 351 | 236 | 55 | 59 | 1 | | |
| 5 | J | 43 | Total | C | N | O | S | 0 | 0 |
| | | | 351 | 236 | 55 | 59 | 1 | | |
| 5 | N | 43 | Total | C | N | O | S | 0 | 0 |
| | | | 351 | 236 | 55 | 59 | 1 | | |
| 5 | P | 43 | Total | C | N | O | S | 0 | 0 |
| | | | 351 | 236 | 55 | 59 | 1 | | |
| 5 | R | 43 | Total | C | N | O | S | 0 | 0 |
| | | | 351 | 236 | 55 | 59 | 1 | | |
| 5 | T | 43 | Total | C | N | O | S | 0 | 0 |
| | | | 351 | 236 | 55 | 59 | 1 | | |
| 5 | V | 43 | Total | C | N | O | S | 0 | 0 |
| | | | 351 | 236 | 55 | 59 | 1 | | |
| 5 | C | 43 | Total | C | N | O | S | 0 | 0 |
| | | | 351 | 236 | 55 | 59 | 1 | | |
| 5 | Z | 42 | Total | C | N | O | S | 0 | 0 |
| | | | 343 | 230 | 54 | 58 | 1 | | |
| 5 | 2 | 39 | Total | C | N | O | S | 0 | 0 |
| | | | 316 | 210 | 51 | 54 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 5 | 8 | 44 | Total | C | N | O | S | 0 | 0 |
| | | | 359 | 240 | 56 | 62 | 1 | | |
| 5 | 0 | 44 | Total | C | N | O | S | 0 | 0 |
| | | | 359 | 240 | 56 | 62 | 1 | | |

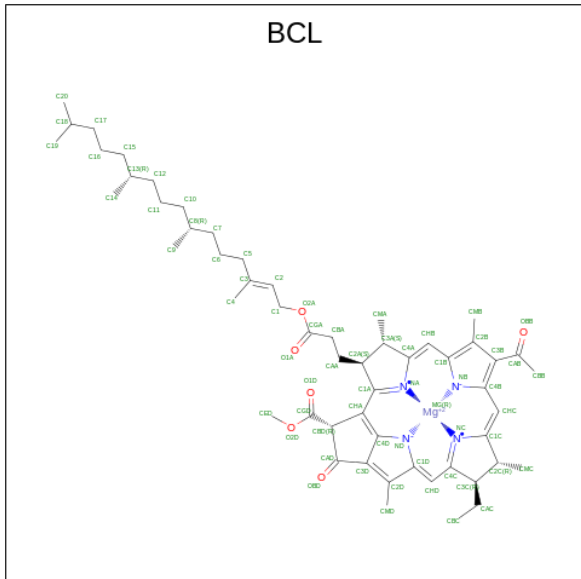
- Molecule 6 is a protein called Intrinsic membrane protein PufX.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 6 | X | 52 | Total | C | N | O | S | 0 | 0 |
| | | | 406 | 270 | 71 | 62 | 3 | | |

- Molecule 7 is a protein called Rsp_7571 Protein-Y PufY.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 7 | Y | 50 | Total | C | N | O | S | 0 | 0 |
| | | | 368 | 250 | 57 | 58 | 3 | | |

- Molecule 8 is BACTERIOCHLOROPHYLL A (three-letter code: BCL) (formula: $C_{55}H_{74}MgN_4O_6$) (labeled as "Ligand of Interest" by depositor).



| Mol | Chain | Residues | Atoms | | | | AltConf | |
|-----|-------|----------|-------|-----|----|----|---------|---|
| 8 | L | 1 | Total | C | Mg | N | O | 0 |
| | | | 195 | 162 | 3 | 12 | 18 | |
| 8 | L | 1 | Total | C | Mg | N | O | 0 |
| | | | 195 | 162 | 3 | 12 | 18 | |

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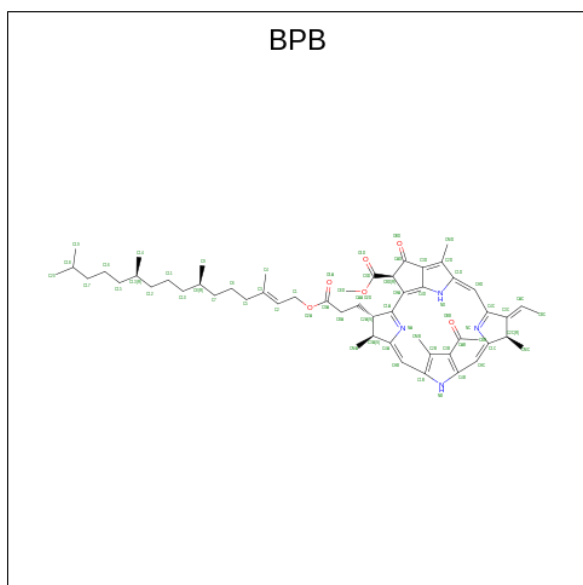
| Mol | Chain | Residues | Atoms | | | | | AltConf |
|-----|-------|----------|--------------|----------|---------|---------|---------|---------|
| | | | Total | C | Mg | N | O | |
| 8 | L | 1 | Total 195 | C 162 | Mg 3 | N 12 | O 18 | 0 |
| 8 | M | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | A | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | A | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | D | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | E | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | F | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | F | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | I | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | J | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | K | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | N | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | O | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | O | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | Q | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | R | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | S | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | S | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | U | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | U | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | W | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |

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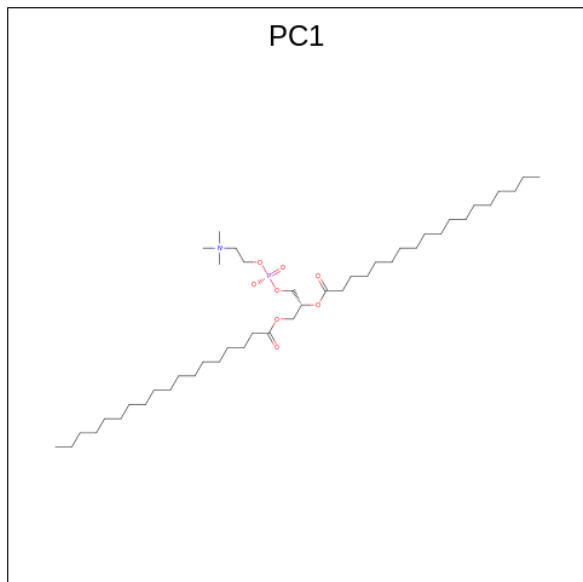
| Mol | Chain | Residues | Atoms | | | | | AltConf |
|-----|-------|----------|--------------|----------|---------|--------|---------|---------|
| | | | Total | C | Mg | N | O | |
| 8 | C | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | 3 | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | 3 | 1 | Total 132 | C 110 | Mg 2 | N 8 | O 12 | 0 |
| 8 | 1 | 1 | Total 117 | C 95 | Mg 2 | N 8 | O 12 | 0 |
| 8 | 1 | 1 | Total 117 | C 95 | Mg 2 | N 8 | O 12 | 0 |
| 8 | 7 | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | 8 | 1 | Total 61 | C 50 | Mg 1 | N 4 | O 6 | 0 |
| 8 | 9 | 1 | Total 66 | C 55 | Mg 1 | N 4 | O 6 | 0 |
| 8 | 0 | 1 | Total 61 | C 50 | Mg 1 | N 4 | O 6 | 0 |

- Molecule 9 is BACTERIOPHEOPHYTIN B (three-letter code: BPB) (formula: C₅₅H₇₄N₄O₆) (labeled as "Ligand of Interest" by depositor).



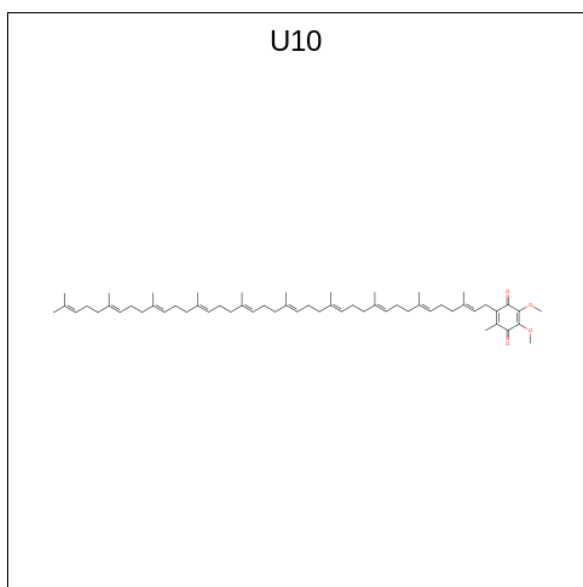
| Mol | Chain | Residues | Atoms | | | | AltConf |
|-----|-------|----------|-------------|---------|--------|--------|---------|
| | | | Total | C | N | O | |
| 9 | L | 1 | Total 62 | C 52 | N 4 | O 6 | 0 |
| 9 | M | 1 | Total 55 | C 45 | N 4 | O 6 | 0 |

- Molecule 10 is 1,2-DIACYL-SN-GLYCERO-3-PHOSPHOCHOLINE (three-letter code: PC1) (formula: $C_{44}H_{88}NO_8P$) (labeled as "Ligand of Interest" by depositor).



| Mol | Chain | Residues | Atoms | | | | | AltConf |
|-----|-------|----------|-------|----|---|----|---|---------|
| | | | Total | C | N | O | P | |
| 10 | L | 1 | Total | C | N | O | P | 0 |
| | | | 71 | 51 | 2 | 16 | 2 | |
| 10 | L | 1 | Total | C | N | O | P | 0 |
| | | | 71 | 51 | 2 | 16 | 2 | |
| 10 | H | 1 | Total | C | N | O | P | 0 |
| | | | 102 | 72 | 3 | 24 | 3 | |
| 10 | H | 1 | Total | C | N | O | P | 0 |
| | | | 102 | 72 | 3 | 24 | 3 | |
| 10 | H | 1 | Total | C | N | O | P | 0 |
| | | | 102 | 72 | 3 | 24 | 3 | |
| 10 | A | 1 | Total | C | N | O | P | 0 |
| | | | 77 | 57 | 2 | 16 | 2 | |
| 10 | A | 1 | Total | C | N | O | P | 0 |
| | | | 77 | 57 | 2 | 16 | 2 | |
| 10 | D | 1 | Total | C | N | O | P | 0 |
| | | | 37 | 27 | 1 | 8 | 1 | |
| 10 | W | 1 | Total | C | N | O | P | 0 |
| | | | 37 | 27 | 1 | 8 | 1 | |

- Molecule 11 is UBIQUINONE-10 (three-letter code: U10) (formula: $C_{59}H_{90}O_4$) (labeled as "Ligand of Interest" by depositor).

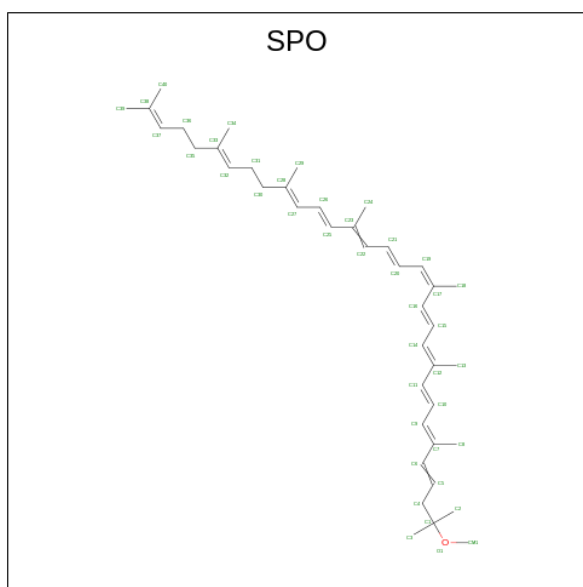


| Mol | Chain | Residues | Atoms | | | AltConf |
|-----|-------|----------|-------|----|---|---------|
| 11 | L | 1 | Total | C | O | 0 |
| | | | 81 | 73 | 8 | |
| 11 | L | 1 | Total | C | O | 0 |
| | | | 81 | 73 | 8 | |
| 11 | M | 1 | Total | C | O | 0 |
| | | | 48 | 44 | 4 | |
| 11 | Y | 1 | Total | C | O | 0 |
| | | | 38 | 34 | 4 | |

- Molecule 12 is FE (II) ION (three-letter code: FE2) (formula: Fe) (labeled as "Ligand of Interest" by depositor).

| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|-------|----|---------|
| 12 | M | 1 | Total | Fe | 0 |
| | | | 1 | 1 | |

- Molecule 13 is SPHEROIDENE (three-letter code: SPO) (formula: C₄₁H₆₀O) (labeled as "Ligand of Interest" by depositor).



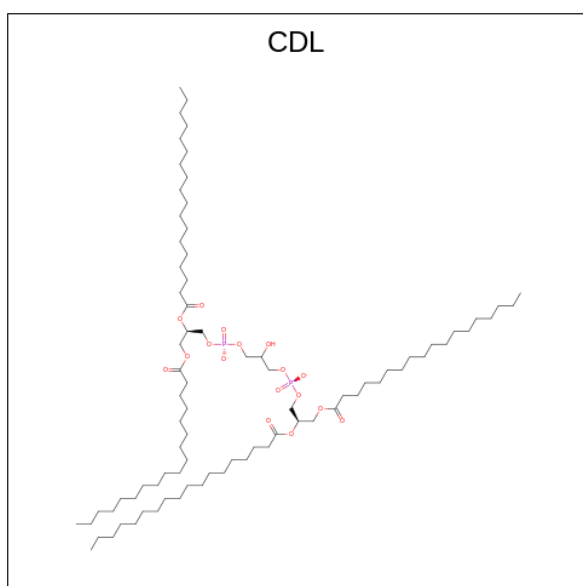
| Mol | Chain | Residues | Atoms | | | AltConf |
|-----|-------|----------|-------|----|---|---------|
| | | | Total | C | O | |
| 13 | M | 1 | 42 | 41 | 1 | 0 |
| 13 | B | 1 | 42 | 41 | 1 | 0 |
| 13 | D | 1 | 84 | 82 | 2 | 0 |
| 13 | D | 1 | 84 | 82 | 2 | 0 |
| 13 | E | 1 | 42 | 41 | 1 | 0 |
| 13 | F | 1 | 42 | 41 | 1 | 0 |
| 13 | G | 1 | 42 | 41 | 1 | 0 |
| 13 | I | 1 | 42 | 41 | 1 | 0 |
| 13 | J | 1 | 84 | 82 | 2 | 0 |
| 13 | J | 1 | 84 | 82 | 2 | 0 |
| 13 | N | 1 | 42 | 41 | 1 | 0 |
| 13 | O | 1 | 84 | 82 | 2 | 0 |
| 13 | O | 1 | 84 | 82 | 2 | 0 |
| 13 | P | 1 | 42 | 41 | 1 | 0 |

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| Mol | Chain | Residues | Atoms | | | AltConf |
|-----|-------|----------|-------|----|---|---------|
| 13 | T | 1 | Total | C | O | 0 |
| | | | 84 | 82 | 2 | |
| 13 | T | 1 | Total | C | O | 0 |
| | | | 84 | 82 | 2 | |
| 13 | U | 1 | Total | C | O | 0 |
| | | | 84 | 82 | 2 | |
| 13 | U | 1 | Total | C | O | 0 |
| | | | 84 | 82 | 2 | |
| 13 | V | 1 | Total | C | O | 0 |
| | | | 42 | 41 | 1 | |
| 13 | W | 1 | Total | C | O | 0 |
| | | | 42 | 41 | 1 | |
| 13 | 3 | 1 | Total | C | O | 0 |
| | | | 84 | 82 | 2 | |
| 13 | 3 | 1 | Total | C | O | 0 |
| | | | 84 | 82 | 2 | |
| 13 | 8 | 1 | Total | C | O | 0 |
| | | | 42 | 41 | 1 | |
| 13 | 9 | 1 | Total | C | O | 0 |
| | | | 42 | 41 | 1 | |
| 13 | 0 | 1 | Total | C | O | 0 |
| | | | 42 | 41 | 1 | |
| 13 | X | 1 | Total | C | O | 0 |
| | | | 39 | 38 | 1 | |

- Molecule 14 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$) (labeled as "Ligand of Interest" by depositor).



| Mol | Chain | Residues | Atoms | | | | AltConf |
|-----|-------|----------|-------|----|----|---|---------|
| | | | Total | C | O | P | |
| 14 | M | 1 | 100 | 81 | 17 | 2 | 0 |
| 14 | H | 1 | 78 | 59 | 17 | 2 | 0 |

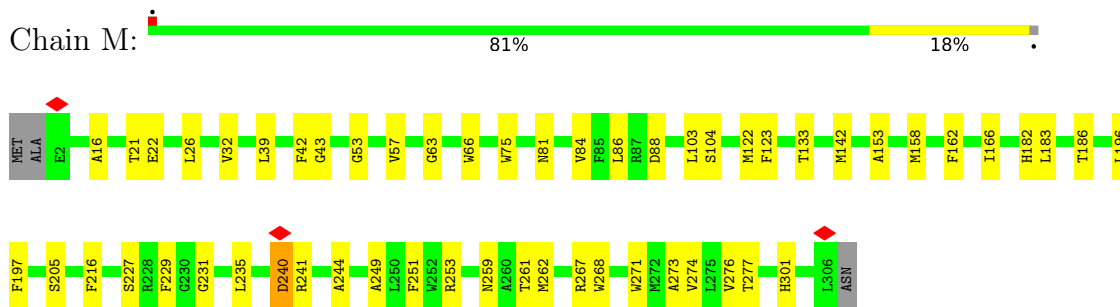
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

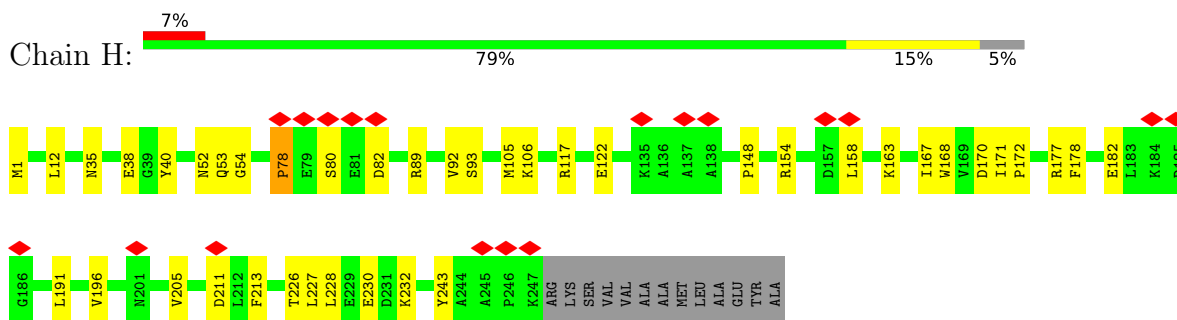
- Molecule 1: Reaction center protein L chain



- Molecule 2: Reaction center protein M chain

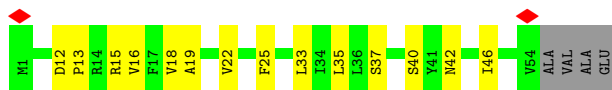


- Molecule 3: Reaction center protein H chain

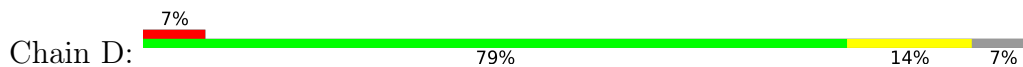


- Molecule 4: Light-harvesting protein B-875 alpha chain

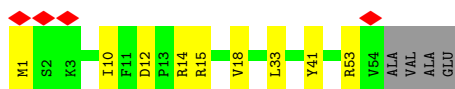
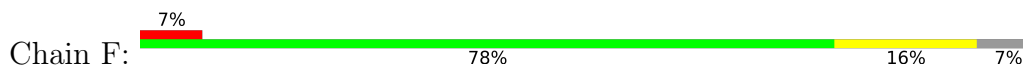




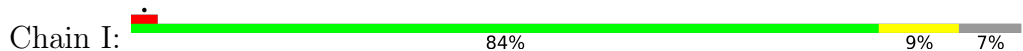
- Molecule 4: Light-harvesting protein B-875 alpha chain



- Molecule 4: Light-harvesting protein B-875 alpha chain



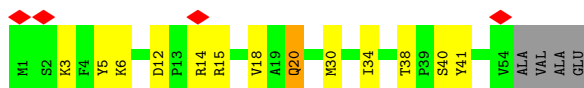
- Molecule 4: Light-harvesting protein B-875 alpha chain



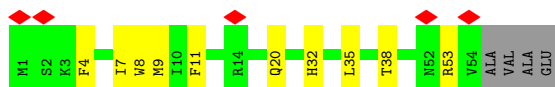
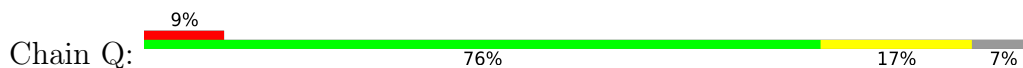
- Molecule 4: Light-harvesting protein B-875 alpha chain



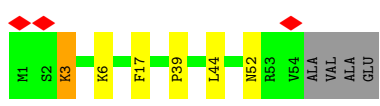
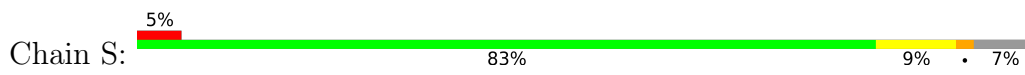
- Molecule 4: Light-harvesting protein B-875 alpha chain



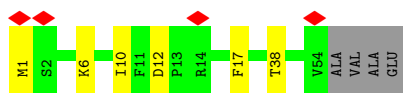
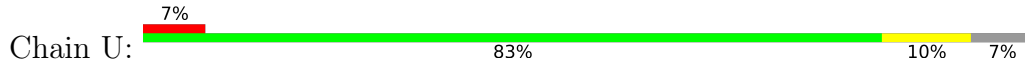
- Molecule 4: Light-harvesting protein B-875 alpha chain



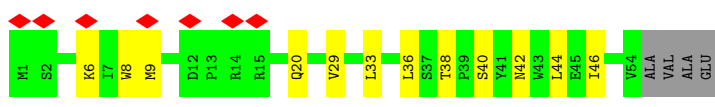
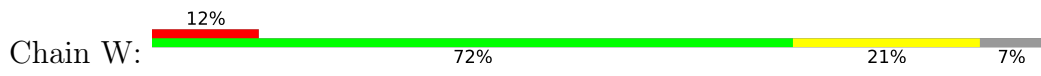
- Molecule 4: Light-harvesting protein B-875 alpha chain



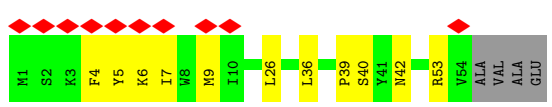
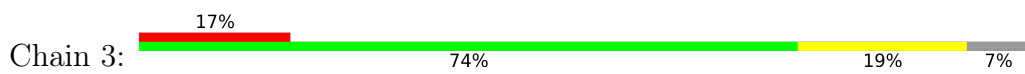
• Molecule 4: Light-harvesting protein B-875 alpha chain



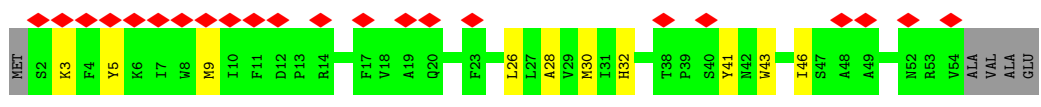
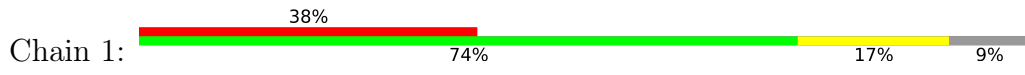
• Molecule 4: Light-harvesting protein B-875 alpha chain



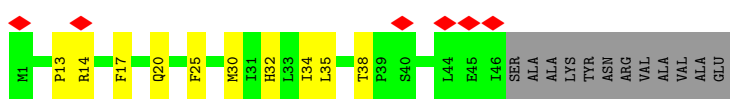
• Molecule 4: Light-harvesting protein B-875 alpha chain



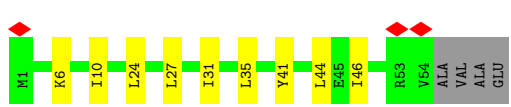
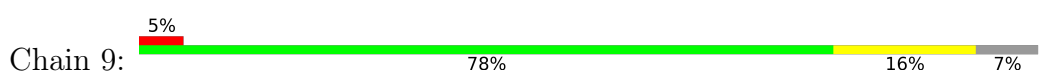
• Molecule 4: Light-harvesting protein B-875 alpha chain



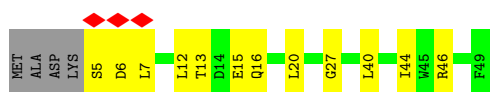
• Molecule 4: Light-harvesting protein B-875 alpha chain



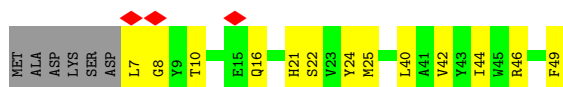
• Molecule 4: Light-harvesting protein B-875 alpha chain



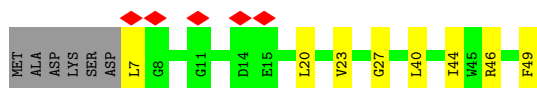
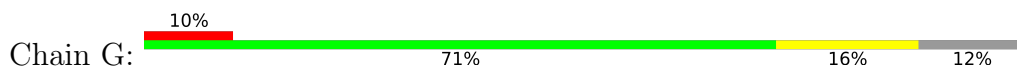
- Molecule 5: Light-harvesting protein B-875 beta chain



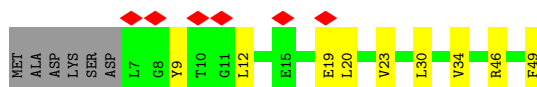
- Molecule 5: Light-harvesting protein B-875 beta chain



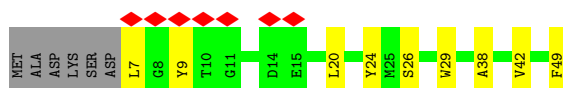
- Molecule 5: Light-harvesting protein B-875 beta chain



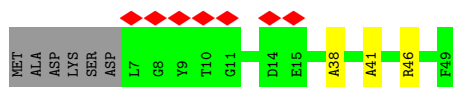
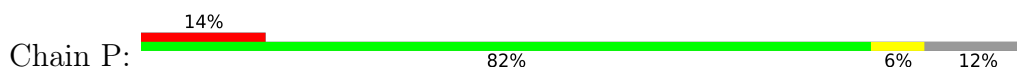
- Molecule 5: Light-harvesting protein B-875 beta chain



- Molecule 5: Light-harvesting protein B-875 beta chain

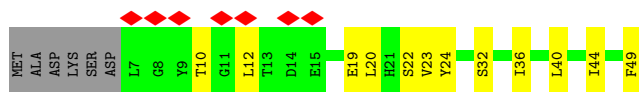


- Molecule 5: Light-harvesting protein B-875 beta chain

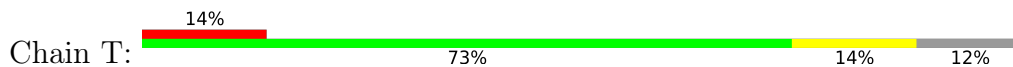


- Molecule 5: Light-harvesting protein B-875 beta chain

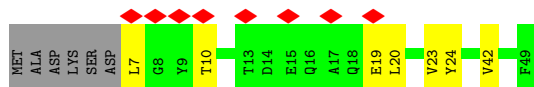
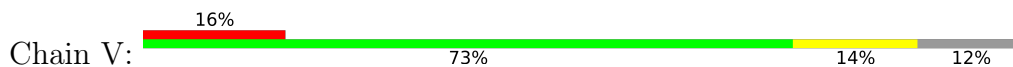




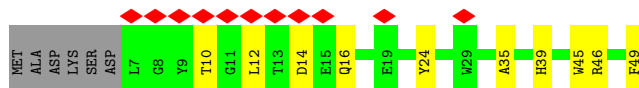
• Molecule 5: Light-harvesting protein B-875 beta chain



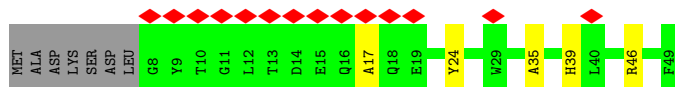
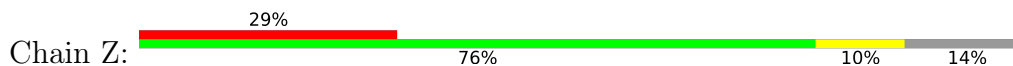
• Molecule 5: Light-harvesting protein B-875 beta chain



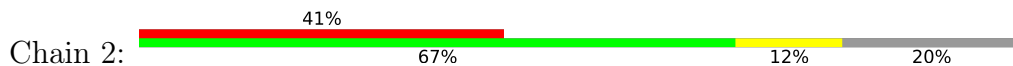
• Molecule 5: Light-harvesting protein B-875 beta chain



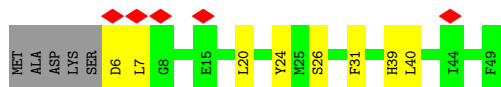
• Molecule 5: Light-harvesting protein B-875 beta chain



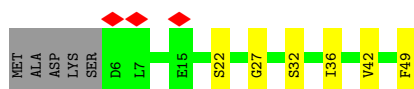
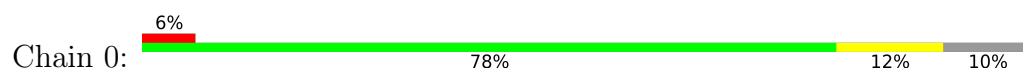
• Molecule 5: Light-harvesting protein B-875 beta chain



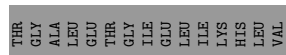
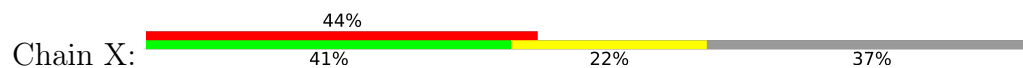
• Molecule 5: Light-harvesting protein B-875 beta chain



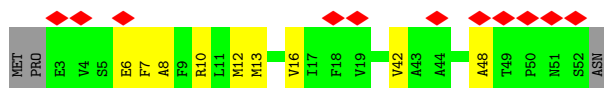
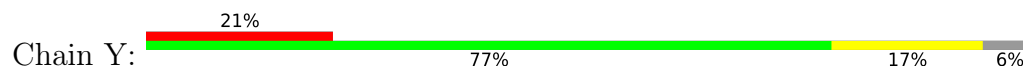
• Molecule 5: Light-harvesting protein B-875 beta chain



- Molecule 6: Intrinsic membrane protein PufX



- Molecule 7: Rsp_7571 Protein-Y PufY



4 Experimental information

| Property | Value | Source |
|--------------------------------------|---|-----------|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, Not provided | |
| Number of particles used | 68554 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope | FEI TITAN KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 45.026 | Depositor |
| Minimum defocus (nm) | 800 | Depositor |
| Maximum defocus (nm) | 2000 | Depositor |
| Magnification | Not provided | |
| Image detector | GATAN K3 BIOQUANTUM (6k x 4k) | Depositor |
| Maximum map value | 0.295 | Depositor |
| Minimum map value | -0.182 | Depositor |
| Average map value | 0.000 | Depositor |
| Map value standard deviation | 0.015 | Depositor |
| Recommended contour level | 0.05 | Depositor |
| Map size (Å) | 265.0, 265.0, 265.0 | wwPDB |
| Map dimensions | 250, 250, 250 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 1.06, 1.06, 1.06 | 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: BPB, SPO, U10, FE2, CDL, BCL, PC1

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 | L | 0.31 | 0/2320 | 0.48 | 0/3175 |
| 2 | M | 0.32 | 0/2524 | 0.50 | 0/3446 |
| 3 | H | 0.31 | 0/1925 | 0.58 | 2/2620 (0.1%) |
| 4 | 1 | 0.27 | 0/461 | 0.45 | 0/625 |
| 4 | 3 | 0.29 | 0/469 | 0.49 | 0/635 |
| 4 | 7 | 0.29 | 0/405 | 0.45 | 0/549 |
| 4 | 9 | 0.31 | 0/469 | 0.46 | 0/635 |
| 4 | A | 0.29 | 0/469 | 0.45 | 0/635 |
| 4 | D | 0.30 | 0/469 | 0.46 | 0/635 |
| 4 | F | 0.33 | 0/469 | 0.48 | 0/635 |
| 4 | I | 0.30 | 0/469 | 0.45 | 0/635 |
| 4 | K | 0.32 | 0/469 | 0.51 | 0/635 |
| 4 | O | 0.31 | 0/469 | 0.48 | 0/635 |
| 4 | Q | 0.33 | 0/469 | 0.50 | 0/635 |
| 4 | S | 0.34 | 0/469 | 0.54 | 1/635 (0.2%) |
| 4 | U | 0.32 | 0/469 | 0.46 | 0/635 |
| 4 | W | 0.33 | 0/469 | 0.52 | 0/635 |
| 5 | 0 | 0.31 | 0/372 | 0.46 | 0/510 |
| 5 | 2 | 0.31 | 0/327 | 0.50 | 0/449 |
| 5 | 8 | 0.30 | 0/372 | 0.48 | 0/510 |
| 5 | B | 0.31 | 0/378 | 0.48 | 0/518 |
| 5 | C | 0.28 | 0/364 | 0.42 | 0/499 |
| 5 | E | 0.31 | 0/364 | 0.46 | 0/499 |
| 5 | G | 0.29 | 0/364 | 0.45 | 0/499 |
| 5 | J | 0.31 | 0/364 | 0.49 | 0/499 |
| 5 | N | 0.30 | 0/364 | 0.45 | 0/499 |
| 5 | P | 0.29 | 0/364 | 0.44 | 0/499 |
| 5 | R | 0.30 | 0/364 | 0.44 | 0/499 |
| 5 | T | 0.29 | 0/364 | 0.45 | 0/499 |
| 5 | V | 0.29 | 0/364 | 0.50 | 0/499 |
| 5 | Z | 0.27 | 0/356 | 0.46 | 0/488 |
| 6 | X | 0.28 | 0/417 | 0.51 | 0/563 |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|---------|-------------|----------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 7 | Y | 0.29 | 0/379 | 0.45 | 0/513 |
| All | All | 0.31 | 0/19140 | 0.49 | 3/26077 (0.0%) |

There are no bond length outliers.

All (3) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|---------|--------|-------------|----------|
| 3 | H | 78 | PRO | CA-N-CD | -11.54 | 95.34 | 111.50 |
| 3 | H | 78 | PRO | N-CD-CG | -5.86 | 94.41 | 103.20 |
| 4 | S | 39 | PRO | CA-N-CD | -5.16 | 104.27 | 111.50 |

There are no chirality outliers.

There are no planarity outliers.

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 | L | 2232 | 0 | 2187 | 37 | 0 |
| 2 | M | 2431 | 0 | 2345 | 46 | 0 |
| 3 | H | 1875 | 0 | 1877 | 31 | 0 |
| 4 | 1 | 447 | 0 | 465 | 6 | 0 |
| 4 | 3 | 455 | 0 | 477 | 7 | 0 |
| 4 | 7 | 392 | 0 | 412 | 11 | 0 |
| 4 | 9 | 455 | 0 | 477 | 7 | 0 |
| 4 | A | 455 | 0 | 477 | 12 | 0 |
| 4 | D | 455 | 0 | 477 | 7 | 0 |
| 4 | F | 455 | 0 | 477 | 8 | 0 |
| 4 | I | 455 | 0 | 477 | 5 | 0 |
| 4 | K | 455 | 0 | 477 | 9 | 0 |
| 4 | O | 455 | 0 | 477 | 9 | 0 |
| 4 | Q | 455 | 0 | 477 | 8 | 0 |
| 4 | S | 455 | 0 | 477 | 6 | 0 |
| 4 | U | 455 | 0 | 477 | 6 | 0 |
| 4 | W | 455 | 0 | 477 | 13 | 0 |
| 5 | 0 | 359 | 0 | 340 | 5 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 5 | 2 | 316 | 0 | 304 | 4 | 0 |
| 5 | 8 | 359 | 0 | 340 | 10 | 0 |
| 5 | B | 365 | 0 | 345 | 9 | 0 |
| 5 | C | 351 | 0 | 336 | 10 | 0 |
| 5 | E | 351 | 0 | 336 | 13 | 0 |
| 5 | G | 351 | 0 | 336 | 7 | 0 |
| 5 | J | 351 | 0 | 336 | 7 | 0 |
| 5 | N | 351 | 0 | 336 | 12 | 0 |
| 5 | P | 351 | 0 | 336 | 4 | 0 |
| 5 | R | 351 | 0 | 336 | 9 | 0 |
| 5 | T | 351 | 0 | 336 | 5 | 0 |
| 5 | V | 351 | 0 | 336 | 7 | 0 |
| 5 | Z | 343 | 0 | 325 | 4 | 0 |
| 6 | X | 406 | 0 | 420 | 17 | 0 |
| 7 | Y | 368 | 0 | 363 | 6 | 0 |
| 8 | 0 | 61 | 0 | 61 | 4 | 0 |
| 8 | 1 | 117 | 0 | 112 | 3 | 0 |
| 8 | 3 | 132 | 0 | 148 | 2 | 0 |
| 8 | 7 | 66 | 0 | 74 | 10 | 0 |
| 8 | 8 | 61 | 0 | 61 | 4 | 0 |
| 8 | 9 | 66 | 0 | 74 | 3 | 0 |
| 8 | A | 132 | 0 | 148 | 10 | 0 |
| 8 | C | 66 | 0 | 74 | 2 | 0 |
| 8 | D | 66 | 0 | 74 | 2 | 0 |
| 8 | E | 66 | 0 | 74 | 2 | 0 |
| 8 | F | 132 | 0 | 148 | 6 | 0 |
| 8 | I | 66 | 0 | 74 | 1 | 0 |
| 8 | J | 66 | 0 | 74 | 6 | 0 |
| 8 | K | 66 | 0 | 74 | 0 | 0 |
| 8 | L | 195 | 0 | 213 | 7 | 0 |
| 8 | M | 66 | 0 | 74 | 2 | 0 |
| 8 | N | 66 | 0 | 74 | 5 | 0 |
| 8 | O | 132 | 0 | 148 | 4 | 0 |
| 8 | Q | 66 | 0 | 74 | 2 | 0 |
| 8 | R | 66 | 0 | 74 | 7 | 0 |
| 8 | S | 132 | 0 | 148 | 8 | 0 |
| 8 | U | 132 | 0 | 148 | 10 | 0 |
| 8 | W | 66 | 0 | 74 | 4 | 0 |
| 9 | L | 62 | 0 | 65 | 4 | 0 |
| 9 | M | 55 | 0 | 51 | 5 | 0 |
| 10 | A | 77 | 0 | 105 | 13 | 0 |
| 10 | D | 37 | 0 | 48 | 5 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 10 | H | 102 | 0 | 130 | 11 | 0 |
| 10 | L | 71 | 0 | 90 | 3 | 0 |
| 10 | W | 37 | 0 | 48 | 5 | 0 |
| 11 | L | 81 | 0 | 102 | 6 | 0 |
| 11 | M | 48 | 0 | 63 | 3 | 0 |
| 11 | Y | 38 | 0 | 47 | 2 | 0 |
| 12 | M | 1 | 0 | 0 | 0 | 0 |
| 13 | 0 | 42 | 0 | 59 | 8 | 0 |
| 13 | 3 | 84 | 0 | 117 | 16 | 0 |
| 13 | 8 | 42 | 0 | 59 | 5 | 0 |
| 13 | 9 | 42 | 0 | 60 | 5 | 0 |
| 13 | B | 42 | 0 | 60 | 10 | 0 |
| 13 | D | 84 | 0 | 119 | 12 | 0 |
| 13 | E | 42 | 0 | 60 | 4 | 0 |
| 13 | F | 42 | 0 | 59 | 8 | 0 |
| 13 | G | 42 | 0 | 58 | 6 | 0 |
| 13 | I | 42 | 0 | 59 | 7 | 0 |
| 13 | J | 84 | 0 | 117 | 11 | 0 |
| 13 | M | 42 | 0 | 60 | 7 | 0 |
| 13 | N | 42 | 0 | 60 | 8 | 0 |
| 13 | O | 84 | 0 | 120 | 11 | 0 |
| 13 | P | 42 | 0 | 58 | 5 | 0 |
| 13 | T | 84 | 0 | 120 | 16 | 0 |
| 13 | U | 84 | 0 | 119 | 12 | 0 |
| 13 | V | 42 | 0 | 59 | 8 | 0 |
| 13 | W | 42 | 0 | 60 | 7 | 0 |
| 13 | X | 39 | 0 | 53 | 6 | 0 |
| 14 | H | 78 | 0 | 106 | 6 | 0 |
| 14 | M | 100 | 0 | 156 | 4 | 0 |
| All | All | 22472 | 0 | 23315 | 483 | 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 11.

All (483) 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) |
|----------------|------------------|--------------------------|-------------------|
| 5:V:7:LEU:HD23 | 5:C:16:GLN:HE22 | 1.44 | 0.82 |
| 4:S:6:LYS:NZ | 5:V:19:GLU:OE2 | 2.13 | 0.81 |
| 4:3:40:SER:O | 5:Z:46:ARG:NH1 | 2.15 | 0.80 |
| 2:M:153:ALA:HA | 2:M:277:THR:HG21 | 1.65 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 13:N:102:SPO:H131 | 13:N:102:SPO:H16 | 1.64 | 0.78 |
| 4:D:6:LYS:HB3 | 13:F:102:SPO:H402 | 1.66 | 0.77 |
| 8:U:103:BCL:H203 | 13:V:101:SPO:H11 | 1.65 | 0.76 |
| 13:U:102:SPO:H15 | 8:W:102:BCL:H92 | 1.67 | 0.76 |
| 4:O:38:THR:OG1 | 4:O:40:SER:O | 2.04 | 0.75 |
| 4:D:10:ILE:HG23 | 4:F:14:ARG:HG2 | 1.68 | 0.74 |
| 1:L:187:LEU:HD13 | 2:M:216:PHE:HB2 | 1.69 | 0.73 |
| 13:O:101:SPO:H131 | 13:O:101:SPO:H183 | 1.70 | 0.72 |
| 4:D:40:SER:O | 5:E:46:ARG:NH1 | 2.23 | 0.72 |
| 4:S:3:LYS:HG3 | 4:S:6:LYS:HD2 | 1.71 | 0.71 |
| 5:B:20:LEU:HG | 13:B:101:SPO:H352 | 1.71 | 0.70 |
| 2:M:301:HIS:HD2 | 10:H:301:PC1:H11 | 1.56 | 0.70 |
| 13:8:102:SPO:H242 | 13:8:102:SPO:C27 | 2.23 | 0.69 |
| 2:M:21:THR:HG23 | 2:M:26:LEU:HD21 | 1.75 | 0.69 |
| 5:J:49:PHE:CE2 | 13:J:103:SPO:H11 | 2.27 | 0.69 |
| 13:O:104:SPO:H352 | 5:R:20:LEU:HG | 1.74 | 0.69 |
| 13:O:104:SPO:H26 | 13:P:101:SPO:H393 | 1.73 | 0.69 |
| 4:W:38:THR:OG1 | 4:W:40:SER:O | 2.12 | 0.68 |
| 8:S:102:BCL:H2 | 8:S:102:BCL:H72 | 1.75 | 0.67 |
| 13:U:102:SPO:H361 | 5:V:23:VAL:HG11 | 1.76 | 0.67 |
| 4:W:6:LYS:HB3 | 13:3:102:SPO:H361 | 1.77 | 0.66 |
| 13:D:103:SPO:H182 | 13:D:103:SPO:H131 | 1.78 | 0.66 |
| 8:U:103:BCL:H72 | 8:U:103:BCL:H2 | 1.78 | 0.66 |
| 13:W:103:SPO:H301 | 5:C:24:TYR:HA | 1.76 | 0.65 |
| 8:1:102:BCL:H71 | 8:1:102:BCL:HBB2 | 1.78 | 0.65 |
| 13:3:104:SPO:H14 | 13:3:104:SPO:H182 | 1.78 | 0.65 |
| 2:M:75:TRP:HE1 | 13:M:405:SPO:HM12 | 1.61 | 0.64 |
| 2:M:273:ALA:O | 2:M:276:VAL:HG12 | 1.97 | 0.64 |
| 1:L:226:THR:O | 1:L:230:HIS:ND1 | 2.24 | 0.64 |
| 11:M:404:U10:H212 | 10:H:302:PC1:H352 | 1.78 | 0.64 |
| 3:H:148:PRO:HD2 | 3:H:167:ILE:HD11 | 1.80 | 0.64 |
| 13:N:102:SPO:H132 | 5:P:41:ALA:HB1 | 1.80 | 0.64 |
| 13:E:102:SPO:H16 | 13:E:102:SPO:H131 | 1.78 | 0.64 |
| 8:A:103:BCL:H51 | 13:D:103:SPO:H243 | 1.80 | 0.64 |
| 10:H:301:PC1:H153 | 14:H:304:CDL:H511 | 1.80 | 0.64 |
| 2:M:268:TRP:HE1 | 3:H:35:ASN:ND2 | 1.96 | 0.63 |
| 3:H:80:SER:OG | 3:H:82:ASP:OD1 | 2.12 | 0.63 |
| 2:M:229:PHE:HB2 | 2:M:244:ALA:HB2 | 1.79 | 0.63 |
| 1:L:247:CYS:O | 1:L:251:THR:OG1 | 2.16 | 0.63 |
| 8:U:101:BCL:HHD | 5:V:42:VAL:HG21 | 1.79 | 0.63 |
| 4:7:14:ARG:HG2 | 6:X:22:TRP:HZ2 | 1.64 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:H:40:TYR:OH | 10:H:302:PC1:O12 | 2.16 | 0.62 |
| 1:L:280:ASN:ND2 | 2:M:88:ASP:OD1 | 2.32 | 0.62 |
| 5:Z:35:ALA:O | 5:Z:39:HIS:ND1 | 2.25 | 0.62 |
| 8:C:101:BCL:H52 | 13:3:104:SPO:H26 | 1.80 | 0.62 |
| 3:H:78:PRO:HD2 | 3:H:78:PRO:O | 1.99 | 0.62 |
| 4:F:10:ILE:HD11 | 13:J:101:SPO:H393 | 1.82 | 0.62 |
| 4:D:20:GLN:OE1 | 5:E:24:TYR:OH | 2.17 | 0.61 |
| 1:L:43:ALA:O | 1:L:47:ILE:HD12 | 2.01 | 0.61 |
| 7:Y:8:ALA:O | 7:Y:12:MET:HG3 | 2.00 | 0.61 |
| 2:M:253:ARG:HH22 | 10:H:302:PC1:H112 | 1.65 | 0.61 |
| 2:M:268:TRP:HE1 | 3:H:35:ASN:HD21 | 1.49 | 0.60 |
| 8:R:101:BCL:H51 | 13:T:102:SPO:H243 | 1.82 | 0.60 |
| 13:U:102:SPO:H302 | 5:V:24:TYR:HA | 1.84 | 0.60 |
| 5:0:32:SER:O | 5:0:36:ILE:HG13 | 2.01 | 0.60 |
| 4:A:18:VAL:HA | 10:A:102:PC1:H292 | 1.83 | 0.59 |
| 4:S:6:LYS:HB2 | 13:U:102:SPO:H362 | 1.84 | 0.59 |
| 8:U:101:BCL:H2A | 13:U:104:SPO:H25 | 1.83 | 0.59 |
| 6:X:25:PHE:HA | 6:X:28:MET:HE2 | 1.83 | 0.59 |
| 4:I:10:ILE:HA | 5:J:9:TYR:HB2 | 1.85 | 0.59 |
| 2:M:182:HIS:O | 2:M:186:THR:HG23 | 2.02 | 0.58 |
| 4:O:14:ARG:O | 4:O:18:VAL:HG23 | 2.03 | 0.58 |
| 8:J:102:BCL:H52 | 13:J:103:SPO:H243 | 1.84 | 0.58 |
| 1:L:168:HIS:CD2 | 2:M:183:LEU:HB3 | 2.39 | 0.58 |
| 5:C:10:THR:HG23 | 5:C:12:LEU:H | 1.68 | 0.58 |
| 5:0:49:PHE:CE2 | 13:0:101:SPO:H11 | 2.39 | 0.58 |
| 1:L:149:GLY:O | 1:L:153:HIS:ND1 | 2.30 | 0.57 |
| 2:M:197:PHE:CE1 | 8:M:402:BCL:HMC2 | 2.39 | 0.57 |
| 10:H:301:PC1:H111 | 10:H:301:PC1:H32 | 1.85 | 0.57 |
| 8:A:101:BCL:H43 | 13:0:101:SPO:H32 | 1.87 | 0.57 |
| 5:E:46:ARG:CZ | 4:F:53:ARG:HD3 | 2.34 | 0.57 |
| 4:A:35:LEU:HD11 | 8:A:103:BCL:HH2 | 1.85 | 0.56 |
| 8:O:103:BCL:H172 | 13:P:101:SPO:H14 | 1.86 | 0.56 |
| 2:M:301:HIS:CD2 | 10:H:301:PC1:H11 | 2.40 | 0.56 |
| 13:3:102:SPO:H301 | 5:Z:24:TYR:HA | 1.88 | 0.56 |
| 13:J:103:SPO:H15 | 5:N:42:VAL:HG23 | 1.88 | 0.56 |
| 13:J:103:SPO:H16 | 5:N:38:ALA:HB1 | 1.88 | 0.56 |
| 4:K:6:LYS:HB3 | 13:O:102:SPO:H392 | 1.86 | 0.56 |
| 4:K:38:THR:OG1 | 4:K:40:SER:O | 2.17 | 0.56 |
| 3:H:168:TRP:HB2 | 3:H:178:PHE:HB2 | 1.88 | 0.56 |
| 2:M:53:GLY:O | 2:M:57:VAL:HG23 | 2.06 | 0.56 |
| 5:N:7:LEU:HD13 | 5:N:9:TYR:HE2 | 1.70 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:S:6:LYS:HD3 | 13:U:102:SPO:H403 | 1.87 | 0.55 |
| 10:D:104:PC1:H231 | 4:F:18:VAL:HG22 | 1.87 | 0.55 |
| 4:U:10:ILE:HD11 | 13:W:103:SPO:H361 | 1.89 | 0.55 |
| 8:7:101:BCL:H2 | 13:8:102:SPO:H243 | 1.87 | 0.55 |
| 5:P:46:ARG:HG3 | 4:Q:53:ARG:NH2 | 2.22 | 0.55 |
| 8:7:101:BCL:HMA2 | 13:X:101:SPO:H11 | 1.89 | 0.55 |
| 13:G:101:SPO:H402 | 13:J:101:SPO:H26 | 1.88 | 0.55 |
| 14:H:304:CDL:H741 | 4:F:33:LEU:HD12 | 1.87 | 0.55 |
| 13:I:102:SPO:H352 | 5:N:20:LEU:HG | 1.89 | 0.55 |
| 8:7:101:BCL:HED1 | 8:8:101:BCL:H12 | 1.88 | 0.55 |
| 4:A:40:SER:O | 5:B:46:ARG:NH1 | 2.40 | 0.55 |
| 8:7:101:BCL:CMA | 13:X:101:SPO:H11 | 2.37 | 0.55 |
| 4:1:26:LEU:O | 4:1:30:MET:HG2 | 2.08 | 0.54 |
| 4:3:4:PHE:O | 4:3:7:ILE:HG12 | 2.05 | 0.54 |
| 2:M:205:SER:O | 2:M:276:VAL:HG23 | 2.08 | 0.54 |
| 8:A:103:BCL:H12 | 13:B:101:SPO:H16 | 1.89 | 0.54 |
| 4:U:6:LYS:HD3 | 13:W:103:SPO:H393 | 1.90 | 0.54 |
| 1:L:45:GLY:HA3 | 9:L:303:BPB:H9B | 1.90 | 0.54 |
| 13:V:101:SPO:H26 | 8:W:102:BCL:HED3 | 1.90 | 0.54 |
| 2:M:66:TRP:CD1 | 2:M:122:MET:HB2 | 2.43 | 0.54 |
| 5:E:40:LEU:O | 5:E:44:ILE:HG12 | 2.07 | 0.54 |
| 4:1:3:LYS:H | 4:1:3:LYS:HD2 | 1.73 | 0.54 |
| 1:L:255:TRP:NE1 | 1:L:257:ASP:O | 2.42 | 0.53 |
| 4:Q:38:THR:HG21 | 4:S:44:LEU:HD13 | 1.90 | 0.53 |
| 1:L:168:HIS:HD2 | 2:M:183:LEU:HB3 | 1.74 | 0.53 |
| 5:R:32:SER:O | 5:R:36:ILE:HG13 | 2.08 | 0.53 |
| 9:M:403:BPB:H55 | 9:M:403:BPB:HHD | 1.91 | 0.53 |
| 4:F:41:TYR:CE1 | 5:G:46:ARG:HG2 | 2.43 | 0.53 |
| 5:E:7:LEU:HD21 | 5:G:20:LEU:HD12 | 1.90 | 0.53 |
| 10:L:304:PC1:H221 | 4:D:33:LEU:HD13 | 1.90 | 0.53 |
| 5:B:7:LEU:HD12 | 5:E:16:GLN:HB3 | 1.90 | 0.53 |
| 13:3:104:SPO:H182 | 13:3:104:SPO:C14 | 2.39 | 0.53 |
| 4:Q:20:GLN:OE1 | 5:R:24:TYR:OH | 2.18 | 0.52 |
| 3:H:154:ARG:NH1 | 3:H:158:LEU:HD13 | 2.24 | 0.52 |
| 5:B:27:GLY:HA3 | 13:B:101:SPO:H26 | 1.91 | 0.52 |
| 1:L:36:VAL:HG22 | 11:M:404:U10:H403 | 1.91 | 0.52 |
| 3:H:226:THR:O | 3:H:230:GLU:HG3 | 2.09 | 0.52 |
| 13:T:102:SPO:H11 | 13:T:102:SPO:H81 | 1.91 | 0.52 |
| 4:7:13:PRO:HB3 | 5:8:20:LEU:HD21 | 1.91 | 0.52 |
| 8:S:102:BCL:HMA2 | 13:T:101:SPO:H11 | 1.92 | 0.52 |
| 5:8:6:ASP:OD1 | 5:8:6:ASP:N | 2.42 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:8:7:LEU:HB2 | 13:9:102:SPO:H403 | 1.92 | 0.52 |
| 2:M:123:PHE:HB2 | 13:M:405:SPO:H32 | 1.91 | 0.51 |
| 1:L:133:LEU:HD21 | 6:X:45:ILE:HD11 | 1.92 | 0.51 |
| 3:H:196:VAL:HG12 | 3:H:205:VAL:HG22 | 1.92 | 0.51 |
| 4:3:5:TYR:HB2 | 5:Z:17:ALA:HB1 | 1.92 | 0.51 |
| 3:H:191:LEU:HD11 | 3:H:213:PHE:HE2 | 1.75 | 0.51 |
| 5:R:10:THR:HG23 | 5:R:12:LEU:H | 1.75 | 0.51 |
| 2:M:63:GLY:HA3 | 9:M:403:BPB:H5A | 1.91 | 0.51 |
| 4:A:22:VAL:HA | 10:A:102:PC1:H2F2 | 1.92 | 0.51 |
| 13:I:102:SPO:H16 | 8:N:101:BCL:O1A | 2.10 | 0.51 |
| 2:M:261:THR:HG22 | 2:M:262:MET:H | 1.76 | 0.51 |
| 13:T:102:SPO:H182 | 13:T:102:SPO:H14 | 1.92 | 0.51 |
| 4:W:29:VAL:HG11 | 10:W:101:PC1:H3A1 | 1.93 | 0.51 |
| 4:7:14:ARG:HG2 | 6:X:22:TRP:CZ2 | 2.46 | 0.50 |
| 3:H:54:GLY:H | 10:A:104:PC1:H131 | 1.76 | 0.50 |
| 3:H:52:ASN:HA | 10:A:104:PC1:H143 | 1.94 | 0.50 |
| 5:2:32:SER:O | 5:2:36:ILE:HG12 | 2.12 | 0.50 |
| 8:U:101:BCL:HBA1 | 13:U:104:SPO:H27 | 1.94 | 0.50 |
| 5:C:46:ARG:NH1 | 4:3:53:ARG:HD3 | 2.27 | 0.49 |
| 8:A:103:BCL:HBB3 | 8:D:101:BCL:CHC | 2.42 | 0.49 |
| 10:A:104:PC1:H351 | 8:D:101:BCL:H72 | 1.94 | 0.49 |
| 4:3:6:LYS:HA | 4:3:9:MET:HG2 | 1.94 | 0.49 |
| 4:3:26:LEU:HD21 | 7:Y:42:VAL:HG21 | 1.94 | 0.49 |
| 5:J:30:LEU:O | 5:J:34:VAL:HG23 | 2.13 | 0.49 |
| 3:H:105:MET:HE2 | 3:H:243:TYR:HB2 | 1.95 | 0.49 |
| 8:S:102:BCL:CMA | 13:T:101:SPO:H11 | 2.42 | 0.49 |
| 7:Y:48:ALA:HA | 11:Y:501:U10:H101 | 1.94 | 0.49 |
| 2:M:240:ASP:O | 3:H:117:ARG:NH2 | 2.32 | 0.49 |
| 13:F:102:SPO:H311 | 5:G:23:VAL:HG12 | 1.95 | 0.49 |
| 13:F:102:SPO:H16 | 8:F:103:BCL:H12 | 1.94 | 0.49 |
| 5:B:15:GLU:OE2 | 5:B:15:GLU:HA | 2.12 | 0.49 |
| 13:U:102:SPO:H133 | 8:W:102:BCL:HBA2 | 1.95 | 0.49 |
| 1:L:241:VAL:HG21 | 9:L:303:BPB:H55 | 1.95 | 0.48 |
| 5:E:49:PHE:HB3 | 13:E:102:SPO:C8 | 2.43 | 0.48 |
| 4:7:30:MET:O | 4:7:34:ILE:HG12 | 2.13 | 0.48 |
| 1:L:253:THR:HA | 6:X:57:ILE:HD11 | 1.95 | 0.48 |
| 4:A:16:VAL:HG22 | 10:A:104:PC1:H11 | 1.94 | 0.48 |
| 13:I:102:SPO:H132 | 13:I:102:SPO:H10 | 1.50 | 0.48 |
| 4:Q:4:PHE:O | 4:Q:7:ILE:HG22 | 2.13 | 0.48 |
| 2:M:261:THR:HG22 | 2:M:262:MET:N | 2.29 | 0.48 |
| 5:E:21:HIS:O | 5:E:25:MET:HG2 | 2.13 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:8:31:PHE:CE1 | 8:8:101:BCL:H2 | 2.49 | 0.48 |
| 8:N:101:BCL:H72 | 8:N:101:BCL:H2 | 1.96 | 0.48 |
| 13:O:102:SPO:H11 | 8:O:103:BCL:CMA | 2.44 | 0.48 |
| 8:L:302:BCL:HMD2 | 8:M:402:BCL:HBB3 | 1.96 | 0.48 |
| 13:B:101:SPO:H402 | 4:9:6:LYS:HB3 | 1.94 | 0.48 |
| 1:L:211:HIS:NE2 | 2:M:22:GLU:OE2 | 2.28 | 0.48 |
| 13:O:104:SPO:H301 | 5:R:24:TYR:HA | 1.96 | 0.48 |
| 8:O:102:BCL:HMB1 | 8:O:102:BCL:HBB2 | 1.96 | 0.47 |
| 6:X:20:ARG:HH21 | 13:X:101:SPO:H352 | 1.79 | 0.47 |
| 5:T:23:VAL:HG12 | 13:T:101:SPO:H311 | 1.96 | 0.47 |
| 5:N:29:TRP:HA | 5:N:29:TRP:CE3 | 2.50 | 0.47 |
| 4:W:6:LYS:HD3 | 13:3:102:SPO:H403 | 1.95 | 0.47 |
| 4:W:46:ILE:HD11 | 5:C:45:TRP:CZ2 | 2.49 | 0.47 |
| 13:3:102:SPO:H241 | 13:3:102:SPO:H26 | 1.06 | 0.47 |
| 13:3:104:SPO:H10 | 13:3:104:SPO:H133 | 1.43 | 0.47 |
| 10:H:301:PC1:H252 | 10:H:301:PC1:H281 | 1.81 | 0.47 |
| 13:G:101:SPO:C26 | 8:I:101:BCL:HED3 | 2.44 | 0.47 |
| 4:9:24:LEU:HB2 | 8:9:101:BCL:H42 | 1.96 | 0.47 |
| 1:L:249:ILE:O | 1:L:253:THR:OG1 | 2.32 | 0.47 |
| 3:H:53:GLN:H | 10:A:104:PC1:H143 | 1.80 | 0.47 |
| 3:H:154:ARG:HH11 | 3:H:158:LEU:HD13 | 1.79 | 0.47 |
| 13:V:101:SPO:H133 | 13:V:101:SPO:H10 | 1.44 | 0.47 |
| 4:A:15:ARG:HD3 | 10:A:102:PC1:H121 | 1.96 | 0.47 |
| 8:J:102:BCL:H162 | 8:J:102:BCL:H192 | 1.68 | 0.47 |
| 4:W:8:TRP:O | 5:C:10:THR:HG21 | 2.15 | 0.47 |
| 10:D:104:PC1:H271 | 8:F:101:BCL:H72 | 1.97 | 0.47 |
| 13:I:102:SPO:H27 | 5:N:24:TYR:CD2 | 2.50 | 0.47 |
| 4:A:19:ALA:HB2 | 10:A:102:PC1:H341 | 1.97 | 0.47 |
| 13:F:102:SPO:H132 | 13:F:102:SPO:H10 | 1.66 | 0.47 |
| 13:F:102:SPO:H312 | 13:F:102:SPO:H291 | 1.75 | 0.47 |
| 5:J:46:ARG:NH1 | 4:K:53:ARG:HD3 | 2.29 | 0.47 |
| 13:I:102:SPO:H11 | 8:N:101:BCL:CMA | 2.45 | 0.46 |
| 13:J:103:SPO:H183 | 13:J:103:SPO:C14 | 2.44 | 0.46 |
| 13:N:102:SPO:H183 | 5:P:38:ALA:HB1 | 1.98 | 0.46 |
| 13:3:102:SPO:H11 | 8:3:103:BCL:CMA | 2.45 | 0.46 |
| 8:R:101:BCL:H152 | 13:T:102:SPO:H183 | 1.98 | 0.46 |
| 4:1:3:LYS:HB3 | 4:1:5:TYR:CE1 | 2.50 | 0.46 |
| 3:H:228:LEU:HG | 3:H:232:LYS:HE2 | 1.98 | 0.46 |
| 8:A:103:BCL:H192 | 8:A:103:BCL:H162 | 1.72 | 0.46 |
| 10:D:104:PC1:H153 | 4:F:14:ARG:HB3 | 1.97 | 0.46 |
| 13:G:101:SPO:H182 | 13:G:101:SPO:H15 | 1.24 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:7:17:PHE:CE2 | 6:X:23:VAL:HG22 | 2.50 | 0.46 |
| 1:L:31:VAL:HG13 | 1:L:31:VAL:O | 2.15 | 0.46 |
| 10:D:104:PC1:H111 | 10:D:104:PC1:H152 | 1.69 | 0.46 |
| 4:K:10:ILE:HG22 | 5:N:9:TYR:HD2 | 1.80 | 0.46 |
| 5:8:26:SER:HB3 | 6:X:20:ARG:HH22 | 1.80 | 0.46 |
| 3:H:170:ASP:HB2 | 3:H:177:ARG:HG3 | 1.98 | 0.46 |
| 13:I:102:SPO:H302 | 5:N:24:TYR:HA | 1.97 | 0.46 |
| 5:R:49:PHE:CD2 | 8:R:101:BCL:H18 | 2.50 | 0.46 |
| 10:L:306:PC1:H3A2 | 10:L:306:PC1:H372 | 1.53 | 0.46 |
| 13:0:101:SPO:H133 | 8:0:102:BCL:H141 | 1.97 | 0.46 |
| 5:E:21:HIS:HE1 | 8:F:101:BCL:H193 | 1.80 | 0.46 |
| 13:T:102:SPO:H131 | 13:T:102:SPO:H15 | 1.59 | 0.46 |
| 4:W:6:LYS:HG2 | 4:W:9:MET:HG3 | 1.98 | 0.46 |
| 8:7:101:BCL:H102 | 5:8:39:HIS:CD2 | 2.50 | 0.46 |
| 8:L:302:BCL:HMB1 | 8:L:302:BCL:HBB2 | 1.98 | 0.46 |
| 8:F:103:BCL:H51 | 13:G:101:SPO:H243 | 1.98 | 0.46 |
| 13:O:102:SPO:H10 | 13:O:102:SPO:H132 | 1.49 | 0.46 |
| 13:P:101:SPO:H27 | 8:Q:101:BCL:HED3 | 1.97 | 0.46 |
| 14:H:304:CDL:H331 | 14:H:304:CDL:H362 | 1.49 | 0.45 |
| 5:B:5:SER:OG | 5:B:6:ASP:N | 2.49 | 0.45 |
| 13:D:103:SPO:H23 | 13:D:103:SPO:H5 | 1.62 | 0.45 |
| 4:O:34:ILE:O | 4:O:38:THR:HG23 | 2.16 | 0.45 |
| 3:H:1:MET:HG2 | 3:H:12:LEU:HD12 | 1.98 | 0.45 |
| 8:A:103:BCL:CMA | 13:B:101:SPO:H11 | 2.47 | 0.45 |
| 4:A:42:ASN:O | 4:A:46:ILE:HG13 | 2.16 | 0.45 |
| 13:O:102:SPO:H22A | 4:Q:32:HIS:HB3 | 1.98 | 0.45 |
| 8:O:103:BCL:H203 | 13:P:101:SPO:H11 | 1.98 | 0.45 |
| 4:Q:11:PHE:HE2 | 4:S:17:PHE:HD2 | 1.64 | 0.45 |
| 13:3:102:SPO:H343 | 13:3:102:SPO:H311 | 1.78 | 0.45 |
| 10:H:302:PC1:H362 | 10:H:302:PC1:H251 | 1.97 | 0.45 |
| 8:A:103:BCL:H102 | 8:A:103:BCL:HMB2 | 1.99 | 0.45 |
| 8:0:102:BCL:H61 | 8:0:102:BCL:H2 | 1.80 | 0.45 |
| 13:T:102:SPO:H182 | 13:T:102:SPO:C14 | 2.47 | 0.45 |
| 5:2:14:ASP:OD1 | 5:2:14:ASP:N | 2.47 | 0.45 |
| 5:B:13:THR:OG1 | 5:B:16:GLN:HG3 | 2.16 | 0.45 |
| 4:I:23:PHE:HE1 | 4:K:25:PHE:CE1 | 2.35 | 0.45 |
| 4:Q:35:LEU:HD11 | 8:R:101:BCL:HHD | 1.98 | 0.45 |
| 13:G:101:SPO:H20 | 13:G:101:SPO:H181 | 1.33 | 0.45 |
| 7:Y:6:GLU:O | 7:Y:10:ARG:HG2 | 2.16 | 0.45 |
| 13:F:102:SPO:H15 | 13:F:102:SPO:H182 | 1.45 | 0.45 |
| 13:9:102:SPO:H10 | 13:9:102:SPO:H132 | 1.74 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:L:276:PRO:HD2 | 10:W:101:PC1:H142 | 1.99 | 0.45 |
| 14:M:406:CDL:H821 | 14:M:406:CDL:H851 | 1.71 | 0.45 |
| 13:N:102:SPO:H403 | 4:O:20:GLN:NE2 | 2.31 | 0.45 |
| 5:T:27:GLY:HA3 | 13:T:101:SPO:H26 | 1.99 | 0.45 |
| 13:M:405:SPO:H132 | 13:M:405:SPO:H10 | 1.46 | 0.45 |
| 14:H:304:CDL:H311 | 14:H:304:CDL:HA61 | 1.92 | 0.45 |
| 10:A:104:PC1:H153 | 4:D:14:ARG:HB3 | 1.99 | 0.45 |
| 13:B:101:SPO:H312 | 13:B:101:SPO:H291 | 1.72 | 0.45 |
| 13:T:102:SPO:H291 | 13:T:102:SPO:H311 | 1.11 | 0.45 |
| 4:W:33:LEU:HD21 | 10:W:101:PC1:H361 | 1.98 | 0.45 |
| 13:O:101:SPO:H131 | 13:O:101:SPO:H15 | 1.59 | 0.45 |
| 13:N:102:SPO:H403 | 4:O:20:GLN:HE21 | 1.82 | 0.44 |
| 4:1:41:TYR:OH | 5:2:48:TRP:HB3 | 2.17 | 0.44 |
| 1:L:182:THR:HG21 | 11:L:305:U10:H18 | 1.99 | 0.44 |
| 5:N:49:PHE:CD2 | 13:N:102:SPO:H9 | 2.52 | 0.44 |
| 4:7:35:LEU:HD11 | 8:7:101:BCL:HHD | 1.99 | 0.44 |
| 8:E:101:BCL:HMB1 | 8:E:101:BCL:HBB2 | 1.99 | 0.44 |
| 13:F:102:SPO:H26 | 5:G:27:GLY:HA3 | 1.99 | 0.44 |
| 13:T:102:SPO:H10 | 13:T:102:SPO:H132 | 1.37 | 0.44 |
| 4:U:6:LYS:HB2 | 13:W:103:SPO:H351 | 1.99 | 0.44 |
| 1:L:172:ALA:HB3 | 1:L:247:CYS:HB3 | 1.98 | 0.44 |
| 8:L:307:BCL:H101 | 8:L:307:BCL:H13 | 1.61 | 0.44 |
| 8:N:101:BCL:H141 | 8:N:101:BCL:H162 | 1.82 | 0.44 |
| 13:O:101:SPO:H291 | 13:O:101:SPO:H312 | 1.26 | 0.44 |
| 11:L:305:U10:H71 | 11:L:305:U10:H1M1 | 1.75 | 0.44 |
| 14:M:406:CDL:H211 | 14:M:406:CDL:H241 | 1.53 | 0.44 |
| 1:L:224:ILE:HG22 | 11:L:305:U10:H8 | 2.00 | 0.44 |
| 8:U:103:BCL:HBB2 | 8:U:103:BCL:HMB1 | 1.99 | 0.44 |
| 4:3:36:LEU:O | 4:3:42:ASN:ND2 | 2.45 | 0.44 |
| 13:B:101:SPO:H403 | 4:9:10:ILE:HD11 | 2.00 | 0.44 |
| 13:O:102:SPO:H15 | 13:O:102:SPO:H182 | 1.50 | 0.44 |
| 13:V:101:SPO:H81 | 5:C:45:TRP:HB2 | 1.99 | 0.44 |
| 8:1:102:BCL:H91 | 8:1:102:BCL:H112 | 1.80 | 0.44 |
| 4:A:12:ASP:OD2 | 4:A:13:PRO:HD2 | 2.17 | 0.44 |
| 5:G:49:PHE:CZ | 13:G:101:SPO:H11 | 2.52 | 0.44 |
| 4:O:41:TYR:CE1 | 5:P:46:ARG:HG2 | 2.52 | 0.44 |
| 13:M:405:SPO:H312 | 13:M:405:SPO:H291 | 1.44 | 0.44 |
| 3:H:106:LYS:HD2 | 3:H:106:LYS:HA | 1.80 | 0.44 |
| 8:W:102:BCL:OBB | 8:W:102:BCL:HHC | 2.18 | 0.44 |
| 4:9:35:LEU:HD11 | 8:0:102:BCL:HHD | 1.99 | 0.44 |
| 1:L:219:LEU:HD11 | 2:M:133:THR:HG22 | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 13:B:101:SPO:H182 | 13:B:101:SPO:H15 | 1.58 | 0.43 |
| 13:J:101:SPO:H11 | 8:J:102:BCL:CMA | 2.48 | 0.43 |
| 4:O:12:ASP:HB3 | 4:O:15:ARG:HD3 | 2.00 | 0.43 |
| 1:L:49:ILE:HD13 | 1:L:66:VAL:HG21 | 2.00 | 0.43 |
| 9:M:403:BPB:H6 | 9:M:403:BPB:H4 | 1.81 | 0.43 |
| 13:D:102:SPO:H132 | 13:D:102:SPO:H10 | 1.63 | 0.43 |
| 5:G:7:LEU:HD21 | 5:J:12:LEU:HD11 | 1.99 | 0.43 |
| 5:N:49:PHE:CG | 13:N:102:SPO:H9 | 2.53 | 0.43 |
| 13:V:101:SPO:H15 | 13:V:101:SPO:H182 | 1.59 | 0.43 |
| 8:7:101:BCL:H61 | 8:7:101:BCL:H41 | 1.82 | 0.43 |
| 7:Y:7:PHE:HE1 | 11:Y:501:U10:H103 | 1.83 | 0.43 |
| 1:L:22:PHE:O | 1:L:32:GLY:HA2 | 2.17 | 0.43 |
| 2:M:241:ARG:NH1 | 3:H:38:GLU:OE1 | 2.42 | 0.43 |
| 13:D:102:SPO:H26 | 13:D:103:SPO:H37 | 2.00 | 0.43 |
| 8:O:103:BCL:HMB1 | 8:O:103:BCL:HBB2 | 2.00 | 0.43 |
| 13:W:103:SPO:H343 | 13:W:103:SPO:H312 | 1.65 | 0.43 |
| 13:X:101:SPO:H132 | 13:X:101:SPO:H10 | 1.48 | 0.43 |
| 1:L:168:HIS:ND1 | 8:L:301:BCL:HMC2 | 2.33 | 0.43 |
| 13:M:405:SPO:H342 | 13:M:405:SPO:H311 | 1.77 | 0.43 |
| 3:H:163:LYS:NZ | 3:H:182:GLU:OE2 | 2.52 | 0.43 |
| 4:A:18:VAL:HG22 | 10:A:102:PC1:H251 | 2.00 | 0.43 |
| 8:F:103:BCL:HMB1 | 8:F:103:BCL:HBB2 | 2.00 | 0.43 |
| 8:R:101:BCL:H162 | 8:R:101:BCL:H141 | 1.74 | 0.43 |
| 5:T:13:THR:OG1 | 5:T:16:GLN:HG3 | 2.18 | 0.43 |
| 13:3:102:SPO:H311 | 13:3:102:SPO:H292 | 1.53 | 0.43 |
| 13:9:102:SPO:H15 | 13:9:102:SPO:H182 | 1.52 | 0.43 |
| 8:L:302:BCL:HBB3 | 9:L:303:BPB:H14 | 2.00 | 0.43 |
| 13:D:103:SPO:H20 | 13:D:103:SPO:H181 | 1.21 | 0.43 |
| 8:R:101:BCL:HMB1 | 8:R:101:BCL:HBB2 | 2.00 | 0.43 |
| 4:U:12:ASP:N | 5:V:10:THR:HG21 | 2.34 | 0.43 |
| 13:V:101:SPO:HM13 | 13:V:101:SPO:H41 | 1.65 | 0.43 |
| 4:9:41:TYR:H | 4:9:46:ILE:HD11 | 1.83 | 0.43 |
| 2:M:271:TRP:HA | 2:M:274:VAL:HG22 | 2.01 | 0.43 |
| 14:H:304:CDL:H791 | 14:H:304:CDL:H822 | 1.83 | 0.43 |
| 13:I:102:SPO:H182 | 13:I:102:SPO:H15 | 1.48 | 0.43 |
| 8:N:101:BCL:HMB1 | 8:N:101:BCL:HBB2 | 2.00 | 0.43 |
| 5:T:35:ALA:O | 5:T:39:HIS:ND1 | 2.44 | 0.43 |
| 4:U:38:THR:HG21 | 4:W:44:LEU:HD13 | 2.00 | 0.43 |
| 4:W:6:LYS:CD | 13:3:102:SPO:H403 | 2.48 | 0.43 |
| 13:9:102:SPO:H26 | 5:0:27:GLY:HA3 | 2.00 | 0.43 |
| 4:A:25:PHE:CD2 | 10:A:102:PC1:H2F1 | 2.54 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 13:D:102:SPO:H11 | 8:E:101:BCL:HMA2 | 2.00 | 0.43 |
| 13:O:104:SPO:H291 | 13:O:104:SPO:H312 | 1.37 | 0.43 |
| 9:M:403:BPB:HMB | 9:M:403:BPB:HBBB | 2.01 | 0.43 |
| 5:E:8:GLY:C | 5:E:10:THR:H | 2.22 | 0.43 |
| 4:K:3:LYS:HD2 | 4:K:6:LYS:HE3 | 2.01 | 0.43 |
| 8:R:101:BCL:H162 | 8:R:101:BCL:H192 | 1.68 | 0.43 |
| 5:V:19:GLU:HG3 | 5:V:20:LEU:N | 2.33 | 0.43 |
| 5:8:20:LEU:HD13 | 6:X:19:LEU:HD11 | 2.00 | 0.43 |
| 13:8:102:SPO:H5 | 13:8:102:SPO:H21A | 1.68 | 0.43 |
| 6:X:49:ARG:O | 6:X:53:ARG:HG2 | 2.19 | 0.43 |
| 11:L:305:U10:H152 | 11:L:305:U10:H101 | 2.01 | 0.43 |
| 10:L:306:PC1:H351 | 10:L:306:PC1:H381 | 1.92 | 0.43 |
| 2:M:158:MET:HE3 | 2:M:162:PHE:HB3 | 2.01 | 0.43 |
| 13:N:102:SPO:H15 | 13:N:102:SPO:H182 | 1.23 | 0.43 |
| 4:O:3:LYS:HE3 | 4:O:6:LYS:HD2 | 2.01 | 0.43 |
| 2:M:103:LEU:HD11 | 2:M:166:ILE:HA | 2.01 | 0.42 |
| 5:C:35:ALA:O | 5:C:39:HIS:ND1 | 2.52 | 0.42 |
| 13:3:104:SPO:H291 | 13:3:104:SPO:H312 | 1.37 | 0.42 |
| 8:9:101:BCL:HHD | 5:0:42:VAL:HG21 | 2.01 | 0.42 |
| 3:H:170:ASP:OD1 | 3:H:172:PRO:HD2 | 2.18 | 0.42 |
| 3:H:171:ILE:HB | 3:H:172:PRO:HD3 | 2.02 | 0.42 |
| 10:D:104:PC1:H262 | 10:D:104:PC1:H232 | 1.41 | 0.42 |
| 6:X:16:LYS:O | 6:X:20:ARG:HG3 | 2.19 | 0.42 |
| 2:M:86:LEU:HD23 | 2:M:86:LEU:HA | 1.83 | 0.42 |
| 2:M:241:ARG:HD3 | 3:H:38:GLU:OE1 | 2.19 | 0.42 |
| 13:D:103:SPO:H131 | 13:D:103:SPO:C18 | 2.47 | 0.42 |
| 8:1:101:BCL:HHC | 8:1:101:BCL:OBB | 2.19 | 0.42 |
| 6:X:57:ILE:HG22 | 6:X:61:GLN:NE2 | 2.34 | 0.42 |
| 2:M:249:ALA:HB1 | 2:M:259:ASN:ND2 | 2.35 | 0.42 |
| 5:E:49:PHE:HB3 | 13:E:102:SPO:H81 | 2.00 | 0.42 |
| 4:I:35:LEU:HD11 | 8:J:102:BCL:HHD | 2.01 | 0.42 |
| 8:J:102:BCL:HBB2 | 8:J:102:BCL:HMB1 | 2.01 | 0.42 |
| 13:J:103:SPO:H391 | 4:K:17:PHE:HB3 | 2.02 | 0.42 |
| 8:S:102:BCL:HMB1 | 8:S:102:BCL:HBB2 | 2.02 | 0.42 |
| 5:R:40:LEU:O | 5:R:44:ILE:HG12 | 2.20 | 0.42 |
| 13:T:101:SPO:H132 | 13:T:101:SPO:H10 | 1.59 | 0.42 |
| 8:3:101:BCL:C1D | 13:3:104:SPO:H181 | 2.50 | 0.42 |
| 1:L:135:ARG:HB3 | 1:L:136:PRO:HD3 | 2.01 | 0.42 |
| 2:M:81:ASN:HB3 | 2:M:84:VAL:HB | 2.00 | 0.42 |
| 2:M:227:SER:HA | 2:M:231:GLY:H | 1.84 | 0.42 |
| 4:O:30:MET:O | 4:O:34:ILE:HG12 | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 8:7:101:BCL:H192 | 8:7:101:BCL:H162 | 1.79 | 0.42 |
| 8:8:101:BCL:H92 | 8:8:101:BCL:H62 | 1.75 | 0.42 |
| 2:M:39:LEU:O | 2:M:43:GLY:N | 2.45 | 0.42 |
| 13:O:102:SPO:H42 | 8:Q:101:BCL:HMB2 | 2.02 | 0.42 |
| 8:S:101:BCL:H41 | 13:T:102:SPO:H37 | 2.01 | 0.42 |
| 13:8:102:SPO:H242 | 13:8:102:SPO:C28 | 2.49 | 0.42 |
| 7:Y:13:MET:HA | 7:Y:16:VAL:HG22 | 2.01 | 0.42 |
| 14:M:406:CDL:H781 | 14:M:406:CDL:H811 | 1.84 | 0.42 |
| 4:I:13:PRO:HB3 | 5:J:20:LEU:HD11 | 2.02 | 0.42 |
| 5:T:20:LEU:HA | 13:T:101:SPO:H361 | 2.02 | 0.42 |
| 8:7:101:BCL:HMB1 | 8:7:101:BCL:HBB2 | 2.02 | 0.42 |
| 6:X:59:GLU:OE1 | 6:X:59:GLU:N | 2.53 | 0.42 |
| 11:L:308:U10:H13 | 11:L:308:U10:H172 | 1.80 | 0.42 |
| 13:F:102:SPO:H312 | 13:F:102:SPO:H343 | 1.76 | 0.42 |
| 8:U:101:BCL:HHC | 8:U:101:BCL:OBB | 2.20 | 0.42 |
| 5:2:30:LEU:O | 5:2:34:VAL:HG23 | 2.20 | 0.42 |
| 1:L:35:GLY:HA2 | 1:L:103:ARG:HD2 | 2.01 | 0.42 |
| 1:L:117:ILE:HB | 1:L:118:PRO:HD3 | 2.02 | 0.42 |
| 13:E:102:SPO:H241 | 13:E:102:SPO:H26 | 1.08 | 0.42 |
| 13:U:102:SPO:H291 | 13:U:102:SPO:H312 | 1.21 | 0.42 |
| 13:9:102:SPO:H26 | 5:0:27:GLY:C | 2.40 | 0.42 |
| 2:M:235:LEU:HD12 | 2:M:235:LEU:HA | 1.94 | 0.41 |
| 3:H:89:ARG:NH2 | 3:H:92:VAL:O | 2.54 | 0.41 |
| 8:A:103:BCL:O1A | 13:B:101:SPO:H16 | 2.20 | 0.41 |
| 8:J:102:BCL:H162 | 8:J:102:BCL:H141 | 1.74 | 0.41 |
| 13:U:104:SPO:H241 | 13:U:104:SPO:H26 | 1.16 | 0.41 |
| 8:8:101:BCL:H8 | 8:8:101:BCL:H121 | 1.75 | 0.41 |
| 4:9:27:LEU:O | 4:9:31:ILE:HG13 | 2.20 | 0.41 |
| 1:L:226:THR:O | 1:L:229:ILE:HG22 | 2.21 | 0.41 |
| 8:A:103:BCL:H162 | 8:A:103:BCL:H141 | 1.77 | 0.41 |
| 1:L:108:CYS:HG | 2:M:251:PHE:HE2 | 1.68 | 0.41 |
| 13:M:405:SPO:H181 | 13:M:405:SPO:H20 | 1.86 | 0.41 |
| 13:B:101:SPO:H10 | 13:B:101:SPO:H132 | 1.50 | 0.41 |
| 8:F:101:BCL:HHC | 8:F:101:BCL:OBB | 2.20 | 0.41 |
| 8:U:103:BCL:H2 | 8:U:103:BCL:C7 | 2.44 | 0.41 |
| 3:H:52:ASN:ND2 | 10:H:302:PC1:H142 | 2.35 | 0.41 |
| 13:V:101:SPO:H341 | 13:V:101:SPO:H362 | 1.19 | 0.41 |
| 13:V:101:SPO:C37 | 13:W:103:SPO:H26 | 2.50 | 0.41 |
| 13:3:104:SPO:H312 | 13:3:104:SPO:H343 | 1.78 | 0.41 |
| 13:P:101:SPO:H15 | 13:P:101:SPO:H183 | 1.60 | 0.41 |
| 8:S:102:BCL:H2 | 8:S:102:BCL:C7 | 2.45 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 8:S:102:BCL:HMA1 | 8:U:101:BCL:HMA1 | 2.03 | 0.41 |
| 4:1:28:ALA:O | 4:1:32:HIS:ND1 | 2.50 | 0.41 |
| 13:X:101:SPO:H182 | 13:X:101:SPO:H15 | 1.49 | 0.41 |
| 2:M:277:THR:OG1 | 9:M:403:BPB:HAC | 2.21 | 0.41 |
| 13:M:405:SPO:H19 | 13:M:405:SPO:H22 | 1.54 | 0.41 |
| 5:G:40:LEU:O | 5:G:44:ILE:HG12 | 2.19 | 0.41 |
| 4:I:7:ILE:HD12 | 4:I:10:ILE:HD11 | 2.01 | 0.41 |
| 5:J:19:GLU:O | 5:J:23:VAL:HG12 | 2.21 | 0.41 |
| 5:C:49:PHE:HE2 | 8:C:101:BCL:H162 | 1.85 | 0.41 |
| 4:7:20:GLN:NE2 | 5:8:24:TYR:OH | 2.41 | 0.41 |
| 1:L:207:ARG:HG3 | 2:M:142:MET:HG2 | 2.03 | 0.41 |
| 2:M:261:THR:HG23 | 3:H:38:GLU:HG3 | 2.01 | 0.41 |
| 3:H:122:GLU:HB2 | 3:H:227:LEU:HD21 | 2.03 | 0.41 |
| 10:A:102:PC1:H291 | 13:O:101:SPO:H393 | 2.03 | 0.41 |
| 5:N:29:TRP:HA | 5:N:29:TRP:HE3 | 1.84 | 0.41 |
| 2:M:16:ALA:HB1 | 2:M:32:VAL:HG11 | 2.02 | 0.41 |
| 13:W:103:SPO:C32 | 13:W:103:SPO:H291 | 2.51 | 0.41 |
| 4:7:25:PHE:CZ | 6:X:35:GLY:HA2 | 2.56 | 0.41 |
| 4:7:38:THR:HG21 | 4:9:44:LEU:HD13 | 2.03 | 0.41 |
| 6:X:37:VAL:O | 6:X:41:THR:HG23 | 2.20 | 0.41 |
| 1:L:199:ASN:HB3 | 14:M:406:CDL:HB21 | 2.03 | 0.41 |
| 13:D:103:SPO:H182 | 13:D:103:SPO:H15 | 1.35 | 0.41 |
| 4:K:28:ALA:O | 4:K:32:HIS:ND1 | 2.51 | 0.41 |
| 4:W:33:LEU:HD13 | 10:W:101:PC1:H252 | 2.02 | 0.41 |
| 13:3:102:SPO:H183 | 13:3:102:SPO:H15 | 1.51 | 0.41 |
| 11:L:305:U10:H101 | 11:L:305:U10:C15 | 2.51 | 0.41 |
| 13:D:103:SPO:H14 | 5:E:42:VAL:CG2 | 2.51 | 0.41 |
| 5:R:19:GLU:O | 5:R:23:VAL:HG23 | 2.21 | 0.41 |
| 4:1:43:TRP:HA | 4:1:46:ILE:HG12 | 2.03 | 0.41 |
| 8:9:101:BCL:HHC | 8:9:101:BCL:OBB | 2.21 | 0.41 |
| 1:L:170:ASN:HB3 | 1:L:173:HIS:HB2 | 2.02 | 0.40 |
| 1:L:180:PHE:CD2 | 1:L:240:ALA:HB1 | 2.55 | 0.40 |
| 4:A:33:LEU:HD23 | 4:A:33:LEU:HA | 1.93 | 0.40 |
| 4:K:12:ASP:HB3 | 4:K:15:ARG:HD2 | 2.02 | 0.40 |
| 10:W:101:PC1:H272 | 10:W:101:PC1:H241 | 1.81 | 0.40 |
| 5:8:40:LEU:HD23 | 5:8:40:LEU:HA | 1.97 | 0.40 |
| 11:M:404:U10:H251 | 11:M:404:U10:H272 | 1.93 | 0.40 |
| 3:H:211:ASP:N | 3:H:211:ASP:OD1 | 2.54 | 0.40 |
| 5:B:12:LEU:HD23 | 5:B:12:LEU:HA | 1.89 | 0.40 |
| 5:B:40:LEU:O | 5:B:44:ILE:HD12 | 2.21 | 0.40 |
| 13:J:103:SPO:C16 | 5:N:38:ALA:HB1 | 2.49 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:W:9:MET:HE1 | 5:C:14:ASP:HA | 2.03 | 0.40 |
| 1:L:193:LEU:HD22 | 1:L:216:PHE:CE2 | 2.56 | 0.40 |
| 14:H:304:CDL:H332 | 14:H:304:CDL:H512 | 2.03 | 0.40 |
| 4:D:51:TYR:O | 4:D:53:ARG:N | 2.53 | 0.40 |
| 4:F:12:ASP:HB3 | 4:F:15:ARG:HG3 | 2.03 | 0.40 |
| 8:S:101:BCL:H52 | 13:T:102:SPO:H362 | 2.03 | 0.40 |
| 8:U:101:BCL:H43 | 13:U:104:SPO:H32 | 2.03 | 0.40 |
| 4:7:35:LEU:HD23 | 4:7:35:LEU:HA | 1.94 | 0.40 |
| 6:X:21:LEU:HD12 | 6:X:21:LEU:HA | 1.81 | 0.40 |
| 8:L:301:BCL:HHC | 8:L:301:BCL:OBB | 2.22 | 0.40 |
| 2:M:196:LEU:HD12 | 2:M:196:LEU:HA | 1.87 | 0.40 |
| 2:M:249:ALA:HB1 | 2:M:259:ASN:HD22 | 1.85 | 0.40 |
| 4:Q:8:TRP:O | 5:R:10:THR:HG21 | 2.21 | 0.40 |
| 4:7:32:HIS:NE2 | 8:7:101:BCL:HMD1 | 2.37 | 0.40 |
| 13:0:101:SPO:H20 | 13:0:101:SPO:H181 | 1.19 | 0.40 |
| 6:X:19:LEU:O | 6:X:23:VAL:HG23 | 2.20 | 0.40 |
| 1:L:195:LEU:HD11 | 2:M:267:ARG:HA | 2.04 | 0.40 |
| 1:L:235:LEU:HD12 | 2:M:42:PHE:CZ | 2.57 | 0.40 |
| 8:L:302:BCL:O1D | 10:H:301:PC1:H282 | 2.21 | 0.40 |
| 9:L:303:BPB:HBBB | 9:L:303:BPB:HMB | 2.02 | 0.40 |
| 13:D:102:SPO:H291 | 13:D:102:SPO:H312 | 1.50 | 0.40 |
| 13:D:103:SPO:H14 | 5:E:42:VAL:HG23 | 2.04 | 0.40 |
| 13:J:103:SPO:H312 | 13:J:103:SPO:H343 | 1.73 | 0.40 |
| 13:O:104:SPO:H133 | 13:O:104:SPO:H10 | 1.63 | 0.40 |
| 4:U:17:PHE:CZ | 13:U:102:SPO:H32 | 2.57 | 0.40 |
| 4:W:36:LEU:O | 4:W:42:ASN:ND2 | 2.54 | 0.40 |
| 5:8:31:PHE:HB2 | 13:X:101:SPO:H242 | 2.03 | 0.40 |
| 13:8:102:SPO:H291 | 13:8:102:SPO:H311 | 1.29 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles [\(i\)](#)

5.3.1 Protein backbone [\(i\)](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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 | |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 1 | L | 279/282 (99%) | 267 (96%) | 12 (4%) | 0 | 100 | 100 |
| 2 | M | 303/308 (98%) | 296 (98%) | 7 (2%) | 0 | 100 | 100 |
| 3 | H | 245/260 (94%) | 240 (98%) | 5 (2%) | 0 | 100 | 100 |
| 4 | 1 | 51/58 (88%) | 48 (94%) | 3 (6%) | 0 | 100 | 100 |
| 4 | 3 | 52/58 (90%) | 51 (98%) | 1 (2%) | 0 | 100 | 100 |
| 4 | 7 | 44/58 (76%) | 43 (98%) | 1 (2%) | 0 | 100 | 100 |
| 4 | 9 | 52/58 (90%) | 52 (100%) | 0 | 0 | 100 | 100 |
| 4 | A | 52/58 (90%) | 52 (100%) | 0 | 0 | 100 | 100 |
| 4 | D | 52/58 (90%) | 51 (98%) | 1 (2%) | 0 | 100 | 100 |
| 4 | F | 52/58 (90%) | 50 (96%) | 2 (4%) | 0 | 100 | 100 |
| 4 | I | 52/58 (90%) | 52 (100%) | 0 | 0 | 100 | 100 |
| 4 | K | 52/58 (90%) | 52 (100%) | 0 | 0 | 100 | 100 |
| 4 | O | 52/58 (90%) | 51 (98%) | 1 (2%) | 0 | 100 | 100 |
| 4 | Q | 52/58 (90%) | 50 (96%) | 2 (4%) | 0 | 100 | 100 |
| 4 | S | 52/58 (90%) | 52 (100%) | 0 | 0 | 100 | 100 |
| 4 | U | 52/58 (90%) | 51 (98%) | 1 (2%) | 0 | 100 | 100 |
| 4 | W | 52/58 (90%) | 49 (94%) | 3 (6%) | 0 | 100 | 100 |
| 5 | 0 | 42/49 (86%) | 42 (100%) | 0 | 0 | 100 | 100 |
| 5 | 2 | 37/49 (76%) | 37 (100%) | 0 | 0 | 100 | 100 |
| 5 | 8 | 42/49 (86%) | 42 (100%) | 0 | 0 | 100 | 100 |
| 5 | B | 43/49 (88%) | 42 (98%) | 1 (2%) | 0 | 100 | 100 |
| 5 | C | 41/49 (84%) | 40 (98%) | 1 (2%) | 0 | 100 | 100 |
| 5 | E | 41/49 (84%) | 39 (95%) | 2 (5%) | 0 | 100 | 100 |
| 5 | G | 41/49 (84%) | 41 (100%) | 0 | 0 | 100 | 100 |
| 5 | J | 41/49 (84%) | 40 (98%) | 1 (2%) | 0 | 100 | 100 |
| 5 | N | 41/49 (84%) | 41 (100%) | 0 | 0 | 100 | 100 |
| 5 | P | 41/49 (84%) | 41 (100%) | 0 | 0 | 100 | 100 |
| 5 | R | 41/49 (84%) | 41 (100%) | 0 | 0 | 100 | 100 |
| 5 | T | 41/49 (84%) | 41 (100%) | 0 | 0 | 100 | 100 |
| 5 | V | 41/49 (84%) | 41 (100%) | 0 | 0 | 100 | 100 |
| 5 | Z | 40/49 (82%) | 40 (100%) | 0 | 0 | 100 | 100 |
| 6 | X | 50/82 (61%) | 50 (100%) | 0 | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|---------|----------|-------------|-----|
| 7 | Y | 48/53 (91%) | 48 (100%) | 0 | 0 | 100 | 100 |
| All | All | 2217/2483 (89%) | 2173 (98%) | 44 (2%) | 0 | 100 | 100 |

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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 | |
|-----|-------|----------------|------------|----------|-------------|-----|
| 1 | L | 220/221 (100%) | 220 (100%) | 0 | 100 | 100 |
| 2 | M | 239/241 (99%) | 237 (99%) | 2 (1%) | 81 | 94 |
| 3 | H | 199/208 (96%) | 198 (100%) | 1 (0%) | 88 | 96 |
| 4 | 1 | 48/51 (94%) | 47 (98%) | 1 (2%) | 53 | 84 |
| 4 | 3 | 49/51 (96%) | 48 (98%) | 1 (2%) | 55 | 84 |
| 4 | 7 | 43/51 (84%) | 43 (100%) | 0 | 100 | 100 |
| 4 | 9 | 49/51 (96%) | 49 (100%) | 0 | 100 | 100 |
| 4 | A | 49/51 (96%) | 48 (98%) | 1 (2%) | 55 | 84 |
| 4 | D | 49/51 (96%) | 49 (100%) | 0 | 100 | 100 |
| 4 | F | 49/51 (96%) | 48 (98%) | 1 (2%) | 55 | 84 |
| 4 | I | 49/51 (96%) | 49 (100%) | 0 | 100 | 100 |
| 4 | K | 49/51 (96%) | 47 (96%) | 2 (4%) | 30 | 64 |
| 4 | O | 49/51 (96%) | 47 (96%) | 2 (4%) | 30 | 64 |
| 4 | Q | 49/51 (96%) | 48 (98%) | 1 (2%) | 55 | 84 |
| 4 | S | 49/51 (96%) | 47 (96%) | 2 (4%) | 30 | 64 |
| 4 | U | 49/51 (96%) | 48 (98%) | 1 (2%) | 55 | 84 |
| 4 | W | 49/51 (96%) | 48 (98%) | 1 (2%) | 55 | 84 |
| 5 | 0 | 36/40 (90%) | 35 (97%) | 1 (3%) | 43 | 77 |
| 5 | 2 | 32/40 (80%) | 32 (100%) | 0 | 100 | 100 |
| 5 | 8 | 36/40 (90%) | 36 (100%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|-------------|-----|
| 5 | B | 37/40 (92%) | 37 (100%) | 0 | 100 | 100 |
| 5 | C | 35/40 (88%) | 35 (100%) | 0 | 100 | 100 |
| 5 | E | 35/40 (88%) | 34 (97%) | 1 (3%) | 42 | 76 |
| 5 | G | 35/40 (88%) | 35 (100%) | 0 | 100 | 100 |
| 5 | J | 35/40 (88%) | 35 (100%) | 0 | 100 | 100 |
| 5 | N | 35/40 (88%) | 34 (97%) | 1 (3%) | 42 | 76 |
| 5 | P | 35/40 (88%) | 35 (100%) | 0 | 100 | 100 |
| 5 | R | 35/40 (88%) | 34 (97%) | 1 (3%) | 42 | 76 |
| 5 | T | 35/40 (88%) | 35 (100%) | 0 | 100 | 100 |
| 5 | V | 35/40 (88%) | 35 (100%) | 0 | 100 | 100 |
| 5 | Z | 34/40 (85%) | 34 (100%) | 0 | 100 | 100 |
| 6 | X | 40/66 (61%) | 39 (98%) | 1 (2%) | 47 | 80 |
| 7 | Y | 34/37 (92%) | 34 (100%) | 0 | 100 | 100 |
| All | All | 1901/2047 (93%) | 1880 (99%) | 21 (1%) | 74 | 92 |

All (21) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | M | 104 | SER |
| 2 | M | 240 | ASP |
| 3 | H | 93 | SER |
| 4 | A | 37 | SER |
| 5 | E | 22 | SER |
| 4 | F | 1 | MET |
| 4 | K | 1 | MET |
| 4 | K | 14 | ARG |
| 5 | N | 26 | SER |
| 4 | O | 5 | TYR |
| 4 | O | 20 | GLN |
| 4 | Q | 9 | MET |
| 5 | R | 22 | SER |
| 4 | S | 3 | LYS |
| 4 | S | 52 | ASN |
| 4 | U | 1 | MET |
| 4 | W | 20 | GLN |
| 4 | 3 | 39 | PRO |
| 4 | 1 | 9 | MET |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 5 | 0 | 22 | SER |
| 6 | X | 27 | MET |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3 | H | 126 | HIS |
| 5 | C | 16 | GLN |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 76 ligands modelled in this entry, 1 is monoatomic - leaving 75 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$ |
| 8 | BCL | 3 | 103 | - | 58,74,74 | 1.24 | 3 (5%) | 69,115,115 | 1.35 | 11 (15%) |
| 13 | SPO | U | 102 | - | 40,41,41 | 3.35 | 21 (52%) | 47,50,50 | 10.13 | 29 (61%) |
| 13 | SPO | X | 101 | - | 37,38,41 | 3.43 | 21 (56%) | 43,46,50 | 10.84 | 29 (67%) |
| 8 | BCL | R | 101 | - | 58,74,74 | 1.21 | 3 (5%) | 69,115,115 | 1.55 | 13 (18%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|-----|------|--------------|------|----------|-------------|-------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 10 | PC1 | H | 302 | - | 41,41,53 | 1.35 | 6 (14%) | 47,49,61 | 1.20 | 4 (8%) |
| 13 | SPO | O | 102 | - | 40,41,41 | 3.45 | 20 (50%) | 47,50,50 | 10.05 | 32 (68%) |
| 11 | U10 | Y | 501 | - | 38,38,63 | 2.69 | 12 (31%) | 46,49,79 | 1.58 | 10 (21%) |
| 13 | SPO | M | 405 | - | 40,41,41 | 3.42 | 21 (52%) | 47,50,50 | 10.10 | 32 (68%) |
| 8 | BCL | L | 307 | - | 58,74,74 | 1.21 | 4 (6%) | 69,115,115 | 1.61 | 13 (18%) |
| 13 | SPO | I | 102 | - | 40,41,41 | 3.47 | 21 (52%) | 47,50,50 | 9.90 | 30 (63%) |
| 8 | BCL | L | 302 | - | 55,71,74 | 1.24 | 4 (7%) | 65,111,115 | 1.42 | 10 (15%) |
| 14 | CDL | M | 406 | - | 99,99,99 | 1.15 | 6 (6%) | 105,111,111 | 1.44 | 7 (6%) |
| 8 | BCL | M | 402 | - | 58,74,74 | 1.20 | 4 (6%) | 69,115,115 | 1.50 | 14 (20%) |
| 13 | SPO | 3 | 104 | - | 40,41,41 | 3.79 | 21 (52%) | 47,50,50 | 10.29 | 30 (63%) |
| 10 | PC1 | D | 104 | - | 36,36,53 | 1.41 | 6 (16%) | 42,44,61 | 1.08 | 2 (4%) |
| 8 | BCL | L | 301 | - | 58,74,74 | 1.24 | 4 (6%) | 69,115,115 | 1.49 | 11 (15%) |
| 13 | SPO | D | 102 | - | 40,41,41 | 3.40 | 21 (52%) | 47,50,50 | 10.07 | 28 (59%) |
| 10 | PC1 | L | 306 | - | 35,35,53 | 1.45 | 7 (20%) | 41,43,61 | 1.18 | 3 (7%) |
| 8 | BCL | S | 101 | - | 58,74,74 | 1.23 | 4 (6%) | 69,115,115 | 1.42 | 10 (14%) |
| 8 | BCL | E | 101 | - | 58,74,74 | 1.24 | 3 (5%) | 69,115,115 | 1.63 | 14 (20%) |
| 11 | U10 | M | 404 | - | 48,48,63 | 2.68 | 14 (29%) | 58,61,79 | 1.62 | 14 (24%) |
| 8 | BCL | A | 101 | - | 58,74,74 | 1.22 | 4 (6%) | 69,115,115 | 1.42 | 10 (14%) |
| 13 | SPO | T | 101 | - | 40,41,41 | 3.36 | 20 (50%) | 47,50,50 | 10.29 | 29 (61%) |
| 8 | BCL | O | 101 | - | 58,74,74 | 1.22 | 4 (6%) | 69,115,115 | 1.47 | 10 (14%) |
| 8 | BCL | S | 102 | - | 58,74,74 | 1.22 | 3 (5%) | 69,115,115 | 1.54 | 15 (21%) |
| 8 | BCL | W | 102 | - | 58,74,74 | 1.22 | 4 (6%) | 69,115,115 | 1.45 | 12 (17%) |
| 10 | PC1 | L | 304 | - | 34,34,53 | 1.44 | 6 (17%) | 40,42,61 | 1.16 | 3 (7%) |
| 8 | BCL | J | 102 | - | 58,74,74 | 1.24 | 3 (5%) | 69,115,115 | 1.40 | 12 (17%) |
| 8 | BCL | I | 101 | - | 58,74,74 | 1.24 | 4 (6%) | 69,115,115 | 1.41 | 10 (14%) |
| 8 | BCL | F | 103 | - | 58,74,74 | 1.18 | 3 (5%) | 69,115,115 | 1.48 | 13 (18%) |
| 11 | U10 | L | 308 | - | 38,38,63 | 2.69 | 12 (31%) | 46,49,79 | 1.58 | 10 (21%) |
| 8 | BCL | O | 103 | - | 58,74,74 | 1.24 | 4 (6%) | 69,115,115 | 1.47 | 12 (17%) |
| 13 | SPO | W | 103 | - | 40,41,41 | 3.50 | 22 (55%) | 47,50,50 | 10.01 | 31 (65%) |
| 11 | U10 | L | 305 | - | 43,43,63 | 2.69 | 13 (30%) | 52,55,79 | 1.68 | 13 (25%) |
| 8 | BCL | 7 | 101 | - | 58,74,74 | 1.21 | 3 (5%) | 69,115,115 | 1.59 | 13 (18%) |
| 13 | SPO | 0 | 101 | - | 40,41,41 | 3.50 | 22 (55%) | 47,50,50 | 11.31 | 30 (63%) |
| 13 | SPO | 9 | 102 | - | 40,41,41 | 3.43 | 20 (50%) | 47,50,50 | 10.20 | 28 (59%) |
| 8 | BCL | U | 101 | - | 58,74,74 | 1.23 | 4 (6%) | 69,115,115 | 1.43 | 10 (14%) |
| 8 | BCL | Q | 101 | - | 58,74,74 | 1.23 | 4 (6%) | 69,115,115 | 1.45 | 10 (14%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|-----|------|--------------|------|----------|-------------|-------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 8 | BCL | U | 103 | - | 58,74,74 | 1.24 | 3 (5%) | 69,115,115 | 1.68 | 15 (21%) |
| 10 | PC1 | A | 104 | - | 31,31,53 | 1.51 | 6 (19%) | 37,39,61 | 1.17 | 3 (8%) |
| 10 | PC1 | W | 101 | - | 36,36,53 | 1.45 | 6 (16%) | 42,44,61 | 1.13 | 2 (4%) |
| 9 | BPB | L | 303 | - | 46,67,70 | 1.57 | 2 (4%) | 43,97,101 | 1.36 | 6 (13%) |
| 13 | SPO | G | 101 | - | 40,41,41 | 3.59 | 24 (60%) | 47,50,50 | 11.59 | 32 (68%) |
| 8 | BCL | 9 | 101 | - | 58,74,74 | 1.20 | 4 (6%) | 69,115,115 | 1.53 | 12 (17%) |
| 10 | PC1 | H | 303 | - | 19,19,53 | 2.14 | 6 (31%) | 21,25,61 | 1.03 | 1 (4%) |
| 13 | SPO | 3 | 102 | - | 40,41,41 | 3.52 | 23 (57%) | 47,50,50 | 10.25 | 28 (59%) |
| 8 | BCL | 3 | 101 | - | 58,74,74 | 1.26 | 5 (8%) | 69,115,115 | 1.42 | 10 (14%) |
| 8 | BCL | 1 | 101 | - | 48,64,74 | 1.38 | 5 (10%) | 57,103,115 | 1.58 | 13 (22%) |
| 13 | SPO | P | 101 | - | 40,41,41 | 3.65 | 23 (57%) | 47,50,50 | 10.39 | 29 (61%) |
| 13 | SPO | V | 101 | - | 40,41,41 | 3.32 | 21 (52%) | 47,50,50 | 12.23 | 32 (68%) |
| 13 | SPO | J | 101 | - | 40,41,41 | 3.33 | 19 (47%) | 47,50,50 | 10.62 | 34 (72%) |
| 13 | SPO | J | 103 | - | 40,41,41 | 3.59 | 21 (52%) | 47,50,50 | 10.79 | 30 (63%) |
| 10 | PC1 | A | 102 | - | 44,44,53 | 1.34 | 6 (13%) | 50,52,61 | 1.14 | 3 (6%) |
| 13 | SPO | E | 102 | - | 40,41,41 | 3.64 | 20 (50%) | 47,50,50 | 10.47 | 32 (68%) |
| 8 | BCL | N | 101 | - | 58,74,74 | 1.26 | 4 (6%) | 69,115,115 | 1.56 | 16 (23%) |
| 8 | BCL | 8 | 101 | - | 53,69,74 | 1.28 | 3 (5%) | 63,109,115 | 1.41 | 11 (17%) |
| 10 | PC1 | H | 301 | - | 39,39,53 | 1.39 | 6 (15%) | 45,47,61 | 1.09 | 2 (4%) |
| 13 | SPO | D | 103 | - | 40,41,41 | 3.55 | 21 (52%) | 47,50,50 | 10.76 | 32 (68%) |
| 13 | SPO | N | 102 | - | 40,41,41 | 3.48 | 22 (55%) | 47,50,50 | 10.55 | 32 (68%) |
| 13 | SPO | T | 102 | - | 40,41,41 | 3.57 | 21 (52%) | 47,50,50 | 10.06 | 31 (65%) |
| 13 | SPO | 8 | 102 | - | 40,41,41 | 3.57 | 21 (52%) | 47,50,50 | 11.36 | 34 (72%) |
| 8 | BCL | F | 101 | - | 58,74,74 | 1.22 | 4 (6%) | 69,115,115 | 1.44 | 11 (15%) |
| 14 | CDL | H | 304 | - | 77,77,99 | 1.27 | 6 (7%) | 83,89,111 | 1.45 | 6 (7%) |
| 13 | SPO | O | 104 | - | 40,41,41 | 3.41 | 21 (52%) | 47,50,50 | 9.99 | 29 (61%) |
| 13 | SPO | F | 102 | - | 40,41,41 | 3.47 | 21 (52%) | 47,50,50 | 10.27 | 28 (59%) |
| 8 | BCL | 1 | 102 | - | 53,69,74 | 1.27 | 3 (5%) | 63,109,115 | 1.36 | 9 (14%) |
| 8 | BCL | 0 | 102 | - | 53,69,74 | 1.24 | 3 (5%) | 63,109,115 | 1.59 | 14 (22%) |
| 9 | BPB | M | 403 | - | 39,60,70 | 1.66 | 2 (5%) | 35,89,101 | 1.42 | 6 (17%) |
| 8 | BCL | D | 101 | - | 58,74,74 | 1.22 | 4 (6%) | 69,115,115 | 1.42 | 10 (14%) |
| 13 | SPO | B | 101 | - | 40,41,41 | 3.37 | 21 (52%) | 47,50,50 | 10.35 | 31 (65%) |
| 8 | BCL | A | 103 | - | 58,74,74 | 1.20 | 3 (5%) | 69,115,115 | 1.45 | 13 (18%) |
| 8 | BCL | K | 101 | - | 58,74,74 | 1.19 | 4 (6%) | 69,115,115 | 1.40 | 11 (15%) |
| 13 | SPO | U | 104 | - | 40,41,41 | 3.48 | 21 (52%) | 47,50,50 | 10.14 | 33 (70%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 8 | BCL | C | 101 | - | 58,74,74 | 1.19 | 3 (5%) | 69,115,115 | 1.48 | 13 (18%) |

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 |
|-----|------|-------|-----|------|---------|----------------|---------|
| 8 | BCL | 3 | 103 | - | - | 4/37/137/137 | - |
| 13 | SPO | U | 102 | - | - | 17/47/47/47 | - |
| 13 | SPO | X | 101 | - | - | 16/44/44/47 | - |
| 8 | BCL | R | 101 | - | - | 5/37/137/137 | - |
| 10 | PC1 | H | 302 | - | - | 14/45/45/57 | - |
| 13 | SPO | O | 102 | - | - | 16/47/47/47 | - |
| 11 | U10 | Y | 501 | - | - | 10/33/57/87 | 0/1/1/1 |
| 13 | SPO | M | 405 | - | - | 14/47/47/47 | - |
| 8 | BCL | L | 307 | - | - | 5/37/137/137 | - |
| 13 | SPO | I | 102 | - | - | 16/47/47/47 | - |
| 8 | BCL | L | 302 | - | - | 2/34/134/137 | - |
| 14 | CDL | M | 406 | - | - | 53/110/110/110 | - |
| 8 | BCL | M | 402 | - | - | 2/37/137/137 | - |
| 13 | SPO | 3 | 104 | - | - | 19/47/47/47 | - |
| 10 | PC1 | D | 104 | - | - | 13/40/40/57 | - |
| 8 | BCL | L | 301 | - | - | 1/37/137/137 | - |
| 13 | SPO | D | 102 | - | - | 7/47/47/47 | - |
| 10 | PC1 | L | 306 | - | - | 13/39/39/57 | - |
| 8 | BCL | S | 101 | - | - | 4/37/137/137 | - |
| 8 | BCL | E | 101 | - | - | 6/37/137/137 | - |
| 11 | U10 | M | 404 | - | - | 7/45/69/87 | 0/1/1/1 |
| 8 | BCL | A | 101 | - | - | 0/37/137/137 | - |
| 13 | SPO | T | 101 | - | - | 7/47/47/47 | - |
| 8 | BCL | O | 101 | - | - | 5/37/137/137 | - |
| 8 | BCL | S | 102 | - | - | 7/37/137/137 | - |
| 8 | BCL | W | 102 | - | - | 2/37/137/137 | - |
| 10 | PC1 | L | 304 | - | - | 12/38/38/57 | - |
| 8 | BCL | J | 102 | - | - | 6/37/137/137 | - |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|-----|------|---------|---------------|---------|
| 8 | BCL | I | 101 | - | - | 0/37/137/137 | - |
| 8 | BCL | F | 103 | - | - | 5/37/137/137 | - |
| 11 | U10 | L | 308 | - | - | 6/33/57/87 | 0/1/1/1 |
| 8 | BCL | O | 103 | - | - | 7/37/137/137 | - |
| 13 | SPO | W | 103 | - | - | 20/47/47/47 | - |
| 11 | U10 | L | 305 | - | - | 16/39/63/87 | 0/1/1/1 |
| 8 | BCL | 7 | 101 | - | - | 10/37/137/137 | - |
| 13 | SPO | 0 | 101 | - | - | 14/47/47/47 | - |
| 13 | SPO | 9 | 102 | - | - | 19/47/47/47 | - |
| 8 | BCL | U | 101 | - | - | 4/37/137/137 | - |
| 8 | BCL | Q | 101 | - | - | 0/37/137/137 | - |
| 8 | BCL | U | 103 | - | - | 11/37/137/137 | - |
| 10 | PC1 | A | 104 | - | - | 15/35/35/57 | - |
| 10 | PC1 | W | 101 | - | - | 12/40/40/57 | - |
| 9 | BPB | L | 303 | - | - | 6/34/102/105 | 0/5/6/6 |
| 13 | SPO | G | 101 | - | - | 15/47/47/47 | - |
| 8 | BCL | 9 | 101 | - | - | 5/37/137/137 | - |
| 10 | PC1 | H | 303 | - | - | 6/21/21/57 | - |
| 13 | SPO | 3 | 102 | - | - | 7/47/47/47 | - |
| 8 | BCL | 3 | 101 | - | - | 0/37/137/137 | - |
| 8 | BCL | 1 | 101 | - | - | 3/25/125/137 | - |
| 13 | SPO | P | 101 | - | - | 13/47/47/47 | - |
| 13 | SPO | V | 101 | - | - | 14/47/47/47 | - |
| 13 | SPO | J | 101 | - | - | 16/47/47/47 | - |
| 13 | SPO | J | 103 | - | - | 18/47/47/47 | - |
| 10 | PC1 | A | 102 | - | - | 17/48/48/57 | - |
| 13 | SPO | E | 102 | - | - | 13/47/47/47 | - |
| 8 | BCL | N | 101 | - | - | 10/37/137/137 | - |
| 8 | BCL | 8 | 101 | - | - | 3/31/131/137 | - |
| 10 | PC1 | H | 301 | - | - | 15/43/43/57 | - |
| 13 | SPO | D | 103 | - | - | 13/47/47/47 | - |
| 13 | SPO | N | 102 | - | - | 22/47/47/47 | - |
| 13 | SPO | T | 102 | - | - | 18/47/47/47 | - |
| 13 | SPO | 8 | 102 | - | - | 23/47/47/47 | - |
| 8 | BCL | F | 101 | - | - | 4/37/137/137 | - |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|-----|------|---------|--------------|---------|
| 14 | CDL | H | 304 | - | - | 37/88/88/110 | - |
| 13 | SPO | O | 104 | - | - | 16/47/47/47 | - |
| 13 | SPO | F | 102 | - | - | 12/47/47/47 | - |
| 8 | BCL | 1 | 102 | - | - | 6/31/131/137 | - |
| 8 | BCL | 0 | 102 | - | - | 4/31/131/137 | - |
| 9 | BPB | M | 403 | - | - | 6/25/93/105 | 0/5/6/6 |
| 8 | BCL | D | 101 | - | - | 0/37/137/137 | - |
| 13 | SPO | B | 101 | - | - | 13/47/47/47 | - |
| 8 | BCL | A | 103 | - | - | 4/37/137/137 | - |
| 8 | BCL | K | 101 | - | - | 0/37/137/137 | - |
| 13 | SPO | U | 104 | - | - | 20/47/47/47 | - |
| 8 | BCL | C | 101 | - | - | 9/37/137/137 | - |

All (789) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 13 | E | 102 | SPO | C25-C23 | 9.18 | 1.65 | 1.45 |
| 13 | T | 102 | SPO | C16-C17 | 9.06 | 1.65 | 1.45 |
| 13 | 3 | 104 | SPO | C16-C17 | 8.99 | 1.65 | 1.45 |
| 9 | L | 303 | BPB | CAC-C3C | 8.97 | 1.56 | 1.33 |
| 13 | J | 103 | SPO | C25-C23 | 8.88 | 1.65 | 1.45 |
| 13 | 3 | 104 | SPO | C25-C23 | 8.88 | 1.65 | 1.45 |
| 13 | D | 103 | SPO | C16-C17 | 8.80 | 1.64 | 1.45 |
| 13 | G | 101 | SPO | C16-C17 | 8.79 | 1.64 | 1.45 |
| 13 | D | 103 | SPO | C25-C23 | 8.79 | 1.64 | 1.45 |
| 13 | M | 405 | SPO | C25-C23 | 8.75 | 1.64 | 1.45 |
| 13 | 0 | 101 | SPO | C16-C17 | 8.66 | 1.64 | 1.45 |
| 13 | U | 104 | SPO | C25-C23 | 8.65 | 1.64 | 1.45 |
| 9 | M | 403 | BPB | CAC-C3C | 8.58 | 1.55 | 1.33 |
| 13 | O | 102 | SPO | C25-C23 | 8.48 | 1.64 | 1.45 |
| 13 | W | 103 | SPO | C25-C23 | 8.39 | 1.64 | 1.45 |
| 13 | P | 101 | SPO | C16-C17 | 8.30 | 1.63 | 1.45 |
| 13 | T | 102 | SPO | C25-C23 | 8.28 | 1.63 | 1.45 |
| 13 | 3 | 102 | SPO | C25-C23 | 8.24 | 1.63 | 1.45 |
| 13 | P | 101 | SPO | C25-C23 | 8.23 | 1.63 | 1.45 |
| 13 | 0 | 101 | SPO | C25-C23 | 8.12 | 1.63 | 1.45 |
| 13 | W | 103 | SPO | C16-C17 | 8.11 | 1.63 | 1.45 |
| 13 | J | 103 | SPO | C16-C17 | 8.08 | 1.63 | 1.45 |
| 13 | U | 102 | SPO | C25-C23 | 8.04 | 1.63 | 1.45 |
| 13 | N | 102 | SPO | C25-C23 | 8.03 | 1.63 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 13 | F | 102 | SPO | C16-C17 | 7.95 | 1.63 | 1.45 |
| 13 | N | 102 | SPO | C16-C17 | 7.95 | 1.63 | 1.45 |
| 13 | I | 102 | SPO | C25-C23 | 7.90 | 1.62 | 1.45 |
| 13 | 9 | 102 | SPO | C16-C17 | 7.90 | 1.62 | 1.45 |
| 13 | E | 102 | SPO | C16-C17 | 7.89 | 1.62 | 1.45 |
| 13 | F | 102 | SPO | C25-C23 | 7.88 | 1.62 | 1.45 |
| 13 | 8 | 102 | SPO | C16-C17 | 7.84 | 1.62 | 1.45 |
| 13 | D | 102 | SPO | C25-C23 | 7.81 | 1.62 | 1.45 |
| 13 | J | 101 | SPO | C16-C17 | 7.80 | 1.62 | 1.45 |
| 13 | T | 101 | SPO | C16-C17 | 7.77 | 1.62 | 1.45 |
| 13 | U | 104 | SPO | C16-C17 | 7.66 | 1.62 | 1.45 |
| 13 | X | 101 | SPO | C16-C17 | 7.66 | 1.62 | 1.45 |
| 13 | V | 101 | SPO | C16-C17 | 7.65 | 1.62 | 1.45 |
| 13 | D | 102 | SPO | C16-C17 | 7.64 | 1.62 | 1.45 |
| 13 | B | 101 | SPO | C25-C23 | 7.61 | 1.62 | 1.45 |
| 13 | B | 101 | SPO | C16-C17 | 7.61 | 1.62 | 1.45 |
| 13 | O | 104 | SPO | C25-C23 | 7.60 | 1.62 | 1.45 |
| 13 | G | 101 | SPO | C25-C23 | 7.60 | 1.62 | 1.45 |
| 13 | I | 102 | SPO | C16-C17 | 7.59 | 1.62 | 1.45 |
| 13 | O | 104 | SPO | C16-C17 | 7.59 | 1.62 | 1.45 |
| 13 | 3 | 102 | SPO | C16-C17 | 7.57 | 1.62 | 1.45 |
| 13 | J | 101 | SPO | C25-C23 | 7.57 | 1.62 | 1.45 |
| 13 | 9 | 102 | SPO | C25-C23 | 7.57 | 1.62 | 1.45 |
| 13 | M | 405 | SPO | C16-C17 | 7.55 | 1.62 | 1.45 |
| 13 | D | 103 | SPO | C11-C12 | 7.54 | 1.62 | 1.45 |
| 13 | X | 101 | SPO | C25-C23 | 7.46 | 1.62 | 1.45 |
| 13 | U | 102 | SPO | C16-C17 | 7.41 | 1.61 | 1.45 |
| 13 | O | 102 | SPO | C16-C17 | 7.41 | 1.61 | 1.45 |
| 13 | 8 | 102 | SPO | C25-C23 | 7.40 | 1.61 | 1.45 |
| 13 | T | 101 | SPO | C25-C23 | 7.24 | 1.61 | 1.45 |
| 13 | V | 101 | SPO | C25-C23 | 7.09 | 1.61 | 1.45 |
| 13 | O | 102 | SPO | C35-C33 | 6.94 | 1.65 | 1.51 |
| 13 | P | 101 | SPO | C35-C33 | 6.87 | 1.65 | 1.51 |
| 13 | 9 | 102 | SPO | C35-C33 | 6.52 | 1.64 | 1.51 |
| 13 | G | 101 | SPO | C35-C33 | 6.43 | 1.64 | 1.51 |
| 13 | J | 101 | SPO | C35-C33 | 6.33 | 1.64 | 1.51 |
| 13 | 3 | 104 | SPO | C11-C12 | 6.33 | 1.59 | 1.45 |
| 13 | P | 101 | SPO | C11-C12 | 6.28 | 1.59 | 1.45 |
| 13 | 3 | 102 | SPO | C11-C12 | 6.27 | 1.59 | 1.45 |
| 13 | I | 102 | SPO | C35-C33 | 6.26 | 1.64 | 1.51 |
| 13 | B | 101 | SPO | C11-C12 | 6.22 | 1.59 | 1.45 |
| 13 | O | 104 | SPO | C11-C12 | 6.21 | 1.59 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 13 | M | 405 | SPO | C11-C12 | 6.20 | 1.59 | 1.45 |
| 13 | T | 101 | SPO | C11-C12 | 6.19 | 1.59 | 1.45 |
| 13 | D | 102 | SPO | C11-C12 | 6.18 | 1.59 | 1.45 |
| 11 | L | 305 | U10 | C13-C14 | 6.15 | 1.47 | 1.33 |
| 13 | 9 | 102 | SPO | C11-C12 | 6.10 | 1.59 | 1.45 |
| 13 | T | 102 | SPO | C11-C12 | 6.10 | 1.59 | 1.45 |
| 13 | W | 103 | SPO | C35-C33 | 6.10 | 1.64 | 1.51 |
| 13 | O | 104 | SPO | C35-C33 | 6.09 | 1.63 | 1.51 |
| 13 | U | 104 | SPO | C11-C12 | 6.07 | 1.59 | 1.45 |
| 13 | F | 102 | SPO | C11-C12 | 6.05 | 1.58 | 1.45 |
| 13 | I | 102 | SPO | C11-C12 | 6.05 | 1.58 | 1.45 |
| 11 | M | 404 | U10 | C33-C34 | 6.03 | 1.47 | 1.33 |
| 11 | L | 308 | U10 | C13-C14 | 6.01 | 1.47 | 1.33 |
| 13 | J | 101 | SPO | C11-C12 | 6.01 | 1.58 | 1.45 |
| 13 | 8 | 102 | SPO | C11-C12 | 6.01 | 1.58 | 1.45 |
| 13 | X | 101 | SPO | C11-C12 | 5.99 | 1.58 | 1.45 |
| 11 | Y | 501 | U10 | C23-C24 | 5.99 | 1.47 | 1.33 |
| 13 | W | 103 | SPO | C11-C12 | 5.99 | 1.58 | 1.45 |
| 11 | L | 305 | U10 | C28-C29 | 5.99 | 1.47 | 1.33 |
| 11 | Y | 501 | U10 | C13-C14 | 5.99 | 1.47 | 1.33 |
| 11 | L | 305 | U10 | C18-C19 | 5.98 | 1.47 | 1.33 |
| 11 | L | 305 | U10 | C23-C24 | 5.97 | 1.47 | 1.33 |
| 13 | V | 101 | SPO | C11-C12 | 5.97 | 1.58 | 1.45 |
| 11 | Y | 501 | U10 | C8-C9 | 5.96 | 1.47 | 1.33 |
| 13 | E | 102 | SPO | C20-C19 | 5.95 | 1.61 | 1.43 |
| 11 | M | 404 | U10 | C8-C9 | 5.95 | 1.47 | 1.33 |
| 11 | Y | 501 | U10 | C18-C19 | 5.94 | 1.47 | 1.33 |
| 11 | M | 404 | U10 | C18-C19 | 5.94 | 1.47 | 1.33 |
| 11 | M | 404 | U10 | C28-C29 | 5.92 | 1.47 | 1.33 |
| 13 | G | 101 | SPO | C6-C7 | 5.91 | 1.58 | 1.45 |
| 13 | G | 101 | SPO | C11-C12 | 5.91 | 1.58 | 1.45 |
| 13 | E | 102 | SPO | C30-C28 | 5.91 | 1.63 | 1.51 |
| 11 | L | 308 | U10 | C8-C9 | 5.90 | 1.47 | 1.33 |
| 13 | 3 | 104 | SPO | C35-C33 | 5.89 | 1.63 | 1.51 |
| 13 | 3 | 102 | SPO | C35-C33 | 5.89 | 1.63 | 1.51 |
| 11 | M | 404 | U10 | C13-C14 | 5.88 | 1.47 | 1.33 |
| 13 | 8 | 102 | SPO | C30-C28 | 5.88 | 1.63 | 1.51 |
| 13 | 8 | 102 | SPO | C20-C19 | 5.87 | 1.61 | 1.43 |
| 11 | M | 404 | U10 | C23-C24 | 5.86 | 1.47 | 1.33 |
| 11 | L | 308 | U10 | C23-C24 | 5.86 | 1.47 | 1.33 |
| 11 | L | 308 | U10 | C18-C19 | 5.86 | 1.47 | 1.33 |
| 13 | E | 102 | SPO | C11-C12 | 5.84 | 1.58 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 13 | V | 101 | SPO | C35-C33 | 5.83 | 1.63 | 1.51 |
| 13 | 0 | 101 | SPO | C35-C33 | 5.82 | 1.63 | 1.51 |
| 11 | L | 305 | U10 | C8-C9 | 5.82 | 1.46 | 1.33 |
| 13 | U | 104 | SPO | C35-C33 | 5.80 | 1.63 | 1.51 |
| 13 | J | 103 | SPO | C35-C33 | 5.79 | 1.63 | 1.51 |
| 13 | 0 | 101 | SPO | C6-C7 | 5.78 | 1.58 | 1.45 |
| 13 | 3 | 102 | SPO | C30-C28 | 5.73 | 1.63 | 1.51 |
| 13 | J | 103 | SPO | C6-C7 | 5.73 | 1.58 | 1.45 |
| 13 | O | 102 | SPO | C11-C12 | 5.72 | 1.58 | 1.45 |
| 13 | I | 102 | SPO | C30-C28 | 5.72 | 1.63 | 1.51 |
| 13 | P | 101 | SPO | C20-C19 | 5.71 | 1.61 | 1.43 |
| 13 | N | 102 | SPO | C11-C12 | 5.68 | 1.58 | 1.45 |
| 13 | 8 | 102 | SPO | C6-C7 | 5.67 | 1.58 | 1.45 |
| 13 | 3 | 104 | SPO | C30-C28 | 5.64 | 1.63 | 1.51 |
| 10 | H | 303 | PC1 | O21-C2 | -5.64 | 1.40 | 1.46 |
| 13 | D | 102 | SPO | C35-C33 | 5.63 | 1.63 | 1.51 |
| 13 | 8 | 102 | SPO | C26-C27 | 5.63 | 1.60 | 1.43 |
| 13 | U | 102 | SPO | C11-C12 | 5.62 | 1.58 | 1.45 |
| 13 | F | 102 | SPO | C30-C28 | 5.57 | 1.62 | 1.51 |
| 13 | T | 102 | SPO | C30-C28 | 5.56 | 1.62 | 1.51 |
| 13 | F | 102 | SPO | C35-C33 | 5.55 | 1.62 | 1.51 |
| 13 | P | 101 | SPO | C30-C28 | 5.55 | 1.62 | 1.51 |
| 13 | T | 101 | SPO | C35-C33 | 5.54 | 1.62 | 1.51 |
| 13 | U | 104 | SPO | C30-C28 | 5.54 | 1.62 | 1.51 |
| 13 | G | 101 | SPO | C30-C28 | 5.53 | 1.62 | 1.51 |
| 13 | 8 | 102 | SPO | C27-C28 | 5.52 | 1.39 | 1.34 |
| 13 | W | 103 | SPO | C20-C19 | 5.52 | 1.60 | 1.43 |
| 13 | 0 | 101 | SPO | C11-C12 | 5.50 | 1.57 | 1.45 |
| 11 | L | 308 | U10 | O3-C3 | -5.50 | 1.23 | 1.36 |
| 11 | L | 305 | U10 | O4-C4 | -5.49 | 1.23 | 1.36 |
| 13 | P | 101 | SPO | C6-C7 | 5.49 | 1.57 | 1.45 |
| 13 | U | 102 | SPO | C35-C33 | 5.48 | 1.62 | 1.51 |
| 13 | U | 102 | SPO | C30-C28 | 5.48 | 1.62 | 1.51 |
| 13 | U | 102 | SPO | C6-C7 | 5.47 | 1.57 | 1.45 |
| 13 | T | 102 | SPO | C35-C33 | 5.46 | 1.62 | 1.51 |
| 13 | U | 104 | SPO | C20-C19 | 5.46 | 1.60 | 1.43 |
| 11 | Y | 501 | U10 | O3-C3 | -5.46 | 1.23 | 1.36 |
| 11 | Y | 501 | U10 | O4-C4 | -5.46 | 1.23 | 1.36 |
| 13 | E | 102 | SPO | C6-C7 | 5.45 | 1.57 | 1.45 |
| 13 | M | 405 | SPO | C6-C7 | 5.44 | 1.57 | 1.45 |
| 13 | W | 103 | SPO | C6-C7 | 5.44 | 1.57 | 1.45 |
| 13 | E | 102 | SPO | C35-C33 | 5.43 | 1.62 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 13 | F | 102 | SPO | C20-C19 | 5.43 | 1.60 | 1.43 |
| 13 | E | 102 | SPO | C15-C14 | 5.43 | 1.60 | 1.43 |
| 13 | F | 102 | SPO | C6-C7 | 5.43 | 1.57 | 1.45 |
| 13 | 3 | 104 | SPO | C20-C19 | 5.43 | 1.60 | 1.43 |
| 13 | 0 | 101 | SPO | C20-C19 | 5.42 | 1.60 | 1.43 |
| 13 | 9 | 102 | SPO | C20-C19 | 5.41 | 1.60 | 1.43 |
| 13 | B | 101 | SPO | C20-C19 | 5.40 | 1.60 | 1.43 |
| 13 | T | 101 | SPO | C30-C28 | 5.40 | 1.62 | 1.51 |
| 13 | T | 101 | SPO | C6-C7 | 5.40 | 1.57 | 1.45 |
| 13 | N | 102 | SPO | C30-C28 | 5.39 | 1.62 | 1.51 |
| 11 | M | 404 | U10 | O4-C4 | -5.39 | 1.23 | 1.36 |
| 13 | J | 103 | SPO | C11-C12 | 5.39 | 1.57 | 1.45 |
| 13 | 3 | 104 | SPO | C26-C27 | 5.39 | 1.60 | 1.43 |
| 11 | L | 308 | U10 | O4-C4 | -5.38 | 1.23 | 1.36 |
| 13 | D | 103 | SPO | C20-C19 | 5.38 | 1.60 | 1.43 |
| 13 | I | 102 | SPO | C6-C7 | 5.38 | 1.57 | 1.45 |
| 13 | 3 | 104 | SPO | C15-C14 | 5.38 | 1.60 | 1.43 |
| 13 | B | 101 | SPO | C6-C7 | 5.37 | 1.57 | 1.45 |
| 13 | D | 103 | SPO | C6-C7 | 5.37 | 1.57 | 1.45 |
| 13 | V | 101 | SPO | C6-C7 | 5.36 | 1.57 | 1.45 |
| 13 | O | 104 | SPO | C20-C19 | 5.36 | 1.60 | 1.43 |
| 13 | 9 | 102 | SPO | C6-C7 | 5.35 | 1.57 | 1.45 |
| 11 | M | 404 | U10 | O3-C3 | -5.35 | 1.23 | 1.36 |
| 11 | L | 305 | U10 | O3-C3 | -5.34 | 1.23 | 1.36 |
| 13 | B | 101 | SPO | C35-C33 | 5.33 | 1.62 | 1.51 |
| 13 | I | 102 | SPO | C20-C19 | 5.33 | 1.60 | 1.43 |
| 13 | X | 101 | SPO | C6-C7 | 5.32 | 1.57 | 1.45 |
| 13 | N | 102 | SPO | C6-C7 | 5.32 | 1.57 | 1.45 |
| 11 | M | 404 | U10 | C38-C39 | 5.31 | 1.47 | 1.32 |
| 13 | M | 405 | SPO | C35-C33 | 5.30 | 1.62 | 1.51 |
| 13 | D | 102 | SPO | C6-C7 | 5.30 | 1.57 | 1.45 |
| 13 | T | 102 | SPO | C20-C19 | 5.30 | 1.59 | 1.43 |
| 13 | 3 | 102 | SPO | C6-C7 | 5.30 | 1.57 | 1.45 |
| 13 | O | 104 | SPO | C30-C28 | 5.29 | 1.62 | 1.51 |
| 13 | X | 101 | SPO | C35-C33 | 5.28 | 1.62 | 1.51 |
| 13 | T | 102 | SPO | C6-C7 | 5.28 | 1.57 | 1.45 |
| 13 | V | 101 | SPO | C30-C28 | 5.28 | 1.62 | 1.51 |
| 13 | 3 | 104 | SPO | C6-C7 | 5.27 | 1.57 | 1.45 |
| 13 | J | 103 | SPO | C15-C14 | 5.27 | 1.59 | 1.43 |
| 13 | G | 101 | SPO | C26-C27 | 5.26 | 1.59 | 1.43 |
| 13 | X | 101 | SPO | C20-C19 | 5.26 | 1.59 | 1.43 |
| 13 | N | 102 | SPO | C35-C33 | 5.25 | 1.62 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 13 | U | 102 | SPO | C20-C19 | 5.25 | 1.59 | 1.43 |
| 13 | J | 103 | SPO | C20-C19 | 5.25 | 1.59 | 1.43 |
| 11 | Y | 501 | U10 | C28-C29 | 5.23 | 1.47 | 1.32 |
| 13 | N | 102 | SPO | C20-C19 | 5.23 | 1.59 | 1.43 |
| 13 | O | 102 | SPO | C6-C7 | 5.22 | 1.57 | 1.45 |
| 13 | 8 | 102 | SPO | C35-C33 | 5.22 | 1.62 | 1.51 |
| 13 | O | 104 | SPO | C6-C7 | 5.22 | 1.57 | 1.45 |
| 13 | 3 | 104 | SPO | C27-C28 | 5.22 | 1.39 | 1.34 |
| 13 | D | 103 | SPO | C30-C28 | 5.21 | 1.62 | 1.51 |
| 11 | L | 308 | U10 | C28-C29 | 5.21 | 1.47 | 1.32 |
| 13 | 9 | 102 | SPO | C30-C28 | 5.20 | 1.62 | 1.51 |
| 13 | 3 | 102 | SPO | C20-C19 | 5.20 | 1.59 | 1.43 |
| 13 | D | 102 | SPO | C30-C28 | 5.19 | 1.62 | 1.51 |
| 13 | T | 102 | SPO | C15-C14 | 5.18 | 1.59 | 1.43 |
| 13 | T | 101 | SPO | C20-C19 | 5.17 | 1.59 | 1.43 |
| 11 | L | 305 | U10 | C33-C34 | 5.16 | 1.47 | 1.32 |
| 13 | 8 | 102 | SPO | C15-C14 | 5.15 | 1.59 | 1.43 |
| 13 | U | 104 | SPO | C6-C7 | 5.15 | 1.57 | 1.45 |
| 13 | 0 | 101 | SPO | C30-C28 | 5.15 | 1.62 | 1.51 |
| 13 | X | 101 | SPO | C30-C28 | 5.13 | 1.62 | 1.51 |
| 13 | D | 102 | SPO | C20-C19 | 5.13 | 1.59 | 1.43 |
| 13 | G | 101 | SPO | C20-C19 | 5.11 | 1.59 | 1.43 |
| 13 | J | 101 | SPO | C30-C28 | 5.11 | 1.61 | 1.51 |
| 13 | E | 102 | SPO | C26-C27 | 5.11 | 1.59 | 1.43 |
| 13 | B | 101 | SPO | C30-C28 | 5.10 | 1.61 | 1.51 |
| 13 | M | 405 | SPO | C20-C19 | 5.09 | 1.59 | 1.43 |
| 13 | V | 101 | SPO | C20-C19 | 5.08 | 1.59 | 1.43 |
| 13 | O | 102 | SPO | C20-C19 | 5.07 | 1.59 | 1.43 |
| 13 | T | 102 | SPO | C26-C27 | 5.07 | 1.59 | 1.43 |
| 13 | P | 101 | SPO | C26-C27 | 5.04 | 1.59 | 1.43 |
| 13 | W | 103 | SPO | C15-C14 | 5.04 | 1.59 | 1.43 |
| 13 | O | 102 | SPO | C30-C28 | 5.03 | 1.61 | 1.51 |
| 13 | W | 103 | SPO | C30-C28 | 5.01 | 1.61 | 1.51 |
| 13 | J | 101 | SPO | C26-C27 | 5.00 | 1.58 | 1.43 |
| 13 | P | 101 | SPO | C15-C14 | 5.00 | 1.58 | 1.43 |
| 13 | J | 103 | SPO | C30-C28 | 4.99 | 1.61 | 1.51 |
| 13 | F | 102 | SPO | C26-C27 | 4.98 | 1.58 | 1.43 |
| 13 | J | 103 | SPO | C26-C27 | 4.98 | 1.58 | 1.43 |
| 13 | O | 104 | SPO | C26-C27 | 4.98 | 1.58 | 1.43 |
| 13 | J | 101 | SPO | C20-C19 | 4.97 | 1.58 | 1.43 |
| 13 | N | 102 | SPO | C15-C14 | 4.96 | 1.58 | 1.43 |
| 13 | B | 101 | SPO | C15-C14 | 4.96 | 1.58 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 13 | D | 103 | SPO | C35-C33 | 4.96 | 1.61 | 1.51 |
| 13 | J | 101 | SPO | C6-C7 | 4.95 | 1.56 | 1.45 |
| 13 | X | 101 | SPO | C26-C27 | 4.95 | 1.58 | 1.43 |
| 13 | G | 101 | SPO | C15-C14 | 4.94 | 1.58 | 1.43 |
| 8 | 3 | 103 | BCL | C1B-NB | 4.93 | 1.39 | 1.35 |
| 13 | N | 102 | SPO | C26-C27 | 4.93 | 1.58 | 1.43 |
| 13 | 0 | 101 | SPO | C15-C14 | 4.93 | 1.58 | 1.43 |
| 13 | 0 | 101 | SPO | C26-C27 | 4.93 | 1.58 | 1.43 |
| 13 | 3 | 104 | SPO | C21-C22 | 4.93 | 1.58 | 1.43 |
| 8 | U | 103 | BCL | C1B-NB | 4.92 | 1.39 | 1.35 |
| 13 | I | 102 | SPO | C26-C27 | 4.92 | 1.58 | 1.43 |
| 8 | J | 102 | BCL | C1B-NB | 4.92 | 1.39 | 1.35 |
| 8 | 8 | 101 | BCL | C1B-NB | 4.91 | 1.39 | 1.35 |
| 13 | O | 102 | SPO | C26-C27 | 4.90 | 1.58 | 1.43 |
| 13 | F | 102 | SPO | C15-C14 | 4.88 | 1.58 | 1.43 |
| 13 | D | 102 | SPO | C26-C27 | 4.88 | 1.58 | 1.43 |
| 13 | 9 | 102 | SPO | C26-C27 | 4.88 | 1.58 | 1.43 |
| 13 | W | 103 | SPO | C26-C27 | 4.87 | 1.58 | 1.43 |
| 13 | E | 102 | SPO | C21-C22 | 4.87 | 1.58 | 1.43 |
| 8 | 1 | 101 | BCL | MG-NA | 4.87 | 2.17 | 2.06 |
| 13 | 3 | 102 | SPO | C26-C27 | 4.85 | 1.58 | 1.43 |
| 13 | T | 101 | SPO | C26-C27 | 4.84 | 1.58 | 1.43 |
| 13 | M | 405 | SPO | C26-C27 | 4.83 | 1.58 | 1.43 |
| 13 | U | 104 | SPO | C26-C27 | 4.83 | 1.58 | 1.43 |
| 8 | 3 | 101 | BCL | MG-NA | 4.82 | 2.17 | 2.06 |
| 8 | S | 102 | BCL | MG-NA | 4.81 | 2.17 | 2.06 |
| 8 | 1 | 102 | BCL | C1B-NB | 4.81 | 1.39 | 1.35 |
| 13 | V | 101 | SPO | C15-C14 | 4.80 | 1.58 | 1.43 |
| 8 | N | 101 | BCL | C1B-NB | 4.80 | 1.39 | 1.35 |
| 13 | X | 101 | SPO | C15-C14 | 4.79 | 1.58 | 1.43 |
| 8 | W | 102 | BCL | C1B-NB | 4.79 | 1.39 | 1.35 |
| 13 | B | 101 | SPO | C26-C27 | 4.79 | 1.58 | 1.43 |
| 13 | D | 103 | SPO | C15-C14 | 4.76 | 1.58 | 1.43 |
| 8 | R | 101 | BCL | MG-NA | 4.76 | 2.17 | 2.06 |
| 8 | A | 103 | BCL | C1B-NB | 4.76 | 1.39 | 1.35 |
| 8 | U | 101 | BCL | MG-NA | 4.75 | 2.17 | 2.06 |
| 13 | V | 101 | SPO | C26-C27 | 4.75 | 1.58 | 1.43 |
| 13 | M | 405 | SPO | C21-C22 | 4.74 | 1.58 | 1.43 |
| 8 | 3 | 101 | BCL | C1B-NB | 4.74 | 1.39 | 1.35 |
| 8 | F | 101 | BCL | MG-NA | 4.74 | 2.17 | 2.06 |
| 13 | M | 405 | SPO | C30-C28 | 4.73 | 1.61 | 1.51 |
| 8 | O | 103 | BCL | MG-NA | 4.73 | 2.17 | 2.06 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 8 | 3 | 103 | BCL | MG-NA | 4.73 | 2.17 | 2.06 |
| 8 | 1 | 101 | BCL | C1B-NB | 4.72 | 1.39 | 1.35 |
| 8 | S | 101 | BCL | C1B-NB | 4.72 | 1.39 | 1.35 |
| 8 | D | 101 | BCL | MG-NA | 4.72 | 2.17 | 2.06 |
| 13 | T | 101 | SPO | C15-C14 | 4.71 | 1.58 | 1.43 |
| 13 | M | 405 | SPO | C15-C14 | 4.71 | 1.58 | 1.43 |
| 8 | L | 301 | BCL | MG-NA | 4.71 | 2.17 | 2.06 |
| 13 | 0 | 101 | SPO | C10-C9 | 4.71 | 1.58 | 1.43 |
| 8 | O | 101 | BCL | MG-NA | 4.70 | 2.17 | 2.06 |
| 13 | U | 102 | SPO | C26-C27 | 4.70 | 1.58 | 1.43 |
| 13 | U | 104 | SPO | C15-C14 | 4.70 | 1.58 | 1.43 |
| 8 | K | 101 | BCL | MG-NA | 4.70 | 2.17 | 2.06 |
| 8 | 1 | 102 | BCL | MG-NA | 4.70 | 2.17 | 2.06 |
| 8 | F | 103 | BCL | C1B-NB | 4.70 | 1.39 | 1.35 |
| 8 | O | 103 | BCL | C1B-NB | 4.70 | 1.39 | 1.35 |
| 8 | M | 402 | BCL | MG-NA | 4.70 | 2.17 | 2.06 |
| 13 | D | 102 | SPO | C15-C14 | 4.70 | 1.58 | 1.43 |
| 13 | E | 102 | SPO | C27-C28 | 4.70 | 1.39 | 1.34 |
| 8 | U | 103 | BCL | MG-NA | 4.70 | 2.17 | 2.06 |
| 8 | R | 101 | BCL | C1B-NB | 4.69 | 1.39 | 1.35 |
| 13 | P | 101 | SPO | C10-C9 | 4.69 | 1.58 | 1.43 |
| 13 | U | 102 | SPO | C15-C14 | 4.68 | 1.58 | 1.43 |
| 13 | I | 102 | SPO | C15-C14 | 4.67 | 1.57 | 1.43 |
| 8 | W | 102 | BCL | MG-NA | 4.67 | 2.17 | 2.06 |
| 13 | J | 103 | SPO | C21-C22 | 4.67 | 1.57 | 1.43 |
| 13 | F | 102 | SPO | C10-C9 | 4.67 | 1.57 | 1.43 |
| 8 | S | 101 | BCL | MG-NA | 4.66 | 2.17 | 2.06 |
| 8 | 7 | 101 | BCL | MG-NA | 4.66 | 2.17 | 2.06 |
| 13 | B | 101 | SPO | C10-C9 | 4.66 | 1.57 | 1.43 |
| 13 | 9 | 102 | SPO | C15-C14 | 4.65 | 1.57 | 1.43 |
| 8 | 9 | 101 | BCL | MG-NA | 4.65 | 2.17 | 2.06 |
| 13 | P | 101 | SPO | C21-C22 | 4.65 | 1.57 | 1.43 |
| 13 | J | 101 | SPO | C15-C14 | 4.64 | 1.57 | 1.43 |
| 8 | A | 101 | BCL | C1B-NB | 4.64 | 1.39 | 1.35 |
| 8 | S | 102 | BCL | C1B-NB | 4.64 | 1.39 | 1.35 |
| 8 | A | 101 | BCL | MG-NA | 4.63 | 2.17 | 2.06 |
| 8 | F | 101 | BCL | C1B-NB | 4.63 | 1.39 | 1.35 |
| 13 | O | 104 | SPO | C15-C14 | 4.63 | 1.57 | 1.43 |
| 8 | L | 301 | BCL | C1B-NB | 4.63 | 1.39 | 1.35 |
| 8 | C | 101 | BCL | C1B-NB | 4.62 | 1.39 | 1.35 |
| 8 | I | 101 | BCL | C1B-NB | 4.62 | 1.39 | 1.35 |
| 8 | K | 101 | BCL | C1B-NB | 4.62 | 1.39 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 8 | L | 302 | BCL | C1B-NB | 4.62 | 1.39 | 1.35 |
| 8 | E | 101 | BCL | C1B-NB | 4.61 | 1.39 | 1.35 |
| 8 | Q | 101 | BCL | MG-NA | 4.61 | 2.17 | 2.06 |
| 8 | J | 102 | BCL | MG-NA | 4.60 | 2.17 | 2.06 |
| 8 | A | 103 | BCL | MG-NA | 4.60 | 2.17 | 2.06 |
| 8 | 0 | 102 | BCL | C1B-NB | 4.60 | 1.39 | 1.35 |
| 8 | E | 101 | BCL | MG-NA | 4.59 | 2.17 | 2.06 |
| 8 | 7 | 101 | BCL | C1B-NB | 4.58 | 1.39 | 1.35 |
| 8 | D | 101 | BCL | C1B-NB | 4.58 | 1.39 | 1.35 |
| 13 | O | 102 | SPO | C15-C14 | 4.58 | 1.57 | 1.43 |
| 13 | 8 | 102 | SPO | C21-C22 | 4.58 | 1.57 | 1.43 |
| 8 | Q | 101 | BCL | C1B-NB | 4.56 | 1.39 | 1.35 |
| 8 | 8 | 101 | BCL | MG-NA | 4.56 | 2.17 | 2.06 |
| 13 | T | 101 | SPO | C10-C9 | 4.56 | 1.57 | 1.43 |
| 8 | N | 101 | BCL | MG-NA | 4.56 | 2.17 | 2.06 |
| 8 | 0 | 102 | BCL | MG-NA | 4.56 | 2.17 | 2.06 |
| 13 | 9 | 102 | SPO | C10-C9 | 4.55 | 1.57 | 1.43 |
| 8 | F | 103 | BCL | MG-NA | 4.55 | 2.17 | 2.06 |
| 13 | N | 102 | SPO | C21-C22 | 4.54 | 1.57 | 1.43 |
| 13 | E | 102 | SPO | C10-C9 | 4.54 | 1.57 | 1.43 |
| 13 | 0 | 101 | SPO | C21-C22 | 4.54 | 1.57 | 1.43 |
| 13 | X | 101 | SPO | C10-C9 | 4.53 | 1.57 | 1.43 |
| 8 | U | 101 | BCL | C1B-NB | 4.53 | 1.39 | 1.35 |
| 8 | L | 302 | BCL | MG-NA | 4.53 | 2.17 | 2.06 |
| 13 | U | 104 | SPO | C21-C22 | 4.52 | 1.57 | 1.43 |
| 8 | L | 307 | BCL | C1B-NB | 4.52 | 1.39 | 1.35 |
| 13 | D | 103 | SPO | C26-C27 | 4.52 | 1.57 | 1.43 |
| 13 | 3 | 102 | SPO | C15-C14 | 4.52 | 1.57 | 1.43 |
| 13 | G | 101 | SPO | C10-C9 | 4.52 | 1.57 | 1.43 |
| 13 | T | 102 | SPO | C10-C9 | 4.52 | 1.57 | 1.43 |
| 13 | T | 102 | SPO | C27-C28 | 4.52 | 1.38 | 1.34 |
| 8 | C | 101 | BCL | MG-NA | 4.51 | 2.17 | 2.06 |
| 13 | J | 103 | SPO | C10-C9 | 4.51 | 1.57 | 1.43 |
| 8 | 9 | 101 | BCL | C1B-NB | 4.50 | 1.39 | 1.35 |
| 13 | W | 103 | SPO | C10-C9 | 4.50 | 1.57 | 1.43 |
| 8 | O | 101 | BCL | C1B-NB | 4.49 | 1.39 | 1.35 |
| 13 | 3 | 104 | SPO | C10-C9 | 4.49 | 1.57 | 1.43 |
| 13 | I | 102 | SPO | C10-C9 | 4.49 | 1.57 | 1.43 |
| 13 | N | 102 | SPO | C10-C9 | 4.47 | 1.57 | 1.43 |
| 10 | H | 303 | PC1 | O21-C21 | 4.46 | 1.43 | 1.33 |
| 13 | D | 102 | SPO | C10-C9 | 4.46 | 1.57 | 1.43 |
| 13 | 8 | 102 | SPO | C10-C9 | 4.46 | 1.57 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 13 | 3 | 102 | SPO | C10-C9 | 4.45 | 1.57 | 1.43 |
| 8 | L | 307 | BCL | MG-NA | 4.44 | 2.16 | 2.06 |
| 13 | F | 102 | SPO | C21-C22 | 4.43 | 1.57 | 1.43 |
| 13 | O | 102 | SPO | C10-C9 | 4.43 | 1.57 | 1.43 |
| 13 | U | 104 | SPO | C10-C9 | 4.43 | 1.57 | 1.43 |
| 13 | W | 103 | SPO | C21-C22 | 4.43 | 1.57 | 1.43 |
| 13 | U | 102 | SPO | C21-C22 | 4.43 | 1.57 | 1.43 |
| 8 | I | 101 | BCL | MG-NA | 4.40 | 2.16 | 2.06 |
| 13 | 9 | 102 | SPO | C21-C22 | 4.37 | 1.57 | 1.43 |
| 13 | M | 405 | SPO | C10-C9 | 4.35 | 1.56 | 1.43 |
| 13 | O | 104 | SPO | C21-C22 | 4.34 | 1.56 | 1.43 |
| 13 | D | 103 | SPO | C21-C22 | 4.33 | 1.56 | 1.43 |
| 13 | 3 | 102 | SPO | C27-C28 | 4.33 | 1.38 | 1.34 |
| 13 | G | 101 | SPO | C21-C22 | 4.32 | 1.56 | 1.43 |
| 13 | U | 102 | SPO | C10-C9 | 4.31 | 1.56 | 1.43 |
| 13 | O | 102 | SPO | C21-C22 | 4.30 | 1.56 | 1.43 |
| 13 | O | 104 | SPO | C10-C9 | 4.30 | 1.56 | 1.43 |
| 13 | I | 102 | SPO | C21-C22 | 4.30 | 1.56 | 1.43 |
| 13 | V | 101 | SPO | C21-C22 | 4.28 | 1.56 | 1.43 |
| 13 | V | 101 | SPO | C10-C9 | 4.28 | 1.56 | 1.43 |
| 8 | M | 402 | BCL | C1B-NB | 4.27 | 1.39 | 1.35 |
| 13 | P | 101 | SPO | C27-C28 | 4.27 | 1.38 | 1.34 |
| 13 | J | 103 | SPO | C14-C12 | 4.27 | 1.41 | 1.35 |
| 13 | G | 101 | SPO | C4-C5 | 4.26 | 1.56 | 1.50 |
| 13 | 3 | 102 | SPO | C21-C22 | 4.25 | 1.56 | 1.43 |
| 13 | D | 103 | SPO | C10-C9 | 4.25 | 1.56 | 1.43 |
| 13 | D | 102 | SPO | C21-C22 | 4.25 | 1.56 | 1.43 |
| 13 | T | 101 | SPO | C21-C22 | 4.24 | 1.56 | 1.43 |
| 13 | I | 102 | SPO | C27-C28 | 4.22 | 1.38 | 1.34 |
| 13 | X | 101 | SPO | C21-C22 | 4.20 | 1.56 | 1.43 |
| 13 | J | 101 | SPO | C21-C22 | 4.17 | 1.56 | 1.43 |
| 13 | J | 101 | SPO | C10-C9 | 4.16 | 1.56 | 1.43 |
| 13 | B | 101 | SPO | C21-C22 | 4.15 | 1.56 | 1.43 |
| 13 | J | 103 | SPO | C4-C5 | 4.11 | 1.56 | 1.50 |
| 13 | O | 104 | SPO | C27-C28 | 4.08 | 1.38 | 1.34 |
| 13 | T | 102 | SPO | C21-C22 | 4.07 | 1.56 | 1.43 |
| 13 | F | 102 | SPO | C4-C5 | 4.05 | 1.56 | 1.50 |
| 13 | J | 103 | SPO | C27-C28 | 4.03 | 1.38 | 1.34 |
| 13 | F | 102 | SPO | C27-C28 | 4.00 | 1.38 | 1.34 |
| 13 | O | 102 | SPO | C27-C28 | 3.97 | 1.38 | 1.34 |
| 13 | J | 101 | SPO | C27-C28 | 3.90 | 1.38 | 1.34 |
| 13 | N | 102 | SPO | C27-C28 | 3.89 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 13 | 3 | 104 | SPO | C4-C5 | 3.89 | 1.56 | 1.50 |
| 13 | D | 102 | SPO | C4-C5 | 3.87 | 1.56 | 1.50 |
| 10 | A | 102 | PC1 | O31-C31 | 3.85 | 1.44 | 1.33 |
| 13 | U | 102 | SPO | C27-C28 | 3.84 | 1.38 | 1.34 |
| 13 | V | 101 | SPO | C4-C5 | 3.82 | 1.56 | 1.50 |
| 13 | X | 101 | SPO | C4-C5 | 3.79 | 1.56 | 1.50 |
| 13 | B | 101 | SPO | C4-C5 | 3.78 | 1.56 | 1.50 |
| 13 | M | 405 | SPO | C27-C28 | 3.78 | 1.38 | 1.34 |
| 13 | 3 | 102 | SPO | C4-C5 | 3.78 | 1.56 | 1.50 |
| 13 | P | 101 | SPO | C4-C5 | 3.77 | 1.56 | 1.50 |
| 13 | 0 | 101 | SPO | C27-C28 | 3.76 | 1.38 | 1.34 |
| 13 | I | 102 | SPO | C4-C5 | 3.72 | 1.56 | 1.50 |
| 10 | W | 101 | PC1 | O31-C31 | 3.71 | 1.44 | 1.33 |
| 9 | L | 303 | BPB | CBD-CGD | -3.71 | 1.47 | 1.52 |
| 13 | E | 102 | SPO | C14-C12 | 3.71 | 1.40 | 1.35 |
| 13 | 9 | 102 | SPO | C4-C5 | 3.70 | 1.56 | 1.50 |
| 13 | U | 104 | SPO | C4-C5 | 3.69 | 1.56 | 1.50 |
| 13 | W | 103 | SPO | C27-C28 | 3.69 | 1.38 | 1.34 |
| 10 | A | 104 | PC1 | O31-C31 | 3.69 | 1.44 | 1.33 |
| 13 | O | 102 | SPO | C4-C5 | 3.69 | 1.56 | 1.50 |
| 10 | L | 306 | PC1 | O31-C31 | 3.68 | 1.44 | 1.33 |
| 13 | 0 | 101 | SPO | C4-C5 | 3.66 | 1.56 | 1.50 |
| 13 | D | 102 | SPO | C27-C28 | 3.65 | 1.37 | 1.34 |
| 9 | M | 403 | BPB | CBD-CGD | -3.65 | 1.47 | 1.52 |
| 13 | 8 | 102 | SPO | C4-C5 | 3.64 | 1.55 | 1.50 |
| 10 | H | 301 | PC1 | O31-C31 | 3.64 | 1.44 | 1.33 |
| 13 | T | 101 | SPO | C4-C5 | 3.63 | 1.55 | 1.50 |
| 13 | 3 | 104 | SPO | C31-C32 | 3.63 | 1.62 | 1.50 |
| 13 | N | 102 | SPO | C4-C5 | 3.62 | 1.55 | 1.50 |
| 10 | H | 302 | PC1 | O31-C31 | 3.62 | 1.43 | 1.33 |
| 13 | D | 103 | SPO | C4-C5 | 3.59 | 1.55 | 1.50 |
| 13 | U | 104 | SPO | C27-C28 | 3.59 | 1.37 | 1.34 |
| 10 | D | 104 | PC1 | O31-C31 | 3.58 | 1.43 | 1.33 |
| 10 | L | 304 | PC1 | O31-C31 | 3.57 | 1.43 | 1.33 |
| 13 | E | 102 | SPO | C4-C5 | 3.57 | 1.55 | 1.50 |
| 13 | G | 101 | SPO | C27-C28 | 3.57 | 1.37 | 1.34 |
| 13 | T | 102 | SPO | C4-C5 | 3.56 | 1.55 | 1.50 |
| 13 | T | 101 | SPO | C27-C28 | 3.56 | 1.37 | 1.34 |
| 13 | N | 102 | SPO | C13-C12 | 3.51 | 1.58 | 1.50 |
| 13 | M | 405 | SPO | C4-C5 | 3.51 | 1.55 | 1.50 |
| 13 | B | 101 | SPO | C27-C28 | 3.49 | 1.37 | 1.34 |
| 13 | 3 | 104 | SPO | C32-C33 | 3.45 | 1.41 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 13 | W | 103 | SPO | C4-C5 | 3.43 | 1.55 | 1.50 |
| 13 | 9 | 102 | SPO | C27-C28 | 3.42 | 1.37 | 1.34 |
| 13 | 3 | 102 | SPO | C31-C32 | 3.40 | 1.61 | 1.50 |
| 13 | P | 101 | SPO | C31-C32 | 3.39 | 1.61 | 1.50 |
| 13 | D | 103 | SPO | C27-C28 | 3.38 | 1.37 | 1.34 |
| 11 | L | 305 | U10 | C4-C5 | -3.38 | 1.39 | 1.48 |
| 13 | D | 103 | SPO | C18-C17 | 3.37 | 1.57 | 1.50 |
| 11 | Y | 501 | U10 | C4-C5 | -3.37 | 1.39 | 1.48 |
| 13 | G | 101 | SPO | C31-C32 | 3.36 | 1.61 | 1.50 |
| 8 | U | 103 | BCL | MG-NC | 3.36 | 2.14 | 2.06 |
| 8 | R | 101 | BCL | MG-NC | 3.32 | 2.14 | 2.06 |
| 13 | O | 104 | SPO | C4-C5 | 3.32 | 1.55 | 1.50 |
| 14 | H | 304 | CDL | OA6-CA5 | 3.32 | 1.43 | 1.34 |
| 13 | X | 101 | SPO | C27-C28 | 3.32 | 1.37 | 1.34 |
| 8 | O | 103 | BCL | MG-NC | 3.31 | 2.14 | 2.06 |
| 8 | 3 | 101 | BCL | MG-NC | 3.30 | 2.14 | 2.06 |
| 11 | L | 308 | U10 | C4-C5 | -3.30 | 1.39 | 1.48 |
| 8 | 3 | 103 | BCL | MG-NC | 3.30 | 2.14 | 2.06 |
| 11 | L | 308 | U10 | C3-C2 | -3.28 | 1.39 | 1.48 |
| 8 | D | 101 | BCL | MG-NC | 3.27 | 2.14 | 2.06 |
| 8 | 1 | 102 | BCL | MG-NC | 3.27 | 2.14 | 2.06 |
| 8 | S | 102 | BCL | MG-NC | 3.26 | 2.14 | 2.06 |
| 11 | M | 404 | U10 | C4-C5 | -3.25 | 1.39 | 1.48 |
| 11 | Y | 501 | U10 | C3-C2 | -3.25 | 1.39 | 1.48 |
| 13 | J | 103 | SPO | C32-C33 | 3.25 | 1.40 | 1.33 |
| 8 | L | 301 | BCL | MG-NC | 3.25 | 2.14 | 2.06 |
| 8 | F | 101 | BCL | MG-NC | 3.24 | 2.14 | 2.06 |
| 13 | O | 102 | SPO | C31-C32 | 3.24 | 1.61 | 1.50 |
| 8 | 1 | 101 | BCL | MG-NC | 3.23 | 2.14 | 2.06 |
| 13 | 3 | 102 | SPO | C13-C12 | 3.23 | 1.57 | 1.50 |
| 13 | 3 | 102 | SPO | C32-C33 | 3.23 | 1.40 | 1.33 |
| 14 | M | 406 | CDL | OA6-CA5 | 3.23 | 1.43 | 1.34 |
| 8 | W | 102 | BCL | MG-NC | 3.22 | 2.13 | 2.06 |
| 8 | J | 102 | BCL | MG-NC | 3.22 | 2.13 | 2.06 |
| 13 | M | 405 | SPO | C13-C12 | 3.19 | 1.57 | 1.50 |
| 8 | N | 101 | BCL | MG-NC | 3.19 | 2.13 | 2.06 |
| 8 | E | 101 | BCL | MG-NC | 3.19 | 2.13 | 2.06 |
| 10 | L | 306 | PC1 | O21-C21 | 3.19 | 1.43 | 1.34 |
| 13 | T | 101 | SPO | C13-C12 | 3.18 | 1.57 | 1.50 |
| 11 | M | 404 | U10 | C3-C2 | -3.18 | 1.39 | 1.48 |
| 8 | A | 101 | BCL | MG-NC | 3.18 | 2.13 | 2.06 |
| 8 | Q | 101 | BCL | MG-NC | 3.18 | 2.13 | 2.06 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 8 | L | 307 | BCL | MG-NC | 3.17 | 2.13 | 2.06 |
| 8 | 7 | 101 | BCL | MG-NC | 3.16 | 2.13 | 2.06 |
| 14 | H | 304 | CDL | OB8-CB7 | 3.16 | 1.42 | 1.33 |
| 8 | 9 | 101 | BCL | MG-NC | 3.15 | 2.13 | 2.06 |
| 13 | J | 103 | SPO | C31-C32 | 3.15 | 1.60 | 1.50 |
| 8 | I | 101 | BCL | O1A-CGA | -3.14 | 1.13 | 1.22 |
| 13 | 0 | 101 | SPO | C18-C17 | 3.14 | 1.57 | 1.50 |
| 8 | O | 101 | BCL | MG-NC | 3.12 | 2.13 | 2.06 |
| 8 | U | 101 | BCL | MG-NC | 3.12 | 2.13 | 2.06 |
| 13 | O | 104 | SPO | C13-C12 | 3.11 | 1.57 | 1.50 |
| 14 | H | 304 | CDL | OA8-CA7 | 3.11 | 1.42 | 1.33 |
| 13 | 3 | 104 | SPO | C14-C12 | 3.11 | 1.39 | 1.35 |
| 8 | K | 101 | BCL | MG-NC | 3.10 | 2.13 | 2.06 |
| 14 | M | 406 | CDL | OA8-CA7 | 3.09 | 1.42 | 1.33 |
| 11 | L | 305 | U10 | C3-C2 | -3.08 | 1.40 | 1.48 |
| 10 | A | 104 | PC1 | O21-C21 | 3.08 | 1.43 | 1.34 |
| 14 | M | 406 | CDL | OB6-CB5 | 3.07 | 1.43 | 1.34 |
| 10 | W | 101 | PC1 | O21-C21 | 3.07 | 1.43 | 1.34 |
| 14 | M | 406 | CDL | OB8-CB7 | 3.07 | 1.42 | 1.33 |
| 8 | 8 | 101 | BCL | MG-NC | 3.06 | 2.13 | 2.06 |
| 13 | T | 102 | SPO | C13-C12 | 3.06 | 1.57 | 1.50 |
| 13 | J | 101 | SPO | C13-C12 | 3.06 | 1.57 | 1.50 |
| 13 | G | 101 | SPO | C18-C17 | 3.06 | 1.57 | 1.50 |
| 13 | U | 104 | SPO | C32-C33 | 3.05 | 1.40 | 1.33 |
| 13 | I | 102 | SPO | C31-C32 | 3.05 | 1.60 | 1.50 |
| 13 | D | 102 | SPO | C13-C12 | 3.05 | 1.57 | 1.50 |
| 13 | X | 101 | SPO | C13-C12 | 3.05 | 1.57 | 1.50 |
| 13 | U | 102 | SPO | C4-C5 | 3.05 | 1.55 | 1.50 |
| 8 | S | 101 | BCL | MG-NC | 3.05 | 2.13 | 2.06 |
| 13 | 3 | 102 | SPO | C18-C17 | 3.04 | 1.57 | 1.50 |
| 8 | A | 103 | BCL | MG-NC | 3.04 | 2.13 | 2.06 |
| 13 | F | 102 | SPO | C31-C32 | 3.04 | 1.60 | 1.50 |
| 13 | 3 | 104 | SPO | C13-C12 | 3.04 | 1.57 | 1.50 |
| 13 | U | 104 | SPO | C31-C32 | 3.04 | 1.60 | 1.50 |
| 8 | 0 | 102 | BCL | MG-NC | 3.04 | 2.13 | 2.06 |
| 13 | U | 104 | SPO | C13-C12 | 3.04 | 1.57 | 1.50 |
| 8 | F | 103 | BCL | MG-NC | 3.04 | 2.13 | 2.06 |
| 8 | C | 101 | BCL | MG-NC | 3.04 | 2.13 | 2.06 |
| 13 | W | 103 | SPO | C31-C32 | 3.02 | 1.60 | 1.50 |
| 10 | A | 102 | PC1 | O21-C21 | 3.02 | 1.42 | 1.34 |
| 13 | P | 101 | SPO | C32-C33 | 3.01 | 1.40 | 1.33 |
| 13 | V | 101 | SPO | C13-C12 | 3.01 | 1.57 | 1.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 13 | B | 101 | SPO | C31-C32 | 3.00 | 1.60 | 1.50 |
| 8 | I | 101 | BCL | MG-NC | 3.00 | 2.13 | 2.06 |
| 13 | 8 | 102 | SPO | C31-C32 | 2.99 | 1.60 | 1.50 |
| 13 | D | 103 | SPO | C13-C12 | 2.99 | 1.57 | 1.50 |
| 14 | H | 304 | CDL | OB6-CB5 | 2.97 | 1.42 | 1.34 |
| 10 | D | 104 | PC1 | O21-C21 | 2.97 | 1.42 | 1.34 |
| 13 | D | 102 | SPO | C18-C17 | 2.97 | 1.57 | 1.50 |
| 13 | 9 | 102 | SPO | C31-C32 | 2.96 | 1.60 | 1.50 |
| 13 | 9 | 102 | SPO | C13-C12 | 2.96 | 1.57 | 1.50 |
| 13 | 0 | 101 | SPO | C13-C12 | 2.96 | 1.57 | 1.50 |
| 10 | L | 304 | PC1 | O21-C21 | 2.95 | 1.42 | 1.34 |
| 8 | L | 302 | BCL | MG-NC | 2.95 | 2.13 | 2.06 |
| 13 | D | 102 | SPO | C31-C32 | 2.95 | 1.60 | 1.50 |
| 13 | V | 101 | SPO | C18-C17 | 2.95 | 1.57 | 1.50 |
| 13 | G | 101 | SPO | C13-C12 | 2.94 | 1.57 | 1.50 |
| 13 | I | 102 | SPO | C13-C12 | 2.93 | 1.56 | 1.50 |
| 13 | O | 102 | SPO | C18-C17 | 2.93 | 1.56 | 1.50 |
| 13 | N | 102 | SPO | C18-C17 | 2.92 | 1.56 | 1.50 |
| 13 | F | 102 | SPO | C18-C17 | 2.92 | 1.56 | 1.50 |
| 8 | L | 301 | BCL | O1A-CGA | -2.92 | 1.13 | 1.22 |
| 13 | O | 104 | SPO | C18-C17 | 2.91 | 1.56 | 1.50 |
| 13 | J | 101 | SPO | C18-C17 | 2.91 | 1.56 | 1.50 |
| 8 | M | 402 | BCL | MG-NC | 2.89 | 2.13 | 2.06 |
| 13 | G | 101 | SPO | C14-C12 | 2.89 | 1.39 | 1.35 |
| 10 | H | 303 | PC1 | O31-C31 | 2.89 | 1.44 | 1.33 |
| 13 | W | 103 | SPO | C13-C12 | 2.89 | 1.56 | 1.50 |
| 13 | V | 101 | SPO | C27-C28 | 2.89 | 1.37 | 1.34 |
| 13 | 8 | 102 | SPO | C14-C12 | 2.88 | 1.39 | 1.35 |
| 13 | 8 | 102 | SPO | C13-C12 | 2.88 | 1.56 | 1.50 |
| 11 | L | 305 | U10 | C6-C5 | -2.87 | 1.38 | 1.46 |
| 13 | O | 102 | SPO | C13-C12 | 2.86 | 1.56 | 1.50 |
| 13 | V | 101 | SPO | C30-C31 | 2.86 | 1.63 | 1.53 |
| 13 | I | 102 | SPO | C18-C17 | 2.86 | 1.56 | 1.50 |
| 13 | 9 | 102 | SPO | C18-C17 | 2.86 | 1.56 | 1.50 |
| 13 | T | 101 | SPO | C31-C32 | 2.86 | 1.59 | 1.50 |
| 13 | N | 102 | SPO | C8-C7 | 2.86 | 1.56 | 1.50 |
| 13 | T | 102 | SPO | C31-C32 | 2.85 | 1.59 | 1.50 |
| 13 | T | 102 | SPO | C32-C33 | 2.85 | 1.39 | 1.33 |
| 13 | U | 102 | SPO | C13-C12 | 2.84 | 1.56 | 1.50 |
| 13 | I | 102 | SPO | C32-C33 | 2.84 | 1.39 | 1.33 |
| 10 | H | 302 | PC1 | O21-C21 | 2.83 | 1.42 | 1.34 |
| 13 | B | 101 | SPO | C13-C12 | 2.83 | 1.56 | 1.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 13 | 3 | 104 | SPO | C30-C31 | 2.83 | 1.63 | 1.53 |
| 13 | P | 101 | SPO | C13-C12 | 2.83 | 1.56 | 1.50 |
| 13 | P | 101 | SPO | C30-C31 | 2.83 | 1.63 | 1.53 |
| 13 | T | 101 | SPO | C18-C17 | 2.82 | 1.56 | 1.50 |
| 13 | X | 101 | SPO | C31-C32 | 2.82 | 1.59 | 1.50 |
| 13 | N | 102 | SPO | C32-C33 | 2.82 | 1.39 | 1.33 |
| 13 | V | 101 | SPO | C31-C32 | 2.82 | 1.59 | 1.50 |
| 13 | 0 | 101 | SPO | C31-C32 | 2.81 | 1.59 | 1.50 |
| 13 | U | 104 | SPO | C18-C17 | 2.81 | 1.56 | 1.50 |
| 13 | U | 102 | SPO | C18-C17 | 2.81 | 1.56 | 1.50 |
| 13 | J | 101 | SPO | C4-C5 | 2.80 | 1.54 | 1.50 |
| 13 | 8 | 102 | SPO | C32-C33 | 2.80 | 1.39 | 1.33 |
| 13 | F | 102 | SPO | C13-C12 | 2.80 | 1.56 | 1.50 |
| 13 | W | 103 | SPO | C18-C17 | 2.80 | 1.56 | 1.50 |
| 13 | 8 | 102 | SPO | C30-C31 | 2.79 | 1.63 | 1.53 |
| 13 | O | 104 | SPO | C32-C33 | 2.79 | 1.39 | 1.33 |
| 13 | D | 102 | SPO | C32-C33 | 2.78 | 1.39 | 1.33 |
| 13 | O | 104 | SPO | C31-C32 | 2.78 | 1.59 | 1.50 |
| 13 | E | 102 | SPO | C30-C31 | 2.78 | 1.63 | 1.53 |
| 13 | E | 102 | SPO | C31-C32 | 2.78 | 1.59 | 1.50 |
| 13 | 8 | 102 | SPO | C18-C17 | 2.77 | 1.56 | 1.50 |
| 13 | B | 101 | SPO | C18-C17 | 2.76 | 1.56 | 1.50 |
| 13 | T | 101 | SPO | C32-C33 | 2.75 | 1.39 | 1.33 |
| 13 | P | 101 | SPO | C18-C17 | 2.75 | 1.56 | 1.50 |
| 13 | N | 102 | SPO | C14-C12 | 2.74 | 1.39 | 1.35 |
| 13 | E | 102 | SPO | C32-C33 | 2.74 | 1.39 | 1.33 |
| 13 | D | 103 | SPO | C31-C32 | 2.74 | 1.59 | 1.50 |
| 8 | 9 | 101 | BCL | O1A-CGA | -2.74 | 1.14 | 1.22 |
| 10 | H | 301 | PC1 | O21-C2 | -2.74 | 1.39 | 1.46 |
| 10 | H | 301 | PC1 | O21-C21 | 2.73 | 1.42 | 1.34 |
| 13 | U | 102 | SPO | C31-C32 | 2.73 | 1.59 | 1.50 |
| 13 | T | 102 | SPO | C8-C7 | 2.73 | 1.56 | 1.50 |
| 13 | D | 103 | SPO | C8-C7 | 2.71 | 1.56 | 1.50 |
| 13 | 9 | 102 | SPO | C32-C33 | 2.71 | 1.39 | 1.33 |
| 13 | M | 405 | SPO | C31-C32 | 2.69 | 1.59 | 1.50 |
| 11 | L | 308 | U10 | C6-C1 | 2.68 | 1.40 | 1.35 |
| 11 | L | 308 | U10 | C6-C5 | -2.67 | 1.39 | 1.46 |
| 8 | 1 | 101 | BCL | O1A-CGA | -2.67 | 1.14 | 1.22 |
| 13 | E | 102 | SPO | C13-C12 | 2.67 | 1.56 | 1.50 |
| 13 | J | 103 | SPO | C8-C7 | 2.66 | 1.56 | 1.50 |
| 8 | O | 101 | BCL | O1A-CGA | -2.66 | 1.14 | 1.22 |
| 8 | Q | 101 | BCL | O1A-CGA | -2.65 | 1.14 | 1.22 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 11 | M | 404 | U10 | C6-C5 | -2.65 | 1.39 | 1.46 |
| 13 | X | 101 | SPO | C18-C17 | 2.65 | 1.56 | 1.50 |
| 13 | T | 102 | SPO | C30-C31 | 2.64 | 1.62 | 1.53 |
| 13 | 3 | 102 | SPO | C24-C23 | 2.62 | 1.56 | 1.50 |
| 13 | M | 405 | SPO | C32-C33 | 2.62 | 1.39 | 1.33 |
| 13 | W | 103 | SPO | C32-C33 | 2.60 | 1.39 | 1.33 |
| 13 | P | 101 | SPO | C35-C36 | 2.60 | 1.62 | 1.53 |
| 13 | U | 104 | SPO | C30-C31 | 2.60 | 1.62 | 1.53 |
| 13 | 3 | 102 | SPO | C30-C31 | 2.60 | 1.62 | 1.53 |
| 13 | M | 405 | SPO | C18-C17 | 2.60 | 1.56 | 1.50 |
| 13 | G | 101 | SPO | C30-C31 | 2.60 | 1.62 | 1.53 |
| 13 | F | 102 | SPO | C32-C33 | 2.59 | 1.39 | 1.33 |
| 10 | D | 104 | PC1 | O21-C2 | -2.59 | 1.40 | 1.46 |
| 13 | 3 | 104 | SPO | C24-C23 | 2.58 | 1.56 | 1.50 |
| 13 | I | 102 | SPO | C30-C31 | 2.57 | 1.62 | 1.53 |
| 8 | 3 | 101 | BCL | O1A-CGA | -2.57 | 1.14 | 1.22 |
| 13 | X | 101 | SPO | C32-C33 | 2.57 | 1.39 | 1.33 |
| 13 | W | 103 | SPO | C14-C12 | 2.56 | 1.39 | 1.35 |
| 13 | O | 102 | SPO | C24-C23 | 2.56 | 1.56 | 1.50 |
| 10 | H | 302 | PC1 | O21-C2 | -2.55 | 1.40 | 1.46 |
| 13 | 0 | 101 | SPO | C32-C33 | 2.54 | 1.39 | 1.33 |
| 13 | U | 102 | SPO | C32-C33 | 2.53 | 1.39 | 1.33 |
| 13 | O | 104 | SPO | C30-C31 | 2.53 | 1.62 | 1.53 |
| 13 | E | 102 | SPO | C24-C23 | 2.52 | 1.56 | 1.50 |
| 13 | N | 102 | SPO | C31-C32 | 2.52 | 1.58 | 1.50 |
| 13 | G | 101 | SPO | C8-C7 | 2.52 | 1.56 | 1.50 |
| 13 | N | 102 | SPO | C24-C23 | 2.52 | 1.56 | 1.50 |
| 8 | S | 101 | BCL | O1A-CGA | -2.52 | 1.15 | 1.22 |
| 13 | N | 102 | SPO | C30-C31 | 2.51 | 1.62 | 1.53 |
| 10 | A | 104 | PC1 | O21-C2 | -2.50 | 1.40 | 1.46 |
| 13 | P | 101 | SPO | C24-C23 | 2.50 | 1.56 | 1.50 |
| 13 | M | 405 | SPO | C8-C7 | 2.50 | 1.56 | 1.50 |
| 14 | H | 304 | CDL | OB6-CB4 | -2.49 | 1.40 | 1.46 |
| 10 | W | 101 | PC1 | O21-C2 | -2.49 | 1.40 | 1.46 |
| 11 | M | 404 | U10 | C6-C1 | 2.49 | 1.39 | 1.35 |
| 13 | D | 103 | SPO | C32-C33 | 2.49 | 1.38 | 1.33 |
| 11 | Y | 501 | U10 | C6-C1 | 2.49 | 1.39 | 1.35 |
| 11 | Y | 501 | U10 | C6-C5 | -2.48 | 1.39 | 1.46 |
| 14 | M | 406 | CDL | OA6-CA4 | -2.47 | 1.40 | 1.46 |
| 13 | G | 101 | SPO | C32-C33 | 2.47 | 1.38 | 1.33 |
| 13 | U | 102 | SPO | C8-C7 | 2.47 | 1.56 | 1.50 |
| 10 | H | 301 | PC1 | P-O13 | 2.46 | 1.69 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 13 | J | 101 | SPO | C31-C32 | 2.46 | 1.58 | 1.50 |
| 13 | U | 104 | SPO | C24-C23 | 2.45 | 1.55 | 1.50 |
| 10 | L | 304 | PC1 | O21-C2 | -2.44 | 1.40 | 1.46 |
| 13 | F | 102 | SPO | C30-C31 | 2.44 | 1.61 | 1.53 |
| 13 | 8 | 102 | SPO | C24-C23 | 2.44 | 1.55 | 1.50 |
| 13 | D | 102 | SPO | C30-C31 | 2.44 | 1.61 | 1.53 |
| 13 | W | 103 | SPO | C24-C23 | 2.43 | 1.55 | 1.50 |
| 13 | J | 103 | SPO | C30-C31 | 2.43 | 1.61 | 1.53 |
| 13 | B | 101 | SPO | C32-C33 | 2.43 | 1.38 | 1.33 |
| 13 | 0 | 101 | SPO | C30-C31 | 2.43 | 1.61 | 1.53 |
| 13 | 3 | 104 | SPO | C8-C7 | 2.43 | 1.55 | 1.50 |
| 13 | J | 103 | SPO | C24-C23 | 2.42 | 1.55 | 1.50 |
| 13 | O | 104 | SPO | C8-C7 | 2.41 | 1.55 | 1.50 |
| 13 | M | 405 | SPO | C24-C23 | 2.41 | 1.55 | 1.50 |
| 13 | J | 101 | SPO | C8-C7 | 2.41 | 1.55 | 1.50 |
| 13 | U | 102 | SPO | C30-C31 | 2.41 | 1.61 | 1.53 |
| 8 | L | 307 | BCL | O1A-CGA | -2.40 | 1.15 | 1.22 |
| 13 | F | 102 | SPO | C8-C7 | 2.40 | 1.55 | 1.50 |
| 13 | D | 102 | SPO | C24-C23 | 2.40 | 1.55 | 1.50 |
| 13 | 3 | 102 | SPO | C36-C37 | 2.40 | 1.58 | 1.50 |
| 13 | O | 102 | SPO | C30-C31 | 2.40 | 1.61 | 1.53 |
| 10 | A | 102 | PC1 | O21-C2 | -2.39 | 1.40 | 1.46 |
| 10 | A | 102 | PC1 | P-O13 | 2.39 | 1.69 | 1.59 |
| 13 | T | 101 | SPO | C8-C7 | 2.39 | 1.55 | 1.50 |
| 13 | T | 101 | SPO | C30-C31 | 2.38 | 1.61 | 1.53 |
| 13 | I | 102 | SPO | C24-C23 | 2.37 | 1.55 | 1.50 |
| 10 | A | 104 | PC1 | P-O11 | 2.37 | 1.68 | 1.59 |
| 13 | M | 405 | SPO | C14-C12 | 2.37 | 1.38 | 1.35 |
| 14 | M | 406 | CDL | OB6-CB4 | -2.37 | 1.40 | 1.46 |
| 13 | J | 101 | SPO | C24-C23 | 2.36 | 1.55 | 1.50 |
| 11 | M | 404 | U10 | C1-C2 | -2.36 | 1.38 | 1.47 |
| 13 | 3 | 102 | SPO | C8-C7 | 2.35 | 1.55 | 1.50 |
| 10 | L | 306 | PC1 | O21-C2 | -2.35 | 1.40 | 1.46 |
| 13 | T | 102 | SPO | C18-C17 | 2.35 | 1.55 | 1.50 |
| 10 | H | 303 | PC1 | P-O11 | 2.35 | 1.68 | 1.59 |
| 13 | 0 | 101 | SPO | C24-C23 | 2.35 | 1.55 | 1.50 |
| 8 | F | 101 | BCL | O1A-CGA | -2.34 | 1.15 | 1.22 |
| 8 | K | 101 | BCL | O1A-CGA | -2.33 | 1.15 | 1.22 |
| 13 | P | 101 | SPO | C8-C7 | 2.33 | 1.55 | 1.50 |
| 10 | W | 101 | PC1 | P-O13 | 2.33 | 1.68 | 1.59 |
| 13 | J | 103 | SPO | C13-C12 | 2.33 | 1.55 | 1.50 |
| 13 | 9 | 102 | SPO | C30-C31 | 2.32 | 1.61 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 13 | O | 102 | SPO | C8-C7 | 2.32 | 1.55 | 1.50 |
| 13 | 9 | 102 | SPO | C8-C7 | 2.32 | 1.55 | 1.50 |
| 13 | B | 101 | SPO | C14-C12 | 2.32 | 1.38 | 1.35 |
| 13 | O | 102 | SPO | C32-C33 | 2.32 | 1.38 | 1.33 |
| 8 | D | 101 | BCL | O1A-CGA | -2.31 | 1.15 | 1.22 |
| 8 | A | 101 | BCL | O1A-CGA | -2.31 | 1.15 | 1.22 |
| 13 | F | 102 | SPO | C14-C12 | 2.31 | 1.38 | 1.35 |
| 11 | L | 305 | U10 | C1-C2 | -2.31 | 1.39 | 1.47 |
| 13 | W | 103 | SPO | C8-C7 | 2.30 | 1.55 | 1.50 |
| 10 | H | 301 | PC1 | P-O11 | 2.30 | 1.68 | 1.59 |
| 13 | O | 104 | SPO | C24-C23 | 2.30 | 1.55 | 1.50 |
| 13 | P | 101 | SPO | C36-C37 | 2.30 | 1.57 | 1.50 |
| 13 | U | 102 | SPO | C14-C12 | 2.30 | 1.38 | 1.35 |
| 13 | F | 102 | SPO | C24-C23 | 2.29 | 1.55 | 1.50 |
| 13 | X | 101 | SPO | C8-C7 | 2.29 | 1.55 | 1.50 |
| 13 | P | 101 | SPO | C14-C12 | 2.29 | 1.38 | 1.35 |
| 11 | L | 308 | U10 | C1-C2 | -2.29 | 1.39 | 1.47 |
| 11 | L | 305 | U10 | C6-C1 | 2.29 | 1.39 | 1.35 |
| 13 | 8 | 102 | SPO | C8-C7 | 2.29 | 1.55 | 1.50 |
| 10 | H | 302 | PC1 | C14-N | -2.29 | 1.43 | 1.50 |
| 13 | W | 103 | SPO | C30-C31 | 2.28 | 1.61 | 1.53 |
| 10 | H | 303 | PC1 | P-O13 | 2.28 | 1.68 | 1.59 |
| 13 | G | 101 | SPO | C36-C37 | 2.28 | 1.57 | 1.50 |
| 13 | 3 | 104 | SPO | C18-C17 | 2.27 | 1.55 | 1.50 |
| 13 | T | 102 | SPO | C14-C12 | 2.27 | 1.38 | 1.35 |
| 10 | A | 102 | PC1 | P-O11 | 2.26 | 1.68 | 1.59 |
| 10 | L | 304 | PC1 | P-O13 | 2.26 | 1.68 | 1.59 |
| 11 | Y | 501 | U10 | C1-C2 | -2.25 | 1.39 | 1.47 |
| 8 | W | 102 | BCL | O1A-CGA | -2.25 | 1.15 | 1.22 |
| 13 | D | 102 | SPO | C8-C7 | 2.24 | 1.55 | 1.50 |
| 10 | H | 302 | PC1 | P-O13 | 2.24 | 1.68 | 1.59 |
| 10 | L | 306 | PC1 | P-O11 | 2.23 | 1.68 | 1.59 |
| 8 | 3 | 101 | BCL | C4B-NB | 2.23 | 1.37 | 1.35 |
| 13 | X | 101 | SPO | C30-C31 | 2.22 | 1.61 | 1.53 |
| 13 | B | 101 | SPO | C24-C23 | 2.22 | 1.55 | 1.50 |
| 13 | M | 405 | SPO | C30-C31 | 2.21 | 1.61 | 1.53 |
| 13 | I | 102 | SPO | C8-C7 | 2.21 | 1.55 | 1.50 |
| 10 | A | 104 | PC1 | P-O13 | 2.21 | 1.68 | 1.59 |
| 10 | D | 104 | PC1 | P-O11 | 2.21 | 1.68 | 1.59 |
| 13 | D | 103 | SPO | C24-C23 | 2.20 | 1.55 | 1.50 |
| 10 | A | 102 | PC1 | C14-N | -2.19 | 1.43 | 1.50 |
| 10 | H | 301 | PC1 | C14-N | -2.19 | 1.43 | 1.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 10 | H | 303 | PC1 | C14-N | -2.19 | 1.43 | 1.50 |
| 10 | W | 101 | PC1 | P-O11 | 2.19 | 1.68 | 1.59 |
| 13 | U | 104 | SPO | C8-C7 | 2.18 | 1.55 | 1.50 |
| 8 | M | 402 | BCL | O1A-CGA | -2.18 | 1.16 | 1.22 |
| 13 | U | 102 | SPO | C24-C23 | 2.18 | 1.55 | 1.50 |
| 8 | U | 101 | BCL | O1A-CGA | -2.17 | 1.16 | 1.22 |
| 13 | G | 101 | SPO | C29-C28 | 2.17 | 1.56 | 1.50 |
| 13 | V | 101 | SPO | C14-C12 | 2.17 | 1.38 | 1.35 |
| 10 | W | 101 | PC1 | C14-N | -2.16 | 1.43 | 1.50 |
| 13 | 3 | 102 | SPO | C35-C36 | 2.16 | 1.60 | 1.53 |
| 8 | L | 302 | BCL | O1A-CGA | -2.16 | 1.16 | 1.22 |
| 10 | L | 306 | PC1 | C14-N | -2.16 | 1.43 | 1.50 |
| 10 | D | 104 | PC1 | C14-N | -2.16 | 1.43 | 1.50 |
| 13 | U | 104 | SPO | C14-C12 | 2.15 | 1.38 | 1.35 |
| 10 | L | 304 | PC1 | C14-N | -2.15 | 1.43 | 1.50 |
| 8 | N | 101 | BCL | O1A-CGA | -2.15 | 1.16 | 1.22 |
| 10 | L | 304 | PC1 | P-O11 | 2.15 | 1.68 | 1.59 |
| 13 | T | 102 | SPO | C36-C37 | 2.14 | 1.57 | 1.50 |
| 10 | L | 306 | PC1 | P-O13 | 2.14 | 1.68 | 1.59 |
| 13 | D | 103 | SPO | C30-C31 | 2.14 | 1.60 | 1.53 |
| 10 | D | 104 | PC1 | P-O13 | 2.13 | 1.67 | 1.59 |
| 13 | X | 101 | SPO | C14-C12 | 2.13 | 1.38 | 1.35 |
| 13 | 0 | 101 | SPO | C36-C37 | 2.13 | 1.57 | 1.50 |
| 13 | B | 101 | SPO | C30-C31 | 2.12 | 1.60 | 1.53 |
| 13 | E | 102 | SPO | C18-C17 | 2.12 | 1.55 | 1.50 |
| 14 | H | 304 | CDL | OA6-CA4 | -2.12 | 1.41 | 1.46 |
| 13 | O | 104 | SPO | C36-C37 | 2.12 | 1.57 | 1.50 |
| 13 | G | 101 | SPO | C35-C36 | 2.11 | 1.60 | 1.53 |
| 10 | A | 104 | PC1 | C14-N | -2.11 | 1.43 | 1.50 |
| 13 | 3 | 102 | SPO | C29-C28 | 2.11 | 1.56 | 1.50 |
| 13 | X | 101 | SPO | C24-C23 | 2.10 | 1.55 | 1.50 |
| 13 | 0 | 101 | SPO | C8-C7 | 2.10 | 1.55 | 1.50 |
| 13 | B | 101 | SPO | C8-C7 | 2.08 | 1.55 | 1.50 |
| 13 | 0 | 101 | SPO | C14-C12 | 2.08 | 1.38 | 1.35 |
| 13 | G | 101 | SPO | C24-C23 | 2.08 | 1.55 | 1.50 |
| 13 | I | 102 | SPO | C36-C37 | 2.07 | 1.57 | 1.50 |
| 13 | 9 | 102 | SPO | C36-C37 | 2.07 | 1.57 | 1.50 |
| 13 | J | 101 | SPO | C32-C33 | 2.06 | 1.37 | 1.33 |
| 10 | H | 302 | PC1 | P-O11 | 2.06 | 1.67 | 1.59 |
| 13 | V | 101 | SPO | C8-C7 | 2.06 | 1.55 | 1.50 |
| 13 | V | 101 | SPO | C24-C23 | 2.06 | 1.55 | 1.50 |
| 13 | D | 102 | SPO | C36-C37 | 2.05 | 1.57 | 1.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 10 | L | 306 | PC1 | C22-C21 | 2.04 | 1.56 | 1.50 |
| 13 | D | 103 | SPO | C14-C12 | 2.04 | 1.38 | 1.35 |
| 13 | V | 101 | SPO | C36-C37 | 2.04 | 1.57 | 1.50 |
| 13 | W | 103 | SPO | C36-C37 | 2.02 | 1.57 | 1.50 |
| 8 | I | 101 | BCL | C4B-NB | 2.02 | 1.37 | 1.35 |
| 13 | T | 101 | SPO | C36-C37 | 2.01 | 1.57 | 1.50 |
| 13 | N | 102 | SPO | C36-C37 | 2.01 | 1.57 | 1.50 |
| 8 | O | 103 | BCL | O1A-CGA | -2.01 | 1.16 | 1.22 |
| 13 | J | 103 | SPO | C35-C36 | 2.00 | 1.60 | 1.53 |

All (1271) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|--------|-------------|----------|
| 13 | V | 101 | SPO | C29-C28-C30 | -49.64 | 31.77 | 115.27 |
| 13 | J | 103 | SPO | C34-C33-C35 | -32.50 | 60.59 | 115.27 |
| 13 | N | 102 | SPO | C24-C23-C22 | 31.82 | 167.50 | 122.92 |
| 13 | 3 | 104 | SPO | C34-C33-C35 | -31.75 | 61.87 | 115.27 |
| 13 | O | 104 | SPO | C24-C23-C22 | 31.71 | 167.35 | 122.92 |
| 13 | X | 101 | SPO | C24-C23-C22 | 31.67 | 167.28 | 122.92 |
| 13 | 9 | 102 | SPO | C24-C23-C22 | 31.61 | 167.20 | 122.92 |
| 13 | B | 101 | SPO | C24-C23-C22 | 31.51 | 167.06 | 122.92 |
| 13 | T | 101 | SPO | C24-C23-C22 | 31.31 | 166.79 | 122.92 |
| 13 | F | 102 | SPO | C24-C23-C22 | 31.20 | 166.63 | 122.92 |
| 13 | D | 102 | SPO | C24-C23-C22 | 31.14 | 166.54 | 122.92 |
| 13 | 8 | 102 | SPO | C24-C23-C25 | -30.98 | 69.26 | 118.08 |
| 13 | V | 101 | SPO | C24-C23-C22 | 30.97 | 166.30 | 122.92 |
| 13 | J | 101 | SPO | C24-C23-C22 | 30.24 | 165.29 | 122.92 |
| 13 | I | 102 | SPO | C24-C23-C22 | 30.04 | 165.01 | 122.92 |
| 13 | U | 102 | SPO | C24-C23-C22 | 29.78 | 164.63 | 122.92 |
| 13 | G | 101 | SPO | C24-C23-C22 | 29.53 | 164.28 | 122.92 |
| 13 | W | 103 | SPO | C24-C23-C22 | 29.48 | 164.21 | 122.92 |
| 13 | P | 101 | SPO | C24-C23-C22 | 29.29 | 163.96 | 122.92 |
| 13 | P | 101 | SPO | C34-C33-C35 | -29.10 | 66.31 | 115.27 |
| 13 | U | 104 | SPO | C24-C23-C22 | 28.87 | 163.36 | 122.92 |
| 13 | 0 | 101 | SPO | C24-C23-C22 | 28.73 | 163.17 | 122.92 |
| 13 | 3 | 102 | SPO | C24-C23-C22 | 28.68 | 163.10 | 122.92 |
| 13 | G | 101 | SPO | C29-C28-C30 | -28.30 | 67.67 | 115.27 |
| 13 | 3 | 104 | SPO | C24-C23-C22 | 28.12 | 162.32 | 122.92 |
| 13 | M | 405 | SPO | C24-C23-C22 | 27.97 | 162.11 | 122.92 |
| 13 | T | 102 | SPO | C24-C23-C22 | 27.97 | 162.11 | 122.92 |
| 13 | O | 102 | SPO | C24-C23-C22 | 27.86 | 161.95 | 122.92 |
| 13 | E | 102 | SPO | C24-C23-C22 | 27.78 | 161.84 | 122.92 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|--------|-------------|----------|
| 13 | J | 103 | SPO | C24-C23-C22 | 26.92 | 160.63 | 122.92 |
| 13 | D | 103 | SPO | C21-C22-C23 | -26.30 | 89.77 | 127.31 |
| 13 | 8 | 102 | SPO | C5-C6-C7 | 25.79 | 164.86 | 125.89 |
| 13 | J | 101 | SPO | C34-C33-C35 | -25.70 | 72.04 | 115.27 |
| 13 | U | 104 | SPO | C35-C33-C32 | 25.50 | 172.71 | 121.12 |
| 13 | M | 405 | SPO | C35-C33-C32 | 25.17 | 172.06 | 121.12 |
| 13 | D | 103 | SPO | C35-C33-C32 | 24.87 | 171.44 | 121.12 |
| 13 | G | 101 | SPO | C24-C23-C25 | -24.56 | 79.37 | 118.08 |
| 13 | G | 101 | SPO | C21-C22-C23 | -24.28 | 92.66 | 127.31 |
| 13 | F | 102 | SPO | C35-C33-C32 | 24.10 | 169.88 | 121.12 |
| 13 | 3 | 102 | SPO | C29-C28-C30 | -24.09 | 74.74 | 115.27 |
| 13 | G | 101 | SPO | C35-C33-C32 | 23.99 | 169.65 | 121.12 |
| 13 | E | 102 | SPO | C35-C33-C32 | 23.91 | 169.51 | 121.12 |
| 13 | T | 101 | SPO | C35-C33-C32 | 23.88 | 169.43 | 121.12 |
| 13 | D | 103 | SPO | C24-C23-C22 | 23.80 | 156.27 | 122.92 |
| 13 | N | 102 | SPO | C34-C33-C35 | -23.75 | 75.31 | 115.27 |
| 13 | N | 102 | SPO | C35-C33-C32 | 23.75 | 169.17 | 121.12 |
| 13 | 8 | 102 | SPO | C35-C33-C32 | 23.63 | 168.94 | 121.12 |
| 13 | 3 | 102 | SPO | C35-C33-C32 | 23.34 | 168.36 | 121.12 |
| 13 | D | 102 | SPO | C35-C33-C32 | 23.30 | 168.27 | 121.12 |
| 13 | 0 | 101 | SPO | C24-C23-C25 | -23.28 | 81.40 | 118.08 |
| 13 | U | 102 | SPO | C35-C33-C32 | 23.27 | 168.22 | 121.12 |
| 13 | 0 | 101 | SPO | C5-C6-C7 | 23.21 | 160.97 | 125.89 |
| 13 | X | 101 | SPO | C35-C33-C32 | 23.17 | 168.01 | 121.12 |
| 13 | B | 101 | SPO | C35-C33-C32 | 23.09 | 167.84 | 121.12 |
| 13 | 8 | 102 | SPO | C25-C23-C22 | -22.95 | 83.73 | 118.94 |
| 13 | T | 102 | SPO | C35-C33-C32 | 22.94 | 167.54 | 121.12 |
| 13 | O | 102 | SPO | C34-C33-C35 | -22.78 | 76.95 | 115.27 |
| 13 | D | 103 | SPO | C5-C6-C7 | 22.64 | 160.10 | 125.89 |
| 13 | T | 102 | SPO | C24-C23-C25 | -22.62 | 82.44 | 118.08 |
| 13 | W | 103 | SPO | C35-C33-C32 | 22.48 | 166.61 | 121.12 |
| 13 | 0 | 101 | SPO | C35-C33-C32 | 22.35 | 166.34 | 121.12 |
| 13 | V | 101 | SPO | C35-C33-C32 | 22.25 | 166.15 | 121.12 |
| 13 | I | 102 | SPO | C35-C33-C32 | 22.18 | 165.99 | 121.12 |
| 13 | X | 101 | SPO | C24-C23-C25 | -22.14 | 83.20 | 118.08 |
| 13 | V | 101 | SPO | C24-C23-C25 | -21.78 | 83.76 | 118.08 |
| 13 | M | 405 | SPO | C34-C33-C35 | -21.70 | 78.76 | 115.27 |
| 13 | O | 104 | SPO | C24-C23-C25 | -21.47 | 84.24 | 118.08 |
| 13 | V | 101 | SPO | C5-C6-C7 | 21.45 | 158.30 | 125.89 |
| 13 | 8 | 102 | SPO | C24-C23-C22 | 21.41 | 152.92 | 122.92 |
| 13 | 9 | 102 | SPO | C24-C23-C25 | -21.32 | 84.48 | 118.08 |
| 13 | 3 | 104 | SPO | C24-C23-C25 | -21.18 | 84.71 | 118.08 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|--------|-------------|----------|
| 13 | T | 101 | SPO | C24-C23-C25 | -21.09 | 84.85 | 118.08 |
| 13 | O | 104 | SPO | C35-C33-C32 | 21.08 | 163.77 | 121.12 |
| 13 | 9 | 102 | SPO | C35-C33-C32 | 20.92 | 163.45 | 121.12 |
| 13 | T | 102 | SPO | C20-C21-C22 | -20.87 | 80.72 | 123.47 |
| 13 | U | 104 | SPO | C34-C33-C35 | -20.75 | 80.36 | 115.27 |
| 13 | 0 | 101 | SPO | C21-C22-C23 | -20.72 | 97.74 | 127.31 |
| 13 | D | 103 | SPO | C34-C33-C35 | -20.60 | 80.61 | 115.27 |
| 13 | J | 101 | SPO | C29-C28-C30 | -20.47 | 80.84 | 115.27 |
| 13 | F | 102 | SPO | C5-C6-C7 | 20.28 | 156.53 | 125.89 |
| 13 | J | 103 | SPO | C5-C6-C7 | 20.27 | 156.53 | 125.89 |
| 13 | P | 101 | SPO | C24-C23-C25 | -20.24 | 86.18 | 118.08 |
| 13 | 0 | 101 | SPO | C20-C19-C17 | -20.16 | 98.54 | 127.31 |
| 13 | F | 102 | SPO | C24-C23-C25 | -20.08 | 86.44 | 118.08 |
| 13 | G | 101 | SPO | C5-C6-C7 | 19.96 | 156.06 | 125.89 |
| 13 | E | 102 | SPO | C5-C6-C7 | 19.95 | 156.03 | 125.89 |
| 13 | U | 102 | SPO | C5-C6-C7 | 19.67 | 155.62 | 125.89 |
| 13 | 3 | 102 | SPO | C5-C6-C7 | 19.59 | 155.49 | 125.89 |
| 13 | W | 103 | SPO | C5-C6-C7 | 19.48 | 155.33 | 125.89 |
| 13 | B | 101 | SPO | C24-C23-C25 | -19.48 | 87.39 | 118.08 |
| 13 | I | 102 | SPO | C5-C6-C7 | 19.40 | 155.21 | 125.89 |
| 13 | P | 101 | SPO | C5-C6-C7 | 19.36 | 155.14 | 125.89 |
| 13 | E | 102 | SPO | C34-C33-C35 | -19.23 | 82.93 | 115.27 |
| 13 | T | 101 | SPO | C34-C33-C35 | -19.20 | 82.96 | 115.27 |
| 13 | 9 | 102 | SPO | C5-C6-C7 | 19.17 | 154.87 | 125.89 |
| 13 | D | 102 | SPO | C24-C23-C25 | -19.16 | 87.88 | 118.08 |
| 13 | J | 101 | SPO | C24-C23-C25 | -19.15 | 87.91 | 118.08 |
| 13 | M | 405 | SPO | C5-C6-C7 | 19.09 | 154.74 | 125.89 |
| 13 | N | 102 | SPO | C24-C23-C25 | -19.02 | 88.11 | 118.08 |
| 13 | V | 101 | SPO | C21-C22-C23 | -18.96 | 100.25 | 127.31 |
| 13 | 8 | 102 | SPO | C34-C33-C35 | -18.92 | 83.44 | 115.27 |
| 13 | J | 103 | SPO | C21-C22-C23 | -18.86 | 100.39 | 127.31 |
| 13 | F | 102 | SPO | C34-C33-C35 | -18.84 | 83.57 | 115.27 |
| 13 | J | 103 | SPO | C24-C23-C25 | -18.84 | 88.39 | 118.08 |
| 13 | J | 101 | SPO | C29-C28-C27 | 18.80 | 171.11 | 122.59 |
| 13 | 9 | 102 | SPO | C29-C28-C30 | -18.73 | 83.77 | 115.27 |
| 13 | X | 101 | SPO | C5-C6-C7 | 18.66 | 154.08 | 125.89 |
| 13 | J | 101 | SPO | C21-C22-C23 | -18.54 | 100.86 | 127.31 |
| 13 | D | 103 | SPO | C20-C19-C17 | -18.52 | 100.88 | 127.31 |
| 13 | D | 102 | SPO | C34-C33-C35 | -18.47 | 84.20 | 115.27 |
| 13 | X | 101 | SPO | C34-C33-C35 | -18.39 | 84.33 | 115.27 |
| 13 | O | 102 | SPO | C5-C6-C7 | 18.34 | 153.60 | 125.89 |
| 13 | B | 101 | SPO | C29-C28-C27 | 18.34 | 169.92 | 122.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|--------|-------------|----------|
| 13 | U | 102 | SPO | C34-C33-C35 | -18.30 | 84.49 | 115.27 |
| 13 | I | 102 | SPO | C24-C23-C25 | -18.26 | 89.31 | 118.08 |
| 13 | U | 104 | SPO | C5-C6-C7 | 18.19 | 153.38 | 125.89 |
| 13 | U | 102 | SPO | C24-C23-C25 | -18.17 | 89.45 | 118.08 |
| 13 | T | 102 | SPO | C5-C6-C7 | 18.12 | 153.28 | 125.89 |
| 13 | W | 103 | SPO | C29-C28-C27 | 18.11 | 169.35 | 122.59 |
| 13 | E | 102 | SPO | C13-C12-C11 | -18.06 | 89.62 | 118.08 |
| 13 | T | 102 | SPO | C34-C33-C35 | -18.05 | 84.90 | 115.27 |
| 13 | W | 103 | SPO | C24-C23-C25 | -17.98 | 89.75 | 118.08 |
| 13 | X | 101 | SPO | C21-C22-C23 | -17.97 | 101.67 | 127.31 |
| 13 | 9 | 102 | SPO | C29-C28-C27 | 17.96 | 168.94 | 122.59 |
| 13 | B | 101 | SPO | C5-C6-C7 | 17.95 | 153.01 | 125.89 |
| 13 | D | 102 | SPO | C29-C28-C27 | 17.94 | 168.89 | 122.59 |
| 13 | W | 103 | SPO | C29-C28-C30 | -17.93 | 85.10 | 115.27 |
| 13 | O | 104 | SPO | C5-C6-C7 | 17.92 | 152.97 | 125.89 |
| 13 | O | 102 | SPO | C29-C28-C30 | -17.89 | 85.17 | 115.27 |
| 13 | T | 101 | SPO | C29-C28-C27 | 17.85 | 168.67 | 122.59 |
| 13 | O | 102 | SPO | C35-C33-C32 | 17.84 | 157.23 | 121.12 |
| 13 | M | 405 | SPO | C29-C28-C27 | 17.84 | 168.64 | 122.59 |
| 13 | B | 101 | SPO | C29-C28-C30 | -17.76 | 85.39 | 115.27 |
| 13 | U | 102 | SPO | C29-C28-C27 | 17.68 | 168.24 | 122.59 |
| 13 | 3 | 102 | SPO | C34-C33-C35 | -17.65 | 85.58 | 115.27 |
| 13 | T | 101 | SPO | C5-C6-C7 | 17.60 | 152.49 | 125.89 |
| 13 | O | 104 | SPO | C29-C28-C27 | 17.59 | 167.99 | 122.59 |
| 13 | M | 405 | SPO | C29-C28-C30 | -17.54 | 85.77 | 115.27 |
| 13 | O | 102 | SPO | C29-C28-C27 | 17.44 | 167.61 | 122.59 |
| 13 | I | 102 | SPO | C29-C28-C27 | 17.43 | 167.58 | 122.59 |
| 13 | 3 | 104 | SPO | C21-C22-C23 | -17.41 | 102.46 | 127.31 |
| 13 | F | 102 | SPO | C29-C28-C27 | 17.39 | 167.49 | 122.59 |
| 13 | D | 102 | SPO | C5-C6-C7 | 17.38 | 152.15 | 125.89 |
| 13 | O | 102 | SPO | C21-C22-C23 | -17.37 | 102.52 | 127.31 |
| 13 | T | 101 | SPO | C21-C22-C23 | -17.35 | 102.55 | 127.31 |
| 13 | G | 101 | SPO | C20-C19-C17 | -17.34 | 102.56 | 127.31 |
| 13 | 0 | 101 | SPO | C29-C28-C27 | 17.33 | 167.32 | 122.59 |
| 13 | E | 102 | SPO | C24-C23-C25 | -17.32 | 90.79 | 118.08 |
| 13 | X | 101 | SPO | C29-C28-C30 | -17.31 | 86.15 | 115.27 |
| 13 | B | 101 | SPO | C34-C33-C35 | -17.29 | 86.18 | 115.27 |
| 13 | N | 102 | SPO | C5-C6-C7 | 17.27 | 151.99 | 125.89 |
| 13 | J | 103 | SPO | C29-C28-C27 | 17.25 | 167.10 | 122.59 |
| 13 | P | 101 | SPO | C29-C28-C30 | -17.12 | 86.48 | 115.27 |
| 13 | M | 405 | SPO | C24-C23-C25 | -17.10 | 91.13 | 118.08 |
| 13 | D | 103 | SPO | C29-C28-C27 | 17.08 | 166.69 | 122.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|--------|-------------|----------|
| 13 | E | 102 | SPO | C18-C17-C16 | -17.07 | 91.18 | 118.08 |
| 13 | U | 104 | SPO | C24-C23-C25 | -17.06 | 91.20 | 118.08 |
| 13 | P | 101 | SPO | C21-C22-C23 | -17.03 | 103.00 | 127.31 |
| 13 | N | 102 | SPO | C29-C28-C27 | 17.01 | 166.50 | 122.59 |
| 13 | 3 | 104 | SPO | C29-C28-C27 | 16.97 | 166.40 | 122.59 |
| 13 | J | 103 | SPO | C35-C33-C32 | 16.95 | 155.41 | 121.12 |
| 13 | X | 101 | SPO | C29-C28-C27 | 16.94 | 166.31 | 122.59 |
| 13 | J | 101 | SPO | C35-C33-C32 | 16.92 | 155.35 | 121.12 |
| 13 | B | 101 | SPO | C21-C22-C23 | -16.91 | 103.18 | 127.31 |
| 13 | O | 102 | SPO | C34-C33-C32 | -16.85 | 80.44 | 123.68 |
| 13 | D | 103 | SPO | C24-C23-C25 | -16.85 | 91.53 | 118.08 |
| 13 | P | 101 | SPO | C29-C28-C27 | 16.85 | 166.07 | 122.59 |
| 13 | U | 104 | SPO | C29-C28-C27 | 16.70 | 165.69 | 122.59 |
| 13 | 9 | 102 | SPO | C21-C22-C23 | -16.64 | 103.57 | 127.31 |
| 13 | T | 102 | SPO | C29-C28-C27 | 16.50 | 165.18 | 122.59 |
| 13 | 3 | 104 | SPO | C35-C33-C32 | 16.49 | 154.48 | 121.12 |
| 13 | 3 | 104 | SPO | C8-C7-C6 | -16.47 | 92.13 | 118.08 |
| 13 | J | 103 | SPO | C29-C28-C30 | -16.32 | 87.82 | 115.27 |
| 13 | 0 | 101 | SPO | C34-C33-C35 | -16.31 | 87.83 | 115.27 |
| 13 | 3 | 102 | SPO | C21-C22-C23 | -16.19 | 104.21 | 127.31 |
| 13 | 3 | 104 | SPO | C29-C28-C30 | -16.17 | 88.06 | 115.27 |
| 13 | E | 102 | SPO | C29-C28-C27 | 16.17 | 164.34 | 122.59 |
| 13 | 0 | 101 | SPO | C15-C14-C12 | -16.17 | 104.24 | 127.31 |
| 13 | I | 102 | SPO | C21-C22-C23 | -16.16 | 104.25 | 127.31 |
| 13 | 3 | 102 | SPO | C24-C23-C25 | -16.14 | 92.65 | 118.08 |
| 13 | I | 102 | SPO | C34-C33-C35 | -16.11 | 88.17 | 115.27 |
| 13 | O | 104 | SPO | C21-C22-C23 | -16.10 | 104.34 | 127.31 |
| 13 | 8 | 102 | SPO | C29-C28-C27 | 16.02 | 163.94 | 122.59 |
| 13 | P | 101 | SPO | C34-C33-C32 | -16.02 | 82.59 | 123.68 |
| 13 | T | 102 | SPO | C8-C7-C6 | -16.01 | 92.85 | 118.08 |
| 13 | O | 104 | SPO | C29-C28-C30 | -16.01 | 88.33 | 115.27 |
| 13 | T | 101 | SPO | C20-C21-C22 | -16.00 | 90.70 | 123.47 |
| 13 | O | 102 | SPO | C24-C23-C25 | -15.99 | 92.88 | 118.08 |
| 13 | 8 | 102 | SPO | C29-C28-C30 | -15.98 | 88.40 | 115.27 |
| 13 | 8 | 102 | SPO | C18-C17-C16 | -15.96 | 92.93 | 118.08 |
| 13 | 0 | 101 | SPO | C29-C28-C30 | -15.94 | 88.45 | 115.27 |
| 13 | N | 102 | SPO | C8-C7-C6 | -15.88 | 93.06 | 118.08 |
| 13 | W | 103 | SPO | C21-C22-C23 | -15.84 | 104.70 | 127.31 |
| 13 | T | 101 | SPO | C29-C28-C30 | -15.78 | 88.72 | 115.27 |
| 13 | U | 102 | SPO | C21-C22-C23 | -15.76 | 104.81 | 127.31 |
| 13 | D | 102 | SPO | C29-C28-C30 | -15.76 | 88.76 | 115.27 |
| 13 | 0 | 101 | SPO | C13-C12-C11 | -15.75 | 93.27 | 118.08 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|--------|-------------|----------|
| 13 | J | 101 | SPO | C34-C33-C32 | -15.74 | 83.31 | 123.68 |
| 13 | D | 102 | SPO | C21-C22-C23 | -15.70 | 104.91 | 127.31 |
| 13 | 3 | 102 | SPO | C29-C28-C27 | 15.63 | 162.93 | 122.59 |
| 13 | J | 103 | SPO | C13-C12-C11 | -15.61 | 93.49 | 118.08 |
| 13 | F | 102 | SPO | C21-C22-C23 | -15.52 | 105.16 | 127.31 |
| 13 | G | 101 | SPO | C34-C33-C35 | -15.45 | 89.28 | 115.27 |
| 13 | F | 102 | SPO | C29-C28-C30 | -15.43 | 89.32 | 115.27 |
| 13 | 8 | 102 | SPO | C20-C21-C22 | -15.41 | 91.91 | 123.47 |
| 13 | G | 101 | SPO | C13-C12-C11 | -15.39 | 93.82 | 118.08 |
| 13 | 0 | 101 | SPO | C8-C7-C6 | -15.19 | 94.15 | 118.08 |
| 13 | W | 103 | SPO | C34-C33-C35 | -15.16 | 89.77 | 115.27 |
| 13 | U | 104 | SPO | C29-C28-C30 | -15.15 | 89.78 | 115.27 |
| 13 | O | 104 | SPO | C34-C33-C35 | -15.11 | 89.85 | 115.27 |
| 13 | T | 102 | SPO | C29-C28-C30 | -14.85 | 90.28 | 115.27 |
| 13 | M | 405 | SPO | C21-C22-C23 | -14.77 | 106.23 | 127.31 |
| 13 | E | 102 | SPO | C29-C28-C30 | -14.76 | 90.44 | 115.27 |
| 13 | N | 102 | SPO | C29-C28-C30 | -14.75 | 90.46 | 115.27 |
| 13 | 3 | 104 | SPO | C6-C7-C9 | 14.67 | 141.45 | 118.94 |
| 13 | B | 101 | SPO | C8-C7-C6 | -14.65 | 94.99 | 118.08 |
| 13 | D | 103 | SPO | C8-C7-C6 | -14.62 | 95.04 | 118.08 |
| 13 | D | 103 | SPO | C29-C28-C30 | -14.50 | 90.87 | 115.27 |
| 13 | 8 | 102 | SPO | C13-C12-C11 | -14.41 | 95.37 | 118.08 |
| 13 | E | 102 | SPO | C21-C22-C23 | -14.39 | 106.77 | 127.31 |
| 13 | I | 102 | SPO | C20-C21-C22 | -14.23 | 94.33 | 123.47 |
| 13 | 3 | 102 | SPO | C20-C21-C22 | -14.23 | 94.33 | 123.47 |
| 13 | J | 101 | SPO | C20-C21-C22 | -14.23 | 94.33 | 123.47 |
| 13 | G | 101 | SPO | C29-C28-C27 | 14.18 | 159.20 | 122.59 |
| 13 | I | 102 | SPO | C29-C28-C30 | -14.18 | 91.42 | 115.27 |
| 13 | E | 102 | SPO | C8-C7-C6 | -14.17 | 95.76 | 118.08 |
| 13 | J | 103 | SPO | C20-C19-C17 | -14.17 | 107.09 | 127.31 |
| 13 | U | 104 | SPO | C8-C7-C6 | -14.06 | 95.93 | 118.08 |
| 13 | T | 101 | SPO | C8-C7-C6 | -13.90 | 96.17 | 118.08 |
| 13 | U | 102 | SPO | C29-C28-C30 | -13.88 | 91.92 | 115.27 |
| 13 | V | 101 | SPO | C27-C26-C25 | -13.86 | 79.97 | 123.22 |
| 13 | 9 | 102 | SPO | C20-C21-C22 | -13.83 | 95.14 | 123.47 |
| 13 | T | 102 | SPO | C15-C14-C12 | -13.83 | 107.58 | 127.31 |
| 13 | J | 101 | SPO | C5-C6-C7 | 13.81 | 146.77 | 125.89 |
| 13 | U | 104 | SPO | C21-C22-C23 | -13.78 | 107.65 | 127.31 |
| 13 | 9 | 102 | SPO | C34-C33-C35 | -13.77 | 92.10 | 115.27 |
| 13 | F | 102 | SPO | C20-C21-C22 | -13.75 | 95.31 | 123.47 |
| 13 | B | 101 | SPO | C20-C21-C22 | -13.74 | 95.33 | 123.47 |
| 13 | P | 101 | SPO | C35-C33-C32 | 13.73 | 148.90 | 121.12 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|--------|-------------|----------|
| 13 | D | 102 | SPO | C8-C7-C6 | -13.71 | 96.47 | 118.08 |
| 13 | V | 101 | SPO | C34-C33-C35 | -13.65 | 92.30 | 115.27 |
| 13 | 9 | 102 | SPO | C8-C7-C6 | -13.58 | 96.68 | 118.08 |
| 13 | P | 101 | SPO | C8-C7-C6 | -13.56 | 96.71 | 118.08 |
| 13 | O | 104 | SPO | C8-C7-C6 | -13.56 | 96.71 | 118.08 |
| 13 | W | 103 | SPO | C8-C7-C6 | -13.43 | 96.92 | 118.08 |
| 13 | O | 102 | SPO | C20-C21-C22 | -13.43 | 95.97 | 123.47 |
| 13 | F | 102 | SPO | C8-C7-C6 | -13.41 | 96.95 | 118.08 |
| 13 | V | 101 | SPO | C8-C7-C6 | -13.39 | 96.98 | 118.08 |
| 13 | X | 101 | SPO | C8-C7-C6 | -13.28 | 97.15 | 118.08 |
| 13 | I | 102 | SPO | C8-C7-C6 | -13.27 | 97.17 | 118.08 |
| 13 | 3 | 102 | SPO | C8-C7-C6 | -13.24 | 97.21 | 118.08 |
| 13 | U | 102 | SPO | C20-C21-C22 | -13.16 | 96.52 | 123.47 |
| 13 | N | 102 | SPO | C13-C12-C11 | -13.14 | 97.37 | 118.08 |
| 13 | D | 102 | SPO | C20-C21-C22 | -13.07 | 96.69 | 123.47 |
| 13 | 3 | 104 | SPO | C5-C6-C7 | 13.07 | 145.64 | 125.89 |
| 13 | V | 101 | SPO | C20-C21-C22 | -13.06 | 96.73 | 123.47 |
| 13 | J | 103 | SPO | C8-C7-C6 | -13.04 | 97.53 | 118.08 |
| 13 | G | 101 | SPO | C18-C17-C16 | -12.99 | 97.60 | 118.08 |
| 13 | X | 101 | SPO | C20-C21-C22 | -12.93 | 96.98 | 123.47 |
| 13 | W | 103 | SPO | C20-C21-C22 | -12.92 | 97.02 | 123.47 |
| 13 | O | 102 | SPO | C8-C7-C6 | -12.89 | 97.77 | 118.08 |
| 13 | G | 101 | SPO | C8-C7-C6 | -12.83 | 97.86 | 118.08 |
| 13 | U | 102 | SPO | C8-C7-C6 | -12.74 | 98.00 | 118.08 |
| 13 | 0 | 101 | SPO | C11-C12-C14 | 12.71 | 138.44 | 118.94 |
| 13 | O | 104 | SPO | C20-C21-C22 | -12.60 | 97.66 | 123.47 |
| 13 | M | 405 | SPO | C18-C17-C16 | -12.58 | 98.26 | 118.08 |
| 13 | 8 | 102 | SPO | C8-C7-C6 | -12.57 | 98.28 | 118.08 |
| 13 | E | 102 | SPO | C20-C21-C22 | -12.41 | 98.04 | 123.47 |
| 13 | 3 | 104 | SPO | C20-C19-C17 | -12.41 | 109.60 | 127.31 |
| 13 | M | 405 | SPO | C8-C7-C6 | -12.41 | 98.53 | 118.08 |
| 13 | N | 102 | SPO | C10-C11-C12 | -12.39 | 91.61 | 126.42 |
| 13 | J | 103 | SPO | C13-C12-C14 | 12.38 | 140.26 | 122.92 |
| 13 | 8 | 102 | SPO | C15-C16-C17 | -12.31 | 91.84 | 126.42 |
| 13 | 8 | 102 | SPO | C21-C22-C23 | -12.27 | 109.80 | 127.31 |
| 13 | E | 102 | SPO | C16-C17-C19 | 12.20 | 137.66 | 118.94 |
| 13 | J | 101 | SPO | C8-C7-C6 | -12.15 | 98.93 | 118.08 |
| 13 | G | 101 | SPO | C15-C14-C12 | -12.13 | 110.00 | 127.31 |
| 13 | U | 104 | SPO | C18-C17-C16 | -12.12 | 98.98 | 118.08 |
| 13 | 3 | 104 | SPO | C34-C33-C32 | -12.10 | 92.64 | 123.68 |
| 13 | N | 102 | SPO | C20-C21-C22 | -12.09 | 98.71 | 123.47 |
| 13 | T | 102 | SPO | C13-C12-C11 | -12.09 | 99.03 | 118.08 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|--------|-------------|----------|
| 13 | V | 101 | SPO | C21-C20-C19 | -12.05 | 98.78 | 123.47 |
| 13 | O | 102 | SPO | C21-C20-C19 | -11.91 | 99.09 | 123.47 |
| 13 | W | 103 | SPO | C13-C12-C11 | -11.90 | 99.33 | 118.08 |
| 13 | J | 101 | SPO | C21-C20-C19 | -11.89 | 99.12 | 123.47 |
| 13 | D | 103 | SPO | C15-C14-C12 | -11.85 | 110.39 | 127.31 |
| 13 | 0 | 101 | SPO | C18-C17-C16 | -11.82 | 99.45 | 118.08 |
| 13 | D | 102 | SPO | C21-C20-C19 | -11.77 | 99.35 | 123.47 |
| 13 | M | 405 | SPO | C20-C19-C17 | -11.77 | 110.51 | 127.31 |
| 13 | D | 103 | SPO | C10-C11-C12 | -11.73 | 93.47 | 126.42 |
| 13 | 8 | 102 | SPO | C16-C17-C19 | 11.70 | 136.90 | 118.94 |
| 13 | U | 104 | SPO | C13-C12-C11 | -11.66 | 99.71 | 118.08 |
| 13 | U | 104 | SPO | C20-C21-C22 | -11.65 | 99.61 | 123.47 |
| 13 | X | 101 | SPO | C21-C20-C19 | -11.61 | 99.69 | 123.47 |
| 13 | B | 101 | SPO | C27-C26-C25 | -11.56 | 87.13 | 123.22 |
| 13 | N | 102 | SPO | C21-C22-C23 | -11.48 | 110.93 | 127.31 |
| 13 | J | 103 | SPO | C18-C17-C16 | -11.46 | 100.02 | 118.08 |
| 13 | E | 102 | SPO | C15-C16-C17 | -11.41 | 94.36 | 126.42 |
| 13 | T | 101 | SPO | C27-C26-C25 | -11.41 | 87.61 | 123.22 |
| 13 | 0 | 101 | SPO | C15-C16-C17 | -11.40 | 94.40 | 126.42 |
| 13 | 8 | 102 | SPO | C20-C19-C17 | -11.39 | 111.06 | 127.31 |
| 13 | J | 103 | SPO | C10-C11-C12 | -11.37 | 94.47 | 126.42 |
| 13 | I | 102 | SPO | C27-C26-C25 | -11.32 | 87.88 | 123.22 |
| 13 | J | 103 | SPO | C34-C33-C32 | -11.25 | 94.83 | 123.68 |
| 13 | G | 101 | SPO | C16-C17-C19 | 11.23 | 136.18 | 118.94 |
| 13 | 3 | 102 | SPO | C30-C28-C27 | -11.16 | 88.19 | 121.98 |
| 13 | J | 101 | SPO | C31-C32-C33 | -11.15 | 100.81 | 127.66 |
| 13 | U | 104 | SPO | C21-C20-C19 | -11.12 | 100.69 | 123.47 |
| 13 | B | 101 | SPO | C21-C20-C19 | -11.11 | 100.71 | 123.47 |
| 13 | O | 104 | SPO | C21-C20-C19 | -11.07 | 100.81 | 123.47 |
| 13 | 3 | 102 | SPO | C21-C20-C19 | -11.05 | 100.83 | 123.47 |
| 13 | U | 102 | SPO | C27-C26-C25 | -11.04 | 88.76 | 123.22 |
| 13 | D | 103 | SPO | C15-C16-C17 | -11.00 | 95.52 | 126.42 |
| 13 | P | 101 | SPO | C20-C21-C22 | -10.99 | 100.96 | 123.47 |
| 13 | T | 102 | SPO | C10-C11-C12 | -10.98 | 95.58 | 126.42 |
| 13 | D | 103 | SPO | C18-C17-C16 | -10.97 | 100.79 | 118.08 |
| 13 | 9 | 102 | SPO | C27-C26-C25 | -10.96 | 89.01 | 123.22 |
| 13 | F | 102 | SPO | C27-C26-C25 | -10.95 | 89.04 | 123.22 |
| 13 | X | 101 | SPO | C27-C26-C25 | -10.90 | 89.19 | 123.22 |
| 13 | I | 102 | SPO | C21-C20-C19 | -10.79 | 101.37 | 123.47 |
| 13 | M | 405 | SPO | C20-C21-C22 | -10.78 | 101.39 | 123.47 |
| 13 | U | 102 | SPO | C18-C17-C16 | -10.74 | 101.16 | 118.08 |
| 13 | J | 101 | SPO | C27-C26-C25 | -10.61 | 90.12 | 123.22 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|--------|-------------|----------|
| 13 | D | 102 | SPO | C27-C26-C25 | -10.52 | 90.40 | 123.22 |
| 13 | O | 104 | SPO | C27-C26-C25 | -10.51 | 90.43 | 123.22 |
| 13 | 0 | 101 | SPO | C6-C7-C9 | 10.48 | 135.02 | 118.94 |
| 13 | P | 101 | SPO | C21-C20-C19 | -10.47 | 102.03 | 123.47 |
| 13 | G | 101 | SPO | C11-C12-C14 | 10.45 | 134.98 | 118.94 |
| 13 | B | 101 | SPO | C18-C17-C16 | -10.41 | 101.68 | 118.08 |
| 13 | U | 102 | SPO | C21-C20-C19 | -10.41 | 102.16 | 123.47 |
| 13 | P | 101 | SPO | C13-C12-C11 | -10.32 | 101.82 | 118.08 |
| 13 | 0 | 101 | SPO | C16-C17-C19 | 10.30 | 134.75 | 118.94 |
| 13 | W | 103 | SPO | C21-C20-C19 | -10.23 | 102.51 | 123.47 |
| 13 | P | 101 | SPO | C18-C17-C16 | -10.22 | 101.98 | 118.08 |
| 13 | 0 | 101 | SPO | C27-C26-C25 | -10.20 | 91.39 | 123.22 |
| 13 | U | 102 | SPO | C13-C12-C14 | 10.19 | 137.20 | 122.92 |
| 13 | D | 103 | SPO | C16-C17-C19 | 10.18 | 134.56 | 118.94 |
| 13 | U | 102 | SPO | C13-C12-C11 | -10.16 | 102.06 | 118.08 |
| 13 | N | 102 | SPO | C21-C20-C19 | -10.14 | 102.71 | 123.47 |
| 13 | N | 102 | SPO | C8-C7-C9 | 10.08 | 137.05 | 122.92 |
| 13 | F | 102 | SPO | C21-C20-C19 | -10.07 | 102.84 | 123.47 |
| 13 | W | 103 | SPO | C18-C17-C16 | -10.05 | 102.24 | 118.08 |
| 13 | G | 101 | SPO | C30-C28-C27 | -10.04 | 91.58 | 121.98 |
| 13 | F | 102 | SPO | C13-C12-C11 | -10.01 | 102.31 | 118.08 |
| 13 | U | 102 | SPO | C18-C17-C19 | 10.00 | 136.93 | 122.92 |
| 13 | 9 | 102 | SPO | C13-C12-C11 | -9.97 | 102.37 | 118.08 |
| 13 | T | 102 | SPO | C8-C7-C9 | 9.93 | 136.83 | 122.92 |
| 13 | U | 102 | SPO | C8-C7-C9 | 9.91 | 136.81 | 122.92 |
| 13 | 9 | 102 | SPO | C18-C17-C16 | -9.91 | 102.46 | 118.08 |
| 13 | W | 103 | SPO | C27-C26-C25 | -9.85 | 92.49 | 123.22 |
| 13 | N | 102 | SPO | C18-C17-C16 | -9.82 | 102.60 | 118.08 |
| 13 | N | 102 | SPO | C13-C12-C14 | 9.82 | 136.68 | 122.92 |
| 13 | N | 102 | SPO | C34-C33-C32 | -9.81 | 98.51 | 123.68 |
| 13 | N | 102 | SPO | C25-C23-C22 | -9.80 | 103.90 | 118.94 |
| 13 | G | 101 | SPO | C27-C26-C25 | -9.80 | 92.63 | 123.22 |
| 13 | G | 101 | SPO | C15-C16-C17 | -9.70 | 99.16 | 126.42 |
| 13 | E | 102 | SPO | C11-C12-C14 | 9.68 | 133.79 | 118.94 |
| 13 | 3 | 104 | SPO | C15-C14-C12 | -9.64 | 113.55 | 127.31 |
| 13 | 3 | 102 | SPO | C25-C23-C22 | -9.60 | 104.20 | 118.94 |
| 13 | V | 101 | SPO | C13-C12-C14 | 9.56 | 136.32 | 122.92 |
| 13 | 3 | 104 | SPO | C13-C12-C11 | -9.50 | 103.10 | 118.08 |
| 13 | 9 | 102 | SPO | C21-C20-C19 | -9.50 | 104.01 | 123.47 |
| 13 | J | 101 | SPO | C8-C7-C9 | 9.49 | 136.22 | 122.92 |
| 13 | 9 | 102 | SPO | C10-C11-C12 | -9.48 | 99.78 | 126.42 |
| 13 | 8 | 102 | SPO | C10-C11-C12 | -9.48 | 99.78 | 126.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | E | 102 | SPO | C13-C12-C14 | 9.45 | 136.16 | 122.92 |
| 13 | N | 102 | SPO | C27-C26-C25 | -9.45 | 93.73 | 123.22 |
| 13 | F | 102 | SPO | C18-C17-C16 | -9.43 | 103.22 | 118.08 |
| 13 | D | 103 | SPO | C8-C7-C9 | 9.33 | 135.99 | 122.92 |
| 13 | 3 | 102 | SPO | C18-C17-C19 | 9.32 | 135.98 | 122.92 |
| 13 | B | 101 | SPO | C18-C17-C19 | 9.31 | 135.96 | 122.92 |
| 13 | U | 102 | SPO | C10-C11-C12 | -9.26 | 100.40 | 126.42 |
| 13 | J | 103 | SPO | C20-C21-C22 | -9.25 | 104.52 | 123.47 |
| 13 | W | 103 | SPO | C13-C12-C14 | 9.24 | 135.87 | 122.92 |
| 13 | N | 102 | SPO | C15-C16-C17 | -9.24 | 100.47 | 126.42 |
| 13 | X | 101 | SPO | C18-C17-C16 | -9.23 | 103.54 | 118.08 |
| 13 | I | 102 | SPO | C18-C17-C19 | 9.21 | 135.83 | 122.92 |
| 13 | I | 102 | SPO | C18-C17-C16 | -9.20 | 103.58 | 118.08 |
| 13 | X | 101 | SPO | C13-C12-C14 | 9.17 | 135.76 | 122.92 |
| 13 | 9 | 102 | SPO | C13-C12-C14 | 9.14 | 135.73 | 122.92 |
| 13 | O | 104 | SPO | C18-C17-C19 | 9.09 | 135.65 | 122.92 |
| 13 | 3 | 102 | SPO | C18-C17-C16 | -9.07 | 103.78 | 118.08 |
| 13 | 9 | 102 | SPO | C18-C17-C19 | 9.05 | 135.60 | 122.92 |
| 13 | B | 101 | SPO | C13-C12-C11 | -9.01 | 103.88 | 118.08 |
| 13 | O | 102 | SPO | C25-C23-C22 | -8.98 | 105.16 | 118.94 |
| 13 | O | 104 | SPO | C18-C17-C16 | -8.98 | 103.94 | 118.08 |
| 13 | U | 104 | SPO | C14-C15-C16 | -8.96 | 95.24 | 123.22 |
| 13 | V | 101 | SPO | C13-C12-C11 | -8.96 | 103.96 | 118.08 |
| 13 | 0 | 101 | SPO | C10-C9-C7 | -8.90 | 114.61 | 127.31 |
| 13 | F | 102 | SPO | C18-C17-C19 | 8.90 | 135.39 | 122.92 |
| 13 | G | 101 | SPO | C34-C33-C32 | -8.88 | 100.89 | 123.68 |
| 13 | F | 102 | SPO | C8-C7-C9 | 8.86 | 135.33 | 122.92 |
| 13 | 9 | 102 | SPO | C8-C7-C9 | 8.83 | 135.29 | 122.92 |
| 13 | U | 104 | SPO | C25-C23-C22 | -8.80 | 105.44 | 118.94 |
| 13 | U | 104 | SPO | C13-C12-C14 | 8.80 | 135.25 | 122.92 |
| 13 | D | 102 | SPO | C25-C23-C22 | -8.79 | 105.46 | 118.94 |
| 13 | T | 102 | SPO | C11-C12-C14 | 8.78 | 132.41 | 118.94 |
| 13 | V | 101 | SPO | C29-C28-C27 | -8.76 | 100.00 | 122.59 |
| 13 | X | 101 | SPO | C13-C12-C11 | -8.75 | 104.29 | 118.08 |
| 13 | B | 101 | SPO | C25-C23-C22 | -8.74 | 105.52 | 118.94 |
| 13 | F | 102 | SPO | C13-C12-C14 | 8.74 | 135.16 | 122.92 |
| 13 | V | 101 | SPO | C14-C15-C16 | -8.72 | 95.99 | 123.22 |
| 13 | E | 102 | SPO | C20-C19-C17 | -8.72 | 114.87 | 127.31 |
| 13 | I | 102 | SPO | C25-C23-C22 | -8.72 | 105.57 | 118.94 |
| 13 | I | 102 | SPO | C8-C7-C9 | 8.71 | 135.13 | 122.92 |
| 13 | U | 104 | SPO | C18-C17-C19 | 8.71 | 135.13 | 122.92 |
| 13 | F | 102 | SPO | C10-C11-C12 | -8.71 | 101.95 | 126.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | T | 102 | SPO | C27-C26-C25 | -8.70 | 96.06 | 123.22 |
| 13 | J | 103 | SPO | C8-C7-C9 | 8.70 | 135.11 | 122.92 |
| 13 | D | 103 | SPO | C20-C21-C22 | -8.65 | 105.76 | 123.47 |
| 13 | V | 101 | SPO | C34-C33-C32 | -8.64 | 101.52 | 123.68 |
| 13 | M | 405 | SPO | C8-C7-C9 | 8.60 | 134.97 | 122.92 |
| 13 | J | 101 | SPO | C13-C12-C14 | 8.58 | 134.94 | 122.92 |
| 13 | J | 101 | SPO | C14-C15-C16 | -8.57 | 96.47 | 123.22 |
| 13 | U | 102 | SPO | C25-C23-C22 | -8.56 | 105.80 | 118.94 |
| 13 | U | 102 | SPO | C15-C16-C17 | -8.55 | 102.41 | 126.42 |
| 13 | D | 102 | SPO | C18-C17-C19 | 8.53 | 134.87 | 122.92 |
| 13 | M | 405 | SPO | C13-C12-C11 | -8.53 | 104.64 | 118.08 |
| 13 | X | 101 | SPO | C8-C7-C9 | 8.52 | 134.85 | 122.92 |
| 13 | M | 405 | SPO | C13-C12-C14 | 8.51 | 134.85 | 122.92 |
| 14 | M | 406 | CDL | OA8-CA6-CA4 | 8.51 | 133.21 | 108.43 |
| 13 | O | 102 | SPO | C13-C12-C11 | -8.49 | 104.70 | 118.08 |
| 13 | T | 101 | SPO | C21-C20-C19 | -8.49 | 106.08 | 123.47 |
| 13 | X | 101 | SPO | C18-C17-C19 | 8.48 | 134.80 | 122.92 |
| 13 | W | 103 | SPO | C8-C7-C9 | 8.47 | 134.79 | 122.92 |
| 13 | W | 103 | SPO | C18-C17-C19 | 8.47 | 134.79 | 122.92 |
| 13 | W | 103 | SPO | C25-C23-C22 | -8.46 | 105.95 | 118.94 |
| 13 | D | 103 | SPO | C11-C12-C14 | 8.43 | 131.88 | 118.94 |
| 13 | I | 102 | SPO | C13-C12-C14 | 8.39 | 134.67 | 122.92 |
| 13 | B | 101 | SPO | C13-C12-C14 | 8.38 | 134.67 | 122.92 |
| 13 | 3 | 102 | SPO | C14-C15-C16 | -8.38 | 97.07 | 123.22 |
| 13 | O | 102 | SPO | C18-C17-C19 | 8.37 | 134.64 | 122.92 |
| 13 | T | 101 | SPO | C18-C17-C16 | -8.36 | 104.90 | 118.08 |
| 13 | V | 101 | SPO | C18-C17-C19 | 8.36 | 134.64 | 122.92 |
| 13 | P | 101 | SPO | C27-C26-C25 | -8.34 | 97.20 | 123.22 |
| 13 | O | 102 | SPO | C13-C12-C14 | 8.34 | 134.60 | 122.92 |
| 13 | J | 101 | SPO | C13-C12-C11 | -8.32 | 104.96 | 118.08 |
| 13 | T | 101 | SPO | C14-C15-C16 | -8.32 | 97.27 | 123.22 |
| 13 | B | 101 | SPO | C8-C7-C9 | 8.31 | 134.56 | 122.92 |
| 13 | I | 102 | SPO | C13-C12-C11 | -8.29 | 105.01 | 118.08 |
| 13 | D | 103 | SPO | C27-C26-C25 | -8.29 | 97.35 | 123.22 |
| 13 | T | 101 | SPO | C13-C12-C14 | 8.28 | 134.52 | 122.92 |
| 13 | P | 101 | SPO | C18-C17-C19 | 8.27 | 134.51 | 122.92 |
| 13 | 3 | 102 | SPO | C27-C26-C25 | -8.26 | 97.45 | 123.22 |
| 13 | T | 102 | SPO | C20-C19-C17 | -8.25 | 115.54 | 127.31 |
| 13 | O | 102 | SPO | C8-C7-C9 | 8.21 | 134.43 | 122.92 |
| 13 | X | 101 | SPO | C14-C15-C16 | -8.20 | 97.64 | 123.22 |
| 13 | M | 405 | SPO | C27-C26-C25 | -8.19 | 97.64 | 123.22 |
| 13 | W | 103 | SPO | C10-C11-C12 | -8.19 | 103.41 | 126.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | E | 102 | SPO | C9-C10-C11 | -8.13 | 97.86 | 123.22 |
| 13 | O | 104 | SPO | C8-C7-C9 | 8.12 | 134.30 | 122.92 |
| 13 | T | 101 | SPO | C18-C17-C19 | 8.11 | 134.29 | 122.92 |
| 13 | V | 101 | SPO | C18-C17-C16 | -8.11 | 105.29 | 118.08 |
| 13 | I | 102 | SPO | C10-C11-C12 | -8.09 | 103.68 | 126.42 |
| 13 | D | 102 | SPO | C13-C12-C14 | 8.07 | 134.23 | 122.92 |
| 13 | O | 104 | SPO | C14-C15-C16 | -8.06 | 98.06 | 123.22 |
| 13 | 8 | 102 | SPO | C11-C12-C14 | 8.06 | 131.30 | 118.94 |
| 13 | O | 102 | SPO | C18-C17-C16 | -8.02 | 105.43 | 118.08 |
| 13 | B | 101 | SPO | C15-C16-C17 | -8.02 | 103.89 | 126.42 |
| 13 | U | 104 | SPO | C27-C26-C25 | -8.02 | 98.19 | 123.22 |
| 13 | P | 101 | SPO | C13-C12-C14 | 7.98 | 134.10 | 122.92 |
| 13 | D | 102 | SPO | C14-C15-C16 | -7.98 | 98.31 | 123.22 |
| 13 | J | 103 | SPO | C16-C17-C19 | 7.97 | 131.17 | 118.94 |
| 13 | E | 102 | SPO | C27-C26-C25 | -7.96 | 98.37 | 123.22 |
| 13 | J | 101 | SPO | C10-C11-C12 | -7.95 | 104.09 | 126.42 |
| 13 | M | 405 | SPO | C25-C23-C22 | -7.94 | 106.75 | 118.94 |
| 13 | O | 104 | SPO | C13-C12-C14 | 7.93 | 134.03 | 122.92 |
| 13 | J | 101 | SPO | C25-C23-C22 | -7.92 | 106.79 | 118.94 |
| 13 | W | 103 | SPO | C14-C15-C16 | -7.92 | 98.51 | 123.22 |
| 13 | J | 103 | SPO | C14-C15-C16 | 7.88 | 147.81 | 123.22 |
| 13 | F | 102 | SPO | C25-C23-C22 | -7.87 | 106.86 | 118.94 |
| 13 | 0 | 101 | SPO | C20-C21-C22 | -7.87 | 107.35 | 123.47 |
| 13 | V | 101 | SPO | C8-C7-C9 | 7.85 | 133.92 | 122.92 |
| 14 | H | 304 | CDL | OA8-CA6-CA4 | 7.84 | 131.26 | 108.43 |
| 13 | W | 103 | SPO | C34-C33-C32 | -7.83 | 103.58 | 123.68 |
| 13 | D | 102 | SPO | C13-C12-C11 | -7.83 | 105.74 | 118.08 |
| 13 | X | 101 | SPO | C10-C11-C12 | -7.81 | 104.49 | 126.42 |
| 13 | M | 405 | SPO | C14-C15-C16 | -7.80 | 98.88 | 123.22 |
| 13 | O | 104 | SPO | C13-C12-C11 | -7.79 | 105.80 | 118.08 |
| 13 | E | 102 | SPO | C8-C7-C9 | 7.79 | 133.84 | 122.92 |
| 13 | G | 101 | SPO | C10-C11-C12 | -7.79 | 104.54 | 126.42 |
| 13 | J | 101 | SPO | C18-C17-C19 | 7.78 | 133.83 | 122.92 |
| 13 | P | 101 | SPO | C8-C7-C9 | 7.78 | 133.82 | 122.92 |
| 13 | M | 405 | SPO | C10-C11-C12 | -7.76 | 104.62 | 126.42 |
| 13 | I | 102 | SPO | C14-C15-C16 | -7.76 | 99.00 | 123.22 |
| 13 | J | 101 | SPO | C18-C17-C16 | -7.76 | 105.85 | 118.08 |
| 13 | U | 104 | SPO | C10-C11-C12 | -7.75 | 104.64 | 126.42 |
| 13 | 3 | 102 | SPO | C13-C12-C14 | 7.73 | 133.76 | 122.92 |
| 13 | M | 405 | SPO | C15-C16-C17 | -7.73 | 104.70 | 126.42 |
| 13 | U | 104 | SPO | C8-C7-C9 | 7.67 | 133.66 | 122.92 |
| 13 | D | 102 | SPO | C18-C17-C16 | -7.65 | 106.03 | 118.08 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | M | 405 | SPO | C34-C33-C32 | -7.64 | 104.07 | 123.68 |
| 13 | P | 101 | SPO | C14-C15-C16 | -7.63 | 99.39 | 123.22 |
| 13 | 3 | 102 | SPO | C8-C7-C9 | 7.63 | 133.61 | 122.92 |
| 13 | O | 102 | SPO | C14-C15-C16 | -7.62 | 99.43 | 123.22 |
| 13 | 9 | 102 | SPO | C15-C16-C17 | -7.58 | 105.12 | 126.42 |
| 13 | O | 102 | SPO | C10-C11-C12 | -7.58 | 105.14 | 126.42 |
| 13 | T | 101 | SPO | C8-C7-C9 | 7.56 | 133.52 | 122.92 |
| 13 | E | 102 | SPO | C25-C23-C22 | -7.54 | 107.38 | 118.94 |
| 13 | U | 104 | SPO | C9-C10-C11 | -7.51 | 99.78 | 123.22 |
| 13 | 9 | 102 | SPO | C34-C33-C32 | -7.50 | 104.44 | 123.68 |
| 13 | B | 101 | SPO | C6-C7-C9 | 7.50 | 130.44 | 118.94 |
| 13 | O | 102 | SPO | C15-C16-C17 | -7.48 | 105.39 | 126.42 |
| 13 | D | 102 | SPO | C6-C7-C9 | 7.48 | 130.41 | 118.94 |
| 13 | U | 104 | SPO | C6-C7-C9 | 7.47 | 130.40 | 118.94 |
| 13 | E | 102 | SPO | C6-C7-C9 | 7.46 | 130.38 | 118.94 |
| 13 | B | 101 | SPO | C10-C11-C12 | -7.45 | 105.48 | 126.42 |
| 13 | 3 | 104 | SPO | C20-C21-C22 | -7.45 | 108.21 | 123.47 |
| 13 | U | 102 | SPO | C14-C15-C16 | -7.45 | 99.96 | 123.22 |
| 13 | 3 | 102 | SPO | C13-C12-C11 | -7.44 | 106.35 | 118.08 |
| 13 | T | 101 | SPO | C13-C12-C11 | -7.44 | 106.35 | 118.08 |
| 13 | T | 102 | SPO | C6-C7-C9 | 7.42 | 130.32 | 118.94 |
| 13 | T | 101 | SPO | C6-C7-C9 | 7.41 | 130.31 | 118.94 |
| 13 | D | 103 | SPO | C10-C9-C7 | -7.39 | 116.76 | 127.31 |
| 13 | U | 102 | SPO | C30-C28-C27 | -7.39 | 99.61 | 121.98 |
| 13 | O | 102 | SPO | C27-C26-C25 | -7.37 | 100.21 | 123.22 |
| 13 | G | 101 | SPO | C8-C7-C9 | 7.36 | 133.23 | 122.92 |
| 13 | 0 | 101 | SPO | C9-C10-C11 | -7.35 | 100.29 | 123.22 |
| 13 | 9 | 102 | SPO | C14-C15-C16 | -7.33 | 100.33 | 123.22 |
| 13 | 8 | 102 | SPO | C10-C9-C7 | -7.31 | 116.87 | 127.31 |
| 13 | G | 101 | SPO | C9-C10-C11 | -7.30 | 100.44 | 123.22 |
| 13 | D | 102 | SPO | C8-C7-C9 | 7.27 | 133.11 | 122.92 |
| 13 | I | 102 | SPO | C15-C16-C17 | -7.23 | 106.10 | 126.42 |
| 13 | V | 101 | SPO | C10-C11-C12 | -7.22 | 106.12 | 126.42 |
| 13 | 8 | 102 | SPO | C13-C12-C14 | 7.22 | 133.03 | 122.92 |
| 13 | O | 104 | SPO | C9-C10-C11 | -7.21 | 100.71 | 123.22 |
| 13 | F | 102 | SPO | C15-C16-C17 | -7.21 | 106.16 | 126.42 |
| 13 | 0 | 101 | SPO | C10-C11-C12 | -7.20 | 106.19 | 126.42 |
| 13 | X | 101 | SPO | C15-C16-C17 | -7.18 | 106.24 | 126.42 |
| 13 | F | 102 | SPO | C14-C15-C16 | -7.17 | 100.84 | 123.22 |
| 13 | M | 405 | SPO | C16-C17-C19 | 7.14 | 129.90 | 118.94 |
| 13 | N | 102 | SPO | C6-C7-C9 | 7.12 | 129.86 | 118.94 |
| 13 | O | 102 | SPO | C9-C10-C11 | -7.06 | 101.20 | 123.22 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | I | 102 | SPO | C34-C33-C32 | -7.06 | 105.58 | 123.68 |
| 13 | 3 | 102 | SPO | C10-C11-C12 | -7.04 | 106.63 | 126.42 |
| 13 | 3 | 102 | SPO | C15-C16-C17 | -7.04 | 106.65 | 126.42 |
| 13 | F | 102 | SPO | C34-C33-C32 | -7.03 | 105.64 | 123.68 |
| 13 | D | 102 | SPO | C15-C16-C17 | -7.02 | 106.70 | 126.42 |
| 13 | 0 | 101 | SPO | C34-C33-C32 | -7.01 | 105.68 | 123.68 |
| 13 | 9 | 102 | SPO | C25-C23-C22 | -7.01 | 108.18 | 118.94 |
| 13 | 3 | 102 | SPO | C9-C10-C11 | -7.00 | 101.36 | 123.22 |
| 13 | O | 104 | SPO | C15-C16-C17 | -6.99 | 106.77 | 126.42 |
| 13 | 8 | 102 | SPO | C6-C7-C9 | 6.98 | 129.65 | 118.94 |
| 13 | I | 102 | SPO | C30-C28-C27 | -6.97 | 100.88 | 121.98 |
| 13 | B | 101 | SPO | C34-C33-C32 | -6.96 | 105.82 | 123.68 |
| 13 | B | 101 | SPO | C14-C15-C16 | -6.96 | 101.51 | 123.22 |
| 13 | 3 | 104 | SPO | C10-C11-C12 | -6.95 | 106.90 | 126.42 |
| 13 | 3 | 102 | SPO | C34-C33-C32 | -6.91 | 105.96 | 123.68 |
| 13 | T | 101 | SPO | C25-C23-C22 | -6.89 | 108.36 | 118.94 |
| 13 | J | 103 | SPO | C27-C26-C25 | -6.89 | 101.72 | 123.22 |
| 13 | O | 104 | SPO | C25-C23-C22 | -6.89 | 108.37 | 118.94 |
| 13 | E | 102 | SPO | C21-C20-C19 | -6.86 | 109.42 | 123.47 |
| 13 | P | 101 | SPO | C6-C7-C9 | 6.86 | 129.47 | 118.94 |
| 13 | P | 101 | SPO | C10-C11-C12 | -6.80 | 107.32 | 126.42 |
| 13 | 3 | 104 | SPO | C27-C26-C25 | -6.79 | 102.02 | 123.22 |
| 13 | P | 101 | SPO | C9-C10-C11 | -6.79 | 102.03 | 123.22 |
| 13 | 3 | 104 | SPO | C9-C10-C11 | -6.79 | 102.03 | 123.22 |
| 13 | O | 104 | SPO | C34-C33-C32 | -6.78 | 106.29 | 123.68 |
| 13 | 3 | 104 | SPO | C18-C17-C16 | -6.76 | 107.42 | 118.08 |
| 13 | U | 102 | SPO | C9-C10-C11 | -6.75 | 102.15 | 123.22 |
| 13 | D | 103 | SPO | C13-C12-C11 | -6.74 | 107.45 | 118.08 |
| 13 | D | 102 | SPO | C9-C10-C11 | -6.73 | 102.22 | 123.22 |
| 13 | V | 101 | SPO | C15-C16-C17 | -6.72 | 107.53 | 126.42 |
| 13 | V | 101 | SPO | C9-C10-C11 | -6.69 | 102.33 | 123.22 |
| 13 | 3 | 102 | SPO | C6-C7-C9 | 6.67 | 129.18 | 118.94 |
| 13 | G | 101 | SPO | C20-C21-C22 | -6.66 | 109.84 | 123.47 |
| 13 | O | 104 | SPO | C10-C11-C12 | -6.64 | 107.76 | 126.42 |
| 13 | D | 102 | SPO | C10-C11-C12 | -6.64 | 107.77 | 126.42 |
| 13 | N | 102 | SPO | C20-C19-C17 | -6.63 | 117.85 | 127.31 |
| 13 | U | 104 | SPO | C34-C33-C32 | -6.63 | 106.68 | 123.68 |
| 13 | J | 101 | SPO | C15-C16-C17 | -6.63 | 107.80 | 126.42 |
| 13 | D | 103 | SPO | C34-C33-C32 | -6.62 | 106.70 | 123.68 |
| 13 | V | 101 | SPO | C6-C7-C9 | 6.62 | 129.09 | 118.94 |
| 13 | D | 102 | SPO | C30-C28-C27 | -6.60 | 102.01 | 121.98 |
| 13 | T | 101 | SPO | C9-C10-C11 | -6.59 | 102.64 | 123.22 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | T | 101 | SPO | C30-C28-C27 | -6.59 | 102.03 | 121.98 |
| 13 | T | 101 | SPO | C34-C33-C32 | -6.57 | 106.81 | 123.68 |
| 13 | J | 101 | SPO | C9-C10-C11 | -6.57 | 102.71 | 123.22 |
| 13 | P | 101 | SPO | C15-C16-C17 | -6.56 | 107.99 | 126.42 |
| 13 | T | 101 | SPO | C10-C11-C12 | -6.56 | 107.99 | 126.42 |
| 13 | O | 104 | SPO | C6-C7-C9 | 6.54 | 128.98 | 118.94 |
| 13 | W | 103 | SPO | C9-C10-C11 | -6.53 | 102.83 | 123.22 |
| 13 | D | 103 | SPO | C30-C28-C27 | -6.53 | 102.22 | 121.98 |
| 13 | D | 102 | SPO | C34-C33-C32 | -6.51 | 106.99 | 123.68 |
| 13 | V | 101 | SPO | C31-C32-C33 | -6.50 | 112.02 | 127.66 |
| 13 | U | 102 | SPO | C34-C33-C32 | -6.50 | 107.01 | 123.68 |
| 13 | G | 101 | SPO | C6-C7-C9 | 6.49 | 128.91 | 118.94 |
| 13 | 8 | 102 | SPO | C8-C7-C9 | 6.49 | 132.01 | 122.92 |
| 13 | E | 102 | SPO | C10-C11-C12 | -6.40 | 108.44 | 126.42 |
| 13 | D | 103 | SPO | C6-C7-C9 | 6.40 | 128.76 | 118.94 |
| 13 | E | 102 | SPO | C34-C33-C32 | -6.35 | 107.39 | 123.68 |
| 13 | M | 405 | SPO | C9-C10-C11 | -6.33 | 103.45 | 123.22 |
| 13 | N | 102 | SPO | C30-C28-C27 | -6.31 | 102.87 | 121.98 |
| 13 | T | 102 | SPO | C34-C33-C32 | -6.30 | 107.52 | 123.68 |
| 13 | X | 101 | SPO | C34-C33-C32 | -6.30 | 107.53 | 123.68 |
| 13 | 8 | 102 | SPO | C34-C33-C32 | -6.27 | 107.60 | 123.68 |
| 13 | I | 102 | SPO | C9-C10-C11 | -6.24 | 103.74 | 123.22 |
| 13 | X | 101 | SPO | C9-C10-C11 | -6.22 | 103.80 | 123.22 |
| 13 | F | 102 | SPO | C30-C28-C27 | -6.21 | 103.19 | 121.98 |
| 13 | U | 104 | SPO | C15-C16-C17 | -6.20 | 109.00 | 126.42 |
| 13 | M | 405 | SPO | C18-C17-C19 | 6.17 | 131.57 | 122.92 |
| 13 | X | 101 | SPO | C25-C23-C22 | -6.17 | 109.48 | 118.94 |
| 13 | W | 103 | SPO | C15-C16-C17 | -6.13 | 109.19 | 126.42 |
| 13 | T | 101 | SPO | C15-C16-C17 | -6.11 | 109.25 | 126.42 |
| 13 | W | 103 | SPO | C6-C7-C9 | 6.09 | 128.28 | 118.94 |
| 13 | O | 104 | SPO | C30-C28-C27 | -6.06 | 103.63 | 121.98 |
| 13 | 0 | 101 | SPO | C30-C28-C27 | -6.04 | 103.71 | 121.98 |
| 13 | D | 102 | SPO | C10-C9-C7 | -6.03 | 118.71 | 127.31 |
| 13 | B | 101 | SPO | C9-C10-C11 | -6.02 | 104.43 | 123.22 |
| 13 | J | 101 | SPO | C30-C28-C27 | -6.01 | 103.78 | 121.98 |
| 13 | B | 101 | SPO | C30-C28-C27 | -6.00 | 103.81 | 121.98 |
| 13 | P | 101 | SPO | C25-C23-C22 | -5.98 | 109.76 | 118.94 |
| 13 | 9 | 102 | SPO | C6-C7-C9 | 5.92 | 128.03 | 118.94 |
| 13 | X | 101 | SPO | C6-C7-C9 | 5.90 | 128.00 | 118.94 |
| 13 | 8 | 102 | SPO | C9-C10-C11 | -5.90 | 104.79 | 123.22 |
| 13 | 3 | 104 | SPO | C11-C12-C14 | 5.88 | 127.96 | 118.94 |
| 13 | E | 102 | SPO | C18-C17-C19 | 5.88 | 131.15 | 122.92 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | V | 101 | SPO | C25-C23-C22 | -5.87 | 109.94 | 118.94 |
| 13 | U | 104 | SPO | C30-C28-C27 | -5.86 | 104.23 | 121.98 |
| 13 | J | 103 | SPO | C30-C28-C27 | -5.84 | 104.30 | 121.98 |
| 13 | F | 102 | SPO | C9-C10-C11 | -5.78 | 105.17 | 123.22 |
| 13 | 8 | 102 | SPO | C21-C20-C19 | -5.78 | 111.63 | 123.47 |
| 13 | T | 102 | SPO | C30-C28-C27 | -5.78 | 104.49 | 121.98 |
| 13 | O | 102 | SPO | C6-C7-C9 | 5.78 | 127.81 | 118.94 |
| 13 | 3 | 102 | SPO | C26-C25-C23 | -5.75 | 110.27 | 126.42 |
| 13 | I | 102 | SPO | C6-C7-C9 | 5.71 | 127.70 | 118.94 |
| 13 | F | 102 | SPO | C6-C7-C9 | 5.71 | 127.70 | 118.94 |
| 13 | D | 103 | SPO | C31-C32-C33 | -5.70 | 113.92 | 127.66 |
| 13 | W | 103 | SPO | C30-C28-C27 | -5.68 | 104.80 | 121.98 |
| 13 | G | 101 | SPO | C26-C25-C23 | -5.67 | 110.50 | 126.42 |
| 13 | 0 | 101 | SPO | C8-C7-C9 | 5.64 | 130.82 | 122.92 |
| 13 | 8 | 102 | SPO | C15-C14-C12 | -5.63 | 119.27 | 127.31 |
| 13 | 9 | 102 | SPO | C9-C10-C11 | -5.62 | 105.67 | 123.22 |
| 13 | M | 405 | SPO | C30-C28-C27 | -5.59 | 105.06 | 121.98 |
| 13 | T | 102 | SPO | C18-C17-C16 | -5.58 | 109.28 | 118.08 |
| 13 | E | 102 | SPO | C30-C28-C27 | -5.54 | 105.22 | 121.98 |
| 13 | O | 104 | SPO | C10-C9-C7 | -5.51 | 119.44 | 127.31 |
| 13 | G | 101 | SPO | C13-C12-C14 | 5.49 | 130.61 | 122.92 |
| 13 | J | 103 | SPO | C6-C7-C9 | 5.48 | 127.35 | 118.94 |
| 8 | U | 103 | BCL | C1-C2-C3 | 5.48 | 135.52 | 126.04 |
| 13 | T | 102 | SPO | C26-C25-C23 | -5.47 | 111.05 | 126.42 |
| 13 | 3 | 104 | SPO | C30-C28-C27 | -5.46 | 105.45 | 121.98 |
| 13 | U | 104 | SPO | C10-C9-C7 | -5.45 | 119.53 | 127.31 |
| 13 | 0 | 101 | SPO | C21-C20-C19 | 5.44 | 134.63 | 123.47 |
| 13 | J | 101 | SPO | C26-C25-C23 | -5.38 | 111.30 | 126.42 |
| 13 | 3 | 102 | SPO | C10-C9-C7 | -5.34 | 119.69 | 127.31 |
| 13 | N | 102 | SPO | C18-C17-C19 | 5.32 | 130.37 | 122.92 |
| 13 | O | 102 | SPO | C26-C25-C23 | -5.31 | 111.48 | 126.42 |
| 13 | P | 101 | SPO | C26-C25-C23 | -5.30 | 111.53 | 126.42 |
| 13 | 3 | 104 | SPO | C26-C25-C23 | -5.28 | 111.59 | 126.42 |
| 13 | J | 103 | SPO | C25-C23-C22 | -5.24 | 110.91 | 118.94 |
| 13 | N | 102 | SPO | C10-C9-C7 | -5.21 | 119.87 | 127.31 |
| 8 | L | 307 | BCL | C1-C2-C3 | 5.21 | 135.05 | 126.04 |
| 13 | T | 101 | SPO | C10-C9-C7 | -5.18 | 119.92 | 127.31 |
| 13 | J | 103 | SPO | C15-C14-C12 | 5.17 | 134.69 | 127.31 |
| 13 | 8 | 102 | SPO | C18-C17-C19 | 5.16 | 130.15 | 122.92 |
| 13 | N | 102 | SPO | C16-C17-C19 | 5.13 | 126.81 | 118.94 |
| 13 | X | 101 | SPO | C26-C25-C23 | -5.12 | 112.03 | 126.42 |
| 13 | N | 102 | SPO | C26-C25-C23 | -5.11 | 112.07 | 126.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | 3 | 104 | SPO | C16-C17-C19 | 5.10 | 126.77 | 118.94 |
| 13 | T | 101 | SPO | C26-C25-C23 | -5.06 | 112.19 | 126.42 |
| 13 | 9 | 102 | SPO | C30-C28-C27 | -5.03 | 106.74 | 121.98 |
| 13 | T | 102 | SPO | C14-C15-C16 | 4.96 | 138.71 | 123.22 |
| 8 | R | 101 | BCL | C1-C2-C3 | 4.94 | 134.59 | 126.04 |
| 13 | M | 405 | SPO | C6-C7-C9 | 4.92 | 126.50 | 118.94 |
| 13 | 3 | 104 | SPO | C14-C15-C16 | 4.91 | 138.55 | 123.22 |
| 13 | 9 | 102 | SPO | C26-C25-C23 | -4.91 | 112.62 | 126.42 |
| 8 | 0 | 102 | BCL | C1-C2-C3 | 4.89 | 134.50 | 126.04 |
| 13 | O | 104 | SPO | C26-C25-C23 | -4.88 | 112.70 | 126.42 |
| 13 | O | 102 | SPO | C30-C28-C27 | -4.88 | 107.22 | 121.98 |
| 13 | P | 101 | SPO | C30-C28-C27 | -4.86 | 107.25 | 121.98 |
| 13 | G | 101 | SPO | C21-C20-C19 | 4.81 | 133.32 | 123.47 |
| 13 | X | 101 | SPO | C30-C28-C27 | -4.78 | 107.50 | 121.98 |
| 13 | 8 | 102 | SPO | C30-C28-C27 | -4.77 | 107.54 | 121.98 |
| 13 | V | 101 | SPO | C10-C9-C7 | -4.74 | 120.55 | 127.31 |
| 11 | L | 305 | U10 | C7-C8-C9 | -4.74 | 118.90 | 126.79 |
| 13 | T | 102 | SPO | C21-C20-C19 | -4.74 | 113.77 | 123.47 |
| 14 | M | 406 | CDL | OA6-CA5-C11 | 4.74 | 121.71 | 111.50 |
| 8 | O | 101 | BCL | CMB-C2B-C1B | -4.64 | 121.33 | 128.46 |
| 13 | J | 103 | SPO | C26-C25-C23 | -4.62 | 113.42 | 126.42 |
| 9 | L | 303 | BPB | CBC-CAC-C3C | -4.62 | 114.45 | 126.70 |
| 13 | U | 104 | SPO | C31-C32-C33 | -4.59 | 116.61 | 127.66 |
| 9 | M | 403 | BPB | CBC-CAC-C3C | -4.59 | 114.53 | 126.70 |
| 13 | N | 102 | SPO | C11-C12-C14 | 4.56 | 125.94 | 118.94 |
| 13 | X | 101 | SPO | C31-C32-C33 | -4.56 | 116.67 | 127.66 |
| 10 | H | 302 | PC1 | O21-C21-C22 | 4.54 | 121.28 | 111.50 |
| 13 | P | 101 | SPO | C10-C9-C7 | -4.50 | 120.89 | 127.31 |
| 8 | M | 402 | BCL | CMB-C2B-C1B | -4.48 | 121.58 | 128.46 |
| 13 | B | 101 | SPO | C31-C32-C33 | -4.47 | 116.89 | 127.66 |
| 13 | D | 102 | SPO | C26-C25-C23 | -4.45 | 113.92 | 126.42 |
| 13 | J | 103 | SPO | C11-C12-C14 | 4.45 | 125.76 | 118.94 |
| 8 | L | 307 | BCL | CMB-C2B-C1B | -4.43 | 121.65 | 128.46 |
| 13 | J | 103 | SPO | C9-C10-C11 | -4.43 | 109.39 | 123.22 |
| 8 | F | 101 | BCL | CMB-C2B-C1B | -4.43 | 121.66 | 128.46 |
| 8 | Q | 101 | BCL | CMB-C2B-C1B | -4.43 | 121.66 | 128.46 |
| 13 | D | 103 | SPO | C26-C25-C23 | -4.41 | 114.04 | 126.42 |
| 10 | A | 102 | PC1 | O21-C21-C22 | 4.40 | 120.99 | 111.50 |
| 13 | G | 101 | SPO | C10-C9-C7 | -4.39 | 121.04 | 127.31 |
| 13 | D | 103 | SPO | C25-C23-C22 | -4.39 | 112.21 | 118.94 |
| 8 | S | 101 | BCL | CMB-C2B-C1B | -4.36 | 121.76 | 128.46 |
| 8 | A | 101 | BCL | CMB-C2B-C1B | -4.35 | 121.77 | 128.46 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | U | 104 | SPO | C16-C17-C19 | 4.35 | 125.62 | 118.94 |
| 13 | X | 101 | SPO | C36-C35-C33 | -4.35 | 107.50 | 114.62 |
| 10 | L | 306 | PC1 | O21-C21-C22 | 4.34 | 120.84 | 111.50 |
| 8 | L | 301 | BCL | CMB-C2B-C1B | -4.32 | 121.83 | 128.46 |
| 10 | L | 304 | PC1 | O21-C21-C22 | 4.31 | 120.79 | 111.50 |
| 8 | U | 101 | BCL | CMB-C2B-C1B | -4.30 | 121.86 | 128.46 |
| 8 | 3 | 101 | BCL | CMB-C2B-C1B | -4.29 | 121.86 | 128.46 |
| 8 | 1 | 101 | BCL | CMB-C2B-C1B | -4.25 | 121.93 | 128.46 |
| 14 | H | 304 | CDL | OB6-CB5-C51 | 4.25 | 120.66 | 111.50 |
| 8 | L | 301 | BCL | CAD-C3D-C4D | -4.24 | 106.10 | 108.47 |
| 8 | D | 101 | BCL | CMB-C2B-C1B | -4.24 | 121.95 | 128.46 |
| 8 | W | 102 | BCL | CMB-C2B-C1B | -4.22 | 121.98 | 128.46 |
| 13 | 3 | 104 | SPO | C13-C12-C14 | 4.20 | 128.80 | 122.92 |
| 10 | A | 104 | PC1 | O21-C21-C22 | 4.19 | 120.54 | 111.50 |
| 8 | E | 101 | BCL | C1-C2-C3 | 4.18 | 133.28 | 126.04 |
| 10 | W | 101 | PC1 | O21-C21-C22 | 4.17 | 120.49 | 111.50 |
| 13 | G | 101 | SPO | C31-C32-C33 | -4.11 | 117.77 | 127.66 |
| 8 | U | 103 | BCL | CMB-C2B-C1B | -4.10 | 122.16 | 128.46 |
| 8 | I | 101 | BCL | CMB-C2B-C1B | -4.07 | 122.20 | 128.46 |
| 13 | U | 102 | SPO | C6-C7-C9 | 4.07 | 125.18 | 118.94 |
| 10 | H | 303 | PC1 | O21-C21-O22 | -4.06 | 120.40 | 125.57 |
| 8 | L | 302 | BCL | CMB-C2B-C1B | -4.04 | 122.25 | 128.46 |
| 8 | 9 | 101 | BCL | CMB-C2B-C1B | -4.01 | 122.30 | 128.46 |
| 8 | O | 103 | BCL | CMB-C2B-C1B | -4.00 | 122.31 | 128.46 |
| 13 | D | 103 | SPO | C1-C4-C5 | -4.00 | 102.45 | 113.06 |
| 8 | 0 | 102 | BCL | CMB-C2B-C1B | -3.97 | 122.36 | 128.46 |
| 14 | H | 304 | CDL | OA6-CA5-C11 | 3.96 | 120.03 | 111.50 |
| 8 | K | 101 | BCL | CMB-C2B-C1B | -3.95 | 122.39 | 128.46 |
| 13 | 3 | 104 | SPO | C25-C23-C22 | -3.93 | 112.91 | 118.94 |
| 8 | 7 | 101 | BCL | C1-C2-C3 | 3.93 | 132.84 | 126.04 |
| 8 | S | 102 | BCL | C1-C2-C3 | 3.93 | 132.83 | 126.04 |
| 13 | U | 104 | SPO | C26-C25-C23 | -3.92 | 115.41 | 126.42 |
| 13 | 0 | 101 | SPO | C26-C25-C23 | -3.91 | 115.43 | 126.42 |
| 13 | B | 101 | SPO | C26-C25-C23 | -3.91 | 115.43 | 126.42 |
| 8 | 8 | 101 | BCL | CAD-C3D-C4D | -3.90 | 106.29 | 108.47 |
| 8 | J | 102 | BCL | CMB-C2B-C1B | -3.89 | 122.48 | 128.46 |
| 8 | E | 101 | BCL | C17-C16-C15 | 3.88 | 131.09 | 113.24 |
| 13 | M | 405 | SPO | C10-C9-C7 | -3.87 | 121.79 | 127.31 |
| 13 | T | 102 | SPO | C13-C12-C14 | 3.86 | 128.34 | 122.92 |
| 8 | S | 102 | BCL | CMB-C2B-C1B | -3.86 | 122.54 | 128.46 |
| 13 | J | 101 | SPO | C6-C7-C9 | 3.85 | 124.85 | 118.94 |
| 8 | E | 101 | BCL | CMB-C2B-C1B | -3.85 | 122.55 | 128.46 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 10 | D | 104 | PC1 | O21-C21-C22 | 3.85 | 119.79 | 111.50 |
| 13 | J | 101 | SPO | C36-C35-C33 | 3.84 | 125.60 | 112.98 |
| 8 | 7 | 101 | BCL | CMB-C2B-C1B | -3.83 | 122.58 | 128.46 |
| 13 | U | 104 | SPO | C11-C12-C14 | 3.83 | 124.81 | 118.94 |
| 13 | U | 102 | SPO | C26-C25-C23 | -3.83 | 115.67 | 126.42 |
| 8 | O | 101 | BCL | C4A-NA-C1A | 3.81 | 108.42 | 106.71 |
| 8 | 9 | 101 | BCL | C4A-NA-C1A | 3.81 | 108.42 | 106.71 |
| 13 | F | 102 | SPO | C26-C25-C23 | -3.79 | 115.76 | 126.42 |
| 8 | F | 103 | BCL | CMB-C2B-C1B | -3.79 | 122.64 | 128.46 |
| 8 | R | 101 | BCL | CMB-C2B-C1B | -3.78 | 122.65 | 128.46 |
| 8 | N | 101 | BCL | C1-C2-C3 | 3.78 | 132.58 | 126.04 |
| 8 | E | 101 | BCL | C16-C15-C13 | 3.75 | 128.03 | 115.92 |
| 8 | O | 103 | BCL | C1-C2-C3 | -3.73 | 119.59 | 126.04 |
| 13 | J | 103 | SPO | C18-C17-C19 | 3.71 | 128.12 | 122.92 |
| 11 | L | 308 | U10 | C22-C23-C24 | -3.70 | 118.75 | 127.66 |
| 13 | W | 103 | SPO | C11-C12-C14 | 3.69 | 124.61 | 118.94 |
| 8 | N | 101 | BCL | CMB-C2B-C1B | -3.69 | 122.80 | 128.46 |
| 13 | F | 102 | SPO | C31-C32-C33 | -3.69 | 118.78 | 127.66 |
| 8 | 7 | 101 | BCL | CAD-C3D-C4D | -3.68 | 106.42 | 108.47 |
| 8 | 3 | 103 | BCL | CMB-C2B-C1B | -3.68 | 122.81 | 128.46 |
| 8 | 1 | 101 | BCL | C4A-NA-C1A | 3.67 | 108.36 | 106.71 |
| 8 | Q | 101 | BCL | OBD-CAD-CBD | -3.67 | 120.65 | 125.89 |
| 13 | O | 102 | SPO | C10-C9-C7 | -3.66 | 122.08 | 127.31 |
| 8 | R | 101 | BCL | CAD-C3D-C4D | -3.66 | 106.43 | 108.47 |
| 8 | S | 101 | BCL | OBD-CAD-CBD | -3.65 | 120.67 | 125.89 |
| 13 | O | 102 | SPO | C31-C32-C33 | -3.63 | 118.91 | 127.66 |
| 8 | U | 101 | BCL | C4A-NA-C1A | 3.63 | 108.34 | 106.71 |
| 13 | 0 | 101 | SPO | C13-C12-C14 | 3.60 | 127.96 | 122.92 |
| 8 | C | 101 | BCL | CMB-C2B-C1B | -3.58 | 122.96 | 128.46 |
| 8 | O | 101 | BCL | OBD-CAD-CBD | -3.58 | 120.78 | 125.89 |
| 8 | 3 | 101 | BCL | OBD-CAD-CBD | -3.58 | 120.78 | 125.89 |
| 14 | M | 406 | CDL | OB6-CB5-C51 | 3.56 | 119.18 | 111.50 |
| 8 | K | 101 | BCL | OBD-CAD-CBD | -3.55 | 120.82 | 125.89 |
| 8 | E | 101 | BCL | CAD-C3D-C4D | -3.55 | 106.49 | 108.47 |
| 8 | D | 101 | BCL | OBD-CAD-CBD | -3.54 | 120.83 | 125.89 |
| 11 | Y | 501 | U10 | C12-C13-C14 | -3.54 | 119.14 | 127.66 |
| 8 | F | 103 | BCL | OBD-CAD-CBD | -3.52 | 120.86 | 125.89 |
| 13 | W | 103 | SPO | C31-C32-C33 | -3.52 | 119.18 | 127.66 |
| 8 | R | 101 | BCL | OBD-CAD-CBD | -3.51 | 120.87 | 125.89 |
| 11 | M | 404 | U10 | C25-C24-C26 | 3.50 | 121.16 | 115.27 |
| 8 | C | 101 | BCL | CAD-C3D-C4D | -3.50 | 106.52 | 108.47 |
| 8 | W | 102 | BCL | OBD-CAD-CBD | -3.50 | 120.90 | 125.89 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 8 | A | 101 | BCL | OBD-CAD-CBD | -3.49 | 120.91 | 125.89 |
| 8 | A | 103 | BCL | CAD-C3D-C4D | -3.47 | 106.53 | 108.47 |
| 8 | 9 | 101 | BCL | OBD-CAD-CBD | -3.47 | 120.94 | 125.89 |
| 13 | G | 101 | SPO | C14-C15-C16 | -3.47 | 112.40 | 123.22 |
| 10 | H | 301 | PC1 | O21-C21-C22 | 3.47 | 118.97 | 111.50 |
| 8 | M | 402 | BCL | CAD-C3D-C4D | -3.46 | 106.54 | 108.47 |
| 8 | S | 102 | BCL | OBD-CAD-CBD | -3.46 | 120.95 | 125.89 |
| 13 | M | 405 | SPO | C26-C25-C23 | -3.46 | 116.69 | 126.42 |
| 14 | M | 406 | CDL | C57-C56-C55 | 3.46 | 131.99 | 114.42 |
| 8 | F | 101 | BCL | OBD-CAD-CBD | -3.46 | 120.96 | 125.89 |
| 8 | N | 101 | BCL | OBD-CAD-CBD | -3.45 | 120.97 | 125.89 |
| 8 | 7 | 101 | BCL | OBD-CAD-CBD | -3.45 | 120.97 | 125.89 |
| 8 | U | 103 | BCL | OBD-CAD-CBD | -3.44 | 120.97 | 125.89 |
| 8 | C | 101 | BCL | C16-C15-C13 | 3.44 | 127.05 | 115.92 |
| 8 | F | 101 | BCL | C4A-NA-C1A | 3.44 | 108.25 | 106.71 |
| 13 | B | 101 | SPO | C10-C9-C7 | -3.44 | 122.40 | 127.31 |
| 8 | 8 | 101 | BCL | OBD-CAD-CBD | -3.44 | 120.98 | 125.89 |
| 8 | 3 | 103 | BCL | OBD-CAD-CBD | -3.43 | 121.00 | 125.89 |
| 8 | F | 103 | BCL | O2A-C1-C2 | -3.42 | 99.65 | 108.64 |
| 8 | U | 101 | BCL | OBD-CAD-CBD | -3.41 | 121.02 | 125.89 |
| 8 | O | 101 | BCL | CMB-C2B-C3B | 3.40 | 131.04 | 124.68 |
| 13 | U | 102 | SPO | C31-C32-C33 | -3.40 | 119.48 | 127.66 |
| 8 | I | 101 | BCL | OBD-CAD-CBD | -3.40 | 121.04 | 125.89 |
| 8 | F | 103 | BCL | CAD-C3D-C4D | -3.39 | 106.58 | 108.47 |
| 8 | L | 302 | BCL | OBD-CAD-CBD | -3.39 | 121.05 | 125.89 |
| 8 | 9 | 101 | BCL | CAD-C3D-C4D | -3.38 | 106.58 | 108.47 |
| 8 | E | 101 | BCL | OBD-CAD-CBD | -3.38 | 121.07 | 125.89 |
| 8 | 3 | 103 | BCL | CAD-C3D-C4D | -3.38 | 106.59 | 108.47 |
| 8 | 0 | 102 | BCL | OBD-CAD-CBD | -3.37 | 121.07 | 125.89 |
| 13 | 8 | 102 | SPO | C31-C32-C33 | -3.37 | 119.54 | 127.66 |
| 13 | J | 103 | SPO | C10-C9-C7 | -3.36 | 122.52 | 127.31 |
| 13 | D | 103 | SPO | C36-C37-C38 | -3.35 | 116.29 | 127.75 |
| 13 | E | 102 | SPO | C31-C32-C33 | -3.35 | 119.59 | 127.66 |
| 8 | L | 301 | BCL | OBD-CAD-CBD | -3.35 | 121.11 | 125.89 |
| 11 | Y | 501 | U10 | C17-C18-C19 | -3.35 | 119.60 | 127.66 |
| 13 | T | 102 | SPO | C31-C32-C33 | -3.34 | 119.61 | 127.66 |
| 8 | K | 101 | BCL | C4A-NA-C1A | 3.33 | 108.20 | 106.71 |
| 8 | A | 103 | BCL | CMB-C2B-C1B | -3.33 | 123.35 | 128.46 |
| 13 | J | 101 | SPO | C10-C9-C7 | -3.33 | 122.56 | 127.31 |
| 9 | M | 403 | BPB | OBD-CAD-CBD | -3.32 | 120.94 | 125.82 |
| 8 | 1 | 102 | BCL | OBD-CAD-CBD | -3.32 | 121.15 | 125.89 |
| 8 | F | 103 | BCL | C1-C2-C3 | 3.32 | 131.79 | 126.04 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 8 | U | 103 | BCL | CAD-C3D-C4D | -3.32 | 106.62 | 108.47 |
| 8 | J | 102 | BCL | CAD-C3D-C4D | -3.31 | 106.62 | 108.47 |
| 8 | S | 102 | BCL | CAD-C3D-C4D | -3.31 | 106.62 | 108.47 |
| 13 | I | 102 | SPO | C26-C25-C23 | -3.31 | 117.11 | 126.42 |
| 13 | D | 103 | SPO | C14-C15-C16 | -3.31 | 112.90 | 123.22 |
| 8 | C | 101 | BCL | OBD-CAD-CBD | -3.31 | 121.17 | 125.89 |
| 8 | 1 | 101 | BCL | OBD-CAD-CBD | -3.30 | 121.18 | 125.89 |
| 8 | W | 102 | BCL | C4A-NA-C1A | 3.29 | 108.19 | 106.71 |
| 13 | O | 104 | SPO | C31-C32-C33 | -3.28 | 119.75 | 127.66 |
| 8 | J | 102 | BCL | OBD-CAD-CBD | -3.28 | 121.21 | 125.89 |
| 13 | J | 101 | SPO | C35-C36-C37 | -3.28 | 101.10 | 111.88 |
| 8 | M | 402 | BCL | CMB-C2B-C3B | 3.28 | 130.81 | 124.68 |
| 8 | Q | 101 | BCL | CMB-C2B-C3B | 3.27 | 130.80 | 124.68 |
| 8 | L | 307 | BCL | OBD-CAD-CBD | -3.27 | 121.22 | 125.89 |
| 8 | A | 103 | BCL | C1-C2-C3 | -3.26 | 120.40 | 126.04 |
| 8 | D | 101 | BCL | C4A-NA-C1A | 3.26 | 108.17 | 106.71 |
| 11 | L | 308 | U10 | C25-C24-C26 | 3.26 | 120.75 | 115.27 |
| 8 | O | 103 | BCL | OBD-CAD-CBD | -3.26 | 121.24 | 125.89 |
| 8 | M | 402 | BCL | CHA-C1A-NA | -3.25 | 118.95 | 126.40 |
| 8 | W | 102 | BCL | CAD-C3D-C4D | -3.25 | 106.66 | 108.47 |
| 8 | F | 101 | BCL | CMB-C2B-C3B | 3.25 | 130.75 | 124.68 |
| 8 | A | 101 | BCL | C4A-NA-C1A | 3.25 | 108.17 | 106.71 |
| 11 | L | 305 | U10 | C30-C29-C31 | 3.24 | 120.73 | 115.27 |
| 8 | L | 302 | BCL | C1-C2-C3 | -3.24 | 120.43 | 126.04 |
| 8 | U | 101 | BCL | CHA-C1A-NA | -3.24 | 118.98 | 126.40 |
| 8 | L | 302 | BCL | CAD-C3D-C4D | -3.24 | 106.66 | 108.47 |
| 8 | 1 | 102 | BCL | CMB-C2B-C1B | -3.24 | 123.49 | 128.46 |
| 13 | V | 101 | SPO | C30-C28-C27 | 3.23 | 131.76 | 121.98 |
| 13 | J | 101 | SPO | C20-C19-C17 | -3.23 | 122.70 | 127.31 |
| 9 | L | 303 | BPB | OBD-CAD-CBD | -3.22 | 121.09 | 125.82 |
| 13 | E | 102 | SPO | C26-C25-C23 | -3.22 | 117.38 | 126.42 |
| 13 | T | 102 | SPO | C10-C9-C7 | -3.22 | 122.72 | 127.31 |
| 13 | M | 405 | SPO | C31-C32-C33 | -3.21 | 119.92 | 127.66 |
| 8 | I | 101 | BCL | C4A-NA-C1A | 3.21 | 108.15 | 106.71 |
| 8 | 3 | 101 | BCL | CAD-C3D-C4D | -3.21 | 106.68 | 108.47 |
| 8 | L | 307 | BCL | CMB-C2B-C3B | 3.20 | 130.67 | 124.68 |
| 8 | U | 101 | BCL | CMB-C2B-C3B | 3.20 | 130.66 | 124.68 |
| 8 | D | 101 | BCL | CHA-C1A-NA | -3.19 | 119.09 | 126.40 |
| 8 | S | 101 | BCL | CAD-C3D-C4D | -3.19 | 106.69 | 108.47 |
| 8 | 7 | 101 | BCL | CHA-C1A-NA | -3.17 | 119.14 | 126.40 |
| 13 | P | 101 | SPO | C11-C12-C14 | 3.17 | 123.80 | 118.94 |
| 8 | A | 103 | BCL | OBD-CAD-CBD | -3.16 | 121.38 | 125.89 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 8 | R | 101 | BCL | O2A-C1-C2 | -3.16 | 100.33 | 108.64 |
| 13 | T | 102 | SPO | C16-C17-C19 | 3.16 | 123.79 | 118.94 |
| 8 | 9 | 101 | BCL | CHA-C1A-NA | -3.16 | 119.17 | 126.40 |
| 8 | L | 301 | BCL | CMB-C2B-C3B | 3.15 | 130.58 | 124.68 |
| 8 | A | 101 | BCL | CMB-C2B-C3B | 3.15 | 130.57 | 124.68 |
| 8 | Q | 101 | BCL | CHA-C1A-NA | -3.15 | 119.19 | 126.40 |
| 8 | O | 101 | BCL | CAD-C3D-C4D | -3.15 | 106.72 | 108.47 |
| 13 | D | 102 | SPO | C31-C32-C33 | -3.14 | 120.09 | 127.66 |
| 8 | S | 101 | BCL | CMB-C2B-C3B | 3.14 | 130.55 | 124.68 |
| 8 | 1 | 101 | BCL | CAD-C3D-C4D | -3.14 | 106.72 | 108.47 |
| 8 | M | 402 | BCL | C17-C16-C15 | -3.13 | 98.84 | 113.24 |
| 8 | F | 101 | BCL | CHA-C1A-NA | -3.13 | 119.23 | 126.40 |
| 8 | Q | 101 | BCL | CAD-C3D-C4D | -3.13 | 106.72 | 108.47 |
| 8 | S | 102 | BCL | C4A-NA-C1A | 3.12 | 108.11 | 106.71 |
| 8 | M | 402 | BCL | C4A-NA-C1A | 3.12 | 108.11 | 106.71 |
| 8 | 1 | 102 | BCL | C4A-NA-C1A | 3.11 | 108.11 | 106.71 |
| 8 | U | 103 | BCL | C16-C15-C13 | 3.11 | 125.96 | 115.92 |
| 8 | D | 101 | BCL | CMB-C2B-C3B | 3.10 | 130.47 | 124.68 |
| 8 | O | 103 | BCL | CAD-C3D-C4D | -3.08 | 106.75 | 108.47 |
| 8 | O | 103 | BCL | CHA-C1A-NA | -3.08 | 119.34 | 126.40 |
| 8 | W | 102 | BCL | CMB-C2B-C3B | 3.08 | 130.44 | 124.68 |
| 8 | 3 | 101 | BCL | CMB-C2B-C3B | 3.07 | 130.43 | 124.68 |
| 13 | T | 101 | SPO | C20-C19-C17 | -3.07 | 122.93 | 127.31 |
| 8 | I | 101 | BCL | CHA-C1A-NA | -3.07 | 119.37 | 126.40 |
| 8 | L | 307 | BCL | C4A-NA-C1A | 3.07 | 108.08 | 106.71 |
| 8 | L | 307 | BCL | C2A-C1A-CHA | 3.06 | 129.21 | 123.86 |
| 8 | A | 101 | BCL | CAD-C3D-C4D | -3.06 | 106.77 | 108.47 |
| 8 | O | 101 | BCL | CHA-C1A-NA | -3.05 | 119.41 | 126.40 |
| 8 | 1 | 101 | BCL | CHA-C1A-NA | -3.05 | 119.41 | 126.40 |
| 8 | K | 101 | BCL | CHA-C1A-NA | -3.05 | 119.41 | 126.40 |
| 8 | 0 | 102 | BCL | CAD-C3D-C4D | -3.05 | 106.77 | 108.47 |
| 8 | 7 | 101 | BCL | C2A-C1A-CHA | 3.05 | 129.19 | 123.86 |
| 11 | M | 404 | U10 | C35-C34-C36 | 3.05 | 120.39 | 115.27 |
| 8 | 3 | 101 | BCL | CHA-C1A-NA | -3.05 | 119.42 | 126.40 |
| 8 | 8 | 101 | BCL | CMB-C2B-C1B | -3.04 | 123.78 | 128.46 |
| 8 | M | 402 | BCL | OBD-CAD-CBD | -3.04 | 121.55 | 125.89 |
| 8 | A | 103 | BCL | CHA-C1A-NA | -3.04 | 119.43 | 126.40 |
| 13 | I | 102 | SPO | C31-C30-C28 | 3.04 | 122.99 | 112.98 |
| 11 | L | 308 | U10 | C20-C19-C21 | 3.04 | 120.38 | 115.27 |
| 8 | L | 302 | BCL | CHA-C1A-NA | -3.03 | 119.45 | 126.40 |
| 8 | R | 101 | BCL | CHA-C1A-NA | -3.03 | 119.46 | 126.40 |
| 11 | M | 404 | U10 | C32-C33-C34 | -3.03 | 120.37 | 127.66 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 11 | L | 305 | U10 | C25-C24-C26 | 3.03 | 120.36 | 115.27 |
| 8 | K | 101 | BCL | CAD-C3D-C4D | -3.02 | 106.78 | 108.47 |
| 8 | 1 | 101 | BCL | CMB-C2B-C3B | 3.02 | 130.33 | 124.68 |
| 8 | A | 101 | BCL | CHA-C1A-NA | -3.02 | 119.48 | 126.40 |
| 13 | W | 103 | SPO | C10-C9-C7 | -3.02 | 123.01 | 127.31 |
| 8 | 3 | 103 | BCL | CHA-C1A-NA | -3.01 | 119.50 | 126.40 |
| 8 | J | 102 | BCL | CHA-C1A-NA | -3.01 | 119.50 | 126.40 |
| 8 | S | 102 | BCL | CHA-C1A-NA | -3.01 | 119.50 | 126.40 |
| 11 | L | 308 | U10 | C17-C18-C19 | -3.01 | 120.41 | 127.66 |
| 8 | S | 101 | BCL | C4A-NA-C1A | 3.01 | 108.06 | 106.71 |
| 11 | L | 308 | U10 | C10-C9-C11 | 3.01 | 120.33 | 115.27 |
| 8 | 0 | 102 | BCL | CHA-C1A-NA | -3.00 | 119.52 | 126.40 |
| 8 | L | 302 | BCL | C2A-C1A-CHA | 3.00 | 129.11 | 123.86 |
| 8 | F | 101 | BCL | CAD-C3D-C4D | -3.00 | 106.80 | 108.47 |
| 8 | U | 103 | BCL | CHA-C1A-NA | -2.99 | 119.56 | 126.40 |
| 8 | N | 101 | BCL | CAD-C3D-C4D | -2.99 | 106.81 | 108.47 |
| 8 | S | 101 | BCL | CHA-C1A-NA | -2.98 | 119.57 | 126.40 |
| 8 | I | 101 | BCL | CMB-C2B-C3B | 2.98 | 130.25 | 124.68 |
| 8 | 1 | 102 | BCL | CAD-C3D-C4D | -2.98 | 106.81 | 108.47 |
| 8 | M | 402 | BCL | C16-C15-C13 | 2.97 | 125.53 | 115.92 |
| 8 | L | 301 | BCL | CHA-C1A-NA | -2.97 | 119.60 | 126.40 |
| 8 | 7 | 101 | BCL | C17-C16-C15 | 2.96 | 126.86 | 113.24 |
| 13 | N | 102 | SPO | C9-C10-C11 | -2.96 | 113.97 | 123.22 |
| 8 | 7 | 101 | BCL | CAA-CBA-CGA | 2.96 | 121.90 | 113.25 |
| 8 | 1 | 102 | BCL | CHA-C1A-NA | -2.96 | 119.62 | 126.40 |
| 8 | L | 302 | BCL | CMB-C2B-C3B | 2.95 | 130.20 | 124.68 |
| 8 | 9 | 101 | BCL | C2A-C1A-CHA | 2.95 | 129.02 | 123.86 |
| 8 | W | 102 | BCL | CHA-C1A-NA | -2.95 | 119.65 | 126.40 |
| 8 | E | 101 | BCL | C4A-NA-C1A | 2.94 | 108.03 | 106.71 |
| 11 | Y | 501 | U10 | C15-C14-C16 | 2.94 | 120.22 | 115.27 |
| 8 | F | 103 | BCL | CHA-C1A-NA | -2.94 | 119.67 | 126.40 |
| 8 | N | 101 | BCL | C4A-NA-C1A | 2.93 | 108.02 | 106.71 |
| 11 | M | 404 | U10 | C12-C13-C14 | -2.93 | 120.61 | 127.66 |
| 13 | W | 103 | SPO | C26-C25-C23 | -2.93 | 118.19 | 126.42 |
| 8 | C | 101 | BCL | CHA-C1A-NA | -2.93 | 119.70 | 126.40 |
| 8 | U | 103 | BCL | CMB-C2B-C3B | 2.92 | 130.15 | 124.68 |
| 13 | D | 103 | SPO | C21-C20-C19 | 2.92 | 129.46 | 123.47 |
| 8 | L | 307 | BCL | CHA-C1A-NA | -2.92 | 119.70 | 126.40 |
| 11 | M | 404 | U10 | C10-C9-C11 | 2.91 | 120.17 | 115.27 |
| 8 | N | 101 | BCL | C16-C15-C13 | -2.91 | 106.50 | 115.92 |
| 8 | Q | 101 | BCL | C4A-NA-C1A | 2.91 | 108.02 | 106.71 |
| 8 | 9 | 101 | BCL | CMB-C2B-C3B | 2.91 | 130.12 | 124.68 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 8 | E | 101 | BCL | CHA-C1A-NA | -2.91 | 119.73 | 126.40 |
| 8 | 8 | 101 | BCL | CHA-C1A-NA | -2.91 | 119.73 | 126.40 |
| 8 | 8 | 101 | BCL | C4A-NA-C1A | 2.90 | 108.01 | 106.71 |
| 13 | P | 101 | SPO | C16-C17-C19 | 2.89 | 123.37 | 118.94 |
| 8 | 0 | 102 | BCL | CMB-C2B-C3B | 2.88 | 130.07 | 124.68 |
| 8 | D | 101 | BCL | CAD-C3D-C4D | -2.88 | 106.86 | 108.47 |
| 8 | I | 101 | BCL | CAD-C3D-C4D | -2.88 | 106.86 | 108.47 |
| 8 | 3 | 101 | BCL | C4A-NA-C1A | 2.88 | 108.00 | 106.71 |
| 11 | L | 308 | U10 | C12-C13-C14 | -2.88 | 120.73 | 127.66 |
| 8 | U | 101 | BCL | C2A-C1A-CHA | 2.87 | 128.88 | 123.86 |
| 8 | J | 102 | BCL | C4A-NA-C1A | 2.87 | 108.00 | 106.71 |
| 8 | J | 102 | BCL | CMB-C2B-C3B | 2.86 | 130.04 | 124.68 |
| 8 | L | 302 | BCL | C4A-NA-C1A | 2.86 | 107.99 | 106.71 |
| 11 | Y | 501 | U10 | C25-C24-C26 | 2.86 | 120.08 | 115.27 |
| 8 | A | 103 | BCL | O2A-C1-C2 | -2.86 | 101.12 | 108.64 |
| 8 | N | 101 | BCL | CHA-C1A-NA | -2.85 | 119.86 | 126.40 |
| 8 | K | 101 | BCL | CMB-C2B-C3B | 2.85 | 130.02 | 124.68 |
| 8 | D | 101 | BCL | C2A-C1A-CHA | 2.85 | 128.84 | 123.86 |
| 8 | O | 101 | BCL | C2A-C1A-CHA | 2.85 | 128.84 | 123.86 |
| 13 | 3 | 102 | SPO | C31-C32-C33 | -2.84 | 120.81 | 127.66 |
| 13 | 0 | 101 | SPO | C31-C32-C33 | -2.84 | 120.81 | 127.66 |
| 8 | F | 103 | BCL | CMB-C2B-C3B | 2.84 | 129.99 | 124.68 |
| 8 | O | 103 | BCL | CMB-C2B-C3B | 2.83 | 129.98 | 124.68 |
| 13 | T | 101 | SPO | C31-C32-C33 | -2.83 | 120.85 | 127.66 |
| 13 | J | 101 | SPO | C40-C38-C39 | 2.83 | 120.84 | 114.60 |
| 8 | L | 301 | BCL | C2A-C1A-CHA | 2.82 | 128.79 | 123.86 |
| 8 | U | 101 | BCL | CAD-C3D-C4D | -2.82 | 106.90 | 108.47 |
| 11 | Y | 501 | U10 | C7-C8-C9 | -2.82 | 122.10 | 126.79 |
| 8 | R | 101 | BCL | C4A-NA-C1A | 2.82 | 107.97 | 106.71 |
| 8 | L | 301 | BCL | C4A-NA-C1A | 2.81 | 107.97 | 106.71 |
| 8 | 7 | 101 | BCL | CMB-C2B-C3B | 2.81 | 129.94 | 124.68 |
| 8 | F | 101 | BCL | C2A-C1A-CHA | 2.81 | 128.77 | 123.86 |
| 13 | V | 101 | SPO | C26-C25-C23 | -2.81 | 118.53 | 126.42 |
| 8 | A | 103 | BCL | C2A-C1A-CHA | 2.81 | 128.77 | 123.86 |
| 8 | 8 | 101 | BCL | C11-C10-C8 | -2.80 | 106.86 | 115.92 |
| 8 | Q | 101 | BCL | C1C-NC-C4C | 2.80 | 107.96 | 106.71 |
| 11 | L | 305 | U10 | C22-C23-C24 | -2.79 | 120.93 | 127.66 |
| 8 | E | 101 | BCL | CMB-C2B-C3B | 2.79 | 129.90 | 124.68 |
| 11 | M | 404 | U10 | C22-C23-C24 | -2.79 | 120.94 | 127.66 |
| 13 | U | 104 | SPO | C20-C19-C17 | -2.79 | 123.33 | 127.31 |
| 8 | 8 | 101 | BCL | C6-C7-C8 | -2.78 | 106.95 | 115.92 |
| 8 | 1 | 102 | BCL | C2A-C1A-CHA | 2.77 | 128.71 | 123.86 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 8 | R | 101 | BCL | CMB-C2B-C3B | 2.77 | 129.86 | 124.68 |
| 8 | 3 | 103 | BCL | C4A-NA-C1A | 2.77 | 107.95 | 106.71 |
| 8 | A | 101 | BCL | C2A-C1A-CHA | 2.76 | 128.69 | 123.86 |
| 13 | T | 102 | SPO | C18-C17-C19 | 2.76 | 126.79 | 122.92 |
| 13 | E | 102 | SPO | C10-C9-C7 | -2.76 | 123.37 | 127.31 |
| 13 | G | 101 | SPO | C36-C35-C33 | 2.75 | 122.04 | 112.98 |
| 8 | S | 102 | BCL | CMB-C2B-C3B | 2.75 | 129.83 | 124.68 |
| 8 | L | 307 | BCL | CAD-C3D-C4D | -2.75 | 106.94 | 108.47 |
| 11 | M | 404 | U10 | C30-C29-C31 | 2.75 | 119.89 | 115.27 |
| 13 | J | 103 | SPO | C40-C38-C39 | 2.75 | 120.67 | 114.60 |
| 14 | H | 304 | CDL | OB8-CB7-C71 | 2.74 | 120.50 | 111.91 |
| 8 | 8 | 101 | BCL | C2A-C1A-CHA | 2.74 | 128.65 | 123.86 |
| 8 | O | 103 | BCL | C2A-C1A-CHA | 2.74 | 128.65 | 123.86 |
| 11 | Y | 501 | U10 | C20-C19-C21 | 2.73 | 119.86 | 115.27 |
| 8 | N | 101 | BCL | CMB-C2B-C3B | 2.73 | 129.78 | 124.68 |
| 13 | 8 | 102 | SPO | C14-C15-C16 | -2.72 | 114.71 | 123.22 |
| 8 | S | 102 | BCL | C2A-C1A-CHA | 2.72 | 128.62 | 123.86 |
| 13 | 9 | 102 | SPO | C36-C35-C33 | 2.72 | 121.93 | 112.98 |
| 8 | 1 | 101 | BCL | C2A-C1A-CHA | 2.72 | 128.62 | 123.86 |
| 8 | Q | 101 | BCL | C2A-C1A-CHA | 2.71 | 128.60 | 123.86 |
| 8 | C | 101 | BCL | C2A-C1A-CHA | 2.71 | 128.60 | 123.86 |
| 10 | H | 302 | PC1 | O31-C31-C32 | 2.70 | 120.39 | 111.91 |
| 13 | 9 | 102 | SPO | C31-C32-C33 | -2.70 | 121.16 | 127.66 |
| 8 | U | 103 | BCL | C4A-NA-C1A | 2.70 | 107.92 | 106.71 |
| 13 | 3 | 104 | SPO | C40-C38-C39 | 2.70 | 120.56 | 114.60 |
| 11 | M | 404 | U10 | C15-C14-C16 | 2.70 | 119.81 | 115.27 |
| 8 | W | 102 | BCL | C1-C2-C3 | -2.69 | 121.38 | 126.04 |
| 11 | L | 305 | U10 | C36-C34-C35 | 2.69 | 120.55 | 114.60 |
| 9 | L | 303 | BPB | CMB-C2B-C3B | 2.69 | 129.71 | 124.68 |
| 8 | 3 | 103 | BCL | CMB-C2B-C3B | 2.69 | 129.71 | 124.68 |
| 10 | A | 104 | PC1 | O31-C31-C32 | 2.68 | 120.33 | 111.91 |
| 8 | I | 101 | BCL | C2A-C1A-CHA | 2.68 | 128.55 | 123.86 |
| 8 | C | 101 | BCL | CMB-C2B-C3B | 2.68 | 129.69 | 124.68 |
| 8 | O | 103 | BCL | C4A-NA-C1A | 2.67 | 107.91 | 106.71 |
| 13 | J | 101 | SPO | C36-C37-C38 | -2.67 | 118.62 | 127.75 |
| 11 | M | 404 | U10 | C27-C28-C29 | -2.67 | 121.23 | 127.66 |
| 8 | U | 103 | BCL | C17-C16-C15 | 2.66 | 125.48 | 113.24 |
| 11 | L | 305 | U10 | C12-C13-C14 | -2.66 | 121.27 | 127.66 |
| 8 | 0 | 102 | BCL | C2A-C1A-CHA | 2.65 | 128.49 | 123.86 |
| 8 | F | 103 | BCL | C2A-C1A-CHA | 2.65 | 128.49 | 123.86 |
| 8 | W | 102 | BCL | C2A-C1A-CHA | 2.64 | 128.47 | 123.86 |
| 8 | C | 101 | BCL | C4A-NA-C1A | 2.64 | 107.89 | 106.71 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 13 | O | 102 | SPO | C20-C19-C17 | -2.64 | 123.55 | 127.31 |
| 13 | M | 405 | SPO | C1-C4-C5 | -2.63 | 106.08 | 113.06 |
| 8 | S | 101 | BCL | C2A-C1A-CHA | 2.63 | 128.46 | 123.86 |
| 8 | L | 301 | BCL | C1C-NC-C4C | 2.63 | 107.89 | 106.71 |
| 11 | M | 404 | U10 | C17-C18-C19 | -2.63 | 121.33 | 127.66 |
| 8 | 3 | 101 | BCL | C2A-C1A-CHA | 2.62 | 128.44 | 123.86 |
| 13 | 8 | 102 | SPO | C26-C25-C23 | 2.62 | 133.76 | 126.42 |
| 14 | H | 304 | CDL | OA8-CA7-C31 | 2.61 | 120.11 | 111.91 |
| 8 | U | 103 | BCL | CMD-C2D-C3D | 2.61 | 129.56 | 124.68 |
| 8 | N | 101 | BCL | O2A-C1-C2 | -2.61 | 101.78 | 108.64 |
| 13 | B | 101 | SPO | C40-C38-C39 | 2.61 | 120.36 | 114.60 |
| 13 | 8 | 102 | SPO | C27-C26-C25 | -2.60 | 115.09 | 123.22 |
| 10 | W | 101 | PC1 | O31-C31-C32 | 2.60 | 120.08 | 111.91 |
| 8 | K | 101 | BCL | C2A-C1A-CHA | 2.60 | 128.41 | 123.86 |
| 10 | A | 102 | PC1 | O31-C31-C32 | 2.60 | 120.06 | 111.91 |
| 8 | M | 402 | BCL | OBB-CAB-CBB | -2.59 | 114.34 | 120.17 |
| 8 | C | 101 | BCL | CMD-C2D-C3D | 2.58 | 129.50 | 124.68 |
| 8 | 7 | 101 | BCL | CMD-C2D-C3D | 2.58 | 129.50 | 124.68 |
| 11 | L | 305 | U10 | C20-C19-C21 | 2.57 | 119.60 | 115.27 |
| 8 | M | 402 | BCL | C15-C13-C12 | -2.57 | 98.61 | 112.13 |
| 8 | 3 | 101 | BCL | OBB-CAB-CBB | -2.57 | 114.39 | 120.17 |
| 11 | L | 305 | U10 | C17-C18-C19 | -2.57 | 121.48 | 127.66 |
| 10 | H | 301 | PC1 | O31-C31-C32 | 2.57 | 119.96 | 111.91 |
| 11 | Y | 501 | U10 | C22-C23-C24 | -2.56 | 121.48 | 127.66 |
| 8 | U | 103 | BCL | O2A-C1-C2 | -2.56 | 101.90 | 108.64 |
| 8 | 0 | 102 | BCL | C1C-NC-C4C | 2.56 | 107.86 | 106.71 |
| 10 | L | 304 | PC1 | O31-C31-C32 | 2.56 | 119.94 | 111.91 |
| 11 | M | 404 | U10 | C20-C19-C21 | 2.56 | 119.58 | 115.27 |
| 8 | 3 | 101 | BCL | CMD-C2D-C3D | 2.55 | 129.45 | 124.68 |
| 8 | O | 101 | BCL | CMD-C2D-C3D | 2.55 | 129.45 | 124.68 |
| 8 | U | 103 | BCL | C1C-NC-C4C | 2.55 | 107.85 | 106.71 |
| 8 | M | 402 | BCL | C2A-C1A-CHA | 2.55 | 128.31 | 123.86 |
| 9 | L | 303 | BPB | C11-C10-C8 | -2.54 | 107.70 | 115.92 |
| 13 | V | 101 | SPO | C40-C38-C39 | 2.54 | 120.22 | 114.60 |
| 8 | J | 102 | BCL | C1C-NC-C4C | 2.54 | 107.85 | 106.71 |
| 13 | W | 103 | SPO | C16-C17-C19 | 2.54 | 122.83 | 118.94 |
| 8 | L | 307 | BCL | OBB-CAB-CBB | -2.53 | 114.47 | 120.17 |
| 8 | J | 102 | BCL | C2A-C1A-CHA | 2.53 | 128.29 | 123.86 |
| 8 | R | 101 | BCL | C2A-C1A-CHA | 2.53 | 128.29 | 123.86 |
| 8 | D | 101 | BCL | CMD-C2D-C3D | 2.53 | 129.41 | 124.68 |
| 11 | Y | 501 | U10 | C10-C9-C11 | 2.52 | 119.51 | 115.27 |
| 8 | J | 102 | BCL | CMD-C2D-C3D | 2.52 | 129.40 | 124.68 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 10 | L | 306 | PC1 | O31-C31-C32 | 2.52 | 119.82 | 111.91 |
| 10 | D | 104 | PC1 | O31-C31-C32 | 2.52 | 119.81 | 111.91 |
| 8 | A | 101 | BCL | CMD-C2D-C3D | 2.51 | 129.38 | 124.68 |
| 8 | 9 | 101 | BCL | OBB-CAB-CBB | -2.51 | 114.53 | 120.17 |
| 14 | M | 406 | CDL | OA8-CA7-C31 | 2.51 | 119.77 | 111.91 |
| 9 | M | 403 | BPB | CMB-C2B-C3B | 2.51 | 129.37 | 124.68 |
| 11 | L | 305 | U10 | C10-C9-C11 | 2.51 | 119.48 | 115.27 |
| 14 | M | 406 | CDL | OB8-CB7-C71 | 2.50 | 119.77 | 111.91 |
| 8 | O | 103 | BCL | C1C-NC-C4C | 2.50 | 107.83 | 106.71 |
| 13 | 3 | 104 | SPO | C8-C7-C9 | 2.50 | 126.42 | 122.92 |
| 13 | B | 101 | SPO | C36-C37-C38 | -2.49 | 119.24 | 127.75 |
| 8 | K | 101 | BCL | C1C-NC-C4C | 2.49 | 107.82 | 106.71 |
| 9 | L | 303 | BPB | CMD-C2D-C3D | 2.49 | 129.33 | 124.68 |
| 13 | N | 102 | SPO | C40-C38-C39 | 2.49 | 120.09 | 114.60 |
| 8 | S | 102 | BCL | CMD-C2D-C3D | 2.48 | 129.33 | 124.68 |
| 8 | Q | 101 | BCL | OBB-CAB-CBB | -2.48 | 114.58 | 120.17 |
| 8 | A | 103 | BCL | CMB-C2B-C3B | 2.48 | 129.32 | 124.68 |
| 8 | S | 102 | BCL | C6-C5-C3 | 2.48 | 119.96 | 113.45 |
| 8 | O | 103 | BCL | CMD-C2D-C3D | 2.48 | 129.32 | 124.68 |
| 8 | C | 101 | BCL | C1-C2-C3 | 2.48 | 130.33 | 126.04 |
| 8 | A | 101 | BCL | OBB-CAB-CBB | -2.47 | 114.60 | 120.17 |
| 8 | U | 103 | BCL | C2A-C1A-CHA | 2.47 | 128.18 | 123.86 |
| 8 | A | 103 | BCL | CMD-C2D-C3D | 2.47 | 129.30 | 124.68 |
| 8 | 1 | 102 | BCL | CMD-C2D-C3D | 2.47 | 129.29 | 124.68 |
| 8 | F | 103 | BCL | CMD-C2D-C3D | 2.46 | 129.28 | 124.68 |
| 8 | A | 101 | BCL | C1C-NC-C4C | 2.46 | 107.81 | 106.71 |
| 8 | O | 101 | BCL | C1C-NC-C4C | 2.46 | 107.81 | 106.71 |
| 8 | C | 101 | BCL | O2A-C1-C2 | -2.46 | 102.17 | 108.64 |
| 8 | C | 101 | BCL | C4B-C3B-CAB | -2.46 | 122.38 | 127.13 |
| 8 | O | 101 | BCL | OBB-CAB-CBB | -2.46 | 114.64 | 120.17 |
| 8 | L | 301 | BCL | OBB-CAB-CBB | -2.45 | 114.64 | 120.17 |
| 13 | M | 405 | SPO | C40-C38-C39 | 2.45 | 120.02 | 114.60 |
| 8 | L | 307 | BCL | CMD-C2D-C3D | 2.45 | 129.26 | 124.68 |
| 8 | 0 | 102 | BCL | CMD-C2D-C3D | 2.45 | 129.26 | 124.68 |
| 13 | M | 405 | SPO | C36-C37-C38 | -2.45 | 119.38 | 127.75 |
| 8 | W | 102 | BCL | CMD-C2D-C3D | 2.45 | 129.26 | 124.68 |
| 8 | S | 101 | BCL | OBB-CAB-CBB | -2.45 | 114.66 | 120.17 |
| 8 | I | 101 | BCL | C1C-NC-C4C | 2.44 | 107.81 | 106.71 |
| 13 | 0 | 101 | SPO | C25-C23-C22 | -2.44 | 115.19 | 118.94 |
| 8 | D | 101 | BCL | OBB-CAB-CBB | -2.44 | 114.67 | 120.17 |
| 8 | 0 | 102 | BCL | C4A-NA-C1A | 2.44 | 107.80 | 106.71 |
| 8 | E | 101 | BCL | CMD-C2D-C3D | 2.44 | 129.24 | 124.68 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 8 | N | 101 | BCL | C2A-C1A-CHA | 2.44 | 128.12 | 123.86 |
| 8 | U | 101 | BCL | CMD-C2D-C3D | 2.44 | 129.24 | 124.68 |
| 8 | 7 | 101 | BCL | C4B-C3B-CAB | -2.44 | 122.42 | 127.13 |
| 8 | S | 102 | BCL | C11-C10-C8 | 2.44 | 123.79 | 115.92 |
| 8 | 9 | 101 | BCL | CMD-C2D-C3D | 2.43 | 129.23 | 124.68 |
| 8 | L | 307 | BCL | CAA-CBA-CGA | 2.43 | 120.36 | 113.25 |
| 8 | C | 101 | BCL | C17-C16-C15 | 2.43 | 124.40 | 113.24 |
| 8 | 3 | 103 | BCL | CMD-C2D-C3D | 2.43 | 129.22 | 124.68 |
| 8 | 1 | 101 | BCL | CMD-C2D-C3D | 2.43 | 129.22 | 124.68 |
| 8 | E | 101 | BCL | C2A-C1A-CHA | 2.42 | 128.10 | 123.86 |
| 8 | 1 | 101 | BCL | OBB-CAB-CBB | -2.42 | 114.72 | 120.17 |
| 8 | R | 101 | BCL | CMD-C2D-C3D | 2.42 | 129.20 | 124.68 |
| 13 | N | 102 | SPO | C14-C15-C16 | -2.42 | 115.68 | 123.22 |
| 8 | 0 | 102 | BCL | O2A-C1-C2 | -2.41 | 102.29 | 108.64 |
| 8 | I | 101 | BCL | CMD-C2D-C3D | 2.41 | 129.19 | 124.68 |
| 8 | N | 101 | BCL | CMD-C2D-C3D | 2.41 | 129.19 | 124.68 |
| 8 | 1 | 102 | BCL | CMB-C2B-C3B | 2.41 | 129.19 | 124.68 |
| 8 | Q | 101 | BCL | CMD-C2D-C3D | 2.41 | 129.18 | 124.68 |
| 9 | M | 403 | BPB | CMD-C2D-C3D | 2.41 | 129.18 | 124.68 |
| 8 | O | 103 | BCL | O2A-C1-C2 | -2.40 | 102.31 | 108.64 |
| 11 | L | 305 | U10 | C27-C28-C29 | -2.40 | 121.87 | 127.66 |
| 13 | X | 101 | SPO | C10-C9-C7 | -2.40 | 123.88 | 127.31 |
| 8 | S | 101 | BCL | C1C-NC-C4C | 2.40 | 107.78 | 106.71 |
| 8 | J | 102 | BCL | O2A-C1-C2 | -2.40 | 102.34 | 108.64 |
| 13 | T | 102 | SPO | C31-C30-C28 | 2.40 | 120.86 | 112.98 |
| 13 | N | 102 | SPO | C1-C4-C5 | -2.39 | 106.71 | 113.06 |
| 8 | 8 | 101 | BCL | C1C-NC-C4C | 2.39 | 107.78 | 106.71 |
| 8 | 9 | 101 | BCL | O2A-CGA-O1A | -2.39 | 117.56 | 123.59 |
| 11 | Y | 501 | U10 | C31-C29-C30 | 2.39 | 119.88 | 114.60 |
| 8 | I | 101 | BCL | OBB-CAB-CBB | -2.39 | 114.80 | 120.17 |
| 11 | L | 308 | U10 | C31-C29-C30 | 2.38 | 119.87 | 114.60 |
| 8 | R | 101 | BCL | C1C-NC-C4C | 2.38 | 107.78 | 106.71 |
| 8 | 3 | 101 | BCL | C1C-NC-C4C | 2.38 | 107.78 | 106.71 |
| 8 | F | 101 | BCL | OBB-CAB-CBB | -2.38 | 114.82 | 120.17 |
| 8 | U | 101 | BCL | OBB-CAB-CBB | -2.36 | 114.85 | 120.17 |
| 8 | 7 | 101 | BCL | C4A-NA-C1A | 2.36 | 107.77 | 106.71 |
| 13 | E | 102 | SPO | C15-C14-C12 | -2.36 | 123.94 | 127.31 |
| 8 | 1 | 101 | BCL | C1C-NC-C4C | 2.35 | 107.76 | 106.71 |
| 8 | K | 101 | BCL | CMD-C2D-C3D | 2.35 | 129.07 | 124.68 |
| 8 | F | 103 | BCL | C11-C10-C8 | 2.34 | 123.50 | 115.92 |
| 8 | 3 | 103 | BCL | O2A-C1-C2 | -2.34 | 102.48 | 108.64 |
| 13 | J | 101 | SPO | C1-C4-C5 | -2.34 | 106.86 | 113.06 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 8 | A | 103 | BCL | C1C-NC-C4C | 2.34 | 107.76 | 106.71 |
| 8 | F | 103 | BCL | C4B-C3B-CAB | -2.34 | 122.61 | 127.13 |
| 11 | L | 308 | U10 | C27-C28-C29 | -2.34 | 119.77 | 127.75 |
| 8 | L | 307 | BCL | C1C-NC-C4C | 2.33 | 107.75 | 106.71 |
| 11 | Y | 501 | U10 | C27-C28-C29 | -2.33 | 119.78 | 127.75 |
| 8 | M | 402 | BCL | CMD-C2D-C3D | 2.33 | 129.04 | 124.68 |
| 14 | H | 304 | CDL | C57-C56-C55 | 2.33 | 131.10 | 113.42 |
| 8 | L | 301 | BCL | CMD-C2D-C3D | 2.33 | 129.03 | 124.68 |
| 8 | A | 103 | BCL | C17-C16-C15 | 2.33 | 123.92 | 113.24 |
| 8 | S | 101 | BCL | CMD-C2D-C3D | 2.32 | 129.03 | 124.68 |
| 8 | A | 103 | BCL | C4A-NA-C1A | 2.32 | 107.75 | 106.71 |
| 8 | K | 101 | BCL | OBB-CAB-CBB | -2.32 | 114.94 | 120.17 |
| 8 | N | 101 | BCL | C1-O2A-CGA | 2.32 | 122.53 | 116.44 |
| 10 | A | 102 | PC1 | C2-O21-C21 | -2.32 | 112.08 | 117.79 |
| 8 | W | 102 | BCL | OBB-CAB-CBB | -2.32 | 114.95 | 120.17 |
| 8 | 8 | 101 | BCL | CMD-C2D-C3D | 2.32 | 129.02 | 124.68 |
| 11 | L | 308 | U10 | C15-C14-C16 | 2.32 | 119.17 | 115.27 |
| 8 | E | 101 | BCL | O2A-C1-C2 | -2.31 | 102.56 | 108.64 |
| 8 | 9 | 101 | BCL | C1C-NC-C4C | 2.31 | 107.74 | 106.71 |
| 8 | 3 | 103 | BCL | C2A-C1A-CHA | 2.30 | 127.88 | 123.86 |
| 13 | T | 102 | SPO | C25-C23-C22 | -2.30 | 115.42 | 118.94 |
| 8 | E | 101 | BCL | C4B-C3B-CAB | -2.30 | 122.69 | 127.13 |
| 8 | 3 | 103 | BCL | C1C-NC-C4C | 2.29 | 107.74 | 106.71 |
| 8 | O | 103 | BCL | OBB-CAB-CBB | -2.29 | 115.02 | 120.17 |
| 8 | F | 101 | BCL | CMD-C2D-C3D | 2.28 | 128.95 | 124.68 |
| 13 | 3 | 104 | SPO | C21-C20-C19 | 2.28 | 128.14 | 123.47 |
| 13 | F | 102 | SPO | C11-C12-C14 | 2.27 | 122.43 | 118.94 |
| 8 | W | 102 | BCL | C1C-NC-C4C | 2.27 | 107.73 | 106.71 |
| 13 | V | 101 | SPO | C3-C1-C4 | -2.27 | 107.37 | 110.86 |
| 8 | L | 301 | BCL | C4B-C3B-CAB | -2.27 | 122.75 | 127.13 |
| 9 | M | 403 | BPB | O2D-CGD-CBD | 2.26 | 113.86 | 111.00 |
| 8 | 3 | 103 | BCL | C4B-C3B-CAB | -2.26 | 122.77 | 127.13 |
| 8 | W | 102 | BCL | C4B-C3B-CAB | -2.26 | 122.77 | 127.13 |
| 13 | U | 104 | SPO | C40-C38-C39 | 2.25 | 119.58 | 114.60 |
| 8 | A | 103 | BCL | C4B-C3B-CAB | -2.25 | 122.78 | 127.13 |
| 8 | F | 101 | BCL | C4B-C3B-CAB | -2.25 | 122.78 | 127.13 |
| 8 | 9 | 101 | BCL | C4B-C3B-CAB | -2.24 | 122.79 | 127.13 |
| 13 | V | 101 | SPO | C36-C35-C33 | 2.24 | 120.36 | 112.98 |
| 8 | F | 103 | BCL | C1C-NC-C4C | 2.24 | 107.71 | 106.71 |
| 8 | 0 | 102 | BCL | C6-C7-C8 | -2.24 | 108.68 | 115.92 |
| 10 | A | 104 | PC1 | C2-O21-C21 | -2.24 | 112.28 | 117.79 |
| 10 | H | 302 | PC1 | C2-O21-C21 | -2.23 | 112.29 | 117.79 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 11 | L | 305 | U10 | C1M-C1-C6 | -2.23 | 120.75 | 124.40 |
| 8 | R | 101 | BCL | C4B-C3B-CAB | -2.23 | 122.82 | 127.13 |
| 8 | F | 101 | BCL | C1C-NC-C4C | 2.23 | 107.71 | 106.71 |
| 8 | 1 | 101 | BCL | C4B-C3B-CAB | -2.22 | 122.84 | 127.13 |
| 8 | U | 103 | BCL | C1-O2A-CGA | 2.22 | 122.26 | 116.44 |
| 8 | U | 101 | BCL | C4B-C3B-CAB | -2.20 | 122.87 | 127.13 |
| 13 | I | 102 | SPO | C2-C1-C4 | -2.20 | 107.48 | 110.86 |
| 8 | N | 101 | BCL | C4B-C3B-CAB | -2.20 | 122.88 | 127.13 |
| 11 | M | 404 | U10 | O5-C5-C6 | -2.20 | 117.70 | 121.55 |
| 13 | O | 102 | SPO | C15-C14-C12 | -2.20 | 124.18 | 127.31 |
| 13 | B | 101 | SPO | C16-C17-C19 | 2.19 | 122.30 | 118.94 |
| 8 | L | 302 | BCL | CMD-C2D-C3D | 2.19 | 128.77 | 124.68 |
| 13 | V | 101 | SPO | C36-C37-C38 | -2.19 | 120.28 | 127.75 |
| 9 | L | 303 | BPB | O2D-CGD-CBD | 2.19 | 113.76 | 111.00 |
| 8 | S | 102 | BCL | O2A-C1-C2 | -2.18 | 102.90 | 108.64 |
| 8 | J | 102 | BCL | C4B-C3B-CAB | -2.18 | 122.92 | 127.13 |
| 13 | 3 | 104 | SPO | C36-C37-C38 | -2.18 | 120.30 | 127.75 |
| 8 | 8 | 101 | BCL | CMB-C2B-C3B | 2.17 | 128.75 | 124.68 |
| 8 | N | 101 | BCL | C1C-NC-C4C | 2.17 | 107.68 | 106.71 |
| 8 | 1 | 101 | BCL | O2A-CGA-O1A | -2.17 | 118.12 | 123.59 |
| 13 | T | 102 | SPO | C40-C38-C39 | 2.15 | 119.36 | 114.60 |
| 13 | 8 | 102 | SPO | C40-C38-C39 | 2.15 | 119.36 | 114.60 |
| 13 | I | 102 | SPO | C31-C32-C33 | -2.15 | 122.48 | 127.66 |
| 8 | E | 101 | BCL | C1C-NC-C4C | 2.15 | 107.67 | 106.71 |
| 8 | K | 101 | BCL | C4B-C3B-CAB | -2.15 | 122.98 | 127.13 |
| 8 | N | 101 | BCL | C6-C5-C3 | 2.15 | 119.08 | 113.45 |
| 13 | U | 102 | SPO | C1-C4-C5 | -2.14 | 107.38 | 113.06 |
| 13 | O | 102 | SPO | C36-C35-C33 | 2.14 | 120.02 | 112.98 |
| 8 | M | 402 | BCL | CED-O2D-CGD | 2.14 | 120.78 | 115.94 |
| 13 | I | 102 | SPO | C10-C9-C7 | -2.13 | 124.26 | 127.31 |
| 8 | S | 102 | BCL | C1C-NC-C4C | 2.13 | 107.66 | 106.71 |
| 14 | M | 406 | CDL | CA6-CA4-CA3 | -2.12 | 106.77 | 111.79 |
| 8 | N | 101 | BCL | C17-C16-C15 | 2.12 | 122.98 | 113.24 |
| 8 | R | 101 | BCL | OBB-CAB-CBB | -2.11 | 115.41 | 120.17 |
| 8 | F | 103 | BCL | C4A-NA-C1A | 2.11 | 107.65 | 106.71 |
| 8 | J | 102 | BCL | OBB-CAB-CBB | -2.11 | 115.42 | 120.17 |
| 8 | L | 307 | BCL | C11-C12-C13 | -2.11 | 109.11 | 115.92 |
| 10 | L | 304 | PC1 | C2-O21-C21 | -2.11 | 112.61 | 117.79 |
| 11 | L | 305 | U10 | C15-C14-C16 | 2.10 | 118.81 | 115.27 |
| 13 | 8 | 102 | SPO | C36-C37-C38 | -2.10 | 120.58 | 127.75 |
| 11 | L | 305 | U10 | C32-C33-C34 | -2.09 | 120.61 | 127.75 |
| 10 | L | 306 | PC1 | C11-C12-N | -2.09 | 108.81 | 115.78 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 11 | L | 308 | U10 | C7-C8-C9 | -2.08 | 123.33 | 126.79 |
| 13 | E | 102 | SPO | C40-C38-C39 | 2.07 | 119.18 | 114.60 |
| 13 | D | 103 | SPO | C40-C38-C39 | 2.07 | 119.18 | 114.60 |
| 8 | 1 | 102 | BCL | C11-C10-C8 | -2.07 | 109.23 | 115.92 |
| 8 | D | 101 | BCL | C4B-C3B-CAB | -2.06 | 123.14 | 127.13 |
| 8 | 0 | 102 | BCL | C5-C3-C2 | -2.06 | 116.95 | 121.12 |
| 13 | U | 102 | SPO | C31-C30-C28 | 2.05 | 119.73 | 112.98 |
| 8 | S | 102 | BCL | OBB-CAB-CBB | -2.05 | 115.55 | 120.17 |
| 8 | S | 102 | BCL | C4C-CHD-C1D | 2.05 | 128.91 | 125.88 |
| 8 | 0 | 102 | BCL | OBB-CAB-CBB | -2.05 | 115.57 | 120.17 |
| 11 | M | 404 | U10 | C41-C39-C40 | 2.04 | 119.11 | 114.60 |
| 8 | L | 302 | BCL | OBB-CAB-CBB | -2.03 | 115.60 | 120.17 |
| 8 | 1 | 101 | BCL | O2A-CGA-CBA | 2.03 | 118.27 | 111.91 |
| 13 | U | 104 | SPO | C3-C1-C4 | -2.02 | 107.75 | 110.86 |
| 13 | G | 101 | SPO | C18-C17-C19 | 2.02 | 125.75 | 122.92 |
| 8 | M | 402 | BCL | C4B-C3B-CAB | -2.02 | 123.23 | 127.13 |
| 8 | U | 103 | BCL | OBB-CAB-CBB | -2.02 | 115.63 | 120.17 |
| 10 | H | 302 | PC1 | C23-C22-C21 | -2.02 | 106.29 | 113.62 |
| 9 | M | 403 | BPB | OBB-CAB-CBB | -2.02 | 115.63 | 120.17 |
| 13 | O | 102 | SPO | C40-C38-C39 | 2.01 | 119.05 | 114.60 |
| 8 | 7 | 101 | BCL | OBB-CAB-CBB | -2.01 | 115.65 | 120.17 |
| 11 | M | 404 | U10 | C4M-O4-C4 | 2.01 | 123.58 | 116.47 |
| 13 | O | 104 | SPO | C36-C35-C33 | 2.00 | 119.57 | 112.98 |
| 13 | W | 103 | SPO | C3-C1-C4 | -2.00 | 107.78 | 110.86 |

There are no chirality outliers.

All (790) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 8 | L | 307 | BCL | O2A-C1-C2-C3 |
| 8 | A | 103 | BCL | C1A-C2A-CAA-CBA |
| 8 | E | 101 | BCL | C1A-C2A-CAA-CBA |
| 8 | F | 103 | BCL | C1A-C2A-CAA-CBA |
| 8 | J | 102 | BCL | C1A-C2A-CAA-CBA |
| 8 | N | 101 | BCL | C6-C7-C8-C9 |
| 8 | O | 103 | BCL | C1A-C2A-CAA-CBA |
| 8 | R | 101 | BCL | C1A-C2A-CAA-CBA |
| 8 | U | 103 | BCL | C1A-C2A-CAA-CBA |
| 8 | C | 101 | BCL | C1A-C2A-CAA-CBA |
| 8 | 3 | 103 | BCL | C1A-C2A-CAA-CBA |
| 8 | 1 | 102 | BCL | C2A-CAA-CBA-CGA |
| 8 | 1 | 102 | BCL | C2C-C3C-CAC-CBC |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 8 | 1 | 102 | BCL | C4C-C3C-CAC-CBC |
| 8 | 7 | 101 | BCL | O2A-C1-C2-C3 |
| 8 | 9 | 101 | BCL | C4C-C3C-CAC-CBC |
| 9 | L | 303 | BPB | C2C-C3C-CAC-CBC |
| 9 | L | 303 | BPB | C4C-C3C-CAC-CBC |
| 9 | M | 403 | BPB | C2-C3-C5-C6 |
| 9 | M | 403 | BPB | C4-C3-C5-C6 |
| 9 | M | 403 | BPB | C2C-C3C-CAC-CBC |
| 9 | M | 403 | BPB | C4C-C3C-CAC-CBC |
| 10 | L | 304 | PC1 | C11-O13-P-O12 |
| 10 | L | 304 | PC1 | C11-O13-P-O14 |
| 10 | L | 304 | PC1 | C1-O11-P-O14 |
| 10 | L | 306 | PC1 | C11-O13-P-O12 |
| 10 | L | 306 | PC1 | C11-O13-P-O14 |
| 10 | L | 306 | PC1 | C11-O13-P-O11 |
| 10 | H | 303 | PC1 | O22-C21-O21-C2 |
| 10 | A | 104 | PC1 | C11-O13-P-O12 |
| 10 | A | 104 | PC1 | C11-O13-P-O11 |
| 10 | A | 104 | PC1 | C1-O11-P-O14 |
| 10 | A | 104 | PC1 | O13-C11-C12-N |
| 10 | D | 104 | PC1 | O13-C11-C12-N |
| 10 | W | 101 | PC1 | O22-C21-O21-C2 |
| 10 | W | 101 | PC1 | C22-C21-O21-C2 |
| 11 | L | 305 | U10 | C12-C13-C14-C15 |
| 11 | L | 305 | U10 | C12-C13-C14-C16 |
| 11 | L | 305 | U10 | C24-C26-C27-C28 |
| 11 | L | 308 | U10 | C23-C24-C26-C27 |
| 11 | L | 308 | U10 | C25-C24-C26-C27 |
| 11 | L | 308 | U10 | C24-C26-C27-C28 |
| 11 | M | 404 | U10 | C34-C36-C37-C38 |
| 13 | M | 405 | SPO | O1-C1-C4-C5 |
| 13 | M | 405 | SPO | C2-C1-C4-C5 |
| 13 | M | 405 | SPO | C3-C1-C4-C5 |
| 13 | M | 405 | SPO | C5-C6-C7-C8 |
| 13 | M | 405 | SPO | C5-C6-C7-C9 |
| 13 | M | 405 | SPO | C10-C11-C12-C13 |
| 13 | M | 405 | SPO | C10-C11-C12-C14 |
| 13 | B | 101 | SPO | C10-C11-C12-C13 |
| 13 | B | 101 | SPO | C10-C11-C12-C14 |
| 13 | B | 101 | SPO | C15-C16-C17-C18 |
| 13 | B | 101 | SPO | C15-C16-C17-C19 |
| 13 | B | 101 | SPO | C26-C27-C28-C29 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 13 | B | 101 | SPO | C33-C35-C36-C37 |
| 13 | D | 102 | SPO | C5-C6-C7-C8 |
| 13 | D | 102 | SPO | C5-C6-C7-C9 |
| 13 | D | 102 | SPO | C28-C30-C31-C32 |
| 13 | D | 103 | SPO | C5-C6-C7-C8 |
| 13 | D | 103 | SPO | C5-C6-C7-C9 |
| 13 | D | 103 | SPO | C11-C10-C9-C7 |
| 13 | D | 103 | SPO | C12-C14-C15-C16 |
| 13 | D | 103 | SPO | C15-C16-C17-C18 |
| 13 | D | 103 | SPO | C15-C16-C17-C19 |
| 13 | E | 102 | SPO | O1-C1-C4-C5 |
| 13 | E | 102 | SPO | C2-C1-C4-C5 |
| 13 | E | 102 | SPO | C3-C1-C4-C5 |
| 13 | E | 102 | SPO | C10-C11-C12-C13 |
| 13 | E | 102 | SPO | C10-C11-C12-C14 |
| 13 | F | 102 | SPO | C15-C16-C17-C18 |
| 13 | G | 101 | SPO | C2-C1-C4-C5 |
| 13 | G | 101 | SPO | C3-C1-C4-C5 |
| 13 | G | 101 | SPO | C15-C16-C17-C18 |
| 13 | G | 101 | SPO | C15-C16-C17-C19 |
| 13 | G | 101 | SPO | C22-C23-C25-C26 |
| 13 | G | 101 | SPO | C25-C26-C27-C28 |
| 13 | G | 101 | SPO | C28-C30-C31-C32 |
| 13 | G | 101 | SPO | C32-C33-C35-C36 |
| 13 | G | 101 | SPO | C34-C33-C35-C36 |
| 13 | I | 102 | SPO | O1-C1-C4-C5 |
| 13 | I | 102 | SPO | C2-C1-C4-C5 |
| 13 | I | 102 | SPO | C3-C1-C4-C5 |
| 13 | I | 102 | SPO | C10-C11-C12-C13 |
| 13 | I | 102 | SPO | C10-C11-C12-C14 |
| 13 | I | 102 | SPO | C15-C16-C17-C18 |
| 13 | I | 102 | SPO | C15-C16-C17-C19 |
| 13 | I | 102 | SPO | C22-C23-C25-C26 |
| 13 | I | 102 | SPO | C24-C23-C25-C26 |
| 13 | I | 102 | SPO | C27-C28-C30-C31 |
| 13 | I | 102 | SPO | C29-C28-C30-C31 |
| 13 | J | 101 | SPO | C10-C11-C12-C13 |
| 13 | J | 101 | SPO | C10-C11-C12-C14 |
| 13 | J | 101 | SPO | C26-C27-C28-C29 |
| 13 | J | 103 | SPO | O1-C1-C4-C5 |
| 13 | J | 103 | SPO | C2-C1-C4-C5 |
| 13 | J | 103 | SPO | C3-C1-C4-C5 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 13 | J | 103 | SPO | C12-C14-C15-C16 |
| 13 | J | 103 | SPO | C15-C16-C17-C18 |
| 13 | J | 103 | SPO | C22-C23-C25-C26 |
| 13 | J | 103 | SPO | C24-C23-C25-C26 |
| 13 | J | 103 | SPO | C25-C26-C27-C28 |
| 13 | J | 103 | SPO | C32-C33-C35-C36 |
| 13 | J | 103 | SPO | C33-C35-C36-C37 |
| 13 | N | 102 | SPO | C5-C6-C7-C8 |
| 13 | N | 102 | SPO | C15-C16-C17-C18 |
| 13 | N | 102 | SPO | C15-C16-C17-C19 |
| 13 | N | 102 | SPO | C27-C28-C30-C31 |
| 13 | N | 102 | SPO | C31-C32-C33-C35 |
| 13 | O | 102 | SPO | C2-C1-C4-C5 |
| 13 | O | 102 | SPO | C3-C1-C4-C5 |
| 13 | O | 102 | SPO | C5-C6-C7-C8 |
| 13 | O | 102 | SPO | C5-C6-C7-C9 |
| 13 | O | 102 | SPO | C10-C11-C12-C13 |
| 13 | O | 102 | SPO | C10-C11-C12-C14 |
| 13 | O | 102 | SPO | C22-C23-C25-C26 |
| 13 | O | 102 | SPO | C24-C23-C25-C26 |
| 13 | O | 102 | SPO | C33-C35-C36-C37 |
| 13 | O | 104 | SPO | C3-C1-O1-CM1 |
| 13 | O | 104 | SPO | C5-C6-C7-C8 |
| 13 | O | 104 | SPO | C5-C6-C7-C9 |
| 13 | O | 104 | SPO | C15-C16-C17-C18 |
| 13 | O | 104 | SPO | C15-C16-C17-C19 |
| 13 | O | 104 | SPO | C28-C30-C31-C32 |
| 13 | O | 104 | SPO | C32-C33-C35-C36 |
| 13 | O | 104 | SPO | C33-C35-C36-C37 |
| 13 | P | 101 | SPO | C1-C4-C5-C6 |
| 13 | P | 101 | SPO | C10-C11-C12-C13 |
| 13 | P | 101 | SPO | C10-C11-C12-C14 |
| 13 | P | 101 | SPO | C15-C16-C17-C18 |
| 13 | P | 101 | SPO | C15-C16-C17-C19 |
| 13 | T | 102 | SPO | C4-C1-O1-CM1 |
| 13 | T | 102 | SPO | C33-C35-C36-C37 |
| 13 | U | 102 | SPO | O1-C1-C4-C5 |
| 13 | U | 102 | SPO | C2-C1-C4-C5 |
| 13 | U | 102 | SPO | C3-C1-C4-C5 |
| 13 | U | 102 | SPO | C12-C14-C15-C16 |
| 13 | U | 102 | SPO | C20-C21-C22-C23 |
| 13 | U | 102 | SPO | C22-C23-C25-C26 |

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| Mol | Chain | Res | Type | Atoms |
|------------|--------------|------------|-------------|-----------------|
| 13 | U | 102 | SPO | C24-C23-C25-C26 |
| 13 | U | 102 | SPO | C29-C28-C30-C31 |
| 13 | U | 104 | SPO | C4-C1-O1-CM1 |
| 13 | U | 104 | SPO | C2-C1-C4-C5 |
| 13 | U | 104 | SPO | C3-C1-C4-C5 |
| 13 | U | 104 | SPO | C5-C6-C7-C8 |
| 13 | U | 104 | SPO | C5-C6-C7-C9 |
| 13 | U | 104 | SPO | C33-C35-C36-C37 |
| 13 | V | 101 | SPO | C1-C4-C5-C6 |
| 13 | V | 101 | SPO | C5-C6-C7-C8 |
| 13 | V | 101 | SPO | C5-C6-C7-C9 |
| 13 | V | 101 | SPO | C10-C11-C12-C13 |
| 13 | V | 101 | SPO | C10-C11-C12-C14 |
| 13 | V | 101 | SPO | C32-C33-C35-C36 |
| 13 | V | 101 | SPO | C34-C33-C35-C36 |
| 13 | W | 103 | SPO | C2-C1-C4-C5 |
| 13 | W | 103 | SPO | C3-C1-C4-C5 |
| 13 | W | 103 | SPO | C15-C16-C17-C18 |
| 13 | W | 103 | SPO | C22-C23-C25-C26 |
| 13 | W | 103 | SPO | C24-C23-C25-C26 |
| 13 | W | 103 | SPO | C26-C27-C28-C29 |
| 13 | W | 103 | SPO | C32-C33-C35-C36 |
| 13 | W | 103 | SPO | C34-C33-C35-C36 |
| 13 | 3 | 102 | SPO | C15-C16-C17-C18 |
| 13 | 3 | 102 | SPO | C33-C35-C36-C37 |
| 13 | 3 | 104 | SPO | C2-C1-C4-C5 |
| 13 | 3 | 104 | SPO | C1-C4-C5-C6 |
| 13 | 3 | 104 | SPO | C5-C6-C7-C8 |
| 13 | 3 | 104 | SPO | C32-C33-C35-C36 |
| 13 | 3 | 104 | SPO | C33-C35-C36-C37 |
| 13 | 8 | 102 | SPO | C2-C1-C4-C5 |
| 13 | 8 | 102 | SPO | C3-C1-C4-C5 |
| 13 | 8 | 102 | SPO | C1-C4-C5-C6 |
| 13 | 8 | 102 | SPO | C12-C14-C15-C16 |
| 13 | 8 | 102 | SPO | C15-C16-C17-C18 |
| 13 | 8 | 102 | SPO | C15-C16-C17-C19 |
| 13 | 8 | 102 | SPO | C22-C23-C25-C26 |
| 13 | 8 | 102 | SPO | C24-C23-C25-C26 |
| 13 | 8 | 102 | SPO | C28-C30-C31-C32 |
| 13 | 9 | 102 | SPO | C15-C16-C17-C18 |
| 13 | 9 | 102 | SPO | C15-C16-C17-C19 |
| 13 | 0 | 101 | SPO | C5-C6-C7-C8 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 13 | 0 | 101 | SPO | C5-C6-C7-C9 |
| 13 | 0 | 101 | SPO | C10-C11-C12-C13 |
| 13 | 0 | 101 | SPO | C10-C11-C12-C14 |
| 13 | 0 | 101 | SPO | C15-C16-C17-C18 |
| 13 | 0 | 101 | SPO | C15-C16-C17-C19 |
| 13 | 0 | 101 | SPO | C33-C35-C36-C37 |
| 13 | X | 101 | SPO | C2-C1-C4-C5 |
| 13 | X | 101 | SPO | C3-C1-C4-C5 |
| 13 | X | 101 | SPO | C10-C11-C12-C13 |
| 13 | X | 101 | SPO | C10-C11-C12-C14 |
| 13 | X | 101 | SPO | C15-C16-C17-C18 |
| 13 | X | 101 | SPO | C15-C16-C17-C19 |
| 13 | X | 101 | SPO | C28-C30-C31-C32 |
| 13 | X | 101 | SPO | C33-C35-C36-C37 |
| 14 | M | 406 | CDL | CA2-C1-CB2-OB2 |
| 14 | M | 406 | CDL | CA3-OA5-PA1-OA3 |
| 14 | M | 406 | CDL | OA7-CA5-OA6-CA4 |
| 14 | M | 406 | CDL | C11-CA5-OA6-CA4 |
| 14 | M | 406 | CDL | CB3-OB5-PB2-OB3 |
| 14 | M | 406 | CDL | OB9-CB7-OB8-CB6 |
| 14 | M | 406 | CDL | C71-CB7-OB8-CB6 |
| 14 | H | 304 | CDL | CB2-C1-CA2-OA2 |
| 14 | H | 304 | CDL | CA3-OA5-PA1-OA2 |
| 14 | H | 304 | CDL | C11-CA5-OA6-CA4 |
| 14 | H | 304 | CDL | C1-CB2-OB2-PB2 |
| 14 | H | 304 | CDL | OA9-CA7-OA8-CA6 |
| 14 | H | 304 | CDL | C31-CA7-OA8-CA6 |
| 14 | H | 304 | CDL | OA7-CA5-OA6-CA4 |
| 13 | N | 102 | SPO | C29-C28-C30-C31 |
| 13 | M | 405 | SPO | C31-C32-C33-C35 |
| 13 | E | 102 | SPO | C12-C14-C15-C16 |
| 13 | G | 101 | SPO | C12-C14-C15-C16 |
| 13 | N | 102 | SPO | C11-C10-C9-C7 |
| 13 | N | 102 | SPO | C12-C14-C15-C16 |
| 13 | U | 104 | SPO | C12-C14-C15-C16 |
| 13 | 8 | 102 | SPO | C20-C21-C22-C23 |
| 13 | 8 | 102 | SPO | C25-C26-C27-C28 |
| 13 | 9 | 102 | SPO | C25-C26-C27-C28 |
| 13 | X | 101 | SPO | C25-C26-C27-C28 |
| 14 | H | 304 | CDL | O1-C1-CA2-OA2 |
| 14 | H | 304 | CDL | C33-C34-C35-C36 |
| 14 | M | 406 | CDL | C21-C22-C23-C24 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 8 | 1 | 102 | BCL | C4-C3-C5-C6 |
| 13 | E | 102 | SPO | C29-C28-C30-C31 |
| 13 | T | 102 | SPO | C29-C28-C30-C31 |
| 13 | 9 | 102 | SPO | C34-C33-C35-C36 |
| 8 | 1 | 102 | BCL | C2-C3-C5-C6 |
| 13 | E | 102 | SPO | C27-C28-C30-C31 |
| 13 | T | 102 | SPO | C27-C28-C30-C31 |
| 13 | U | 102 | SPO | C27-C28-C30-C31 |
| 13 | V | 101 | SPO | C27-C28-C30-C31 |
| 13 | 9 | 102 | SPO | C32-C33-C35-C36 |
| 10 | W | 101 | PC1 | C24-C25-C26-C27 |
| 11 | L | 305 | U10 | C9-C11-C12-C13 |
| 11 | L | 305 | U10 | C14-C16-C17-C18 |
| 11 | L | 308 | U10 | C14-C16-C17-C18 |
| 13 | M | 405 | SPO | C33-C35-C36-C37 |
| 13 | D | 102 | SPO | C33-C35-C36-C37 |
| 13 | D | 103 | SPO | C28-C30-C31-C32 |
| 13 | D | 103 | SPO | C33-C35-C36-C37 |
| 13 | E | 102 | SPO | C33-C35-C36-C37 |
| 13 | F | 102 | SPO | C28-C30-C31-C32 |
| 13 | F | 102 | SPO | C33-C35-C36-C37 |
| 13 | G | 101 | SPO | C33-C35-C36-C37 |
| 13 | I | 102 | SPO | C33-C35-C36-C37 |
| 13 | J | 101 | SPO | C28-C30-C31-C32 |
| 13 | O | 102 | SPO | C28-C30-C31-C32 |
| 13 | P | 101 | SPO | C33-C35-C36-C37 |
| 13 | W | 103 | SPO | C28-C30-C31-C32 |
| 13 | W | 103 | SPO | C33-C35-C36-C37 |
| 13 | 8 | 102 | SPO | C33-C35-C36-C37 |
| 13 | 9 | 102 | SPO | C28-C30-C31-C32 |
| 10 | A | 102 | PC1 | C11-C12-N-C13 |
| 10 | A | 104 | PC1 | C32-C31-O31-C3 |
| 10 | D | 104 | PC1 | C32-C31-O31-C3 |
| 14 | M | 406 | CDL | C31-CA7-OA8-CA6 |
| 10 | D | 104 | PC1 | C23-C24-C25-C26 |
| 13 | J | 103 | SPO | C11-C10-C9-C7 |
| 13 | N | 102 | SPO | C20-C21-C22-C23 |
| 10 | H | 301 | PC1 | C25-C26-C27-C28 |
| 14 | M | 406 | CDL | O1-C1-CB2-OB2 |
| 10 | A | 104 | PC1 | O32-C31-O31-C3 |
| 8 | L | 307 | BCL | C6-C7-C8-C9 |
| 8 | E | 101 | BCL | C14-C13-C15-C16 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 8 | U | 103 | BCL | C6-C7-C8-C9 |
| 8 | 7 | 101 | BCL | C6-C7-C8-C9 |
| 13 | M | 405 | SPO | C15-C16-C17-C18 |
| 13 | B | 101 | SPO | C24-C23-C25-C26 |
| 13 | D | 102 | SPO | C24-C23-C25-C26 |
| 13 | E | 102 | SPO | C5-C6-C7-C8 |
| 13 | F | 102 | SPO | C10-C11-C12-C13 |
| 13 | F | 102 | SPO | C24-C23-C25-C26 |
| 13 | G | 101 | SPO | C24-C23-C25-C26 |
| 13 | J | 101 | SPO | C24-C23-C25-C26 |
| 13 | J | 103 | SPO | C10-C11-C12-C13 |
| 13 | N | 102 | SPO | C24-C23-C25-C26 |
| 13 | P | 101 | SPO | C5-C6-C7-C8 |
| 13 | P | 101 | SPO | C24-C23-C25-C26 |
| 13 | T | 101 | SPO | C24-C23-C25-C26 |
| 13 | T | 102 | SPO | C5-C6-C7-C8 |
| 13 | T | 102 | SPO | C10-C11-C12-C13 |
| 13 | U | 102 | SPO | C10-C11-C12-C13 |
| 13 | U | 102 | SPO | C15-C16-C17-C18 |
| 13 | U | 104 | SPO | C10-C11-C12-C13 |
| 13 | U | 104 | SPO | C15-C16-C17-C18 |
| 13 | W | 103 | SPO | C5-C6-C7-C8 |
| 13 | 3 | 104 | SPO | C24-C23-C25-C26 |
| 13 | 8 | 102 | SPO | C10-C11-C12-C13 |
| 13 | 9 | 102 | SPO | C10-C11-C12-C13 |
| 13 | 9 | 102 | SPO | C24-C23-C25-C26 |
| 13 | X | 101 | SPO | C24-C23-C25-C26 |
| 13 | M | 405 | SPO | C15-C16-C17-C19 |
| 13 | B | 101 | SPO | C22-C23-C25-C26 |
| 13 | D | 102 | SPO | C22-C23-C25-C26 |
| 13 | E | 102 | SPO | C5-C6-C7-C9 |
| 13 | F | 102 | SPO | C10-C11-C12-C14 |
| 13 | F | 102 | SPO | C22-C23-C25-C26 |
| 13 | J | 103 | SPO | C10-C11-C12-C14 |
| 13 | N | 102 | SPO | C10-C11-C12-C14 |
| 13 | N | 102 | SPO | C22-C23-C25-C26 |
| 13 | O | 104 | SPO | C22-C23-C25-C26 |
| 13 | P | 101 | SPO | C5-C6-C7-C9 |
| 13 | P | 101 | SPO | C22-C23-C25-C26 |
| 13 | T | 101 | SPO | C22-C23-C25-C26 |
| 13 | T | 102 | SPO | C10-C11-C12-C14 |
| 13 | U | 102 | SPO | C10-C11-C12-C14 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 13 | U | 102 | SPO | C15-C16-C17-C19 |
| 13 | U | 104 | SPO | C10-C11-C12-C14 |
| 13 | U | 104 | SPO | C15-C16-C17-C19 |
| 13 | W | 103 | SPO | C5-C6-C7-C9 |
| 13 | W | 103 | SPO | C10-C11-C12-C14 |
| 13 | 3 | 104 | SPO | C5-C6-C7-C9 |
| 13 | 3 | 104 | SPO | C22-C23-C25-C26 |
| 13 | 8 | 102 | SPO | C10-C11-C12-C14 |
| 13 | 9 | 102 | SPO | C10-C11-C12-C14 |
| 13 | 9 | 102 | SPO | C22-C23-C25-C26 |
| 13 | 0 | 101 | SPO | C22-C23-C25-C26 |
| 13 | X | 101 | SPO | C22-C23-C25-C26 |
| 8 | W | 102 | BCL | C10-C11-C12-C13 |
| 11 | L | 305 | U10 | C7-C8-C9-C10 |
| 11 | Y | 501 | U10 | C7-C8-C9-C10 |
| 14 | H | 304 | CDL | C75-C76-C77-C78 |
| 10 | A | 102 | PC1 | C11-C12-N-C14 |
| 10 | H | 301 | PC1 | C21-C22-C23-C24 |
| 13 | T | 101 | SPO | C20-C21-C22-C23 |
| 13 | U | 102 | SPO | C17-C19-C20-C21 |
| 13 | 9 | 102 | SPO | C20-C21-C22-C23 |
| 8 | N | 101 | BCL | C10-C11-C12-C13 |
| 14 | M | 406 | CDL | C82-C83-C84-C85 |
| 10 | D | 104 | PC1 | O32-C31-O31-C3 |
| 13 | B | 101 | SPO | C28-C30-C31-C32 |
| 13 | N | 102 | SPO | C28-C30-C31-C32 |
| 13 | N | 102 | SPO | C33-C35-C36-C37 |
| 13 | P | 101 | SPO | C28-C30-C31-C32 |
| 13 | T | 101 | SPO | C28-C30-C31-C32 |
| 13 | U | 102 | SPO | C33-C35-C36-C37 |
| 13 | U | 104 | SPO | C28-C30-C31-C32 |
| 8 | 7 | 101 | BCL | C5-C6-C7-C8 |
| 14 | M | 406 | CDL | OA9-CA7-OA8-CA6 |
| 10 | L | 304 | PC1 | C32-C33-C34-C35 |
| 8 | S | 102 | BCL | C13-C15-C16-C17 |
| 10 | L | 304 | PC1 | C11-O13-P-O11 |
| 10 | L | 304 | PC1 | C1-O11-P-O13 |
| 10 | A | 102 | PC1 | C11-O13-P-O11 |
| 10 | A | 104 | PC1 | C1-O11-P-O13 |
| 14 | M | 406 | CDL | CA3-OA5-PA1-OA2 |
| 14 | M | 406 | CDL | CB3-OB5-PB2-OB2 |
| 10 | A | 102 | PC1 | C31-C32-C33-C34 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 14 | H | 304 | CDL | C71-CB7-OB8-CB6 |
| 8 | 1 | 101 | BCL | C4-C3-C5-C6 |
| 13 | O | 104 | SPO | C34-C33-C35-C36 |
| 13 | 9 | 102 | SPO | C11-C10-C9-C7 |
| 8 | F | 101 | BCL | C10-C11-C12-C13 |
| 8 | 1 | 101 | BCL | C5-C6-C7-C8 |
| 14 | H | 304 | CDL | C34-C35-C36-C37 |
| 14 | H | 304 | CDL | C37-C38-C39-C40 |
| 10 | L | 304 | PC1 | C23-C24-C25-C26 |
| 10 | H | 301 | PC1 | C23-C24-C25-C26 |
| 14 | M | 406 | CDL | C60-C61-C62-C63 |
| 8 | F | 103 | BCL | C5-C6-C7-C8 |
| 8 | O | 103 | BCL | C13-C15-C16-C17 |
| 14 | H | 304 | CDL | C82-C83-C84-C85 |
| 14 | M | 406 | CDL | C43-C44-C45-C46 |
| 10 | D | 104 | PC1 | C22-C23-C24-C25 |
| 14 | M | 406 | CDL | C73-C74-C75-C76 |
| 14 | M | 406 | CDL | C20-C21-C22-C23 |
| 8 | S | 102 | BCL | C4-C3-C5-C6 |
| 11 | L | 305 | U10 | C15-C14-C16-C17 |
| 14 | H | 304 | CDL | C41-C42-C43-C44 |
| 8 | 1 | 101 | BCL | C2-C3-C5-C6 |
| 8 | O | 101 | BCL | C6-C7-C8-C9 |
| 10 | H | 301 | PC1 | C26-C27-C28-C29 |
| 13 | G | 101 | SPO | C10-C11-C12-C13 |
| 13 | N | 102 | SPO | C10-C11-C12-C13 |
| 13 | O | 104 | SPO | C24-C23-C25-C26 |
| 13 | T | 102 | SPO | C24-C23-C25-C26 |
| 13 | W | 103 | SPO | C10-C11-C12-C13 |
| 13 | 8 | 102 | SPO | C5-C6-C7-C8 |
| 13 | 0 | 101 | SPO | C24-C23-C25-C26 |
| 10 | H | 301 | PC1 | C22-C23-C24-C25 |
| 13 | F | 102 | SPO | C15-C16-C17-C19 |
| 13 | G | 101 | SPO | C10-C11-C12-C14 |
| 13 | J | 101 | SPO | C22-C23-C25-C26 |
| 13 | T | 102 | SPO | C5-C6-C7-C9 |
| 13 | T | 102 | SPO | C22-C23-C25-C26 |
| 13 | 8 | 102 | SPO | C5-C6-C7-C9 |
| 10 | A | 102 | PC1 | C34-C35-C36-C37 |
| 14 | M | 406 | CDL | C71-C72-C73-C74 |
| 13 | T | 102 | SPO | C28-C30-C31-C32 |
| 14 | M | 406 | CDL | C33-C34-C35-C36 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 14 | M | 406 | CDL | C38-C39-C40-C41 |
| 14 | H | 304 | CDL | C73-C74-C75-C76 |
| 10 | W | 101 | PC1 | C32-C31-O31-C3 |
| 8 | A | 103 | BCL | C3A-C2A-CAA-CBA |
| 8 | E | 101 | BCL | C3A-C2A-CAA-CBA |
| 8 | F | 103 | BCL | C3A-C2A-CAA-CBA |
| 8 | J | 102 | BCL | C3A-C2A-CAA-CBA |
| 8 | N | 101 | BCL | C3A-C2A-CAA-CBA |
| 8 | O | 103 | BCL | C3A-C2A-CAA-CBA |
| 8 | R | 101 | BCL | C3A-C2A-CAA-CBA |
| 8 | U | 103 | BCL | C3A-C2A-CAA-CBA |
| 8 | C | 101 | BCL | C3A-C2A-CAA-CBA |
| 8 | 3 | 103 | BCL | C3A-C2A-CAA-CBA |
| 13 | T | 102 | SPO | C11-C10-C9-C7 |
| 14 | M | 406 | CDL | C35-C36-C37-C38 |
| 14 | M | 406 | CDL | C80-C81-C82-C83 |
| 14 | H | 304 | CDL | C72-C73-C74-C75 |
| 14 | H | 304 | CDL | C40-C41-C42-C43 |
| 14 | H | 304 | CDL | OB9-CB7-OB8-CB6 |
| 8 | C | 101 | BCL | C4-C3-C5-C6 |
| 13 | J | 103 | SPO | C34-C33-C35-C36 |
| 8 | O | 101 | BCL | C2-C3-C5-C6 |
| 8 | C | 101 | BCL | C2-C3-C5-C6 |
| 9 | L | 303 | BPB | C2-C3-C5-C6 |
| 11 | L | 305 | U10 | C13-C14-C16-C17 |
| 13 | U | 104 | SPO | C32-C33-C35-C36 |
| 13 | 0 | 101 | SPO | C35-C36-C37-C38 |
| 10 | W | 101 | PC1 | O32-C31-O31-C3 |
| 10 | A | 102 | PC1 | C11-C12-N-C15 |
| 10 | A | 104 | PC1 | C22-C23-C24-C25 |
| 8 | L | 307 | BCL | C8-C10-C11-C12 |
| 8 | O | 101 | BCL | C4-C3-C5-C6 |
| 8 | S | 101 | BCL | C4-C3-C5-C6 |
| 9 | L | 303 | BPB | C4-C3-C5-C6 |
| 8 | O | 101 | BCL | C6-C7-C8-C10 |
| 8 | S | 101 | BCL | C2-C3-C5-C6 |
| 8 | S | 102 | BCL | C2-C3-C5-C6 |
| 8 | U | 103 | BCL | C6-C7-C8-C10 |
| 13 | B | 101 | SPO | C25-C26-C27-C28 |
| 13 | P | 101 | SPO | C12-C14-C15-C16 |
| 13 | W | 103 | SPO | C11-C10-C9-C7 |
| 13 | X | 101 | SPO | C11-C10-C9-C7 |

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| Mol | Chain | Res | Type | Atoms |
|------------|--------------|------------|-------------|-----------------|
| 14 | M | 406 | CDL | C17-C18-C19-C20 |
| 14 | M | 406 | CDL | C76-C77-C78-C79 |
| 14 | H | 304 | CDL | CB5-C51-C52-C53 |
| 10 | H | 302 | PC1 | C22-C21-O21-C2 |
| 10 | A | 104 | PC1 | C22-C21-O21-C2 |
| 13 | J | 103 | SPO | C14-C15-C16-C17 |
| 10 | H | 301 | PC1 | O21-C2-C3-O31 |
| 14 | M | 406 | CDL | C81-C82-C83-C84 |
| 13 | N | 102 | SPO | C32-C33-C35-C36 |
| 13 | 8 | 102 | SPO | C27-C28-C30-C31 |
| 13 | 0 | 101 | SPO | C27-C28-C30-C31 |
| 10 | L | 304 | PC1 | C25-C26-C27-C28 |
| 14 | H | 304 | CDL | C71-C72-C73-C74 |
| 13 | V | 101 | SPO | C24-C23-C25-C26 |
| 13 | V | 101 | SPO | C22-C23-C25-C26 |
| 13 | W | 103 | SPO | C15-C16-C17-C19 |
| 13 | 3 | 102 | SPO | C15-C16-C17-C19 |
| 8 | N | 101 | BCL | C1A-C2A-CAA-CBA |
| 10 | H | 302 | PC1 | O22-C21-O21-C2 |
| 10 | A | 104 | PC1 | O22-C21-O21-C2 |
| 13 | F | 102 | SPO | C11-C10-C9-C7 |
| 10 | H | 301 | PC1 | C11-O13-P-O11 |
| 10 | W | 101 | PC1 | C11-O13-P-O11 |
| 14 | M | 406 | CDL | OB5-CB3-CB4-CB6 |
| 14 | M | 406 | CDL | C34-C35-C36-C37 |
| 13 | W | 103 | SPO | C1-C4-C5-C6 |
| 14 | M | 406 | CDL | CA7-C31-C32-C33 |
| 13 | 8 | 102 | SPO | C29-C28-C30-C31 |
| 10 | H | 302 | PC1 | C29-C2A-C2B-C2C |
| 10 | L | 306 | PC1 | C37-C38-C39-C3A |
| 10 | H | 301 | PC1 | C1-C2-C3-O31 |
| 14 | H | 304 | CDL | C54-C55-C56-C57 |
| 14 | M | 406 | CDL | C57-C58-C59-C60 |
| 10 | H | 302 | PC1 | C21-C22-C23-C24 |
| 14 | H | 304 | CDL | C44-C45-C46-C47 |
| 11 | Y | 501 | U10 | C20-C19-C21-C22 |
| 13 | 3 | 104 | SPO | C34-C33-C35-C36 |
| 14 | H | 304 | CDL | CA3-CA4-OA6-CA5 |
| 14 | M | 406 | CDL | C61-C62-C63-C64 |
| 10 | A | 102 | PC1 | O11-C1-C2-O21 |
| 13 | O | 104 | SPO | C2-C1-O1-CM1 |
| 13 | T | 102 | SPO | C2-C1-O1-CM1 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 13 | T | 102 | SPO | C3-C1-O1-CM1 |
| 13 | U | 104 | SPO | C2-C1-O1-CM1 |
| 10 | L | 306 | PC1 | O21-C2-C3-O31 |
| 13 | F | 102 | SPO | C2-C1-C4-C5 |
| 13 | J | 101 | SPO | C2-C1-C4-C5 |
| 13 | J | 101 | SPO | C3-C1-C4-C5 |
| 13 | N | 102 | SPO | C2-C1-C4-C5 |
| 13 | N | 102 | SPO | C3-C1-C4-C5 |
| 13 | V | 101 | SPO | C2-C1-C4-C5 |
| 13 | V | 101 | SPO | C3-C1-C4-C5 |
| 13 | 3 | 104 | SPO | C3-C1-C4-C5 |
| 13 | 9 | 102 | SPO | C2-C1-C4-C5 |
| 11 | L | 305 | U10 | C30-C29-C31-C32 |
| 8 | 9 | 101 | BCL | C11-C10-C8-C7 |
| 11 | L | 305 | U10 | C28-C29-C31-C32 |
| 8 | A | 103 | BCL | C11-C12-C13-C14 |
| 13 | G | 101 | SPO | O1-C1-C4-C5 |
| 13 | O | 102 | SPO | O1-C1-C4-C5 |
| 13 | 8 | 102 | SPO | O1-C1-C4-C5 |
| 13 | J | 101 | SPO | C5-C6-C7-C8 |
| 14 | M | 406 | CDL | C24-C25-C26-C27 |
| 13 | E | 102 | SPO | C15-C16-C17-C19 |
| 13 | J | 101 | SPO | C5-C6-C7-C9 |
| 14 | M | 406 | CDL | C36-C37-C38-C39 |
| 10 | A | 102 | PC1 | O11-C1-C2-C3 |
| 11 | M | 404 | U10 | C14-C16-C17-C18 |
| 8 | 7 | 101 | BCL | C4-C3-C5-C6 |
| 11 | L | 305 | U10 | C20-C19-C21-C22 |
| 11 | M | 404 | U10 | C30-C29-C31-C32 |
| 11 | M | 404 | U10 | C28-C29-C31-C32 |
| 14 | M | 406 | CDL | CB5-C51-C52-C53 |
| 14 | M | 406 | CDL | C54-C55-C56-C57 |
| 14 | M | 406 | CDL | C1-CA2-OA2-PA1 |
| 13 | T | 101 | SPO | C25-C26-C27-C28 |
| 13 | U | 102 | SPO | C11-C10-C9-C7 |
| 14 | H | 304 | CDL | C12-C13-C14-C15 |
| 10 | H | 302 | PC1 | C32-C31-O31-C3 |
| 14 | M | 406 | CDL | C84-C85-C86-C87 |
| 8 | 0 | 102 | BCL | C4-C3-C5-C6 |
| 13 | M | 405 | SPO | C34-C33-C35-C36 |
| 13 | 0 | 101 | SPO | C29-C28-C30-C31 |
| 11 | L | 305 | U10 | C18-C19-C21-C22 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 14 | M | 406 | CDL | C51-C52-C53-C54 |
| 14 | H | 304 | CDL | C38-C39-C40-C41 |
| 14 | M | 406 | CDL | OB5-CB3-CB4-OB6 |
| 10 | L | 306 | PC1 | C32-C31-O31-C3 |
| 11 | L | 305 | U10 | C29-C31-C32-C33 |
| 13 | V | 101 | SPO | C33-C35-C36-C37 |
| 8 | O | 101 | BCL | C5-C6-C7-C8 |
| 10 | A | 104 | PC1 | C2-C1-O11-P |
| 10 | D | 104 | PC1 | C11-C12-N-C15 |
| 14 | M | 406 | CDL | C37-C38-C39-C40 |
| 13 | J | 103 | SPO | C15-C16-C17-C19 |
| 13 | N | 102 | SPO | C5-C6-C7-C9 |
| 10 | H | 302 | PC1 | C24-C25-C26-C27 |
| 8 | U | 101 | BCL | C10-C11-C12-C13 |
| 10 | H | 301 | PC1 | O11-C1-C2-C3 |
| 8 | E | 101 | BCL | C12-C13-C15-C16 |
| 8 | N | 101 | BCL | C6-C7-C8-C10 |
| 8 | N | 101 | BCL | C11-C12-C13-C15 |
| 11 | Y | 501 | U10 | C18-C19-C21-C22 |
| 13 | F | 102 | SPO | C25-C26-C27-C28 |
| 13 | I | 102 | SPO | C11-C10-C9-C7 |
| 13 | N | 102 | SPO | C25-C26-C27-C28 |
| 13 | T | 102 | SPO | C25-C26-C27-C28 |
| 13 | W | 103 | SPO | C20-C21-C22-C23 |
| 13 | 0 | 101 | SPO | C11-C10-C9-C7 |
| 10 | L | 304 | PC1 | C22-C21-O21-C2 |
| 13 | N | 102 | SPO | C21-C22-C23-C24 |
| 8 | M | 402 | BCL | CAD-CBD-CGD-O2D |
| 9 | L | 303 | BPB | CAD-CBD-CGD-O2D |
| 9 | M | 403 | BPB | CAD-CBD-CGD-O2D |
| 13 | M | 405 | SPO | C26-C27-C28-C29 |
| 13 | J | 103 | SPO | C26-C27-C28-C29 |
| 13 | T | 101 | SPO | C26-C27-C28-C29 |
| 13 | 9 | 102 | SPO | C26-C27-C28-C29 |
| 11 | L | 305 | U10 | C5-C4-O4-C4M |
| 11 | Y | 501 | U10 | C5-C4-O4-C4M |
| 10 | H | 301 | PC1 | O11-C1-C2-O21 |
| 14 | M | 406 | CDL | OA5-CA3-CA4-OA6 |
| 14 | H | 304 | CDL | C52-C53-C54-C55 |
| 10 | H | 302 | PC1 | O32-C31-O31-C3 |
| 10 | H | 302 | PC1 | C2A-C2B-C2C-C2D |
| 10 | H | 302 | PC1 | C28-C29-C2A-C2B |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 10 | L | 306 | PC1 | O32-C31-O31-C3 |
| 13 | U | 104 | SPO | C27-C28-C30-C31 |
| 10 | L | 304 | PC1 | O22-C21-O21-C2 |
| 8 | N | 101 | BCL | C11-C12-C13-C14 |
| 13 | E | 102 | SPO | C15-C16-C17-C18 |
| 13 | X | 101 | SPO | C5-C6-C7-C8 |
| 13 | D | 103 | SPO | C25-C26-C27-C28 |
| 14 | M | 406 | CDL | CA2-OA2-PA1-OA5 |
| 14 | M | 406 | CDL | CB2-OB2-PB2-OB5 |
| 10 | H | 301 | PC1 | C29-C2A-C2B-C2C |
| 13 | U | 104 | SPO | C29-C28-C30-C31 |
| 14 | M | 406 | CDL | C72-C73-C74-C75 |
| 10 | L | 304 | PC1 | C1-O11-P-O12 |
| 10 | H | 301 | PC1 | C11-O13-P-O12 |
| 10 | A | 102 | PC1 | C11-O13-P-O14 |
| 10 | A | 102 | PC1 | C1-O11-P-O12 |
| 10 | A | 104 | PC1 | C11-O13-P-O14 |
| 10 | D | 104 | PC1 | C11-C12-N-C14 |
| 10 | W | 101 | PC1 | C11-O13-P-O12 |
| 11 | L | 308 | U10 | C6-C7-C8-C9 |
| 14 | M | 406 | CDL | CA3-OA5-PA1-OA4 |
| 14 | M | 406 | CDL | OA5-CA3-CA4-CA6 |
| 14 | H | 304 | CDL | OA5-CA3-CA4-CA6 |
| 14 | H | 304 | CDL | OB7-CB5-OB6-CB4 |
| 8 | F | 101 | BCL | C6-C7-C8-C10 |
| 8 | U | 101 | BCL | C6-C7-C8-C10 |
| 8 | 0 | 102 | BCL | C2-C3-C5-C6 |
| 14 | H | 304 | CDL | OA5-CA3-CA4-OA6 |
| 13 | W | 103 | SPO | C12-C14-C15-C16 |
| 14 | H | 304 | CDL | C31-C32-C33-C34 |
| 10 | H | 303 | PC1 | C11-C12-N-C15 |
| 10 | L | 306 | PC1 | O13-C11-C12-N |
| 10 | L | 306 | PC1 | C1-C2-C3-O31 |
| 10 | H | 301 | PC1 | O13-C11-C12-N |
| 10 | H | 302 | PC1 | O13-C11-C12-N |
| 10 | H | 303 | PC1 | O13-C11-C12-N |
| 10 | W | 101 | PC1 | O13-C11-C12-N |
| 14 | M | 406 | CDL | C83-C84-C85-C86 |
| 14 | M | 406 | CDL | C32-C33-C34-C35 |
| 10 | L | 306 | PC1 | C36-C37-C38-C39 |
| 14 | M | 406 | CDL | C15-C16-C17-C18 |
| 8 | 7 | 101 | BCL | C2-C3-C5-C6 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 8 | M | 402 | BCL | C14-C13-C15-C16 |
| 8 | F | 101 | BCL | C6-C7-C8-C9 |
| 8 | 9 | 101 | BCL | C11-C10-C8-C9 |
| 13 | J | 103 | SPO | C28-C30-C31-C32 |
| 13 | 3 | 102 | SPO | C28-C30-C31-C32 |
| 13 | T | 102 | SPO | C14-C15-C16-C17 |
| 13 | 3 | 104 | SPO | C14-C15-C16-C17 |
| 13 | 8 | 102 | SPO | C23-C25-C26-C27 |
| 13 | M | 405 | SPO | C11-C10-C9-C7 |
| 13 | J | 101 | SPO | C25-C26-C27-C28 |
| 13 | W | 103 | SPO | C25-C26-C27-C28 |
| 11 | L | 308 | U10 | C5-C4-O4-C4M |
| 10 | D | 104 | PC1 | C24-C25-C26-C27 |
| 10 | W | 101 | PC1 | C33-C34-C35-C36 |
| 10 | H | 303 | PC1 | C11-C12-N-C14 |
| 14 | H | 304 | CDL | C83-C84-C85-C86 |
| 13 | O | 102 | SPO | C32-C33-C35-C36 |
| 10 | D | 104 | PC1 | C32-C33-C34-C35 |
| 14 | H | 304 | CDL | C51-CB5-OB6-CB4 |
| 13 | U | 104 | SPO | C3-C1-O1-CM1 |
| 13 | 8 | 102 | SPO | C3-C1-O1-CM1 |
| 14 | H | 304 | CDL | CA2-OA2-PA1-OA5 |
| 13 | T | 101 | SPO | C2-C1-C4-C5 |
| 10 | H | 302 | PC1 | C1-C2-C3-O31 |
| 8 | 7 | 101 | BCL | C6-C7-C8-C10 |
| 8 | U | 101 | BCL | C6-C7-C8-C9 |
| 8 | U | 103 | BCL | C11-C12-C13-C14 |
| 13 | N | 102 | SPO | O1-C1-C4-C5 |
| 13 | P | 101 | SPO | O1-C1-C4-C5 |
| 13 | X | 101 | SPO | O1-C1-C4-C5 |
| 8 | U | 103 | BCL | C4-C3-C5-C6 |
| 11 | Y | 501 | U10 | C7-C8-C9-C11 |
| 10 | D | 104 | PC1 | C11-C12-N-C13 |
| 13 | B | 101 | SPO | C20-C21-C22-C23 |
| 13 | I | 102 | SPO | C25-C26-C27-C28 |
| 13 | O | 104 | SPO | C25-C26-C27-C28 |
| 13 | U | 104 | SPO | C25-C26-C27-C28 |
| 8 | U | 103 | BCL | C2-C3-C5-C6 |
| 10 | H | 301 | PC1 | C35-C36-C37-C38 |
| 8 | 9 | 101 | BCL | C10-C11-C12-C13 |
| 8 | N | 101 | BCL | C2-C1-O2A-CGA |
| 14 | H | 304 | CDL | C79-C80-C81-C82 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 8 | N | 101 | BCL | C11-C10-C8-C9 |
| 8 | S | 101 | BCL | C14-C13-C15-C16 |
| 8 | S | 102 | BCL | C6-C7-C8-C9 |
| 10 | A | 104 | PC1 | C1-C2-C3-O31 |
| 13 | T | 102 | SPO | C21-C22-C23-C24 |
| 13 | 3 | 104 | SPO | C8-C7-C9-C10 |
| 13 | 3 | 104 | SPO | C13-C12-C14-C15 |
| 13 | 3 | 104 | SPO | C18-C17-C19-C20 |
| 13 | 8 | 102 | SPO | C21-C22-C23-C24 |
| 11 | L | 305 | U10 | C7-C8-C9-C11 |
| 9 | L | 303 | BPB | O2A-C1-C2-C3 |
| 10 | H | 303 | PC1 | C11-C12-N-C13 |
| 10 | W | 101 | PC1 | C31-C32-C33-C34 |
| 13 | J | 101 | SPO | C11-C10-C9-C7 |
| 8 | C | 101 | BCL | C10-C11-C12-C13 |
| 11 | L | 305 | U10 | C3-C4-O4-C4M |
| 10 | L | 306 | PC1 | C32-C33-C34-C35 |
| 10 | H | 301 | PC1 | C2-C1-O11-P |
| 14 | M | 406 | CDL | CB7-C71-C72-C73 |
| 11 | Y | 501 | U10 | C25-C24-C26-C27 |
| 13 | 3 | 104 | SPO | C29-C28-C30-C31 |
| 10 | D | 104 | PC1 | C28-C29-C2A-C2B |
| 13 | T | 102 | SPO | C21-C22-C23-C25 |
| 13 | 3 | 104 | SPO | C6-C7-C9-C10 |
| 13 | 3 | 104 | SPO | C11-C12-C14-C15 |
| 13 | 3 | 104 | SPO | C16-C17-C19-C20 |
| 10 | H | 302 | PC1 | O21-C2-C3-O31 |
| 10 | W | 101 | PC1 | O21-C2-C3-O31 |
| 13 | B | 101 | SPO | C17-C19-C20-C21 |
| 13 | I | 102 | SPO | C20-C21-C22-C23 |
| 13 | J | 101 | SPO | C17-C19-C20-C21 |
| 13 | 3 | 102 | SPO | C12-C14-C15-C16 |
| 13 | 9 | 102 | SPO | C12-C14-C15-C16 |
| 13 | 9 | 102 | SPO | C17-C19-C20-C21 |
| 13 | D | 103 | SPO | C1-C4-C5-C6 |
| 13 | J | 101 | SPO | C1-C4-C5-C6 |
| 13 | O | 102 | SPO | C1-C4-C5-C6 |
| 13 | 0 | 101 | SPO | C1-C4-C5-C6 |
| 8 | J | 102 | BCL | C4-C3-C5-C6 |
| 8 | 8 | 101 | BCL | C2-C1-O2A-CGA |
| 8 | 9 | 101 | BCL | C2C-C3C-CAC-CBC |
| 8 | S | 101 | BCL | C8-C10-C11-C12 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 8 | C | 101 | BCL | C11-C10-C8-C9 |
| 14 | M | 406 | CDL | C55-C56-C57-C58 |
| 10 | L | 306 | PC1 | C2-C1-O11-P |
| 13 | 3 | 102 | SPO | C35-C36-C37-C38 |
| 8 | F | 101 | BCL | C8-C10-C11-C12 |
| 8 | O | 103 | BCL | C10-C11-C12-C13 |
| 13 | B | 101 | SPO | C12-C14-C15-C16 |
| 13 | O | 102 | SPO | C25-C26-C27-C28 |
| 13 | U | 104 | SPO | C11-C10-C9-C7 |
| 10 | A | 102 | PC1 | C36-C37-C38-C39 |
| 14 | M | 406 | CDL | C39-C40-C41-C42 |
| 8 | L | 302 | BCL | C4C-C3C-CAC-CBC |
| 13 | J | 101 | SPO | C32-C33-C35-C36 |
| 11 | M | 404 | U10 | C5-C4-O4-C4M |
| 9 | M | 403 | BPB | C6-C7-C8-C9 |
| 13 | O | 104 | SPO | C29-C28-C30-C31 |
| 8 | U | 103 | BCL | C11-C12-C13-C15 |
| 8 | 7 | 101 | BCL | C12-C13-C15-C16 |
| 13 | D | 102 | SPO | C25-C26-C27-C28 |
| 8 | O | 103 | BCL | CAA-CBA-CGA-O2A |
| 8 | U | 103 | BCL | CAA-CBA-CGA-O2A |
| 8 | R | 101 | BCL | C4-C3-C5-C6 |
| 13 | D | 103 | SPO | C34-C33-C35-C36 |
| 13 | O | 102 | SPO | C29-C28-C30-C31 |
| 10 | D | 104 | PC1 | O22-C21-O21-C2 |
| 10 | H | 302 | PC1 | C11-O13-P-O11 |
| 13 | 3 | 104 | SPO | C27-C28-C30-C31 |
| 8 | 3 | 103 | BCL | CAA-CBA-CGA-O2A |
| 10 | A | 102 | PC1 | C32-C33-C34-C35 |
| 8 | L | 302 | BCL | CAD-CBD-CGD-O2D |
| 8 | L | 307 | BCL | CAD-CBD-CGD-O2D |
| 8 | 8 | 101 | BCL | CAA-CBA-CGA-O2A |
| 13 | U | 104 | SPO | C34-C33-C35-C36 |
| 8 | J | 102 | BCL | C2-C3-C5-C6 |
| 11 | Y | 501 | U10 | C23-C24-C26-C27 |
| 13 | O | 102 | SPO | C27-C28-C30-C31 |
| 13 | X | 101 | SPO | C5-C6-C7-C9 |
| 10 | H | 303 | PC1 | O11-C1-C2-O21 |
| 8 | F | 103 | BCL | CAA-CBA-CGA-O2A |
| 8 | S | 102 | BCL | CAA-CBA-CGA-O2A |
| 8 | O | 103 | BCL | O2A-C1-C2-C3 |
| 8 | L | 301 | BCL | C2A-CAA-CBA-CGA |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 14 | M | 406 | CDL | C44-C45-C46-C47 |
| 10 | A | 102 | PC1 | O32-C31-O31-C3 |
| 13 | F | 102 | SPO | C12-C14-C15-C16 |
| 8 | C | 101 | BCL | CAA-CBA-CGA-O2A |
| 13 | D | 103 | SPO | C31-C32-C33-C35 |
| 8 | R | 101 | BCL | CAA-CBA-CGA-O2A |
| 10 | A | 102 | PC1 | O31-C31-C32-C33 |
| 10 | A | 104 | PC1 | C11-C12-N-C13 |
| 13 | 3 | 102 | SPO | C2-C1-C4-C5 |
| 13 | 9 | 102 | SPO | C3-C1-C4-C5 |
| 13 | 9 | 102 | SPO | C29-C28-C30-C31 |
| 8 | 7 | 101 | BCL | C14-C13-C15-C16 |
| 10 | W | 101 | PC1 | C2-C3-O31-C31 |
| 13 | J | 101 | SPO | C33-C35-C36-C37 |
| 8 | C | 101 | BCL | C13-C15-C16-C17 |
| 11 | M | 404 | U10 | C3-C4-O4-C4M |
| 13 | V | 101 | SPO | C30-C31-C32-C33 |
| 13 | X | 101 | SPO | C30-C31-C32-C33 |
| 8 | F | 103 | BCL | CAA-CBA-CGA-O1A |
| 13 | 9 | 102 | SPO | O1-C1-C4-C5 |
| 10 | L | 304 | PC1 | C28-C29-C2A-C2B |
| 8 | C | 101 | BCL | CAA-CBA-CGA-O1A |
| 8 | S | 102 | BCL | C1A-C2A-CAA-CBA |
| 8 | 0 | 102 | BCL | C1A-C2A-CAA-CBA |
| 8 | S | 102 | BCL | CAA-CBA-CGA-O1A |
| 8 | J | 102 | BCL | CAA-CBA-CGA-O2A |
| 11 | Y | 501 | U10 | C26-C27-C28-C29 |
| 10 | A | 102 | PC1 | C32-C31-O31-C3 |
| 8 | O | 103 | BCL | CAA-CBA-CGA-O1A |
| 8 | U | 103 | BCL | CAA-CBA-CGA-O1A |
| 8 | 3 | 103 | BCL | CAA-CBA-CGA-O1A |
| 8 | 8 | 101 | BCL | CAA-CBA-CGA-O1A |
| 10 | L | 306 | PC1 | C1-O11-P-O12 |
| 10 | A | 102 | PC1 | C11-O13-P-O12 |
| 10 | A | 104 | PC1 | C1-O11-P-O12 |
| 11 | Y | 501 | U10 | C6-C7-C8-C9 |
| 8 | 7 | 101 | BCL | CAA-CBA-CGA-O2A |
| 8 | R | 101 | BCL | CAA-CBA-CGA-O1A |
| 8 | A | 103 | BCL | CAA-CBA-CGA-O2A |
| 8 | U | 101 | BCL | C8-C10-C11-C12 |
| 14 | H | 304 | CDL | C53-C54-C55-C56 |
| 13 | D | 103 | SPO | C30-C31-C32-C33 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-----------------|
| 8 | W | 102 | BCL | C6-C7-C8-C9 |
| 10 | A | 102 | PC1 | O32-C31-C32-C33 |
| 8 | N | 101 | BCL | CAA-CBA-CGA-O2A |
| 13 | O | 104 | SPO | C1-C4-C5-C6 |
| 8 | J | 102 | BCL | CAA-CBA-CGA-O1A |
| 8 | E | 101 | BCL | CAA-CBA-CGA-O2A |
| 8 | U | 103 | BCL | C8-C10-C11-C12 |
| 8 | L | 307 | BCL | C6-C7-C8-C10 |
| 13 | I | 102 | SPO | C32-C33-C35-C36 |
| 13 | O | 104 | SPO | C27-C28-C30-C31 |
| 8 | E | 101 | BCL | CAA-CBA-CGA-O1A |
| 13 | 8 | 102 | SPO | C11-C10-C9-C7 |
| 10 | H | 302 | PC1 | C32-C33-C34-C35 |
| 11 | M | 404 | U10 | C24-C26-C27-C28 |
| 13 | U | 102 | SPO | C28-C30-C31-C32 |
| 10 | D | 104 | PC1 | C22-C21-O21-C2 |
| 14 | H | 304 | CDL | C51-C52-C53-C54 |
| 8 | 7 | 101 | BCL | CAA-CBA-CGA-O1A |
| 11 | Y | 501 | U10 | C12-C11-C9-C10 |
| 8 | 1 | 102 | BCL | CAA-CBA-CGA-O2A |
| 8 | 0 | 102 | BCL | CAA-CBA-CGA-O2A |

There are no ring outliers.

72 monomers are involved in 291 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 8 | 3 | 103 | BCL | 1 | 0 |
| 13 | U | 102 | SPO | 8 | 0 |
| 13 | X | 101 | SPO | 6 | 0 |
| 8 | R | 101 | BCL | 7 | 0 |
| 10 | H | 302 | PC1 | 5 | 0 |
| 13 | O | 102 | SPO | 6 | 0 |
| 11 | Y | 501 | U10 | 2 | 0 |
| 13 | M | 405 | SPO | 7 | 0 |
| 8 | L | 307 | BCL | 1 | 0 |
| 13 | I | 102 | SPO | 7 | 0 |
| 8 | L | 302 | BCL | 4 | 0 |
| 14 | M | 406 | CDL | 4 | 0 |
| 8 | M | 402 | BCL | 2 | 0 |
| 13 | 3 | 104 | SPO | 7 | 0 |
| 10 | D | 104 | PC1 | 5 | 0 |
| 8 | L | 301 | BCL | 2 | 0 |

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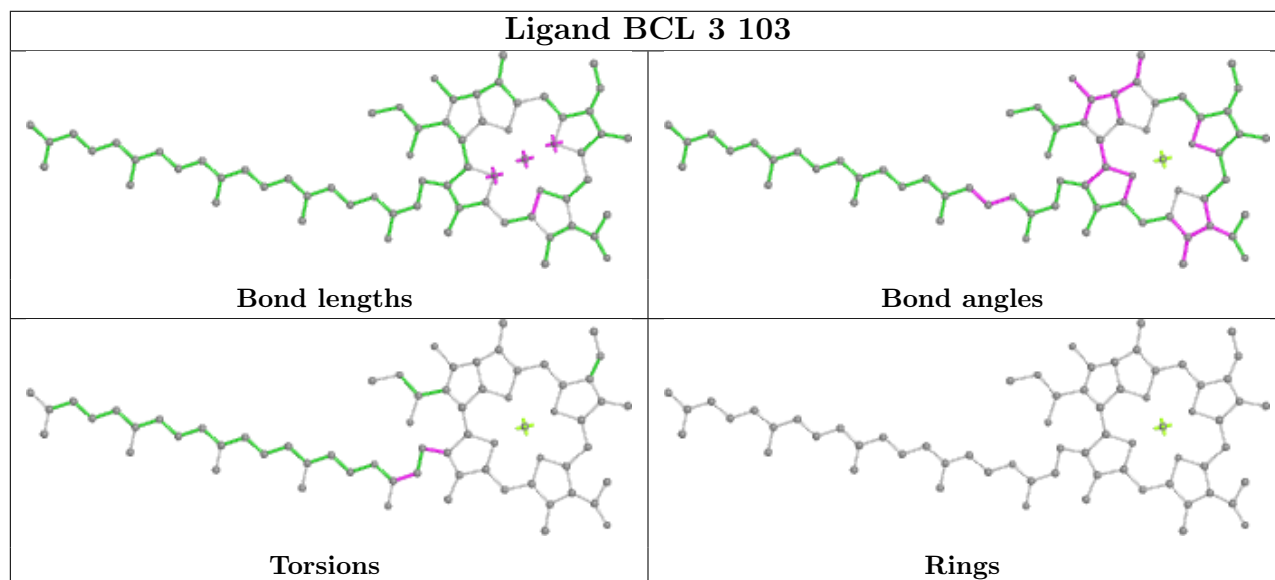
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 13 | D | 102 | SPO | 4 | 0 |
| 10 | L | 306 | PC1 | 2 | 0 |
| 8 | S | 101 | BCL | 2 | 0 |
| 8 | E | 101 | BCL | 2 | 0 |
| 11 | M | 404 | U10 | 3 | 0 |
| 8 | A | 101 | BCL | 1 | 0 |
| 13 | T | 101 | SPO | 6 | 0 |
| 8 | S | 102 | BCL | 6 | 0 |
| 8 | W | 102 | BCL | 4 | 0 |
| 10 | L | 304 | PC1 | 1 | 0 |
| 8 | J | 102 | BCL | 6 | 0 |
| 8 | I | 101 | BCL | 1 | 0 |
| 8 | F | 103 | BCL | 3 | 0 |
| 11 | L | 308 | U10 | 1 | 0 |
| 8 | O | 103 | BCL | 4 | 0 |
| 13 | W | 103 | SPO | 7 | 0 |
| 11 | L | 305 | U10 | 5 | 0 |
| 8 | 7 | 101 | BCL | 10 | 0 |
| 13 | 0 | 101 | SPO | 8 | 0 |
| 13 | 9 | 102 | SPO | 5 | 0 |
| 8 | U | 101 | BCL | 6 | 0 |
| 8 | Q | 101 | BCL | 2 | 0 |
| 8 | U | 103 | BCL | 4 | 0 |
| 10 | A | 104 | PC1 | 6 | 0 |
| 10 | W | 101 | PC1 | 5 | 0 |
| 9 | L | 303 | BPB | 4 | 0 |
| 13 | G | 101 | SPO | 6 | 0 |
| 8 | 9 | 101 | BCL | 3 | 0 |
| 13 | 3 | 102 | SPO | 9 | 0 |
| 8 | 3 | 101 | BCL | 1 | 0 |
| 8 | 1 | 101 | BCL | 1 | 0 |
| 13 | P | 101 | SPO | 5 | 0 |
| 13 | V | 101 | SPO | 8 | 0 |
| 13 | J | 101 | SPO | 3 | 0 |
| 13 | J | 103 | SPO | 8 | 0 |
| 10 | A | 102 | PC1 | 7 | 0 |
| 13 | E | 102 | SPO | 4 | 0 |
| 8 | N | 101 | BCL | 5 | 0 |
| 8 | 8 | 101 | BCL | 4 | 0 |
| 10 | H | 301 | PC1 | 6 | 0 |
| 13 | D | 103 | SPO | 9 | 0 |
| 13 | N | 102 | SPO | 8 | 0 |

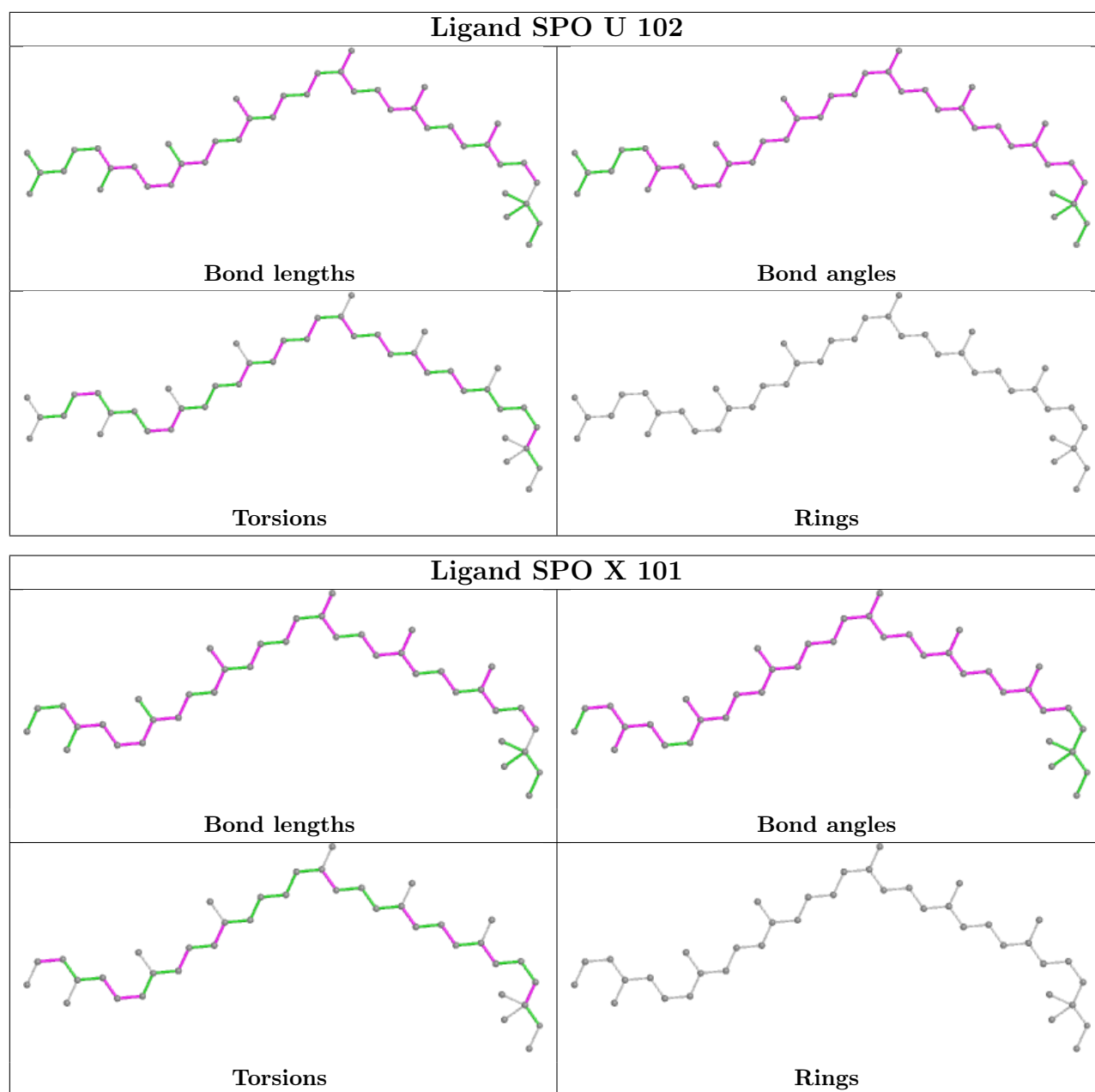
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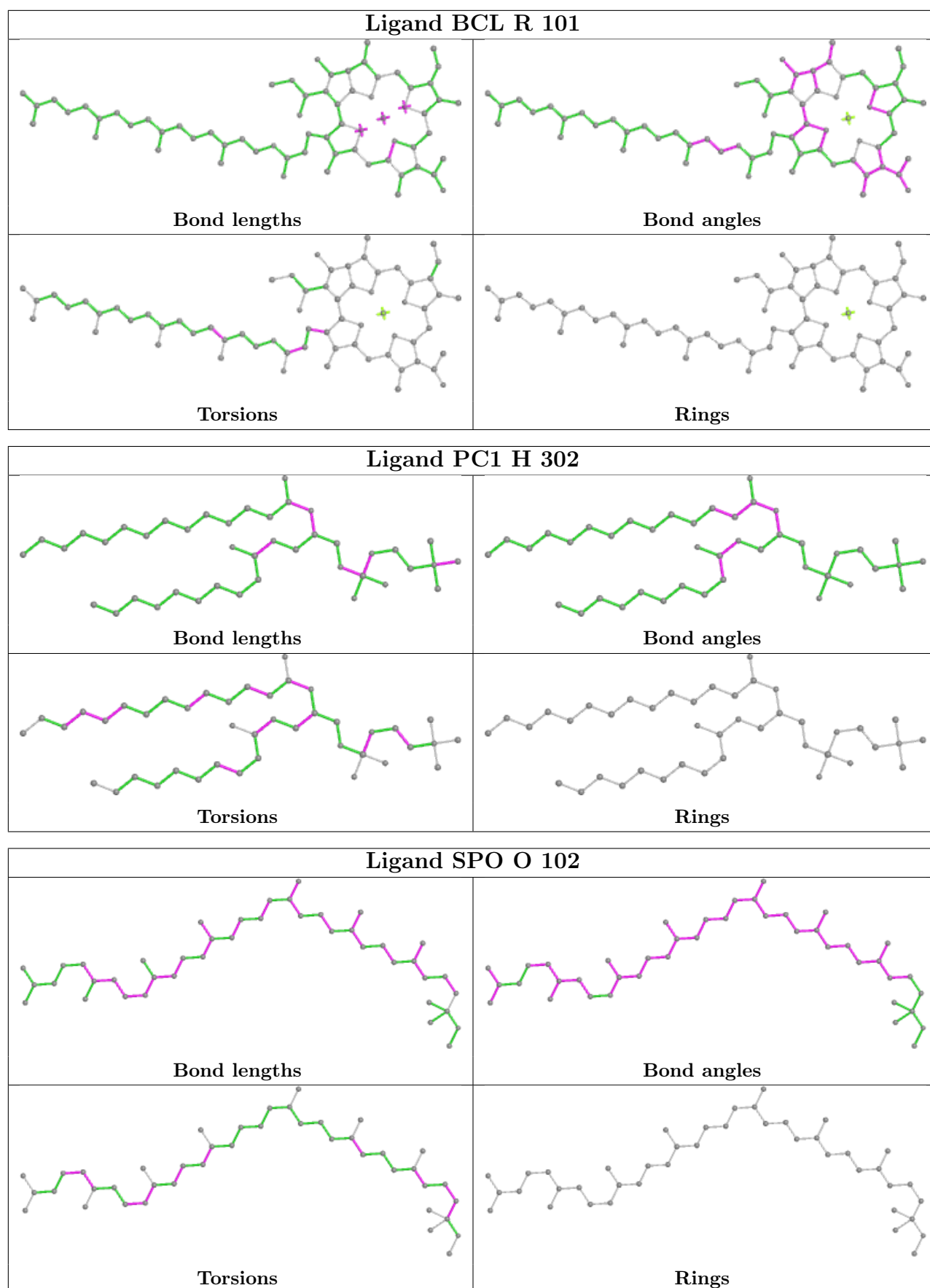
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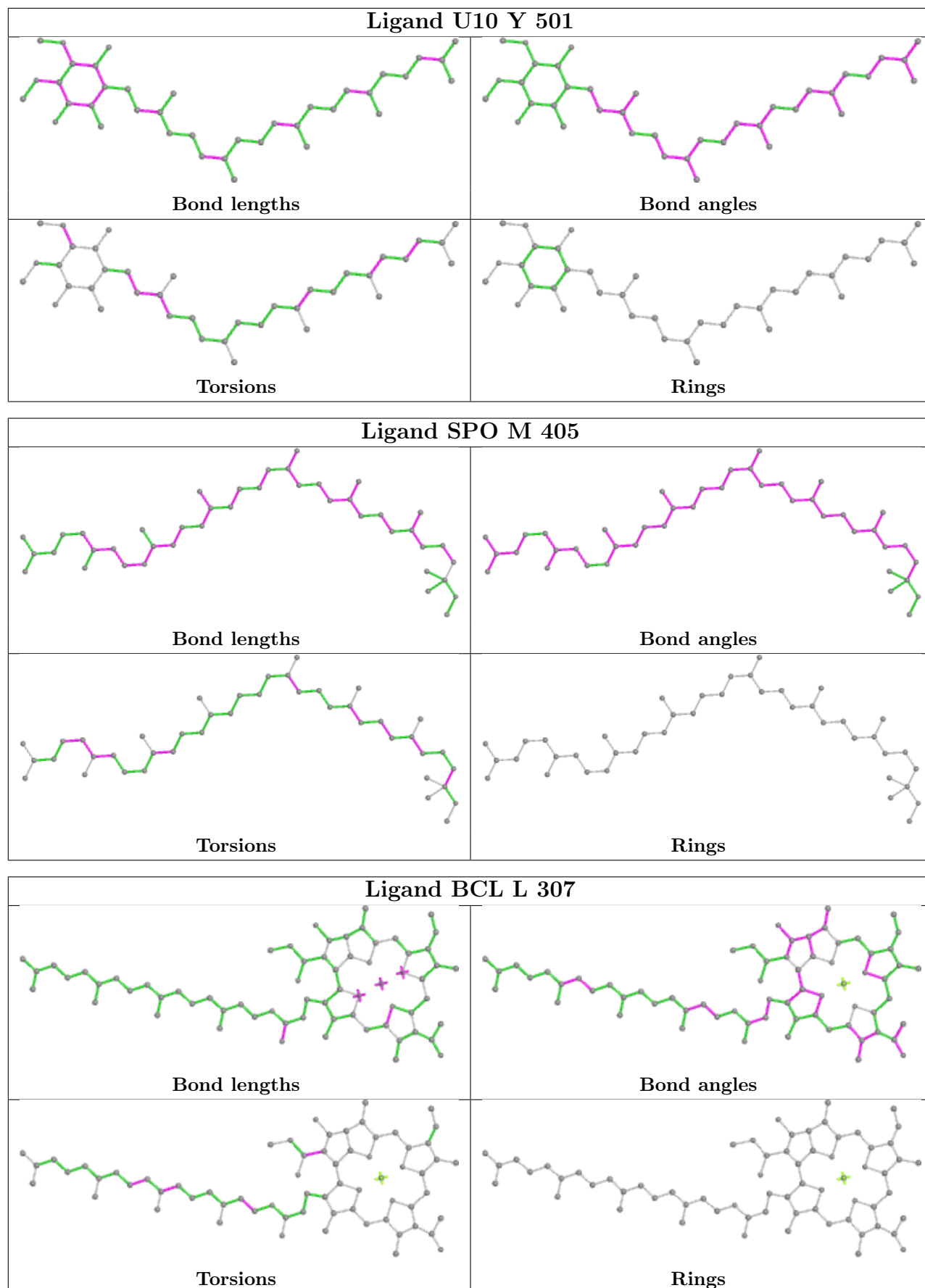
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 13 | T | 102 | SPO | 10 | 0 |
| 13 | 8 | 102 | SPO | 5 | 0 |
| 8 | F | 101 | BCL | 3 | 0 |
| 14 | H | 304 | CDL | 6 | 0 |
| 13 | O | 104 | SPO | 5 | 0 |
| 13 | F | 102 | SPO | 8 | 0 |
| 8 | 1 | 102 | BCL | 2 | 0 |
| 8 | 0 | 102 | BCL | 4 | 0 |
| 9 | M | 403 | BPB | 5 | 0 |
| 8 | D | 101 | BCL | 2 | 0 |
| 13 | B | 101 | SPO | 10 | 0 |
| 8 | A | 103 | BCL | 9 | 0 |
| 13 | U | 104 | SPO | 4 | 0 |
| 8 | C | 101 | BCL | 2 | 0 |

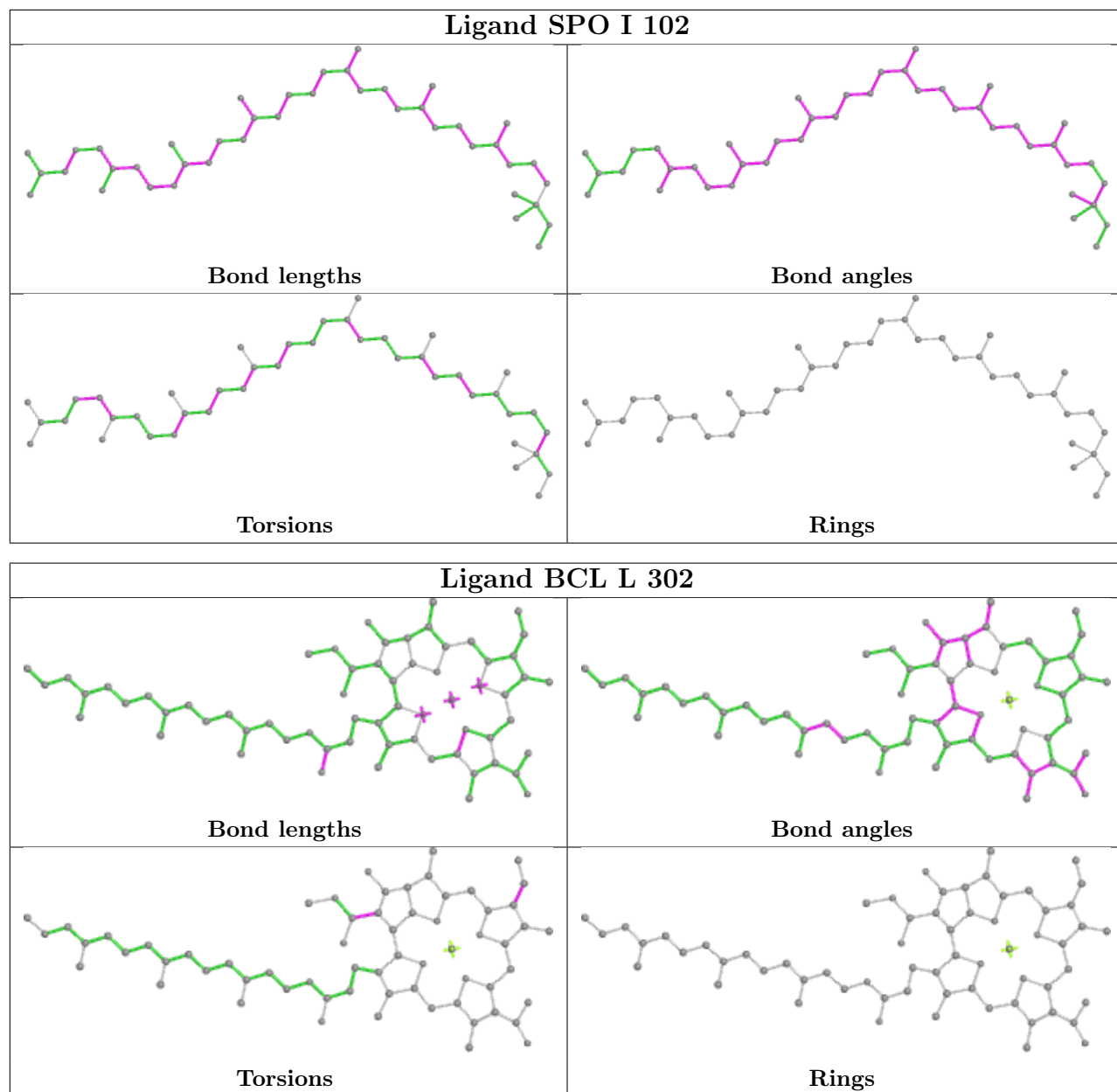
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

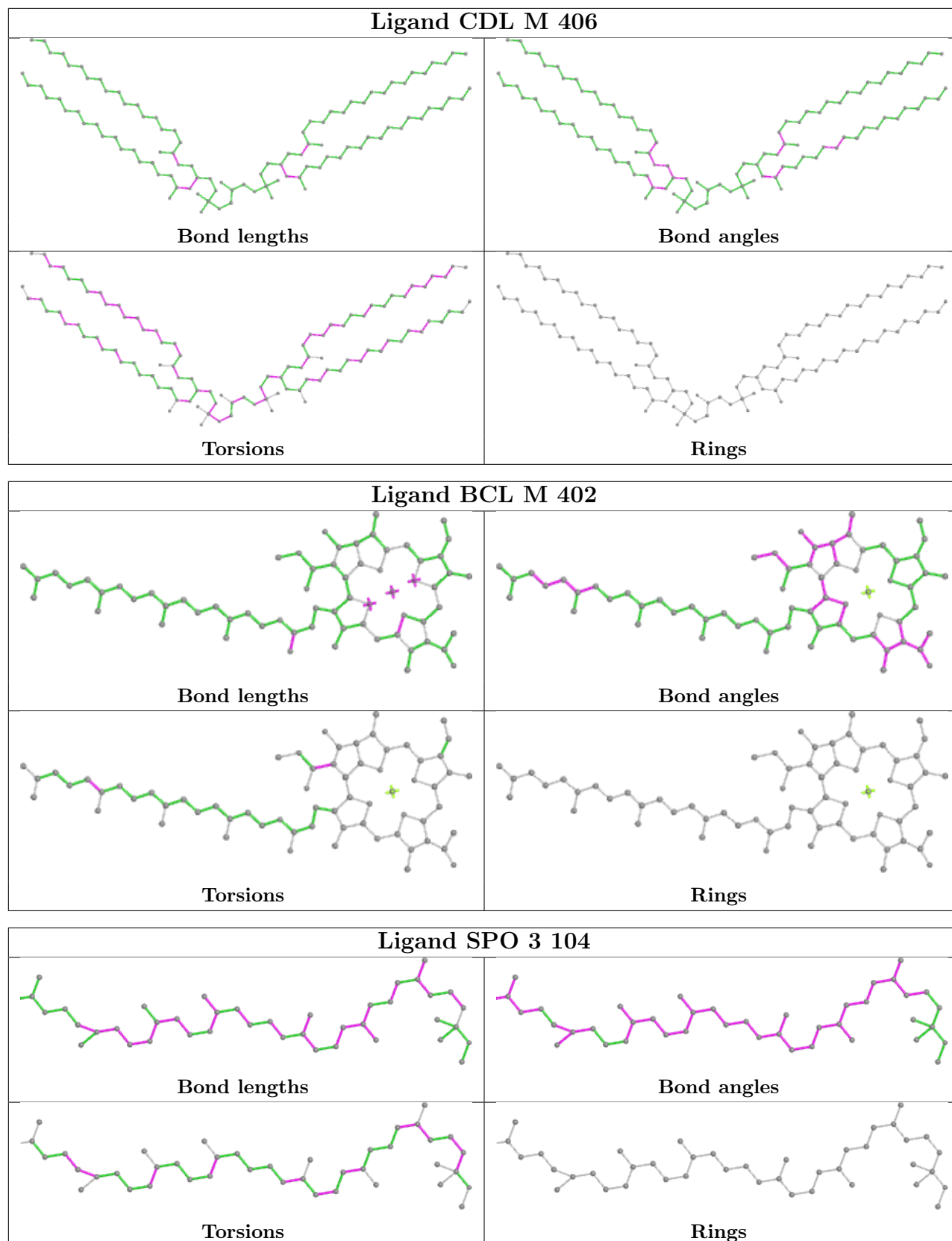


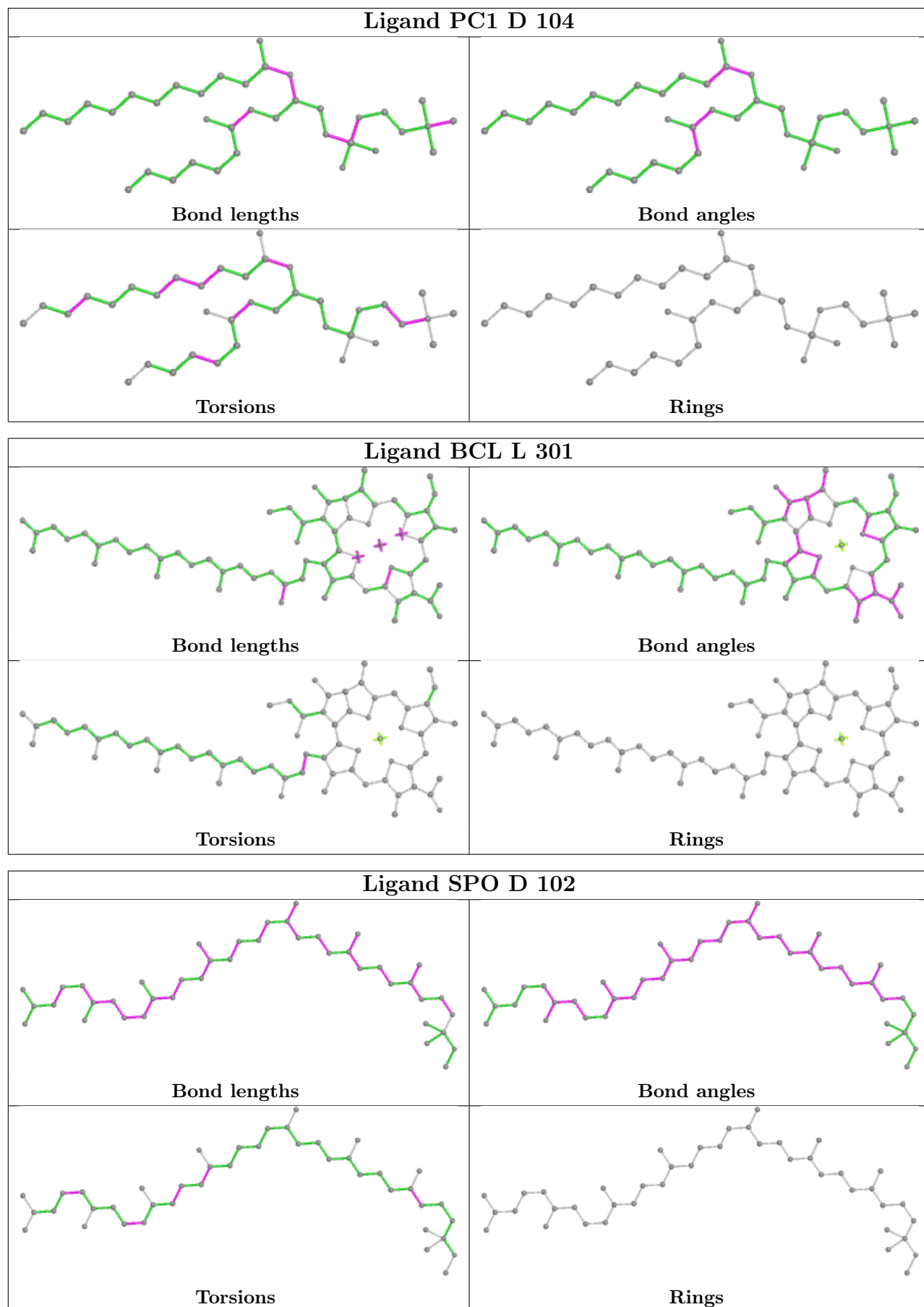


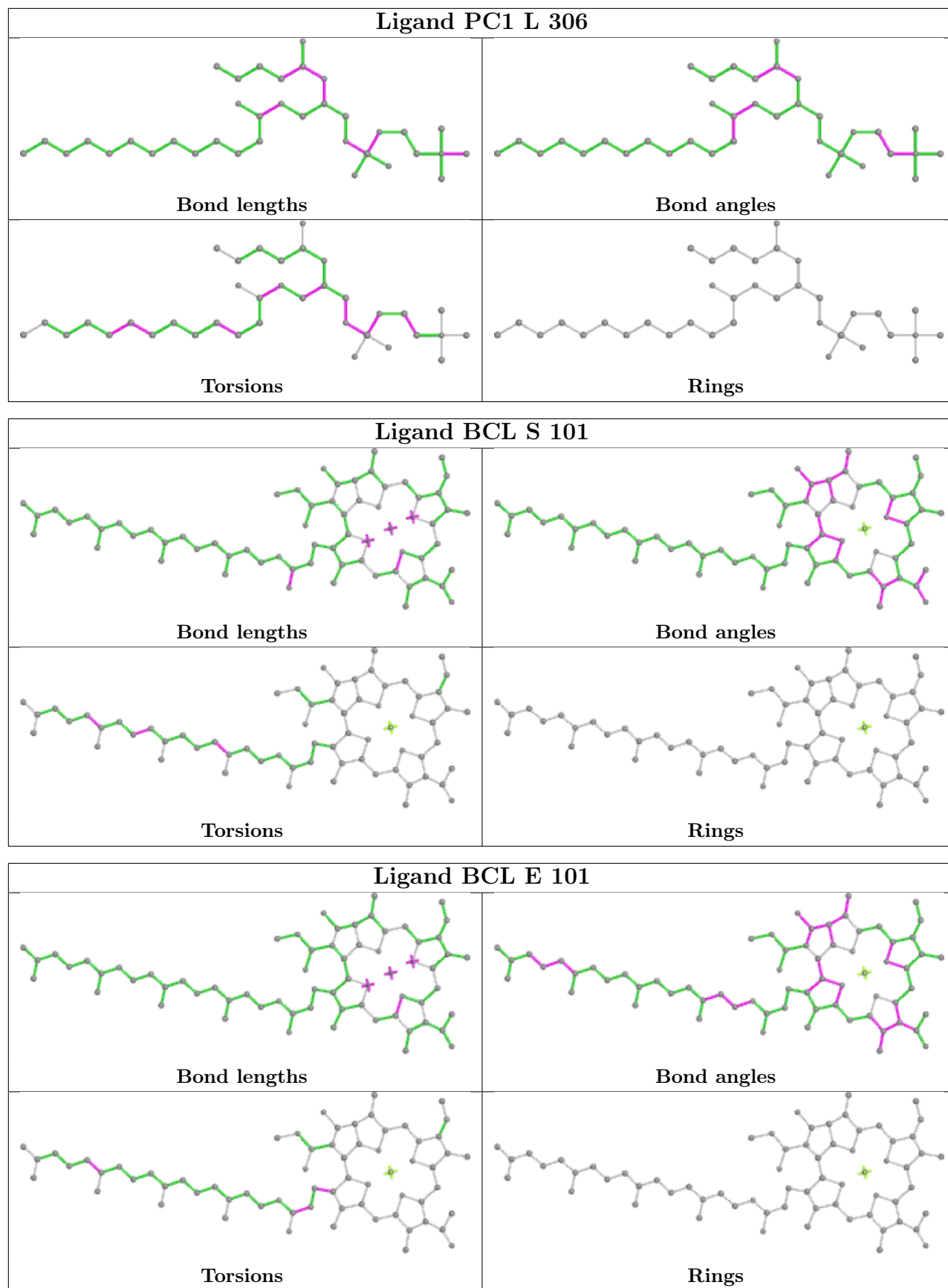


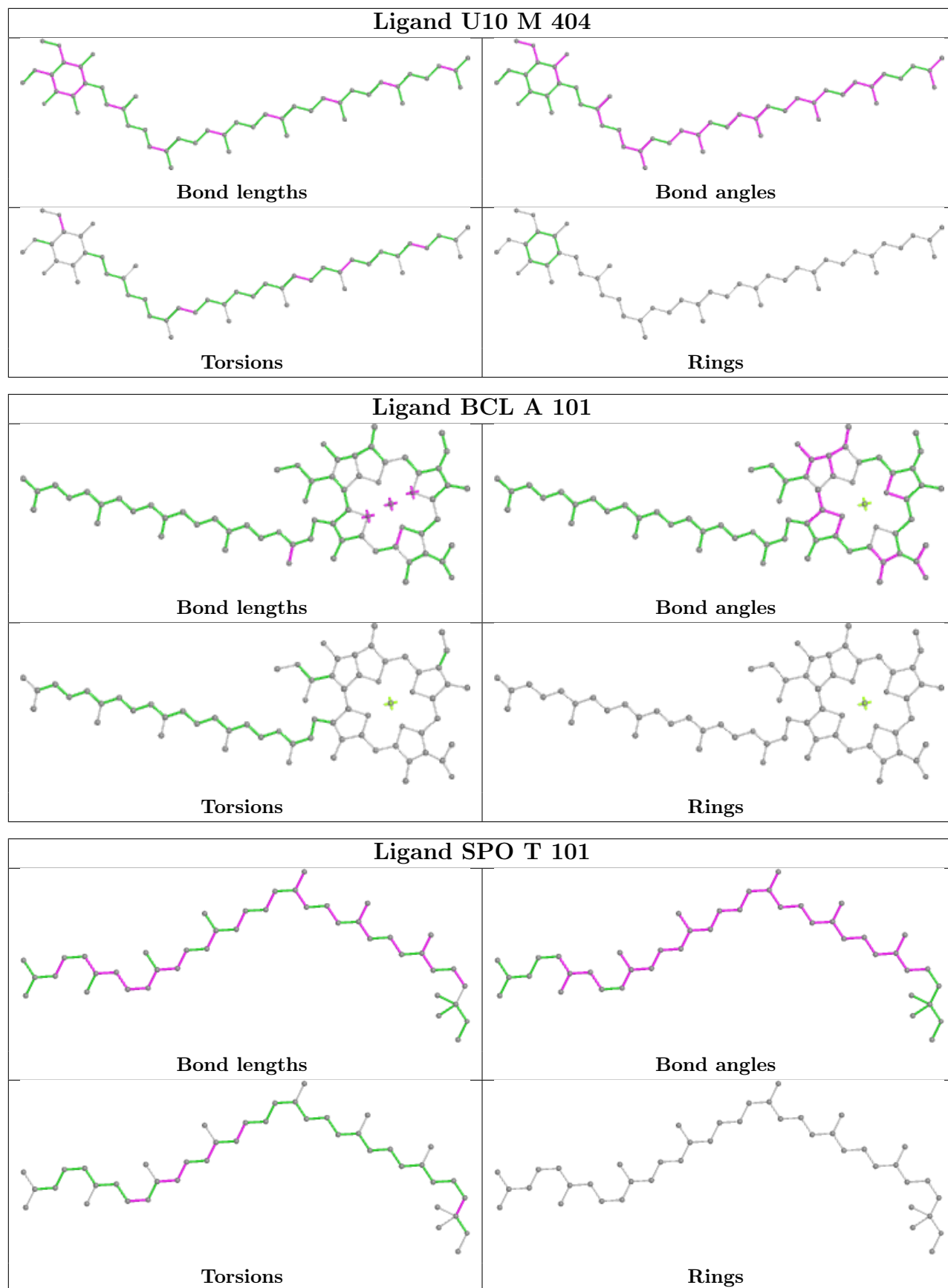


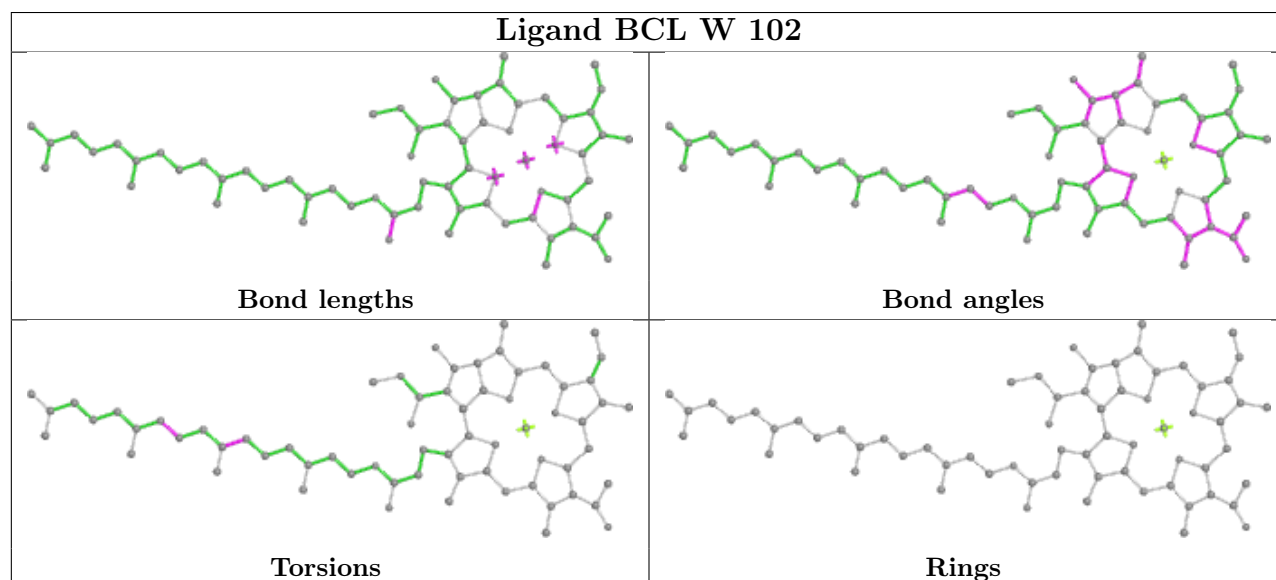
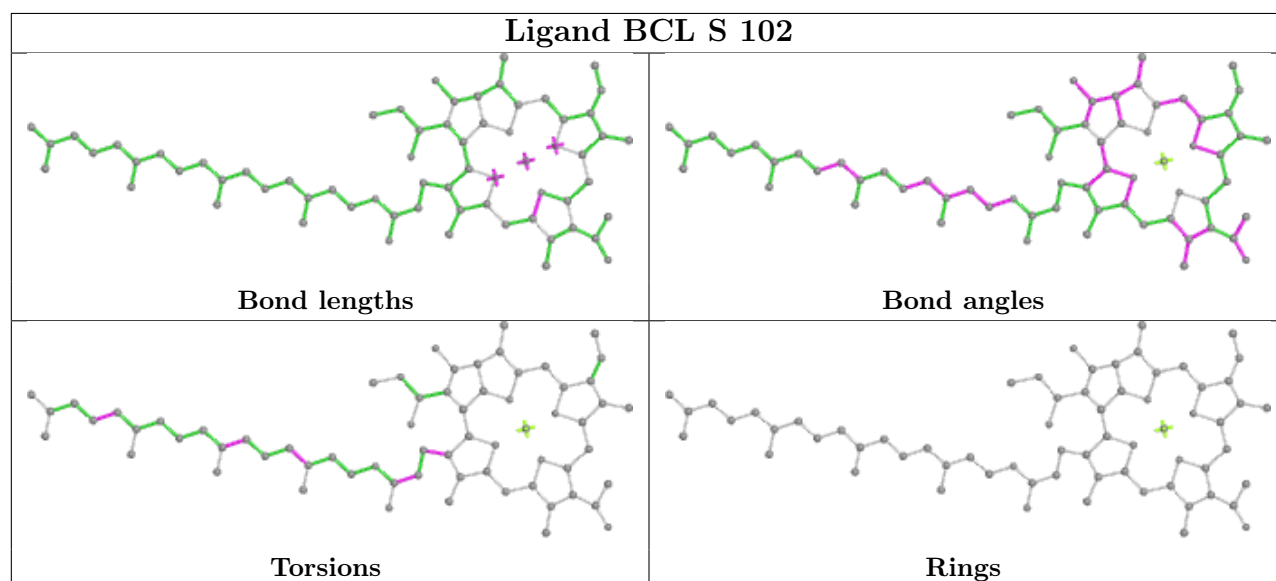
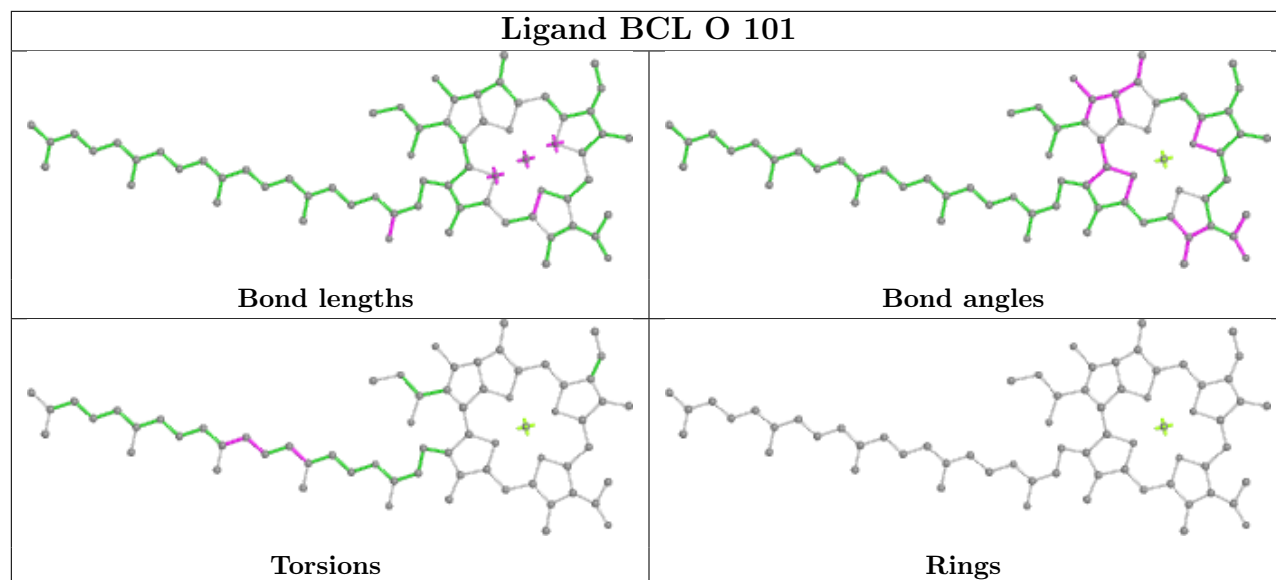


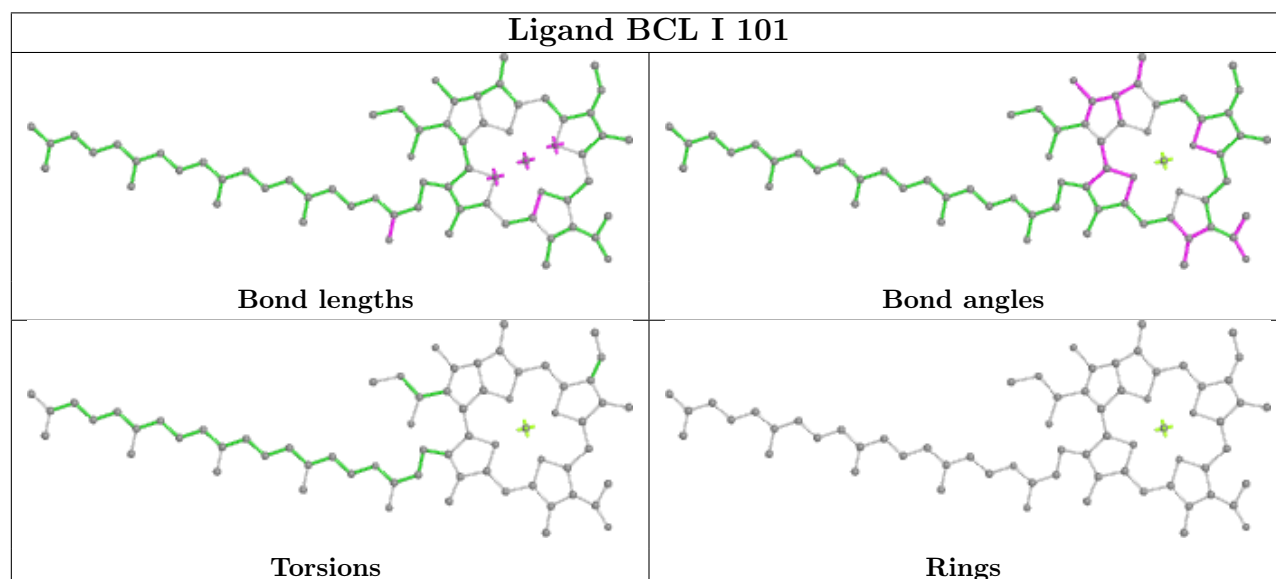
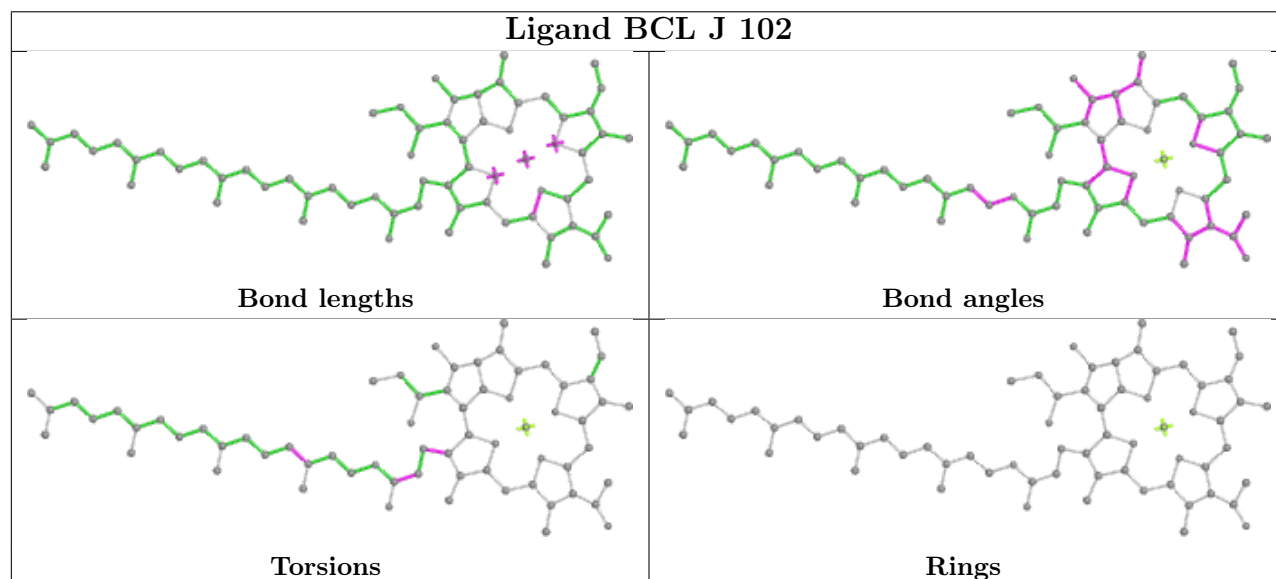
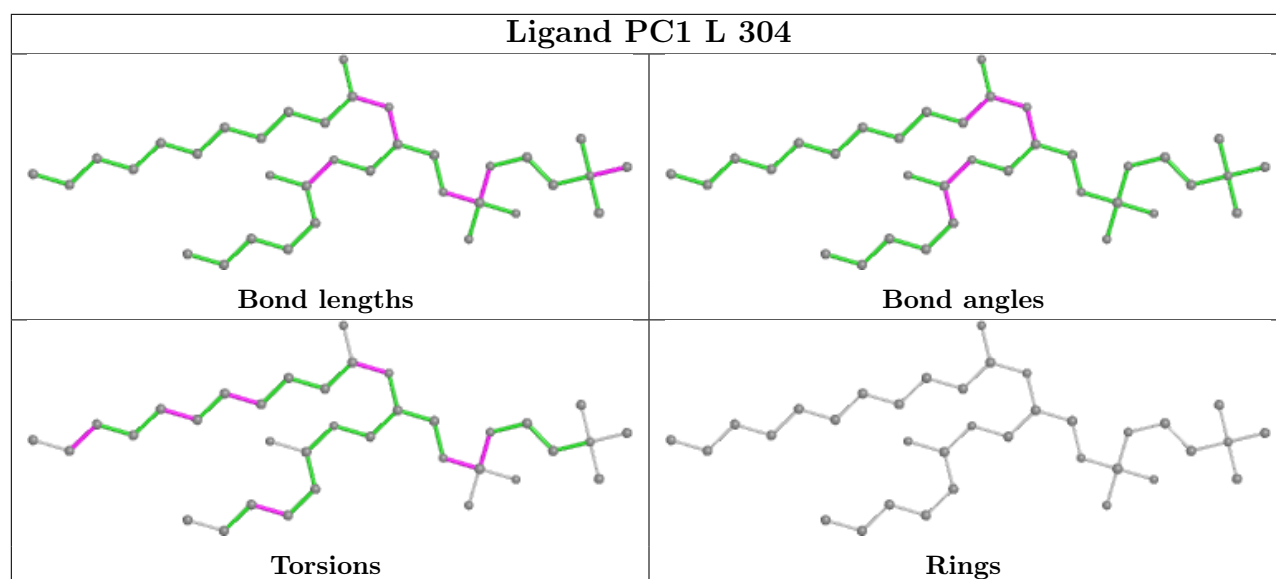


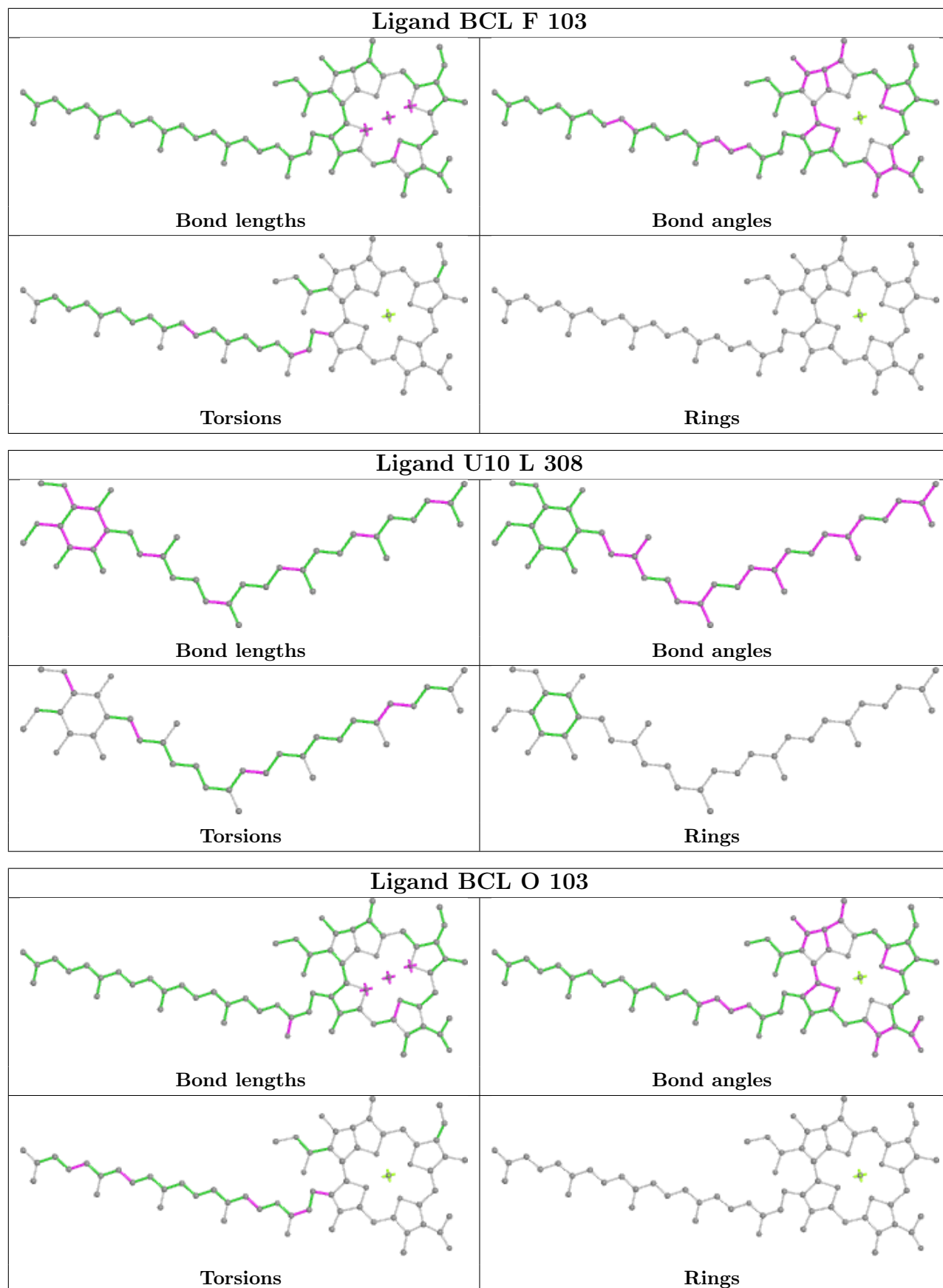


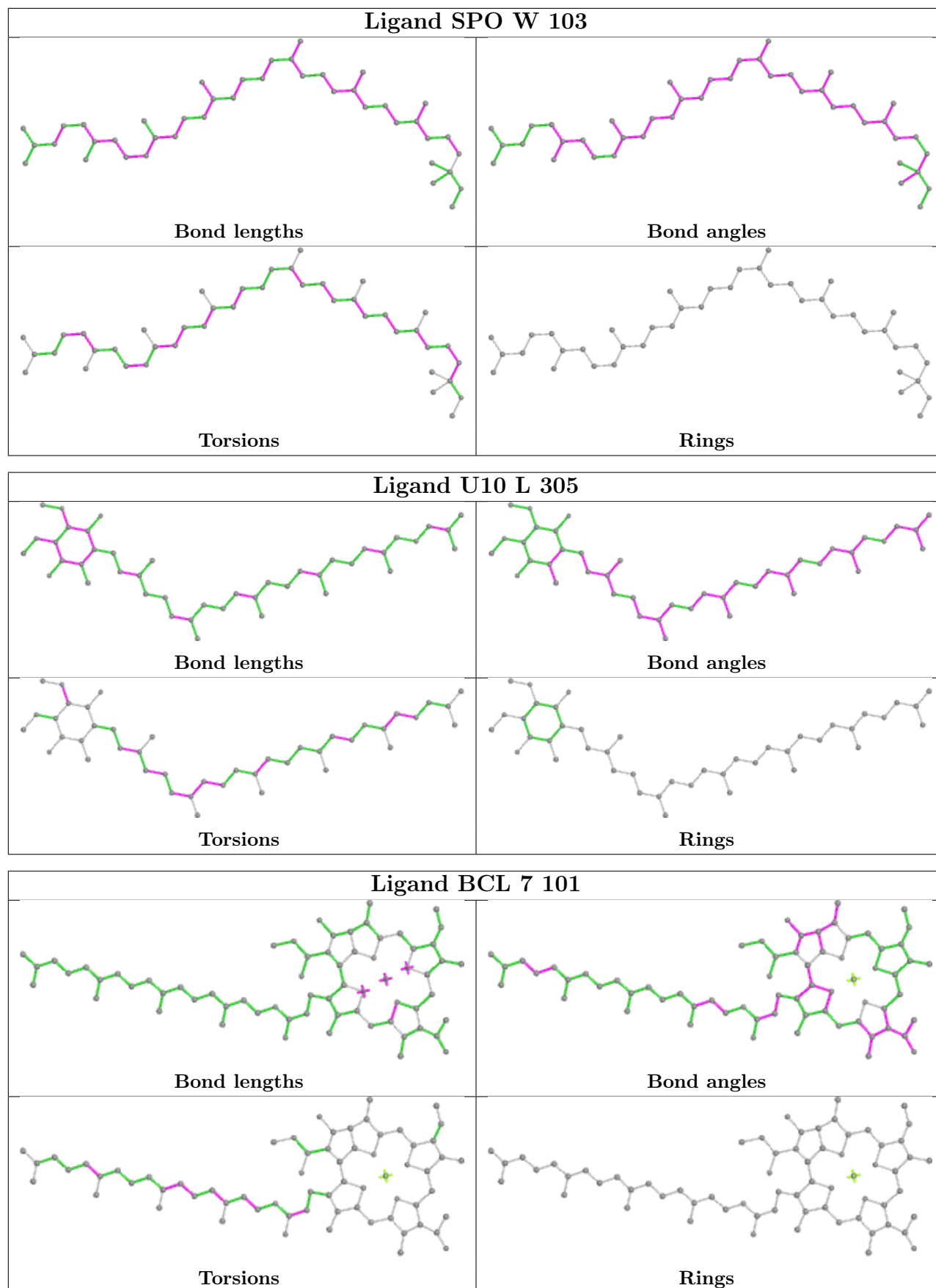


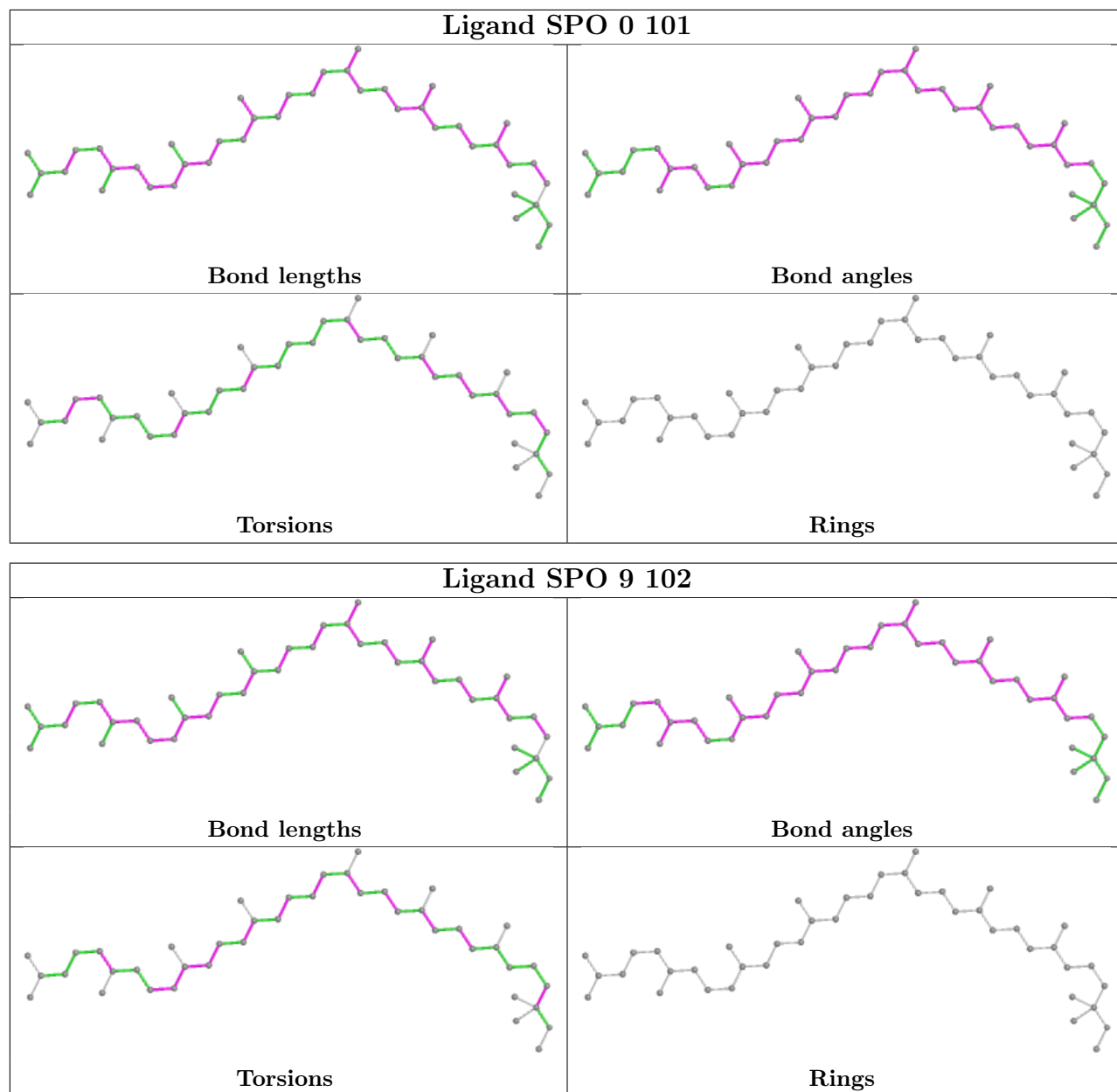


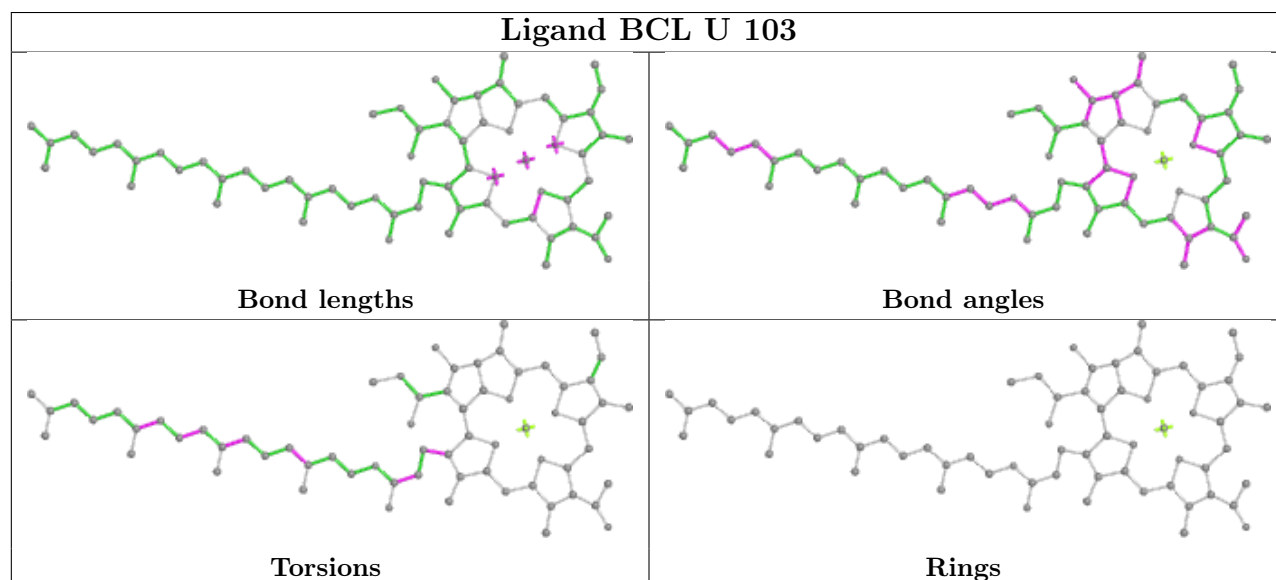
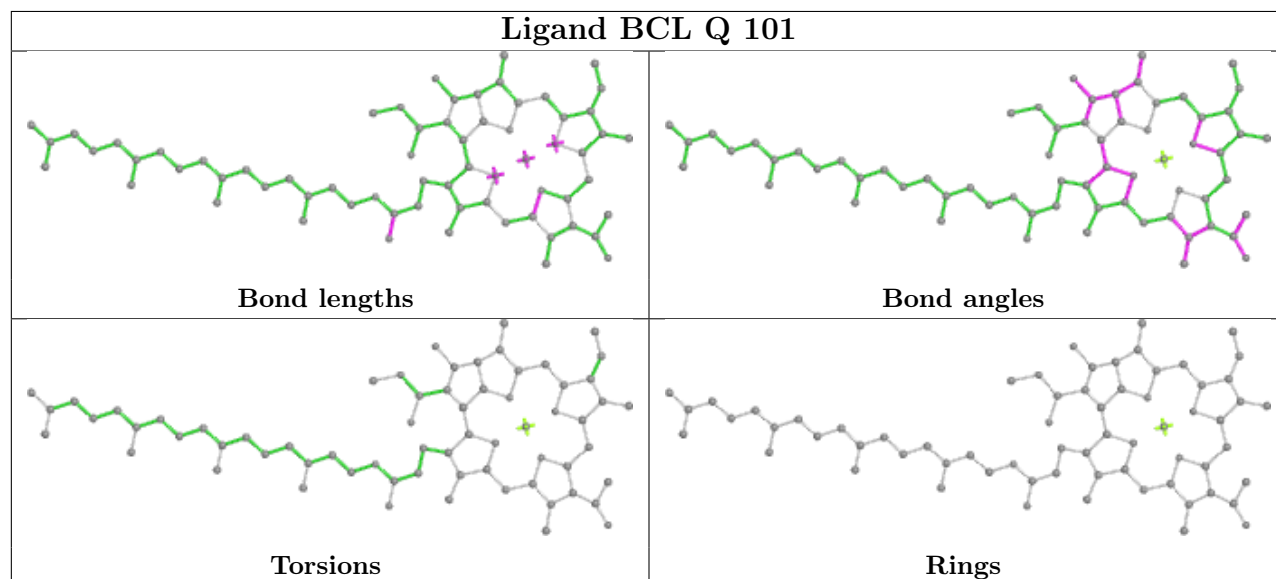
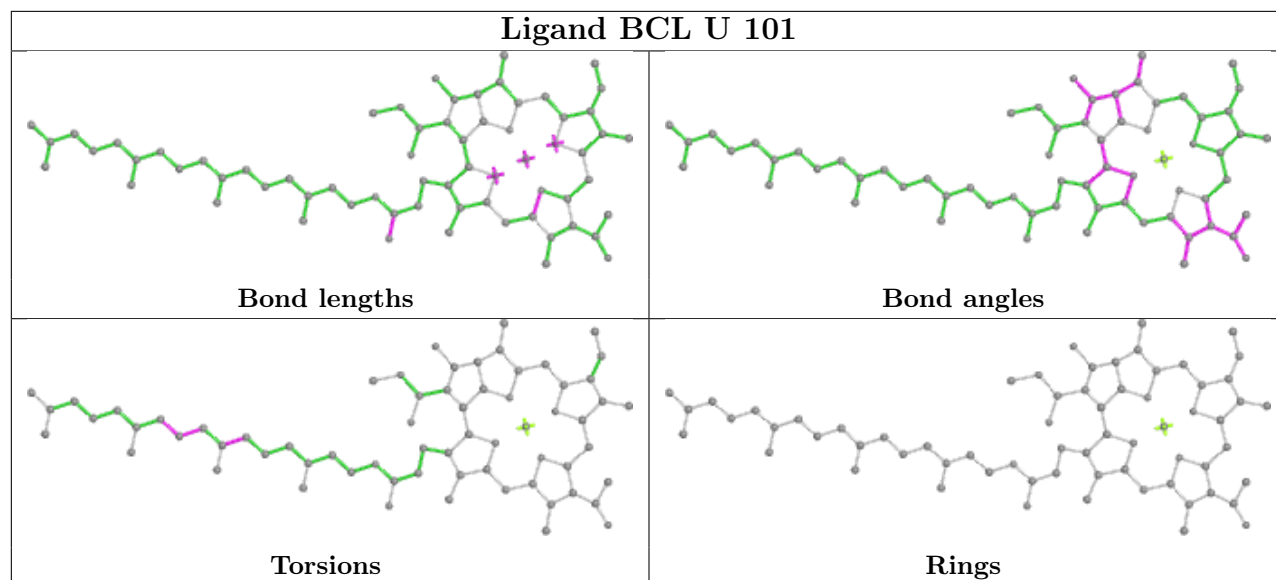


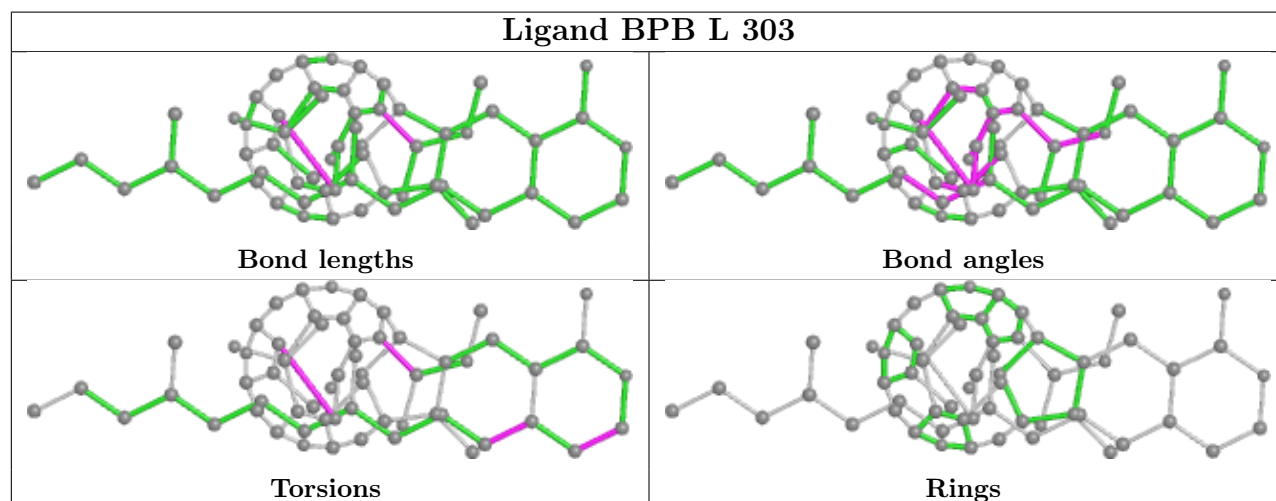
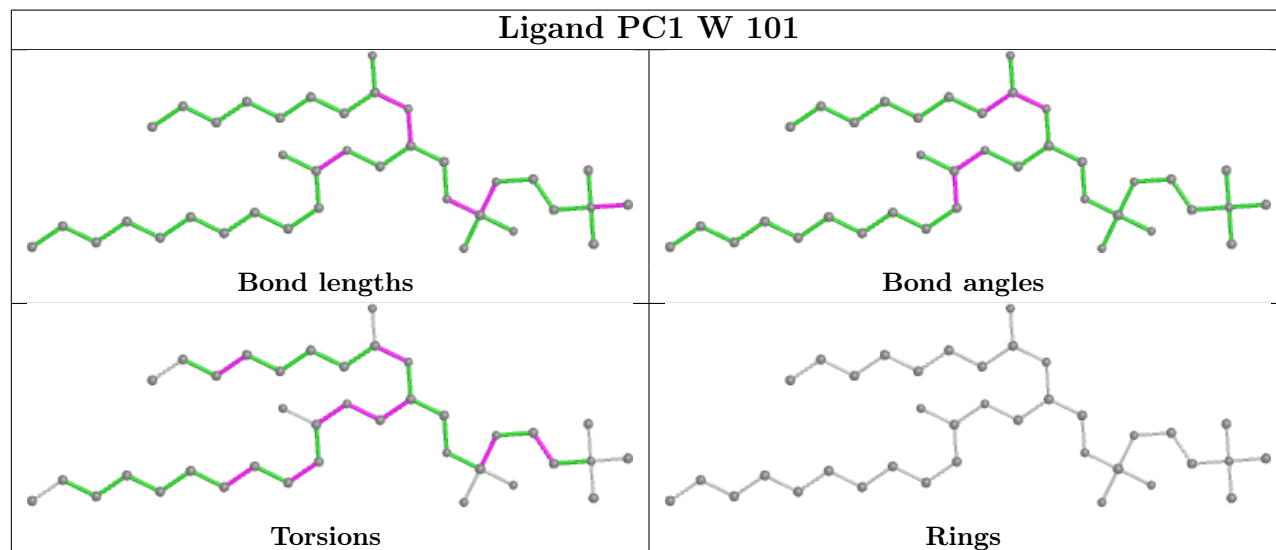
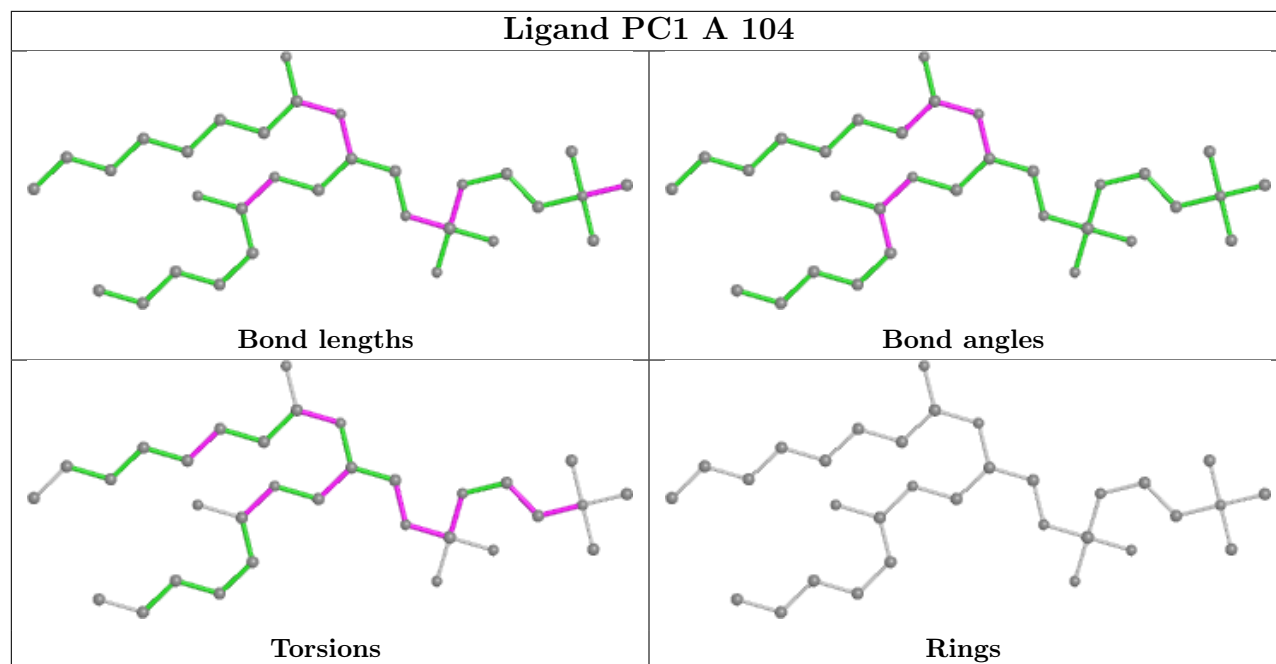


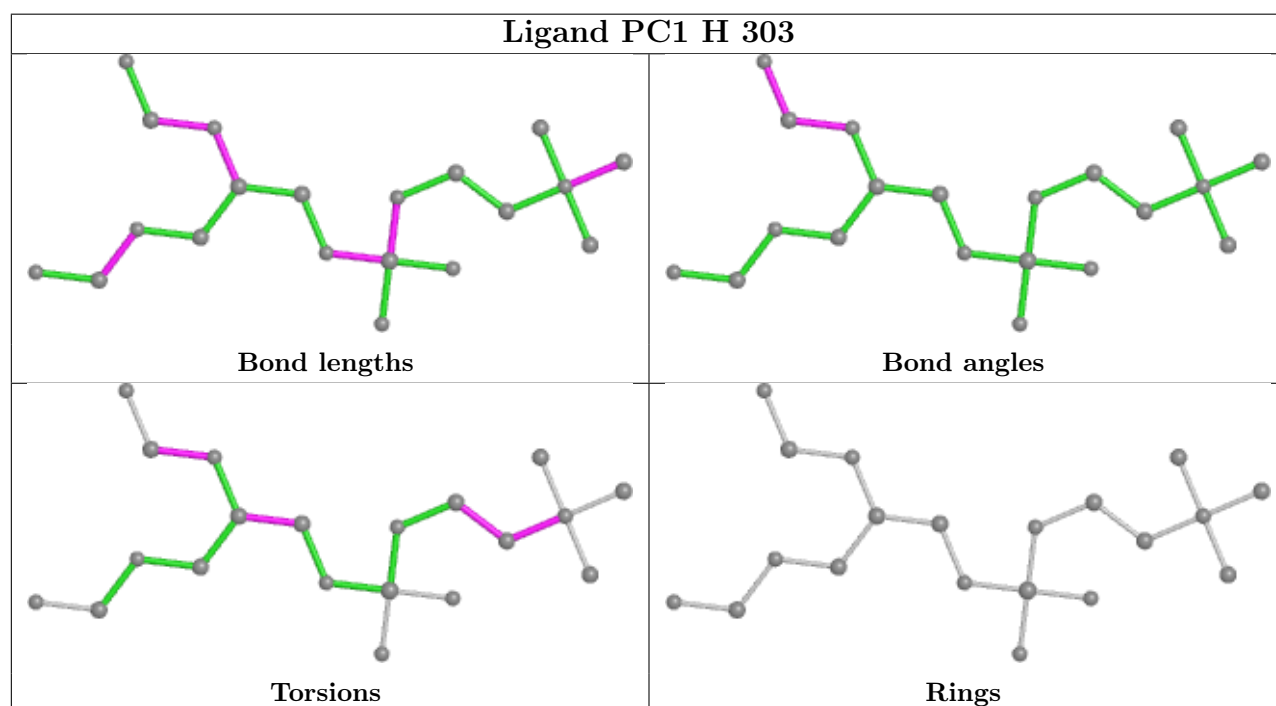
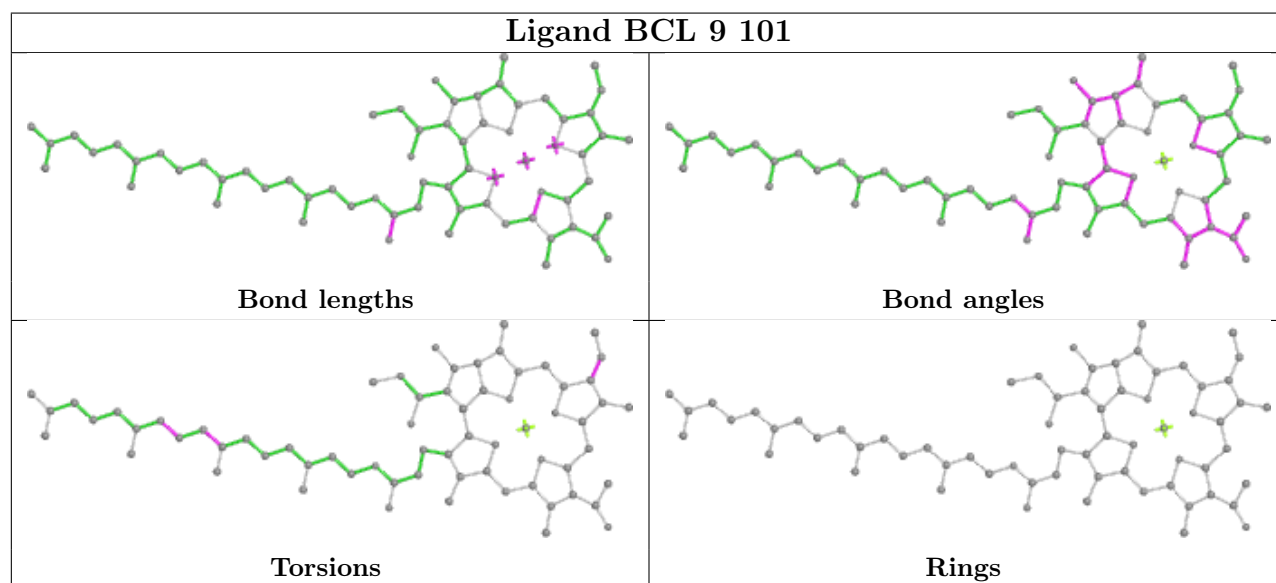
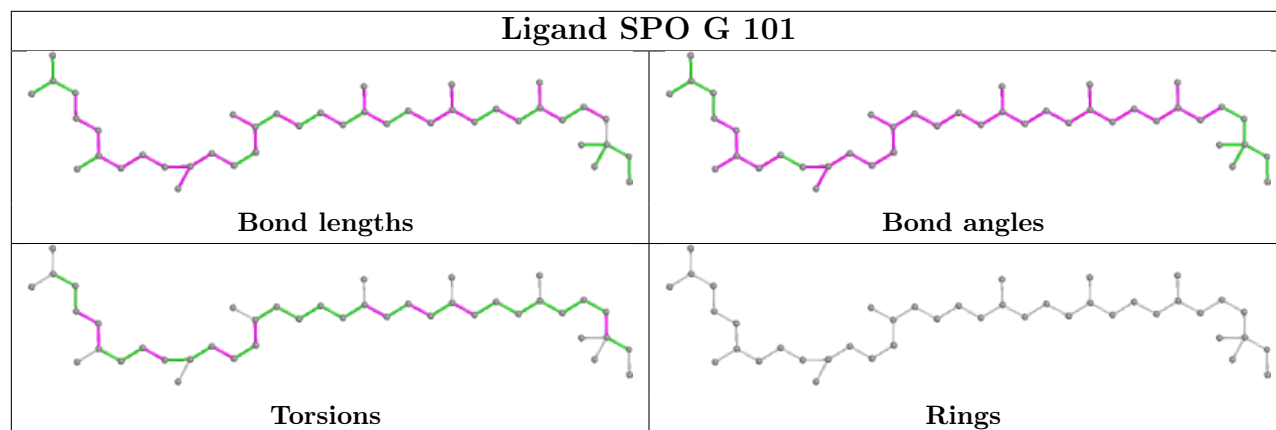


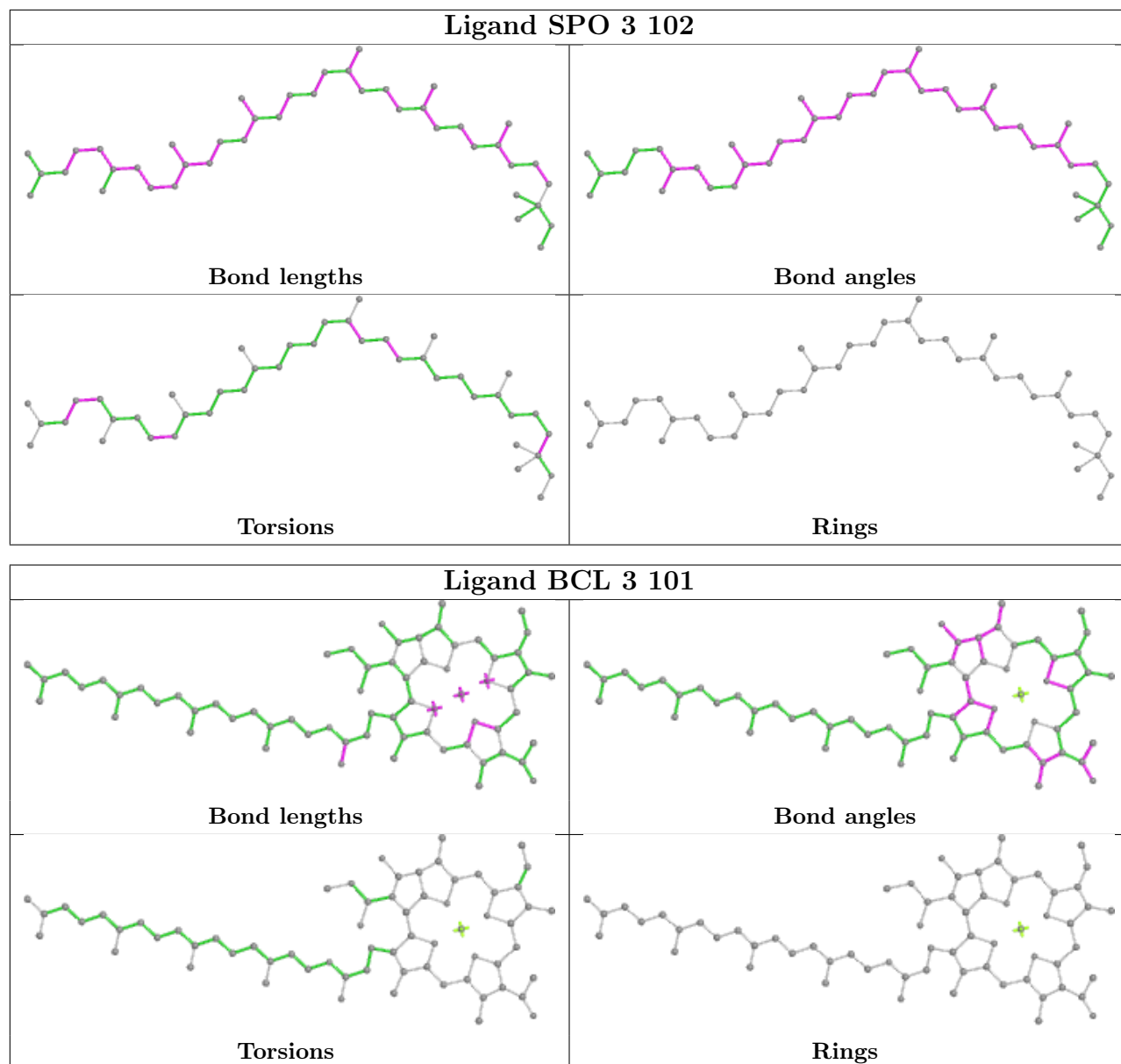


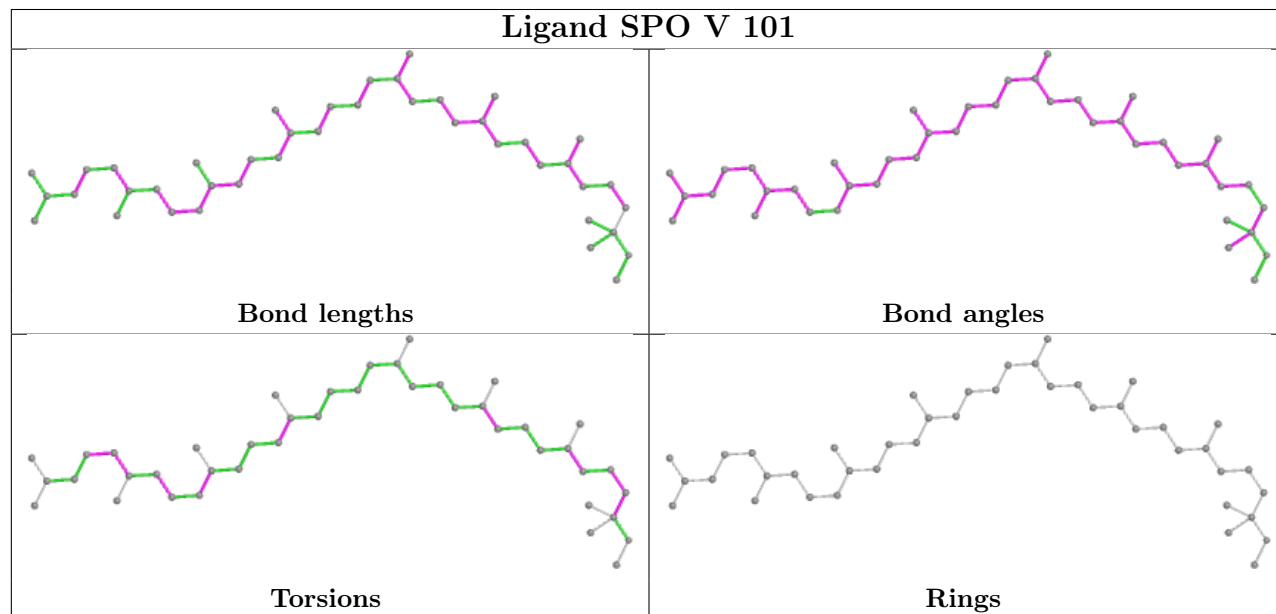
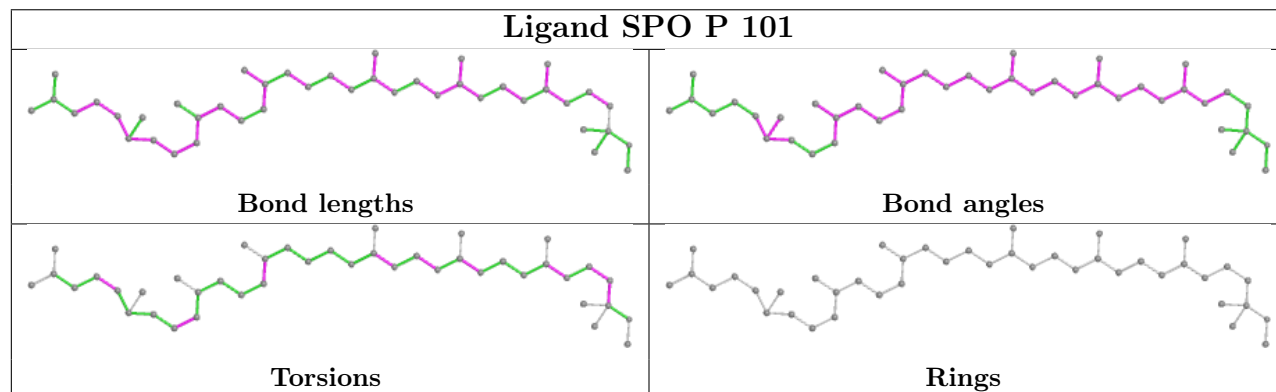
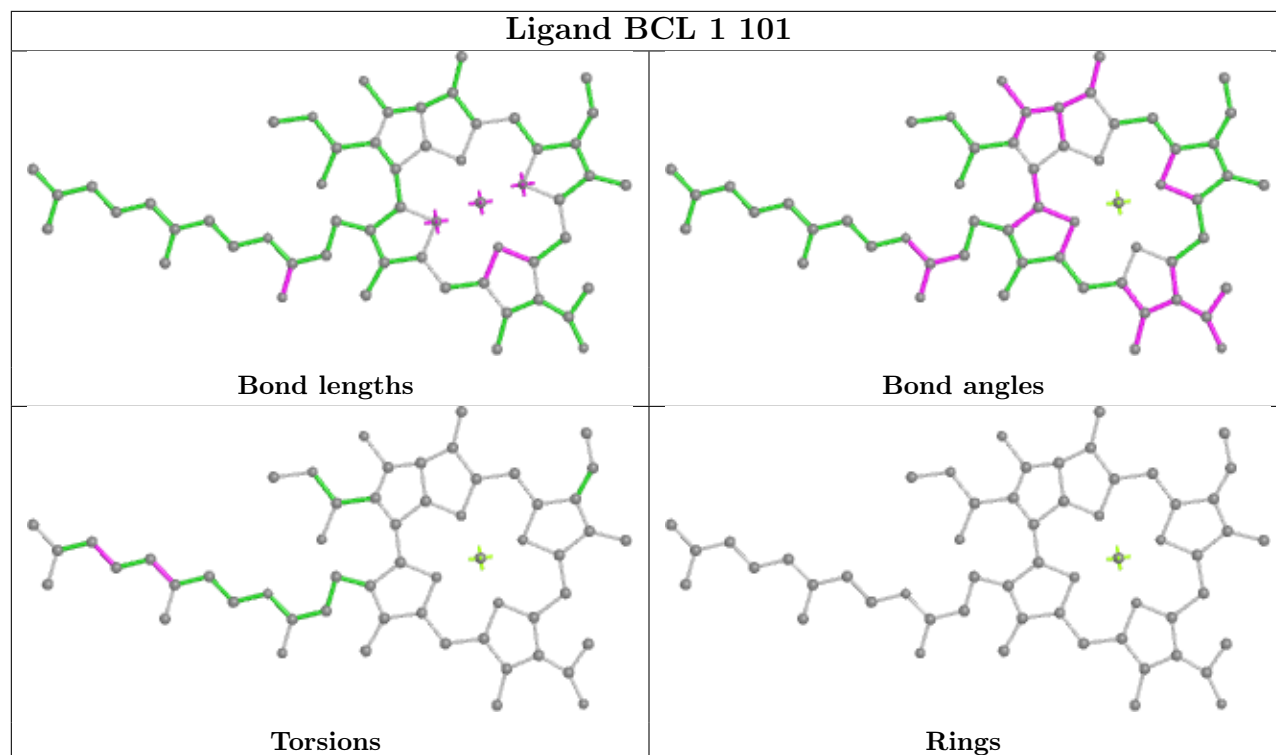


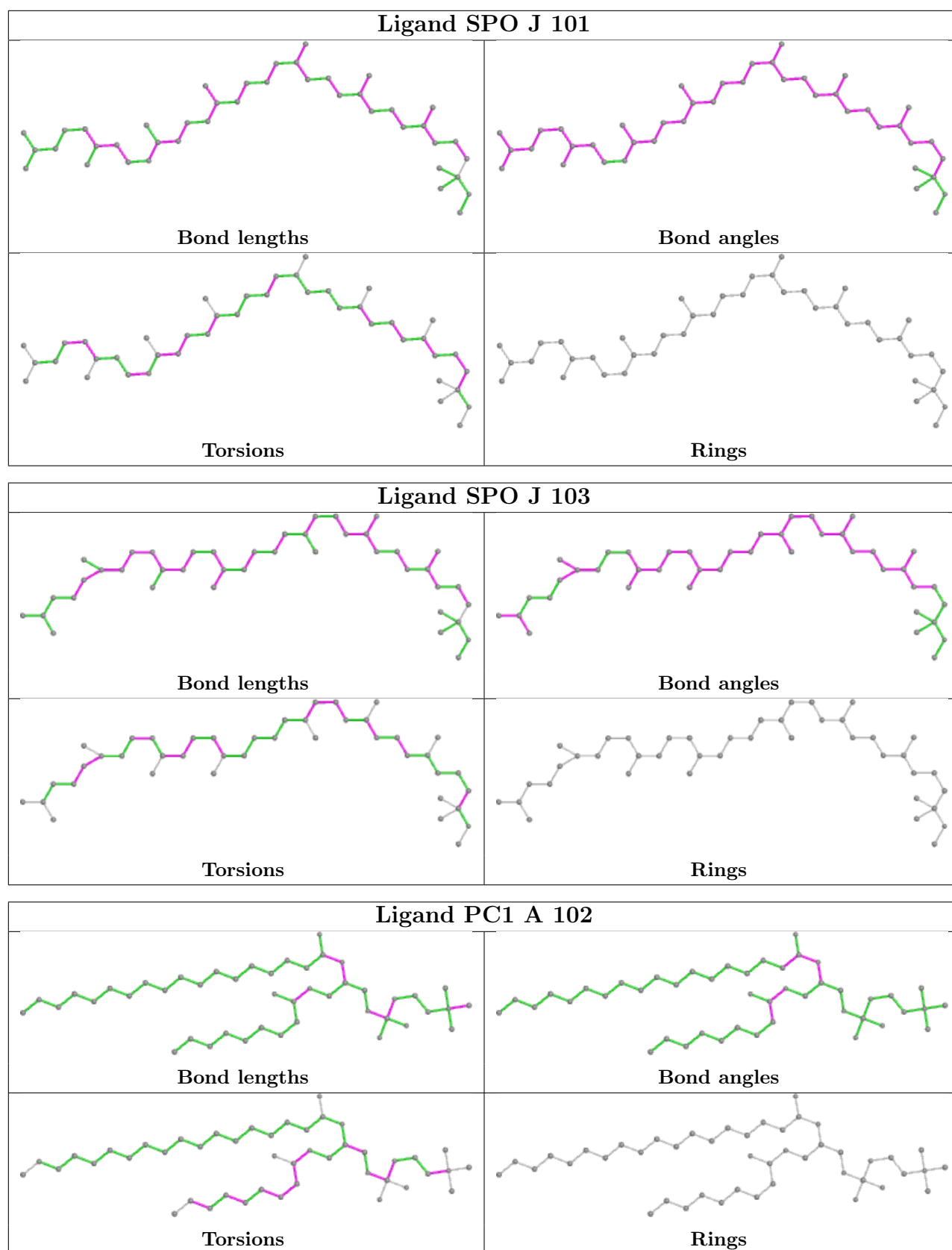


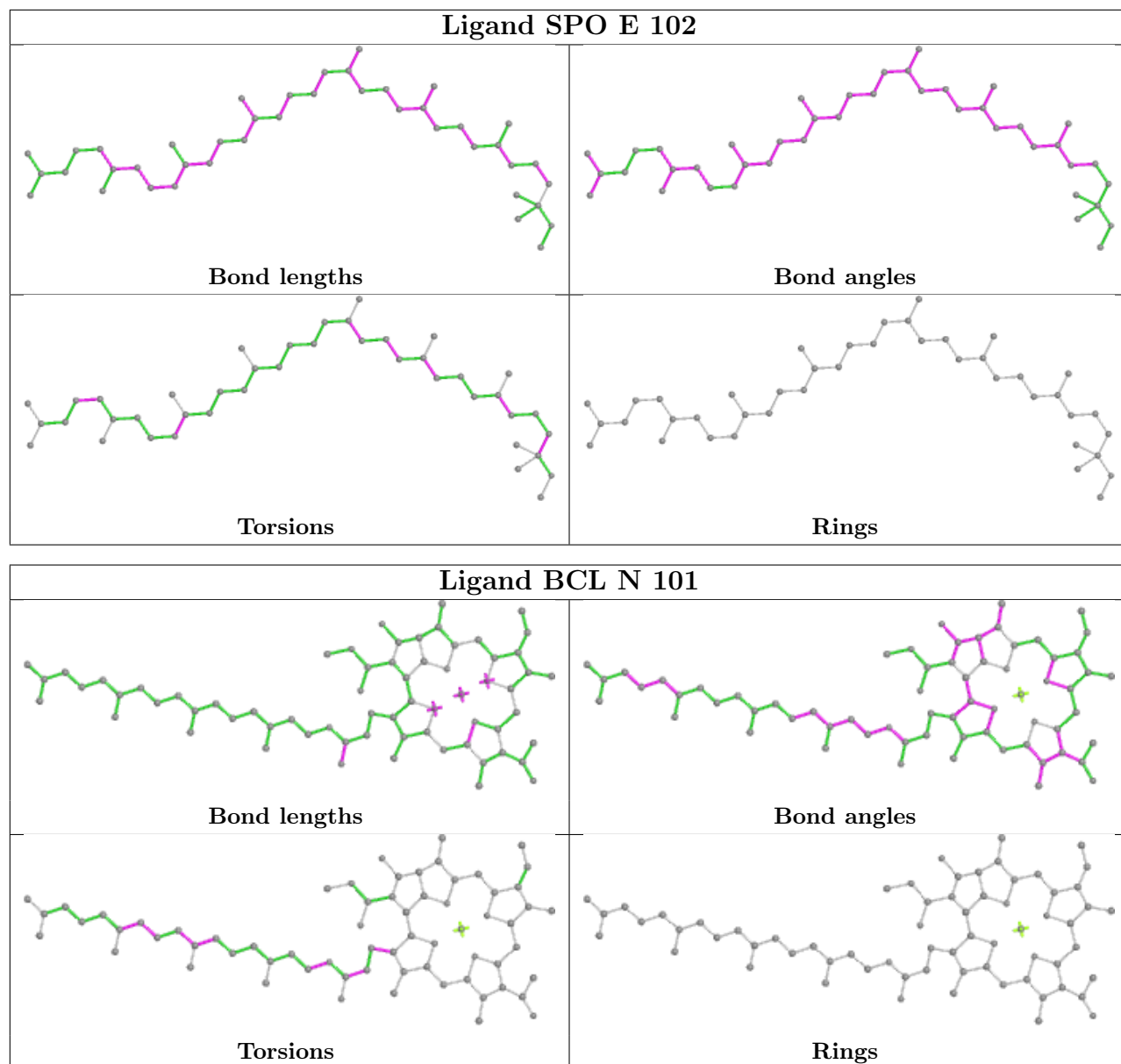


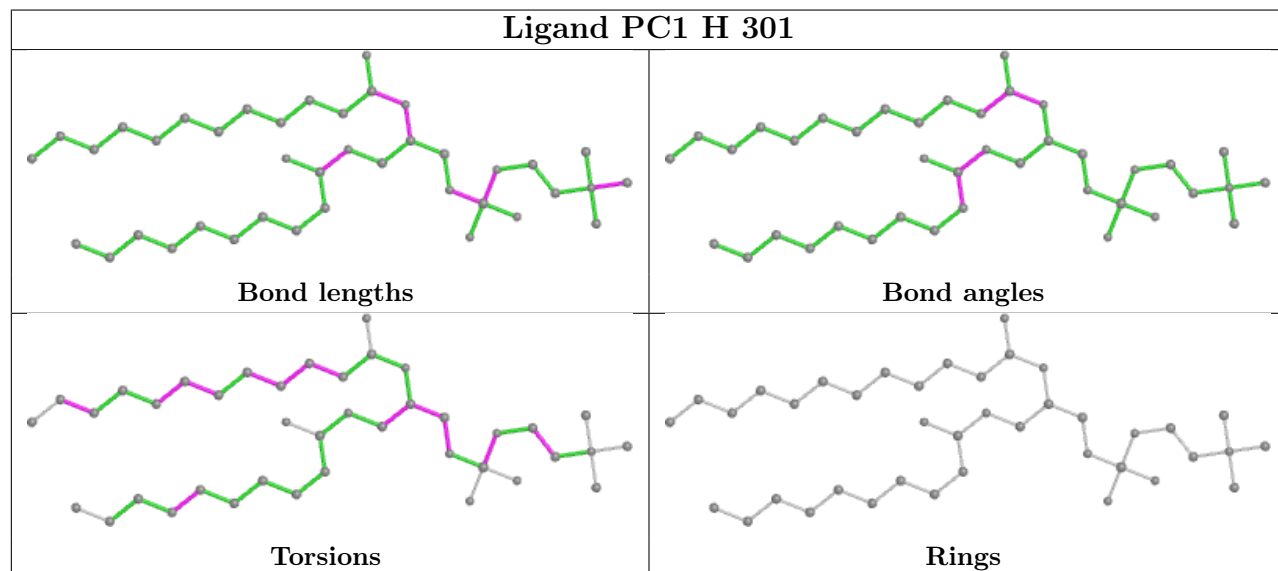
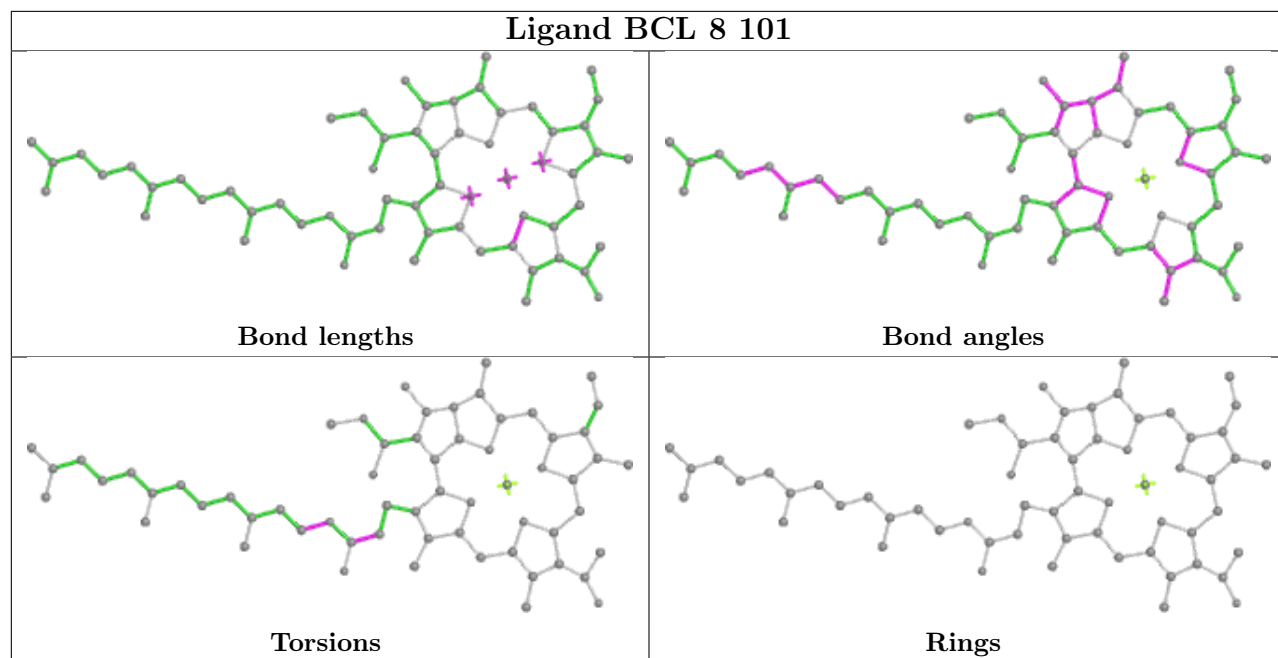


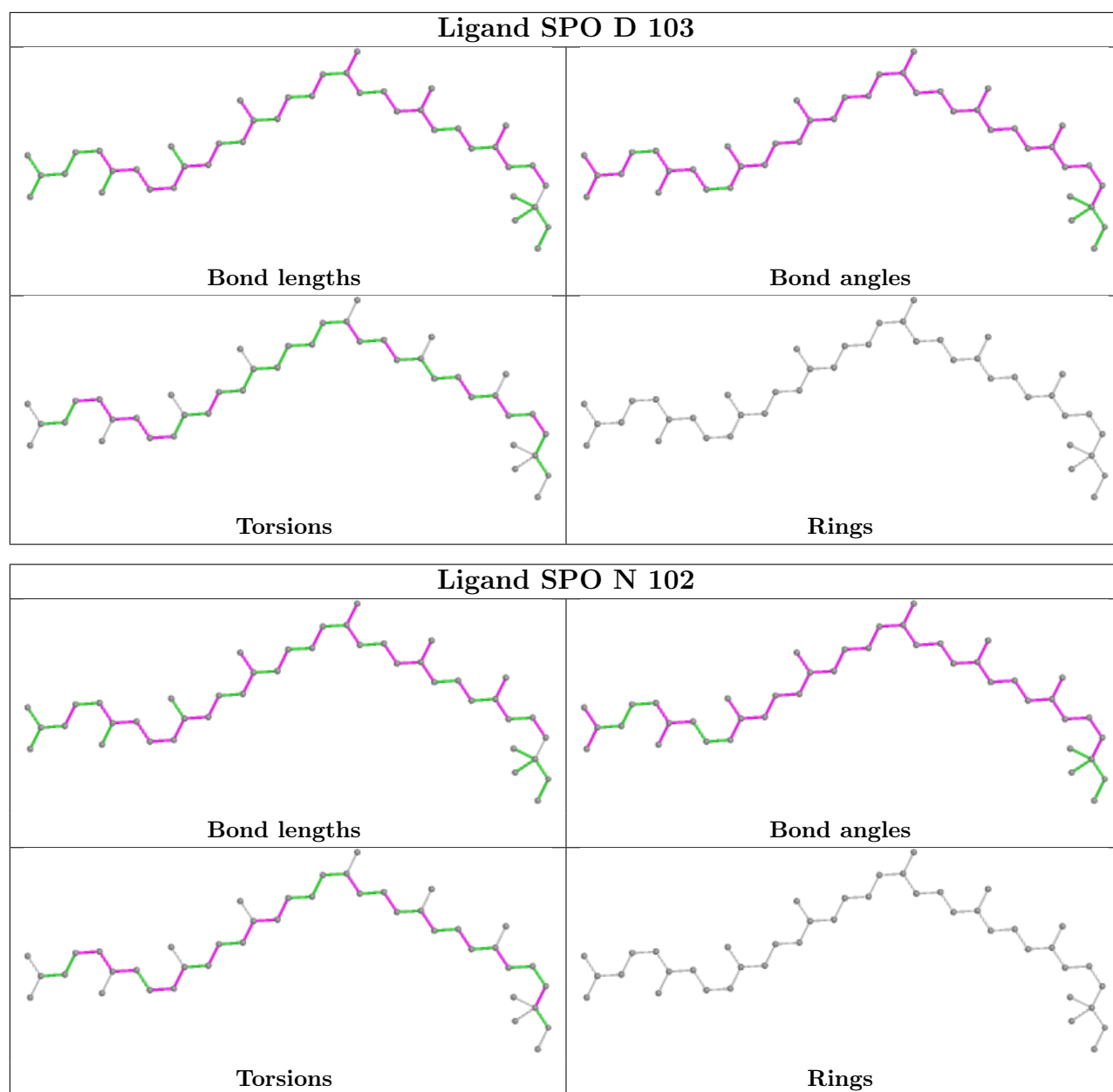


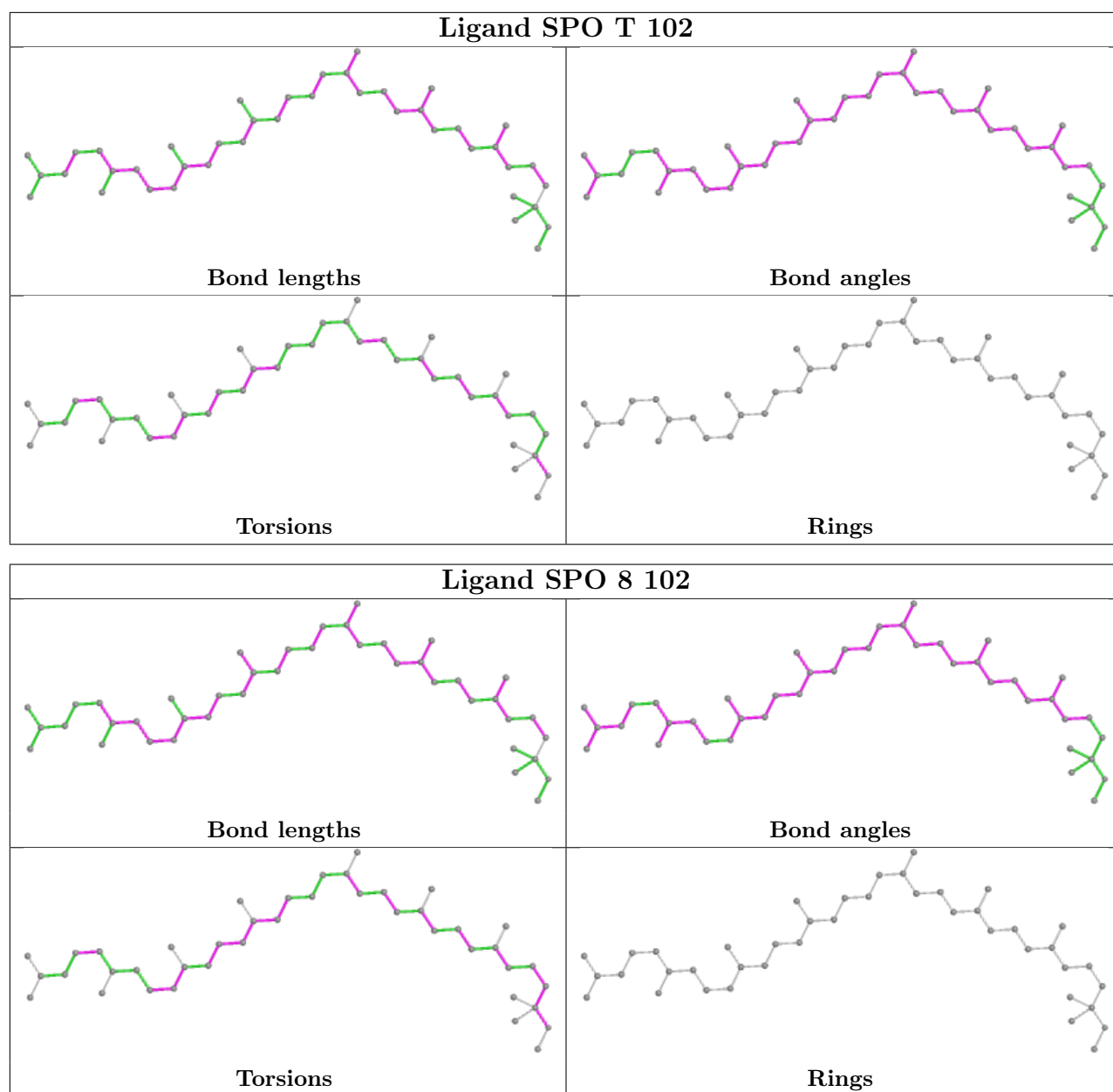


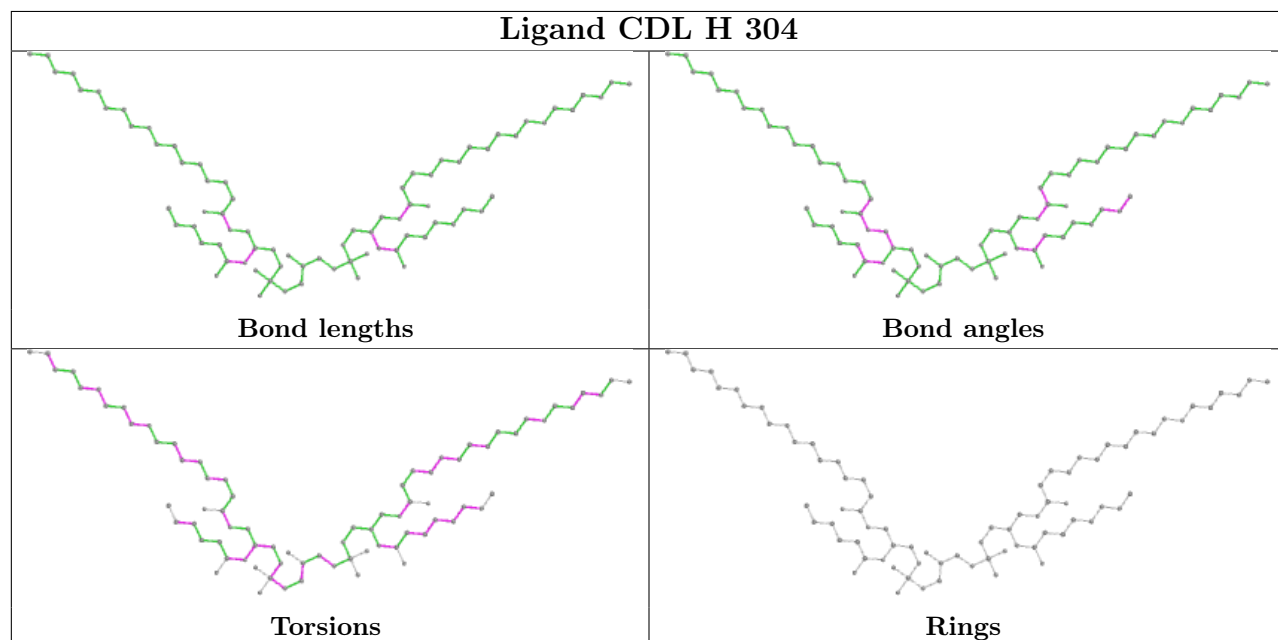
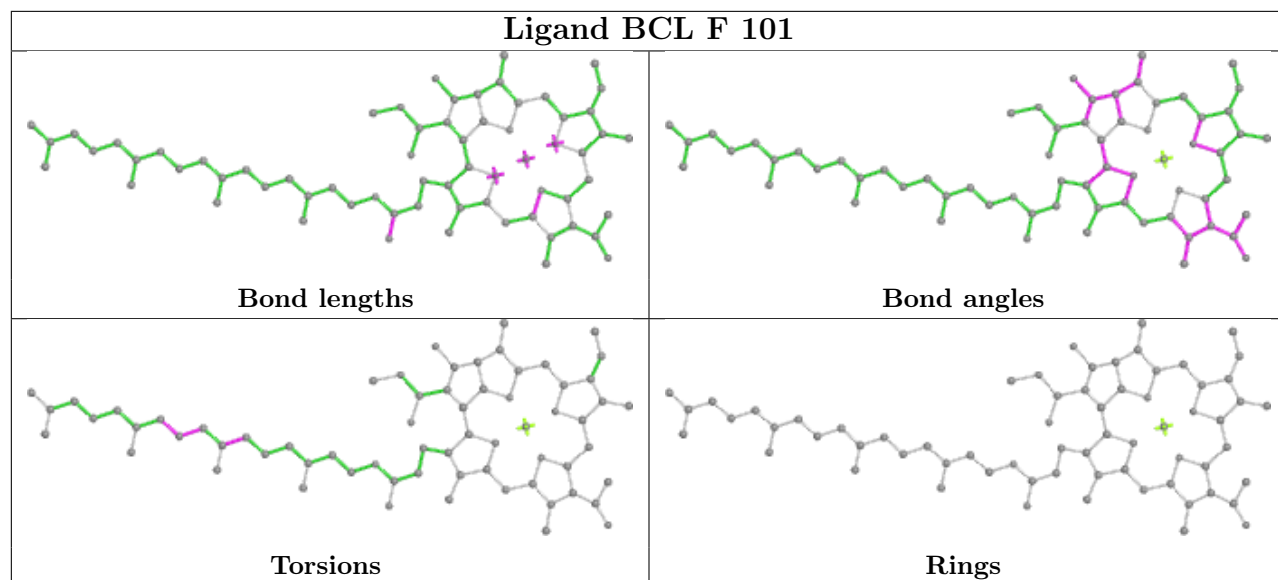


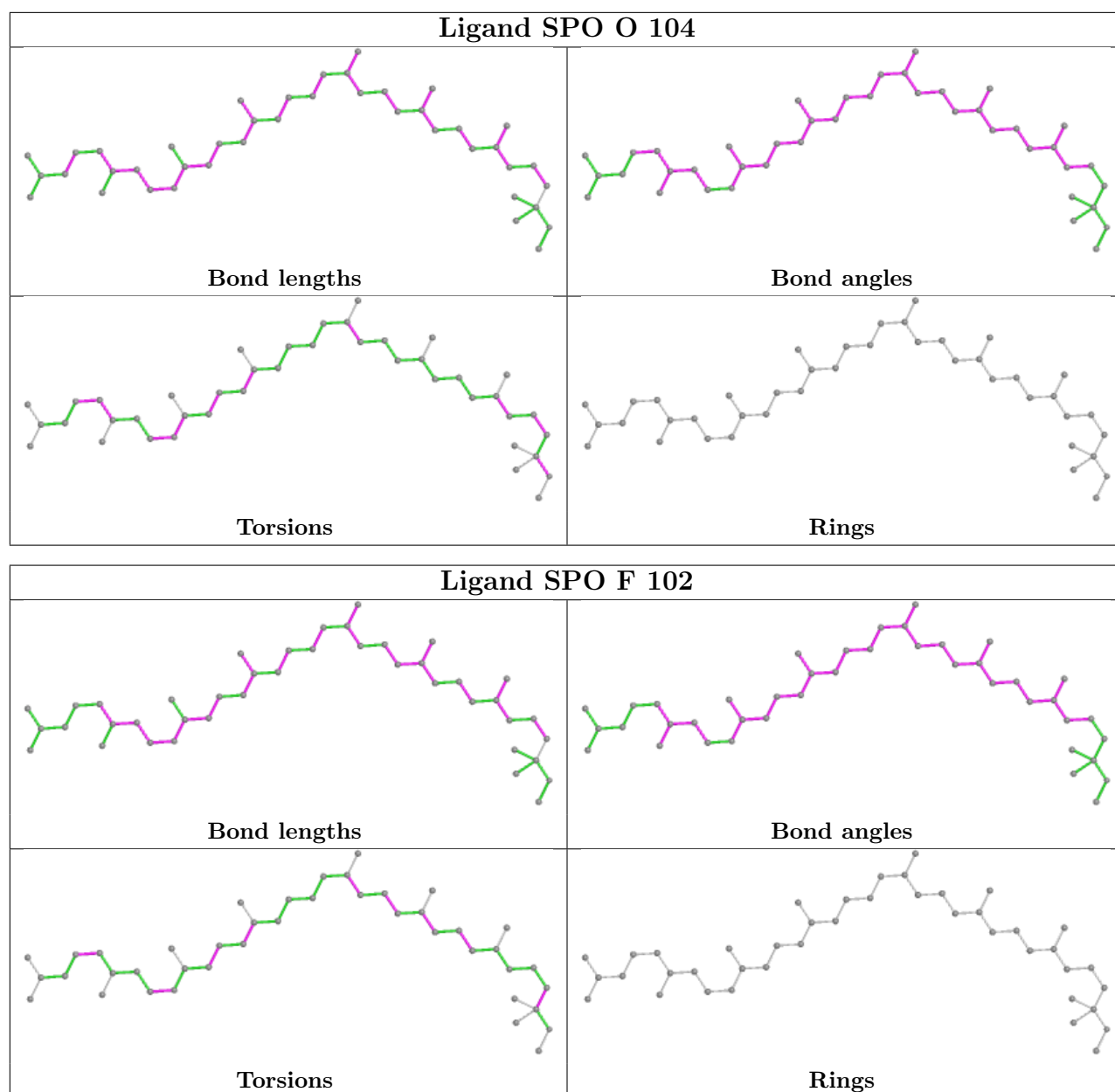


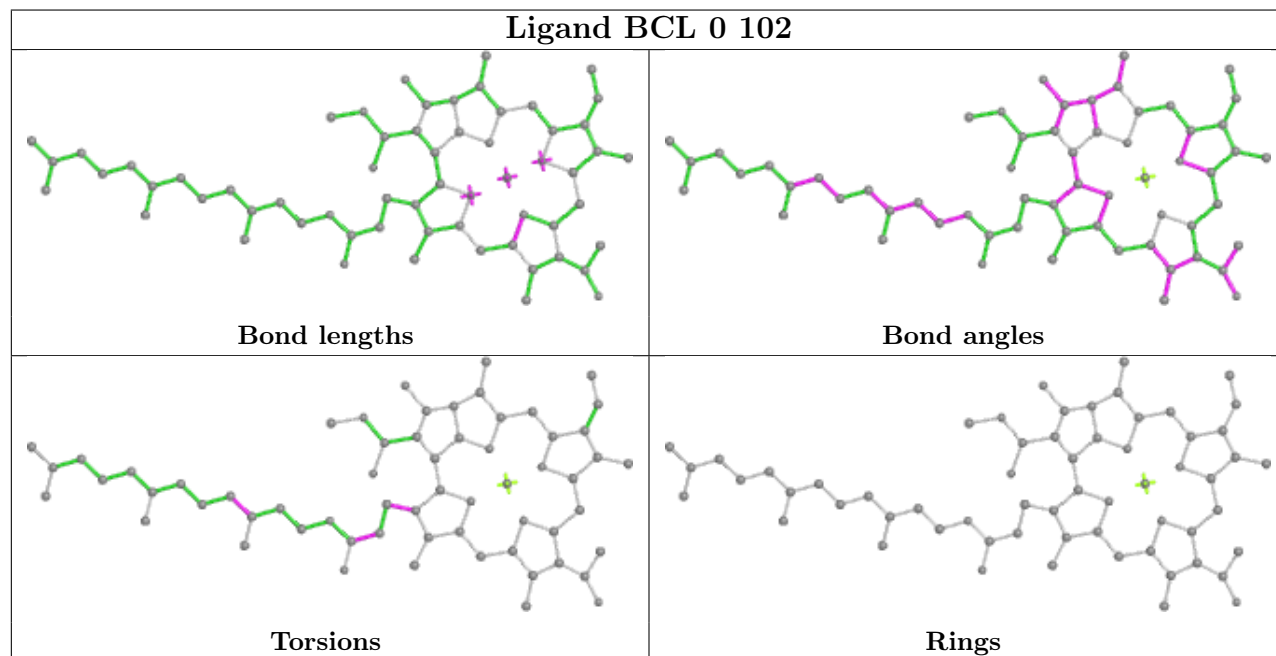
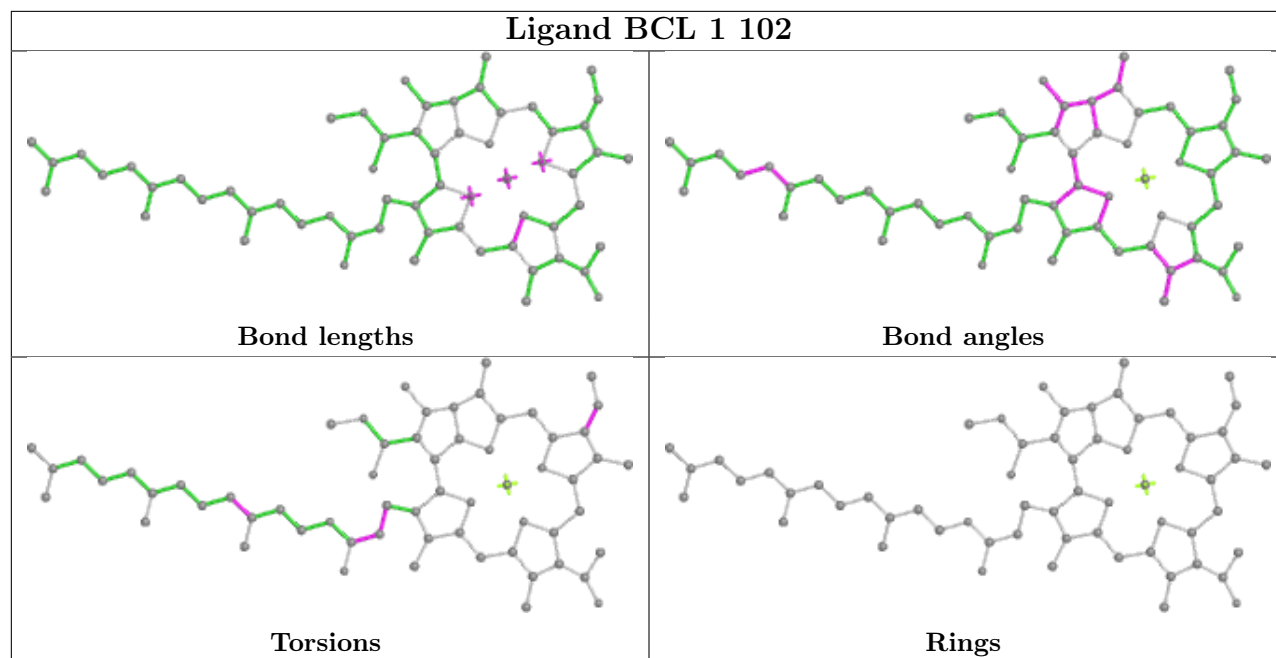


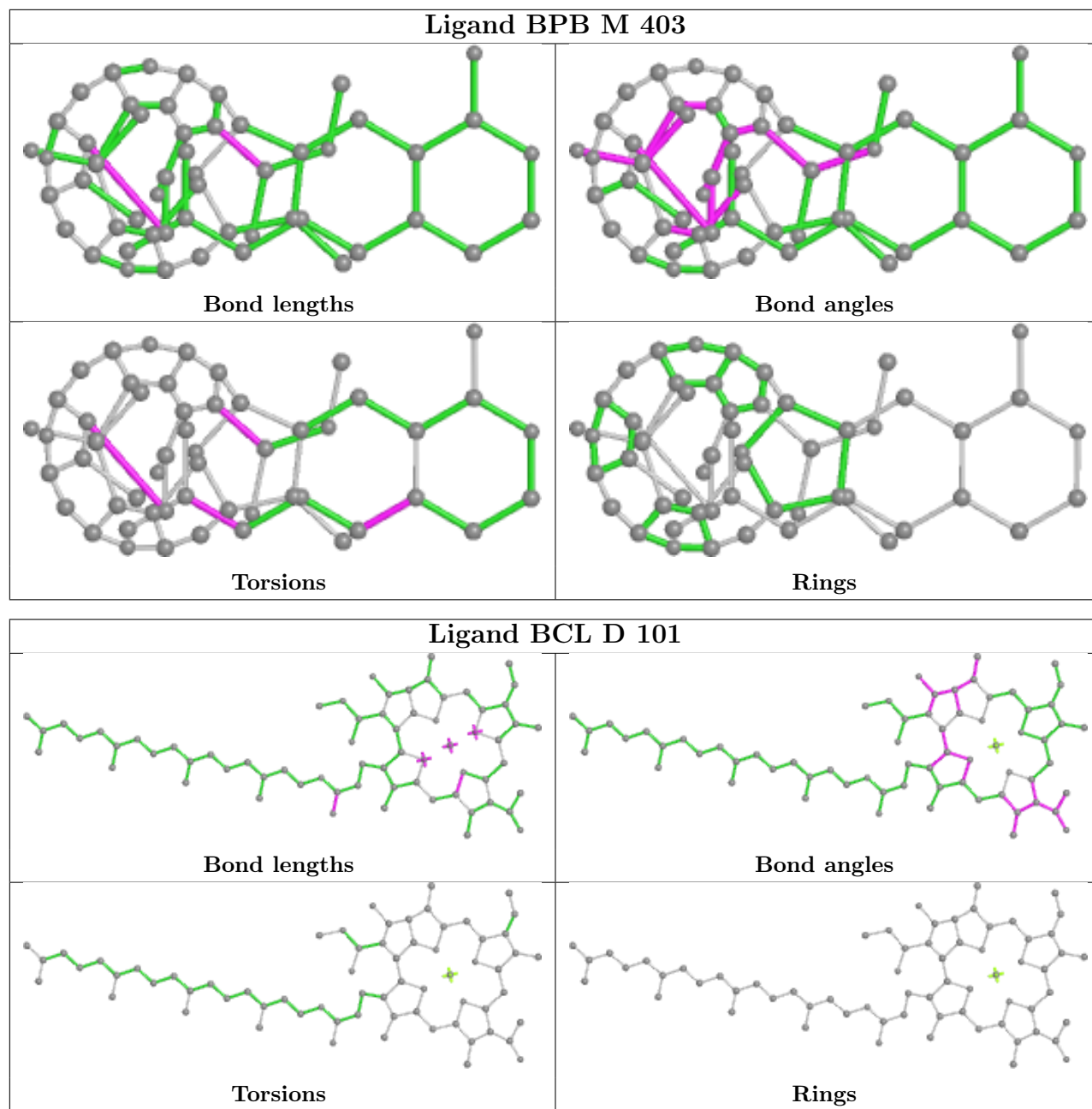


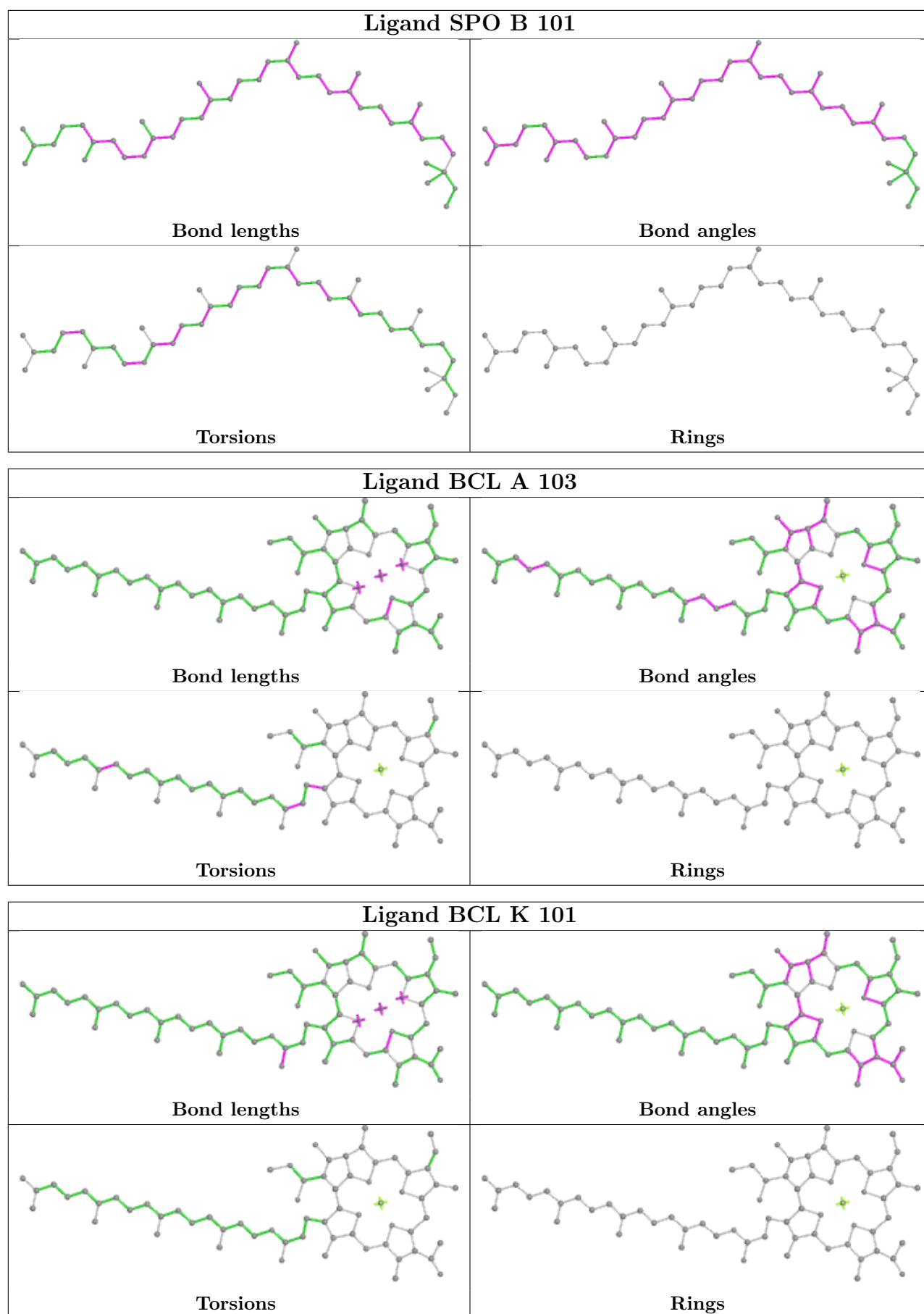


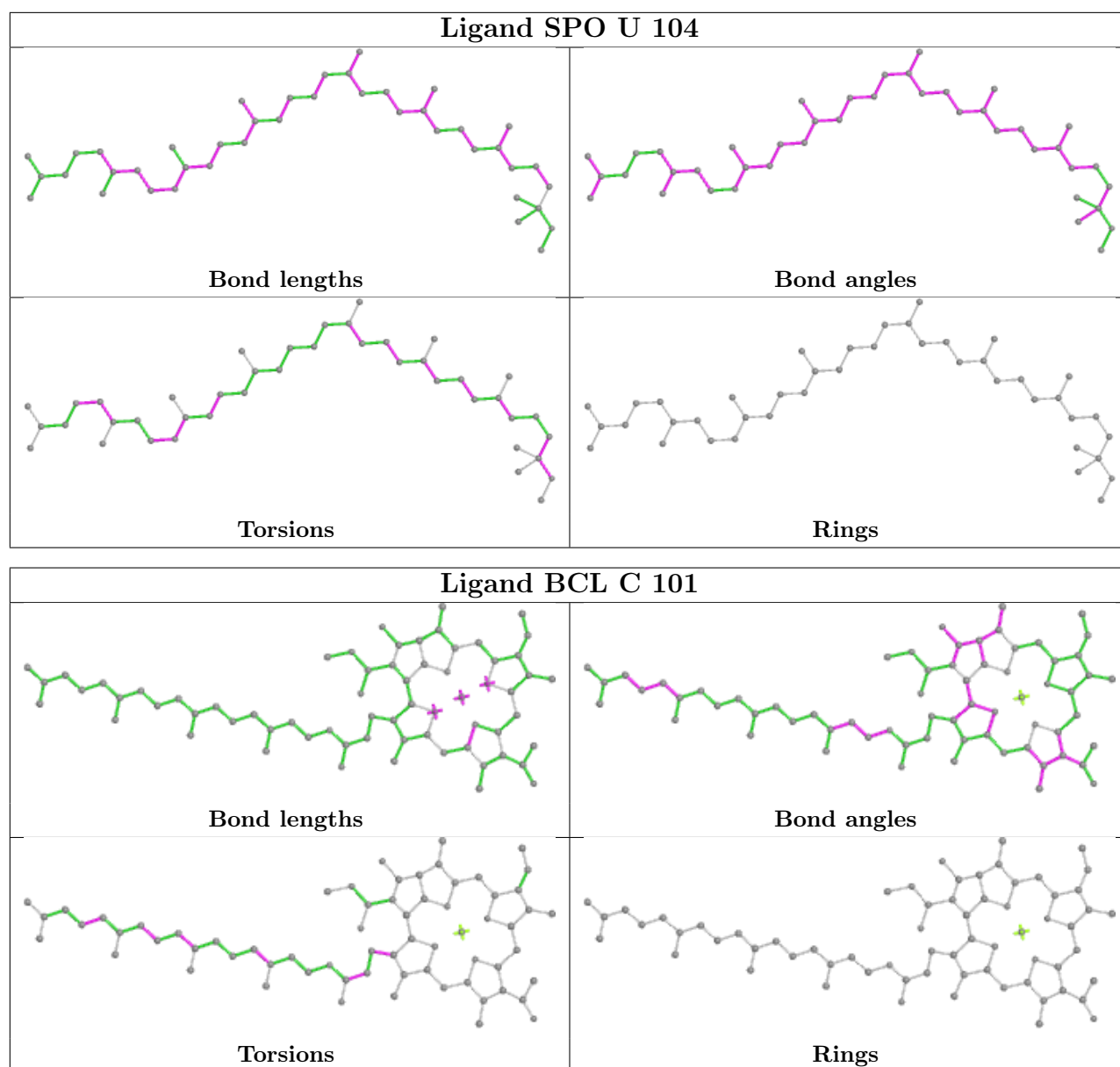












5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [\(i\)](#)

There are no chain breaks in this entry.

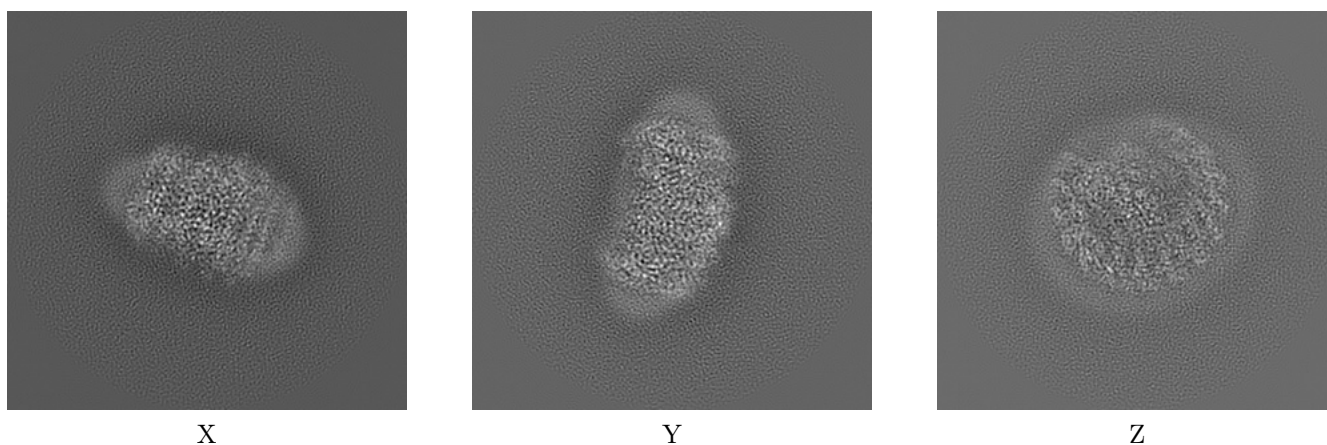
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-32047. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

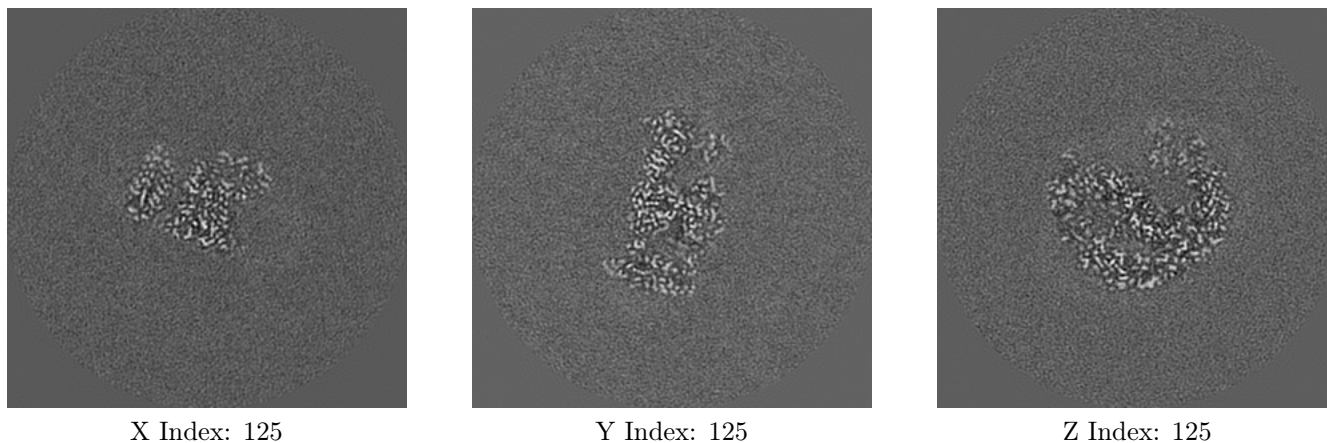
6.1.1 Primary map



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

6.2 Central slices [i](#)

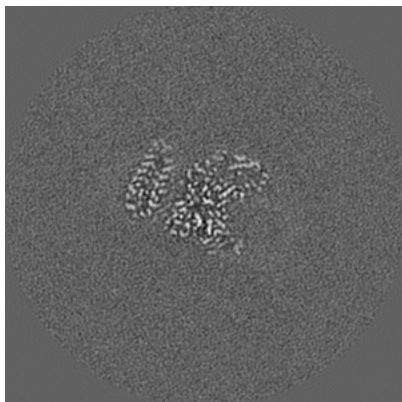
6.2.1 Primary map



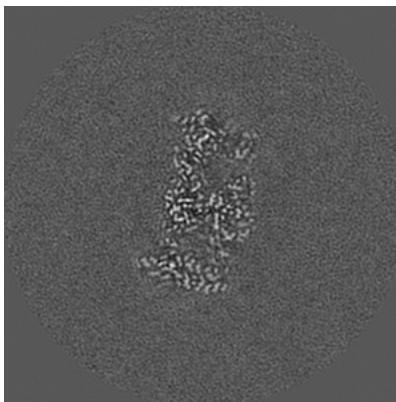
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

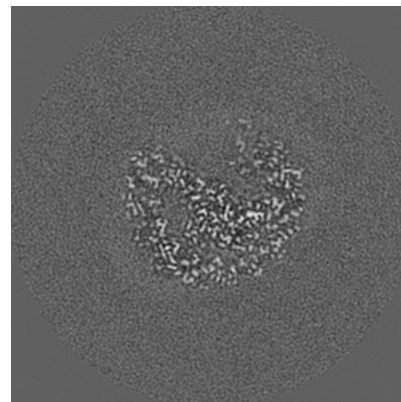
6.3.1 Primary map



X Index: 126



Y Index: 124

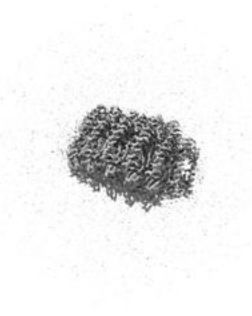


Z Index: 119

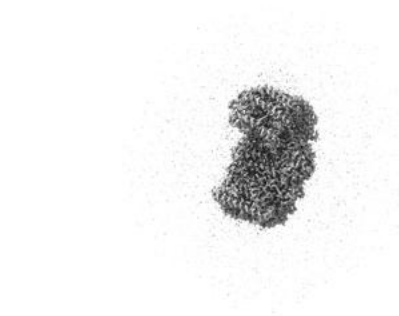
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

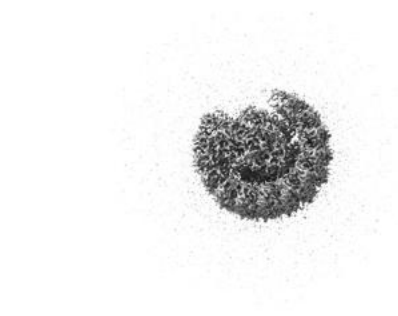
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

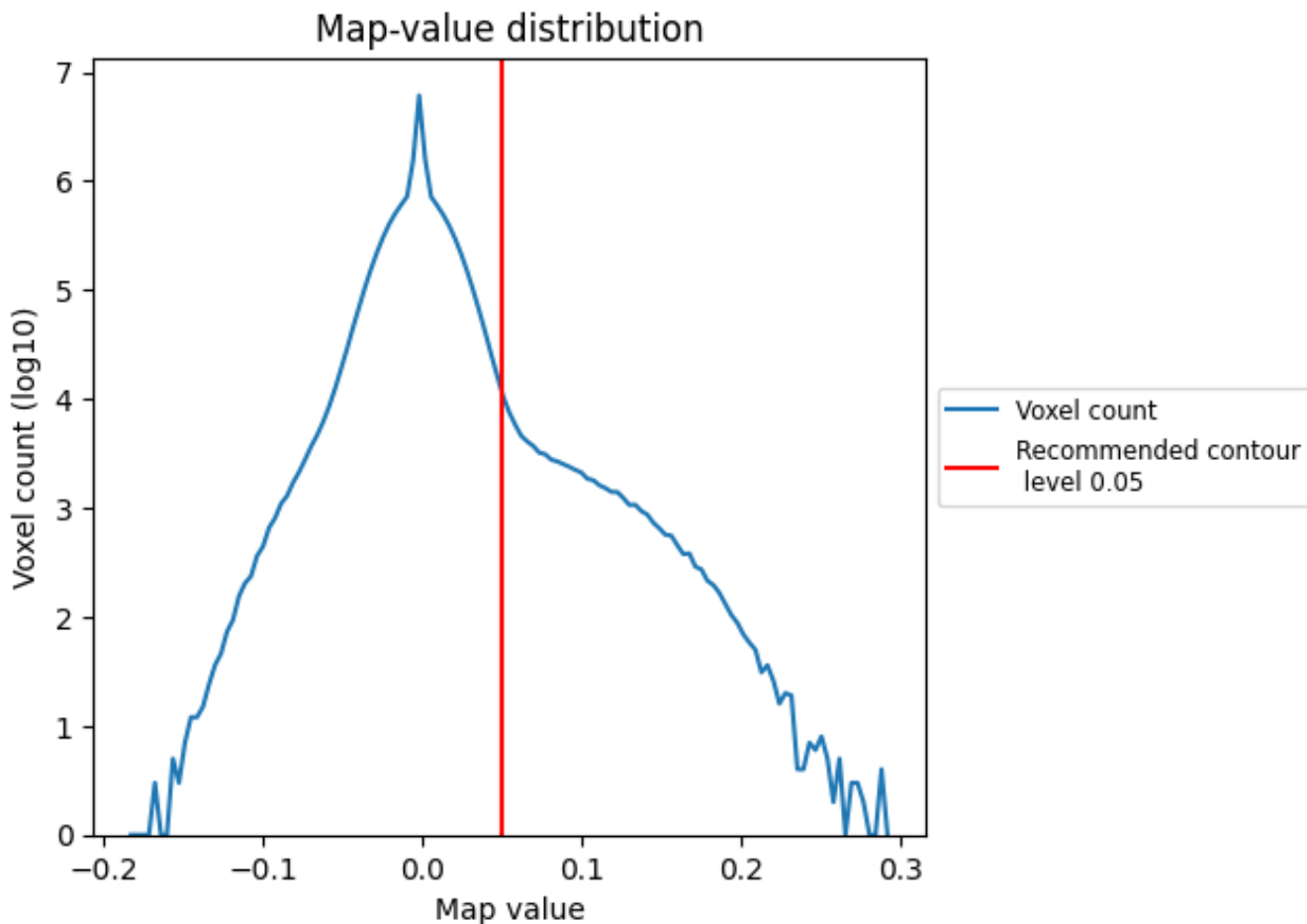
6.5 Mask visualisation

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

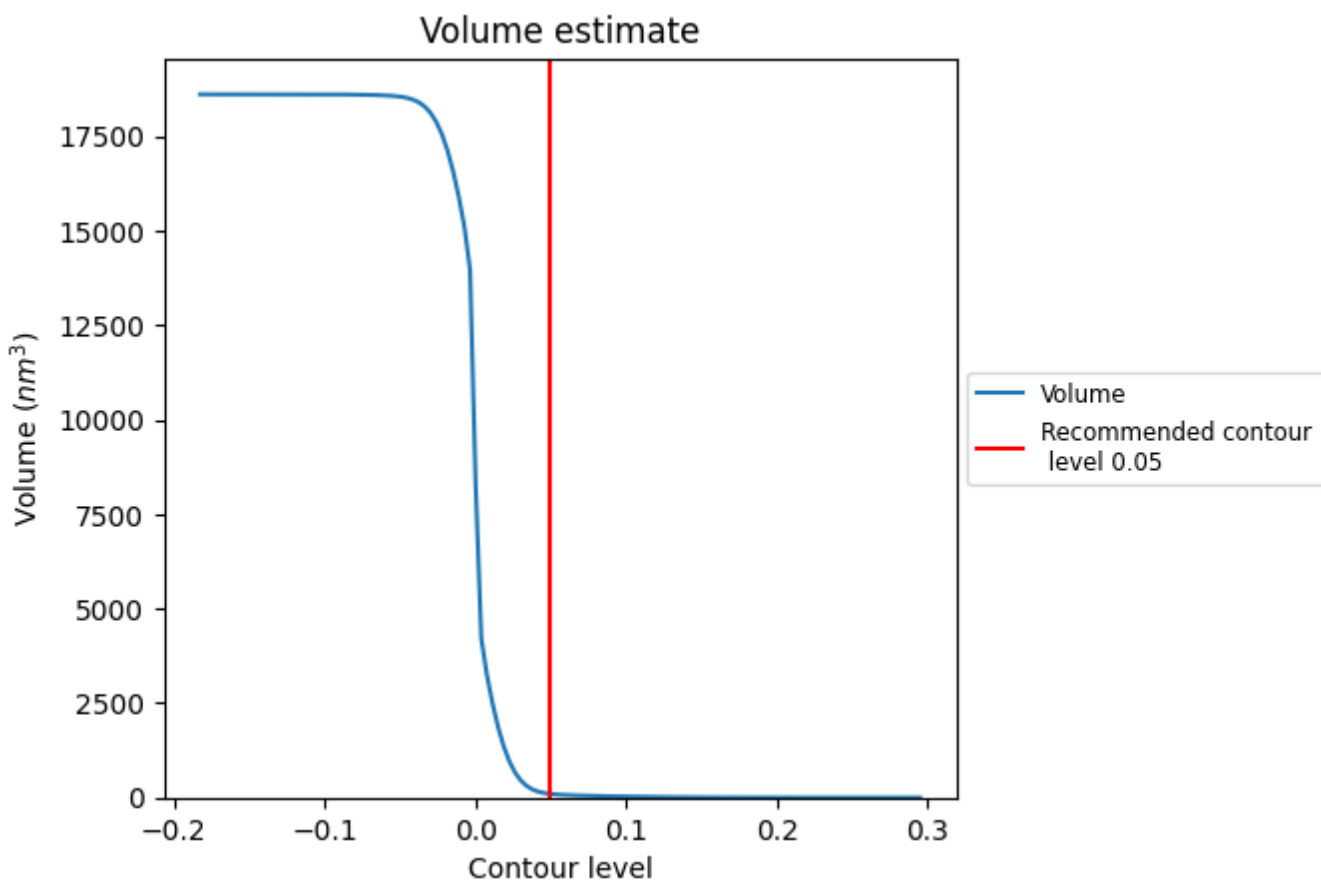
This section contains the results of statistical analysis of the map.

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.

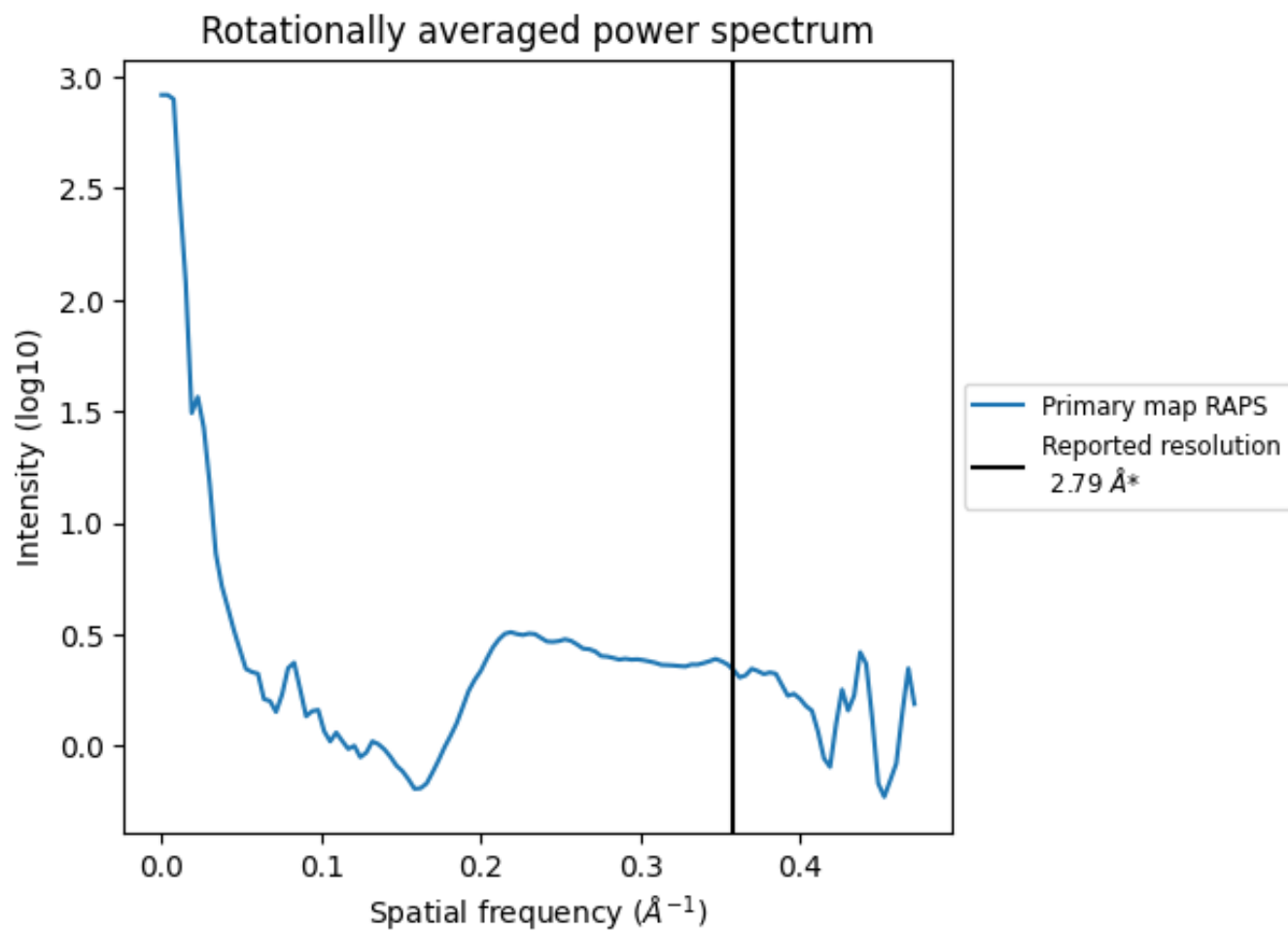
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 96 nm³; this corresponds to an approximate mass of 87 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](#)

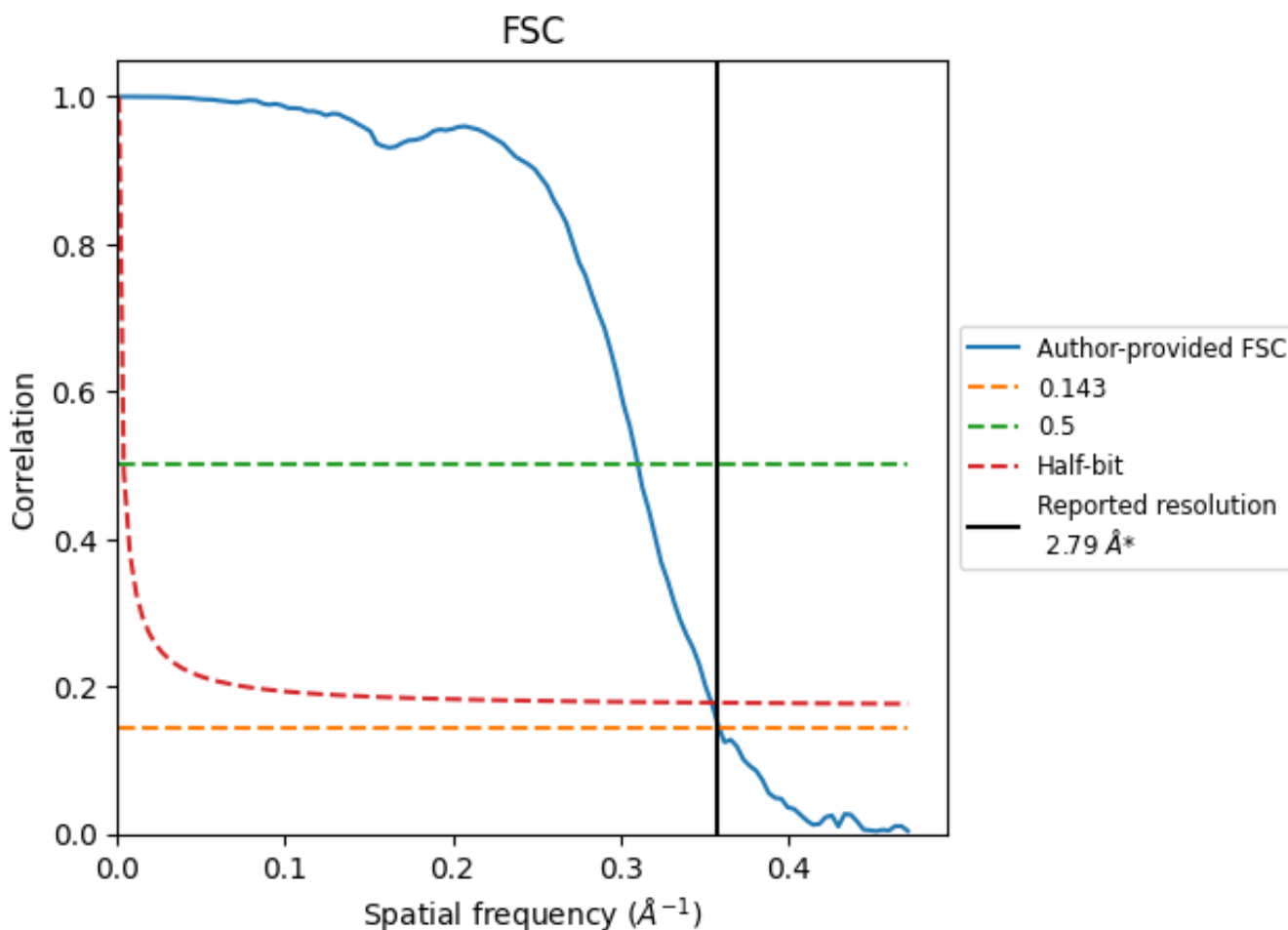


*Reported resolution corresponds to spatial frequency of 0.358\AA^{-1}

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 0.358 Å⁻¹

8.2 Resolution estimates [i](#)

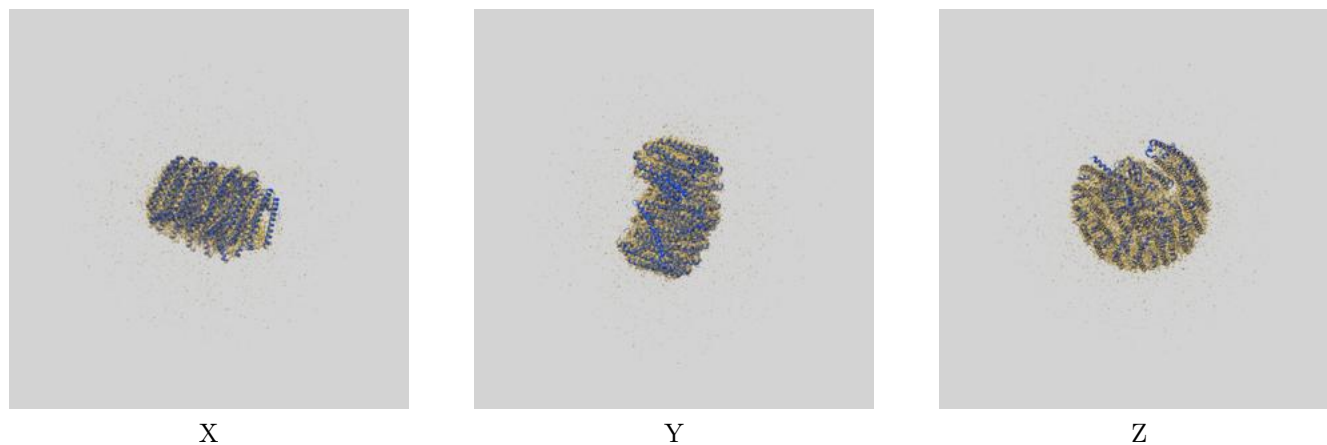
| Resolution estimate (Å) | Estimation criterion (FSC cut-off) | | |
|---------------------------|------------------------------------|------|----------|
| | 0.143 | 0.5 | Half-bit |
| Reported by author | 2.79 | - | - |
| Author-provided FSC curve | 2.78 | 3.22 | 2.82 |
| Unmasked-calculated* | - | - | - |

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-32047 and PDB model 7VNY. Per-residue inclusion information can be found in section [3](#) on page [15](#).

9.1 Map-model overlay [i](#)



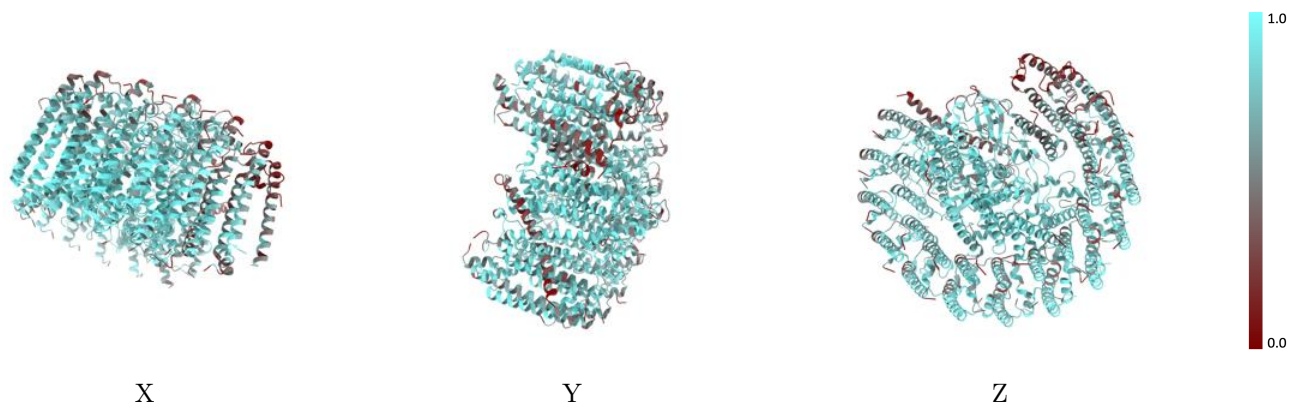
The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



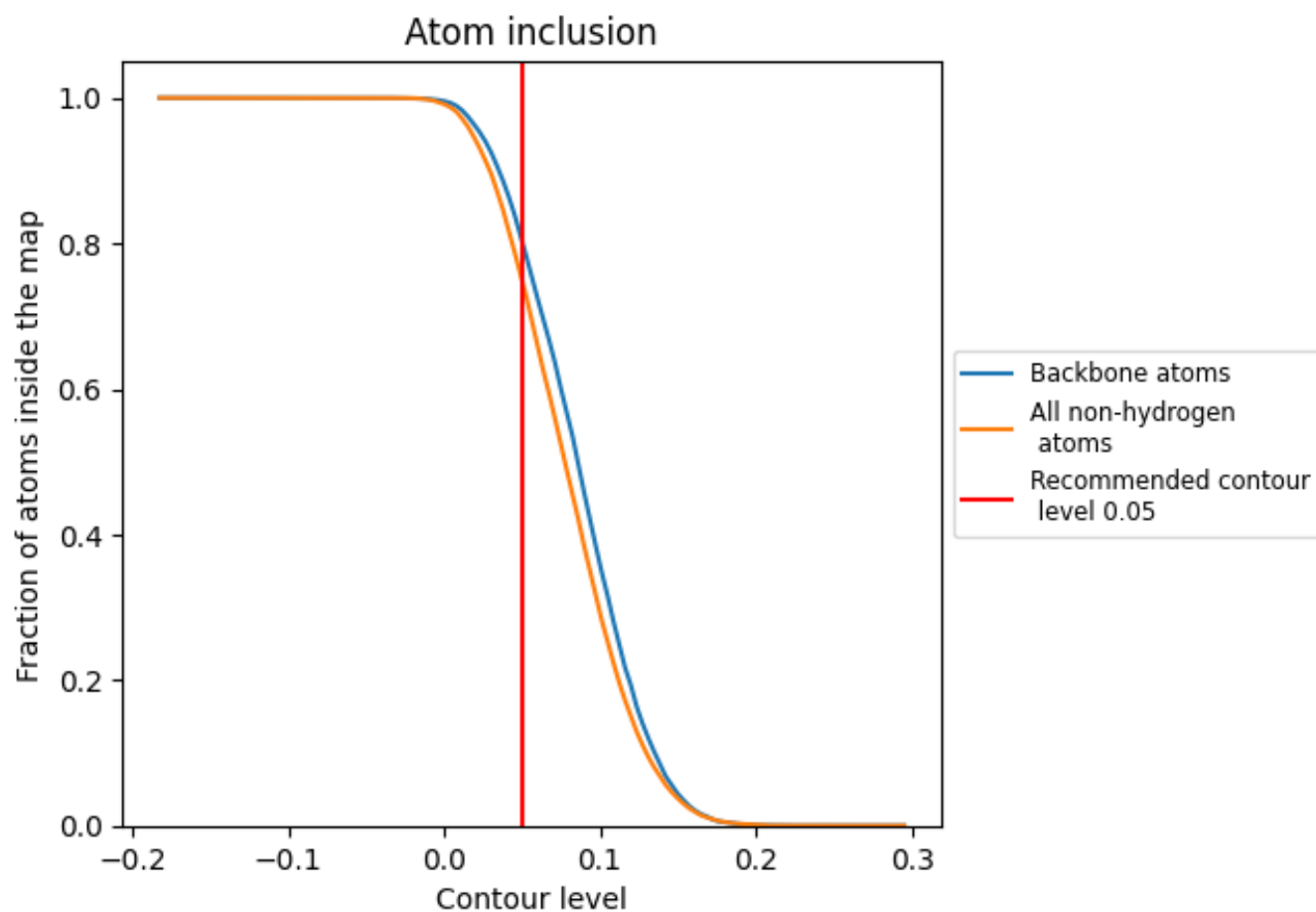
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.05).





































































9.4 Atom inclusion [i](#)



At the recommended contour level, 80% of all backbone atoms, 75% 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 (0.05) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|-------|--|--|
| All |  0.7491 |  0.6330 |
| 0 |  0.7711 |  0.6240 |
| 1 |  0.4771 |  0.5590 |
| 2 |  0.3948 |  0.5260 |
| 3 |  0.6426 |  0.6080 |
| 7 |  0.6973 |  0.6110 |
| 8 |  0.6133 |  0.5870 |
| 9 |  0.8011 |  0.6460 |
| A |  0.7780 |  0.6500 |
| B |  0.7820 |  0.6390 |
| C |  0.6568 |  0.5890 |
| D |  0.7624 |  0.6440 |
| E |  0.7405 |  0.6150 |
| F |  0.8098 |  0.6530 |
| G |  0.7325 |  0.6280 |
| H |  0.7058 |  0.6330 |
| I |  0.8102 |  0.6510 |
| J |  0.7342 |  0.6160 |
| K |  0.7945 |  0.6440 |
| L |  0.8698 |  0.6720 |
| M |  0.8937 |  0.6800 |
| N |  0.7069 |  0.6110 |
| O |  0.7868 |  0.6380 |
| P |  0.6935 |  0.6020 |
| Q |  0.7866 |  0.6380 |
| R |  0.7383 |  0.6240 |
| S |  0.8187 |  0.6460 |
| T |  0.7002 |  0.6100 |
| U |  0.7975 |  0.6340 |
| V |  0.7013 |  0.6010 |
| W |  0.6991 |  0.6220 |
| X |  0.3364 |  0.5130 |
| Y |  0.5533 |  0.5940 |
| Z |  0.5731 |  0.5580 |

