



## Full wwPDB EM Validation Report ⓘ

May 13, 2023 – 01:00 PM EDT

PDB ID : 8SI3  
EMDB ID : EMD-40497  
Title : Cryo-EM structure of TRPM7 in GDN detergent in apo state  
Authors : Nadezhdin, K.D.; Neuberger, A.; Sobolevsky, A.I.  
Deposited on : 2023-04-14  
Resolution : 2.61 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](mailto: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>.

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

EMDB validation analysis : 0.0.1.dev50  
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) : 2.32.2

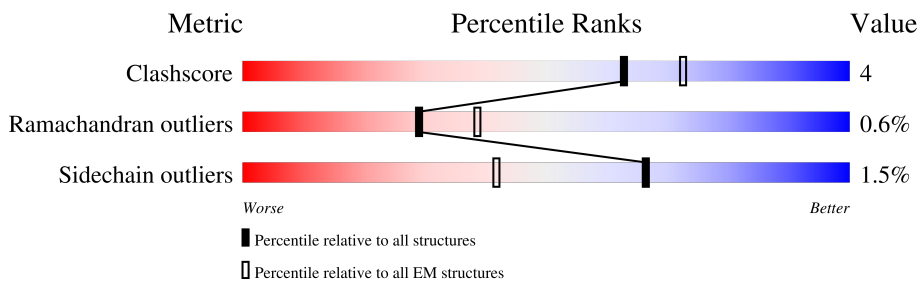
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 2.61 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<br>(#Entries) | EM structures<br>(#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  $\geq 3$ , 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   | A     | 1279   |                  |
| 1   | B     | 1279   |                  |
| 1   | C     | 1279   |                  |
| 1   | D     | 1279   |                  |

## 2 Entry composition [i](#)

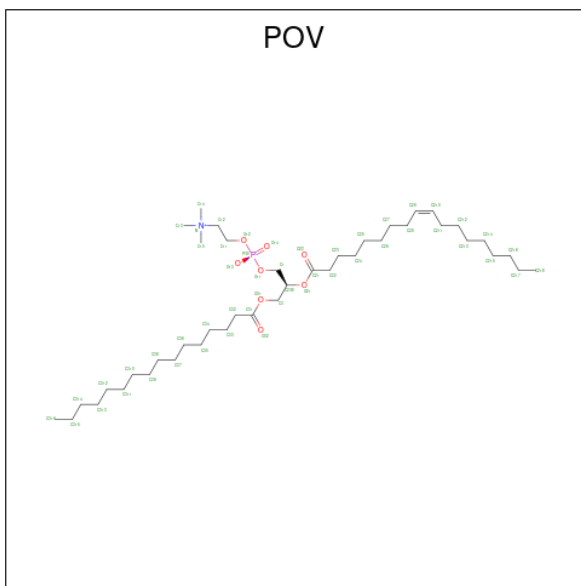
There are 6 unique types of molecules in this entry. The entry contains 79069 atoms, of which 40456 are hydrogens and 0 are deuteriums.

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 Transient receptor potential cation channel subfamily M member 7.

| Mol | Chain | Residues | Atoms |      |      |      |      |    | AltConf | Trace |
|-----|-------|----------|-------|------|------|------|------|----|---------|-------|
|     |       |          | Total | C    | H    | N    | O    | S  |         |       |
| 1   | A     | 1105     | 17962 | 5801 | 9034 | 1489 | 1578 | 60 | 0       | 0     |
| 1   | B     | 1105     | 17962 | 5801 | 9034 | 1489 | 1578 | 60 | 0       | 0     |
| 1   | C     | 1105     | 17962 | 5801 | 9034 | 1489 | 1578 | 60 | 0       | 0     |
| 1   | D     | 1105     | 17962 | 5801 | 9034 | 1489 | 1578 | 60 | 0       | 0     |

- Molecule 2 is (2S)-3-(hexadecanoyloxy)-2-[(9Z)-octadec-9-enoyloxy]propyl 2-(trimethylamm onio)ethyl phosphate (three-letter code: POV) (formula: C<sub>42</sub>H<sub>82</sub>NO<sub>8</sub>P).



| Mol | Chain | Residues | Atoms |    |    |   |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---|---------|
|     |       |          | Total | C  | H  | N | O | P |         |
| 2   | A     | 1        | 134   | 42 | 82 | 1 | 8 | 1 | 0       |
| 2   | A     | 1        | 134   | 42 | 82 | 1 | 8 | 1 | 0       |

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| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |   |
|-----|-------|----------|-------|----|----|---|---|---------|---|
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | A     | 1        | Total | C  | H  |   |   |         | 0 |
|     |       |          | 46    | 15 | 31 |   |   |         |   |
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 82    | 25 | 49 | 1 | 6 | 1       |   |
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | A     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | B     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | B     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | B     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | B     | 1        | Total | C  | H  |   |   |         | 0 |
|     |       |          | 46    | 15 | 31 |   |   |         |   |
| 2   | B     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | B     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | B     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | B     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |

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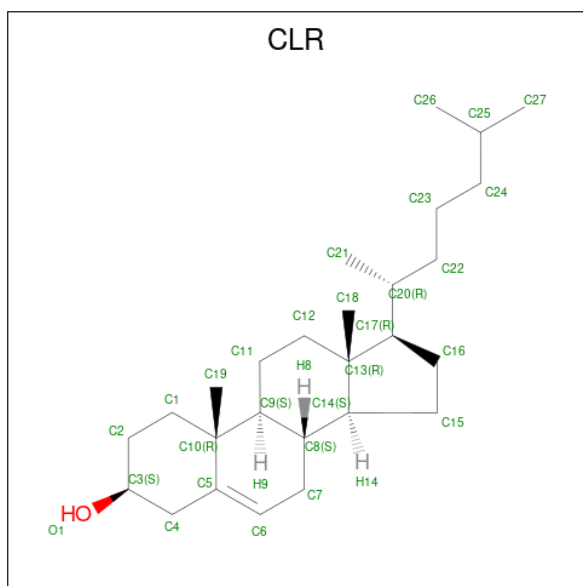
| Mol | Chain | Residues | Atoms        |         |         |        |        | AltConf |   |
|-----|-------|----------|--------------|---------|---------|--------|--------|---------|---|
|     |       |          | Total        | C       | H       | N      | O      |         | P |
| 2   | B     | 1        | Total<br>82  | C<br>25 | H<br>49 | N<br>1 | O<br>6 | P<br>1  | 0 |
| 2   | B     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | B     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | B     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>46  | C<br>15 | H<br>31 |        |        |         | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>82  | C<br>25 | H<br>49 | N<br>1 | O<br>6 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | C     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | D     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | D     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | D     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |
| 2   | D     | 1        | Total<br>134 | C<br>42 | H<br>82 | N<br>1 | O<br>8 | P<br>1  | 0 |

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| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |   |
|-----|-------|----------|-------|----|----|---|---|---------|---|
| 2   | D     | 1        | Total | C  | H  |   |   | 0       |   |
|     |       |          | 46    | 15 | 31 |   |   |         |   |
| 2   | D     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | D     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | D     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | D     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 82    | 25 | 49 | 1 | 6 | 1       |   |
| 2   | D     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |
| 2   | D     | 1        | Total | C  | H  | N | O | P       | 0 |
|     |       |          | 134   | 42 | 82 | 1 | 8 | 1       |   |

- Molecule 3 is CHOLESTEROL (three-letter code: CLR) (formula:  $C_{27}H_{46}O$ ).



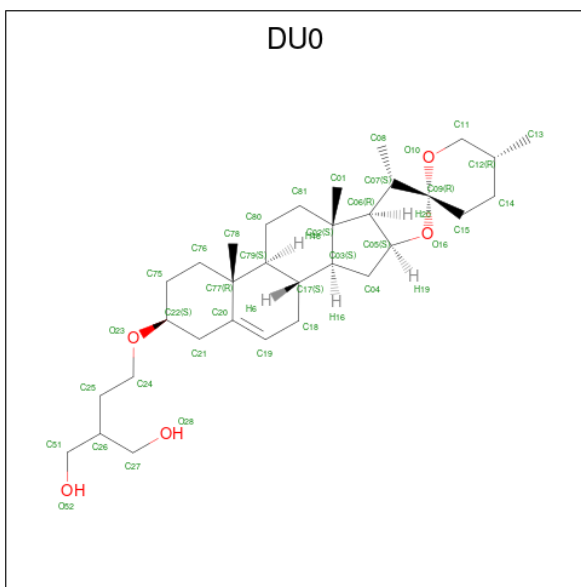
| Mol | Chain | Residues | Atoms |    |    |   | AltConf |
|-----|-------|----------|-------|----|----|---|---------|
| 3   | A     | 1        | Total | C  | H  | O | 0       |
|     |       |          | 74    | 27 | 46 | 1 |         |
| 3   | B     | 1        | Total | C  | H  | O | 0       |
|     |       |          | 74    | 27 | 46 | 1 |         |
| 3   | C     | 1        | Total | C  | H  | O | 0       |
|     |       |          | 74    | 27 | 46 | 1 |         |

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| Mol | Chain | Residues | Atoms |    |    |   | AltConf |
|-----|-------|----------|-------|----|----|---|---------|
|     |       |          | Total | C  | H  | O |         |
| 3   | D     | 1        | 74    | 27 | 46 | 1 | 0       |

- Molecule 4 is 2-[2-[(1 {S},2 {S},4 {S},5' {R},6 {R},7 {S},8 {R},9 {S},12 {S},13 {R},16 {S})-5',7,9,13-tetramethylspiro[5-oxapentacyclo[10.8.0.0<sup>2,9</sup>.0<sup>4,8</sup>.0<sup>13,18</sup>]]icos-18-ene-6,2'-oxane]-16-yl]oxyethyl]propane-1,3-diol (three-letter code: DU0) (formula: C<sub>32</sub>H<sub>52</sub>O<sub>5</sub>).



| Mol | Chain | Residues | Atoms |    |    |   | AltConf |
|-----|-------|----------|-------|----|----|---|---------|
|     |       |          | Total | C  | H  | O |         |
| 4   | A     | 1        | 89    | 32 | 52 | 5 | 0       |
| 4   | B     | 1        | 89    | 32 | 52 | 5 | 0       |
| 4   | C     | 1        | 89    | 32 | 52 | 5 | 0       |
| 4   | D     | 1        | 89    | 32 | 52 | 5 | 0       |

- Molecule 5 is CALCIUM ION (three-letter code: CA) (formula: Ca).

| Mol | Chain | Residues | Atoms |    | AltConf |
|-----|-------|----------|-------|----|---------|
|     |       |          | Total | Ca |         |
| 5   | A     | 1        | 1     | 1  | 0       |

- Molecule 6 is water.

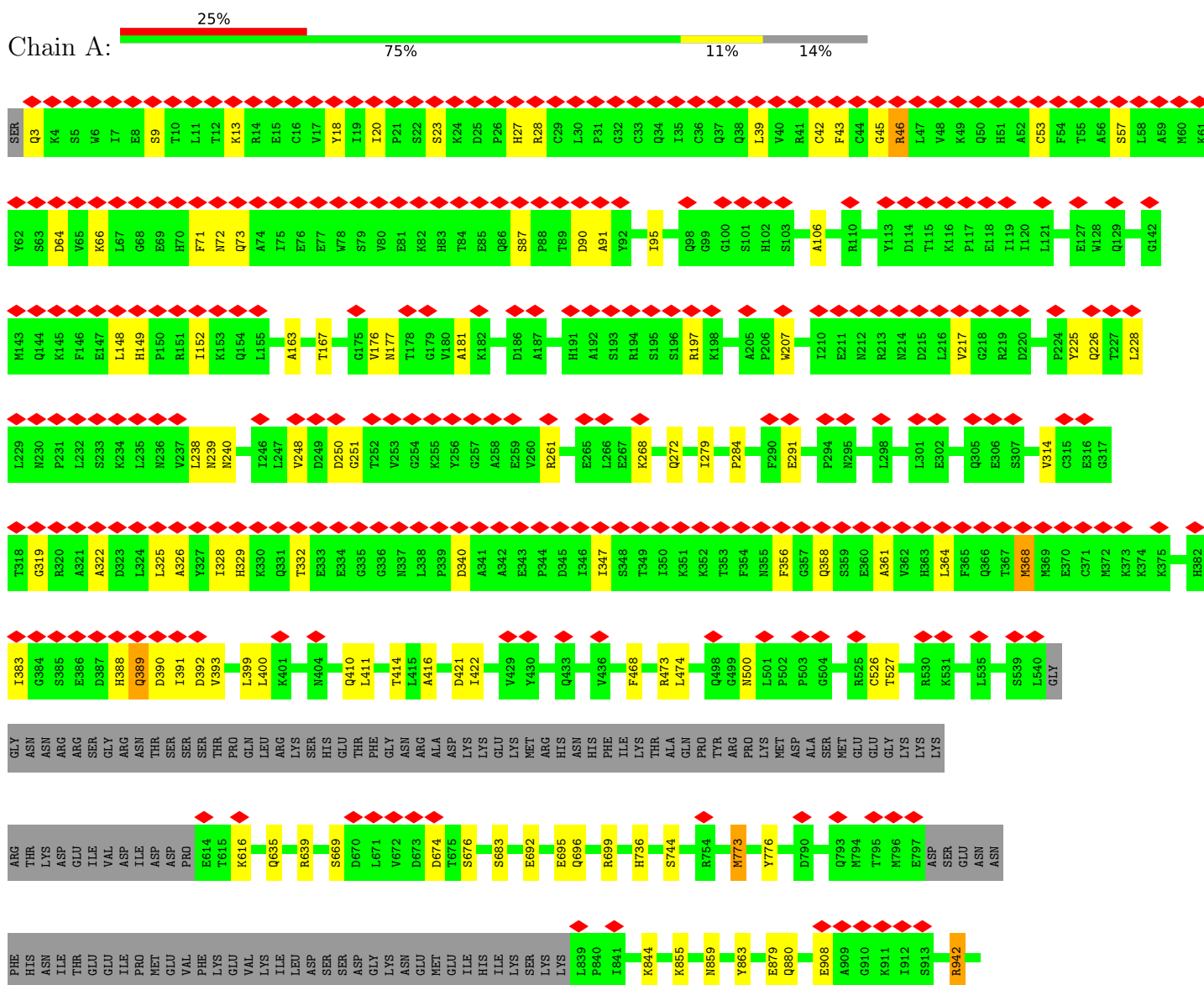
| <b>Mol</b> | <b>Chain</b> | <b>Residues</b> | <b>Atoms</b> |         | <b>AltConf</b> |
|------------|--------------|-----------------|--------------|---------|----------------|
| 6          | A            | 40              | Total<br>40  | O<br>40 | 0              |
| 6          | B            | 40              | Total<br>40  | O<br>40 | 0              |
| 6          | C            | 40              | Total<br>40  | O<br>40 | 0              |
| 6          | D            | 40              | Total<br>40  | O<br>40 | 0              |

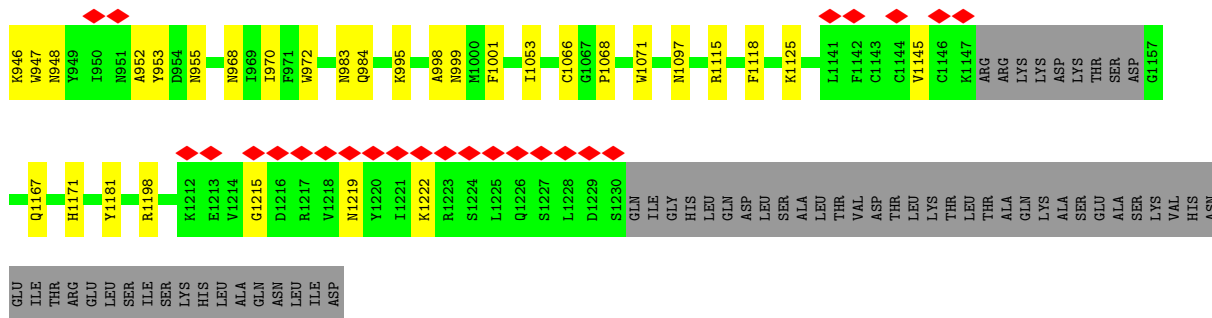


### 3 Residue-property plots

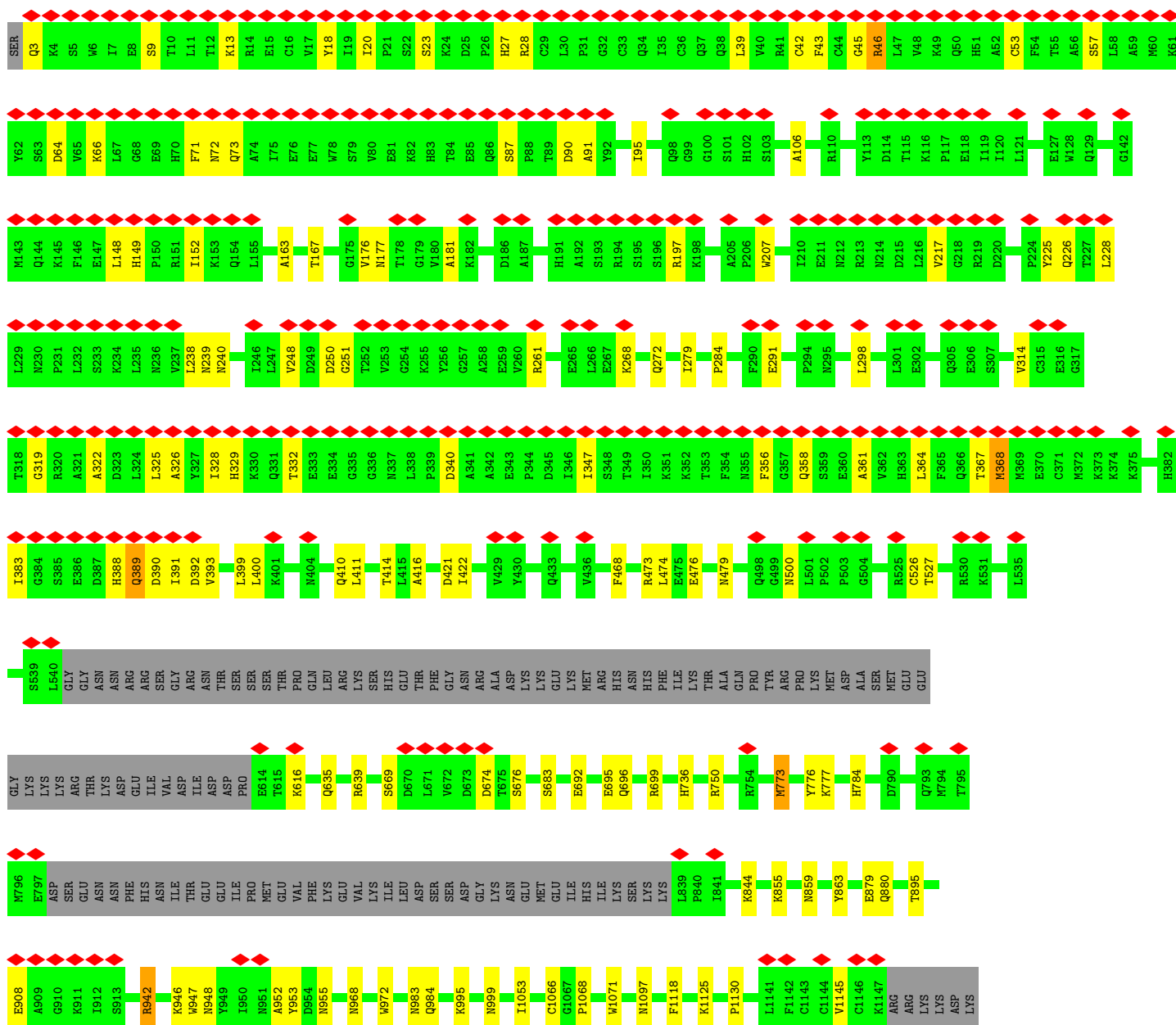
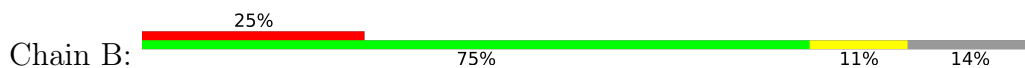
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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.

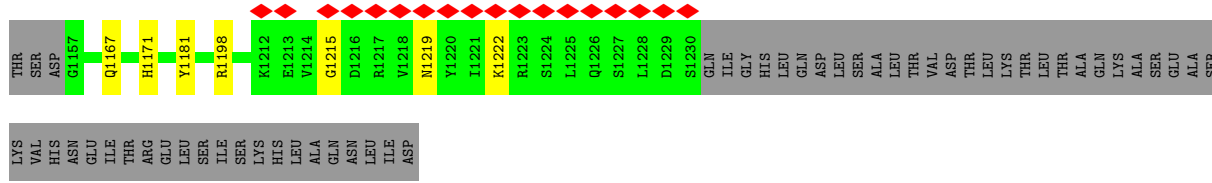
- Molecule 1: Transient receptor potential cation channel subfamily M member 7



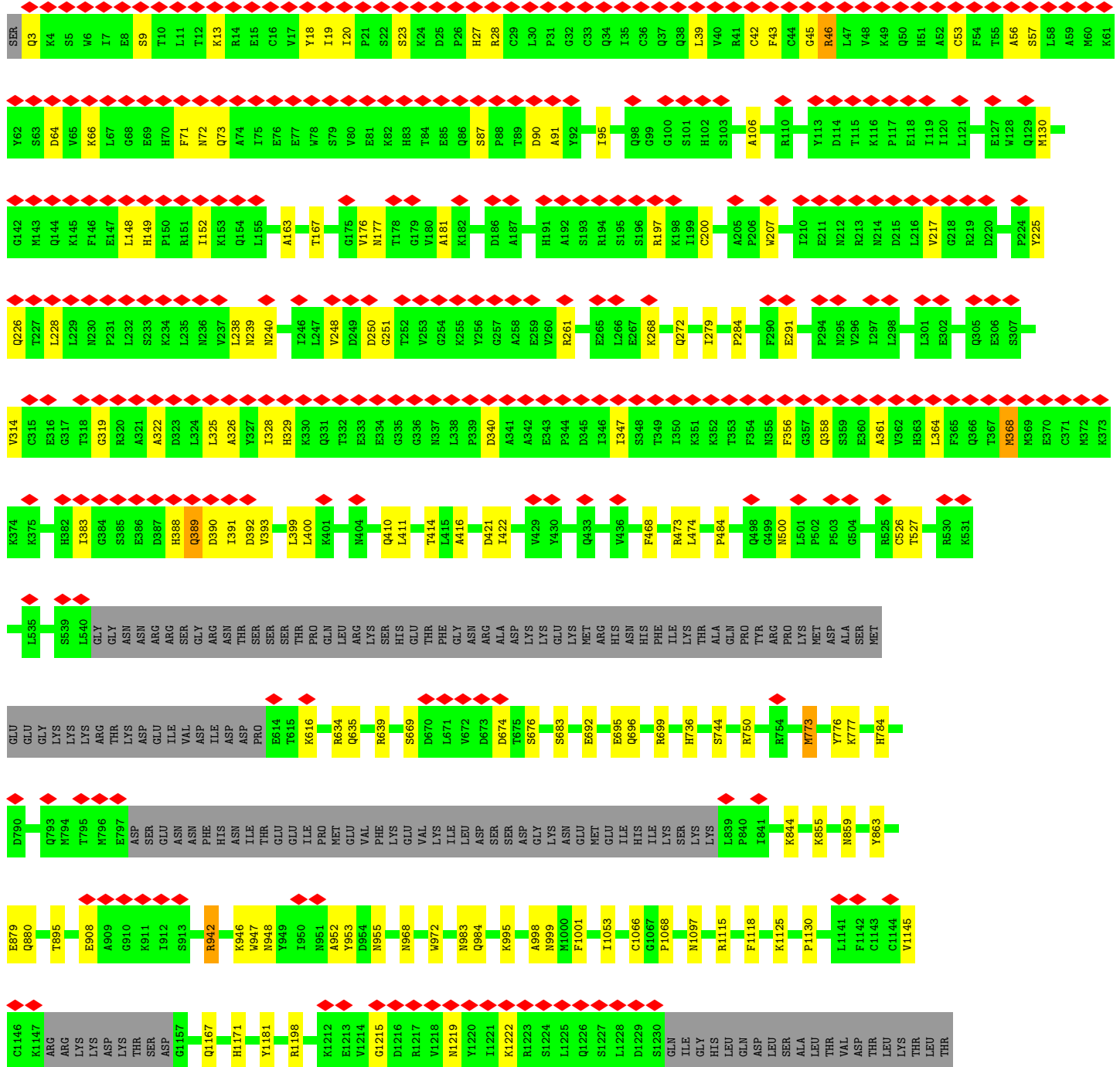
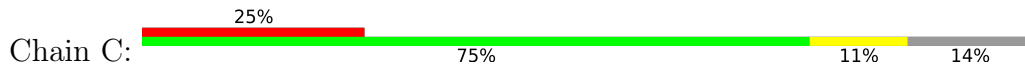


• Molecule 1: Transient receptor potential cation channel subfamily M member 7





• Molecule 1: Transient receptor potential cation channel subfamily M member 7





## 4 Experimental information

| Property                             | Value               | Source    |
|--------------------------------------|---------------------|-----------|
| EM reconstruction method             | SINGLE PARTICLE     | Depositor |
| Imposed symmetry                     | POINT, Not provided |           |
| Number of particles used             | 122316              | Depositor |
| Resolution determination method      | FSC 0.143 CUT-OFF   | Depositor |
| CTF correction method                | NONE                | Depositor |
| Microscope                           | TFS KRIOS           | Depositor |
| Voltage (kV)                         | 300                 | Depositor |
| Electron dose ( $e^-/\text{\AA}^2$ ) | 58                  | Depositor |
| Minimum defocus (nm)                 | 500                 | Depositor |
| Maximum defocus (nm)                 | 1500                | Depositor |
| Magnification                        | Not provided        |           |
| Image detector                       | GATAN K3 (6k x 4k)  | Depositor |
| Maximum map value                    | 1.687               | Depositor |
| Minimum map value                    | -1.087              | Depositor |
| Average map value                    | 0.008               | Depositor |
| Map value standard deviation         | 0.054               | Depositor |
| Recommended contour level            | 0.173               | Depositor |
| Map size ( $\text{\AA}$ )            | 249.0, 249.0, 249.0 | wwPDB     |
| Map dimensions                       | 300, 300, 300       | wwPDB     |
| Map angles ( $^\circ$ )              | 90.0, 90.0, 90.0    | wwPDB     |
| Pixel spacing ( $\text{\AA}$ )       | 0.83, 0.83, 0.83    | 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: CA, DU0, CLR, POV

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   | A     | 0.39         | 0/9144  | 0.64        | 3/12387 (0.0%)  |
| 1   | B     | 0.39         | 0/9144  | 0.64        | 3/12387 (0.0%)  |
| 1   | C     | 0.39         | 0/9144  | 0.64        | 3/12387 (0.0%)  |
| 1   | D     | 0.39         | 0/9144  | 0.64        | 3/12387 (0.0%)  |
| All | All   | 0.39         | 0/36576 | 0.64        | 12/49548 (0.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1   | A     | 0                   | 5                   |
| 1   | B     | 0                   | 5                   |
| 1   | C     | 0                   | 5                   |
| 1   | D     | 0                   | 5                   |
| All | All   | 0                   | 20                  |

There are no bond length outliers.

All (12) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms     | Z    | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|------|-------------|----------|
| 1   | B     | 90  | ASP  | CB-CG-OD1 | 7.53 | 125.08      | 118.30   |
| 1   | C     | 90  | ASP  | CB-CG-OD1 | 7.53 | 125.08      | 118.30   |
| 1   | D     | 90  | ASP  | CB-CG-OD1 | 7.52 | 125.07      | 118.30   |
| 1   | A     | 90  | ASP  | CB-CG-OD1 | 7.51 | 125.06      | 118.30   |
| 1   | A     | 474 | LEU  | CA-CB-CG  | 5.42 | 127.77      | 115.30   |
| 1   | D     | 474 | LEU  | CA-CB-CG  | 5.42 | 127.76      | 115.30   |
| 1   | C     | 474 | LEU  | CA-CB-CG  | 5.41 | 127.73      | 115.30   |
| 1   | B     | 474 | LEU  | CA-CB-CG  | 5.39 | 127.69      | 115.30   |

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| Mol | Chain | Res | Type | Atoms    | Z    | Observed(°) | Ideal(°) |
|-----|-------|-----|------|----------|------|-------------|----------|
| 1   | A     | 773 | MET  | CG-SD-CE | 5.22 | 108.55      | 100.20   |
| 1   | D     | 773 | MET  | CG-SD-CE | 5.22 | 108.55      | 100.20   |
| 1   | B     | 773 | MET  | CG-SD-CE | 5.21 | 108.54      | 100.20   |
| 1   | C     | 773 | MET  | CG-SD-CE | 5.20 | 108.53      | 100.20   |

There are no chirality outliers.

All (20) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 1   | A     | 340 | ASP  | Peptide |
| 1   | A     | 388 | HIS  | Peptide |
| 1   | A     | 389 | GLN  | Peptide |
| 1   | A     | 39  | LEU  | Peptide |
| 1   | A     | 43  | PHE  | Peptide |
| 1   | B     | 340 | ASP  | Peptide |
| 1   | B     | 388 | HIS  | Peptide |
| 1   | B     | 389 | GLN  | Peptide |
| 1   | B     | 39  | LEU  | Peptide |
| 1   | B     | 43  | PHE  | Peptide |
| 1   | C     | 340 | ASP  | Peptide |
| 1   | C     | 388 | HIS  | Peptide |
| 1   | C     | 389 | GLN  | Peptide |
| 1   | C     | 39  | LEU  | Peptide |
| 1   | C     | 43  | PHE  | Peptide |
| 1   | D     | 340 | ASP  | Peptide |
| 1   | D     | 388 | HIS  | Peptide |
| 1   | D     | 389 | GLN  | Peptide |
| 1   | D     | 39  | LEU  | Peptide |
| 1   | D     | 43  | PHE  | Peptide |

## 5.2 Too-close contacts

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   | A     | 8928  | 9034     | 9030     | 76      | 0            |
| 1   | B     | 8928  | 9034     | 9030     | 78      | 0            |
| 1   | C     | 8928  | 9034     | 9030     | 77      | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | D     | 8928  | 9034     | 9030     | 82      | 0            |
| 2   | A     | 672   | 1064     | 1056     | 16      | 0            |
| 2   | B     | 620   | 982      | 974      | 14      | 0            |
| 2   | C     | 620   | 982      | 974      | 15      | 0            |
| 2   | D     | 568   | 900      | 892      | 13      | 0            |
| 3   | A     | 28    | 46       | 46       | 4       | 0            |
| 3   | B     | 28    | 46       | 46       | 1       | 0            |
| 3   | C     | 28    | 46       | 46       | 3       | 0            |
| 3   | D     | 28    | 46       | 46       | 5       | 0            |
| 4   | A     | 37    | 52       | 0        | 0       | 0            |
| 4   | B     | 37    | 52       | 0        | 0       | 0            |
| 4   | C     | 37    | 52       | 0        | 0       | 0            |
| 4   | D     | 37    | 52       | 0        | 0       | 0            |
| 5   | A     | 1     | 0        | 0        | 0       | 0            |
| 6   | A     | 40    | 0        | 0        | 4       | 0            |
| 6   | B     | 40    | 0        | 0        | 6       | 0            |
| 6   | C     | 40    | 0        | 0        | 4       | 0            |
| 6   | D     | 40    | 0        | 0        | 5       | 0            |
| All | All   | 38613 | 40456    | 40200    | 344     | 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 4.

All (344) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1          | Atom-2          | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-----------------|--------------------------|-------------------|
| 1:C:226:GLN:OE1 | 1:C:228:LEU:N   | 2.19                     | 0.76              |
| 1:A:226:GLN:OE1 | 1:A:228:LEU:N   | 2.19                     | 0.76              |
| 1:B:226:GLN:OE1 | 1:B:228:LEU:N   | 2.19                     | 0.75              |
| 1:D:226:GLN:OE1 | 1:D:228:LEU:N   | 2.19                     | 0.75              |
| 1:C:692:GLU:OE1 | 1:C:1181:TYR:OH | 2.05                     | 0.74              |
| 1:D:692:GLU:OE1 | 1:D:1181:TYR:OH | 2.05                     | 0.74              |
| 1:A:692:GLU:OE1 | 1:A:1181:TYR:OH | 2.05                     | 0.73              |
| 1:D:895:THR:OG1 | 1:D:1130:PRO:O  | 2.03                     | 0.73              |
| 1:B:692:GLU:OE1 | 1:B:1181:TYR:OH | 2.05                     | 0.73              |
| 1:D:953:TYR:OH  | 6:D:1401:HOH:O  | 1.98                     | 0.71              |
| 1:B:1125:LYS:NZ | 6:B:1408:HOH:O  | 2.23                     | 0.71              |
| 1:C:1125:LYS:NZ | 6:C:1407:HOH:O  | 2.24                     | 0.70              |
| 1:A:1125:LYS:NZ | 6:A:1408:HOH:O  | 2.23                     | 0.70              |
| 1:B:1053:ILE:O  | 6:B:1402:HOH:O  | 2.09                     | 0.70              |
| 1:A:1053:ILE:O  | 6:A:1402:HOH:O  | 2.10                     | 0.70              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:D:1125:LYS:NZ  | 6:D:1408:HOH:O    | 2.24                     | 0.70              |
| 1:C:1053:ILE:O   | 6:C:1401:HOH:O    | 2.10                     | 0.70              |
| 1:D:1053:ILE:O   | 6:D:1402:HOH:O    | 2.09                     | 0.69              |
| 1:A:400:LEU:O    | 1:A:410:GLN:NE2   | 2.26                     | 0.69              |
| 1:C:400:LEU:O    | 1:C:410:GLN:NE2   | 2.26                     | 0.68              |
| 1:D:400:LEU:O    | 1:D:410:GLN:NE2   | 2.26                     | 0.68              |
| 1:B:400:LEU:O    | 1:B:410:GLN:NE2   | 2.25                     | 0.68              |
| 1:C:895:THR:OG1  | 1:C:1130:PRO:O    | 2.03                     | 0.68              |
| 1:A:674:ASP:OD2  | 1:A:676:SER:OG    | 2.06                     | 0.68              |
| 1:D:325:LEU:O    | 1:D:329:HIS:ND1   | 2.25                     | 0.66              |
| 1:A:468:PHE:O    | 1:A:473:ARG:NH1   | 2.29                     | 0.66              |
| 1:C:468:PHE:O    | 1:C:473:ARG:NH1   | 2.29                     | 0.66              |
| 1:D:468:PHE:O    | 1:D:473:ARG:NH1   | 2.29                     | 0.66              |
| 1:B:468:PHE:O    | 1:B:473:ARG:NH1   | 2.29                     | 0.66              |
| 1:C:42:CYS:O     | 1:C:45:GLY:N      | 2.29                     | 0.66              |
| 1:D:42:CYS:O     | 1:D:45:GLY:N      | 2.29                     | 0.66              |
| 1:B:42:CYS:O     | 1:B:45:GLY:N      | 2.29                     | 0.66              |
| 1:A:42:CYS:O     | 1:A:45:GLY:N      | 2.29                     | 0.65              |
| 1:B:863:TYR:OH   | 1:B:972:TRP:O     | 2.14                     | 0.65              |
| 1:B:1118:PHE:CD2 | 2:B:1306:POV:H210 | 2.32                     | 0.64              |
| 1:B:895:THR:OG1  | 1:B:1130:PRO:O    | 2.03                     | 0.64              |
| 1:D:696:GLN:OE1  | 1:D:699:ARG:NH1   | 2.31                     | 0.64              |
| 1:C:181:ALA:O    | 1:C:239:ASN:ND2   | 2.31                     | 0.63              |
| 1:A:181:ALA:O    | 1:A:239:ASN:ND2   | 2.31                     | 0.63              |
| 1:B:696:GLN:OE1  | 1:B:699:ARG:NH1   | 2.31                     | 0.63              |
| 1:A:696:GLN:OE1  | 1:A:699:ARG:NH1   | 2.31                     | 0.63              |
| 1:D:181:ALA:O    | 1:D:239:ASN:ND2   | 2.31                     | 0.63              |
| 1:A:863:TYR:OH   | 1:A:972:TRP:O     | 2.14                     | 0.63              |
| 1:D:314:VAL:HG21 | 1:D:325:LEU:HD12  | 1.81                     | 0.63              |
| 1:A:325:LEU:O    | 1:A:329:HIS:ND1   | 2.25                     | 0.62              |
| 1:C:696:GLN:OE1  | 1:C:699:ARG:NH1   | 2.31                     | 0.62              |
| 1:D:1118:PHE:CD2 | 2:D:1306:POV:H210 | 2.34                     | 0.62              |
| 1:C:314:VAL:HG21 | 1:C:325:LEU:HD12  | 1.81                     | 0.62              |
| 1:D:411:LEU:O    | 1:D:414:THR:OG1   | 2.15                     | 0.62              |
| 1:D:863:TYR:OH   | 1:D:972:TRP:O     | 2.14                     | 0.62              |
| 1:B:181:ALA:O    | 1:B:239:ASN:ND2   | 2.31                     | 0.62              |
| 1:C:325:LEU:O    | 1:C:329:HIS:ND1   | 2.25                     | 0.62              |
| 1:B:225:TYR:OH   | 1:B:238:LEU:N     | 2.33                     | 0.62              |
| 1:C:1097:ASN:ND2 | 1:D:1097:ASN:OD1  | 2.33                     | 0.62              |
| 1:D:225:TYR:OH   | 1:D:238:LEU:N     | 2.33                     | 0.62              |
| 1:A:225:TYR:OH   | 1:A:238:LEU:N     | 2.33                     | 0.61              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:C:18:TYR:CE2   | 1:C:20:ILE:HD11   | 2.35                     | 0.61              |
| 1:A:314:VAL:HG21 | 1:A:325:LEU:HD12  | 1.81                     | 0.61              |
| 1:C:225:TYR:OH   | 1:C:238:LEU:N     | 2.33                     | 0.61              |
| 1:B:314:VAL:HG21 | 1:B:325:LEU:HD12  | 1.81                     | 0.60              |
| 1:D:27:HIS:O     | 1:D:28:ARG:NE     | 2.27                     | 0.60              |
| 1:B:18:TYR:CE2   | 1:B:20:ILE:HD11   | 2.35                     | 0.60              |
| 1:B:325:LEU:O    | 1:B:329:HIS:ND1   | 2.25                     | 0.60              |
| 1:B:674:ASP:OD2  | 1:B:676:SER:OG    | 2.06                     | 0.60              |
| 1:D:18:TYR:CE2   | 1:D:20:ILE:HD11   | 2.35                     | 0.60              |
| 1:D:674:ASP:OD2  | 1:D:676:SER:OG    | 2.06                     | 0.60              |
| 1:A:18:TYR:CE2   | 1:A:20:ILE:HD11   | 2.35                     | 0.60              |
| 1:A:1097:ASN:ND2 | 1:B:1097:ASN:OD1  | 2.35                     | 0.60              |
| 1:A:1097:ASN:OD1 | 1:D:1097:ASN:ND2  | 2.35                     | 0.60              |
| 1:A:1118:PHE:CD2 | 2:A:1305:POV:H210 | 2.36                     | 0.60              |
| 1:D:163:ALA:HB2  | 1:D:392:ASP:HA    | 1.84                     | 0.60              |
| 1:A:163:ALA:HB2  | 1:A:392:ASP:HA    | 1.84                     | 0.60              |
| 1:C:411:LEU:O    | 1:C:414:THR:OG1   | 2.15                     | 0.60              |
| 1:C:163:ALA:HB2  | 1:C:392:ASP:HA    | 1.84                     | 0.60              |
| 1:B:163:ALA:HB2  | 1:B:392:ASP:HA    | 1.84                     | 0.59              |
| 1:C:863:TYR:OH   | 1:C:972:TRP:O     | 2.14                     | 0.59              |
| 1:A:1066:CYS:SG  | 2:A:1316:POV:H15A | 2.43                     | 0.59              |
| 1:B:1097:ASN:ND2 | 1:C:1097:ASN:OD1  | 2.34                     | 0.59              |
| 1:C:1118:PHE:CD2 | 2:C:1306:POV:H210 | 2.36                     | 0.59              |
| 1:A:27:HIS:O     | 1:A:28:ARG:NE     | 2.27                     | 0.59              |
| 1:C:152:ILE:HG13 | 1:C:383:ILE:HD13  | 1.86                     | 0.58              |
| 1:D:1097:ASN:O   | 6:D:1404:HOH:O    | 2.17                     | 0.58              |
| 1:B:152:ILE:HG13 | 1:B:383:ILE:HD13  | 1.85                     | 0.58              |
| 1:B:27:HIS:O     | 1:B:28:ARG:NE     | 2.27                     | 0.58              |
| 1:D:152:ILE:HG13 | 1:D:383:ILE:HD13  | 1.86                     | 0.58              |
| 1:D:1066:CYS:SG  | 2:D:1302:POV:H15A | 2.44                     | 0.58              |
| 1:D:163:ALA:O    | 1:D:167:THR:OG1   | 2.19                     | 0.57              |
| 1:A:163:ALA:O    | 1:A:167:THR:OG1   | 2.19                     | 0.57              |
| 1:A:176:VAL:O    | 1:A:181:ALA:HB3   | 2.04                     | 0.57              |
| 1:A:695:GLU:OE1  | 1:A:736:HIS:NE2   | 2.36                     | 0.57              |
| 1:B:176:VAL:O    | 1:B:181:ALA:HB3   | 2.04                     | 0.57              |
| 1:C:163:ALA:O    | 1:C:167:THR:OG1   | 2.19                     | 0.57              |
| 1:B:411:LEU:O    | 1:B:414:THR:OG1   | 2.15                     | 0.57              |
| 1:A:411:LEU:O    | 1:A:414:THR:OG1   | 2.15                     | 0.57              |
| 1:A:152:ILE:HG13 | 1:A:383:ILE:HD13  | 1.86                     | 0.57              |
| 1:C:176:VAL:O    | 1:C:181:ALA:HB3   | 2.04                     | 0.57              |
| 1:B:1066:CYS:SG  | 2:B:1301:POV:H15A | 2.45                     | 0.56              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:C:27:HIS:O      | 1:C:28:ARG:NE     | 2.27                     | 0.56              |
| 1:D:176:VAL:O     | 1:D:181:ALA:HB3   | 2.04                     | 0.56              |
| 1:B:776:TYR:OH    | 1:B:844:LYS:O     | 2.15                     | 0.56              |
| 2:B:1304:POV:H15A | 2:B:1304:POV:H1A  | 1.86                     | 0.56              |
| 1:C:1066:CYS:SG   | 2:C:1301:POV:H15A | 2.46                     | 0.56              |
| 1:B:946:LYS:O     | 1:B:955:ASN:ND2   | 2.39                     | 0.56              |
| 1:D:250:ASP:OD1   | 1:D:251:GLY:N     | 2.39                     | 0.56              |
| 1:C:250:ASP:OD1   | 1:C:251:GLY:N     | 2.39                     | 0.55              |
| 1:A:946:LYS:O     | 1:A:955:ASN:ND2   | 2.39                     | 0.55              |
| 1:D:946:LYS:O     | 1:D:955:ASN:ND2   | 2.39                     | 0.55              |
| 1:A:356:PHE:HB2   | 1:A:361:ALA:HB2   | 1.88                     | 0.55              |
| 1:D:356:PHE:HB2   | 1:D:361:ALA:HB2   | 1.89                     | 0.55              |
| 1:A:250:ASP:OD1   | 1:A:251:GLY:N     | 2.39                     | 0.55              |
| 1:B:163:ALA:O     | 1:B:167:THR:OG1   | 2.19                     | 0.55              |
| 1:B:250:ASP:OD1   | 1:B:251:GLY:N     | 2.39                     | 0.55              |
| 1:B:695:GLU:OE1   | 1:B:736:HIS:NE2   | 2.36                     | 0.54              |
| 1:B:347:ILE:HG23  | 1:B:361:ALA:HB1   | 1.90                     | 0.54              |
| 1:C:946:LYS:O     | 1:C:955:ASN:ND2   | 2.39                     | 0.54              |
| 1:C:776:TYR:OH    | 1:C:844:LYS:O     | 2.15                     | 0.54              |
| 1:C:347:ILE:HG23  | 1:C:361:ALA:HB1   | 1.90                     | 0.54              |
| 1:A:347:ILE:HG23  | 1:A:361:ALA:HB1   | 1.90                     | 0.54              |
| 1:C:674:ASP:OD2   | 1:C:676:SER:OG    | 2.06                     | 0.54              |
| 1:D:347:ILE:HG23  | 1:D:361:ALA:HB1   | 1.90                     | 0.53              |
| 2:B:1302:POV:H13  | 2:B:1308:POV:H15B | 1.90                     | 0.53              |
| 1:C:356:PHE:HB2   | 1:C:361:ALA:HB2   | 1.89                     | 0.53              |
| 1:C:695:GLU:OE1   | 1:C:736:HIS:NE2   | 2.36                     | 0.53              |
| 1:A:53:CYS:O      | 1:A:57:SER:N      | 2.42                     | 0.53              |
| 1:B:356:PHE:HB2   | 1:B:361:ALA:HB2   | 1.89                     | 0.53              |
| 1:D:53:CYS:O      | 1:D:57:SER:N      | 2.42                     | 0.53              |
| 1:A:995:LYS:O     | 1:A:999:ASN:ND2   | 2.42                     | 0.53              |
| 1:B:995:LYS:O     | 1:B:999:ASN:ND2   | 2.42                     | 0.53              |
| 1:C:995:LYS:O     | 1:C:999:ASN:ND2   | 2.42                     | 0.53              |
| 1:A:392:ASP:OD1   | 1:A:393:VAL:N     | 2.42                     | 0.52              |
| 1:B:53:CYS:O      | 1:B:57:SER:N      | 2.42                     | 0.52              |
| 2:B:1310:POV:H31H | 2:B:1310:POV:H29  | 1.91                     | 0.52              |
| 1:D:695:GLU:OE1   | 1:D:736:HIS:NE2   | 2.36                     | 0.52              |
| 1:C:53:CYS:O      | 1:C:57:SER:N      | 2.42                     | 0.52              |
| 1:D:392:ASP:OD1   | 1:D:393:VAL:N     | 2.42                     | 0.52              |
| 2:D:1311:POV:H218 | 2:D:1312:POV:H31D | 1.92                     | 0.52              |
| 1:C:392:ASP:OD1   | 1:C:393:VAL:N     | 2.42                     | 0.52              |
| 1:B:392:ASP:OD1   | 1:B:393:VAL:N     | 2.42                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:D:995:LYS:O     | 1:D:999:ASN:ND2   | 2.42                     | 0.51              |
| 1:A:20:ILE:HD13   | 1:A:66:LYS:HD2    | 1.92                     | 0.51              |
| 1:B:279:ILE:CD1   | 1:B:416:ALA:HB2   | 2.41                     | 0.51              |
| 1:C:358:GLN:H     | 1:C:361:ALA:HB3   | 1.76                     | 0.51              |
| 1:B:20:ILE:HD13   | 1:B:66:LYS:HD2    | 1.92                     | 0.51              |
| 1:C:279:ILE:CD1   | 1:C:416:ALA:HB2   | 2.41                     | 0.51              |
| 1:C:20:ILE:HD13   | 1:C:66:LYS:HD2    | 1.92                     | 0.51              |
| 1:D:279:ILE:CD1   | 1:D:416:ALA:HB2   | 2.41                     | 0.51              |
| 1:D:358:GLN:H     | 1:D:361:ALA:HB3   | 1.76                     | 0.51              |
| 1:B:358:GLN:H     | 1:B:361:ALA:HB3   | 1.76                     | 0.50              |
| 1:A:279:ILE:CD1   | 1:A:416:ALA:HB2   | 2.41                     | 0.50              |
| 1:A:358:GLN:H     | 1:A:361:ALA:HB3   | 1.76                     | 0.50              |
| 2:A:1309:POV:H31H | 2:A:1309:POV:C29  | 2.42                     | 0.50              |
| 1:D:20:ILE:HD13   | 1:D:66:LYS:HD2    | 1.92                     | 0.50              |
| 1:C:322:ALA:O     | 1:C:326:ALA:N     | 2.42                     | 0.50              |
| 2:C:1310:POV:C29  | 2:C:1310:POV:H31H | 2.41                     | 0.50              |
| 1:A:53:CYS:O      | 1:A:57:SER:OG     | 2.26                     | 0.50              |
| 1:B:953:TYR:O     | 2:B:1307:POV:H15A | 2.12                     | 0.49              |
| 1:B:1167:GLN:O    | 1:B:1171:HIS:ND1  | 2.36                     | 0.49              |
| 2:A:1302:POV:H316 | 2:D:1301:POV:H31G | 1.94                     | 0.49              |
| 2:A:1315:POV:H15B | 2:A:1316:POV:O13  | 2.12                     | 0.49              |
| 1:C:1167:GLN:O    | 1:C:1171:HIS:ND1  | 2.36                     | 0.49              |
| 1:D:53:CYS:O      | 1:D:57:SER:OG     | 2.26                     | 0.49              |
| 1:B:284:PRO:HB2   | 1:B:399:LEU:HD13  | 1.94                     | 0.49              |
| 2:C:1304:POV:H15A | 2:C:1304:POV:H1A  | 1.94                     | 0.49              |
| 1:D:284:PRO:HB2   | 1:D:399:LEU:HD13  | 1.94                     | 0.49              |
| 1:D:784:HIS:O     | 6:D:1405:HOH:O    | 2.19                     | 0.49              |
| 2:D:1310:POV:H31H | 2:D:1310:POV:C29  | 2.42                     | 0.49              |
| 2:C:1310:POV:H31H | 2:C:1310:POV:H29  | 1.95                     | 0.49              |
| 2:D:1304:POV:H15A | 2:D:1304:POV:H1A  | 1.94                     | 0.49              |
| 1:A:1071:TRP:HZ3  | 3:D:1305:CLR:H273 | 1.78                     | 0.49              |
| 1:C:53:CYS:O      | 1:C:57:SER:OG     | 2.26                     | 0.49              |
| 1:A:776:TYR:OH    | 1:A:844:LYS:O     | 2.15                     | 0.49              |
| 1:C:284:PRO:HB2   | 1:C:399:LEU:HD13  | 1.94                     | 0.49              |
| 1:A:1167:GLN:O    | 1:A:1171:HIS:ND1  | 2.36                     | 0.49              |
| 1:B:322:ALA:O     | 1:B:326:ALA:N     | 2.42                     | 0.49              |
| 1:D:13:LYS:N      | 1:D:87:SER:O      | 2.46                     | 0.48              |
| 1:C:46:ARG:NH2    | 1:C:251:GLY:O     | 2.46                     | 0.48              |
| 1:A:284:PRO:HB2   | 1:A:399:LEU:HD13  | 1.94                     | 0.48              |
| 1:B:13:LYS:N      | 1:B:87:SER:O      | 2.46                     | 0.48              |
| 1:D:46:ARG:NH2    | 1:D:251:GLY:O     | 2.46                     | 0.48              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:A:13:LYS:N      | 1:A:87:SER:O      | 2.46                     | 0.48              |
| 1:B:46:ARG:NH2    | 1:B:251:GLY:O     | 2.46                     | 0.48              |
| 2:A:1309:POV:H31H | 2:A:1309:POV:H29  | 1.96                     | 0.48              |
| 2:A:1303:POV:H1A  | 2:A:1303:POV:H15A | 1.95                     | 0.48              |
| 2:B:1302:POV:C13  | 2:B:1308:POV:H15B | 2.43                     | 0.48              |
| 1:D:953:TYR:O     | 2:D:1307:POV:H15A | 2.13                     | 0.48              |
| 1:A:46:ARG:NH2    | 1:A:251:GLY:O     | 2.46                     | 0.47              |
| 2:B:1310:POV:H31H | 2:B:1310:POV:C29  | 2.43                     | 0.47              |
| 1:C:13:LYS:N      | 1:C:87:SER:O      | 2.46                     | 0.47              |
| 1:D:998:ALA:HB1   | 2:D:1303:POV:H15B | 1.95                     | 0.47              |
| 1:A:1068:PRO:O    | 6:A:1406:HOH:O    | 2.20                     | 0.47              |
| 1:B:364:LEU:O     | 1:B:368:MET:N     | 2.46                     | 0.47              |
| 1:B:1097:ASN:O    | 6:B:1405:HOH:O    | 2.20                     | 0.47              |
| 1:C:364:LEU:O     | 1:C:368:MET:N     | 2.46                     | 0.47              |
| 1:D:322:ALA:O     | 1:D:326:ALA:N     | 2.42                     | 0.47              |
| 1:A:953:TYR:OH    | 6:A:1401:HOH:O    | 1.98                     | 0.47              |
| 1:C:998:ALA:HB1   | 2:C:1302:POV:H15B | 1.96                     | 0.47              |
| 1:D:3:GLN:OE1     | 1:D:9:SER:N       | 2.48                     | 0.47              |
| 1:B:3:GLN:OE1     | 1:B:9:SER:N       | 2.49                     | 0.46              |
| 1:A:3:GLN:OE1     | 1:A:9:SER:N       | 2.49                     | 0.46              |
| 1:A:1071:TRP:CZ3  | 3:D:1305:CLR:H273 | 2.50                     | 0.46              |
| 1:B:953:TYR:OH    | 6:B:1401:HOH:O    | 1.98                     | 0.46              |
| 1:A:322:ALA:O     | 1:A:326:ALA:N     | 2.42                     | 0.46              |
| 1:C:3:GLN:OE1     | 1:C:9:SER:N       | 2.49                     | 0.46              |
| 3:C:1305:CLR:H273 | 1:D:1071:TRP:HZ3  | 1.80                     | 0.46              |
| 1:B:526:CYS:SG    | 1:B:527:THR:N     | 2.89                     | 0.46              |
| 1:D:526:CYS:SG    | 1:D:527:THR:N     | 2.89                     | 0.46              |
| 1:B:879:GLU:O     | 1:B:942:ARG:NH1   | 2.45                     | 0.46              |
| 1:A:526:CYS:SG    | 1:A:527:THR:N     | 2.89                     | 0.46              |
| 1:C:1068:PRO:O    | 6:C:1406:HOH:O    | 2.21                     | 0.46              |
| 3:D:1305:CLR:H272 | 2:D:1307:POV:H39  | 1.98                     | 0.46              |
| 1:A:95:ILE:HG12   | 1:A:106:ALA:HB3   | 1.98                     | 0.45              |
| 1:D:95:ILE:HG12   | 1:D:106:ALA:HB3   | 1.98                     | 0.45              |
| 3:A:1304:CLR:H273 | 1:B:1071:TRP:HZ3  | 1.82                     | 0.45              |
| 1:C:207:TRP:N     | 1:C:248:VAL:O     | 2.44                     | 0.45              |
| 1:C:526:CYS:SG    | 1:C:527:THR:N     | 2.89                     | 0.45              |
| 1:D:744:SER:OG    | 1:D:1115:ARG:NH2  | 2.46                     | 0.45              |
| 1:D:1167:GLN:O    | 1:D:1171:HIS:ND1  | 2.36                     | 0.45              |
| 1:C:239:ASN:OD1   | 1:C:240:ASN:N     | 2.49                     | 0.45              |
| 2:C:1311:POV:H21J | 2:C:1311:POV:H21D | 1.98                     | 0.45              |
| 1:A:879:GLU:O     | 1:A:942:ARG:NH1   | 2.45                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:C:784:HIS:O     | 6:C:1404:HOH:O    | 2.21                     | 0.45              |
| 1:B:983:ASN:OD1   | 1:B:984:GLN:N     | 2.50                     | 0.45              |
| 1:B:1215:GLY:O    | 1:B:1219:ASN:ND2  | 2.50                     | 0.45              |
| 1:C:1215:GLY:O    | 1:C:1219:ASN:ND2  | 2.50                     | 0.45              |
| 1:D:970:ILE:CG2   | 3:D:1305:CLR:H191 | 2.46                     | 0.45              |
| 2:D:1310:POV:H31H | 2:D:1310:POV:H29  | 1.98                     | 0.45              |
| 1:B:53:CYS:O      | 1:B:57:SER:OG     | 2.26                     | 0.45              |
| 1:A:983:ASN:OD1   | 1:A:984:GLN:N     | 2.50                     | 0.45              |
| 1:D:983:ASN:OD1   | 1:D:984:GLN:N     | 2.50                     | 0.45              |
| 2:A:1301:POV:C13  | 2:A:1307:POV:H15B | 2.47                     | 0.45              |
| 3:A:1304:CLR:H273 | 1:B:1071:TRP:CZ3  | 2.52                     | 0.45              |
| 1:D:421:ASP:OD1   | 1:D:422:ILE:N     | 2.51                     | 0.44              |
| 1:D:879:GLU:O     | 1:D:942:ARG:NH1   | 2.45                     | 0.44              |
| 1:A:364:LEU:O     | 1:A:368:MET:N     | 2.46                     | 0.44              |
| 1:A:421:ASP:OD1   | 1:A:422:ILE:N     | 2.51                     | 0.44              |
| 1:C:268:LYS:O     | 1:C:272:GLN:NE2   | 2.50                     | 0.44              |
| 1:C:421:ASP:OD1   | 1:C:422:ILE:N     | 2.51                     | 0.44              |
| 1:C:983:ASN:OD1   | 1:C:984:GLN:N     | 2.50                     | 0.44              |
| 1:D:1215:GLY:O    | 1:D:1219:ASN:ND2  | 2.50                     | 0.44              |
| 1:A:1215:GLY:O    | 1:A:1219:ASN:ND2  | 2.50                     | 0.44              |
| 1:C:95:ILE:HG12   | 1:C:106:ALA:HB3   | 1.98                     | 0.44              |
| 1:D:268:LYS:O     | 1:D:272:GLN:NE2   | 2.50                     | 0.44              |
| 1:A:268:LYS:O     | 1:A:272:GLN:NE2   | 2.50                     | 0.44              |
| 2:B:1302:POV:H21J | 3:B:1305:CLR:C18  | 2.46                     | 0.44              |
| 1:B:421:ASP:OD1   | 1:B:422:ILE:N     | 2.51                     | 0.44              |
| 2:B:1311:POV:H218 | 2:B:1312:POV:H31D | 1.99                     | 0.44              |
| 1:B:95:ILE:HG12   | 1:B:106:ALA:HB3   | 1.98                     | 0.44              |
| 1:D:279:ILE:HD12  | 1:D:416:ALA:HB2   | 1.99                     | 0.44              |
| 2:D:1307:POV:H31D | 2:D:1307:POV:H21J | 1.99                     | 0.44              |
| 1:D:239:ASN:OD1   | 1:D:240:ASN:N     | 2.49                     | 0.44              |
| 2:A:1302:POV:H15B | 2:B:1301:POV:O13  | 2.17                     | 0.44              |
| 2:C:1302:POV:C13  | 2:C:1308:POV:H15B | 2.48                     | 0.44              |
| 1:B:268:LYS:O     | 1:B:272:GLN:NE2   | 2.50                     | 0.44              |
| 1:D:364:LEU:O     | 1:D:368:MET:N     | 2.46                     | 0.44              |
| 1:A:279:ILE:HD12  | 1:A:416:ALA:HB2   | 1.99                     | 0.43              |
| 1:A:744:SER:OG    | 1:A:1115:ARG:NH2  | 2.46                     | 0.43              |
| 1:C:279:ILE:HD12  | 1:C:416:ALA:HB2   | 1.99                     | 0.43              |
| 1:B:279:ILE:HD12  | 1:B:416:ALA:HB2   | 1.99                     | 0.43              |
| 1:B:328:ILE:O     | 1:B:332:THR:OG1   | 2.37                     | 0.43              |
| 1:D:291:GLU:HG3   | 1:D:319:GLY:HA3   | 2.00                     | 0.43              |
| 1:B:239:ASN:OD1   | 1:B:240:ASN:N     | 2.49                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:D:148:LEU:HB3   | 1:D:152:ILE:HG23  | 2.01                     | 0.43              |
| 1:A:291:GLU:HG3   | 1:A:319:GLY:HA3   | 2.00                     | 0.43              |
| 1:B:207:TRP:N     | 1:B:248:VAL:O     | 2.44                     | 0.43              |
| 1:C:130:MET:HE3   | 1:C:200:CYS:HB3   | 2.01                     | 0.43              |
| 1:C:880:GLN:O     | 1:C:942:ARG:NH2   | 2.52                     | 0.43              |
| 1:A:880:GLN:O     | 1:A:942:ARG:NH2   | 2.52                     | 0.43              |
| 2:B:1315:POV:H31G | 2:C:1303:POV:H316 | 2.01                     | 0.43              |
| 1:C:71:PHE:O      | 1:C:73:GLN:N      | 2.52                     | 0.43              |
| 1:C:291:GLU:HG3   | 1:C:319:GLY:HA3   | 2.00                     | 0.43              |
| 1:D:855:LYS:O     | 1:D:859:ASN:ND2   | 2.52                     | 0.43              |
| 3:A:1304:CLR:H272 | 2:A:1306:POV:H39  | 2.00                     | 0.43              |
| 1:C:855:LYS:O     | 1:C:859:ASN:ND2   | 2.52                     | 0.43              |
| 1:B:149:HIS:HB3   | 1:B:152:ILE:HG22  | 2.02                     | 0.42              |
| 1:B:750:ARG:O     | 1:B:777:LYS:N     | 2.52                     | 0.42              |
| 1:C:879:GLU:O     | 1:C:942:ARG:NH1   | 2.45                     | 0.42              |
| 1:D:880:GLN:O     | 1:D:942:ARG:NH2   | 2.52                     | 0.42              |
| 1:D:71:PHE:O      | 1:D:73:GLN:N      | 2.52                     | 0.42              |
| 1:A:71:PHE:O      | 1:A:73:GLN:N      | 2.52                     | 0.42              |
| 1:A:148:LEU:HB3   | 1:A:152:ILE:HG23  | 2.01                     | 0.42              |
| 1:A:1001:PHE:HA   | 2:A:1307:POV:H31G | 2.01                     | 0.42              |
| 1:A:1145:VAL:HG12 | 1:A:1145:VAL:O    | 2.19                     | 0.42              |
| 1:B:855:LYS:O     | 1:B:859:ASN:ND2   | 2.52                     | 0.42              |
| 1:D:947:TRP:CH2   | 1:D:952:ALA:HB2   | 2.54                     | 0.42              |
| 1:D:1145:VAL:HG12 | 1:D:1145:VAL:O    | 2.20                     | 0.42              |
| 1:A:328:ILE:O     | 1:A:332:THR:OG1   | 2.37                     | 0.42              |
| 1:B:71:PHE:O      | 1:B:73:GLN:N      | 2.52                     | 0.42              |
| 1:B:1068:PRO:O    | 6:B:1407:HOH:O    | 2.21                     | 0.42              |
| 1:B:291:GLU:HG3   | 1:B:319:GLY:HA3   | 2.00                     | 0.42              |
| 1:C:744:SER:OG    | 1:C:1115:ARG:NH2  | 2.45                     | 0.42              |
| 1:C:953:TYR:O     | 2:C:1307:POV:H15A | 2.19                     | 0.42              |
| 1:C:1145:VAL:HG12 | 1:C:1145:VAL:O    | 2.20                     | 0.42              |
| 2:C:1303:POV:H15B | 2:D:1302:POV:O13  | 2.20                     | 0.42              |
| 1:D:149:HIS:HB3   | 1:D:152:ILE:HG22  | 2.01                     | 0.42              |
| 1:A:947:TRP:CH2   | 1:A:952:ALA:HB2   | 2.54                     | 0.42              |
| 1:B:947:TRP:CH2   | 1:B:952:ALA:HB2   | 2.54                     | 0.42              |
| 1:B:1145:VAL:HG12 | 1:B:1145:VAL:O    | 2.20                     | 0.42              |
| 1:C:1001:PHE:HA   | 2:C:1308:POV:H31G | 2.02                     | 0.42              |
| 1:A:970:ILE:HG21  | 3:A:1304:CLR:H191 | 2.02                     | 0.42              |
| 2:A:1306:POV:H31D | 2:A:1306:POV:H21J | 2.02                     | 0.42              |
| 1:C:148:LEU:HB3   | 1:C:152:ILE:HG23  | 2.01                     | 0.42              |
| 2:C:1307:POV:H21J | 2:C:1307:POV:H31D | 2.01                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:A:855:LYS:O     | 1:A:859:ASN:ND2   | 2.52                     | 0.42              |
| 1:B:148:LEU:HB3   | 1:B:152:ILE:HG23  | 2.01                     | 0.42              |
| 3:C:1305:CLR:H272 | 2:C:1307:POV:H39  | 2.02                     | 0.42              |
| 1:A:149:HIS:HB3   | 1:A:152:ILE:HG22  | 2.02                     | 0.41              |
| 1:A:998:ALA:HB1   | 2:A:1301:POV:H15B | 2.01                     | 0.41              |
| 1:A:207:TRP:N     | 1:A:248:VAL:O     | 2.44                     | 0.41              |
| 1:A:239:ASN:OD1   | 1:A:240:ASN:N     | 2.49                     | 0.41              |
| 2:A:1314:POV:H31G | 2:B:1303:POV:H316 | 2.02                     | 0.41              |
| 1:D:970:ILE:HG21  | 3:D:1305:CLR:H191 | 2.02                     | 0.41              |
| 1:C:484:PRO:O     | 1:C:634:ARG:NE    | 2.46                     | 0.41              |
| 1:D:207:TRP:N     | 1:D:248:VAL:O     | 2.44                     | 0.41              |
| 1:C:947:TRP:CH2   | 1:C:952:ALA:HB2   | 2.54                     | 0.41              |
| 1:C:149:HIS:HB3   | 1:C:152:ILE:HG22  | 2.02                     | 0.41              |
| 1:D:90:ASP:O      | 1:D:218:GLY:N     | 2.49                     | 0.41              |
| 2:A:1310:POV:H21D | 2:A:1310:POV:H21J | 2.03                     | 0.41              |
| 1:B:880:GLN:O     | 1:B:942:ARG:NH2   | 2.52                     | 0.41              |
| 1:A:635:GLN:OE1   | 1:A:639:ARG:HG2   | 2.21                     | 0.41              |
| 1:D:635:GLN:OE1   | 1:D:639:ARG:HG2   | 2.21                     | 0.41              |
| 1:C:91:ALA:HB2    | 1:C:217:VAL:HA    | 2.03                     | 0.41              |
| 2:C:1303:POV:C216 | 2:D:1302:POV:H31H | 2.50                     | 0.41              |
| 1:D:222:VAL:O     | 1:D:222:VAL:HG12  | 2.21                     | 0.41              |
| 1:B:476:GLU:O     | 1:B:479:ASN:N     | 2.54                     | 0.41              |
| 1:D:130:MET:HE3   | 1:D:200:CYS:HB3   | 2.02                     | 0.41              |
| 1:D:298:LEU:HD23  | 1:D:367:THR:HG21  | 2.03                     | 0.41              |
| 1:A:328:ILE:HG23  | 1:A:329:HIS:N     | 2.36                     | 0.40              |
| 1:C:635:GLN:OE1   | 1:C:639:ARG:HG2   | 2.21                     | 0.40              |
| 1:B:91:ALA:HB2    | 1:B:217:VAL:HA    | 2.03                     | 0.40              |
| 1:B:635:GLN:OE1   | 1:B:639:ARG:HG2   | 2.21                     | 0.40              |
| 1:D:325:LEU:HA    | 1:D:328:ILE:HG22  | 2.04                     | 0.40              |
| 1:D:328:ILE:HG23  | 1:D:329:HIS:N     | 2.37                     | 0.40              |
| 1:B:298:LEU:HD23  | 1:B:367:THR:HG21  | 2.03                     | 0.40              |
| 3:C:1305:CLR:H273 | 1:D:1071:TRP:CZ3  | 2.57                     | 0.40              |
| 1:D:19:ILE:HD12   | 1:D:56:ALA:HB1    | 2.04                     | 0.40              |
| 2:A:1302:POV:C216 | 2:B:1301:POV:H31H | 2.51                     | 0.40              |
| 1:B:328:ILE:HG23  | 1:B:329:HIS:N     | 2.36                     | 0.40              |
| 1:B:784:HIS:O     | 6:B:1404:HOH:O    | 2.22                     | 0.40              |
| 1:C:328:ILE:HG23  | 1:C:329:HIS:N     | 2.37                     | 0.40              |
| 1:D:103:SER:OG    | 1:D:105:ARG:NE    | 2.55                     | 0.40              |
| 1:A:91:ALA:HB2    | 1:A:217:VAL:HA    | 2.03                     | 0.40              |
| 1:A:325:LEU:HA    | 1:A:328:ILE:HG22  | 2.04                     | 0.40              |
| 1:C:19:ILE:HD12   | 1:C:56:ALA:HB1    | 2.04                     | 0.40              |

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| Atom-1        | Atom-2        | Interatomic distance (Å) | Clash overlap (Å) |
|---------------|---------------|--------------------------|-------------------|
| 1:C:750:ARG:O | 1:C:777:LYS:N | 2.52                     | 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   | A     | 1097/1279 (86%) | 995 (91%)  | 95 (9%)  | 7 (1%)   | 25          | 45 |
| 1   | B     | 1097/1279 (86%) | 995 (91%)  | 95 (9%)  | 7 (1%)   | 25          | 45 |
| 1   | C     | 1097/1279 (86%) | 995 (91%)  | 95 (9%)  | 7 (1%)   | 25          | 45 |
| 1   | D     | 1097/1279 (86%) | 995 (91%)  | 95 (9%)  | 7 (1%)   | 25          | 45 |
| All | All   | 4388/5116 (86%) | 3980 (91%) | 380 (9%) | 28 (1%)  | 29          | 45 |

All (28) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 390 | ASP  |
| 1   | B     | 390 | ASP  |
| 1   | C     | 390 | ASP  |
| 1   | D     | 390 | ASP  |
| 1   | A     | 72  | ASN  |
| 1   | A     | 389 | GLN  |
| 1   | B     | 72  | ASN  |
| 1   | B     | 389 | GLN  |
| 1   | C     | 72  | ASN  |
| 1   | C     | 389 | GLN  |
| 1   | D     | 72  | ASN  |
| 1   | D     | 389 | GLN  |
| 1   | A     | 23  | SER  |
| 1   | B     | 23  | SER  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | C     | 23  | SER  |
| 1   | D     | 23  | SER  |
| 1   | A     | 64  | ASP  |
| 1   | A     | 908 | GLU  |
| 1   | B     | 64  | ASP  |
| 1   | B     | 908 | GLU  |
| 1   | C     | 64  | ASP  |
| 1   | C     | 908 | GLU  |
| 1   | D     | 64  | ASP  |
| 1   | D     | 908 | GLU  |
| 1   | A     | 391 | ILE  |
| 1   | B     | 391 | ILE  |
| 1   | C     | 391 | ILE  |
| 1   | D     | 391 | ILE  |

### 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   | A     | 979/1138 (86%)  | 964 (98%)  | 15 (2%)  | 65 82       |
| 1   | B     | 979/1138 (86%)  | 964 (98%)  | 15 (2%)  | 65 82       |
| 1   | C     | 979/1138 (86%)  | 964 (98%)  | 15 (2%)  | 65 82       |
| 1   | D     | 979/1138 (86%)  | 964 (98%)  | 15 (2%)  | 65 82       |
| All | All   | 3916/4552 (86%) | 3856 (98%) | 60 (2%)  | 66 82       |

All (60) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 46  | ARG  |
| 1   | A     | 177 | ASN  |
| 1   | A     | 197 | ARG  |
| 1   | A     | 261 | ARG  |
| 1   | A     | 368 | MET  |
| 1   | A     | 500 | ASN  |
| 1   | A     | 616 | LYS  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | A            | 669        | SER         |
| 1          | A            | 683        | SER         |
| 1          | A            | 773        | MET         |
| 1          | A            | 942        | ARG         |
| 1          | A            | 948        | ASN         |
| 1          | A            | 968        | ASN         |
| 1          | A            | 1198       | ARG         |
| 1          | A            | 1222       | LYS         |
| 1          | B            | 46         | ARG         |
| 1          | B            | 177        | ASN         |
| 1          | B            | 197        | ARG         |
| 1          | B            | 261        | ARG         |
| 1          | B            | 368        | MET         |
| 1          | B            | 500        | ASN         |
| 1          | B            | 616        | LYS         |
| 1          | B            | 669        | SER         |
| 1          | B            | 683        | SER         |
| 1          | B            | 773        | MET         |
| 1          | B            | 942        | ARG         |
| 1          | B            | 948        | ASN         |
| 1          | B            | 968        | ASN         |
| 1          | B            | 1198       | ARG         |
| 1          | B            | 1222       | LYS         |
| 1          | C            | 46         | ARG         |
| 1          | C            | 177        | ASN         |
| 1          | C            | 197        | ARG         |
| 1          | C            | 261        | ARG         |
| 1          | C            | 368        | MET         |
| 1          | C            | 500        | ASN         |
| 1          | C            | 616        | LYS         |
| 1          | C            | 669        | SER         |
| 1          | C            | 683        | SER         |
| 1          | C            | 773        | MET         |
| 1          | C            | 942        | ARG         |
| 1          | C            | 948        | ASN         |
| 1          | C            | 968        | ASN         |
| 1          | C            | 1198       | ARG         |
| 1          | C            | 1222       | LYS         |
| 1          | D            | 46         | ARG         |
| 1          | D            | 177        | ASN         |
| 1          | D            | 197        | ARG         |
| 1          | D            | 261        | ARG         |

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| Mol | Chain | Res  | Type |
|-----|-------|------|------|
| 1   | D     | 368  | MET  |
| 1   | D     | 500  | ASN  |
| 1   | D     | 616  | LYS  |
| 1   | D     | 669  | SER  |
| 1   | D     | 683  | SER  |
| 1   | D     | 773  | MET  |
| 1   | D     | 942  | ARG  |
| 1   | D     | 948  | ASN  |
| 1   | D     | 968  | ASN  |
| 1   | D     | 1198 | ARG  |
| 1   | D     | 1222 | LYS  |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (45) such sidechains are listed below:

| Mol | Chain | Res  | Type |
|-----|-------|------|------|
| 1   | A     | 140  | HIS  |
| 1   | A     | 177  | ASN  |
| 1   | A     | 212  | ASN  |
| 1   | A     | 240  | ASN  |
| 1   | A     | 272  | GLN  |
| 1   | A     | 410  | GLN  |
| 1   | A     | 500  | ASN  |
| 1   | A     | 955  | ASN  |
| 1   | A     | 956  | HIS  |
| 1   | A     | 999  | ASN  |
| 1   | A     | 1219 | ASN  |
| 1   | B     | 98   | GLN  |
| 1   | B     | 140  | HIS  |
| 1   | B     | 177  | ASN  |
| 1   | B     | 212  | ASN  |
| 1   | B     | 240  | ASN  |
| 1   | B     | 272  | GLN  |
| 1   | B     | 410  | GLN  |
| 1   | B     | 500  | ASN  |
| 1   | B     | 955  | ASN  |
| 1   | B     | 956  | HIS  |
| 1   | B     | 999  | ASN  |
| 1   | B     | 1219 | ASN  |
| 1   | C     | 140  | HIS  |
| 1   | C     | 177  | ASN  |
| 1   | C     | 212  | ASN  |
| 1   | C     | 240  | ASN  |

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| Mol | Chain | Res  | Type |
|-----|-------|------|------|
| 1   | C     | 272  | GLN  |
| 1   | C     | 410  | GLN  |
| 1   | C     | 500  | ASN  |
| 1   | C     | 955  | ASN  |
| 1   | C     | 999  | ASN  |
| 1   | C     | 1219 | ASN  |
| 1   | D     | 98   | GLN  |
| 1   | D     | 140  | HIS  |
| 1   | D     | 177  | ASN  |
| 1   | D     | 212  | ASN  |
| 1   | D     | 240  | ASN  |
| 1   | D     | 272  | GLN  |
| 1   | D     | 410  | GLN  |
| 1   | D     | 500  | ASN  |
| 1   | D     | 955  | ASN  |
| 1   | D     | 956  | HIS  |
| 1   | D     | 999  | ASN  |
| 1   | D     | 1219 | ASN  |

### 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 61 ligands modelled in this entry, 1 is monoatomic - leaving 60 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$ |
| 2   | POV  | D     | 1306 | -    | 14,14,51     | 0.94 | 1 (7%)      | 13,13,59    | 0.59 | 0           |
| 2   | POV  | A     | 1308 | -    | 51,51,51     | 0.32 | 0           | 57,59,59    | 0.39 | 0           |
| 2   | POV  | B     | 1302 | -    | 51,51,51     | 0.34 | 0           | 57,59,59    | 0.41 | 0           |
| 2   | POV  | B     | 1312 | -    | 51,51,51     | 0.35 | 0           | 57,59,59    | 0.58 | 2 (3%)      |
| 2   | POV  | D     | 1307 | -    | 51,51,51     | 0.32 | 0           | 57,59,59    | 0.38 | 0           |
| 2   | POV  | A     | 1301 | -    | 51,51,51     | 0.33 | 0           | 57,59,59    | 0.43 | 0           |
| 2   | POV  | B     | 1313 | -    | 51,51,51     | 0.34 | 0           | 57,59,59    | 0.42 | 0           |
| 2   | POV  | C     | 1301 | -    | 51,51,51     | 0.32 | 0           | 57,59,59    | 0.40 | 0           |
| 2   | POV  | D     | 1312 | -    | 51,51,51     | 0.35 | 0           | 57,59,59    | 0.58 | 2 (3%)      |
| 2   | POV  | C     | 1309 | -    | 51,51,51     | 0.32 | 0           | 57,59,59    | 0.40 | 0           |
| 2   | POV  | D     | 1309 | -    | 51,51,51     | 0.32 | 0           | 57,59,59    | 0.38 | 0           |
| 2   | POV  | D     | 1301 | -    | 51,51,51     | 0.34 | 0           | 57,59,59    | 0.50 | 0           |
| 2   | POV  | B     | 1309 | -    | 51,51,51     | 0.32 | 0           | 57,59,59    | 0.40 | 0           |
| 2   | POV  | A     | 1305 | -    | 14,14,51     | 0.94 | 1 (7%)      | 13,13,59    | 0.59 | 0           |
| 2   | POV  | D     | 1302 | -    | 51,51,51     | 0.32 | 0           | 57,59,59    | 0.34 | 0           |
| 2   | POV  | A     | 1303 | -    | 51,51,51     | 0.41 | 0           | 57,59,59    | 0.61 | 2 (3%)      |
| 2   | POV  | D     | 1311 | -    | 32,32,51     | 0.34 | 0           | 37,38,59    | 0.34 | 0           |
| 2   | POV  | A     | 1306 | -    | 51,51,51     | 0.32 | 0           | 57,59,59    | 0.39 | 0           |
| 2   | POV  | C     | 1310 | -    | 51,51,51     | 0.31 | 0           | 57,59,59    | 0.36 | 0           |
| 4   | DU0  | A     | 1313 | -    | 42,42,42     | 0.17 | 0           | 66,66,66    | 0.98 | 1 (1%)      |
| 3   | CLR  | B     | 1305 | -    | 31,31,31     | 0.16 | 0           | 48,48,48    | 0.37 | 0           |
| 2   | POV  | B     | 1315 | -    | 51,51,51     | 0.32 | 0           | 57,59,59    | 0.62 | 1 (1%)      |
| 2   | POV  | B     | 1303 | -    | 51,51,51     | 0.38 | 0           | 57,59,59    | 0.64 | 1 (1%)      |
| 2   | POV  | C     | 1303 | -    | 51,51,51     | 0.38 | 0           | 57,59,59    | 0.64 | 1 (1%)      |
| 2   | POV  | A     | 1309 | -    | 51,51,51     | 0.31 | 0           | 57,59,59    | 0.36 | 0           |
| 2   | POV  | D     | 1313 | -    | 51,51,51     | 0.34 | 0           | 57,59,59    | 0.42 | 0           |
| 2   | POV  | D     | 1303 | -    | 51,51,51     | 0.33 | 0           | 57,59,59    | 0.43 | 0           |
| 2   | POV  | B     | 1308 | -    | 51,51,51     | 0.36 | 0           | 57,59,59    | 0.45 | 0           |
| 3   | CLR  | A     | 1304 | -    | 31,31,31     | 0.13 | 0           | 48,48,48    | 0.34 | 0           |
| 2   | POV  | A     | 1316 | -    | 51,51,51     | 0.31 | 0           | 57,59,59    | 0.35 | 0           |
| 2   | POV  | D     | 1304 | -    | 51,51,51     | 0.41 | 0           | 57,59,59    | 0.57 | 1 (1%)      |
| 2   | POV  | B     | 1304 | -    | 51,51,51     | 0.44 | 0           | 57,59,59    | 0.65 | 2 (3%)      |
| 4   | DU0  | D     | 1314 | -    | 42,42,42     | 0.14 | 0           | 66,66,66    | 0.56 | 1 (1%)      |
| 2   | POV  | A     | 1310 | -    | 32,32,51     | 0.34 | 0           | 37,38,59    | 0.35 | 0           |
| 4   | DU0  | B     | 1314 | -    | 42,42,42     | 0.17 | 0           | 66,66,66    | 0.96 | 1 (1%)      |
| 3   | CLR  | C     | 1305 | -    | 31,31,31     | 0.15 | 0           | 48,48,48    | 0.35 | 0           |
| 2   | POV  | C     | 1313 | -    | 51,51,51     | 0.34 | 0           | 57,59,59    | 0.42 | 0           |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | POV  | A     | 1314 | -    | 51,51,51     | 0.33 | 0        | 57,59,59    | 0.51 | 0        |
| 2   | POV  | A     | 1315 | -    | 51,51,51     | 0.39 | 0        | 57,59,59    | 0.64 | 1 (1%)   |
| 3   | CLR  | D     | 1305 | -    | 31,31,31     | 0.15 | 0        | 48,48,48    | 0.36 | 0        |
| 2   | POV  | A     | 1312 | -    | 51,51,51     | 0.34 | 0        | 57,59,59    | 0.42 | 0        |
| 2   | POV  | B     | 1306 | -    | 14,14,51     | 0.94 | 1 (7%)   | 13,13,59    | 0.59 | 0        |
| 2   | POV  | C     | 1308 | -    | 51,51,51     | 0.36 | 0        | 57,59,59    | 0.40 | 0        |
| 2   | POV  | A     | 1311 | -    | 51,51,51     | 0.34 | 0        | 57,59,59    | 0.59 | 2 (3%)   |
| 2   | POV  | C     | 1304 | -    | 51,51,51     | 0.41 | 0        | 57,59,59    | 0.63 | 2 (3%)   |
| 2   | POV  | D     | 1308 | -    | 51,51,51     | 0.34 | 0        | 57,59,59    | 0.39 | 0        |
| 2   | POV  | A     | 1307 | -    | 51,51,51     | 0.36 | 0        | 57,59,59    | 0.40 | 0        |
| 2   | POV  | C     | 1307 | -    | 51,51,51     | 0.32 | 0        | 57,59,59    | 0.38 | 0        |
| 2   | POV  | B     | 1301 | -    | 51,51,51     | 0.32 | 0        | 57,59,59    | 0.35 | 0        |
| 2   | POV  | A     | 1302 | -    | 51,51,51     | 0.38 | 0        | 57,59,59    | 0.64 | 1 (1%)   |
| 2   | POV  | C     | 1306 | -    | 14,14,51     | 0.94 | 1 (7%)   | 13,13,59    | 0.59 | 0        |
| 2   | POV  | C     | 1315 | -    | 51,51,51     | 0.33 | 0        | 57,59,59    | 0.62 | 1 (1%)   |
| 2   | POV  | C     | 1312 | -    | 51,51,51     | 0.34 | 0        | 57,59,59    | 0.60 | 2 (3%)   |
| 2   | POV  | B     | 1310 | -    | 51,51,51     | 0.31 | 0        | 57,59,59    | 0.37 | 0        |
| 4   | DU0  | C     | 1314 | -    | 42,42,42     | 0.15 | 0        | 66,66,66    | 0.57 | 1 (1%)   |
| 2   | POV  | D     | 1310 | -    | 51,51,51     | 0.31 | 0        | 57,59,59    | 0.36 | 0        |
| 2   | POV  | C     | 1311 | -    | 32,32,51     | 0.34 | 0        | 37,38,59    | 0.35 | 0        |
| 2   | POV  | B     | 1307 | -    | 51,51,51     | 0.32 | 0        | 57,59,59    | 0.40 | 0        |
| 2   | POV  | C     | 1302 | -    | 51,51,51     | 0.33 | 0        | 57,59,59    | 0.42 | 0        |
| 2   | POV  | B     | 1311 | -    | 32,32,51     | 0.34 | 0        | 37,38,59    | 0.34 | 0        |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res  | Link | Chirals | Torsions    | Rings |
|-----|------|-------|------|------|---------|-------------|-------|
| 2   | POV  | D     | 1306 | -    | -       | 6/12/12/55  | -     |
| 2   | POV  | A     | 1308 | -    | -       | 15/55/55/55 | -     |
| 2   | POV  | B     | 1302 | -    | -       | 23/55/55/55 | -     |
| 2   | POV  | B     | 1312 | -    | -       | 25/55/55/55 | -     |
| 2   | POV  | D     | 1307 | -    | -       | 19/55/55/55 | -     |
| 2   | POV  | A     | 1301 | -    | -       | 21/55/55/55 | -     |
| 2   | POV  | B     | 1313 | -    | -       | 26/55/55/55 | -     |
| 2   | POV  | C     | 1301 | -    | -       | 24/55/55/55 | -     |
| 2   | POV  | D     | 1312 | -    | -       | 27/55/55/55 | -     |

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| Mol | Type | Chain | Res  | Link | Chirals | Torsions    | Rings   |
|-----|------|-------|------|------|---------|-------------|---------|
| 2   | POV  | C     | 1309 | -    | -       | 16/55/55/55 | -       |
| 2   | POV  | D     | 1309 | -    | -       | 14/55/55/55 | -       |
| 2   | POV  | D     | 1301 | -    | -       | 20/55/55/55 | -       |
| 2   | POV  | B     | 1309 | -    | -       | 16/55/55/55 | -       |
| 2   | POV  | A     | 1305 | -    | -       | 6/12/12/55  | -       |
| 2   | POV  | D     | 1302 | -    | -       | 22/55/55/55 | -       |
| 2   | POV  | A     | 1303 | -    | -       | 25/55/55/55 | -       |
| 2   | POV  | D     | 1311 | -    | -       | 14/33/33/55 | -       |
| 2   | POV  | A     | 1306 | -    | -       | 18/55/55/55 | -       |
| 2   | POV  | C     | 1310 | -    | -       | 20/55/55/55 | -       |
| 4   | DU0  | A     | 1313 | -    | -       | 5/10/98/98  | 0/6/6/6 |
| 3   | CLR  | B     | 1305 | -    | -       | 5/10/68/68  | 0/4/4/4 |
| 2   | POV  | B     | 1315 | -    | -       | 24/55/55/55 | -       |
| 2   | POV  | B     | 1303 | -    | -       | 18/55/55/55 | -       |
| 2   | POV  | C     | 1303 | -    | -       | 21/55/55/55 | -       |
| 2   | POV  | A     | 1309 | -    | -       | 20/55/55/55 | -       |
| 2   | POV  | D     | 1313 | -    | -       | 27/55/55/55 | -       |
| 2   | POV  | D     | 1303 | -    | -       | 23/55/55/55 | -       |
| 2   | POV  | B     | 1308 | -    | -       | 18/55/55/55 | -       |
| 3   | CLR  | A     | 1304 | -    | -       | 5/10/68/68  | 0/4/4/4 |
| 2   | POV  | A     | 1316 | -    | -       | 22/55/55/55 | -       |
| 2   | POV  | D     | 1304 | -    | -       | 26/55/55/55 | -       |
| 2   | POV  | B     | 1304 | -    | -       | 25/55/55/55 | -       |
| 4   | DU0  | D     | 1314 | -    | -       | 2/10/98/98  | 0/6/6/6 |
| 2   | POV  | A     | 1310 | -    | -       | 15/33/33/55 | -       |
| 4   | DU0  | B     | 1314 | -    | -       | 5/10/98/98  | 0/6/6/6 |
| 3   | CLR  | C     | 1305 | -    | -       | 5/10/68/68  | 0/4/4/4 |
| 2   | POV  | C     | 1313 | -    | -       | 26/55/55/55 | -       |
| 2   | POV  | A     | 1314 | -    | -       | 20/55/55/55 | -       |
| 2   | POV  | A     | 1315 | -    | -       | 20/55/55/55 | -       |
| 3   | CLR  | D     | 1305 | -    | -       | 6/10/68/68  | 0/4/4/4 |
| 2   | POV  | A     | 1312 | -    | -       | 26/55/55/55 | -       |
| 2   | POV  | B     | 1306 | -    | -       | 7/12/12/55  | -       |
| 2   | POV  | C     | 1308 | -    | -       | 26/55/55/55 | -       |

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| Mol | Type | Chain | Res  | Link | Chirals | Torsions    | Rings   |
|-----|------|-------|------|------|---------|-------------|---------|
| 2   | POV  | A     | 1311 | -    | -       | 23/55/55/55 | -       |
| 2   | POV  | C     | 1304 | -    | -       | 25/55/55/55 | -       |
| 2   | POV  | D     | 1308 | -    | -       | 25/55/55/55 | -       |
| 2   | POV  | A     | 1307 | -    | -       | 23/55/55/55 | -       |
| 2   | POV  | C     | 1307 | -    | -       | 19/55/55/55 | -       |
| 2   | POV  | B     | 1301 | -    | -       | 23/55/55/55 | -       |
| 2   | POV  | A     | 1302 | -    | -       | 20/55/55/55 | -       |
| 2   | POV  | C     | 1306 | -    | -       | 6/12/12/55  | -       |
| 2   | POV  | C     | 1315 | -    | -       | 24/55/55/55 | -       |
| 2   | POV  | C     | 1312 | -    | -       | 25/55/55/55 | -       |
| 2   | POV  | B     | 1310 | -    | -       | 19/55/55/55 | -       |
| 4   | DU0  | C     | 1314 | -    | -       | 2/10/98/98  | 0/6/6/6 |
| 2   | POV  | D     | 1310 | -    | -       | 20/55/55/55 | -       |
| 2   | POV  | C     | 1311 | -    | -       | 14/33/33/55 | -       |
| 2   | POV  | B     | 1307 | -    | -       | 21/55/55/55 | -       |
| 2   | POV  | C     | 1302 | -    | -       | 24/55/55/55 | -       |
| 2   | POV  | B     | 1311 | -    | -       | 15/33/33/55 | -       |

All (4) bond length outliers are listed below:

| Mol | Chain | Res  | Type | Atoms    | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|----------|------|-------------|----------|
| 2   | D     | 1306 | POV  | C29-C210 | 3.48 | 1.51        | 1.31     |
| 2   | A     | 1305 | POV  | C29-C210 | 3.46 | 1.51        | 1.31     |
| 2   | C     | 1306 | POV  | C29-C210 | 3.45 | 1.51        | 1.31     |
| 2   | B     | 1306 | POV  | C29-C210 | 3.44 | 1.51        | 1.31     |

All (25) bond angle outliers are listed below:

| Mol | Chain | Res  | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 4   | A     | 1313 | DU0  | C24-C25-C26 | 7.46  | 123.32      | 113.88   |
| 4   | B     | 1314 | DU0  | C24-C25-C26 | 7.28  | 123.10      | 113.88   |
| 4   | C     | 1314 | DU0  | C24-C25-C26 | 3.85  | 118.75      | 113.88   |
| 4   | D     | 1314 | DU0  | C24-C25-C26 | 3.79  | 118.67      | 113.88   |
| 2   | B     | 1304 | POV  | C2-O21-C21  | 2.69  | 124.41      | 117.79   |
| 2   | C     | 1304 | POV  | C2-O21-C21  | 2.68  | 124.39      | 117.79   |
| 2   | B     | 1315 | POV  | O21-C2-C3   | -2.64 | 98.84       | 108.40   |
| 2   | C     | 1315 | POV  | O21-C2-C3   | -2.64 | 98.86       | 108.40   |
| 2   | C     | 1312 | POV  | C2-O21-C21  | 2.61  | 124.21      | 117.79   |

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| Mol | Chain | Res  | Type | Atoms       | Z    | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|------|-------------|----------|
| 2   | A     | 1311 | POV  | C2-O21-C21  | 2.59 | 124.18      | 117.79   |
| 2   | B     | 1312 | POV  | C2-O21-C21  | 2.58 | 124.14      | 117.79   |
| 2   | D     | 1312 | POV  | C2-O21-C21  | 2.58 | 124.13      | 117.79   |
| 2   | A     | 1303 | POV  | C2-O21-C21  | 2.57 | 124.12      | 117.79   |
| 2   | A     | 1315 | POV  | C2-O21-C21  | 2.36 | 123.60      | 117.79   |
| 2   | C     | 1312 | POV  | O21-C21-C22 | 2.32 | 116.50      | 111.50   |
| 2   | B     | 1304 | POV  | O21-C21-C22 | 2.31 | 116.49      | 111.50   |
| 2   | C     | 1304 | POV  | O21-C21-C22 | 2.31 | 116.47      | 111.50   |
| 2   | D     | 1304 | POV  | C2-O21-C21  | 2.28 | 123.41      | 117.79   |
| 2   | C     | 1303 | POV  | C2-O21-C21  | 2.25 | 123.34      | 117.79   |
| 2   | B     | 1312 | POV  | O21-C21-C22 | 2.24 | 116.32      | 111.50   |
| 2   | B     | 1303 | POV  | C2-O21-C21  | 2.23 | 123.29      | 117.79   |
| 2   | D     | 1312 | POV  | O21-C21-C22 | 2.21 | 116.26      | 111.50   |
| 2   | A     | 1303 | POV  | O21-C21-C22 | 2.20 | 116.24      | 111.50   |
| 2   | A     | 1311 | POV  | O21-C21-C22 | 2.19 | 116.23      | 111.50   |
| 2   | A     | 1302 | POV  | C2-O21-C21  | 2.15 | 123.08      | 117.79   |

There are no chirality outliers.

All (1082) torsion outliers are listed below:

| Mol | Chain | Res  | Type | Atoms          |
|-----|-------|------|------|----------------|
| 2   | A     | 1301 | POV  | C1-O11-P-O13   |
| 2   | A     | 1301 | POV  | C22-C21-O21-C2 |
| 2   | A     | 1301 | POV  | O22-C21-O21-C2 |
| 2   | A     | 1302 | POV  | C2-C1-O11-P    |
| 2   | A     | 1302 | POV  | O12-C11-C12-N  |
| 2   | A     | 1302 | POV  | C22-C21-O21-C2 |
| 2   | A     | 1302 | POV  | O22-C21-O21-C2 |
| 2   | A     | 1302 | POV  | C32-C31-O31-C3 |
| 2   | A     | 1302 | POV  | O32-C31-O31-C3 |
| 2   | A     | 1303 | POV  | C22-C21-O21-C2 |
| 2   | A     | 1303 | POV  | O22-C21-O21-C2 |
| 2   | A     | 1303 | POV  | C32-C31-O31-C3 |
| 2   | A     | 1303 | POV  | O32-C31-O31-C3 |
| 2   | A     | 1307 | POV  | C1-O11-P-O12   |
| 2   | A     | 1307 | POV  | O12-C11-C12-N  |
| 2   | A     | 1308 | POV  | O12-C11-C12-N  |
| 2   | A     | 1308 | POV  | C32-C31-O31-C3 |
| 2   | A     | 1308 | POV  | O32-C31-O31-C3 |
| 2   | A     | 1309 | POV  | O12-C11-C12-N  |
| 2   | A     | 1310 | POV  | C1-O11-P-O12   |
| 2   | A     | 1310 | POV  | C1-O11-P-O13   |

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| Mol | Chain | Res  | Type | Atoms          |
|-----|-------|------|------|----------------|
| 2   | A     | 1310 | POV  | C1-O11-P-O14   |
| 2   | A     | 1310 | POV  | C2-C1-O11-P    |
| 2   | A     | 1311 | POV  | C1-O11-P-O13   |
| 2   | A     | 1311 | POV  | C11-O12-P-O11  |
| 2   | A     | 1311 | POV  | O12-C11-C12-N  |
| 2   | A     | 1311 | POV  | C22-C21-O21-C2 |
| 2   | A     | 1311 | POV  | O22-C21-O21-C2 |
| 2   | A     | 1312 | POV  | C1-O11-P-O14   |
| 2   | A     | 1312 | POV  | O12-C11-C12-N  |
| 2   | A     | 1312 | POV  | C32-C31-O31-C3 |
| 2   | A     | 1312 | POV  | O32-C31-O31-C3 |
| 2   | A     | 1314 | POV  | C1-O11-P-O13   |
| 2   | A     | 1314 | POV  | C32-C31-O31-C3 |
| 2   | A     | 1314 | POV  | O32-C31-O31-C3 |
| 2   | A     | 1315 | POV  | C2-C1-O11-P    |
| 2   | A     | 1315 | POV  | O12-C11-C12-N  |
| 2   | A     | 1315 | POV  | C22-C21-O21-C2 |
| 2   | A     | 1315 | POV  | O22-C21-O21-C2 |
| 2   | A     | 1315 | POV  | C32-C31-O31-C3 |
| 2   | A     | 1315 | POV  | O32-C31-O31-C3 |
| 2   | B     | 1302 | POV  | C1-O11-P-O13   |
| 2   | B     | 1302 | POV  | C22-C21-O21-C2 |
| 2   | B     | 1302 | POV  | O22-C21-O21-C2 |
| 2   | B     | 1303 | POV  | C2-C1-O11-P    |
| 2   | B     | 1303 | POV  | O12-C11-C12-N  |
| 2   | B     | 1303 | POV  | C22-C21-O21-C2 |
| 2   | B     | 1303 | POV  | O22-C21-O21-C2 |
| 2   | B     | 1303 | POV  | C32-C31-O31-C3 |
| 2   | B     | 1303 | POV  | O32-C31-O31-C3 |
| 2   | B     | 1304 | POV  | O12-C11-C12-N  |
| 2   | B     | 1304 | POV  | C22-C21-O21-C2 |
| 2   | B     | 1304 | POV  | O22-C21-O21-C2 |
| 2   | B     | 1304 | POV  | C32-C31-O31-C3 |
| 2   | B     | 1304 | POV  | O32-C31-O31-C3 |
| 2   | B     | 1308 | POV  | C1-O11-P-O12   |
| 2   | B     | 1308 | POV  | O12-C11-C12-N  |
| 2   | B     | 1309 | POV  | O12-C11-C12-N  |
| 2   | B     | 1309 | POV  | C32-C31-O31-C3 |
| 2   | B     | 1309 | POV  | O32-C31-O31-C3 |
| 2   | B     | 1310 | POV  | O12-C11-C12-N  |
| 2   | B     | 1311 | POV  | C1-O11-P-O13   |
| 2   | B     | 1311 | POV  | C1-O11-P-O14   |

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| Mol | Chain | Res  | Type | Atoms          |
|-----|-------|------|------|----------------|
| 2   | B     | 1311 | POV  | C11-O12-P-O14  |
| 2   | B     | 1311 | POV  | C2-C1-O11-P    |
| 2   | B     | 1312 | POV  | C1-O11-P-O13   |
| 2   | B     | 1312 | POV  | C11-O12-P-O13  |
| 2   | B     | 1312 | POV  | O12-C11-C12-N  |
| 2   | B     | 1312 | POV  | C22-C21-O21-C2 |
| 2   | B     | 1312 | POV  | O22-C21-O21-C2 |
| 2   | B     | 1313 | POV  | O12-C11-C12-N  |
| 2   | B     | 1313 | POV  | C32-C31-O31-C3 |
| 2   | B     | 1313 | POV  | O32-C31-O31-C3 |
| 2   | B     | 1315 | POV  | C1-O11-P-O12   |
| 2   | B     | 1315 | POV  | C1-O11-P-O13   |
| 2   | B     | 1315 | POV  | C1-O11-P-O14   |
| 2   | B     | 1315 | POV  | C32-C31-O31-C3 |
| 2   | B     | 1315 | POV  | O32-C31-O31-C3 |
| 2   | C     | 1302 | POV  | C1-O11-P-O13   |
| 2   | C     | 1302 | POV  | C22-C21-O21-C2 |
| 2   | C     | 1302 | POV  | O22-C21-O21-C2 |
| 2   | C     | 1303 | POV  | C2-C1-O11-P    |
| 2   | C     | 1303 | POV  | O12-C11-C12-N  |
| 2   | C     | 1303 | POV  | C22-C21-O21-C2 |
| 2   | C     | 1303 | POV  | O22-C21-O21-C2 |
| 2   | C     | 1303 | POV  | C32-C31-O31-C3 |
| 2   | C     | 1303 | POV  | O32-C31-O31-C3 |
| 2   | C     | 1304 | POV  | C22-C21-O21-C2 |
| 2   | C     | 1304 | POV  | O22-C21-O21-C2 |
| 2   | C     | 1304 | POV  | C32-C31-O31-C3 |
| 2   | C     | 1304 | POV  | O32-C31-O31-C3 |
| 2   | C     | 1307 | POV  | C11-O12-P-O11  |
| 2   | C     | 1308 | POV  | C1-O11-P-O12   |
| 2   | C     | 1308 | POV  | O12-C11-C12-N  |
| 2   | C     | 1309 | POV  | O12-C11-C12-N  |
| 2   | C     | 1309 | POV  | C32-C31-O31-C3 |
| 2   | C     | 1309 | POV  | O32-C31-O31-C3 |
| 2   | C     | 1310 | POV  | O12-C11-C12-N  |
| 2   | C     | 1311 | POV  | C1-O11-P-O12   |
| 2   | C     | 1311 | POV  | C1-O11-P-O13   |
| 2   | C     | 1311 | POV  | C1-O11-P-O14   |
| 2   | C     | 1311 | POV  | C2-C1-O11-P    |
| 2   | C     | 1312 | POV  | C1-O11-P-O13   |
| 2   | C     | 1312 | POV  | C11-O12-P-O13  |
| 2   | C     | 1312 | POV  | O12-C11-C12-N  |

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| Mol | Chain | Res  | Type | Atoms           |
|-----|-------|------|------|-----------------|
| 2   | C     | 1312 | POV  | C22-C21-O21-C2  |
| 2   | C     | 1312 | POV  | O22-C21-O21-C2  |
| 2   | C     | 1313 | POV  | C1-O11-P-O12    |
| 2   | C     | 1313 | POV  | C1-O11-P-O14    |
| 2   | C     | 1313 | POV  | O12-C11-C12-N   |
| 2   | C     | 1313 | POV  | C32-C31-O31-C3  |
| 2   | C     | 1313 | POV  | O32-C31-O31-C3  |
| 2   | C     | 1315 | POV  | C1-O11-P-O12    |
| 2   | C     | 1315 | POV  | C1-O11-P-O13    |
| 2   | C     | 1315 | POV  | C1-O11-P-O14    |
| 2   | C     | 1315 | POV  | C32-C31-O31-C3  |
| 2   | C     | 1315 | POV  | O32-C31-O31-C3  |
| 2   | D     | 1301 | POV  | C1-O11-P-O13    |
| 2   | D     | 1301 | POV  | C32-C31-O31-C3  |
| 2   | D     | 1301 | POV  | O32-C31-O31-C3  |
| 2   | D     | 1303 | POV  | C1-O11-P-O13    |
| 2   | D     | 1303 | POV  | C22-C21-O21-C2  |
| 2   | D     | 1303 | POV  | O22-C21-O21-C2  |
| 2   | D     | 1304 | POV  | C22-C21-O21-C2  |
| 2   | D     | 1304 | POV  | O22-C21-O21-C2  |
| 2   | D     | 1304 | POV  | C32-C31-O31-C3  |
| 2   | D     | 1304 | POV  | O32-C31-O31-C3  |
| 2   | D     | 1308 | POV  | O12-C11-C12-N   |
| 2   | D     | 1309 | POV  | C32-C31-O31-C3  |
| 2   | D     | 1309 | POV  | O32-C31-O31-C3  |
| 2   | D     | 1310 | POV  | O12-C11-C12-N   |
| 2   | D     | 1311 | POV  | C1-O11-P-O12    |
| 2   | D     | 1311 | POV  | C1-O11-P-O13    |
| 2   | D     | 1311 | POV  | C1-O11-P-O14    |
| 2   | D     | 1311 | POV  | C2-C1-O11-P     |
| 2   | D     | 1312 | POV  | C1-O11-P-O13    |
| 2   | D     | 1312 | POV  | C11-O12-P-O11   |
| 2   | D     | 1312 | POV  | O12-C11-C12-N   |
| 2   | D     | 1312 | POV  | C22-C21-O21-C2  |
| 2   | D     | 1312 | POV  | O22-C21-O21-C2  |
| 2   | D     | 1313 | POV  | C1-O11-P-O12    |
| 2   | D     | 1313 | POV  | C1-O11-P-O14    |
| 2   | D     | 1313 | POV  | O12-C11-C12-N   |
| 2   | D     | 1313 | POV  | C32-C31-O31-C3  |
| 2   | D     | 1313 | POV  | O32-C31-O31-C3  |
| 4   | A     | 1313 | DU0  | C24-C25-C26-C51 |
| 4   | A     | 1313 | DU0  | C25-C26-C27-O28 |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 4   | A     | 1313 | DU0  | C51-C26-C27-O28     |
| 4   | B     | 1314 | DU0  | C24-C25-C26-C51     |
| 4   | B     | 1314 | DU0  | C25-C26-C27-O28     |
| 4   | B     | 1314 | DU0  | C51-C26-C27-O28     |
| 4   | C     | 1314 | DU0  | C25-C26-C27-O28     |
| 4   | C     | 1314 | DU0  | C51-C26-C27-O28     |
| 4   | D     | 1314 | DU0  | C25-C26-C27-O28     |
| 4   | D     | 1314 | DU0  | C51-C26-C27-O28     |
| 2   | A     | 1306 | POV  | C32-C33-C34-C35     |
| 2   | A     | 1311 | POV  | C34-C35-C36-C37     |
| 3   | A     | 1304 | CLR  | C21-C20-C22-C23     |
| 2   | B     | 1308 | POV  | C21-C22-C23-C24     |
| 3   | C     | 1305 | CLR  | C21-C20-C22-C23     |
| 3   | C     | 1305 | CLR  | C17-C20-C22-C23     |
| 3   | D     | 1305 | CLR  | C17-C20-C22-C23     |
| 3   | D     | 1305 | CLR  | C21-C20-C22-C23     |
| 2   | D     | 1304 | POV  | C11-C12-N-C15       |
| 2   | C     | 1309 | POV  | C21-C22-C23-C24     |
| 3   | A     | 1304 | CLR  | C17-C20-C22-C23     |
| 3   | B     | 1305 | CLR  | C17-C20-C22-C23     |
| 3   | B     | 1305 | CLR  | C21-C20-C22-C23     |
| 2   | B     | 1309 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1309 | POV  | O21-C2-C3-O31       |
| 2   | B     | 1310 | POV  | O21-C2-C3-O31       |
| 2   | C     | 1310 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1310 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1307 | POV  | C32-C33-C34-C35     |
| 2   | B     | 1312 | POV  | C39-C310-C311-C312  |
| 2   | D     | 1309 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1306 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1308 | POV  | C21-C22-C23-C24     |
| 2   | B     | 1307 | POV  | C21-C22-C23-C24     |
| 2   | D     | 1307 | POV  | C21-C22-C23-C24     |
| 2   | C     | 1307 | POV  | C32-C33-C34-C35     |
| 2   | C     | 1301 | POV  | C311-C310-C39-C38   |
| 2   | D     | 1304 | POV  | C11-C12-N-C13       |
| 2   | C     | 1307 | POV  | C21-C22-C23-C24     |
| 2   | D     | 1310 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1309 | POV  | C310-C311-C312-C313 |
| 2   | C     | 1310 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1301 | POV  | C1-O11-P-O12        |
| 2   | A     | 1306 | POV  | C11-O12-P-O11       |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | A     | 1311 | POV  | C1-O11-P-O12        |
| 2   | A     | 1314 | POV  | C1-O11-P-O12        |
| 2   | B     | 1307 | POV  | C11-O12-P-O11       |
| 2   | B     | 1311 | POV  | C1-O11-P-O12        |
| 2   | B     | 1312 | POV  | C11-O12-P-O11       |
| 2   | B     | 1313 | POV  | C1-O11-P-O12        |
| 2   | C     | 1302 | POV  | C1-O11-P-O12        |
| 2   | C     | 1312 | POV  | C11-O12-P-O11       |
| 2   | D     | 1301 | POV  | C1-O11-P-O12        |
| 2   | D     | 1303 | POV  | C1-O11-P-O12        |
| 2   | D     | 1307 | POV  | C11-O12-P-O11       |
| 2   | D     | 1308 | POV  | C1-O11-P-O12        |
| 2   | D     | 1312 | POV  | C1-O11-P-O12        |
| 2   | A     | 1310 | POV  | O11-C1-C2-O21       |
| 2   | B     | 1311 | POV  | O11-C1-C2-O21       |
| 2   | C     | 1311 | POV  | O11-C1-C2-O21       |
| 2   | D     | 1311 | POV  | O11-C1-C2-O21       |
| 2   | B     | 1310 | POV  | C310-C311-C312-C313 |
| 3   | C     | 1305 | CLR  | C23-C24-C25-C27     |
| 2   | B     | 1312 | POV  | C210-C211-C212-C213 |
| 2   | C     | 1312 | POV  | C210-C211-C212-C213 |
| 2   | D     | 1307 | POV  | C210-C211-C212-C213 |
| 2   | D     | 1312 | POV  | C210-C211-C212-C213 |
| 2   | A     | 1301 | POV  | C311-C310-C39-C38   |
| 2   | A     | 1308 | POV  | C311-C310-C39-C38   |
| 2   | B     | 1312 | POV  | C37-C38-C39-C310    |
| 2   | C     | 1310 | POV  | C34-C35-C36-C37     |
| 2   | D     | 1307 | POV  | C37-C38-C39-C310    |
| 2   | D     | 1308 | POV  | C311-C310-C39-C38   |
| 2   | A     | 1301 | POV  | C25-C26-C27-C28     |
| 2   | A     | 1301 | POV  | C37-C38-C39-C310    |
| 2   | A     | 1307 | POV  | C39-C310-C311-C312  |
| 2   | A     | 1309 | POV  | C34-C35-C36-C37     |
| 2   | A     | 1311 | POV  | C212-C213-C214-C215 |
| 2   | B     | 1303 | POV  | C24-C25-C26-C27     |
| 2   | B     | 1313 | POV  | C311-C312-C313-C314 |
| 2   | C     | 1308 | POV  | C39-C310-C311-C312  |
| 2   | D     | 1303 | POV  | C311-C310-C39-C38   |
| 2   | D     | 1303 | POV  | C25-C26-C27-C28     |
| 2   | D     | 1303 | POV  | C34-C35-C36-C37     |
| 2   | D     | 1309 | POV  | C311-C310-C39-C38   |
| 2   | D     | 1310 | POV  | C34-C35-C36-C37     |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>Atoms</b>        |
|------------|--------------|------------|-------------|---------------------|
| 3          | D            | 1305       | CLR         | C23-C24-C25-C26     |
| 2          | A            | 1303       | POV         | C34-C35-C36-C37     |
| 2          | B            | 1303       | POV         | C211-C212-C213-C214 |
| 2          | B            | 1304       | POV         | C34-C35-C36-C37     |
| 2          | B            | 1306       | POV         | C211-C212-C213-C214 |
| 2          | B            | 1307       | POV         | C213-C214-C215-C216 |
| 2          | B            | 1310       | POV         | C37-C38-C39-C310    |
| 2          | C            | 1302       | POV         | C37-C38-C39-C310    |
| 2          | C            | 1304       | POV         | C34-C35-C36-C37     |
| 2          | C            | 1313       | POV         | C33-C34-C35-C36     |
| 2          | D            | 1301       | POV         | C311-C310-C39-C38   |
| 2          | D            | 1313       | POV         | C33-C34-C35-C36     |
| 2          | A            | 1306       | POV         | C37-C38-C39-C310    |
| 2          | A            | 1312       | POV         | C311-C312-C313-C314 |
| 2          | A            | 1315       | POV         | C39-C310-C311-C312  |
| 2          | B            | 1301       | POV         | C310-C311-C312-C313 |
| 2          | C            | 1309       | POV         | C311-C310-C39-C38   |
| 2          | C            | 1312       | POV         | C212-C213-C214-C215 |
| 2          | D            | 1304       | POV         | C34-C35-C36-C37     |
| 2          | D            | 1310       | POV         | C37-C38-C39-C310    |
| 2          | A            | 1305       | POV         | C211-C212-C213-C214 |
| 2          | A            | 1314       | POV         | C33-C34-C35-C36     |
| 2          | B            | 1302       | POV         | C37-C38-C39-C310    |
| 2          | B            | 1307       | POV         | C24-C25-C26-C27     |
| 2          | C            | 1302       | POV         | C311-C310-C39-C38   |
| 2          | C            | 1306       | POV         | C211-C212-C213-C214 |
| 2          | C            | 1310       | POV         | C37-C38-C39-C310    |
| 2          | A            | 1309       | POV         | C37-C38-C39-C310    |
| 2          | A            | 1311       | POV         | C33-C34-C35-C36     |
| 2          | A            | 1312       | POV         | C33-C34-C35-C36     |
| 2          | A            | 1315       | POV         | C211-C212-C213-C214 |
| 2          | B            | 1302       | POV         | C34-C35-C36-C37     |
| 2          | C            | 1307       | POV         | C37-C38-C39-C310    |
| 2          | D            | 1302       | POV         | C310-C311-C312-C313 |
| 2          | D            | 1303       | POV         | C37-C38-C39-C310    |
| 2          | D            | 1312       | POV         | C212-C213-C214-C215 |
| 2          | D            | 1308       | POV         | C21-C22-C23-C24     |
| 2          | A            | 1301       | POV         | C34-C35-C36-C37     |
| 2          | A            | 1306       | POV         | C214-C215-C216-C217 |
| 2          | A            | 1315       | POV         | C37-C38-C39-C310    |
| 2          | A            | 1316       | POV         | C211-C212-C213-C214 |
| 2          | B            | 1302       | POV         | C311-C310-C39-C38   |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | B     | 1309 | POV  | C311-C310-C39-C38   |
| 2   | B     | 1315 | POV  | C33-C34-C35-C36     |
| 2   | C     | 1302 | POV  | C25-C26-C27-C28     |
| 2   | C     | 1302 | POV  | C34-C35-C36-C37     |
| 2   | C     | 1307 | POV  | C214-C215-C216-C217 |
| 2   | C     | 1315 | POV  | C33-C34-C35-C36     |
| 2   | D     | 1306 | POV  | C211-C212-C213-C214 |
| 2   | A     | 1316 | POV  | C213-C214-C215-C216 |
| 2   | B     | 1310 | POV  | C34-C35-C36-C37     |
| 2   | C     | 1313 | POV  | C311-C312-C313-C314 |
| 2   | D     | 1301 | POV  | C33-C34-C35-C36     |
| 2   | A     | 1301 | POV  | C213-C214-C215-C216 |
| 2   | A     | 1302 | POV  | C211-C212-C213-C214 |
| 2   | B     | 1302 | POV  | C25-C26-C27-C28     |
| 2   | B     | 1310 | POV  | C311-C310-C39-C38   |
| 2   | B     | 1312 | POV  | C311-C312-C313-C314 |
| 2   | B     | 1313 | POV  | C33-C34-C35-C36     |
| 2   | B     | 1315 | POV  | C214-C215-C216-C217 |
| 2   | C     | 1303 | POV  | C211-C212-C213-C214 |
| 2   | C     | 1304 | POV  | C311-C310-C39-C38   |
| 2   | D     | 1312 | POV  | C311-C312-C313-C314 |
| 2   | A     | 1303 | POV  | C311-C310-C39-C38   |
| 2   | D     | 1309 | POV  | C34-C35-C36-C37     |
| 4   | A     | 1313 | DU0  | C25-C24-O23-C22     |
| 4   | B     | 1314 | DU0  | C25-C24-O23-C22     |
| 2   | A     | 1309 | POV  | C311-C310-C39-C38   |
| 2   | B     | 1304 | POV  | C311-C310-C39-C38   |
| 2   | C     | 1310 | POV  | C311-C310-C39-C38   |
| 2   | C     | 1315 | POV  | C36-C37-C38-C39     |
| 2   | D     | 1304 | POV  | C311-C310-C39-C38   |
| 2   | D     | 1307 | POV  | C214-C215-C216-C217 |
| 2   | A     | 1311 | POV  | C210-C211-C212-C213 |
| 2   | B     | 1310 | POV  | C26-C27-C28-C29     |
| 2   | D     | 1308 | POV  | C26-C27-C28-C29     |
| 2   | A     | 1305 | POV  | C25-C26-C27-C28     |
| 2   | A     | 1315 | POV  | C34-C35-C36-C37     |
| 2   | B     | 1303 | POV  | C310-C311-C312-C313 |
| 2   | B     | 1306 | POV  | C25-C26-C27-C28     |
| 2   | B     | 1312 | POV  | C212-C213-C214-C215 |
| 2   | B     | 1315 | POV  | C36-C37-C38-C39     |
| 2   | C     | 1306 | POV  | C25-C26-C27-C28     |
| 2   | D     | 1310 | POV  | C311-C310-C39-C38   |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | D     | 1313 | POV  | C312-C313-C314-C315 |
| 2   | D     | 1313 | POV  | C32-C33-C34-C35     |
| 2   | C     | 1304 | POV  | C11-C12-N-C13       |
| 3   | C     | 1305 | CLR  | C23-C24-C25-C26     |
| 3   | D     | 1305 | CLR  | C23-C24-C25-C27     |
| 2   | D     | 1312 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1307 | POV  | C214-C215-C216-C217 |
| 2   | A     | 1315 | POV  | C32-C33-C34-C35     |
| 2   | B     | 1304 | POV  | C35-C36-C37-C38     |
| 2   | B     | 1313 | POV  | C32-C33-C34-C35     |
| 2   | C     | 1301 | POV  | C36-C37-C38-C39     |
| 2   | C     | 1308 | POV  | C214-C215-C216-C217 |
| 2   | D     | 1306 | POV  | C25-C26-C27-C28     |
| 2   | D     | 1312 | POV  | C39-C310-C311-C312  |
| 2   | B     | 1308 | POV  | C214-C215-C216-C217 |
| 2   | B     | 1309 | POV  | C34-C35-C36-C37     |
| 2   | D     | 1301 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1307 | POV  | C22-C23-C24-C25     |
| 2   | C     | 1309 | POV  | C34-C35-C36-C37     |
| 2   | D     | 1302 | POV  | C33-C34-C35-C36     |
| 2   | D     | 1308 | POV  | C22-C23-C24-C25     |
| 2   | D     | 1309 | POV  | C35-C36-C37-C38     |
| 2   | A     | 1314 | POV  | C311-C310-C39-C38   |
| 2   | A     | 1314 | POV  | C24-C25-C26-C27     |
| 2   | C     | 1308 | POV  | C22-C23-C24-C25     |
| 2   | C     | 1308 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1302 | POV  | C35-C36-C37-C38     |
| 3   | A     | 1304 | CLR  | C23-C24-C25-C26     |
| 3   | A     | 1304 | CLR  | C23-C24-C25-C27     |
| 2   | C     | 1315 | POV  | C39-C310-C311-C312  |
| 2   | C     | 1315 | POV  | C34-C35-C36-C37     |
| 2   | D     | 1302 | POV  | C211-C212-C213-C214 |
| 2   | D     | 1308 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1307 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1308 | POV  | C34-C35-C36-C37     |
| 2   | B     | 1313 | POV  | C24-C25-C26-C27     |
| 2   | C     | 1313 | POV  | C32-C33-C34-C35     |
| 2   | A     | 1312 | POV  | C32-C33-C34-C35     |
| 2   | A     | 1316 | POV  | C310-C311-C312-C313 |
| 2   | B     | 1308 | POV  | C39-C310-C311-C312  |
| 2   | D     | 1301 | POV  | C214-C215-C216-C217 |
| 2   | D     | 1311 | POV  | C211-C212-C213-C214 |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 4   | A     | 1313 | DU0  | C24-C25-C26-C27     |
| 2   | A     | 1310 | POV  | C211-C212-C213-C214 |
| 2   | B     | 1308 | POV  | C23-C24-C25-C26     |
| 2   | B     | 1315 | POV  | C24-C25-C26-C27     |
| 2   | C     | 1307 | POV  | C24-C25-C26-C27     |
| 2   | B     | 1307 | POV  | C210-C211-C212-C213 |
| 2   | C     | 1307 | POV  | C210-C211-C212-C213 |
| 3   | B     | 1305 | CLR  | C23-C24-C25-C27     |
| 2   | A     | 1311 | POV  | C39-C310-C311-C312  |
| 2   | D     | 1302 | POV  | C213-C214-C215-C216 |
| 2   | D     | 1308 | POV  | C214-C215-C216-C217 |
| 2   | D     | 1302 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1306 | POV  | C211-C212-C213-C214 |
| 2   | A     | 1308 | POV  | C35-C36-C37-C38     |
| 2   | A     | 1314 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1314 | POV  | C34-C35-C36-C37     |
| 2   | B     | 1315 | POV  | C39-C310-C311-C312  |
| 2   | D     | 1302 | POV  | C311-C310-C39-C38   |
| 2   | C     | 1301 | POV  | C211-C212-C213-C214 |
| 2   | C     | 1301 | POV  | C213-C214-C215-C216 |
| 2   | C     | 1313 | POV  | C24-C25-C26-C27     |
| 2   | C     | 1315 | POV  | C24-C25-C26-C27     |
| 2   | D     | 1304 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1316 | POV  | C312-C313-C314-C315 |
| 2   | B     | 1309 | POV  | C35-C36-C37-C38     |
| 2   | D     | 1301 | POV  | C34-C35-C36-C37     |
| 2   | A     | 1303 | POV  | C11-C12-N-C13       |
| 2   | B     | 1304 | POV  | C11-C12-N-C13       |
| 2   | C     | 1304 | POV  | C11-C12-N-C14       |
| 2   | C     | 1304 | POV  | C11-C12-N-C15       |
| 2   | D     | 1304 | POV  | C11-C12-N-C14       |
| 2   | B     | 1301 | POV  | C21-C22-C23-C24     |
| 2   | B     | 1315 | POV  | C21-C22-C23-C24     |
| 2   | C     | 1315 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1314 | POV  | C214-C215-C216-C217 |
| 2   | B     | 1304 | POV  | C23-C24-C25-C26     |
| 2   | C     | 1303 | POV  | C310-C311-C312-C313 |
| 2   | C     | 1309 | POV  | C35-C36-C37-C38     |
| 2   | D     | 1313 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1312 | POV  | C24-C25-C26-C27     |
| 2   | B     | 1301 | POV  | C211-C212-C213-C214 |
| 2   | B     | 1313 | POV  | C310-C311-C312-C313 |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | A     | 1303 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1305 | POV  | C212-C213-C214-C215 |
| 2   | C     | 1303 | POV  | C37-C38-C39-C310    |
| 2   | C     | 1311 | POV  | C211-C212-C213-C214 |
| 2   | A     | 1312 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1306 | POV  | C210-C211-C212-C213 |
| 2   | B     | 1308 | POV  | C26-C27-C28-C29     |
| 2   | C     | 1310 | POV  | C26-C27-C28-C29     |
| 2   | D     | 1310 | POV  | C26-C27-C28-C29     |
| 2   | B     | 1313 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1311 | POV  | C36-C37-C38-C39     |
| 2   | B     | 1304 | POV  | C33-C34-C35-C36     |
| 2   | C     | 1308 | POV  | C310-C311-C312-C313 |
| 2   | D     | 1312 | POV  | C37-C38-C39-C310    |
| 2   | B     | 1301 | POV  | C213-C214-C215-C216 |
| 2   | C     | 1306 | POV  | C212-C213-C214-C215 |
| 2   | C     | 1312 | POV  | C36-C37-C38-C39     |
| 2   | A     | 1307 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1315 | POV  | C310-C311-C312-C313 |
| 2   | B     | 1315 | POV  | C34-C35-C36-C37     |
| 2   | D     | 1301 | POV  | C310-C311-C312-C313 |
| 2   | C     | 1307 | POV  | C211-C212-C213-C214 |
| 2   | B     | 1312 | POV  | C310-C311-C312-C313 |
| 2   | C     | 1301 | POV  | C310-C311-C312-C313 |
| 2   | C     | 1303 | POV  | C24-C25-C26-C27     |
| 2   | D     | 1304 | POV  | O11-C1-C2-O21       |
| 2   | C     | 1309 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1303 | POV  | C213-C214-C215-C216 |
| 2   | D     | 1307 | POV  | C211-C212-C213-C214 |
| 2   | A     | 1316 | POV  | O21-C2-C3-O31       |
| 2   | A     | 1303 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1303 | POV  | C11-C12-N-C14       |
| 2   | A     | 1303 | POV  | C11-C12-N-C15       |
| 2   | B     | 1304 | POV  | C11-C12-N-C14       |
| 2   | B     | 1304 | POV  | C11-C12-N-C15       |
| 2   | B     | 1307 | POV  | C214-C215-C216-C217 |
| 2   | C     | 1304 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1307 | POV  | C26-C27-C28-C29     |
| 2   | A     | 1309 | POV  | C26-C27-C28-C29     |
| 2   | A     | 1312 | POV  | C210-C211-C212-C213 |
| 2   | C     | 1308 | POV  | C26-C27-C28-C29     |
| 2   | A     | 1312 | POV  | C21-C22-C23-C24     |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | A     | 1303 | POV  | C35-C36-C37-C38     |
| 2   | D     | 1307 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1302 | POV  | C32-C33-C34-C35     |
| 2   | A     | 1305 | POV  | C24-C25-C26-C27     |
| 2   | B     | 1301 | POV  | C311-C310-C39-C38   |
| 2   | C     | 1304 | POV  | C23-C24-C25-C26     |
| 2   | C     | 1304 | POV  | C35-C36-C37-C38     |
| 2   | C     | 1312 | POV  | C37-C38-C39-C310    |
| 2   | D     | 1302 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1316 | POV  | C24-C25-C26-C27     |
| 2   | D     | 1309 | POV  | C23-C24-C25-C26     |
| 3   | B     | 1305 | CLR  | C23-C24-C25-C26     |
| 2   | A     | 1306 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1316 | POV  | C25-C26-C27-C28     |
| 2   | C     | 1315 | POV  | C214-C215-C216-C217 |
| 2   | A     | 1312 | POV  | C29-C210-C211-C212  |
| 2   | C     | 1313 | POV  | C29-C210-C211-C212  |
| 2   | A     | 1312 | POV  | C1-O11-P-O12        |
| 2   | A     | 1316 | POV  | C11-O12-P-O11       |
| 2   | C     | 1312 | POV  | C1-O11-P-O12        |
| 2   | C     | 1313 | POV  | C21-C22-C23-C24     |
| 2   | D     | 1313 | POV  | C21-C22-C23-C24     |
| 2   | B     | 1301 | POV  | C33-C34-C35-C36     |
| 2   | B     | 1308 | POV  | C22-C23-C24-C25     |
| 2   | C     | 1313 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1307 | POV  | O11-C1-C2-C3        |
| 2   | A     | 1308 | POV  | O11-C1-C2-C3        |
| 2   | B     | 1308 | POV  | O11-C1-C2-C3        |
| 2   | C     | 1309 | POV  | O11-C1-C2-C3        |
| 2   | D     | 1308 | POV  | O11-C1-C2-C3        |
| 2   | C     | 1302 | POV  | C24-C25-C26-C27     |
| 2   | D     | 1308 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1304 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1301 | POV  | C32-C33-C34-C35     |
| 2   | B     | 1301 | POV  | C23-C24-C25-C26     |
| 2   | C     | 1306 | POV  | C24-C25-C26-C27     |
| 2   | C     | 1313 | POV  | C35-C36-C37-C38     |
| 2   | C     | 1313 | POV  | C210-C211-C212-C213 |
| 2   | D     | 1302 | POV  | C210-C211-C212-C213 |
| 2   | C     | 1301 | POV  | C23-C24-C25-C26     |
| 2   | B     | 1309 | POV  | C23-C24-C25-C26     |
| 2   | B     | 1313 | POV  | C29-C210-C211-C212  |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | D     | 1313 | POV  | C29-C210-C211-C212  |
| 2   | B     | 1310 | POV  | C39-C310-C311-C312  |
| 2   | B     | 1311 | POV  | C211-C212-C213-C214 |
| 2   | B     | 1315 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1302 | POV  | C310-C311-C312-C313 |
| 2   | D     | 1313 | POV  | C35-C36-C37-C38     |
| 2   | A     | 1309 | POV  | C1-C2-C3-O31        |
| 2   | A     | 1311 | POV  | C1-C2-C3-O31        |
| 2   | A     | 1312 | POV  | C35-C36-C37-C38     |
| 2   | A     | 1316 | POV  | C1-C2-C3-O31        |
| 2   | B     | 1310 | POV  | C1-C2-C3-O31        |
| 2   | B     | 1312 | POV  | C1-C2-C3-O31        |
| 2   | C     | 1310 | POV  | C1-C2-C3-O31        |
| 2   | C     | 1312 | POV  | C1-C2-C3-O31        |
| 2   | D     | 1304 | POV  | C25-C26-C27-C28     |
| 2   | D     | 1304 | POV  | C35-C36-C37-C38     |
| 2   | D     | 1310 | POV  | C1-C2-C3-O31        |
| 2   | D     | 1312 | POV  | C1-C2-C3-O31        |
| 2   | A     | 1309 | POV  | C39-C310-C311-C312  |
| 2   | B     | 1313 | POV  | C23-C24-C25-C26     |
| 2   | C     | 1301 | POV  | C33-C34-C35-C36     |
| 2   | D     | 1313 | POV  | C37-C38-C39-C310    |
| 2   | C     | 1308 | POV  | C21-C22-C23-C24     |
| 2   | B     | 1306 | POV  | C213-C214-C215-C216 |
| 2   | C     | 1310 | POV  | C39-C310-C311-C312  |
| 2   | B     | 1312 | POV  | C33-C34-C35-C36     |
| 2   | A     | 1301 | POV  | C26-C27-C28-C29     |
| 2   | A     | 1311 | POV  | C26-C27-C28-C29     |
| 2   | B     | 1301 | POV  | C210-C211-C212-C213 |
| 2   | B     | 1303 | POV  | C26-C27-C28-C29     |
| 2   | C     | 1315 | POV  | C210-C211-C212-C213 |
| 2   | D     | 1303 | POV  | C26-C27-C28-C29     |
| 2   | D     | 1313 | POV  | C210-C211-C212-C213 |
| 2   | B     | 1303 | POV  | C32-C33-C34-C35     |
| 2   | B     | 1307 | POV  | C25-C26-C27-C28     |
| 2   | D     | 1302 | POV  | C312-C313-C314-C315 |
| 2   | B     | 1301 | POV  | C35-C36-C37-C38     |
| 2   | C     | 1313 | POV  | C310-C311-C312-C313 |
| 2   | D     | 1303 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1302 | POV  | C23-C24-C25-C26     |
| 2   | B     | 1302 | POV  | C32-C33-C34-C35     |
| 2   | B     | 1304 | POV  | C24-C25-C26-C27     |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | C     | 1315 | POV  | C310-C311-C312-C313 |
| 2   | B     | 1306 | POV  | C24-C25-C26-C27     |
| 2   | D     | 1313 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1307 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1314 | POV  | C39-C310-C311-C312  |
| 2   | A     | 1314 | POV  | C36-C37-C38-C39     |
| 2   | B     | 1308 | POV  | O11-C1-C2-O21       |
| 2   | A     | 1302 | POV  | C24-C25-C26-C27     |
| 2   | D     | 1312 | POV  | C313-C314-C315-C316 |
| 2   | C     | 1303 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1310 | POV  | C39-C310-C311-C312  |
| 2   | B     | 1304 | POV  | O21-C2-C3-O31       |
| 2   | C     | 1313 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1313 | POV  | O21-C2-C3-O31       |
| 2   | B     | 1302 | POV  | C24-C25-C26-C27     |
| 2   | B     | 1310 | POV  | C32-C33-C34-C35     |
| 2   | C     | 1311 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1312 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1308 | POV  | C27-C28-C29-C210    |
| 2   | B     | 1304 | POV  | C39-C310-C311-C312  |
| 2   | C     | 1301 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1301 | POV  | C24-C25-C26-C27     |
| 2   | B     | 1311 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1302 | POV  | C36-C37-C38-C39     |
| 2   | C     | 1302 | POV  | C210-C211-C212-C213 |
| 2   | B     | 1309 | POV  | O11-C1-C2-C3        |
| 2   | C     | 1308 | POV  | O11-C1-C2-C3        |
| 2   | D     | 1309 | POV  | O11-C1-C2-C3        |
| 2   | B     | 1301 | POV  | C312-C313-C314-C315 |
| 2   | C     | 1301 | POV  | C312-C313-C314-C315 |
| 2   | C     | 1303 | POV  | C32-C33-C34-C35     |
| 2   | A     | 1310 | POV  | C23-C24-C25-C26     |
| 2   | B     | 1315 | POV  | C311-C310-C39-C38   |
| 2   | C     | 1304 | POV  | C39-C310-C311-C312  |
| 2   | A     | 1308 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1316 | POV  | C214-C215-C216-C217 |
| 2   | B     | 1302 | POV  | C311-C312-C313-C314 |
| 2   | B     | 1308 | POV  | C313-C314-C315-C316 |
| 2   | D     | 1311 | POV  | C23-C24-C25-C26     |
| 2   | B     | 1308 | POV  | C33-C34-C35-C36     |
| 2   | B     | 1304 | POV  | C31-C32-C33-C34     |
| 2   | D     | 1308 | POV  | C31-C32-C33-C34     |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | B     | 1303 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1312 | POV  | C33-C34-C35-C36     |
| 2   | D     | 1313 | POV  | C211-C212-C213-C214 |
| 2   | D     | 1313 | POV  | C215-C216-C217-C218 |
| 2   | D     | 1304 | POV  | C2-C1-O11-P         |
| 2   | A     | 1312 | POV  | C215-C216-C217-C218 |
| 2   | C     | 1313 | POV  | C215-C216-C217-C218 |
| 2   | A     | 1303 | POV  | C39-C310-C311-C312  |
| 2   | B     | 1301 | POV  | C215-C216-C217-C218 |
| 2   | B     | 1313 | POV  | C215-C216-C217-C218 |
| 2   | B     | 1313 | POV  | C210-C211-C212-C213 |
| 2   | C     | 1301 | POV  | C210-C211-C212-C213 |
| 2   | A     | 1302 | POV  | C37-C38-C39-C310    |
| 2   | B     | 1310 | POV  | C36-C37-C38-C39     |
| 2   | D     | 1308 | POV  | C33-C34-C35-C36     |
| 2   | A     | 1316 | POV  | C215-C216-C217-C218 |
| 2   | D     | 1302 | POV  | C215-C216-C217-C218 |
| 2   | B     | 1307 | POV  | C37-C38-C39-C310    |
| 2   | D     | 1303 | POV  | C32-C33-C34-C35     |
| 2   | B     | 1302 | POV  | C33-C34-C35-C36     |
| 2   | B     | 1301 | POV  | C11-O12-P-O11       |
| 2   | A     | 1315 | POV  | C31-C32-C33-C34     |
| 4   | B     | 1314 | DU0  | C24-C25-C26-C27     |
| 2   | A     | 1306 | POV  | C212-C213-C214-C215 |
| 2   | C     | 1310 | POV  | C36-C37-C38-C39     |
| 2   | D     | 1301 | POV  | C39-C310-C311-C312  |
| 2   | A     | 1301 | POV  | O11-C1-C2-O21       |
| 2   | A     | 1303 | POV  | O11-C1-C2-O21       |
| 2   | A     | 1308 | POV  | O11-C1-C2-O21       |
| 2   | B     | 1304 | POV  | O11-C1-C2-O21       |
| 2   | B     | 1309 | POV  | O11-C1-C2-O21       |
| 2   | C     | 1302 | POV  | O11-C1-C2-O21       |
| 2   | C     | 1304 | POV  | O11-C1-C2-O21       |
| 2   | C     | 1309 | POV  | O11-C1-C2-O21       |
| 2   | D     | 1303 | POV  | O11-C1-C2-O21       |
| 2   | D     | 1308 | POV  | O11-C1-C2-O21       |
| 2   | D     | 1309 | POV  | O11-C1-C2-O21       |
| 2   | A     | 1309 | POV  | C36-C37-C38-C39     |
| 2   | C     | 1301 | POV  | C313-C314-C315-C316 |
| 2   | C     | 1301 | POV  | C215-C216-C217-C218 |
| 2   | C     | 1303 | POV  | C36-C37-C38-C39     |
| 2   | A     | 1307 | POV  | C36-C37-C38-C39     |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | C     | 1312 | POV  | C39-C310-C311-C312  |
| 2   | A     | 1312 | POV  | O21-C2-C3-O31       |
| 2   | A     | 1314 | POV  | O21-C2-C3-O31       |
| 2   | B     | 1301 | POV  | O21-C2-C3-O31       |
| 2   | B     | 1303 | POV  | O21-C2-C3-O31       |
| 2   | B     | 1312 | POV  | O21-C2-C3-O31       |
| 2   | B     | 1313 | POV  | O21-C2-C3-O31       |
| 2   | C     | 1301 | POV  | O21-C2-C3-O31       |
| 2   | C     | 1303 | POV  | O21-C2-C3-O31       |
| 2   | C     | 1312 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1312 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1309 | POV  | C311-C312-C313-C314 |
| 2   | D     | 1308 | POV  | C37-C38-C39-C310    |
| 2   | A     | 1303 | POV  | C33-C34-C35-C36     |
| 2   | B     | 1304 | POV  | C22-C23-C24-C25     |
| 2   | D     | 1310 | POV  | C36-C37-C38-C39     |
| 2   | A     | 1308 | POV  | C2-C1-O11-P         |
| 2   | A     | 1316 | POV  | C2-C1-O11-P         |
| 2   | B     | 1304 | POV  | C2-C1-O11-P         |
| 2   | B     | 1309 | POV  | C2-C1-O11-P         |
| 2   | C     | 1301 | POV  | C2-C1-O11-P         |
| 2   | C     | 1309 | POV  | C2-C1-O11-P         |
| 2   | D     | 1302 | POV  | C2-C1-O11-P         |
| 2   | B     | 1302 | POV  | C210-C211-C212-C213 |
| 2   | C     | 1312 | POV  | C26-C27-C28-C29     |
| 2   | D     | 1312 | POV  | C26-C27-C28-C29     |
| 2   | A     | 1312 | POV  | C39-C310-C311-C312  |
| 2   | B     | 1313 | POV  | C39-C310-C311-C312  |
| 2   | C     | 1312 | POV  | C33-C34-C35-C36     |
| 2   | D     | 1312 | POV  | C311-C310-C39-C38   |
| 2   | A     | 1307 | POV  | C33-C34-C35-C36     |
| 2   | A     | 1310 | POV  | C212-C213-C214-C215 |
| 2   | B     | 1301 | POV  | C36-C37-C38-C39     |
| 2   | B     | 1303 | POV  | C37-C38-C39-C310    |
| 2   | C     | 1313 | POV  | C211-C212-C213-C214 |
| 2   | C     | 1303 | POV  | C214-C215-C216-C217 |
| 2   | B     | 1301 | POV  | C25-C26-C27-C28     |
| 2   | B     | 1313 | POV  | C37-C38-C39-C310    |
| 2   | C     | 1303 | POV  | C35-C36-C37-C38     |
| 2   | A     | 1309 | POV  | C24-C25-C26-C27     |
| 2   | C     | 1304 | POV  | C33-C34-C35-C36     |
| 2   | A     | 1306 | POV  | O11-C1-C2-C3        |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | B     | 1307 | POV  | O11-C1-C2-C3        |
| 2   | C     | 1307 | POV  | O11-C1-C2-C3        |
| 2   | D     | 1303 | POV  | O11-C1-C2-C3        |
| 2   | D     | 1304 | POV  | O11-C1-C2-C3        |
| 2   | D     | 1306 | POV  | C213-C214-C215-C216 |
| 2   | A     | 1308 | POV  | C311-C312-C313-C314 |
| 2   | C     | 1308 | POV  | C33-C34-C35-C36     |
| 2   | B     | 1312 | POV  | C312-C313-C314-C315 |
| 2   | B     | 1311 | POV  | C212-C213-C214-C215 |
| 2   | D     | 1313 | POV  | C311-C312-C313-C314 |
| 2   | A     | 1312 | POV  | C211-C212-C213-C214 |
| 2   | C     | 1308 | POV  | C36-C37-C38-C39     |
| 2   | C     | 1310 | POV  | C24-C25-C26-C27     |
| 2   | D     | 1301 | POV  | C36-C37-C38-C39     |
| 2   | D     | 1311 | POV  | C215-C216-C217-C218 |
| 2   | C     | 1311 | POV  | C212-C213-C214-C215 |
| 2   | A     | 1314 | POV  | C1-C2-O21-C21       |
| 2   | C     | 1311 | POV  | C25-C26-C27-C28     |
| 2   | B     | 1311 | POV  | C215-C216-C217-C218 |
| 2   | D     | 1310 | POV  | C24-C25-C26-C27     |
| 2   | C     | 1306 | POV  | C22-C23-C24-C25     |
| 2   | D     | 1304 | POV  | C39-C310-C311-C312  |
| 2   | D     | 1307 | POV  | C212-C213-C214-C215 |
| 2   | A     | 1303 | POV  | C2-C1-O11-P         |
| 2   | A     | 1312 | POV  | C1-C2-C3-O31        |
| 2   | A     | 1314 | POV  | C1-C2-C3-O31        |
| 2   | B     | 1301 | POV  | C2-C1-O11-P         |
| 2   | B     | 1301 | POV  | C1-C2-C3-O31        |
| 2   | B     | 1303 | POV  | C1-C2-C3-O31        |
| 2   | B     | 1304 | POV  | C1-C2-C3-O31        |
| 2   | B     | 1313 | POV  | C1-C2-C3-O31        |
| 2   | C     | 1304 | POV  | C2-C1-O11-P         |
| 2   | C     | 1313 | POV  | C2-C1-O11-P         |
| 2   | D     | 1301 | POV  | C1-C2-C3-O31        |
| 2   | D     | 1313 | POV  | C2-C1-O11-P         |
| 2   | A     | 1305 | POV  | C22-C23-C24-C25     |
| 2   | D     | 1302 | POV  | C25-C26-C27-C28     |
| 2   | A     | 1307 | POV  | O11-C1-C2-O21       |
| 2   | B     | 1302 | POV  | O11-C1-C2-O21       |
| 2   | B     | 1315 | POV  | O11-C1-C2-O21       |
| 2   | C     | 1315 | POV  | O11-C1-C2-O21       |
| 2   | D     | 1307 | POV  | O11-C1-C2-O21       |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | B     | 1309 | POV  | C311-C312-C313-C314 |
| 2   | A     | 1309 | POV  | C211-C212-C213-C214 |
| 2   | C     | 1302 | POV  | C32-C33-C34-C35     |
| 2   | C     | 1309 | POV  | C311-C312-C313-C314 |
| 2   | C     | 1310 | POV  | C211-C212-C213-C214 |
| 2   | A     | 1302 | POV  | O21-C2-C3-O31       |
| 2   | A     | 1311 | POV  | O21-C2-C3-O31       |
| 2   | C     | 1315 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1301 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1302 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1311 | POV  | C212-C213-C214-C215 |
| 2   | B     | 1307 | POV  | C313-C314-C315-C316 |
| 2   | B     | 1311 | POV  | C25-C26-C27-C28     |
| 2   | B     | 1312 | POV  | C313-C314-C315-C316 |
| 2   | A     | 1310 | POV  | C25-C26-C27-C28     |
| 2   | A     | 1307 | POV  | C24-C25-C26-C27     |
| 2   | B     | 1313 | POV  | C211-C212-C213-C214 |
| 2   | A     | 1301 | POV  | C311-C312-C313-C314 |
| 2   | C     | 1307 | POV  | C212-C213-C214-C215 |
| 2   | D     | 1303 | POV  | C311-C312-C313-C314 |
| 2   | D     | 1304 | POV  | C33-C34-C35-C36     |
| 2   | B     | 1302 | POV  | C1-O11-P-O12        |
| 2   | B     | 1312 | POV  | C1-O11-P-O12        |
| 2   | C     | 1301 | POV  | C11-O12-P-O11       |
| 2   | B     | 1306 | POV  | C212-C213-C214-C215 |
| 2   | C     | 1313 | POV  | C37-C38-C39-C310    |
| 2   | B     | 1313 | POV  | C2-C1-O11-P         |
| 2   | A     | 1316 | POV  | C36-C37-C38-C39     |
| 2   | B     | 1302 | POV  | C36-C37-C38-C39     |
| 2   | D     | 1306 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1301 | POV  | C1-O11-P-O14        |
| 2   | A     | 1306 | POV  | C11-O12-P-O13       |
| 2   | A     | 1307 | POV  | C1-O11-P-O13        |
| 2   | A     | 1311 | POV  | C1-O11-P-O14        |
| 2   | A     | 1311 | POV  | C11-O12-P-O13       |
| 2   | B     | 1307 | POV  | C11-O12-P-O13       |
| 2   | B     | 1308 | POV  | C1-O11-P-O13        |
| 2   | B     | 1313 | POV  | C1-O11-P-O14        |
| 2   | C     | 1302 | POV  | C1-O11-P-O14        |
| 2   | C     | 1307 | POV  | C11-O12-P-O13       |
| 2   | C     | 1308 | POV  | C1-O11-P-O13        |
| 2   | C     | 1312 | POV  | C1-O11-P-O14        |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | D     | 1303 | POV  | C1-O11-P-O14        |
| 2   | D     | 1307 | POV  | C11-O12-P-O13       |
| 2   | D     | 1308 | POV  | C1-O11-P-O13        |
| 2   | D     | 1312 | POV  | C1-O11-P-O14        |
| 2   | D     | 1312 | POV  | C11-O12-P-O13       |
| 2   | C     | 1308 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1301 | POV  | O11-C1-C2-C3        |
| 2   | C     | 1302 | POV  | O11-C1-C2-C3        |
| 2   | D     | 1307 | POV  | O11-C1-C2-C3        |
| 2   | C     | 1301 | POV  | C214-C215-C216-C217 |
| 2   | A     | 1302 | POV  | C12-C11-O12-P       |
| 2   | A     | 1303 | POV  | C12-C11-O12-P       |
| 2   | A     | 1315 | POV  | C12-C11-O12-P       |
| 2   | B     | 1303 | POV  | C12-C11-O12-P       |
| 2   | B     | 1304 | POV  | C12-C11-O12-P       |
| 2   | C     | 1303 | POV  | C12-C11-O12-P       |
| 2   | C     | 1304 | POV  | C12-C11-O12-P       |
| 2   | D     | 1304 | POV  | C12-C11-O12-P       |
| 2   | B     | 1302 | POV  | C26-C27-C28-C29     |
| 2   | B     | 1313 | POV  | C26-C27-C28-C29     |
| 2   | A     | 1302 | POV  | C214-C215-C216-C217 |
| 2   | B     | 1306 | POV  | C22-C23-C24-C25     |
| 2   | C     | 1303 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1315 | POV  | C23-C24-C25-C26     |
| 2   | B     | 1308 | POV  | C24-C25-C26-C27     |
| 2   | B     | 1313 | POV  | C35-C36-C37-C38     |
| 2   | A     | 1306 | POV  | O11-C1-C2-O21       |
| 2   | A     | 1316 | POV  | O11-C1-C2-O21       |
| 2   | B     | 1307 | POV  | O11-C1-C2-O21       |
| 2   | C     | 1307 | POV  | O11-C1-C2-O21       |
| 2   | C     | 1308 | POV  | O11-C1-C2-O21       |
| 2   | B     | 1310 | POV  | C24-C25-C26-C27     |
| 2   | A     | 1302 | POV  | C1-C2-C3-O31        |
| 2   | A     | 1303 | POV  | C1-C2-C3-O31        |
| 2   | A     | 1303 | POV  | O12-C11-C12-N       |
| 2   | A     | 1306 | POV  | O12-C11-C12-N       |
| 2   | A     | 1310 | POV  | O12-C11-C12-N       |
| 2   | A     | 1314 | POV  | O12-C11-C12-N       |
| 2   | B     | 1307 | POV  | O12-C11-C12-N       |
| 2   | B     | 1311 | POV  | O12-C11-C12-N       |
| 2   | B     | 1315 | POV  | C1-C2-C3-O31        |
| 2   | B     | 1315 | POV  | O12-C11-C12-N       |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | C     | 1303 | POV  | C1-C2-C3-O31        |
| 2   | C     | 1304 | POV  | O12-C11-C12-N       |
| 2   | C     | 1307 | POV  | O12-C11-C12-N       |
| 2   | C     | 1311 | POV  | O12-C11-C12-N       |
| 2   | C     | 1313 | POV  | C1-C2-C3-O31        |
| 2   | C     | 1315 | POV  | C1-C2-C3-O31        |
| 2   | C     | 1315 | POV  | O12-C11-C12-N       |
| 2   | D     | 1301 | POV  | O12-C11-C12-N       |
| 2   | D     | 1304 | POV  | O12-C11-C12-N       |
| 2   | D     | 1307 | POV  | O12-C11-C12-N       |
| 2   | D     | 1311 | POV  | O12-C11-C12-N       |
| 2   | D     | 1313 | POV  | C1-C2-C3-O31        |
| 2   | A     | 1303 | POV  | O21-C2-C3-O31       |
| 2   | A     | 1315 | POV  | O21-C2-C3-O31       |
| 2   | B     | 1315 | POV  | O21-C2-C3-O31       |
| 2   | C     | 1304 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1304 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1313 | POV  | C26-C27-C28-C29     |
| 2   | D     | 1310 | POV  | C211-C212-C213-C214 |
| 2   | D     | 1313 | POV  | C27-C28-C29-C210    |
| 2   | D     | 1308 | POV  | C39-C310-C311-C312  |
| 2   | A     | 1312 | POV  | C2-C1-O11-P         |
| 2   | A     | 1316 | POV  | C311-C310-C39-C38   |
| 2   | C     | 1302 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1310 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1302 | POV  | C21-C22-C23-C24     |
| 2   | B     | 1302 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1312 | POV  | C312-C313-C314-C315 |
| 2   | A     | 1310 | POV  | C215-C216-C217-C218 |
| 2   | C     | 1312 | POV  | C34-C35-C36-C37     |
| 2   | D     | 1302 | POV  | C214-C215-C216-C217 |
| 2   | B     | 1312 | POV  | C26-C27-C28-C29     |
| 2   | B     | 1301 | POV  | C313-C314-C315-C316 |
| 2   | B     | 1310 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1308 | POV  | C213-C214-C215-C216 |
| 2   | C     | 1310 | POV  | C23-C24-C25-C26     |
| 2   | C     | 1301 | POV  | C25-C26-C27-C28     |
| 2   | A     | 1307 | POV  | C3-C2-O21-C21       |
| 2   | B     | 1308 | POV  | C1-C2-O21-C21       |
| 2   | C     | 1308 | POV  | C1-C2-O21-C21       |
| 2   | C     | 1308 | POV  | C3-C2-O21-C21       |
| 2   | D     | 1301 | POV  | C1-C2-O21-C21       |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | A     | 1315 | POV  | C311-C310-C39-C38   |
| 2   | C     | 1313 | POV  | C39-C310-C311-C312  |
| 3   | D     | 1305 | CLR  | C13-C17-C20-C21     |
| 2   | D     | 1309 | POV  | C214-C215-C216-C217 |
| 2   | A     | 1309 | POV  | C23-C24-C25-C26     |
| 2   | B     | 1308 | POV  | C29-C210-C211-C212  |
| 2   | C     | 1308 | POV  | C11-C12-N-C13       |
| 2   | A     | 1306 | POV  | C313-C314-C315-C316 |
| 2   | C     | 1302 | POV  | C311-C312-C313-C314 |
| 2   | D     | 1301 | POV  | C311-C312-C313-C314 |
| 2   | A     | 1306 | POV  | C1-O11-P-O12        |
| 2   | A     | 1310 | POV  | C11-O12-P-O11       |
| 2   | B     | 1307 | POV  | C1-O11-P-O12        |
| 2   | B     | 1311 | POV  | C11-O12-P-O11       |
| 2   | C     | 1307 | POV  | C1-O11-P-O12        |
| 2   | C     | 1311 | POV  | C11-O12-P-O11       |
| 2   | D     | 1307 | POV  | C1-O11-P-O12        |
| 2   | D     | 1311 | POV  | C11-O12-P-O11       |
| 2   | D     | 1310 | POV  | C32-C33-C34-C35     |
| 2   | B     | 1301 | POV  | C214-C215-C216-C217 |
| 2   | D     | 1309 | POV  | C310-C311-C312-C313 |
| 2   | C     | 1301 | POV  | C1-C2-C3-O31        |
| 2   | C     | 1304 | POV  | C1-C2-C3-O31        |
| 2   | C     | 1307 | POV  | C313-C314-C315-C316 |
| 2   | D     | 1304 | POV  | C26-C27-C28-C29     |
| 2   | D     | 1302 | POV  | C39-C310-C311-C312  |
| 2   | D     | 1308 | POV  | C36-C37-C38-C39     |
| 2   | A     | 1303 | POV  | C25-C26-C27-C28     |
| 2   | B     | 1307 | POV  | C34-C35-C36-C37     |
| 2   | A     | 1316 | POV  | C210-C211-C212-C213 |
| 2   | A     | 1314 | POV  | C212-C213-C214-C215 |
| 2   | B     | 1310 | POV  | C212-C213-C214-C215 |
| 2   | A     | 1312 | POV  | C27-C28-C29-C210    |
| 2   | B     | 1308 | POV  | C27-C28-C29-C210    |
| 2   | B     | 1313 | POV  | C27-C28-C29-C210    |
| 2   | C     | 1313 | POV  | C27-C28-C29-C210    |
| 2   | D     | 1311 | POV  | C25-C26-C27-C28     |
| 2   | D     | 1310 | POV  | C11-C12-N-C13       |
| 2   | C     | 1310 | POV  | C32-C33-C34-C35     |
| 2   | A     | 1307 | POV  | C311-C312-C313-C314 |
| 2   | C     | 1302 | POV  | C213-C214-C215-C216 |
| 2   | C     | 1307 | POV  | C25-C26-C27-C28     |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | C     | 1311 | POV  | C215-C216-C217-C218 |
| 2   | B     | 1302 | POV  | C213-C214-C215-C216 |
| 2   | A     | 1312 | POV  | C26-C27-C28-C29     |
| 2   | B     | 1315 | POV  | C210-C211-C212-C213 |
| 2   | C     | 1302 | POV  | C26-C27-C28-C29     |
| 2   | B     | 1307 | POV  | C35-C36-C37-C38     |
| 2   | D     | 1313 | POV  | C313-C314-C315-C316 |
| 2   | A     | 1301 | POV  | C33-C34-C35-C36     |
| 2   | A     | 1302 | POV  | C215-C216-C217-C218 |
| 2   | D     | 1303 | POV  | C33-C34-C35-C36     |
| 2   | D     | 1302 | POV  | C313-C314-C315-C316 |
| 2   | D     | 1312 | POV  | C214-C215-C216-C217 |
| 2   | A     | 1308 | POV  | C310-C311-C312-C313 |
| 2   | B     | 1309 | POV  | C214-C215-C216-C217 |
| 2   | B     | 1301 | POV  | C39-C310-C311-C312  |
| 2   | B     | 1307 | POV  | C212-C213-C214-C215 |
| 2   | C     | 1304 | POV  | C22-C23-C24-C25     |
| 2   | A     | 1314 | POV  | C311-C312-C313-C314 |
| 2   | D     | 1304 | POV  | C212-C213-C214-C215 |
| 2   | C     | 1303 | POV  | C39-C310-C311-C312  |
| 2   | A     | 1302 | POV  | C34-C35-C36-C37     |
| 2   | A     | 1303 | POV  | C26-C27-C28-C29     |
| 2   | C     | 1304 | POV  | C26-C27-C28-C29     |
| 2   | A     | 1307 | POV  | C1-C2-O21-C21       |
| 2   | B     | 1315 | POV  | C1-C2-O21-C21       |
| 2   | B     | 1315 | POV  | C3-C2-O21-C21       |
| 2   | C     | 1307 | POV  | C1-C2-O21-C21       |
| 2   | C     | 1315 | POV  | C1-C2-O21-C21       |
| 2   | D     | 1307 | POV  | C1-C2-O21-C21       |
| 2   | D     | 1308 | POV  | C1-C2-O21-C21       |
| 2   | A     | 1301 | POV  | C23-C24-C25-C26     |
| 2   | A     | 1309 | POV  | C11-C12-N-C13       |
| 2   | C     | 1310 | POV  | C11-C12-N-C13       |
| 2   | B     | 1301 | POV  | C22-C23-C24-C25     |
| 2   | C     | 1309 | POV  | C214-C215-C216-C217 |
| 2   | C     | 1303 | POV  | C215-C216-C217-C218 |
| 3   | C     | 1305 | CLR  | C13-C17-C20-C21     |
| 2   | C     | 1302 | POV  | C21-C22-C23-C24     |
| 2   | D     | 1312 | POV  | O11-C1-C2-O21       |
| 2   | A     | 1309 | POV  | C32-C33-C34-C35     |
| 2   | C     | 1308 | POV  | C37-C38-C39-C310    |
| 2   | A     | 1316 | POV  | O11-C1-C2-C3        |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | B     | 1302 | POV  | O11-C1-C2-C3        |
| 2   | B     | 1304 | POV  | O11-C1-C2-C3        |
| 2   | B     | 1315 | POV  | O11-C1-C2-C3        |
| 2   | C     | 1315 | POV  | O11-C1-C2-C3        |
| 2   | D     | 1303 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1313 | POV  | C39-C310-C311-C312  |
| 2   | D     | 1306 | POV  | C212-C213-C214-C215 |
| 2   | C     | 1313 | POV  | C26-C27-C28-C29     |
| 2   | C     | 1309 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1312 | POV  | C37-C38-C39-C310    |
| 2   | C     | 1310 | POV  | O21-C21-C22-C23     |
| 2   | D     | 1310 | POV  | O21-C21-C22-C23     |
| 2   | D     | 1302 | POV  | C22-C23-C24-C25     |
| 3   | A     | 1304 | CLR  | C13-C17-C20-C21     |
| 2   | A     | 1309 | POV  | O21-C21-C22-C23     |
| 2   | B     | 1310 | POV  | O21-C21-C22-C23     |
| 2   | A     | 1307 | POV  | C29-C210-C211-C212  |
| 2   | D     | 1302 | POV  | C37-C38-C39-C310    |
| 2   | A     | 1316 | POV  | C37-C38-C39-C310    |
| 2   | C     | 1315 | POV  | C312-C313-C314-C315 |
| 2   | B     | 1310 | POV  | C11-C12-N-C13       |
| 2   | D     | 1307 | POV  | C313-C314-C315-C316 |
| 2   | A     | 1308 | POV  | C214-C215-C216-C217 |
| 2   | A     | 1315 | POV  | C215-C216-C217-C218 |
| 2   | B     | 1312 | POV  | O31-C31-C32-C33     |
| 2   | C     | 1313 | POV  | O21-C21-C22-C23     |
| 2   | C     | 1312 | POV  | C311-C312-C313-C314 |
| 2   | D     | 1309 | POV  | C2-C1-O11-P         |
| 2   | B     | 1301 | POV  | C37-C38-C39-C310    |
| 2   | A     | 1316 | POV  | C313-C314-C315-C316 |
| 2   | D     | 1313 | POV  | O21-C21-C22-C23     |
| 2   | C     | 1301 | POV  | C22-C23-C24-C25     |
| 2   | C     | 1302 | POV  | C33-C34-C35-C36     |
| 2   | C     | 1311 | POV  | C29-C210-C211-C212  |
| 2   | A     | 1312 | POV  | O21-C21-C22-C23     |
| 2   | C     | 1312 | POV  | O31-C31-C32-C33     |
| 2   | D     | 1312 | POV  | O31-C31-C32-C33     |
| 2   | B     | 1307 | POV  | C23-C24-C25-C26     |
| 2   | D     | 1310 | POV  | C11-C12-N-C14       |
| 2   | C     | 1308 | POV  | C311-C312-C313-C314 |
| 2   | B     | 1312 | POV  | C311-C310-C39-C38   |
| 2   | B     | 1313 | POV  | O21-C21-C22-C23     |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | A     | 1308 | POV  | C29-C210-C211-C212  |
| 2   | A     | 1310 | POV  | C29-C210-C211-C212  |
| 2   | B     | 1304 | POV  | C29-C210-C211-C212  |
| 2   | B     | 1311 | POV  | C29-C210-C211-C212  |
| 2   | C     | 1304 | POV  | C29-C210-C211-C212  |
| 2   | C     | 1308 | POV  | C29-C210-C211-C212  |
| 2   | D     | 1304 | POV  | C29-C210-C211-C212  |
| 2   | D     | 1311 | POV  | C29-C210-C211-C212  |
| 2   | A     | 1307 | POV  | C37-C38-C39-C310    |
| 2   | A     | 1306 | POV  | C1-C2-O21-C21       |
| 2   | B     | 1307 | POV  | C1-C2-O21-C21       |
| 2   | C     | 1315 | POV  | C3-C2-O21-C21       |
| 2   | D     | 1308 | POV  | C3-C2-O21-C21       |
| 2   | D     | 1310 | POV  | C212-C213-C214-C215 |
| 2   | A     | 1311 | POV  | C311-C312-C313-C314 |
| 2   | C     | 1310 | POV  | C212-C213-C214-C215 |
| 2   | C     | 1301 | POV  | C35-C36-C37-C38     |
| 2   | D     | 1309 | POV  | C29-C210-C211-C212  |
| 2   | D     | 1301 | POV  | C210-C211-C212-C213 |
| 2   | D     | 1304 | POV  | C1-C2-C3-O31        |
| 2   | B     | 1309 | POV  | C310-C311-C312-C313 |
| 2   | A     | 1311 | POV  | O11-C1-C2-O21       |
| 2   | D     | 1302 | POV  | O31-C31-C32-C33     |
| 2   | A     | 1309 | POV  | C11-C12-N-C14       |
| 2   | C     | 1310 | POV  | C11-C12-N-C14       |
| 2   | C     | 1312 | POV  | C311-C310-C39-C38   |
| 2   | A     | 1307 | POV  | C213-C214-C215-C216 |
| 2   | A     | 1314 | POV  | C312-C313-C314-C315 |
| 2   | B     | 1303 | POV  | C35-C36-C37-C38     |
| 2   | A     | 1305 | POV  | C27-C28-C29-C210    |
| 2   | B     | 1309 | POV  | C29-C210-C211-C212  |
| 2   | C     | 1306 | POV  | C27-C28-C29-C210    |
| 2   | D     | 1308 | POV  | C29-C210-C211-C212  |
| 2   | C     | 1302 | POV  | C2-C3-O31-C31       |
| 2   | A     | 1303 | POV  | O11-C1-C2-C3        |
| 2   | C     | 1304 | POV  | O11-C1-C2-C3        |
| 2   | B     | 1302 | POV  | C2-C3-O31-C31       |
| 2   | D     | 1303 | POV  | C2-C3-O31-C31       |
| 2   | C     | 1302 | POV  | O21-C2-C3-O31       |
| 2   | D     | 1303 | POV  | O21-C2-C3-O31       |
| 2   | A     | 1303 | POV  | C29-C210-C211-C212  |
| 2   | D     | 1306 | POV  | C27-C28-C29-C210    |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | B     | 1310 | POV  | C11-C12-N-C14       |
| 3   | D     | 1305 | CLR  | C16-C17-C20-C22     |
| 2   | A     | 1309 | POV  | C212-C213-C214-C215 |
| 2   | A     | 1311 | POV  | C37-C38-C39-C310    |
| 2   | B     | 1308 | POV  | C311-C310-C39-C38   |
| 2   | D     | 1308 | POV  | C212-C213-C214-C215 |
| 2   | C     | 1309 | POV  | C29-C210-C211-C212  |
| 2   | B     | 1312 | POV  | O32-C31-C32-C33     |
| 2   | C     | 1302 | POV  | C27-C28-C29-C210    |
| 2   | A     | 1309 | POV  | C11-C12-N-C15       |
| 2   | D     | 1310 | POV  | C11-C12-N-C15       |
| 2   | D     | 1312 | POV  | O32-C31-C32-C33     |
| 2   | C     | 1312 | POV  | O32-C31-C32-C33     |
| 2   | C     | 1301 | POV  | C39-C310-C311-C312  |
| 2   | A     | 1307 | POV  | C311-C310-C39-C38   |
| 2   | C     | 1315 | POV  | C311-C310-C39-C38   |
| 2   | B     | 1306 | POV  | C27-C28-C29-C210    |
| 2   | C     | 1308 | POV  | C27-C28-C29-C210    |
| 2   | B     | 1303 | POV  | C215-C216-C217-C218 |
| 2   | C     | 1308 | POV  | C213-C214-C215-C216 |
| 2   | B     | 1302 | POV  | C21-C22-C23-C24     |
| 2   | C     | 1313 | POV  | O22-C21-C22-C23     |
| 2   | A     | 1302 | POV  | C311-C310-C39-C38   |
| 2   | A     | 1315 | POV  | C1-C2-C3-O31        |
| 2   | A     | 1312 | POV  | O22-C21-C22-C23     |
| 2   | D     | 1313 | POV  | O22-C21-C22-C23     |
| 2   | C     | 1309 | POV  | C312-C313-C314-C315 |
| 2   | A     | 1301 | POV  | C2-C3-O31-C31       |
| 2   | B     | 1313 | POV  | O22-C21-C22-C23     |
| 2   | A     | 1315 | POV  | C214-C215-C216-C217 |
| 2   | A     | 1307 | POV  | C27-C28-C29-C210    |
| 2   | D     | 1307 | POV  | C27-C28-C29-C210    |
| 2   | C     | 1301 | POV  | C212-C213-C214-C215 |
| 2   | A     | 1301 | POV  | C11-O12-P-O14       |
| 2   | A     | 1303 | POV  | C11-O12-P-O14       |
| 2   | A     | 1306 | POV  | C1-O11-P-O14        |
| 2   | A     | 1310 | POV  | C11-O12-P-O14       |
| 2   | A     | 1316 | POV  | C11-O12-P-O14       |
| 2   | B     | 1301 | POV  | C11-O12-P-O14       |
| 2   | B     | 1302 | POV  | C1-O11-P-O14        |
| 2   | B     | 1302 | POV  | C11-O12-P-O14       |
| 2   | B     | 1304 | POV  | C11-O12-P-O14       |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | B     | 1307 | POV  | C1-O11-P-O14        |
| 2   | B     | 1310 | POV  | C11-C12-N-C15       |
| 2   | B     | 1312 | POV  | C1-O11-P-O14        |
| 2   | C     | 1302 | POV  | C11-O12-P-O14       |
| 2   | C     | 1304 | POV  | C11-O12-P-O14       |
| 2   | C     | 1307 | POV  | C1-O11-P-O14        |
| 2   | C     | 1308 | POV  | C11-C12-N-C14       |
| 2   | C     | 1310 | POV  | C11-C12-N-C15       |
| 2   | C     | 1311 | POV  | C11-O12-P-O14       |
| 2   | D     | 1303 | POV  | C11-O12-P-O14       |
| 2   | D     | 1304 | POV  | C11-O12-P-O14       |
| 2   | D     | 1307 | POV  | C1-O11-P-O14        |
| 2   | D     | 1311 | POV  | C11-O12-P-O14       |
| 2   | C     | 1308 | POV  | C311-C310-C39-C38   |
| 2   | D     | 1302 | POV  | C212-C213-C214-C215 |
| 2   | A     | 1301 | POV  | C210-C211-C212-C213 |
| 2   | D     | 1301 | POV  | C312-C313-C314-C315 |
| 2   | A     | 1306 | POV  | C12-C11-O12-P       |
| 2   | A     | 1309 | POV  | C12-C11-O12-P       |
| 2   | A     | 1314 | POV  | C12-C11-O12-P       |
| 2   | B     | 1307 | POV  | C12-C11-O12-P       |
| 2   | B     | 1310 | POV  | C12-C11-O12-P       |
| 2   | B     | 1315 | POV  | C12-C11-O12-P       |
| 2   | C     | 1307 | POV  | C12-C11-O12-P       |
| 2   | C     | 1310 | POV  | C12-C11-O12-P       |
| 2   | C     | 1315 | POV  | C12-C11-O12-P       |
| 2   | D     | 1301 | POV  | C12-C11-O12-P       |
| 2   | D     | 1307 | POV  | C12-C11-O12-P       |
| 2   | D     | 1310 | POV  | C12-C11-O12-P       |
| 2   | A     | 1310 | POV  | O21-C21-C22-C23     |
| 2   | A     | 1311 | POV  | O21-C21-C22-C23     |
| 2   | C     | 1301 | POV  | C37-C38-C39-C310    |
| 2   | D     | 1308 | POV  | C24-C25-C26-C27     |
| 3   | B     | 1305 | CLR  | C22-C23-C24-C25     |
| 2   | D     | 1312 | POV  | O21-C21-C22-C23     |
| 2   | A     | 1311 | POV  | O31-C31-C32-C33     |
| 2   | B     | 1312 | POV  | O21-C21-C22-C23     |
| 2   | C     | 1312 | POV  | O11-C1-C2-O21       |
| 2   | C     | 1312 | POV  | O22-C21-C22-C23     |
| 2   | A     | 1316 | POV  | O31-C31-C32-C33     |
| 2   | B     | 1311 | POV  | O21-C21-C22-C23     |
| 2   | C     | 1312 | POV  | O21-C21-C22-C23     |

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| Mol | Chain | Res  | Type | Atoms               |
|-----|-------|------|------|---------------------|
| 2   | D     | 1303 | POV  | C21-C22-C23-C24     |
| 2   | A     | 1311 | POV  | O22-C21-C22-C23     |
| 2   | B     | 1312 | POV  | O22-C21-C22-C23     |
| 2   | C     | 1301 | POV  | O31-C31-C32-C33     |
| 2   | B     | 1309 | POV  | C37-C38-C39-C310    |
| 2   | C     | 1308 | POV  | C11-C12-N-C15       |
| 2   | A     | 1316 | POV  | C33-C34-C35-C36     |
| 2   | D     | 1303 | POV  | C27-C28-C29-C210    |
| 2   | B     | 1315 | POV  | C312-C313-C314-C315 |
| 2   | D     | 1308 | POV  | C34-C35-C36-C37     |
| 2   | D     | 1312 | POV  | O22-C21-C22-C23     |

There are no ring outliers.

44 monomers are involved in 60 short contacts:

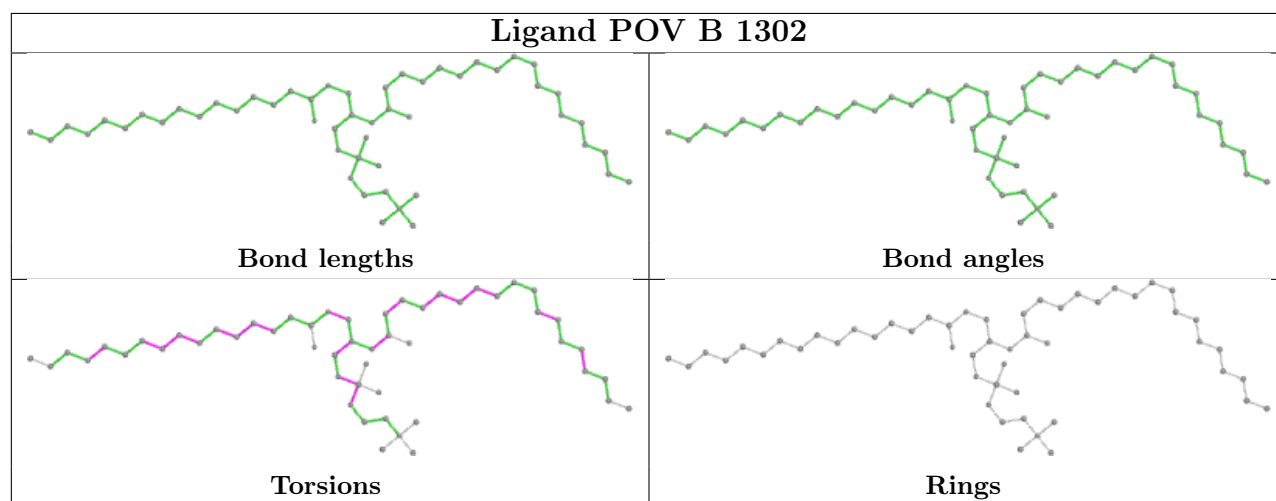
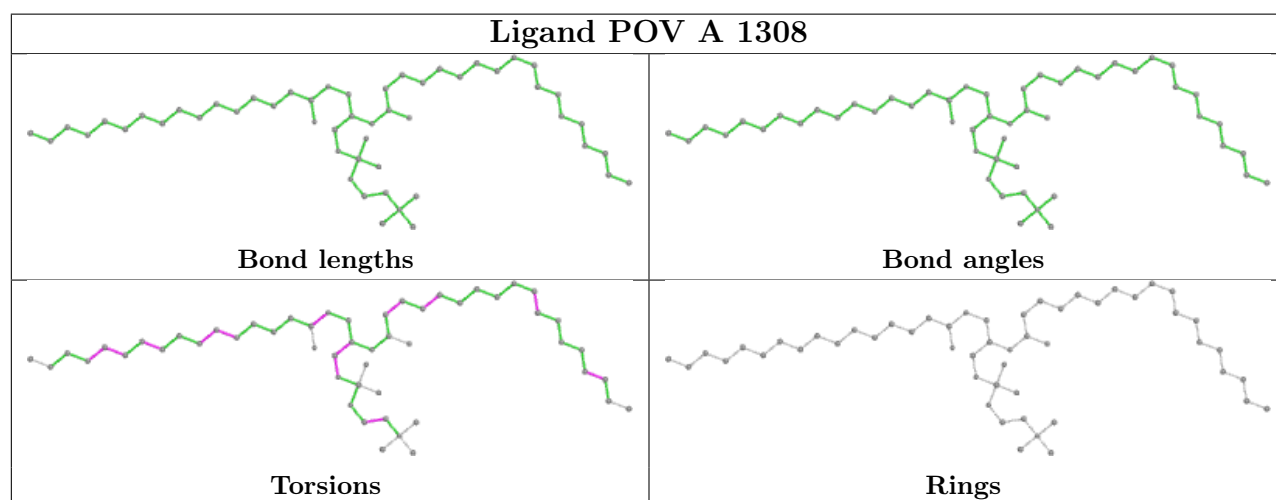
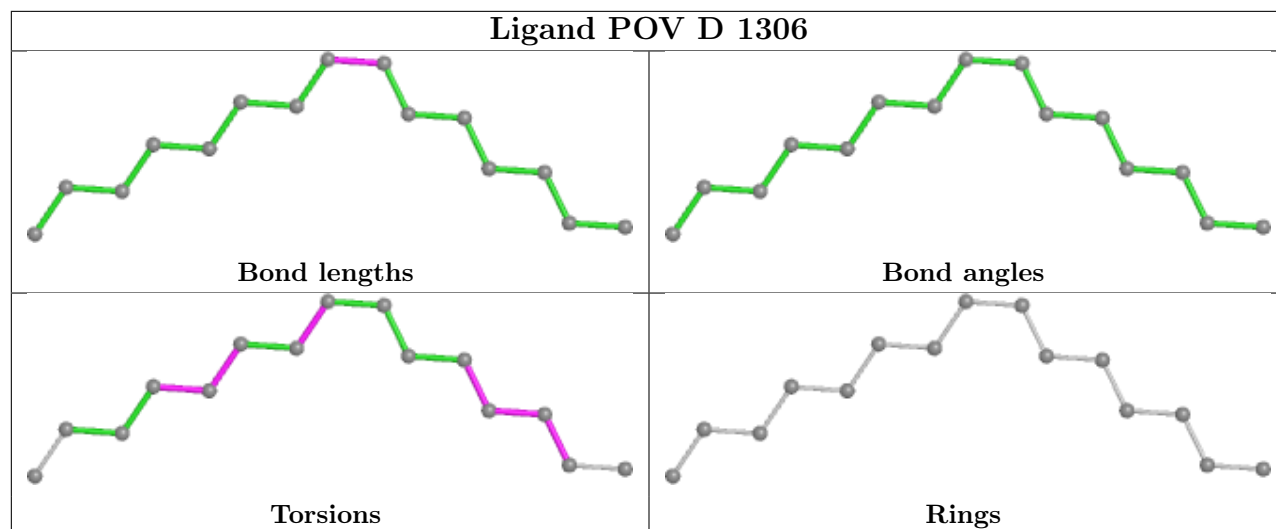
| Mol | Chain | Res  | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 2   | D     | 1306 | POV  | 1       | 0            |
| 2   | B     | 1302 | POV  | 3       | 0            |
| 2   | B     | 1312 | POV  | 1       | 0            |
| 2   | D     | 1307 | POV  | 3       | 0            |
| 2   | A     | 1301 | POV  | 2       | 0            |
| 2   | C     | 1301 | POV  | 1       | 0            |
| 2   | D     | 1312 | POV  | 1       | 0            |
| 2   | D     | 1301 | POV  | 1       | 0            |
| 2   | A     | 1305 | POV  | 1       | 0            |
| 2   | D     | 1302 | POV  | 3       | 0            |
| 2   | A     | 1303 | POV  | 1       | 0            |
| 2   | D     | 1311 | POV  | 1       | 0            |
| 2   | A     | 1306 | POV  | 2       | 0            |
| 2   | C     | 1310 | POV  | 2       | 0            |
| 3   | B     | 1305 | CLR  | 1       | 0            |
| 2   | B     | 1315 | POV  | 1       | 0            |
| 2   | B     | 1303 | POV  | 1       | 0            |
| 2   | C     | 1303 | POV  | 3       | 0            |
| 2   | A     | 1309 | POV  | 2       | 0            |
| 2   | D     | 1303 | POV  | 1       | 0            |
| 2   | B     | 1308 | POV  | 2       | 0            |
| 3   | A     | 1304 | CLR  | 4       | 0            |
| 2   | A     | 1316 | POV  | 2       | 0            |
| 2   | D     | 1304 | POV  | 1       | 0            |
| 2   | B     | 1304 | POV  | 1       | 0            |
| 2   | A     | 1310 | POV  | 1       | 0            |

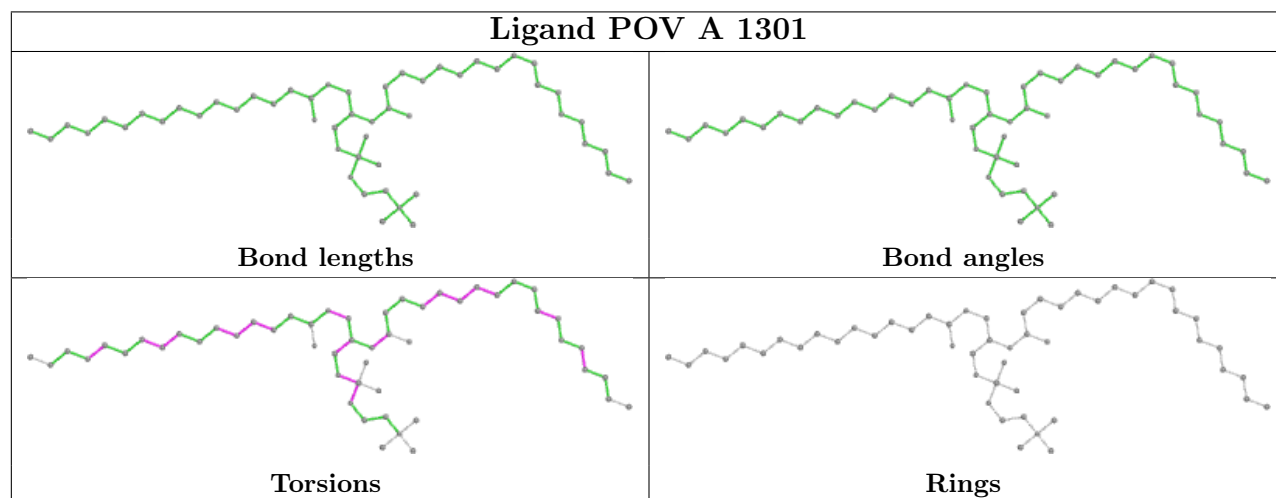
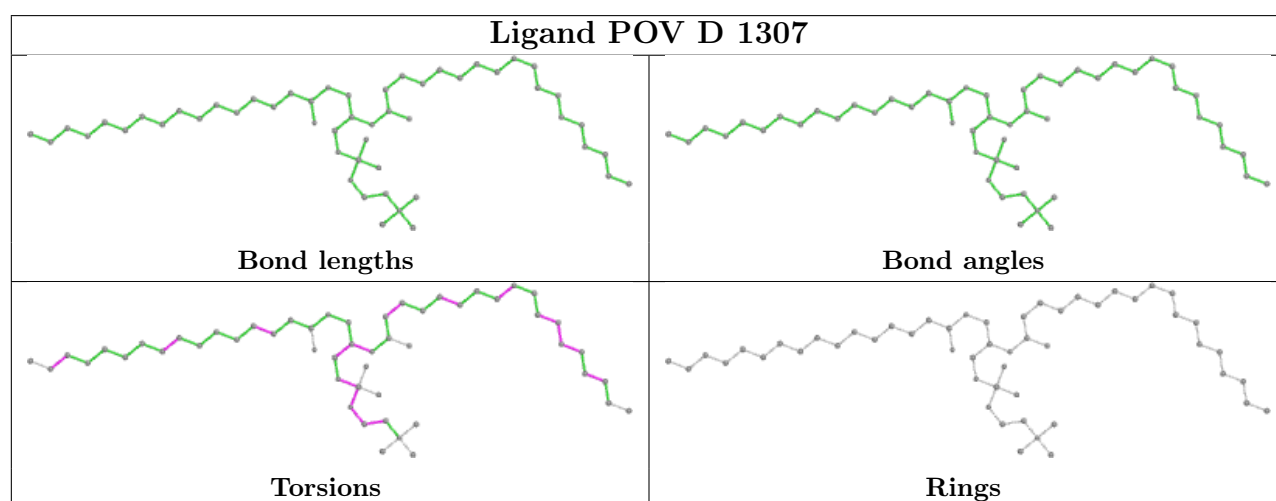
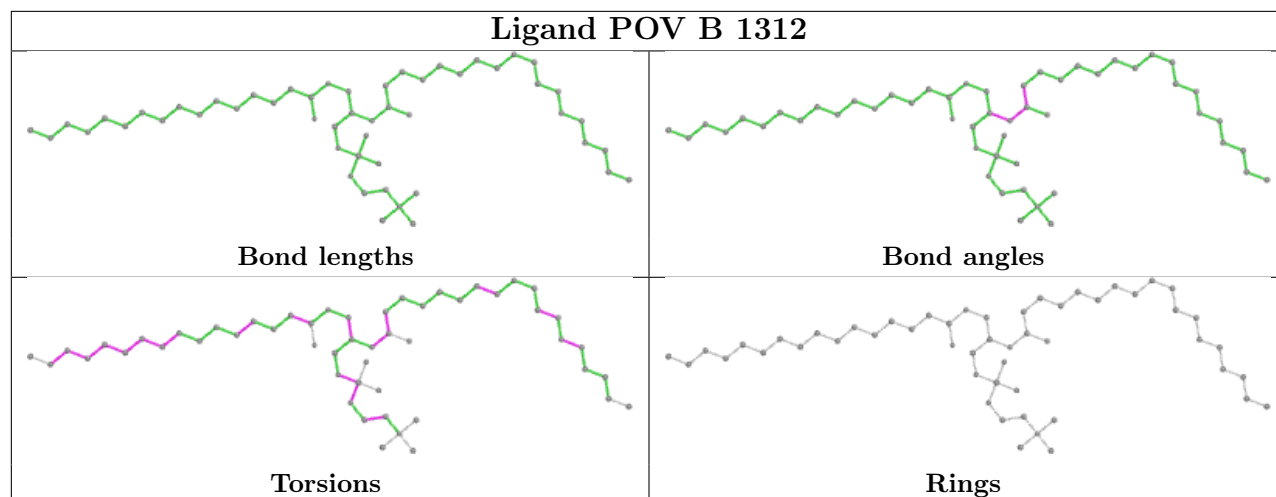
*Continued on next page...*

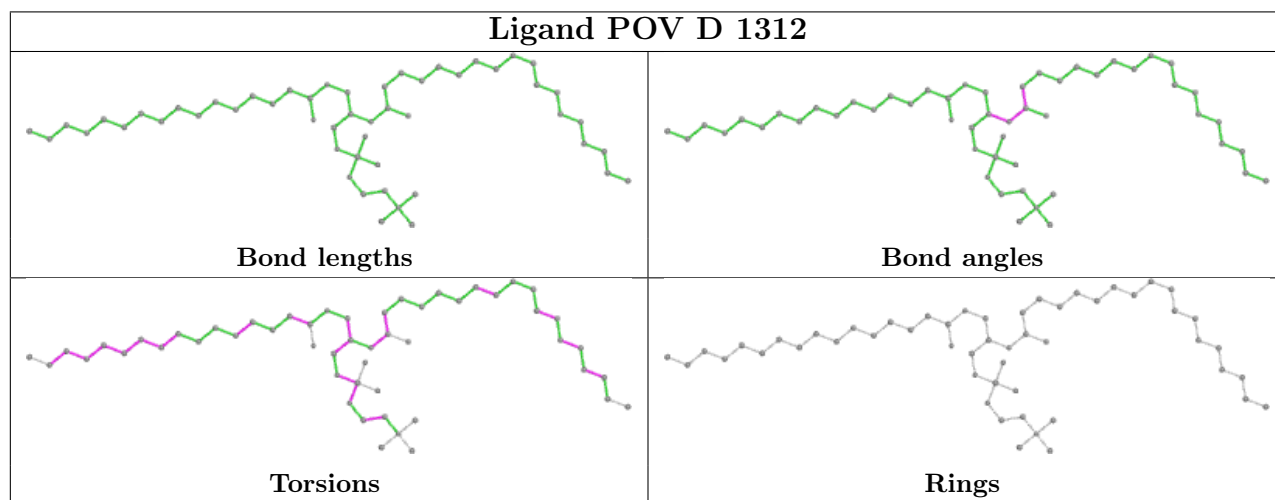
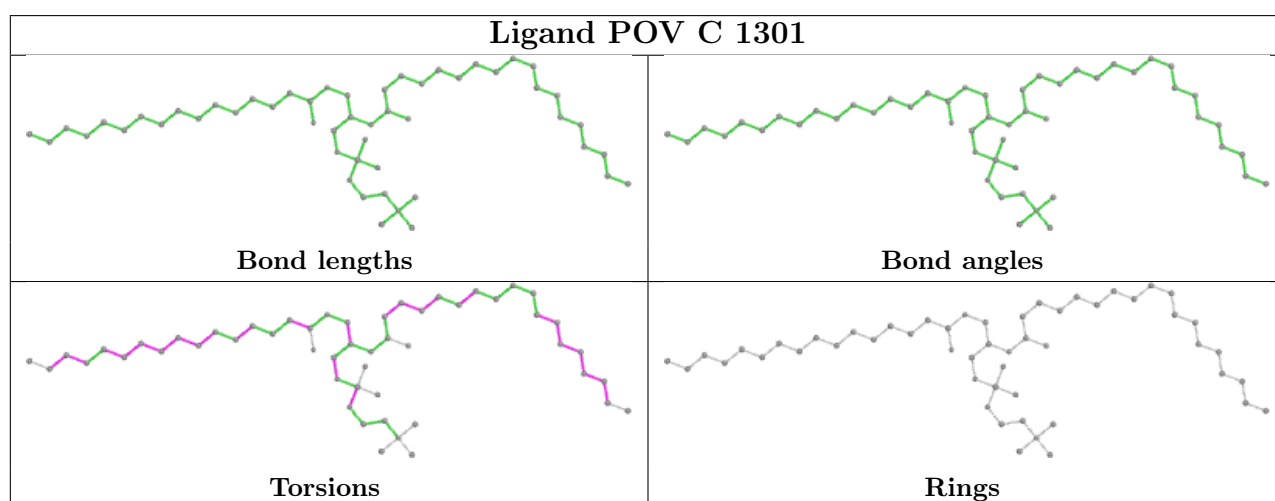
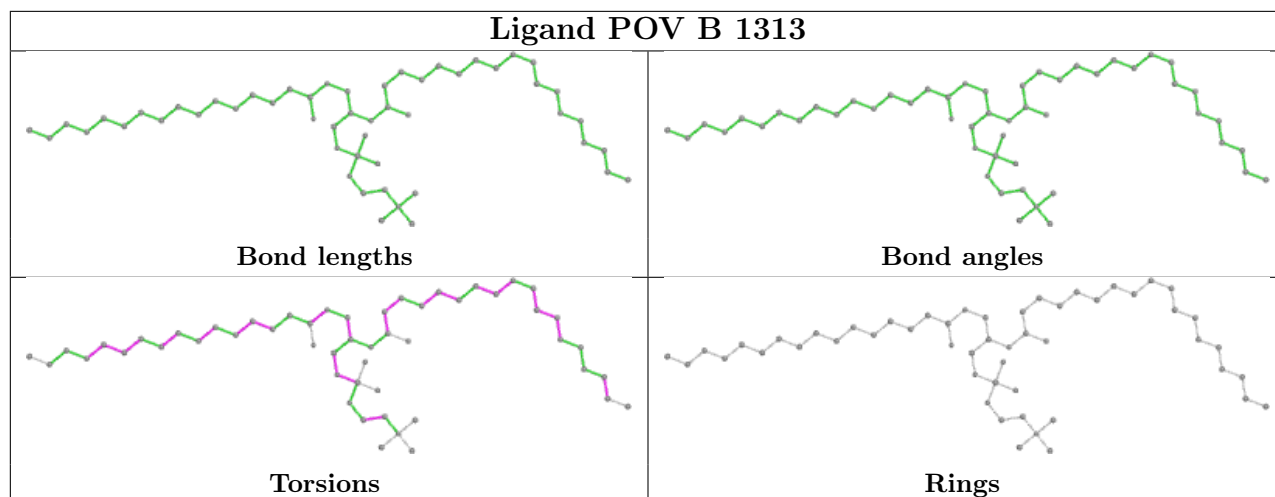
*Continued from previous page...*

| Mol | Chain | Res  | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 3   | C     | 1305 | CLR  | 3       | 0            |
| 2   | A     | 1314 | POV  | 1       | 0            |
| 2   | A     | 1315 | POV  | 1       | 0            |
| 3   | D     | 1305 | CLR  | 5       | 0            |
| 2   | B     | 1306 | POV  | 1       | 0            |
| 2   | C     | 1308 | POV  | 2       | 0            |
| 2   | C     | 1304 | POV  | 1       | 0            |
| 2   | A     | 1307 | POV  | 2       | 0            |
| 2   | C     | 1307 | POV  | 3       | 0            |
| 2   | B     | 1301 | POV  | 3       | 0            |
| 2   | A     | 1302 | POV  | 3       | 0            |
| 2   | C     | 1306 | POV  | 1       | 0            |
| 2   | B     | 1310 | POV  | 2       | 0            |
| 2   | D     | 1310 | POV  | 2       | 0            |
| 2   | C     | 1311 | POV  | 1       | 0            |
| 2   | B     | 1307 | POV  | 1       | 0            |
| 2   | C     | 1302 | POV  | 2       | 0            |
| 2   | B     | 1311 | POV  | 1       | 0            |

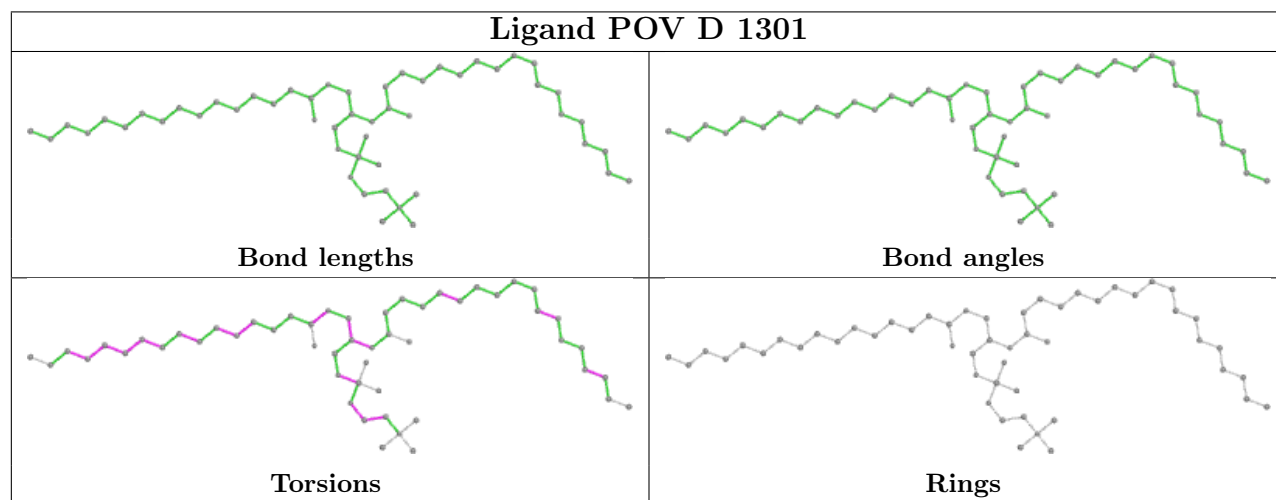
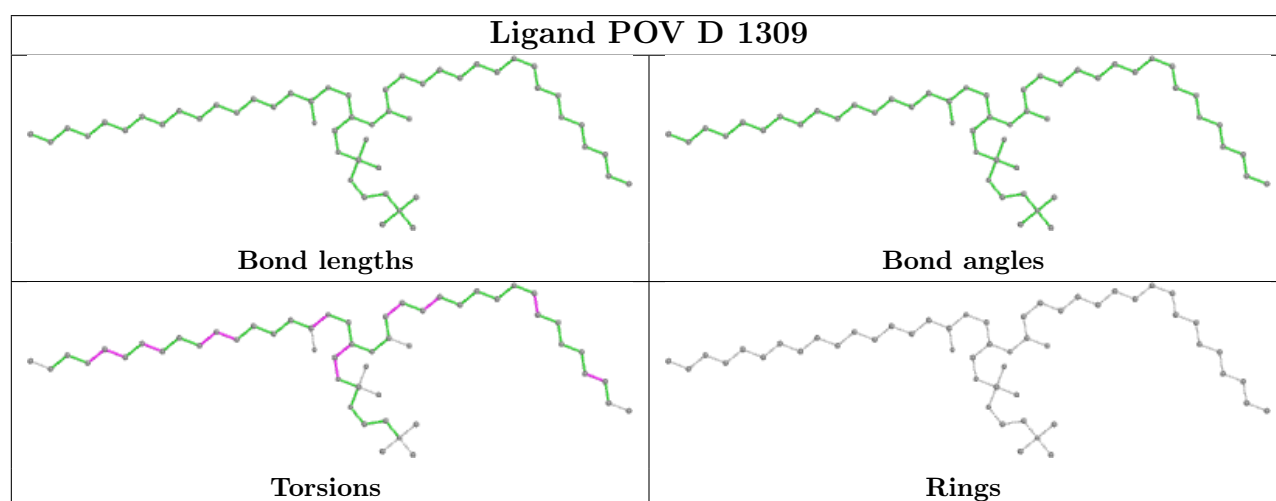
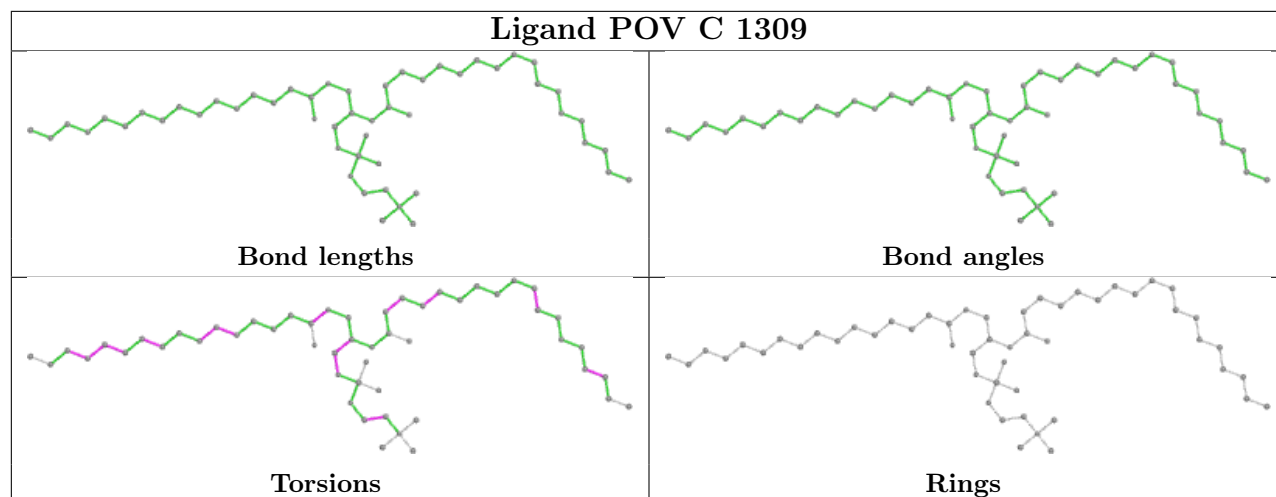
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

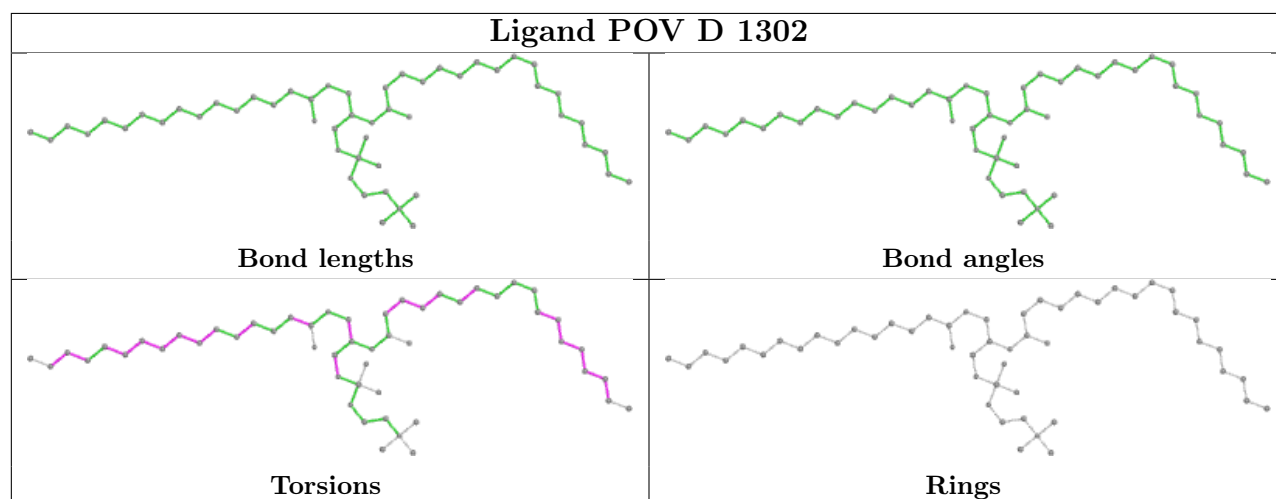
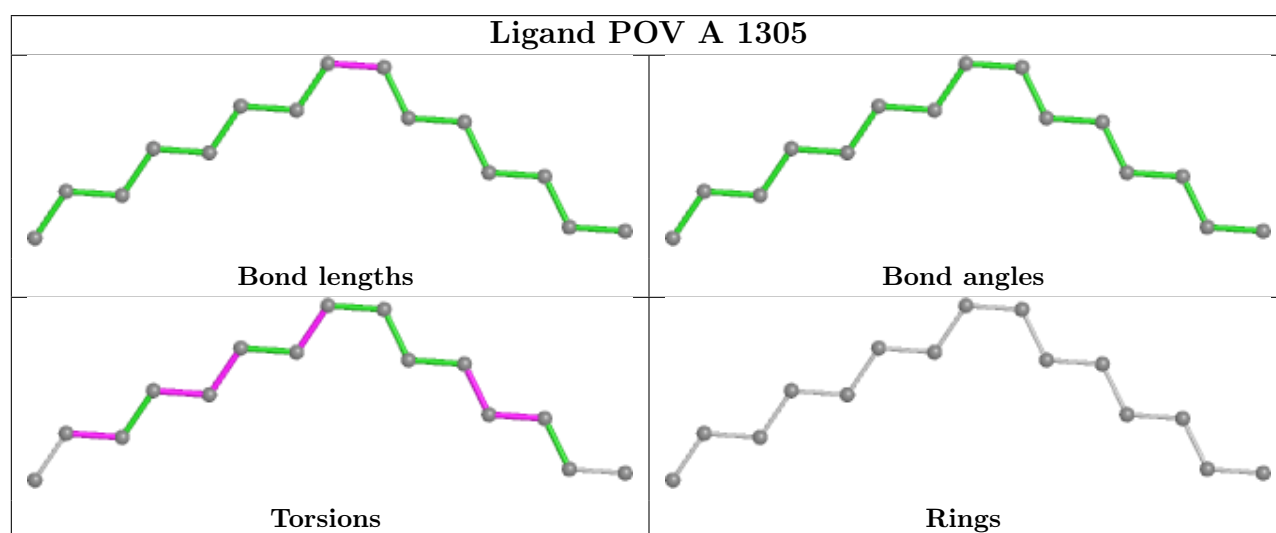
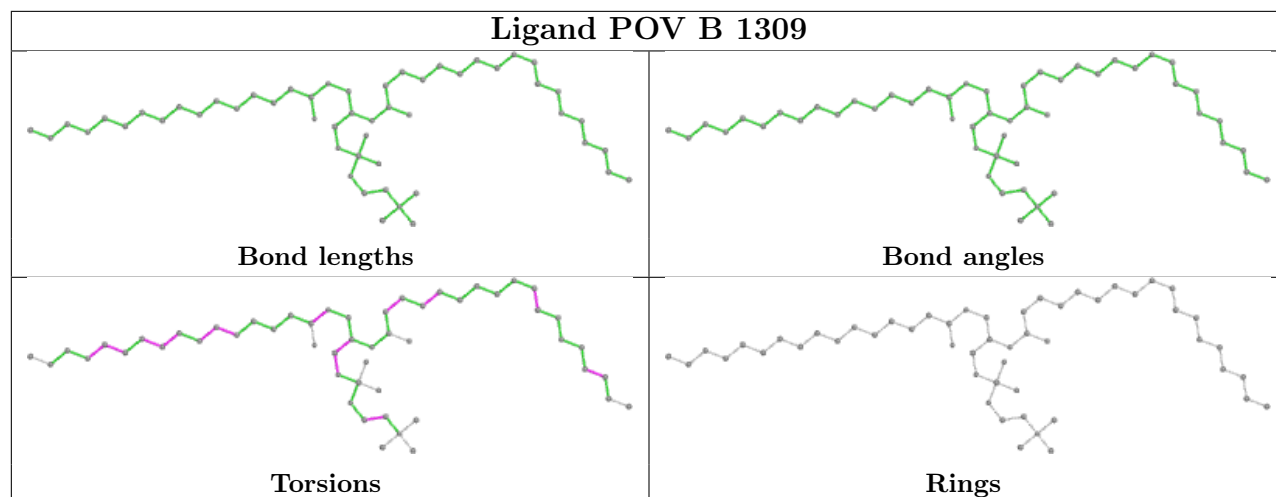


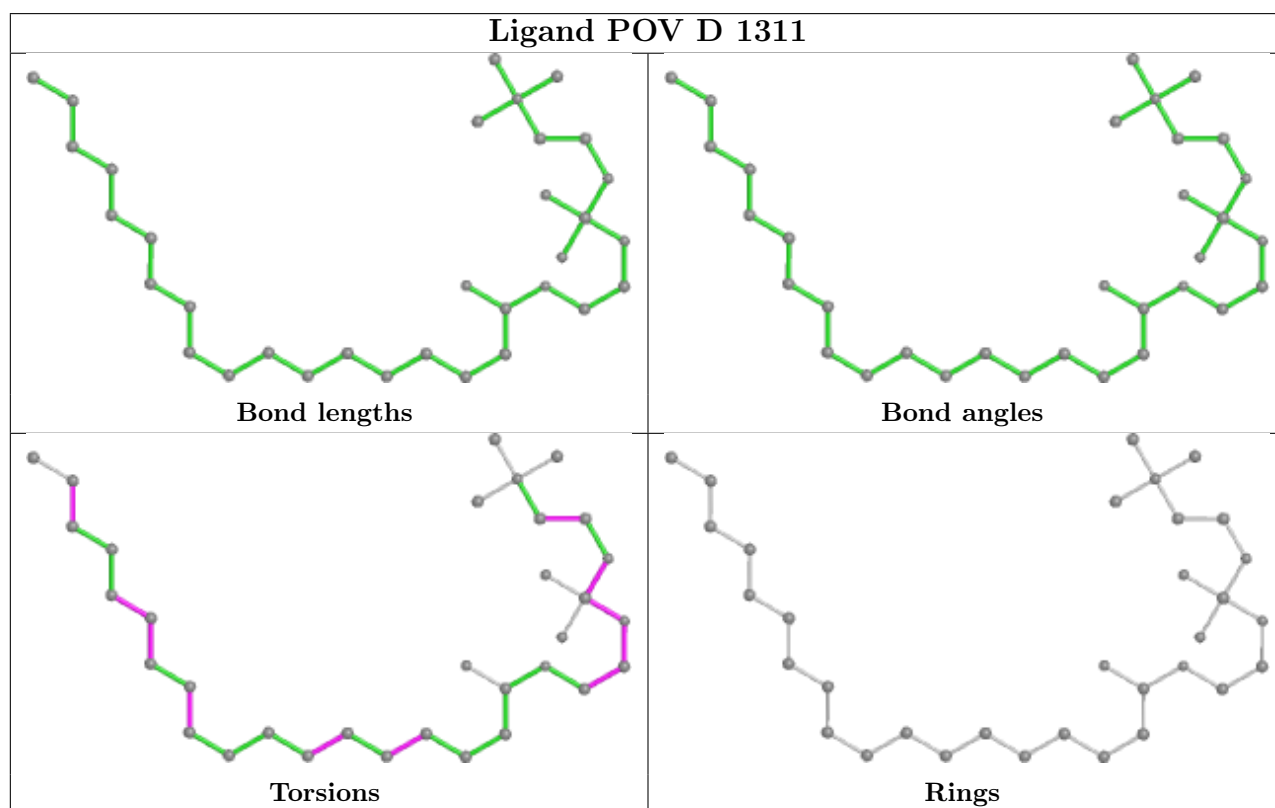
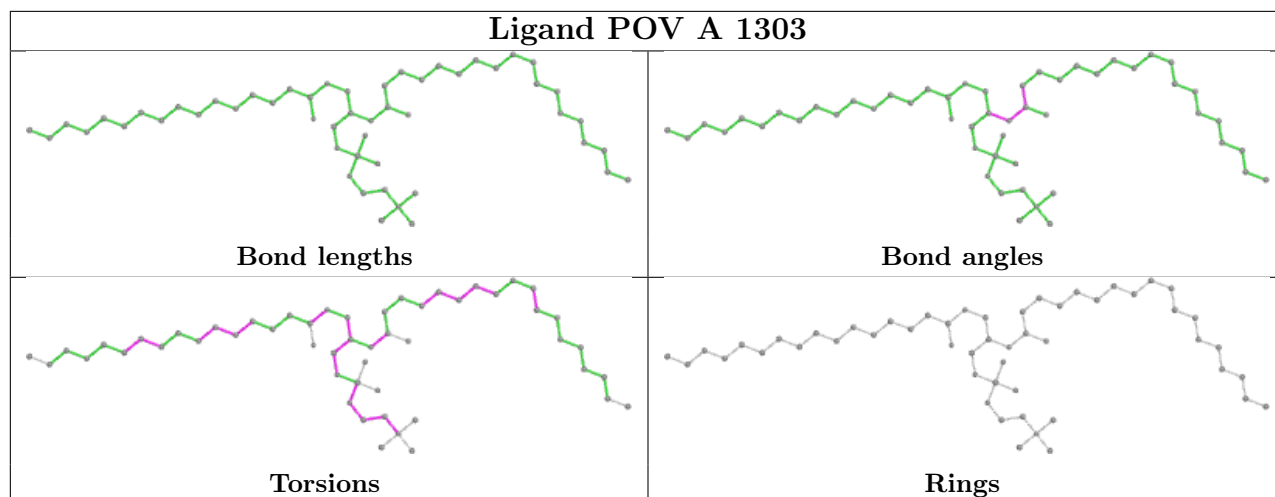


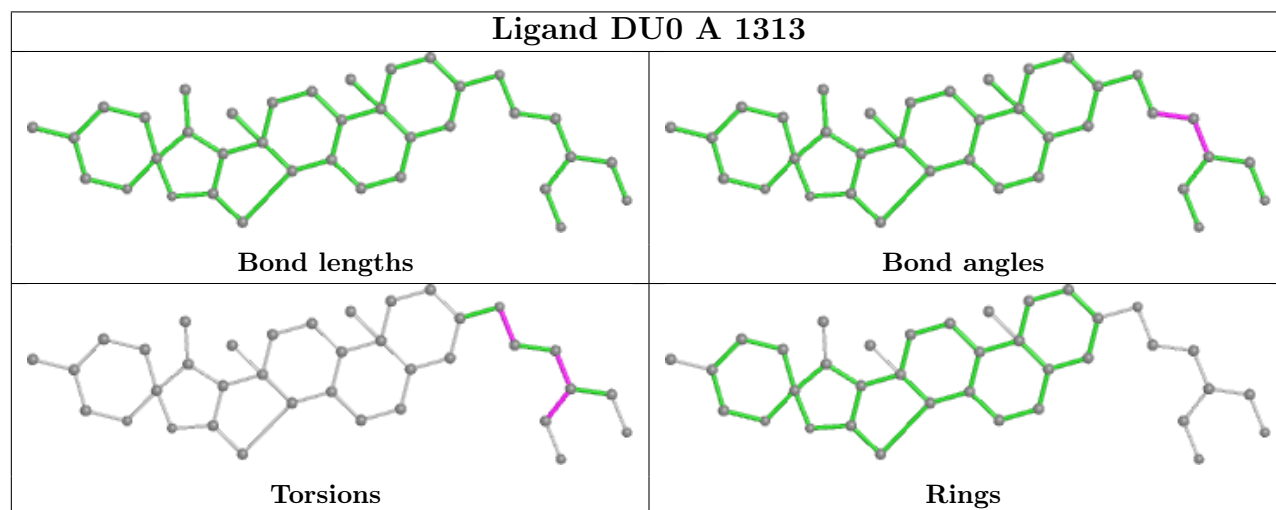
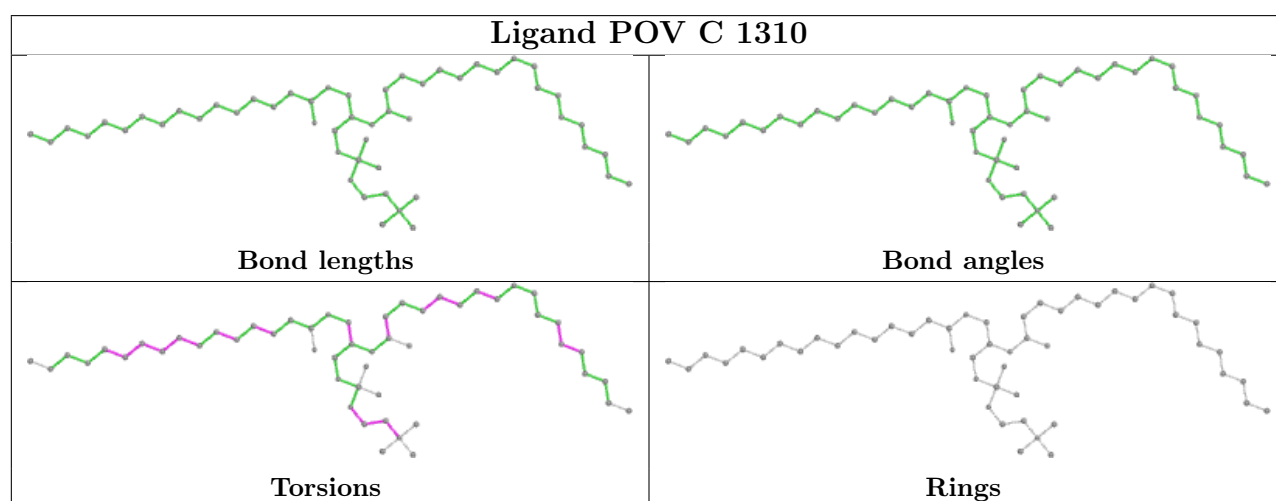
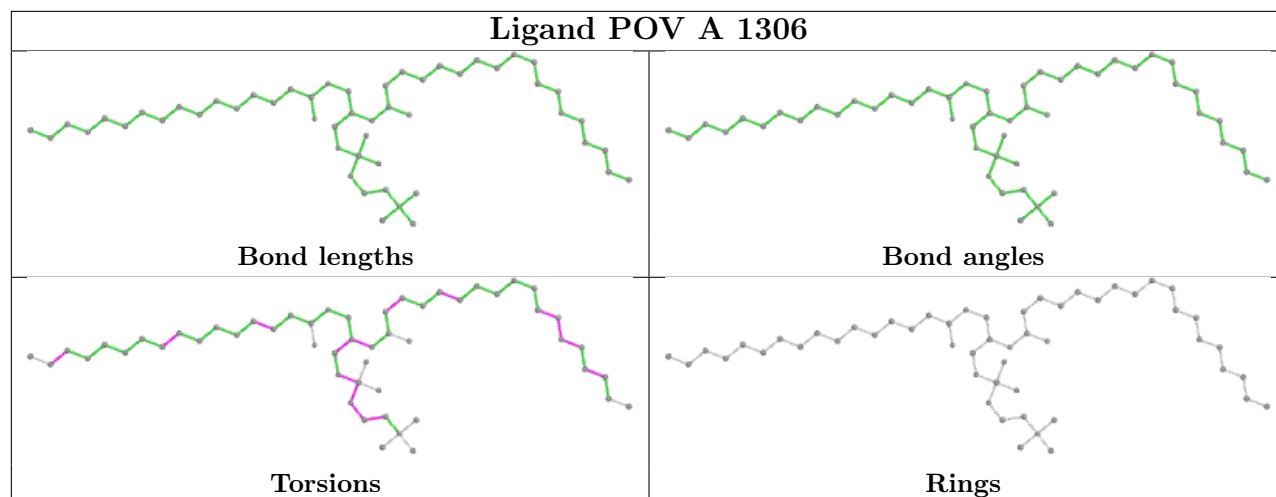


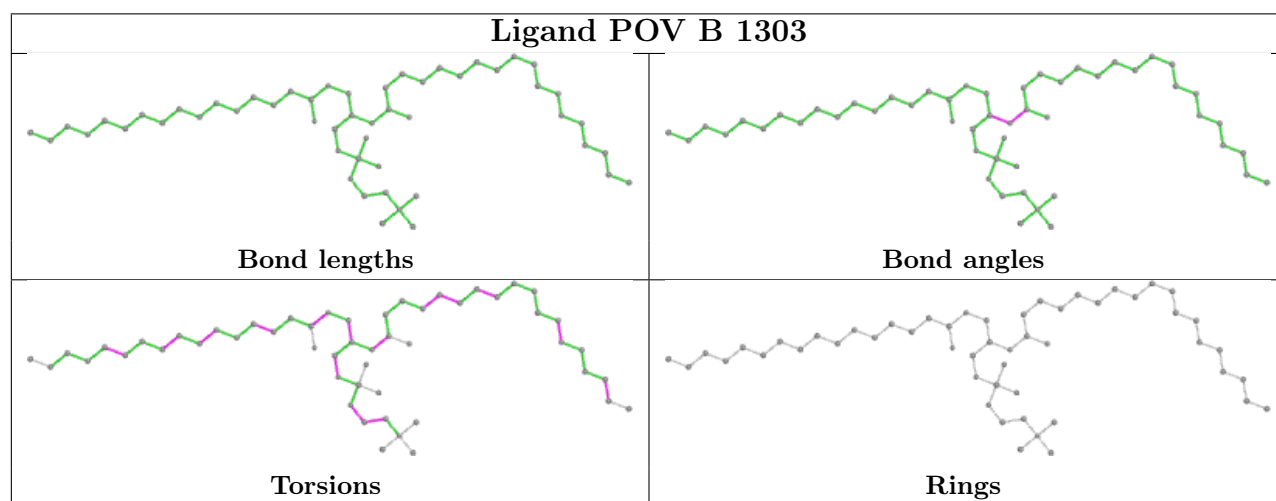
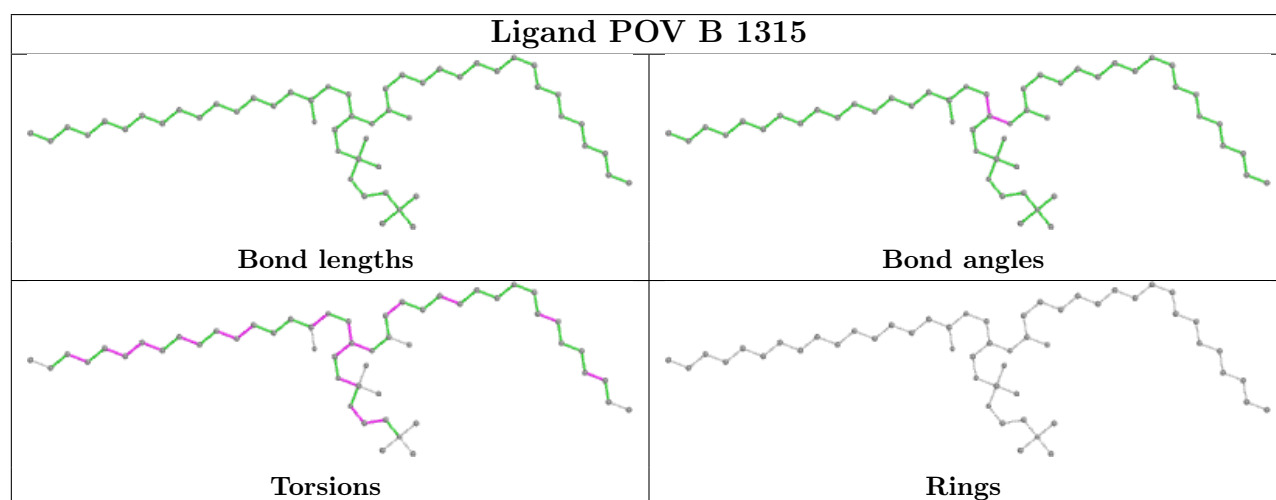
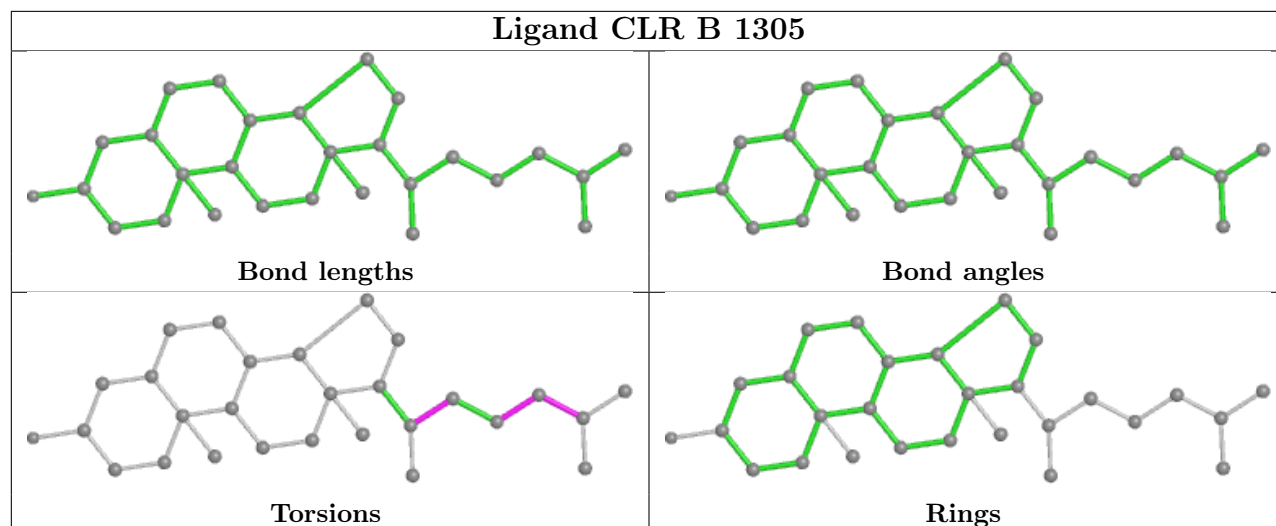


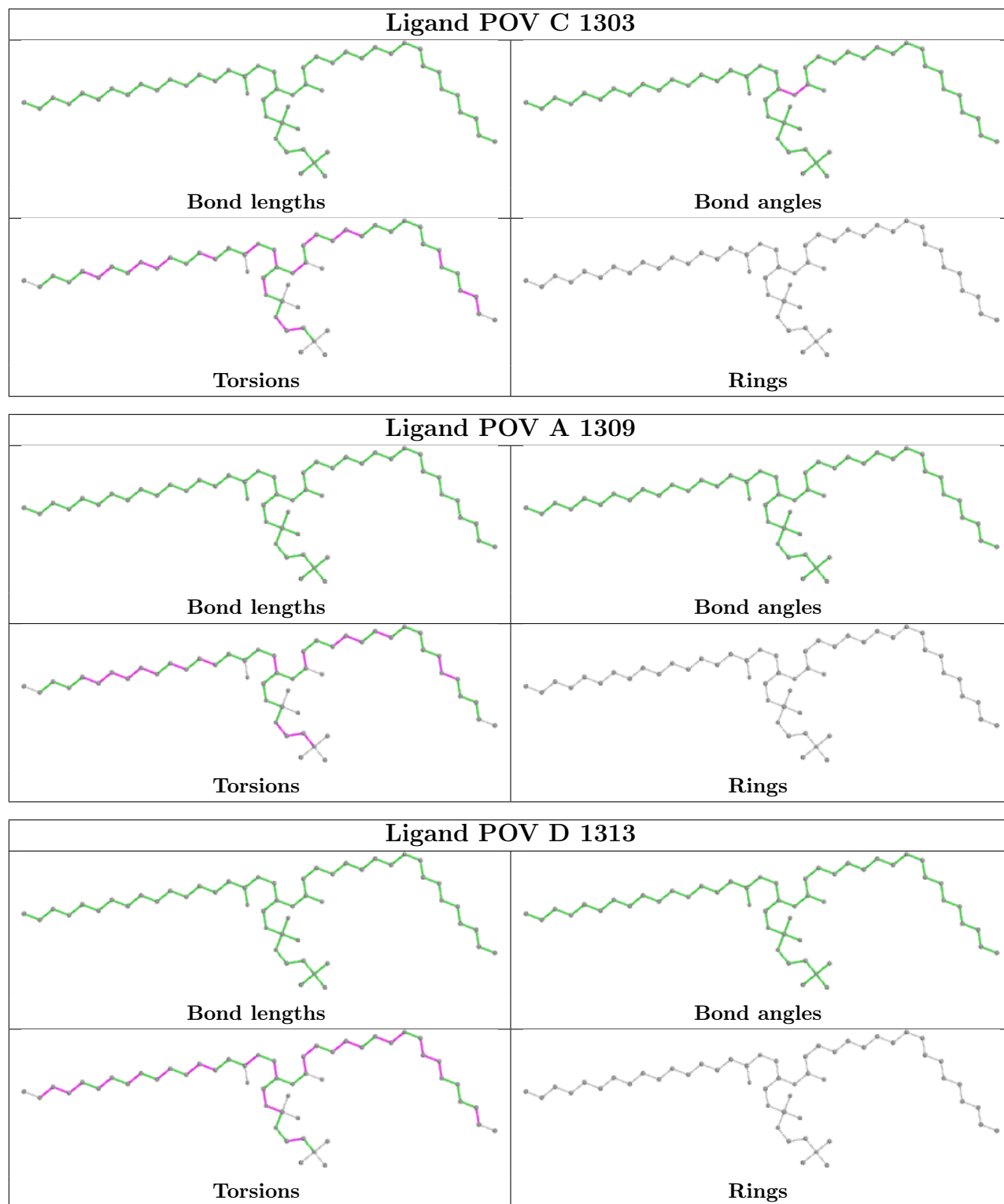


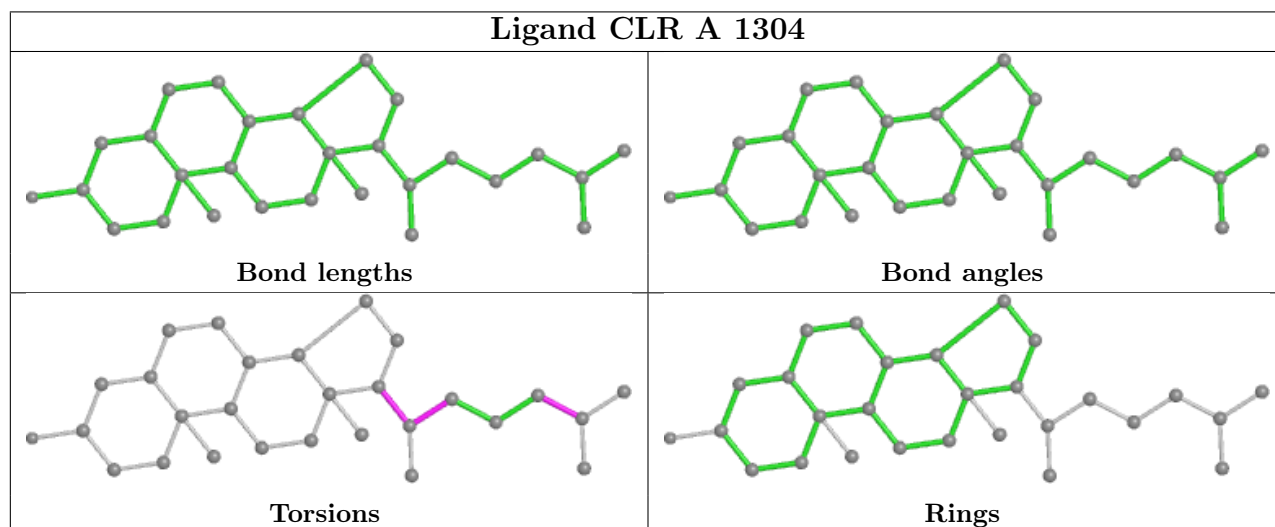
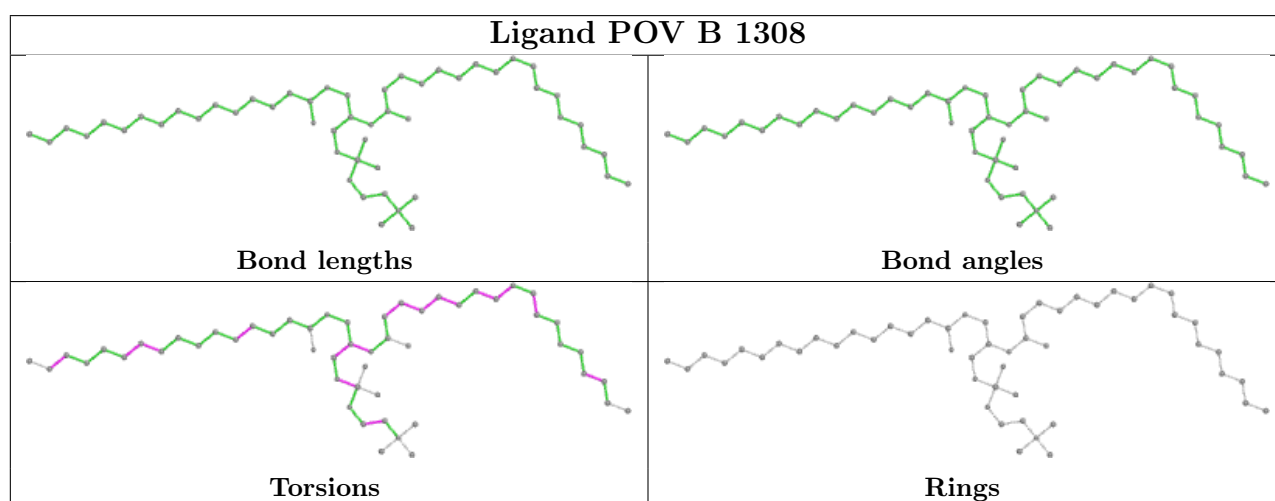
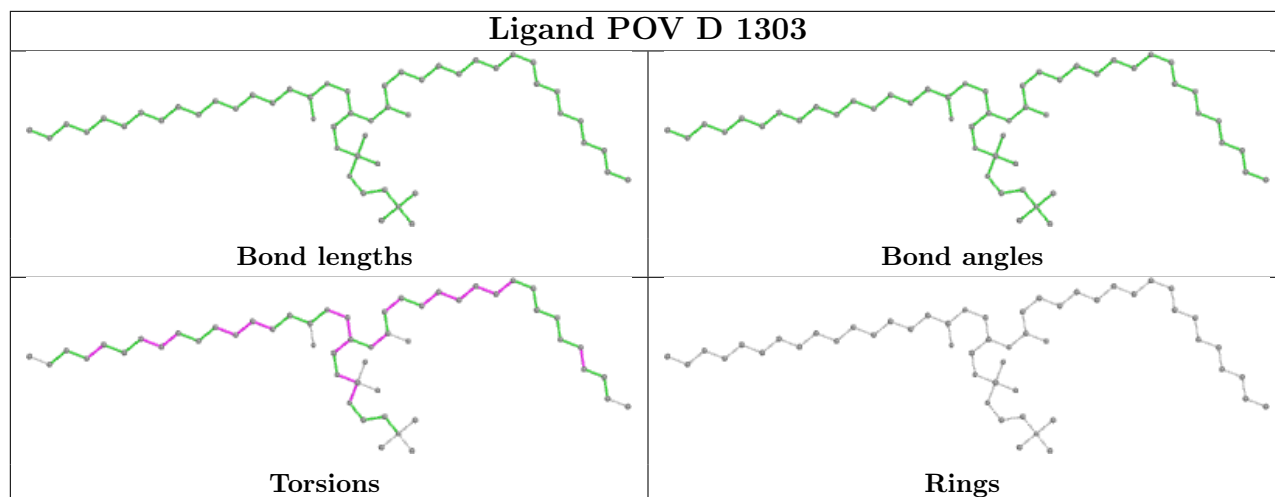


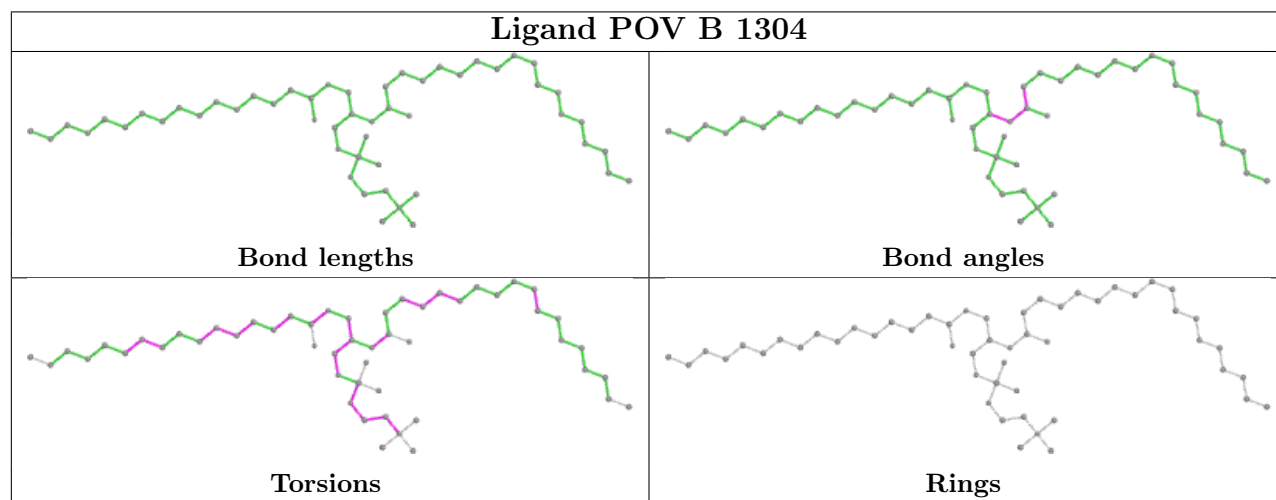
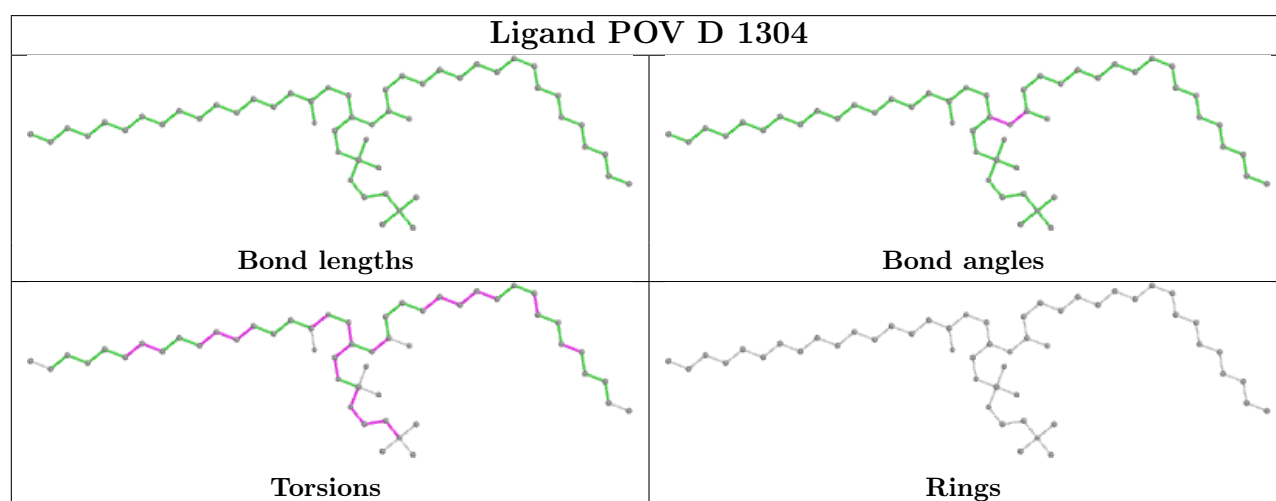
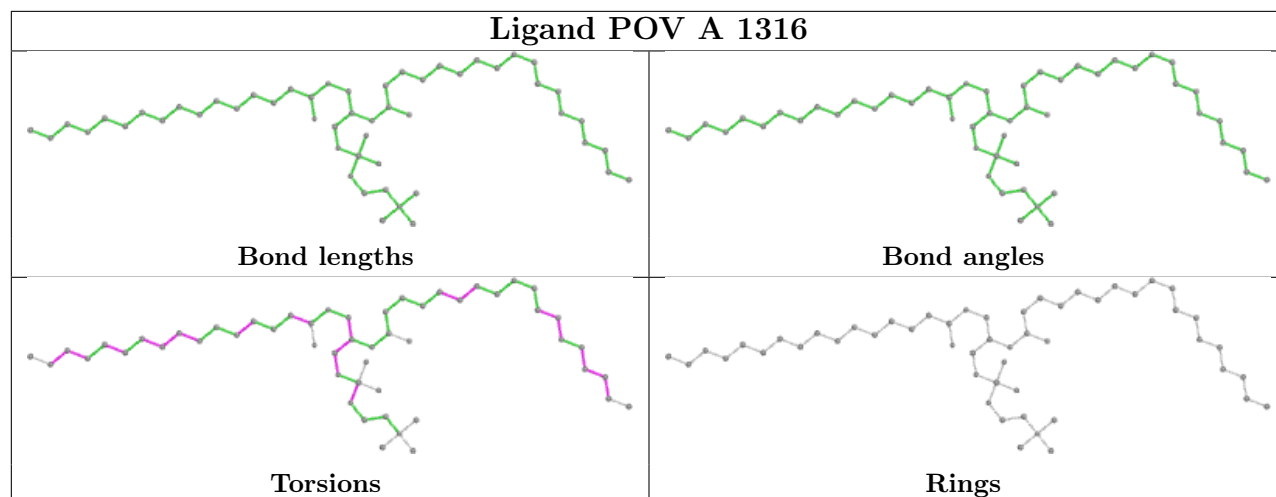




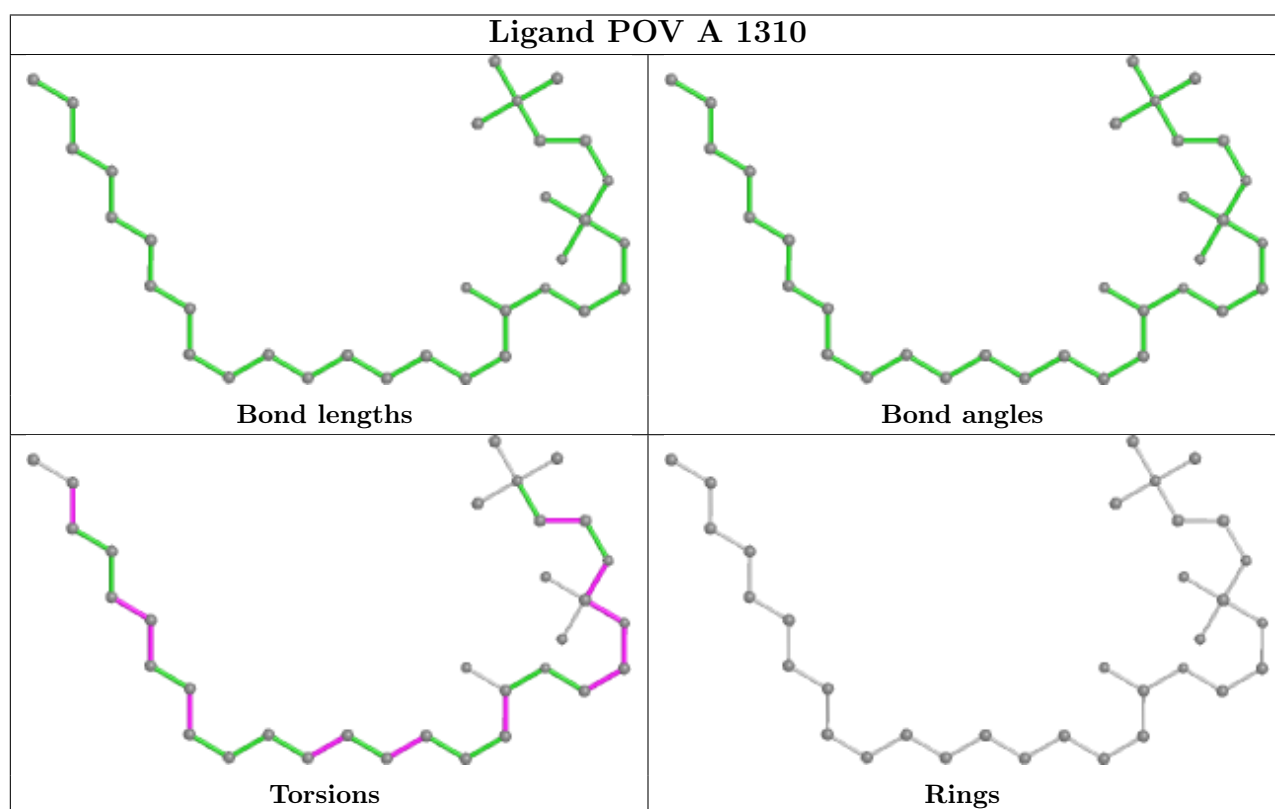
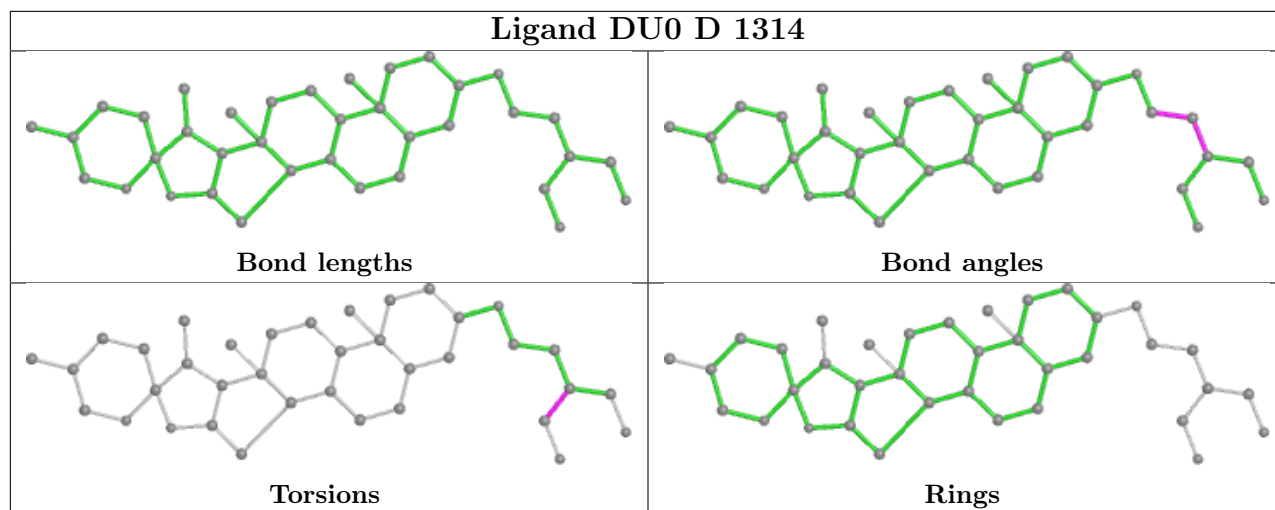


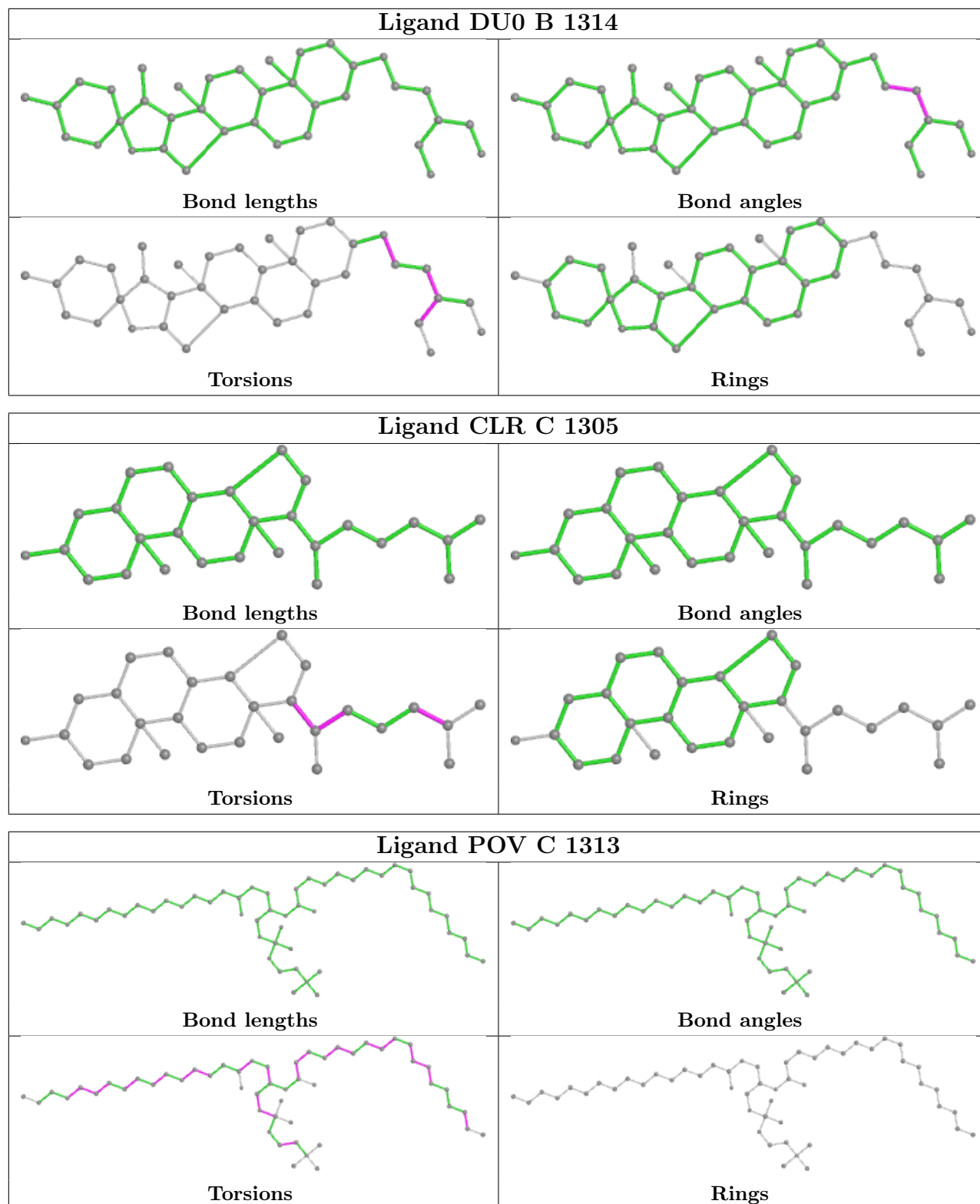


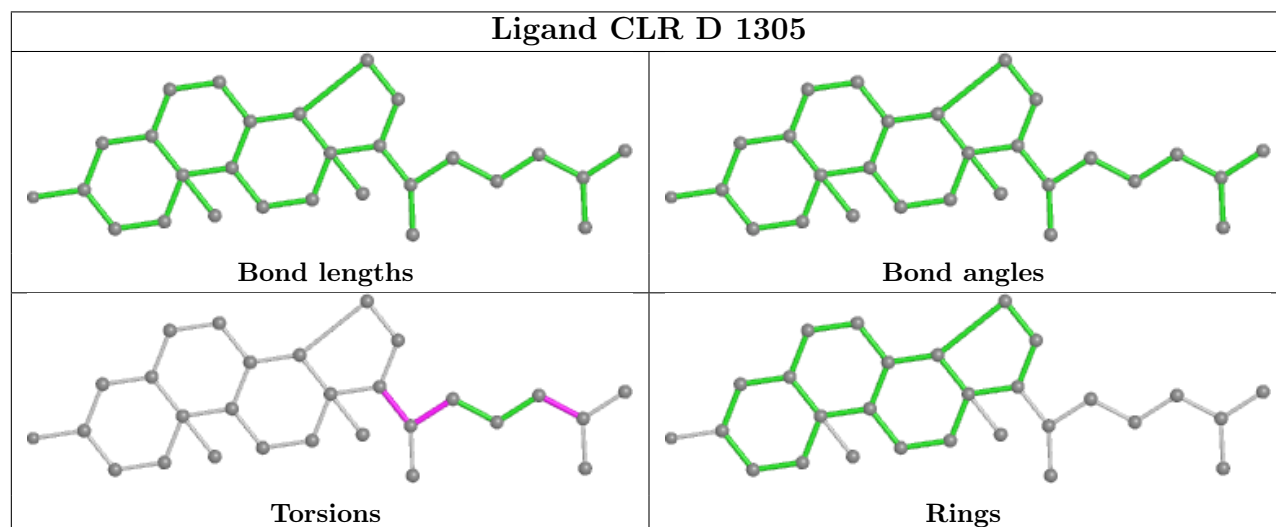
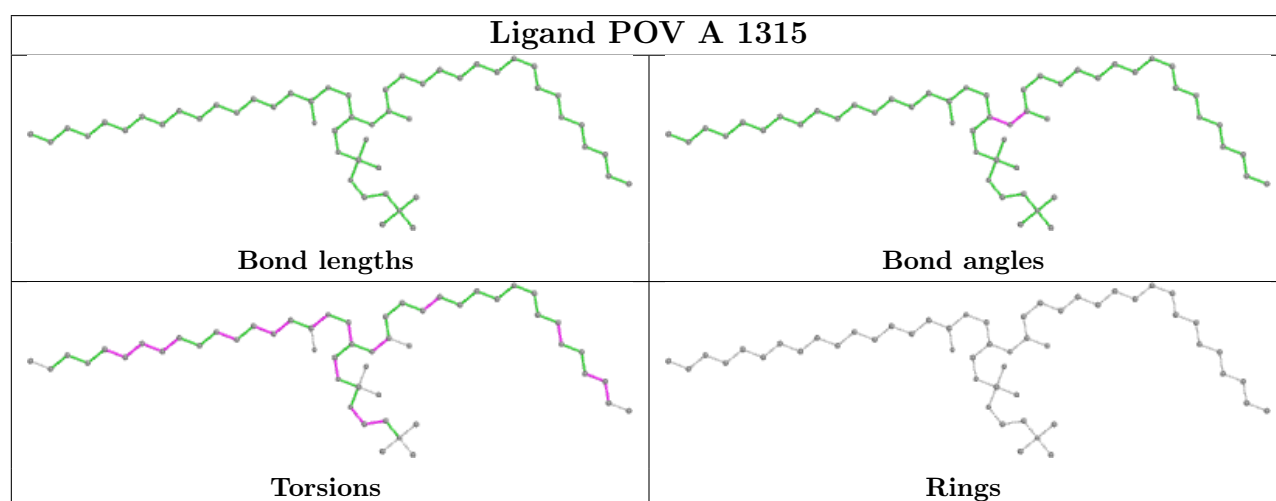
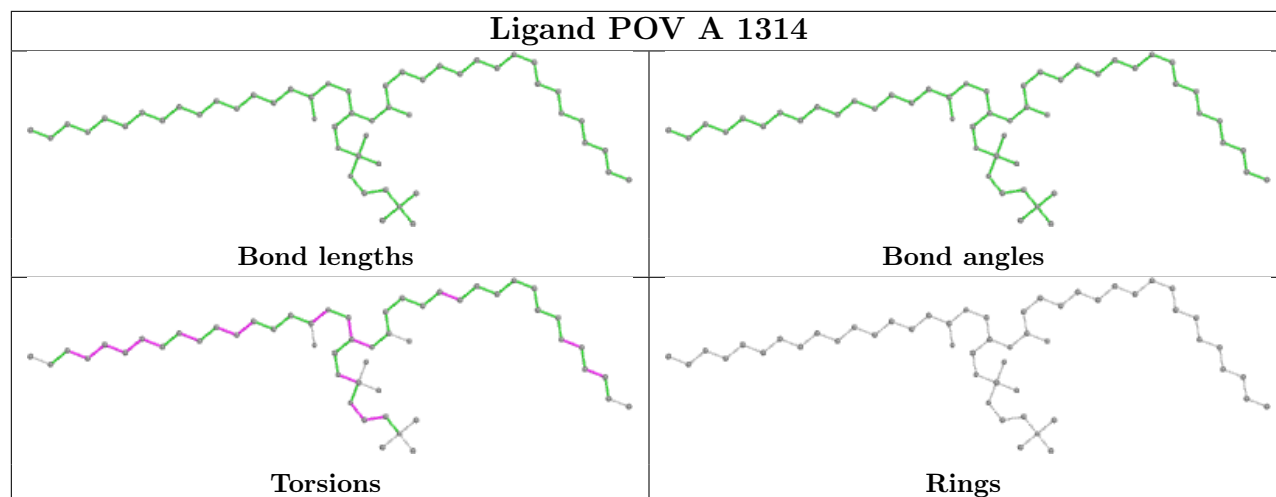


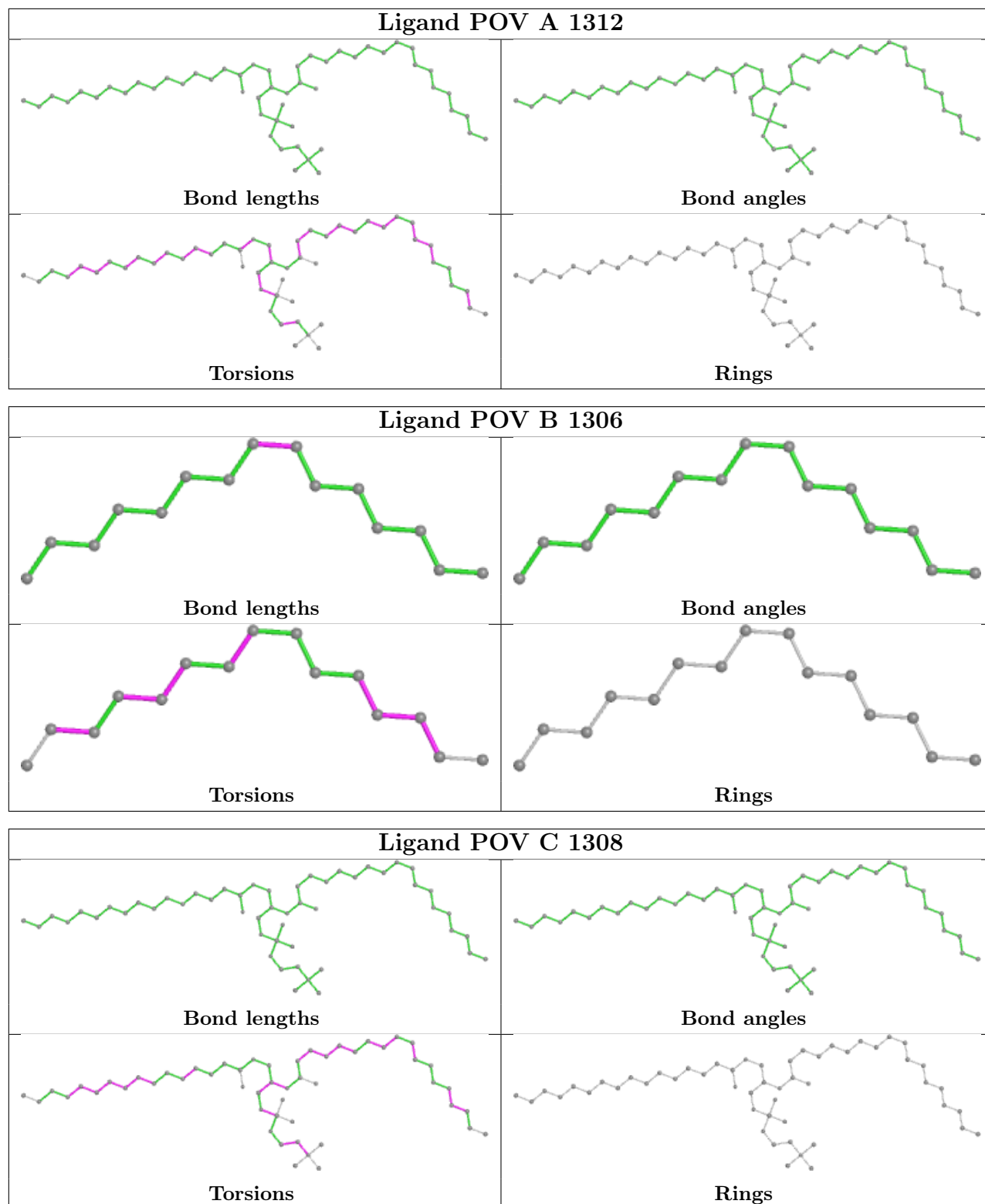


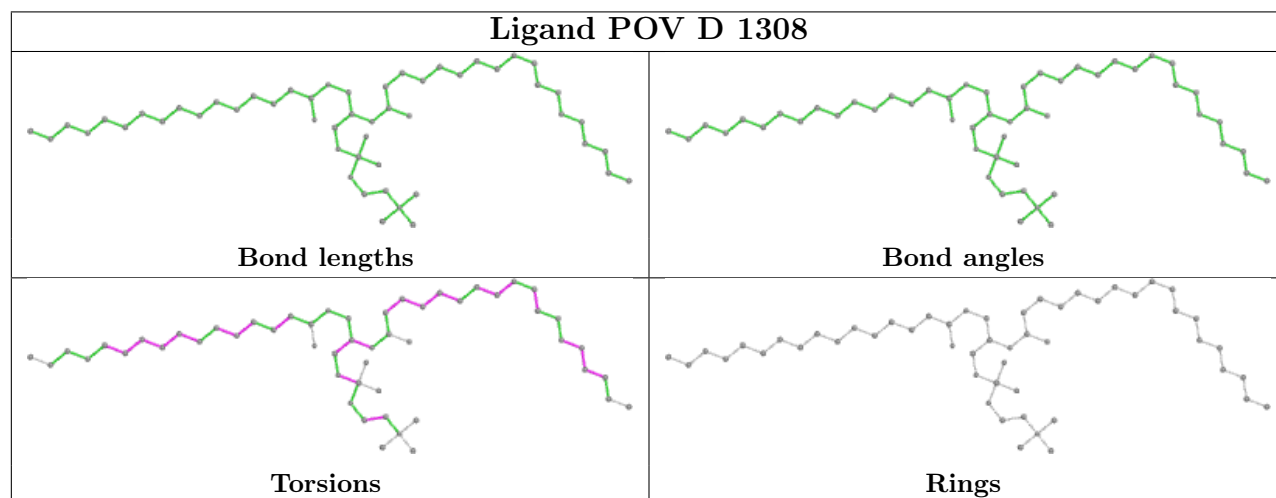
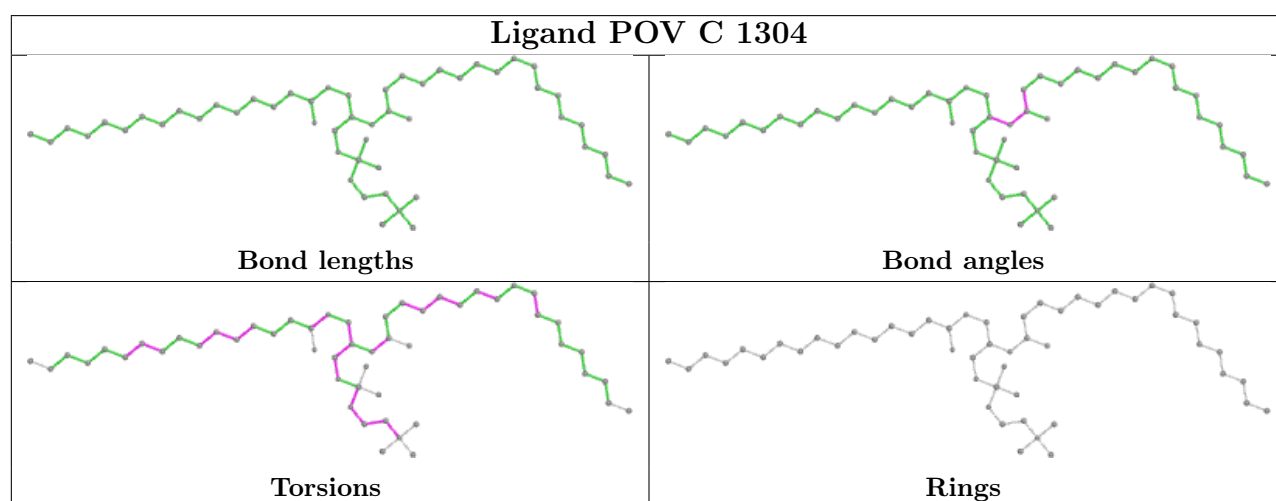
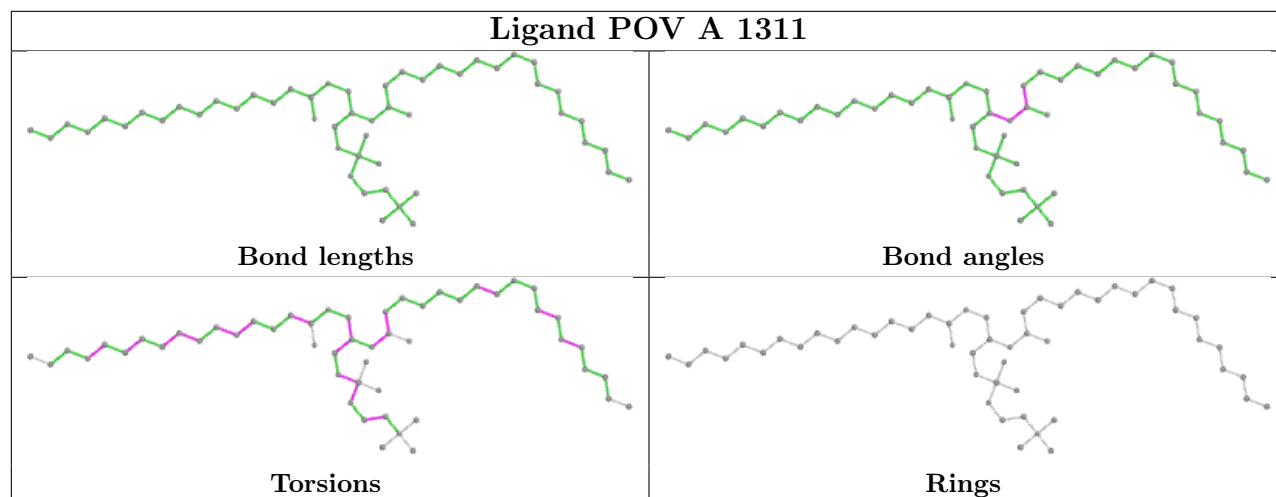


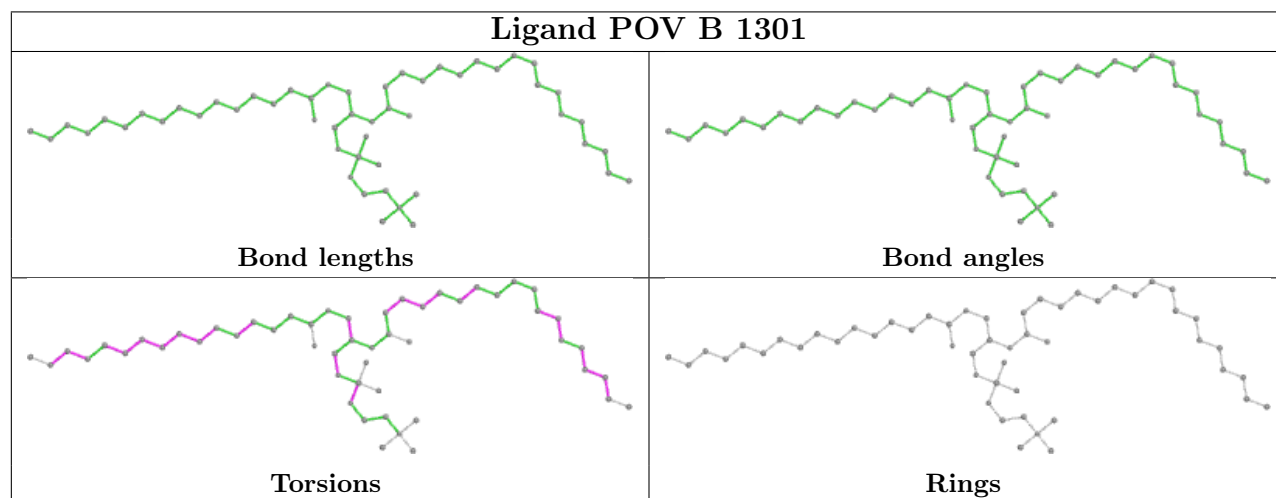
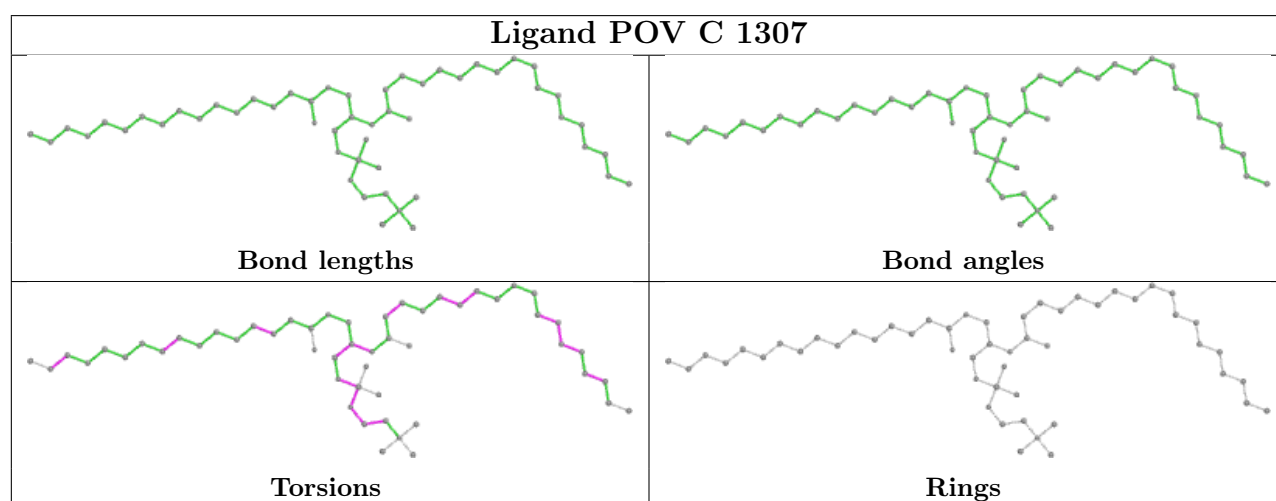
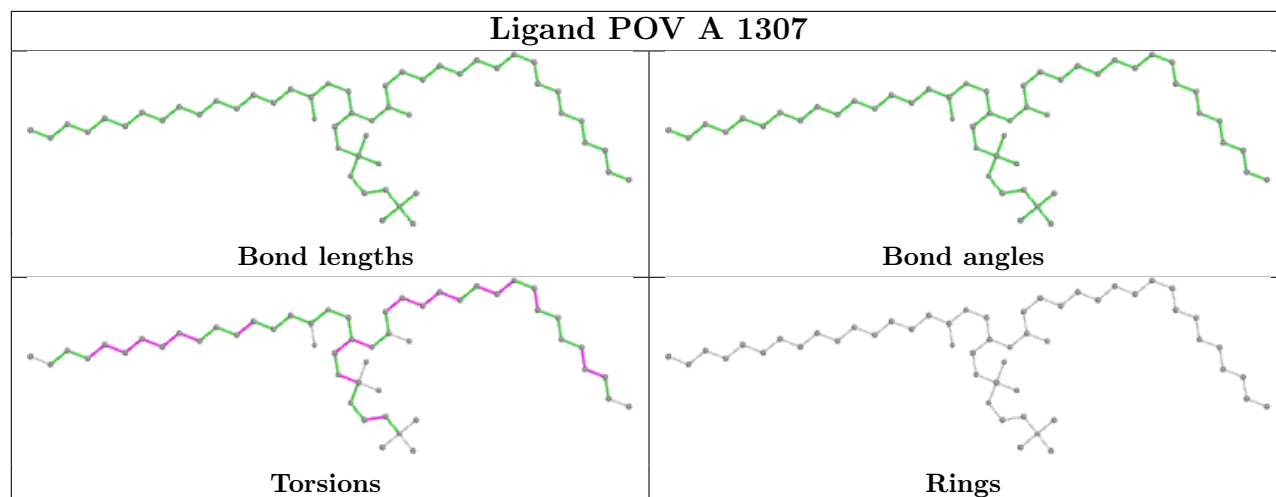


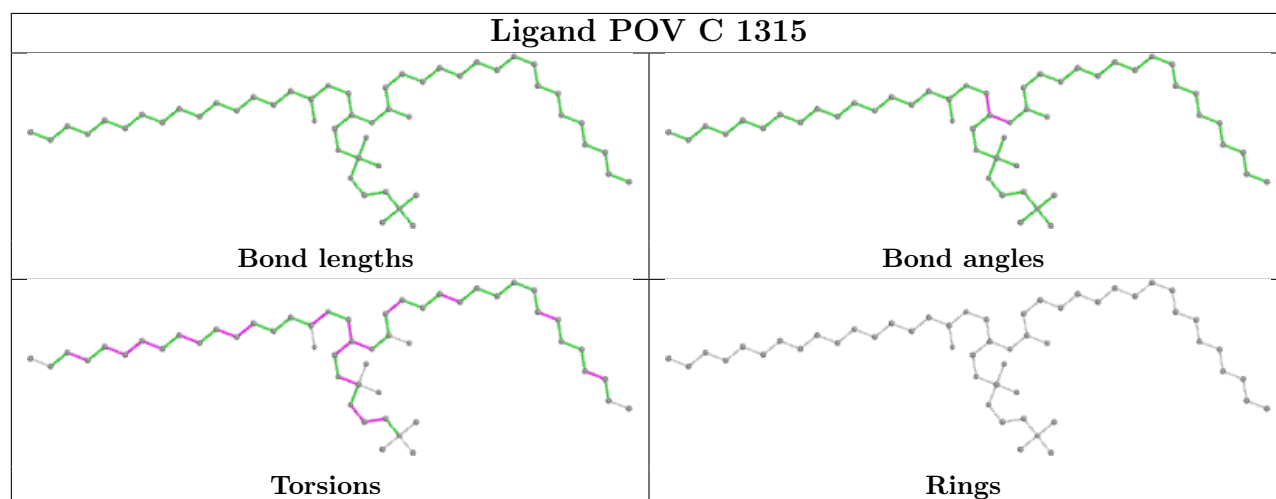
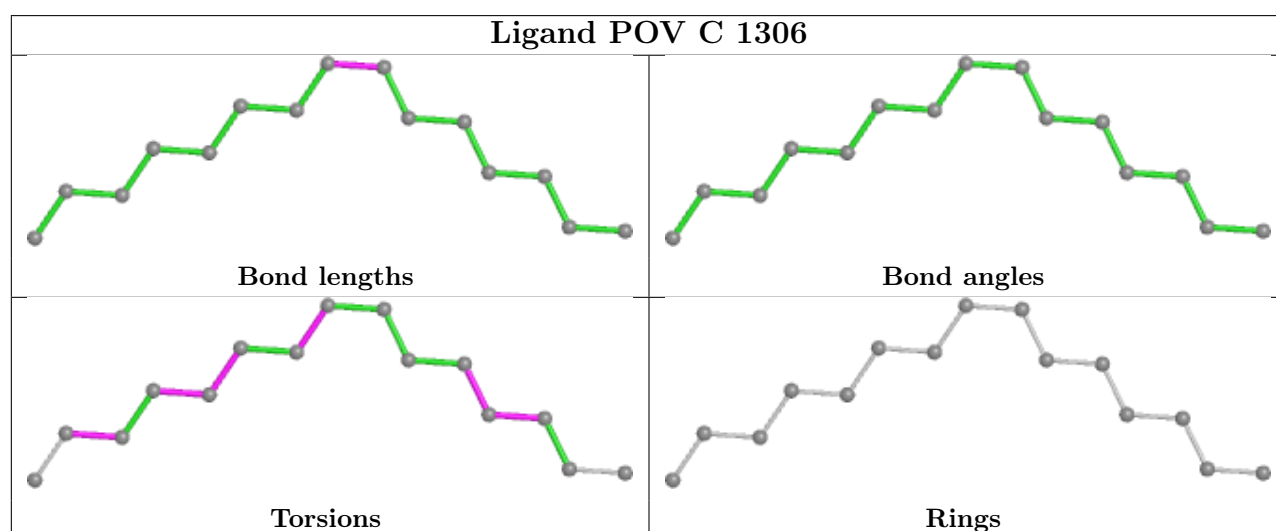
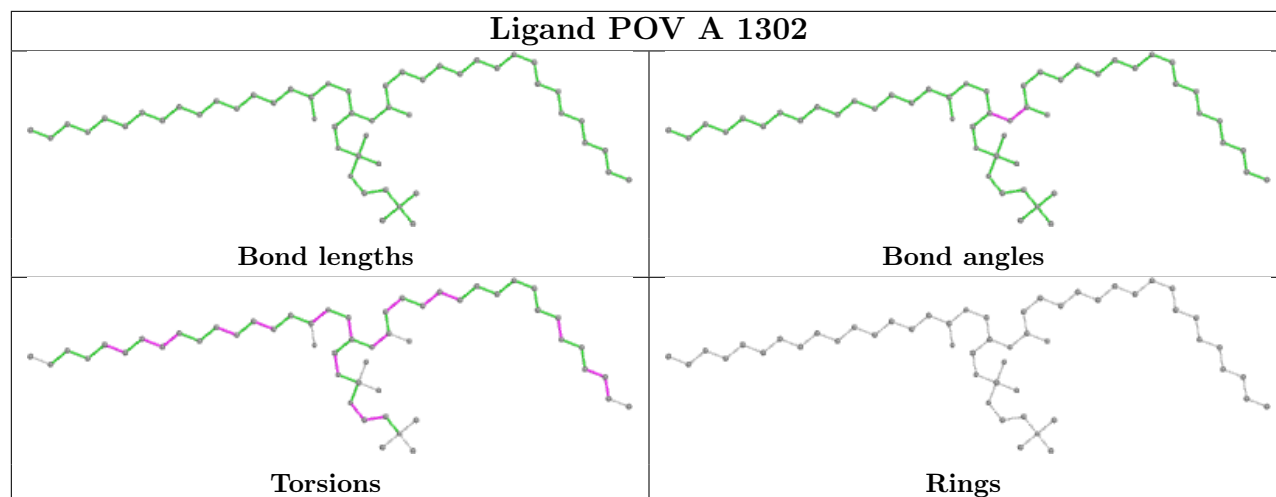


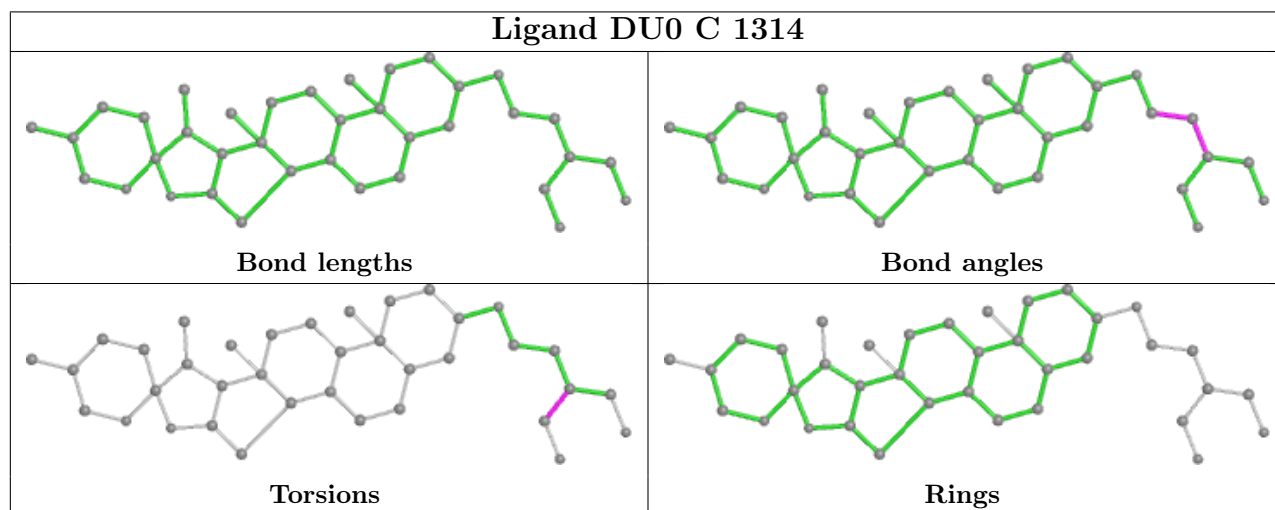
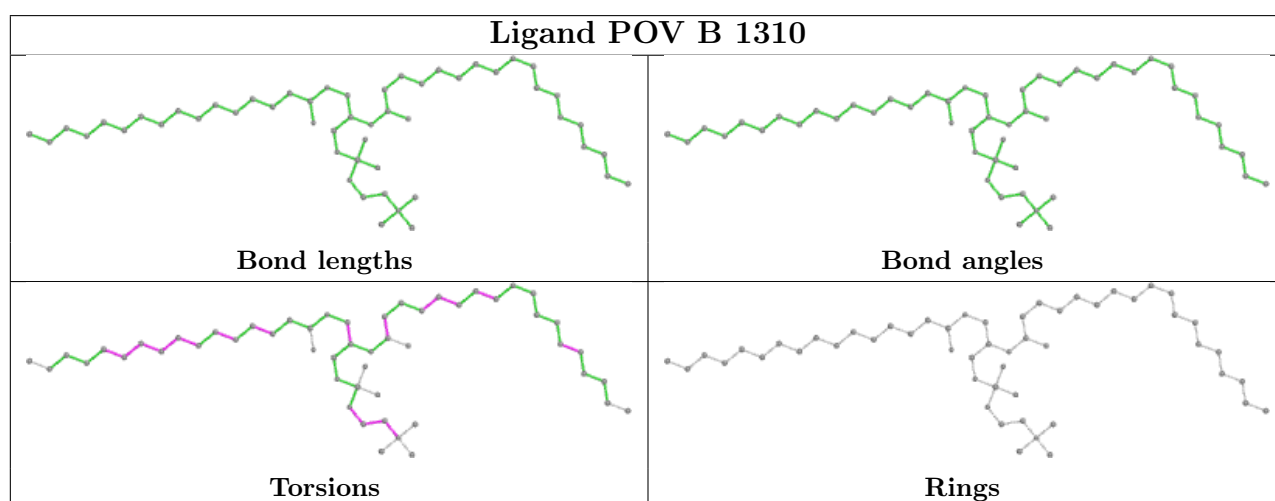
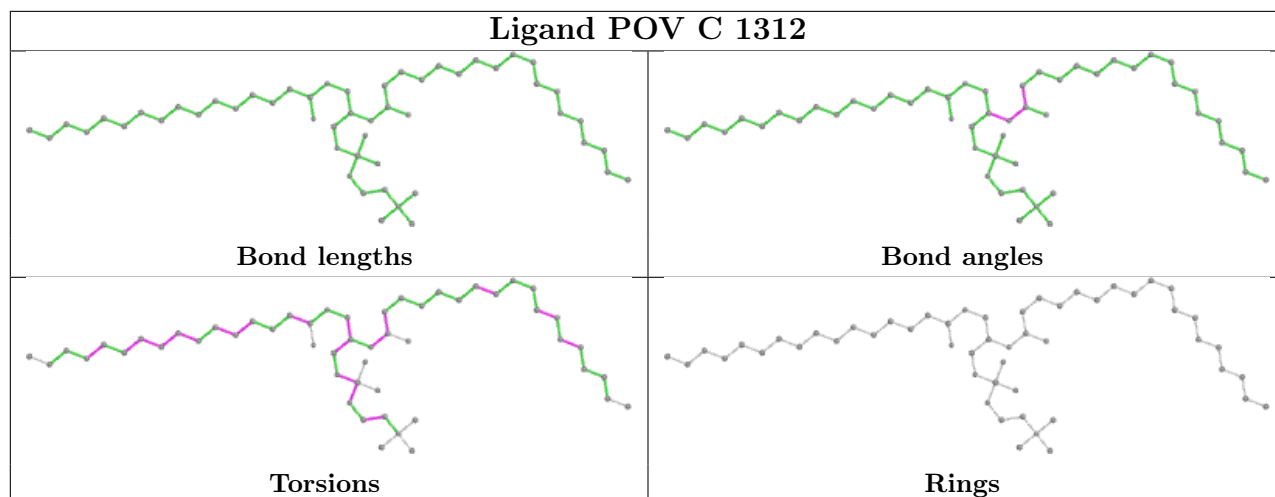




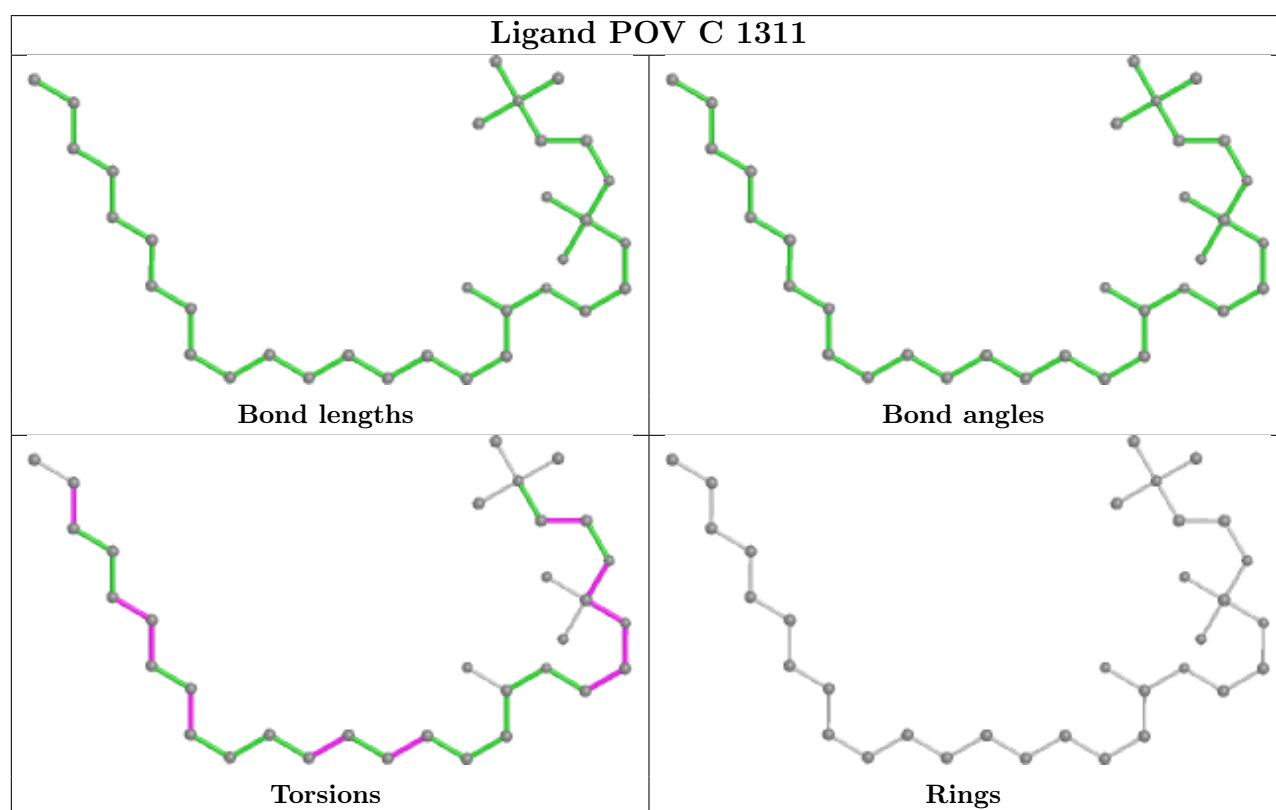
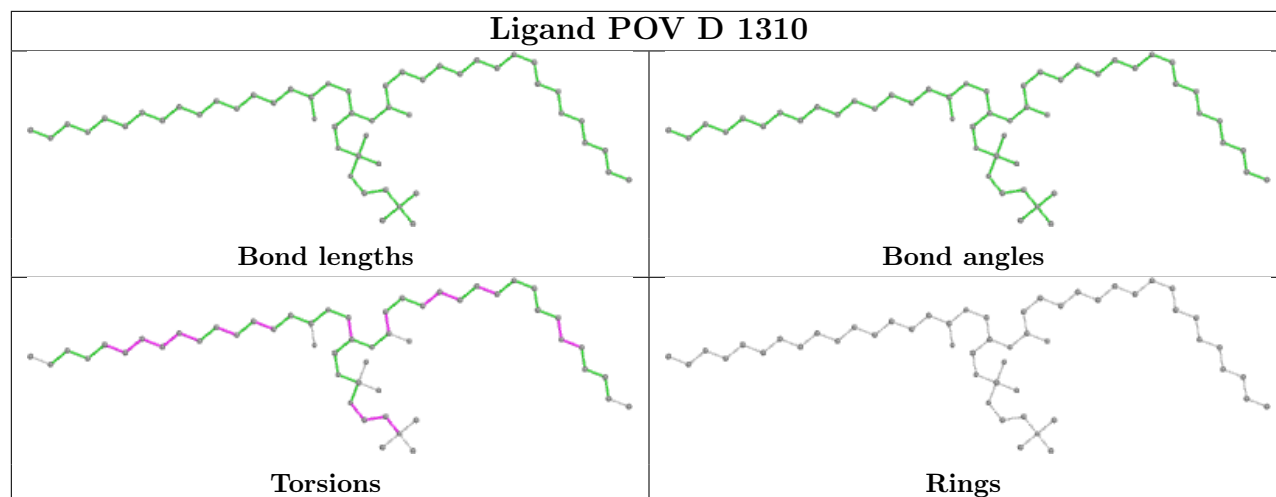


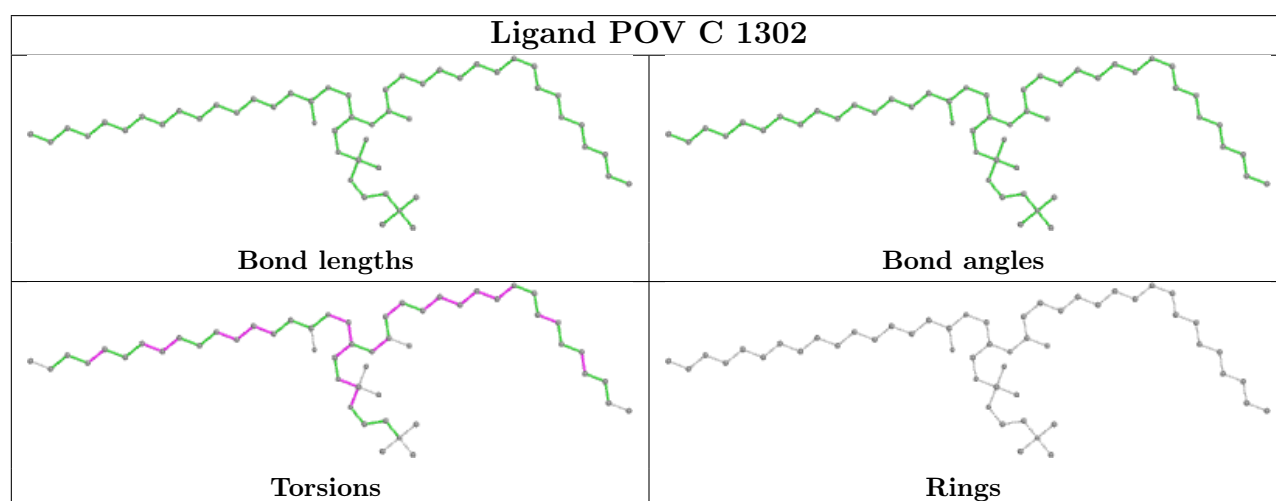
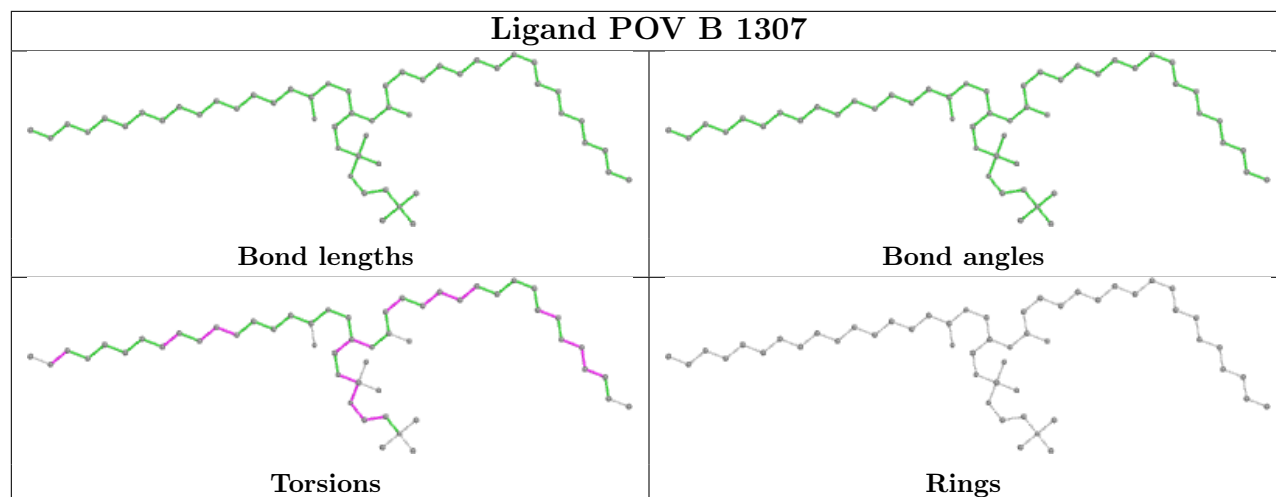


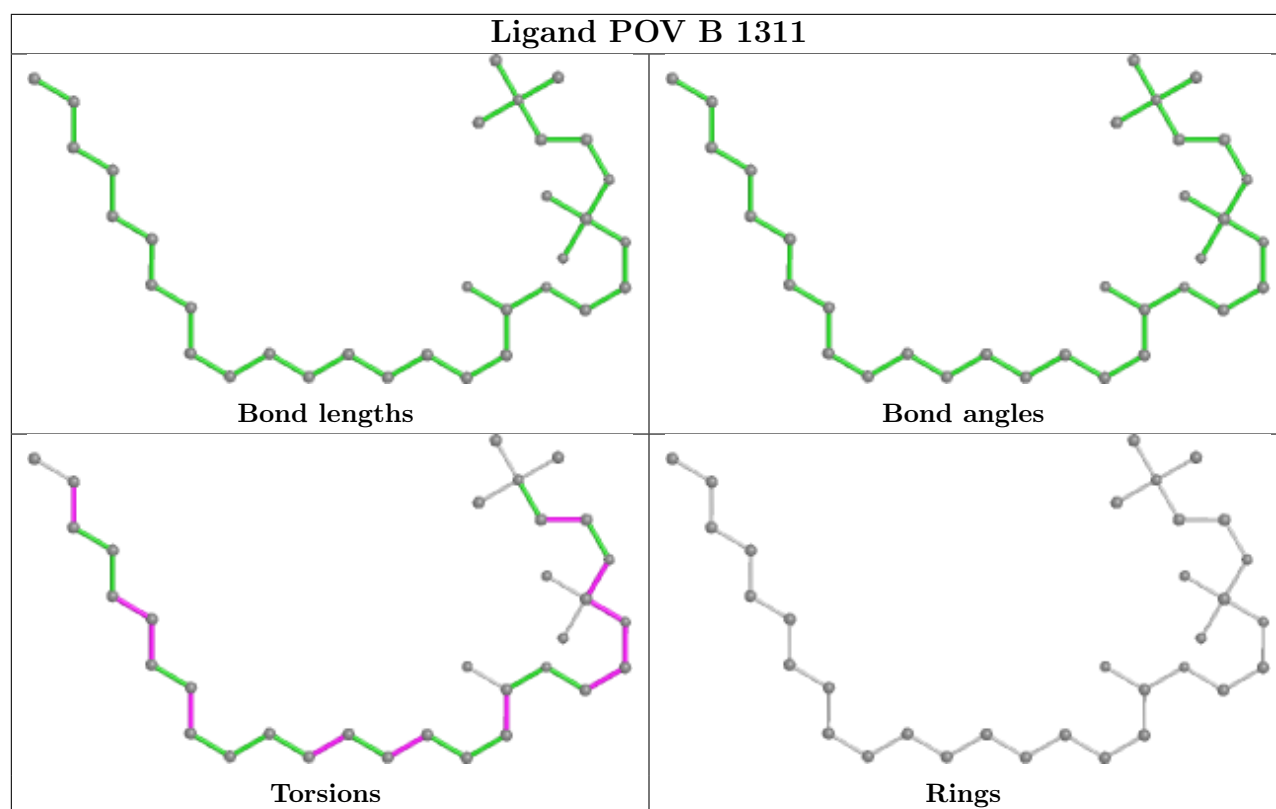












## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

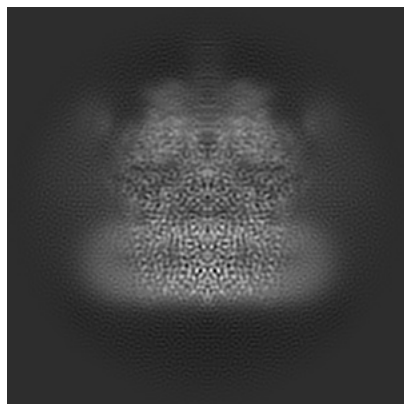
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-40497. These allow visual inspection of the internal detail of the map and identification of artifacts.

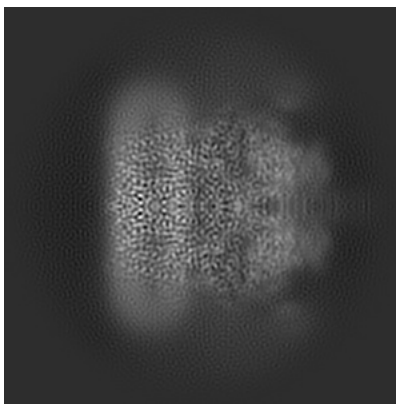
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

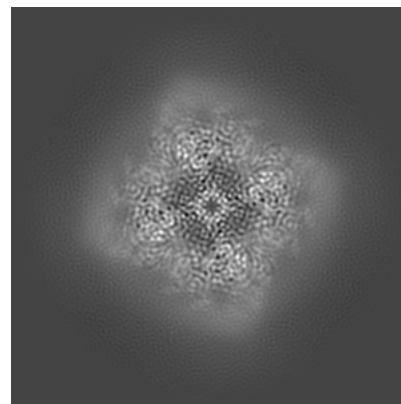
#### 6.1.1 Primary map



X

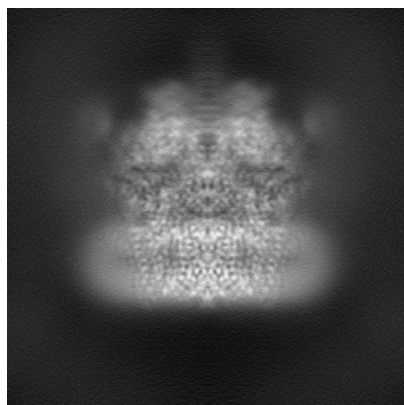


Y

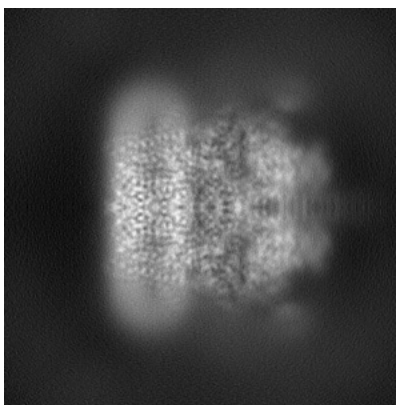


Z

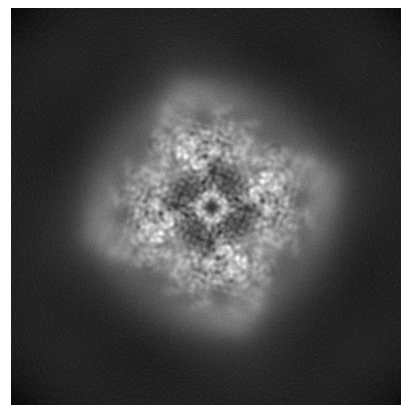
#### 6.1.2 Raw map



X



Y

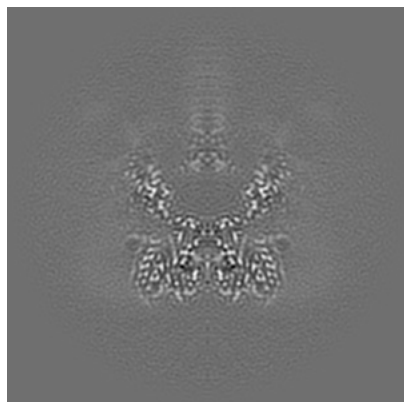


Z

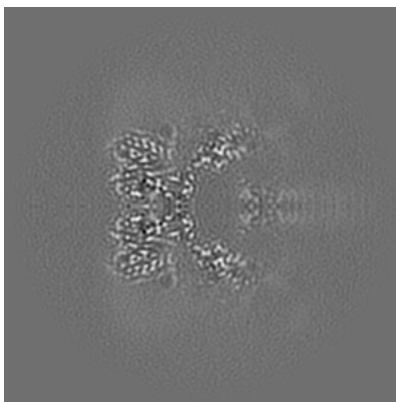
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

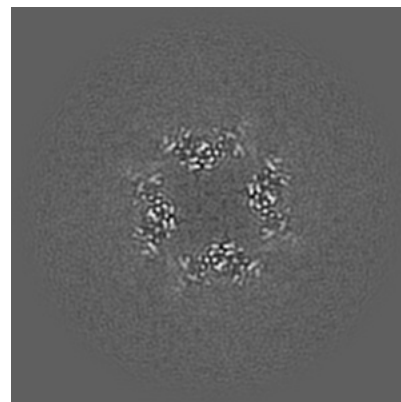
### 6.2.1 Primary map



X Index: 150

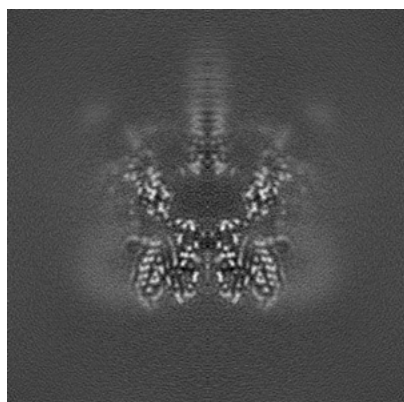


Y Index: 150

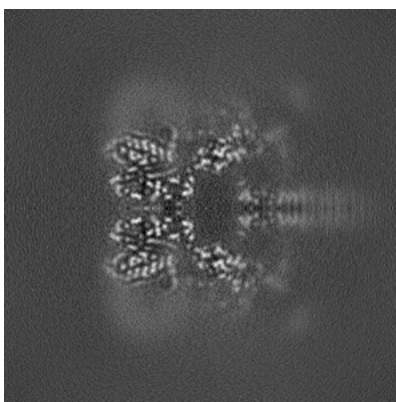


Z Index: 150

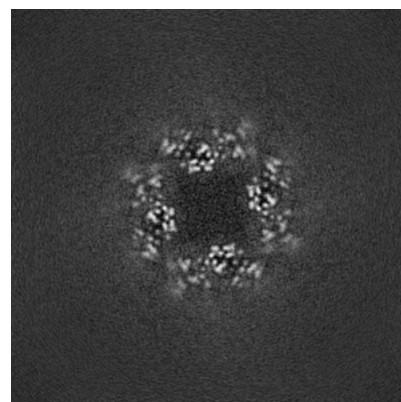
### 6.2.2 Raw map



X Index: 150



Y Index: 150

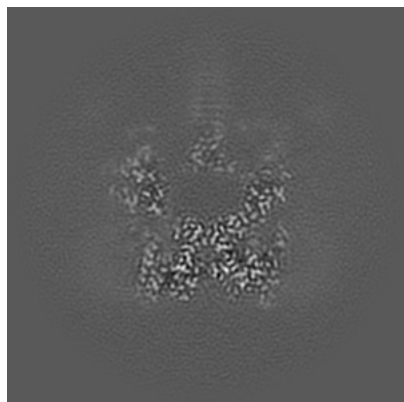


Z Index: 150

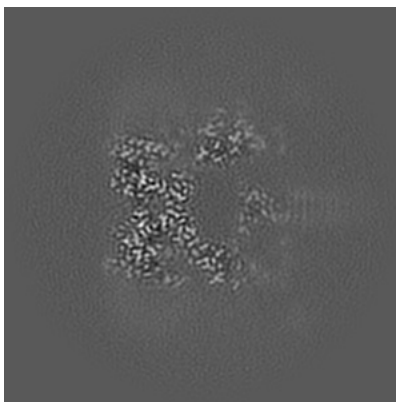
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

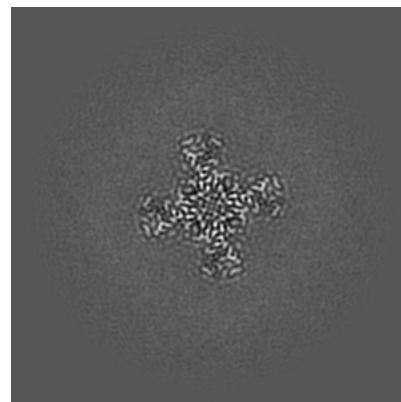
### 6.3.1 Primary map



X Index: 147

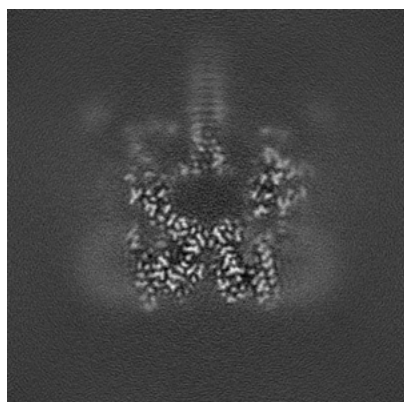


Y Index: 147

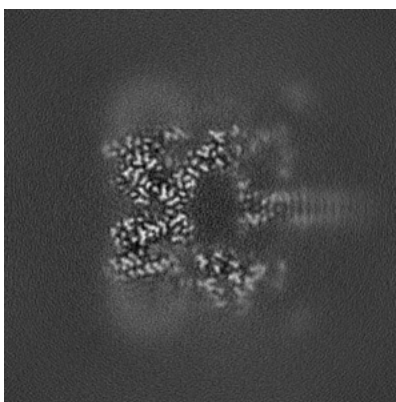


Z Index: 103

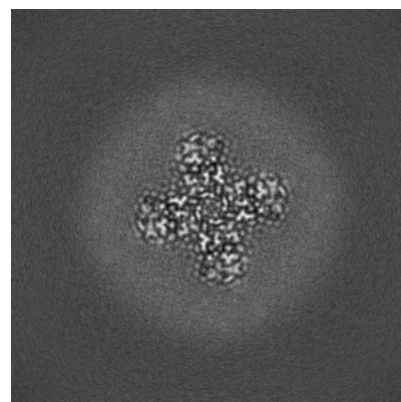
### 6.3.2 Raw map



X Index: 153



Y Index: 153

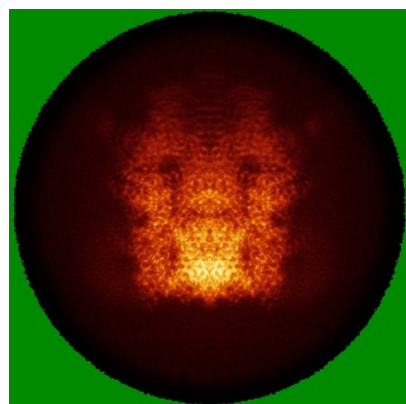


Z Index: 98

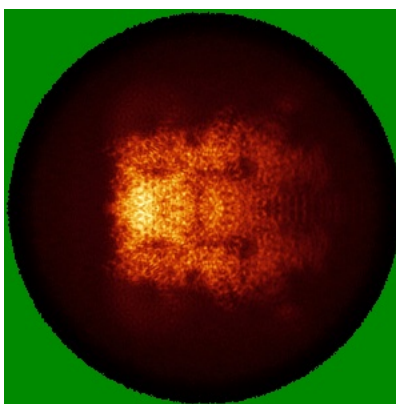
The images above show the largest variance slices of the map in three orthogonal directions.

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

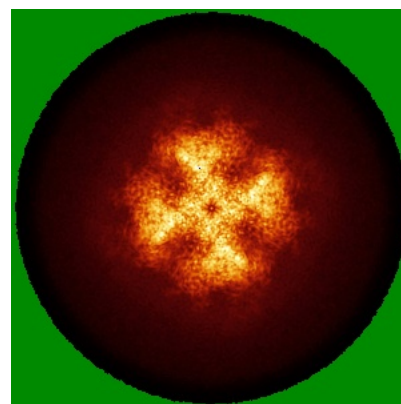
### 6.4.1 Primary map



X

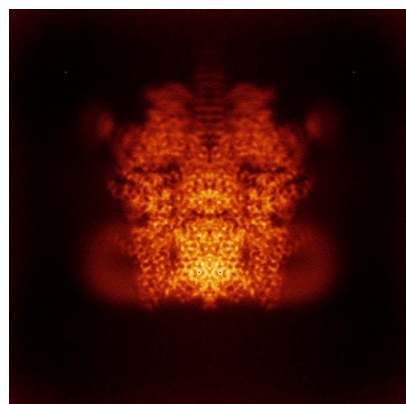


Y

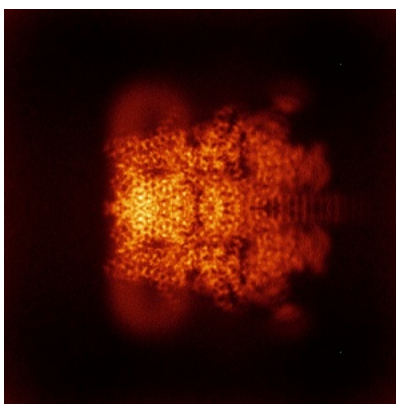


Z

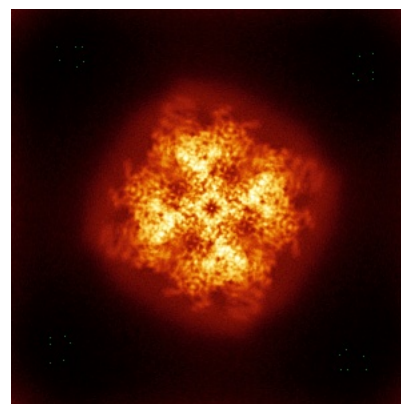
### 6.4.2 Raw map



X



Y

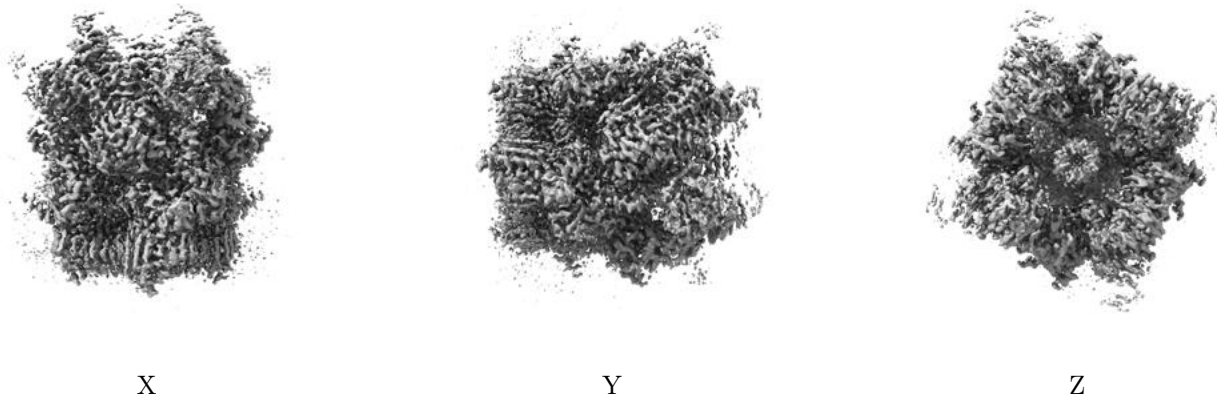


Z

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

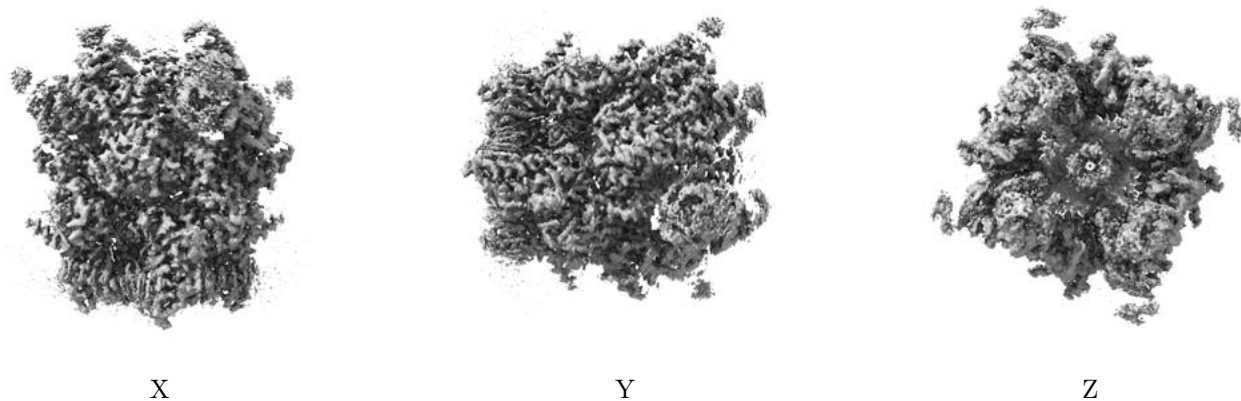
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.173. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



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

## 6.6 Mask visualisation [i](#)

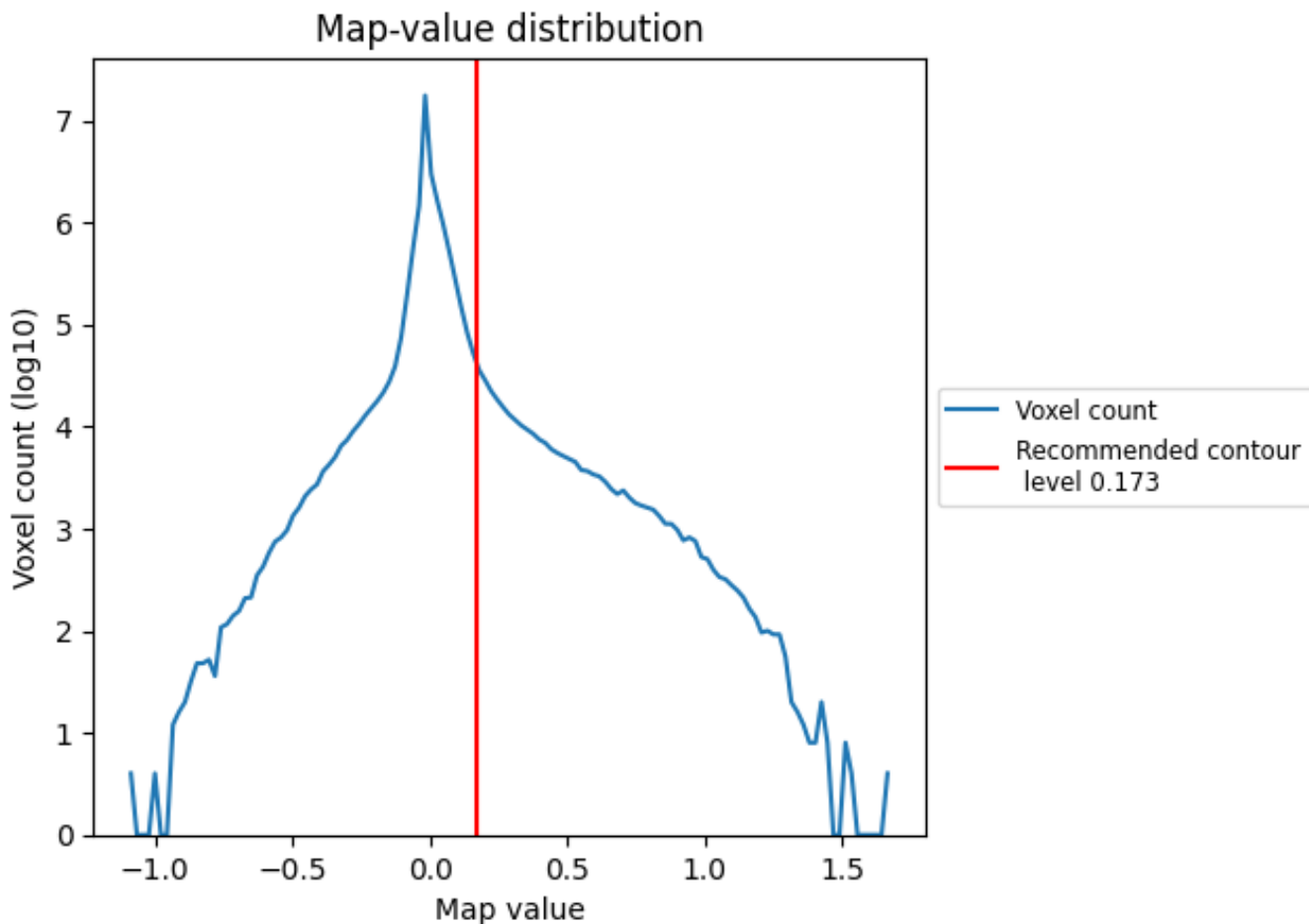
This section was not generated. No masks/segmentation were deposited.



## 7 Map analysis [i](#)

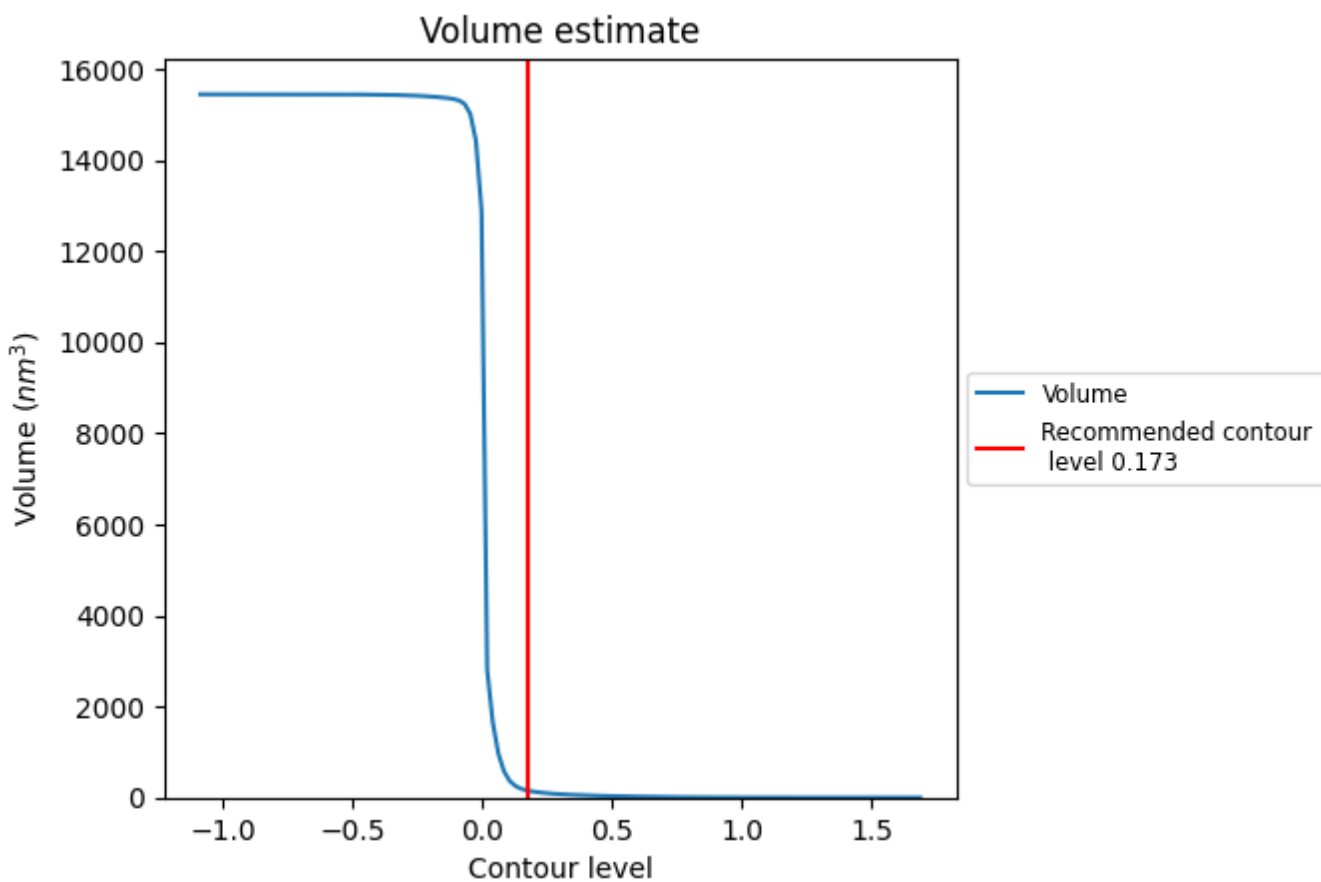
This section contains the results of statistical analysis of the map.

### 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.

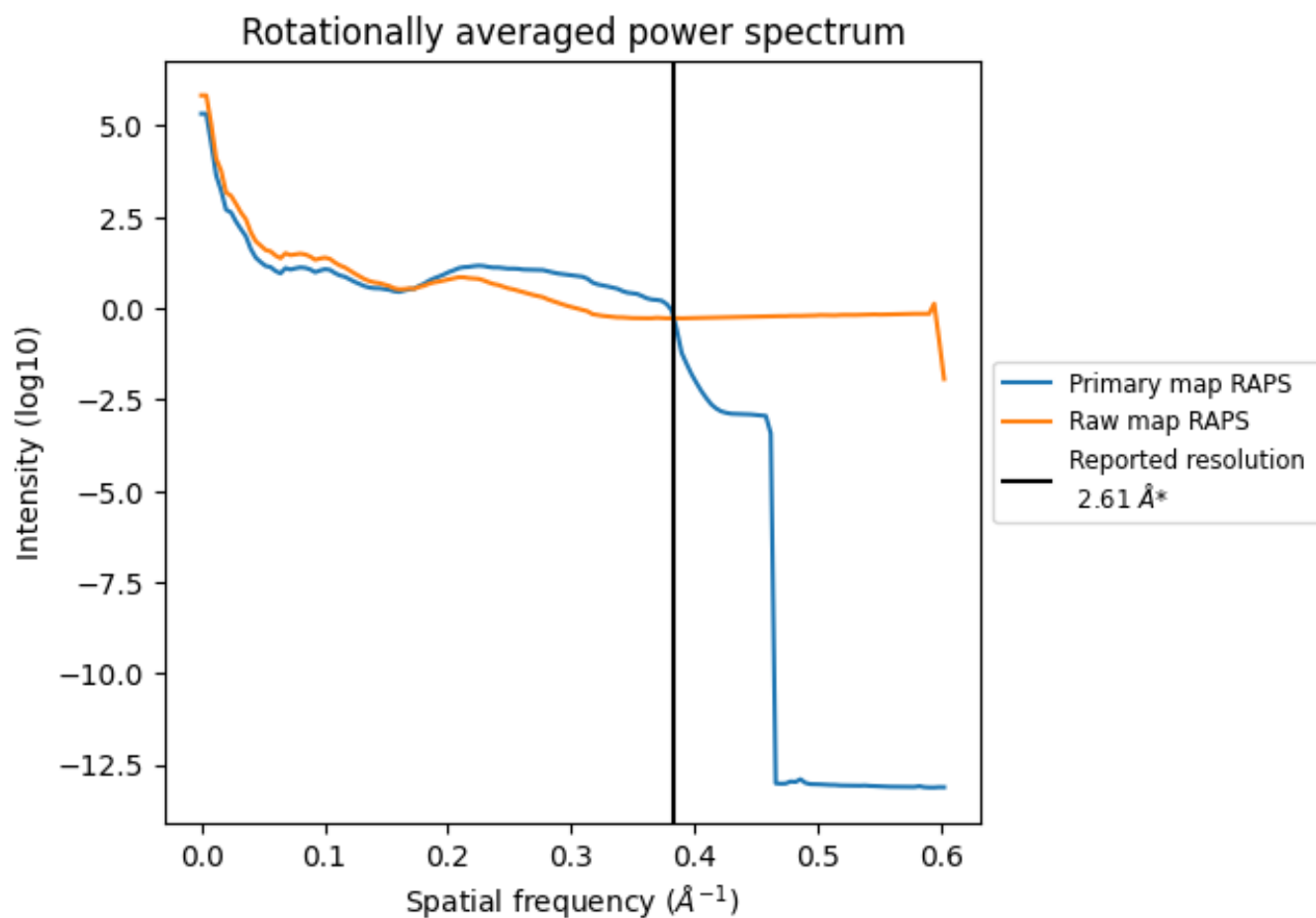
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 155 nm<sup>3</sup>; this corresponds to an approximate mass of 140 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

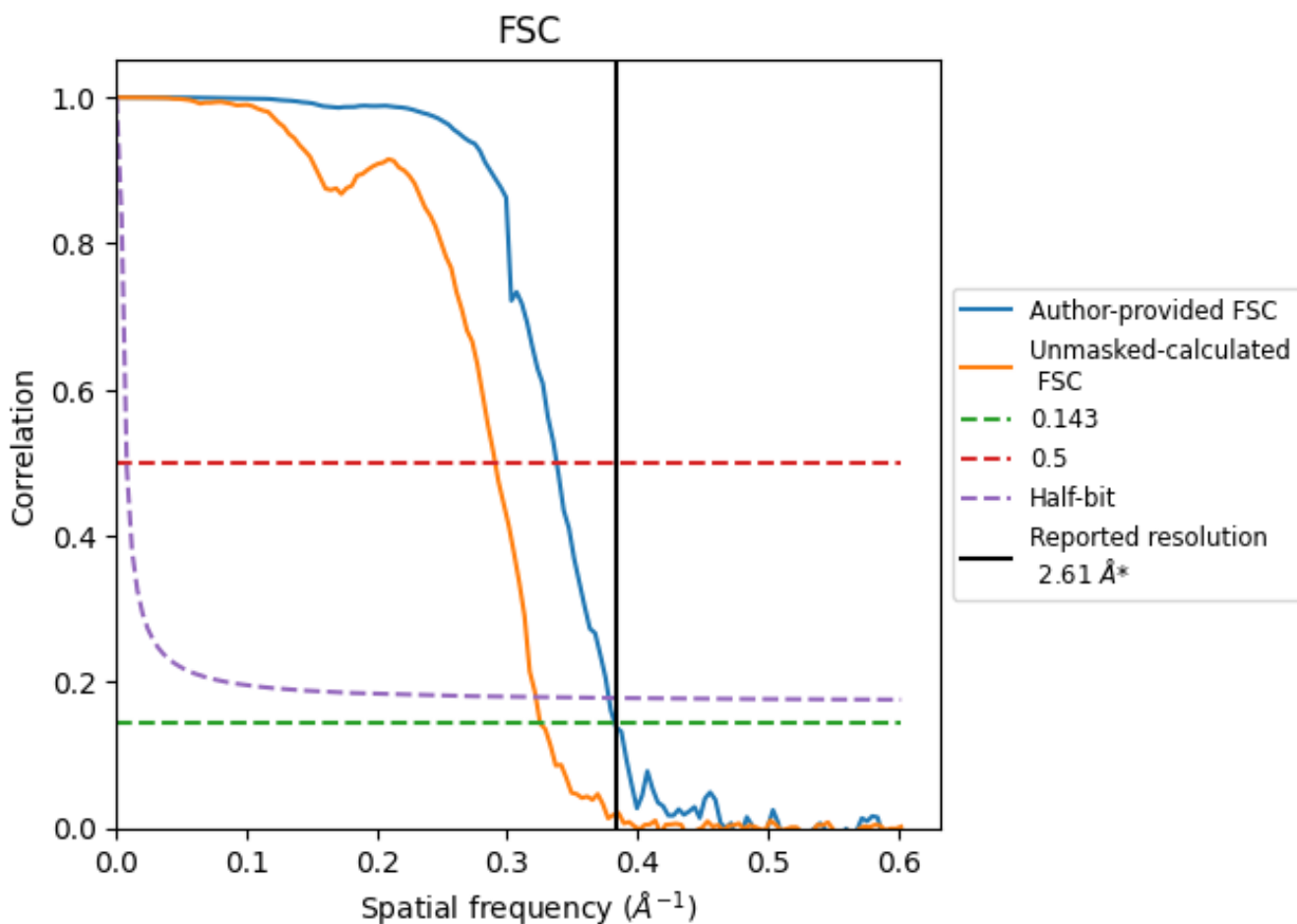


\*Reported resolution corresponds to spatial frequency of 0.383 Å<sup>-1</sup>

## 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 0.383 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

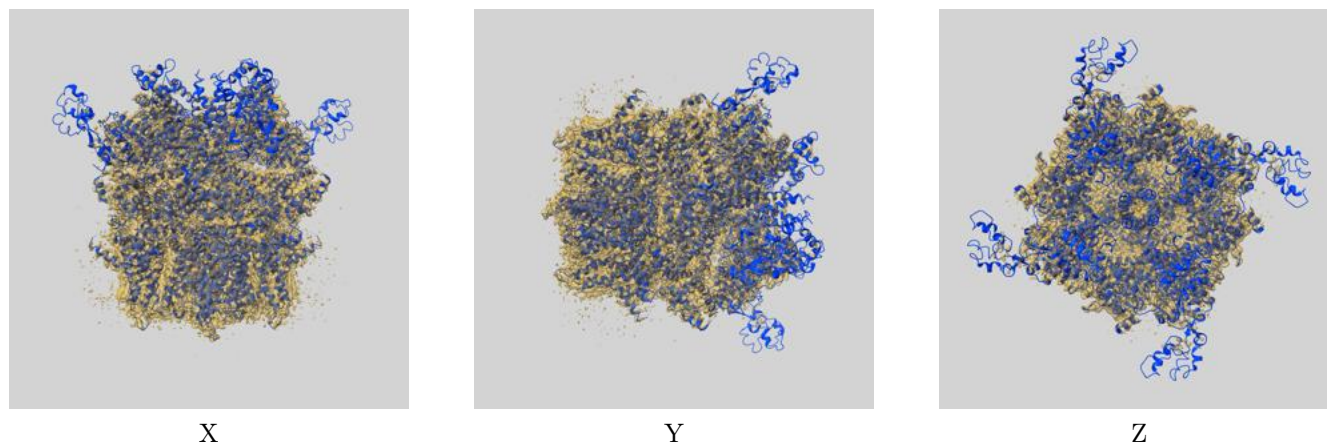
| Resolution estimate (Å)   | Estimation criterion (FSC cut-off) |      |          |
|---------------------------|------------------------------------|------|----------|
|                           | 0.143                              | 0.5  | Half-bit |
| Reported by author        | 2.61                               | -    | -        |
| Author-provided FSC curve | 2.61                               | 2.96 | 2.65     |
| Unmasked-calculated*      | 3.07                               | 3.44 | 3.11     |

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.07 differs from the reported value 2.61 by more than 10 %

## 9 Map-model fit [i](#)

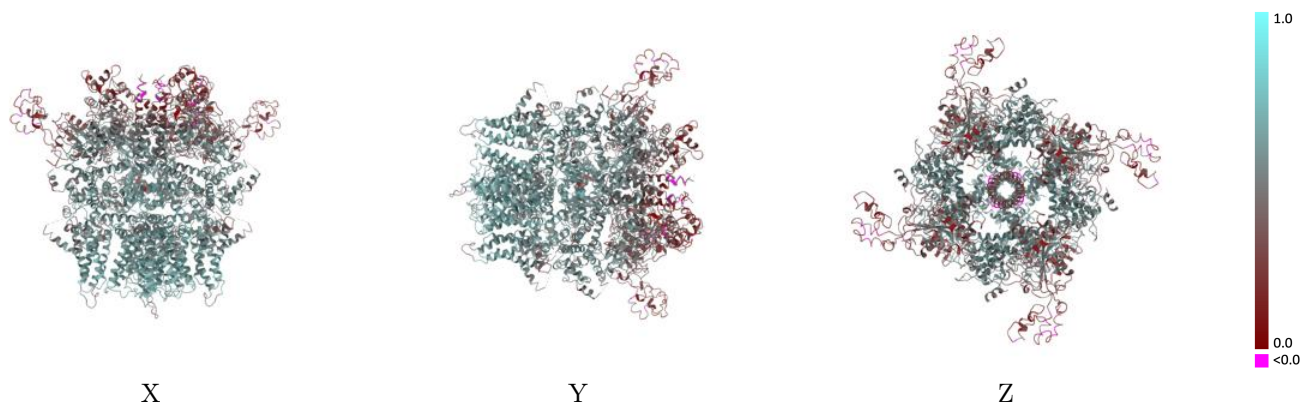
This section contains information regarding the fit between EMDB map EMD-40497 and PDB model 8SI3. Per-residue inclusion information can be found in section 3 on page 9.

### 9.1 Map-model overlay [i](#)



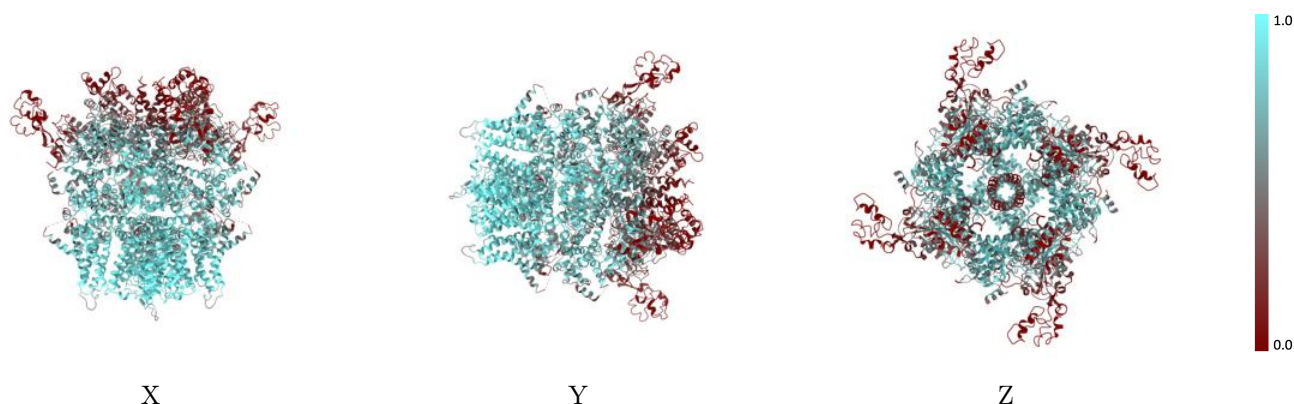
The images above show the 3D surface view of the map at the recommended contour level 0.173 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



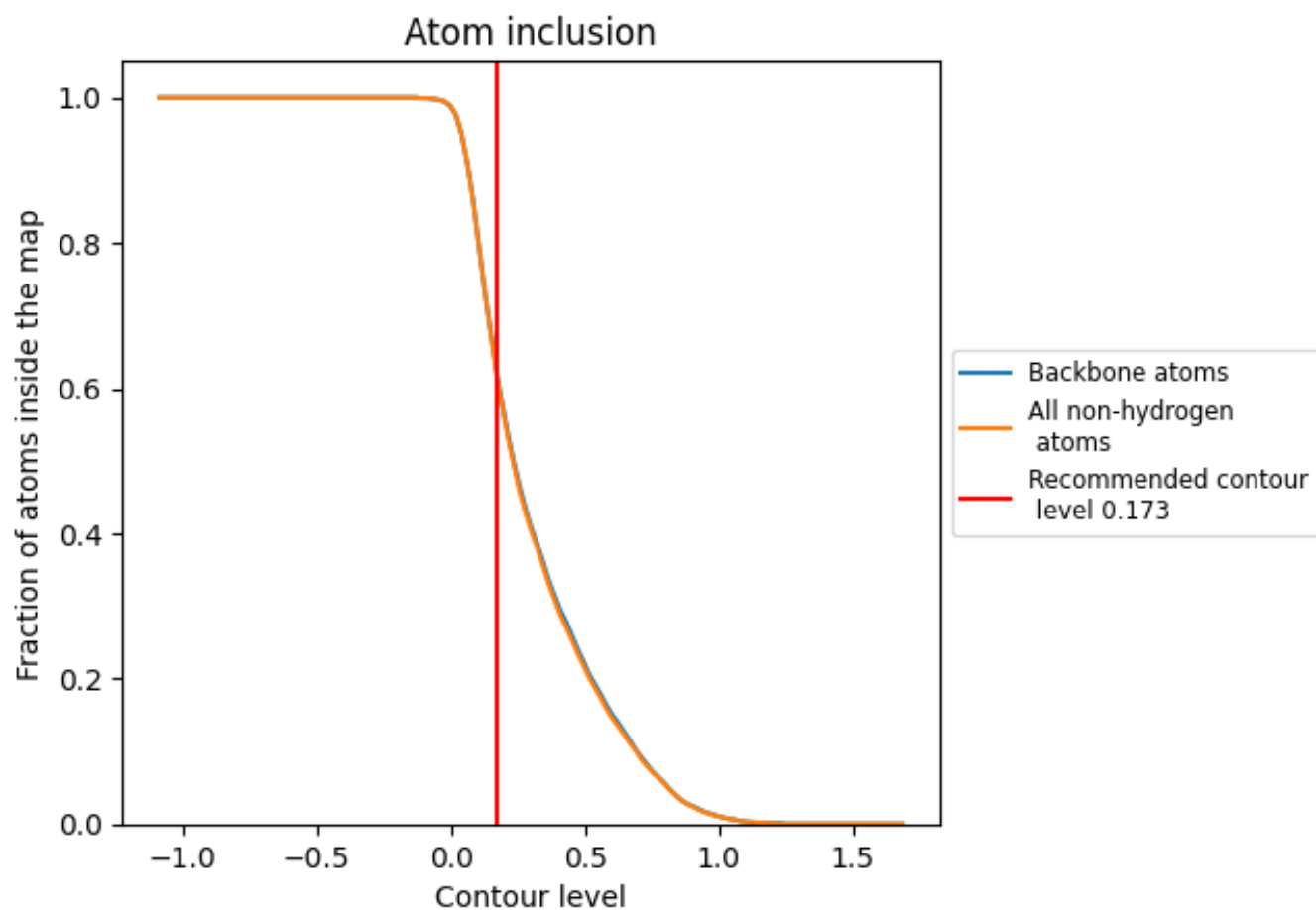
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.173).

## 9.4 Atom inclusion [i](#)













At the recommended contour level, 62% of all backbone atoms, 61% of all non-hydrogen atoms, are inside the map.



## 9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (0.173) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion   | Q-score  |
|-------|--|--|
| All   |  0.6140 |  0.4910 |
| A     |  0.6190 |  0.4910 |
| B     |  0.6180 |  0.4910 |
| C     |  0.6190 |  0.4910 |
| D     |  0.6190 |  0.4910 |

