



# wwPDB EM Validation Summary Report ⓘ

Jan 18, 2026 – 09:22 PM EST

PDB ID : 9Z82 / pdb\_00009z82  
EMDB ID : EMD-73885  
Title : Stable open state sheep connexin-50 in DMPC nanodiscs at neutral pH  
Authors : Jarodsky, J.M.; Myers, J.B.; Reichow, S.L.  
Deposited on : 2025-11-18  
Resolution : 2.00 Å(reported)  
Based on initial model : 7jjp

This is a wwPDB EM Validation Summary 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>.

---

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

EMDB validation analysis : 0.0.1.dev129  
Mogul : 2022.3.0, CSD as543be (2022)  
MolProbity : 4-5-2 with Phenix2.0  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.47

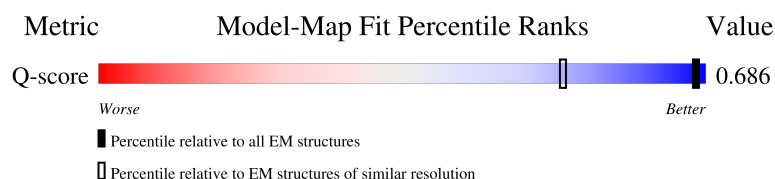
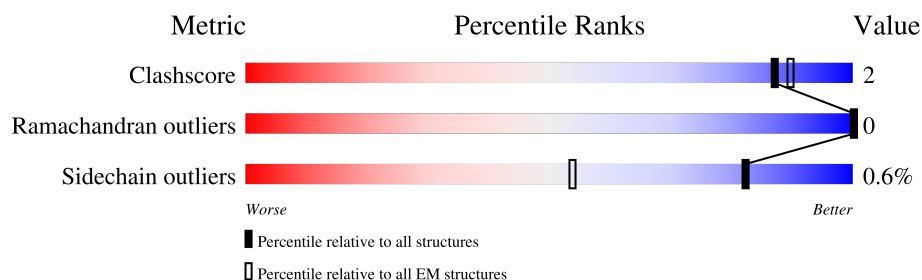
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 2.00 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) | Similar EM resolution<br>(#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|-----------------------------|----------------------------------------------------------|
| Clashscore            | 210492                      | 15764                       | -                                                        |
| Ramachandran outliers | 207382                      | 16835                       | -                                                        |
| Sidechain outliers    | 206894                      | 16415                       | -                                                        |
| Q-score               | -                           | 25397                       | 1659 ( 1.50 - 2.50 )                                     |

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     | 440    |                  |
| 1   | B     | 440    |                  |
| 1   | C     | 440    |                  |
| 1   | D     | 440    |                  |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Length | Quality of chain                                                                              |
|-----|-------|--------|-----------------------------------------------------------------------------------------------|
| 1   | E     | 440    | <br>41% 57% |
| 1   | F     | 440    | <br>40% 57% |
| 1   | G     | 440    | <br>40% 57% |
| 1   | H     | 440    | <br>40% 57% |
| 1   | I     | 440    | <br>40% 57% |
| 1   | J     | 440    | <br>40% 57% |
| 1   | K     | 440    | <br>40% 57% |
| 1   | L     | 440    | <br>40% 57% |

## 2 Entry composition

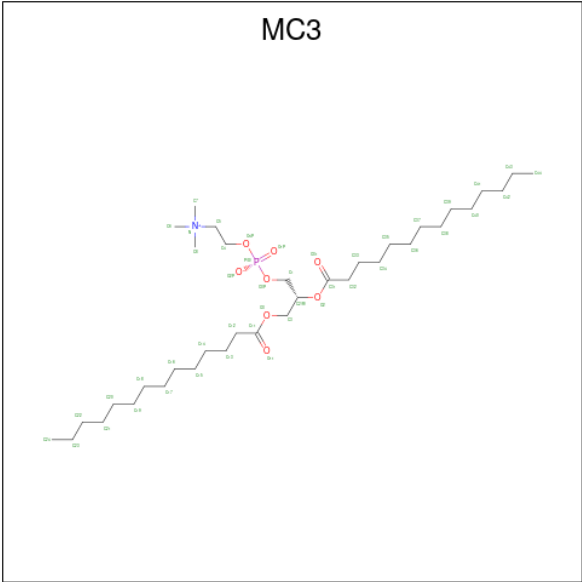
There are 3 unique types of molecules in this entry. The entry contains 48132 atoms, of which 25404 are hydrogens and 0 are deuteriums.

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 Gap junction alpha-8 protein.

| Mol | Chain | Residues | Atoms |      |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|------|-----|-----|----|---------|-------|
| 1   | A     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | B     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | C     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | D     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | E     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | F     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | G     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | H     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | I     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | J     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | K     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |
| 1   | L     | 190      | Total | C    | H    | N   | O   | S  | 0       | 0     |
|     |       |          | 3090  | 1025 | 1536 | 255 | 264 | 10 |         |       |

- Molecule 2 is 1,2-DIMYRISTOYL-RAC-GLYCERO-3-PHOSPHOCHOLINE (CCD ID: MC3) (formula: C<sub>36</sub>H<sub>72</sub>NO<sub>8</sub>P).



| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |

Continued on next page...

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | A     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | B     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | C     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | D     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | E     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | F     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | G     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | H     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | I     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | J     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | K     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 27    | 9  | 18 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 36    | 12 | 24 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 32    | 11 | 21 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 39    | 13 | 26 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 18    | 6  | 12 |         |

*Continued on next page...*

*Continued from previous page...*

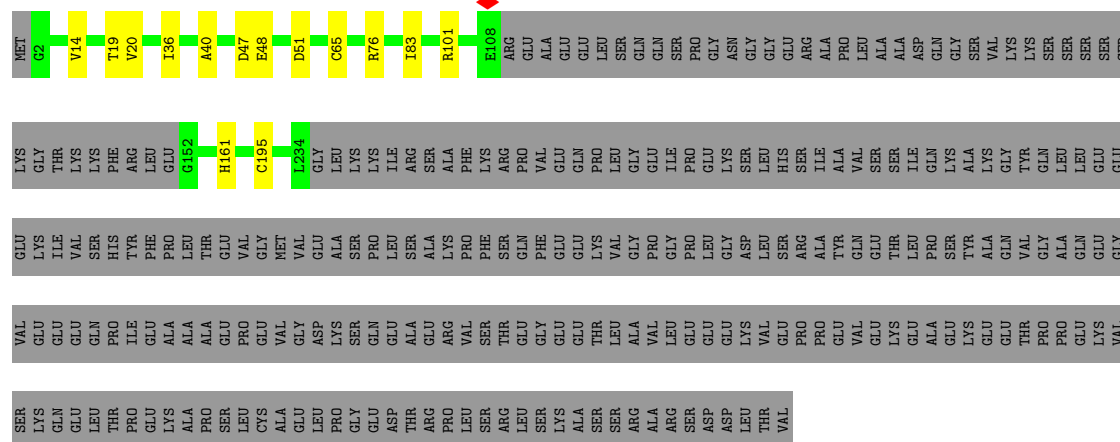
| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 24    | 8  | 16 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 33    | 11 | 22 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |
| 2   | L     | 1        | Total | C  | H  | 0       |
|     |       |          | 30    | 10 | 20 |         |

- Molecule 3 is water.

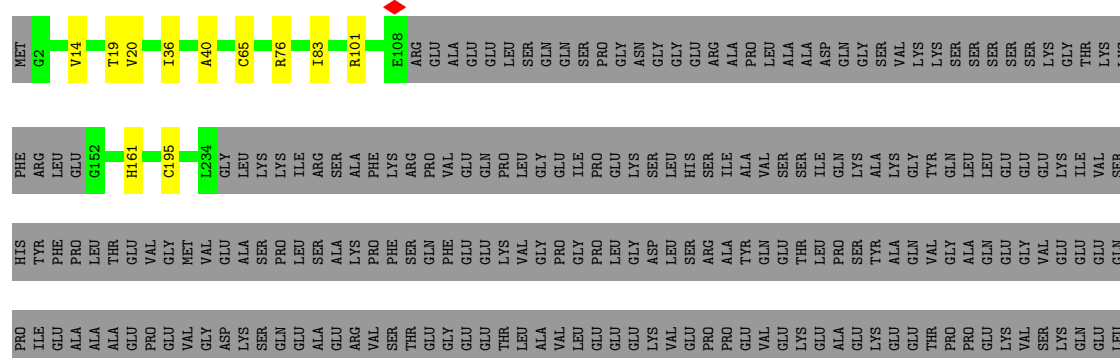
| Mol | Chain | Residues | Atoms |    | AltConf |
|-----|-------|----------|-------|----|---------|
| 3   | A     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | B     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | C     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | D     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | E     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | F     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | G     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | H     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | I     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | J     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | K     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |
| 3   | L     | 49       | Total | O  | 0       |
|     |       |          | 49    | 49 |         |



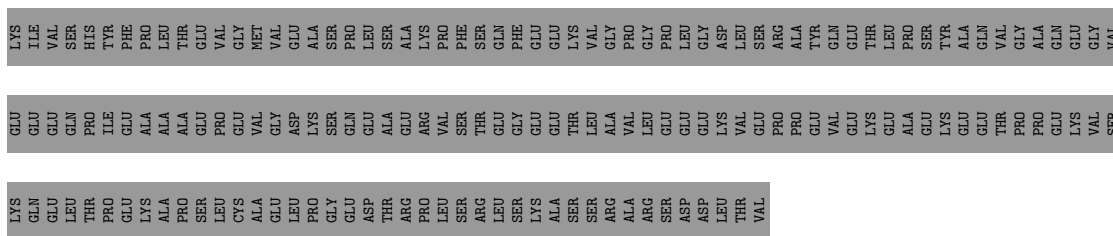
- Molecule 1: Gap junction alpha-8 protein



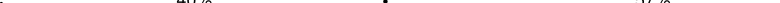
- Molecule 1: Gap junction alpha-8 protein

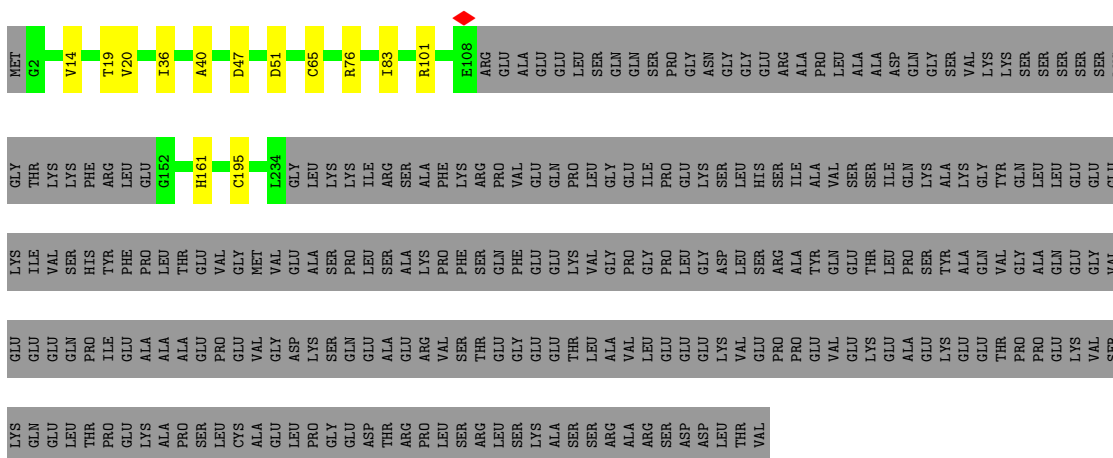




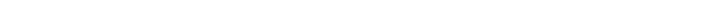


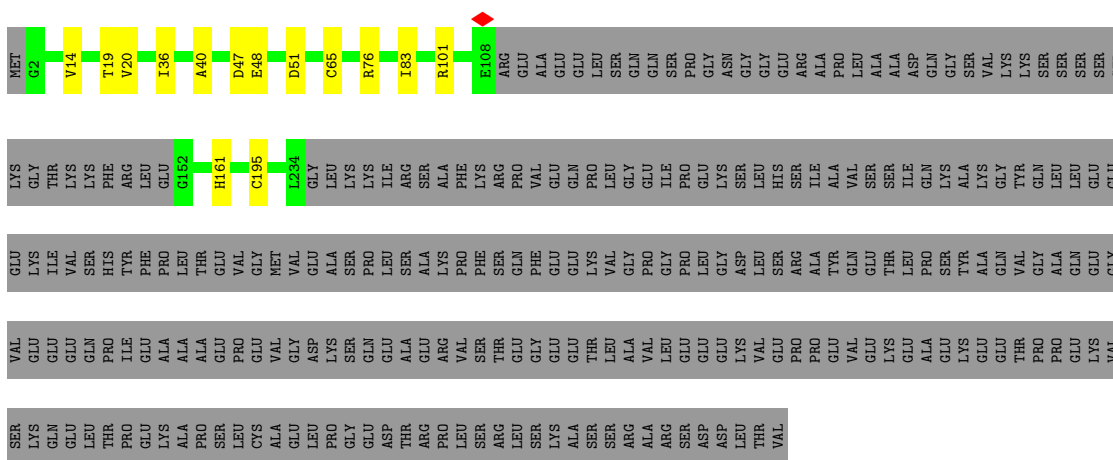
- Molecule 1: Gap junction alpha-8 protein

Chain I:  40% 1% 57%



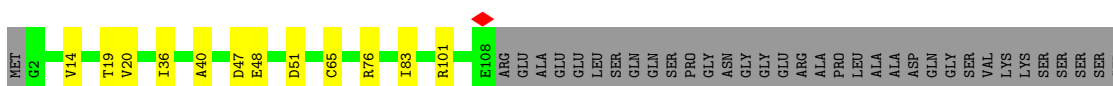
- Molecule 1: Gap junction alpha-8 protein

Chain J:  40% . 57%



- Molecule 1: Gap junction alpha-8 protein

Chain K:  40% 1% 57%



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| SER | LYS | GLN | GLU | LEU | THR | PRO | GLY | GLY | LYS | ALA | GLU | LEU | CYS | ALA | GLU | LEU | PRO | GLY | ASP | THR | ARG | LEU | SER | ARG | LYS | ALA | ALA | ARG | SER | ASP | LEU | THR | VAL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

● Molecule 1: Gap junction alpha-8 protein



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| LYS | GLN | GLY | LEU | THR | PRO | GLU | GLY | ASP | LEU | PRO | GLY | ALA | THR | PRO | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY | GLY |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

## 4 Experimental information

| Property                             | Value                     | Source    |
|--------------------------------------|---------------------------|-----------|
| EM reconstruction method             | SINGLE PARTICLE           | Depositor |
| Imposed symmetry                     | POINT, D6                 | Depositor |
| Number of particles used             | 311313                    | 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 ( $e^-/\text{\AA}^2$ ) | 50.00                     | Depositor |
| Minimum defocus (nm)                 | 500                       | Depositor |
| Maximum defocus (nm)                 | 1800                      | Depositor |
| Magnification                        | 105000                    | Depositor |
| Image detector                       | GATAN K3 (6k x 4k)        | Depositor |
| Maximum map value                    | 3.433                     | Depositor |
| Minimum map value                    | -1.926                    | Depositor |
| Average map value                    | 0.002                     | Depositor |
| Map value standard deviation         | 0.050                     | Depositor |
| Recommended contour level            | 0.0673                    | Depositor |
| Map size ( $\text{\AA}$ )            | 315.648, 315.648, 315.648 | wwPDB     |
| Map dimensions                       | 384, 384, 384             | wwPDB     |
| Map angles ( $^\circ$ )              | 90.0, 90.0, 90.0          | wwPDB     |
| Pixel spacing ( $\text{\AA}$ )       | 0.822, 0.822, 0.822       | 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: MC3

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     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | B     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | C     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | D     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | E     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | F     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | G     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | H     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | I     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | J     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | K     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| 1   | L     | 0.22         | 0/1599  | 0.28        | 0/2175  |
| All | All   | 0.22         | 0/19188 | 0.28        | 0/26100 |

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | A     | 1554  | 1536     | 1539     | 9       | 0            |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | B     | 1554  | 1536     | 1539     | 9       | 0            |
| 1   | C     | 1554  | 1536     | 1539     | 10      | 0            |
| 1   | D     | 1554  | 1536     | 1539     | 10      | 0            |
| 1   | E     | 1554  | 1536     | 1539     | 8       | 0            |
| 1   | F     | 1554  | 1536     | 1539     | 10      | 0            |
| 1   | G     | 1554  | 1536     | 1539     | 10      | 0            |
| 1   | H     | 1554  | 1536     | 1539     | 9       | 0            |
| 1   | I     | 1554  | 1536     | 1539     | 9       | 0            |
| 1   | J     | 1554  | 1536     | 1539     | 10      | 0            |
| 1   | K     | 1554  | 1536     | 1539     | 10      | 0            |
| 1   | L     | 1554  | 1536     | 1539     | 9       | 0            |
| 2   | A     | 291   | 581      | 514      | 0       | 0            |
| 2   | B     | 291   | 581      | 514      | 0       | 0            |
| 2   | C     | 291   | 581      | 514      | 0       | 0            |
| 2   | D     | 291   | 581      | 514      | 0       | 0            |
| 2   | E     | 291   | 581      | 514      | 0       | 0            |
| 2   | F     | 291   | 581      | 514      | 0       | 0            |
| 2   | G     | 291   | 581      | 514      | 0       | 0            |
| 2   | H     | 291   | 581      | 514      | 0       | 0            |
| 2   | I     | 291   | 581      | 514      | 0       | 0            |
| 2   | J     | 291   | 581      | 514      | 0       | 0            |
| 2   | K     | 291   | 581      | 514      | 0       | 0            |
| 2   | L     | 291   | 581      | 514      | 0       | 0            |
| 3   | A     | 49    | 0        | 0        | 0       | 0            |
| 3   | B     | 49    | 0        | 0        | 0       | 0            |
| 3   | C     | 49    | 0        | 0        | 1       | 0            |
| 3   | D     | 49    | 0        | 0        | 1       | 0            |
| 3   | E     | 49    | 0        | 0        | 0       | 0            |
| 3   | F     | 49    | 0        | 0        | 1       | 0            |
| 3   | G     | 49    | 0        | 0        | 1       | 0            |
| 3   | H     | 49    | 0        | 0        | 0       | 0            |
| 3   | I     | 49    | 0        | 0        | 0       | 0            |
| 3   | J     | 49    | 0        | 0        | 1       | 0            |
| 3   | K     | 49    | 0        | 0        | 1       | 0            |
| 3   | L     | 49    | 0        | 0        | 0       | 0            |
| All | All   | 22728 | 25404    | 24636    | 89      | 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 2.

The worst 5 of 89 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:G:101:ARG:NH1 | 1:G:101:ARG:HB3 | 2.27                     | 0.50              |
| 1:F:101:ARG:HB3 | 1:F:101:ARG:NH1 | 2.27                     | 0.50              |
| 1:A:101:ARG:HB3 | 1:A:101:ARG:NH1 | 2.27                     | 0.50              |
| 1:H:101:ARG:NH1 | 1:H:101:ARG:HB3 | 2.27                     | 0.50              |
| 1:D:101:ARG:NH1 | 1:D:101:ARG:HB3 | 2.27                     | 0.50              |

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     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | B     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | C     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | D     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | E     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | F     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | G     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | H     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | I     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | J     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | K     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | L     | 186/440 (42%)   | 184 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| All | All   | 2232/5280 (42%) | 2208 (99%) | 24 (1%) | 0        | 100         | 100 |

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains ⓘ

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

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed        | Rotameric  | Outliers | Percentiles |    |
|-----|-------|-----------------|------------|----------|-------------|----|
| 1   | A     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | B     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | C     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | D     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | E     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | F     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | G     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | H     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | I     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | J     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | K     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| 1   | L     | 174/385 (45%)   | 173 (99%)  | 1 (1%)   | 84          | 88 |
| All | All   | 2088/4620 (45%) | 2076 (99%) | 12 (1%)  | 82          | 88 |

5 of 12 residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | H     | 161 | HIS  |
| 1   | I     | 161 | HIS  |
| 1   | L     | 161 | HIS  |
| 1   | J     | 161 | HIS  |
| 1   | D     | 161 | HIS  |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 57 such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | F     | 99  | HIS  |
| 1   | L     | 98  | HIS  |
| 1   | H     | 95  | HIS  |
| 1   | L     | 95  | HIS  |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | K     | 95  | HIS  |

### 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 oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

312 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Type | Chain | Res | Link | Bond lengths |      |             | Bond angles |      |             |
|-----|------|-------|-----|------|--------------|------|-------------|-------------|------|-------------|
|     |      |       |     |      | Counts       | RMSZ | $\# Z  > 2$ | Counts      | RMSZ | $\# Z  > 2$ |
| 2   | MC3  | B     | 517 | -    | 10,10,45     | 0.34 | 0           | 9,9,53      | 0.83 | 0           |
| 2   | MC3  | E     | 508 | -    | 11,11,45     | 0.34 | 0           | 10,10,53    | 0.85 | 0           |
| 2   | MC3  | C     | 506 | -    | 11,11,45     | 0.34 | 0           | 10,10,53    | 0.84 | 0           |
| 2   | MC3  | G     | 522 | -    | 12,12,45     | 0.33 | 0           | 11,11,53    | 0.86 | 0           |
| 2   | MC3  | G     | 519 | -    | 12,12,45     | 0.32 | 0           | 11,11,53    | 0.83 | 0           |
| 2   | MC3  | K     | 525 | -    | 9,9,45       | 0.33 | 0           | 8,8,53      | 0.80 | 0           |
| 2   | MC3  | L     | 526 | -    | 9,9,45       | 0.34 | 0           | 8,8,53      | 0.82 | 0           |
| 2   | MC3  | I     | 505 | -    | 12,12,45     | 0.32 | 0           | 11,11,53    | 0.87 | 0           |
| 2   | MC3  | G     | 511 | -    | 5,5,45       | 0.37 | 0           | 4,4,53      | 0.61 | 0           |
| 2   | MC3  | H     | 518 | -    | 10,10,45     | 0.33 | 0           | 9,9,53      | 0.83 | 0           |
| 2   | MC3  | E     | 505 | -    | 12,12,45     | 0.32 | 0           | 11,11,53    | 0.87 | 0           |
| 2   | MC3  | I     | 508 | -    | 11,11,45     | 0.34 | 0           | 10,10,53    | 0.85 | 0           |
| 2   | MC3  | D     | 511 | -    | 7,7,45       | 0.35 | 0           | 6,6,53      | 0.76 | 0           |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | MC3  | E     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | J     | 514 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | J     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | B     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | A     | 504 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | A     | 503 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | B     | 514 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | J     | 522 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | F     | 510 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | E     | 525 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | H     | 526 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | B     | 525 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | B     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | H     | 506 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | E     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | D     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | K     | 508 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | C     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | B     | 505 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.87 | 0        |
| 2   | MC3  | B     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | I     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | D     | 516 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | H     | 503 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | C     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | I     | 514 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | K     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.84 | 0        |
| 2   | MC3  | B     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | C     | 525 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | J     | 503 | -    | 11,11,45     | 0.31 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | G     | 521 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | C     | 517 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | D     | 505 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.87 | 0        |
| 2   | MC3  | E     | 518 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | K     | 516 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | A     | 505 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | I     | 510 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | E     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | I     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | L     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | G     | 523 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | C     | 505 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.87 | 0        |
| 2   | MC3  | I     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | C     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | MC3  | L     | 505 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | G     | 513 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | L     | 503 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | C     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | E     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | H     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | L     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | E     | 526 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | J     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | I     | 517 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | E     | 522 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.62 | 0        |
| 2   | MC3  | D     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.85 | 0        |
| 2   | MC3  | J     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | D     | 506 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | J     | 526 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | L     | 508 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | I     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | I     | 503 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | A     | 521 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | K     | 510 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | J     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.62 | 0        |
| 2   | MC3  | L     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | F     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | B     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | B     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | C     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | F     | 505 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.87 | 0        |
| 2   | MC3  | I     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | D     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | K     | 522 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | F     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.62 | 0        |
| 2   | MC3  | C     | 510 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | J     | 517 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | A     | 501 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | E     | 514 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | A     | 524 | -    | 8,8,45       | 0.34 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | K     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | K     | 511 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | D     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | B     | 511 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | H     | 510 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | D     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | B     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | MC3  | I     | 526 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | C     | 516 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | F     | 508 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | L     | 516 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | H     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.84 | 0        |
| 2   | MC3  | B     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | F     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | G     | 524 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | A     | 525 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | J     | 516 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | I     | 511 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | F     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | K     | 506 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | L     | 522 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | H     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | A     | 509 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | E     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | H     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | A     | 520 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.87 | 0        |
| 2   | MC3  | K     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | J     | 518 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | H     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | I     | 525 | -    | 9,9,45       | 0.33 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | J     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | D     | 518 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | J     | 510 | -    | 10,10,45     | 0.35 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | A     | 506 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | G     | 505 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | D     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | F     | 517 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | F     | 516 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | G     | 503 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | I     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.62 | 0        |
| 2   | MC3  | B     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | G     | 501 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | E     | 511 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | L     | 506 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | K     | 505 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.87 | 0        |
| 2   | MC3  | B     | 522 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | H     | 514 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | D     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.84 | 0        |
| 2   | MC3  | A     | 523 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | A     | 514 | -    | 9,9,45       | 0.33 | 0        | 8,8,53      | 0.81 | 0        |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | MC3  | C     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | A     | 507 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | B     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | J     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | F     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | K     | 518 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | H     | 525 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | F     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | G     | 520 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.87 | 0        |
| 2   | MC3  | A     | 512 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | H     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | E     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | J     | 525 | -    | 9,9,45       | 0.33 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | H     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | I     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | G     | 507 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | C     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | F     | 522 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | L     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | H     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | L     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | A     | 516 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | J     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | H     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | K     | 526 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | D     | 503 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | F     | 503 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | L     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | A     | 518 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | F     | 511 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | G     | 510 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | L     | 525 | -    | 9,9,45       | 0.33 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | A     | 522 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | G     | 516 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.80 | 0        |
| 2   | MC3  | I     | 516 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | I     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | H     | 505 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.87 | 0        |
| 2   | MC3  | C     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | L     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | D     | 514 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | F     | 506 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | H     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | K     | 517 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | MC3  | I     | 522 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | B     | 503 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | B     | 526 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | D     | 522 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.62 | 0        |
| 2   | MC3  | E     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | C     | 518 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | B     | 506 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | L     | 518 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.82 | 0        |
| 2   | MC3  | E     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | D     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | E     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | E     | 517 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | K     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | K     | 503 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | F     | 514 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | K     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | B     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | K     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | F     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | K     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | A     | 526 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | L     | 517 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | L     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | G     | 506 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | I     | 506 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | C     | 522 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | K     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | F     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | F     | 507 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.86 | 0        |
| 2   | MC3  | D     | 510 | -    | 10,10,45     | 0.35 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | A     | 515 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | E     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | A     | 508 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | J     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | I     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.85 | 0        |
| 2   | MC3  | H     | 508 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | C     | 511 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | E     | 503 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | E     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | L     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | F     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | J     | 505 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.87 | 0        |
| 2   | MC3  | L     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | MC3  | G     | 514 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | C     | 526 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | A     | 513 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | B     | 516 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | I     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | I     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | C     | 508 | -    | 11,11,45     | 0.33 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | L     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | A     | 511 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.62 | 0        |
| 2   | MC3  | K     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | D     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | G     | 509 | -    | 12,12,45     | 0.34 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | G     | 512 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | H     | 522 | -    | 5,5,45       | 0.37 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | B     | 518 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.83 | 0        |
| 2   | MC3  | I     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | C     | 503 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | F     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.84 | 0        |
| 2   | MC3  | K     | 514 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | C     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | A     | 517 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | D     | 526 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | H     | 517 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | K     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | L     | 511 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | G     | 525 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | D     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | G     | 508 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | C     | 514 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | L     | 523 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | L     | 514 | -    | 12,12,45     | 0.31 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | K     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | E     | 510 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | D     | 508 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | D     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | C     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | E     | 516 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | F     | 526 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | K     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | I     | 518 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.82 | 0        |
| 2   | MC3  | C     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | F     | 518 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.82 | 0        |
| 2   | MC3  | J     | 508 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.85 | 0        |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | MC3  | B     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | E     | 506 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 0        |
| 2   | MC3  | E     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | A     | 519 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | A     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | C     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | I     | 515 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | D     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | J     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | J     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | E     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | D     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | J     | 509 | -    | 8,8,45       | 0.35 | 0        | 7,7,53      | 0.80 | 0        |
| 2   | MC3  | B     | 508 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | L     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.62 | 0        |
| 2   | MC3  | D     | 525 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | H     | 511 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.75 | 0        |
| 2   | MC3  | F     | 525 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.81 | 0        |
| 2   | MC3  | D     | 517 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | G     | 517 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.84 | 0        |
| 2   | MC3  | H     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | G     | 502 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | B     | 510 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | J     | 511 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | F     | 512 | -    | 11,11,45     | 0.29 | 0        | 10,10,53    | 0.83 | 0        |
| 2   | MC3  | J     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | G     | 518 | -    | 11,11,45     | 0.32 | 0        | 10,10,53    | 0.86 | 0        |
| 2   | MC3  | H     | 513 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | F     | 501 | -    | 12,12,45     | 0.30 | 0        | 11,11,53    | 0.81 | 0        |
| 2   | MC3  | G     | 515 | -    | 9,9,45       | 0.34 | 0        | 8,8,53      | 0.82 | 0        |
| 2   | MC3  | G     | 504 | -    | 11,11,45     | 0.30 | 0        | 10,10,53    | 0.85 | 0        |
| 2   | MC3  | J     | 520 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | A     | 510 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.61 | 0        |
| 2   | MC3  | K     | 524 | -    | 10,10,45     | 0.33 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | H     | 521 | -    | 5,5,45       | 0.36 | 0        | 4,4,53      | 0.62 | 0        |
| 2   | MC3  | C     | 519 | -    | 12,12,45     | 0.33 | 0        | 11,11,53    | 0.85 | 0        |
| 2   | MC3  | B     | 504 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.83 | 0        |
| 2   | MC3  | G     | 526 | -    | 7,7,45       | 0.35 | 0        | 6,6,53      | 0.76 | 0        |
| 2   | MC3  | H     | 516 | -    | 12,12,45     | 0.32 | 0        | 11,11,53    | 0.82 | 0        |
| 2   | MC3  | L     | 510 | -    | 10,10,45     | 0.34 | 0        | 9,9,53      | 0.84 | 0        |
| 2   | MC3  | J     | 506 | -    | 11,11,45     | 0.34 | 0        | 10,10,53    | 0.84 | 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   | MC3  | B     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | E     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | C     | 506 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | G     | 522 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | L     | 526 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | I     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 511 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | H     | 518 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | E     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | D     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | E     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 515 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | A     | 504 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | A     | 503 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | F     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | E     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | H     | 526 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | B     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | B     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | H     | 506 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | E     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | K     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | C     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | B     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | I     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | H     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | C     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 523 | -    | -       | 0/5/5/49   | -     |

*Continued on next page...*

*Continued from previous page...*

| Mol | Type | Chain | Res | Link | Chirals | Torsions   | Rings |
|-----|------|-------|-----|------|---------|------------|-------|
| 2   | MC3  | C     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | J     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | G     | 521 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | C     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | D     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | E     | 518 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | K     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | E     | 515 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | I     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | L     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | G     | 523 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | C     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | C     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | L     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 513 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | L     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | C     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | E     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | H     | 523 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | L     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | E     | 526 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | J     | 515 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | I     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | E     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | D     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | J     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 506 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | J     | 526 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | L     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | I     | 504 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | A     | 521 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | K     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | J     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | L     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | B     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | C     | 515 | -    | -       | 0/9/9/49   | -     |

*Continued on next page...*

*Continued from previous page...*

| Mol | Type | Chain | Res | Link | Chirals | Torsions   | Rings |
|-----|------|-------|-----|------|---------|------------|-------|
| 2   | MC3  | F     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 504 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | F     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | C     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | J     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | A     | 501 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | E     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 524 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | K     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | D     | 523 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | B     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | H     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | D     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 526 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | C     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | L     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | H     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | G     | 524 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | A     | 525 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | J     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | F     | 523 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | K     | 506 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | L     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | H     | 515 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | A     | 509 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | E     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | H     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 518 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | H     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | I     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | J     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 518 | -    | -       | 0/8/8/49   | -     |

*Continued on next page...*

*Continued from previous page...*

| Mol | Type | Chain | Res | Link | Chirals | Torsions   | Rings |
|-----|------|-------|-----|------|---------|------------|-------|
| 2   | MC3  | J     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | A     | 506 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | G     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 515 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | F     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | F     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 503 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | B     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 501 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | E     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | L     | 506 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | K     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | H     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 523 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | A     | 514 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | C     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 507 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | B     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | F     | 515 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | K     | 518 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | H     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | F     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 512 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | H     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | E     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | J     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | H     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | I     | 523 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | G     | 507 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | C     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | F     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | L     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | H     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | L     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | A     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | H     | 520 | -    | -       | 0/10/10/49 | -     |

*Continued on next page...*

*Continued from previous page...*

| Mol | Type | Chain | Res | Link | Chirals | Torsions   | Rings |
|-----|------|-------|-----|------|---------|------------|-------|
| 2   | MC3  | K     | 526 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | D     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | F     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | L     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 518 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | F     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | G     | 510 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | L     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | A     | 522 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | H     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | C     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | L     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 506 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | H     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | I     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | B     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | B     | 526 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | D     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | E     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | C     | 518 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | B     | 506 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | L     | 518 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | E     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | D     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | E     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | E     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | K     | 504 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | F     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 523 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | B     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | K     | 515 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | F     | 504 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 526 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | L     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | L     | 502 | -    | -       | 0/10/10/49 | -     |

*Continued on next page...*

*Continued from previous page...*

| Mol | Type | Chain | Res | Link | Chirals | Torsions   | Rings |
|-----|------|-------|-----|------|---------|------------|-------|
| 2   | MC3  | G     | 506 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | I     | 506 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | C     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | K     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 507 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | A     | 515 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | E     | 504 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 508 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 523 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | I     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | H     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | C     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | E     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | E     | 523 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | L     | 504 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 505 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | L     | 515 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | G     | 514 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | C     | 526 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | A     | 513 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | B     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | C     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | L     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 511 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | K     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | D     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | G     | 509 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 512 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | H     | 522 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | B     | 518 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | I     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | C     | 503 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | F     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | C     | 523 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | A     | 517 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 526 | -    | -       | 0/7/7/49   | -     |

*Continued on next page...*

*Continued from previous page...*

| Mol | Type | Chain | Res | Link | Chirals | Torsions   | Rings |
|-----|------|-------|-----|------|---------|------------|-------|
| 2   | MC3  | H     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | K     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | L     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | G     | 525 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | D     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 508 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | C     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | L     | 523 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | L     | 514 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | K     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | E     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | D     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | D     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | C     | 504 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | E     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 526 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | K     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 518 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | C     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 518 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | J     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | B     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | E     | 506 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | E     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | A     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | C     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | I     | 515 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | D     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | J     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | E     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | D     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | J     | 509 | -    | -       | 0/6/6/49   | -     |
| 2   | MC3  | B     | 508 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | L     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | D     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | H     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | F     | 525 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | D     | 517 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | G     | 517 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | H     | 504 | -    | -       | 0/10/10/49 | -     |

*Continued on next page...*

*Continued from previous page...*

| Mol | Type | Chain | Res | Link | Chirals | Torsions   | Rings |
|-----|------|-------|-----|------|---------|------------|-------|
| 2   | MC3  | G     | 502 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | J     | 511 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | F     | 512 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | J     | 504 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 518 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | H     | 513 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | F     | 501 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 515 | -    | -       | 0/7/7/49   | -     |
| 2   | MC3  | G     | 504 | -    | -       | 0/9/9/49   | -     |
| 2   | MC3  | J     | 520 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | A     | 510 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | K     | 524 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | H     | 521 | -    | -       | 0/3/3/49   | -     |
| 2   | MC3  | C     | 519 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | B     | 504 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | G     | 526 | -    | -       | 0/5/5/49   | -     |
| 2   | MC3  | H     | 516 | -    | -       | 0/10/10/49 | -     |
| 2   | MC3  | L     | 510 | -    | -       | 0/8/8/49   | -     |
| 2   | MC3  | J     | 506 | -    | -       | 0/9/9/49   | -     |

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 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-73885. These allow visual inspection of the internal detail of the map and identification of artifacts.

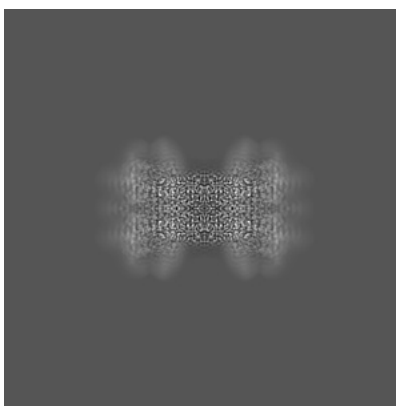
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

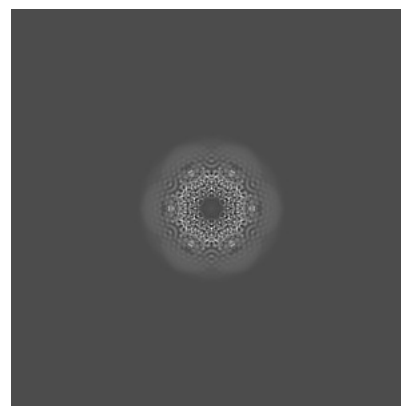
#### 6.1.1 Primary map



X

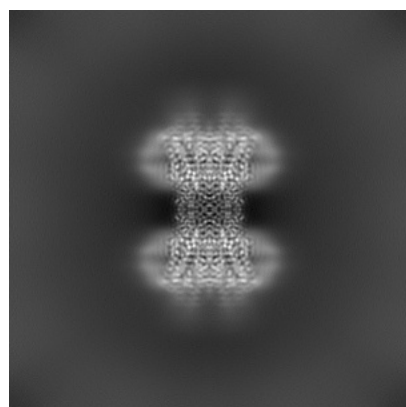


Y

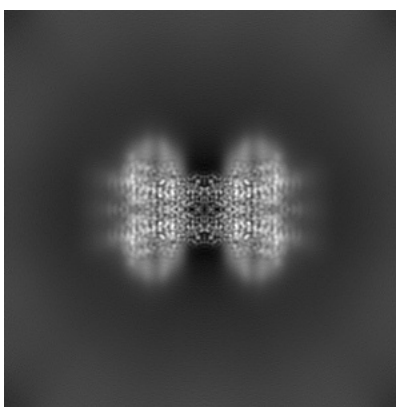


Z

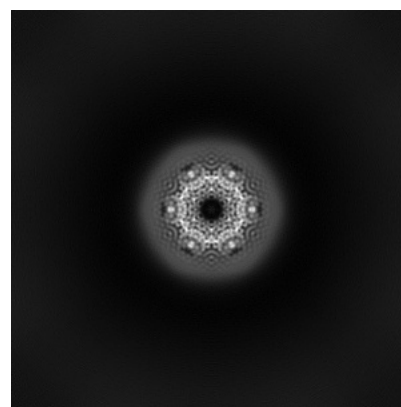
#### 6.1.2 Raw map



X



Y

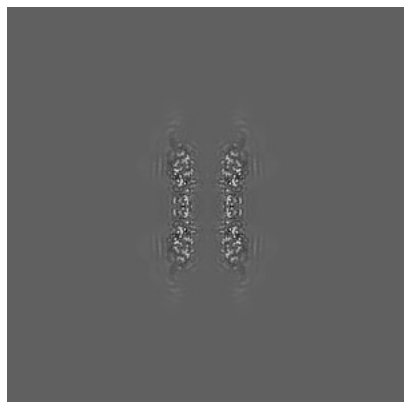


Z

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

## 6.2 Central slices [i](#)

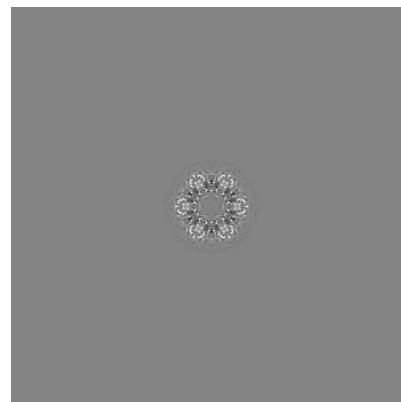
### 6.2.1 Primary map



X Index: 192

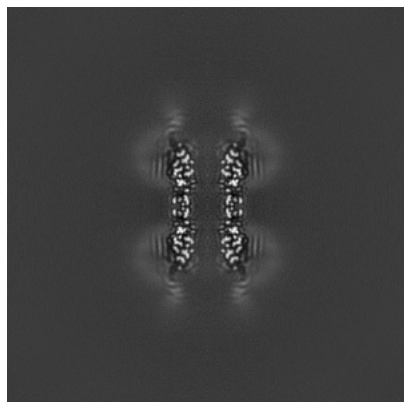


Y Index: 192

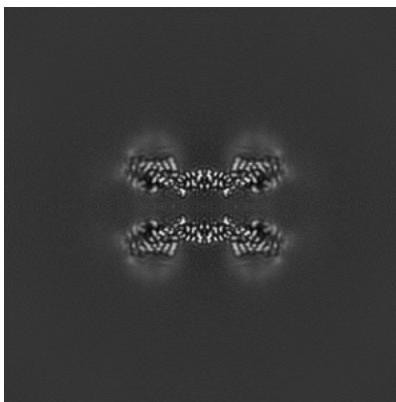


Z Index: 192

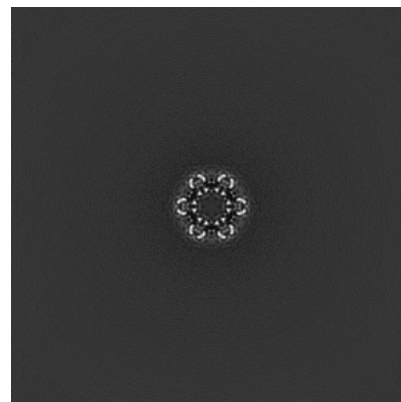
### 6.2.2 Raw map



X Index: 192



Y Index: 192

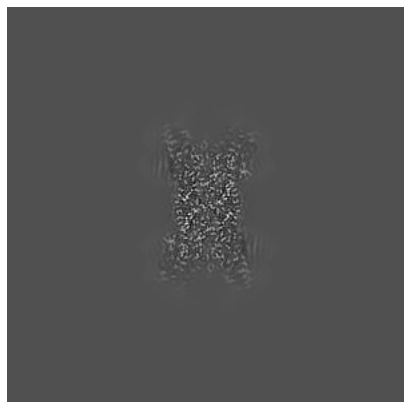


Z Index: 192

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

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

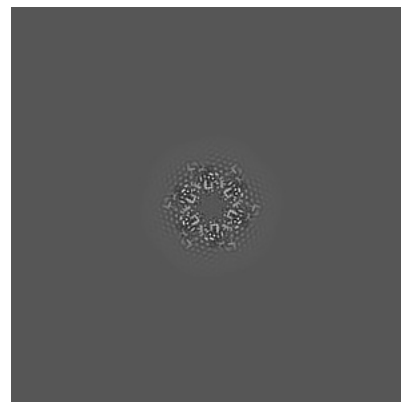
### 6.3.1 Primary map



X Index: 208

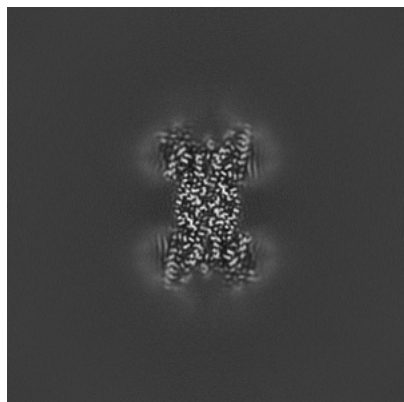


Y Index: 212

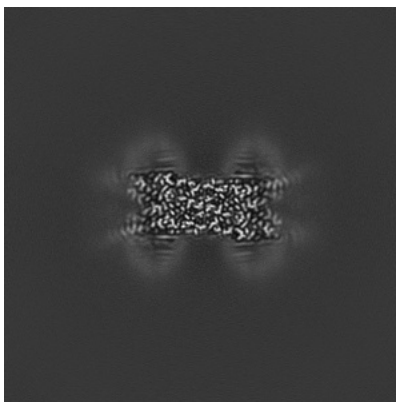


Z Index: 161

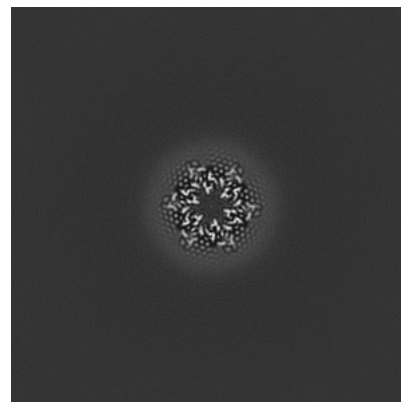
### 6.3.2 Raw map



X Index: 175



Y Index: 212

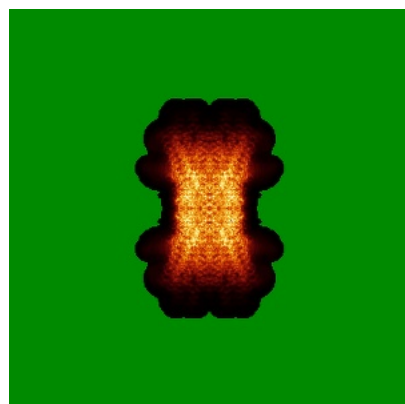


Z Index: 162

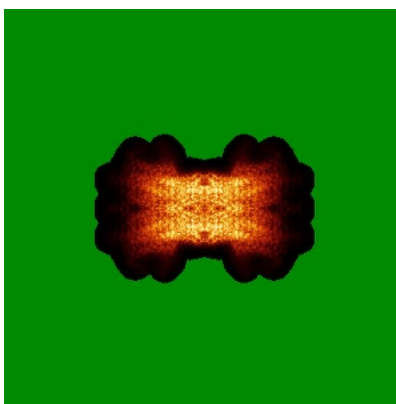
The images above show the largest variance slices of the map in three orthogonal directions.

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

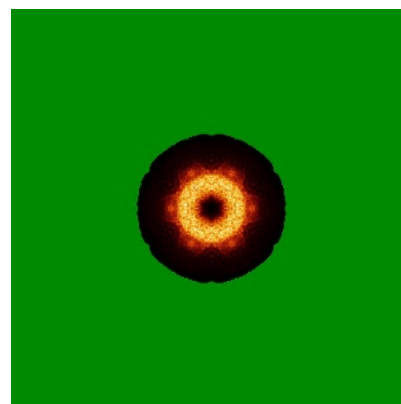
### 6.4.1 Primary map



X

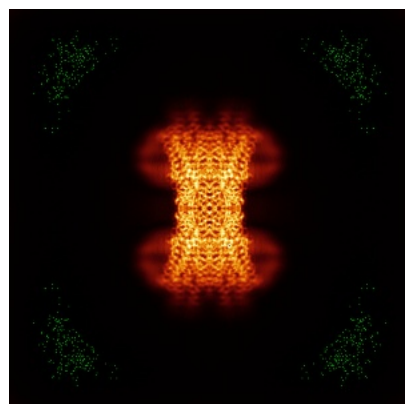


Y

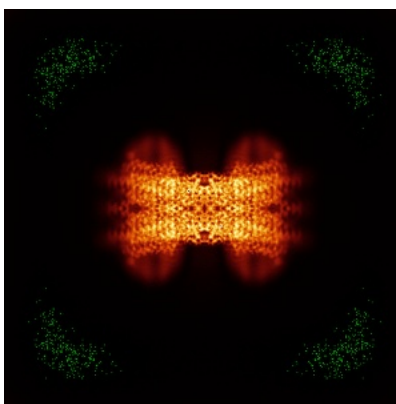


Z

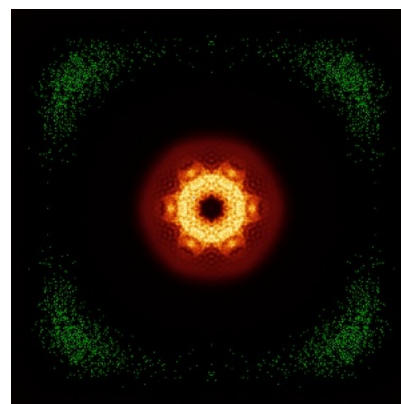
### 6.4.2 Raw map



X



Y

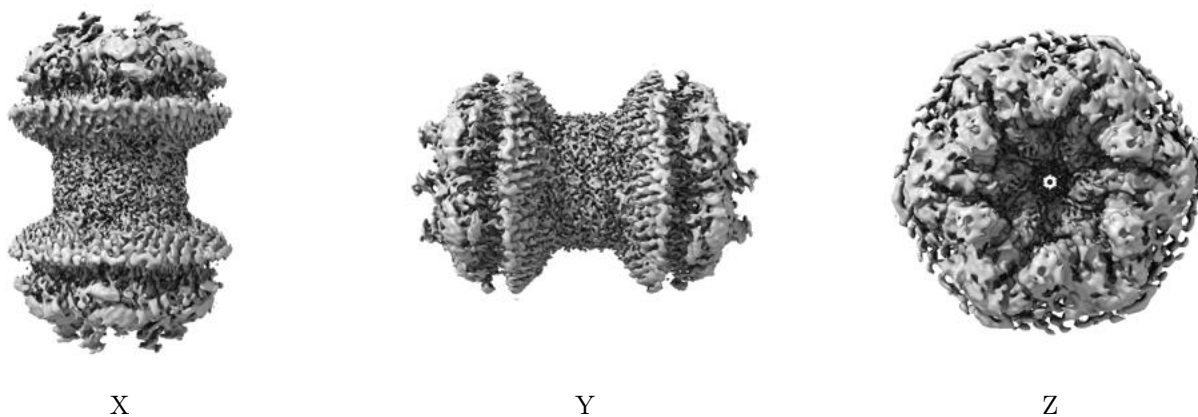


Z

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.

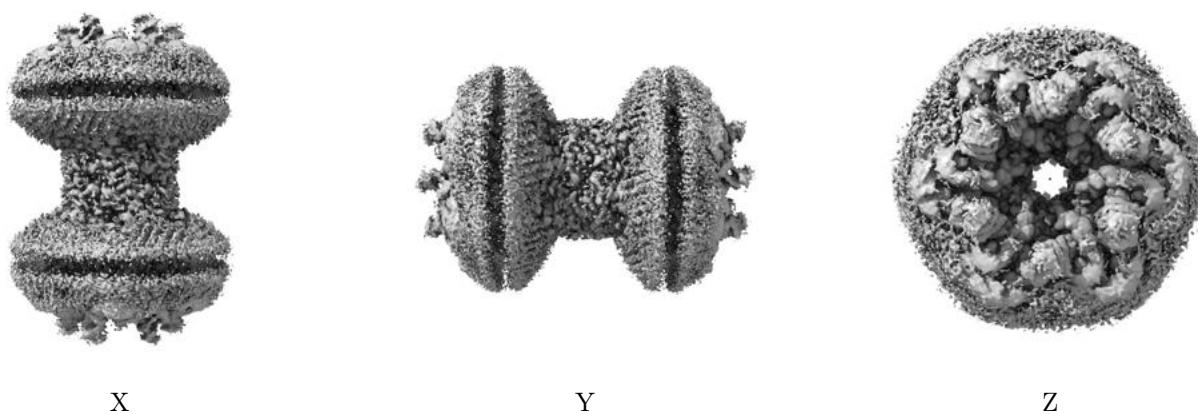
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0673. 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.

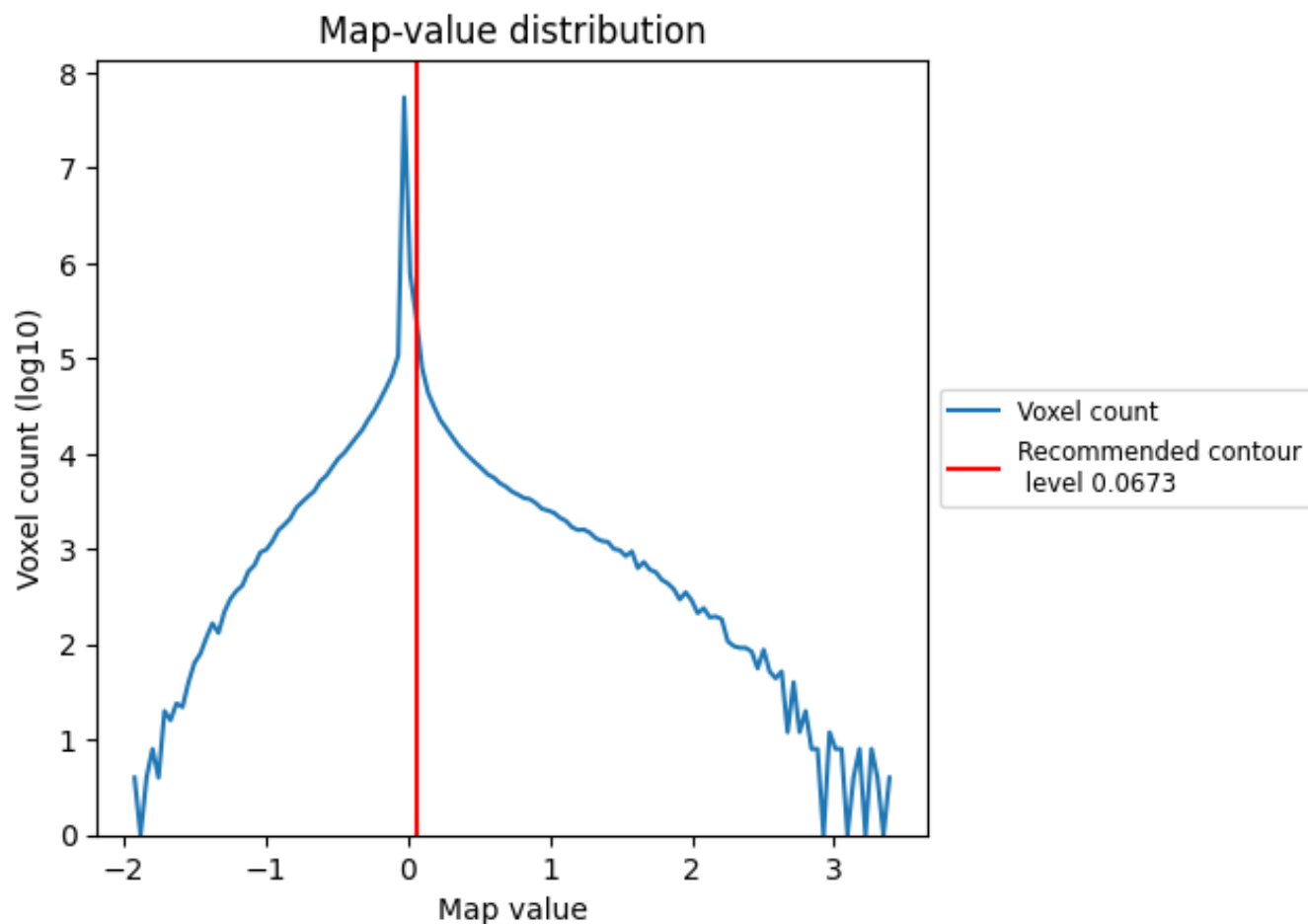
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

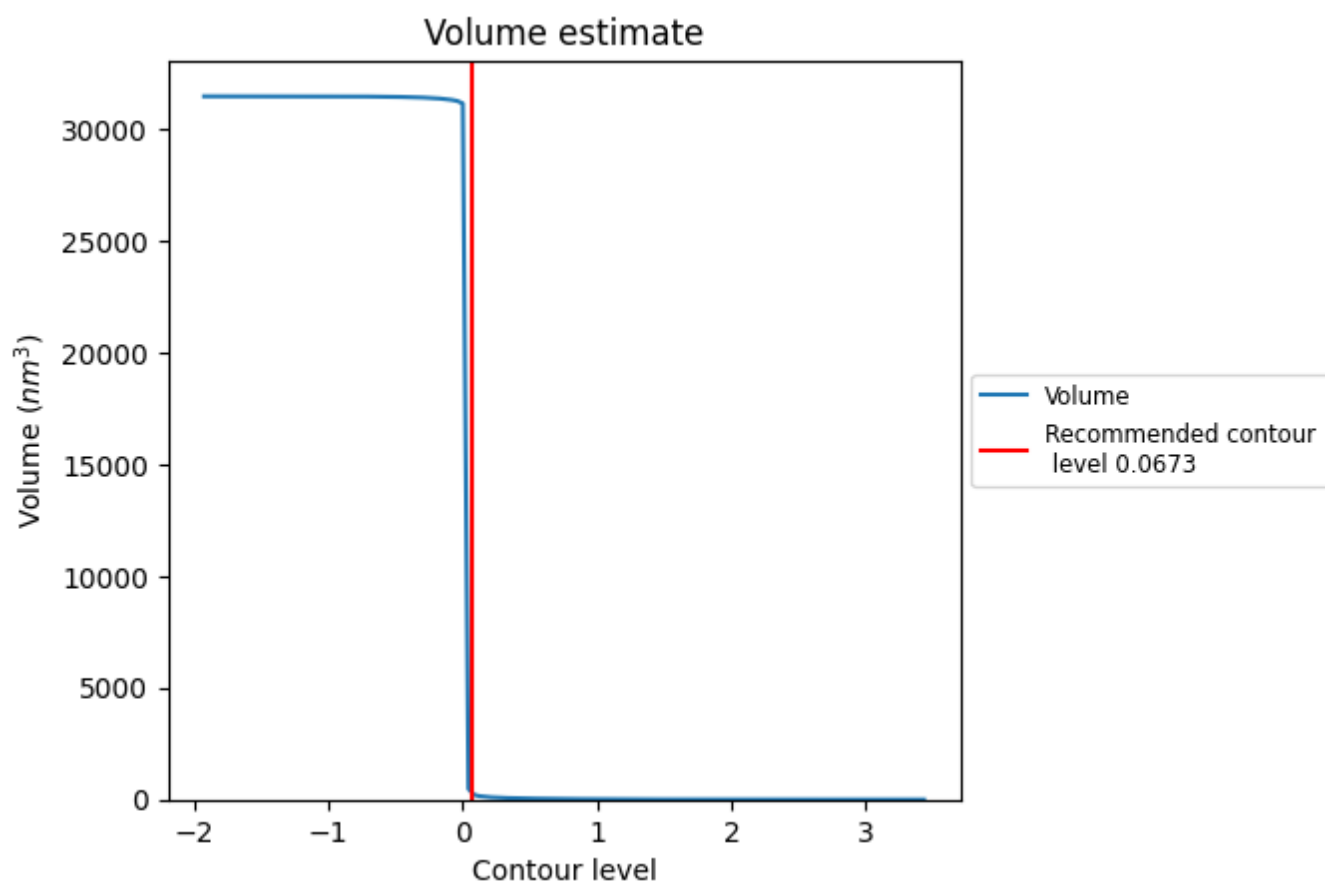
This section contains the results of statistical analysis of the map.

### 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.

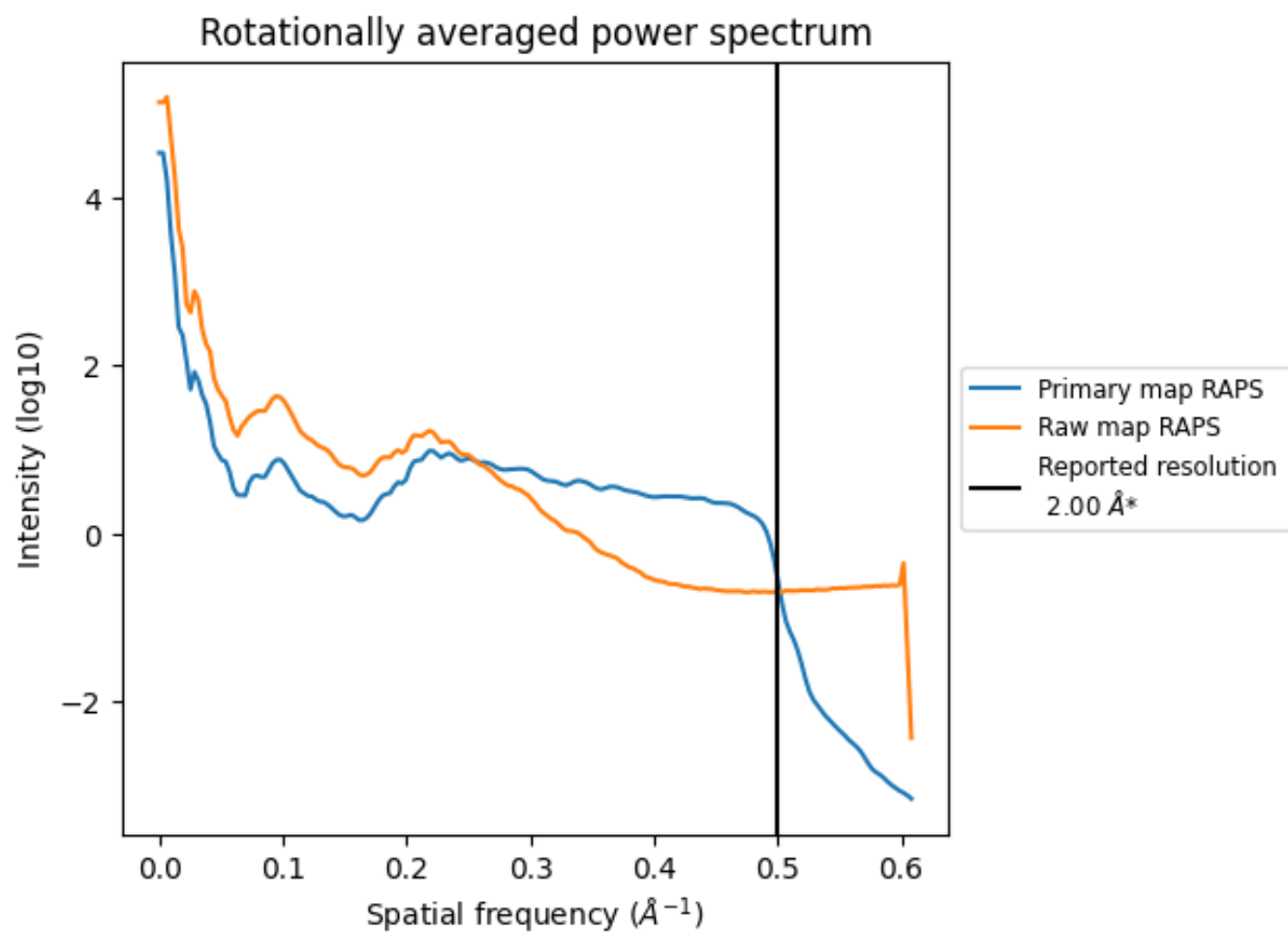
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 316 nm<sup>3</sup>; this corresponds to an approximate mass of 286 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 ⓘ

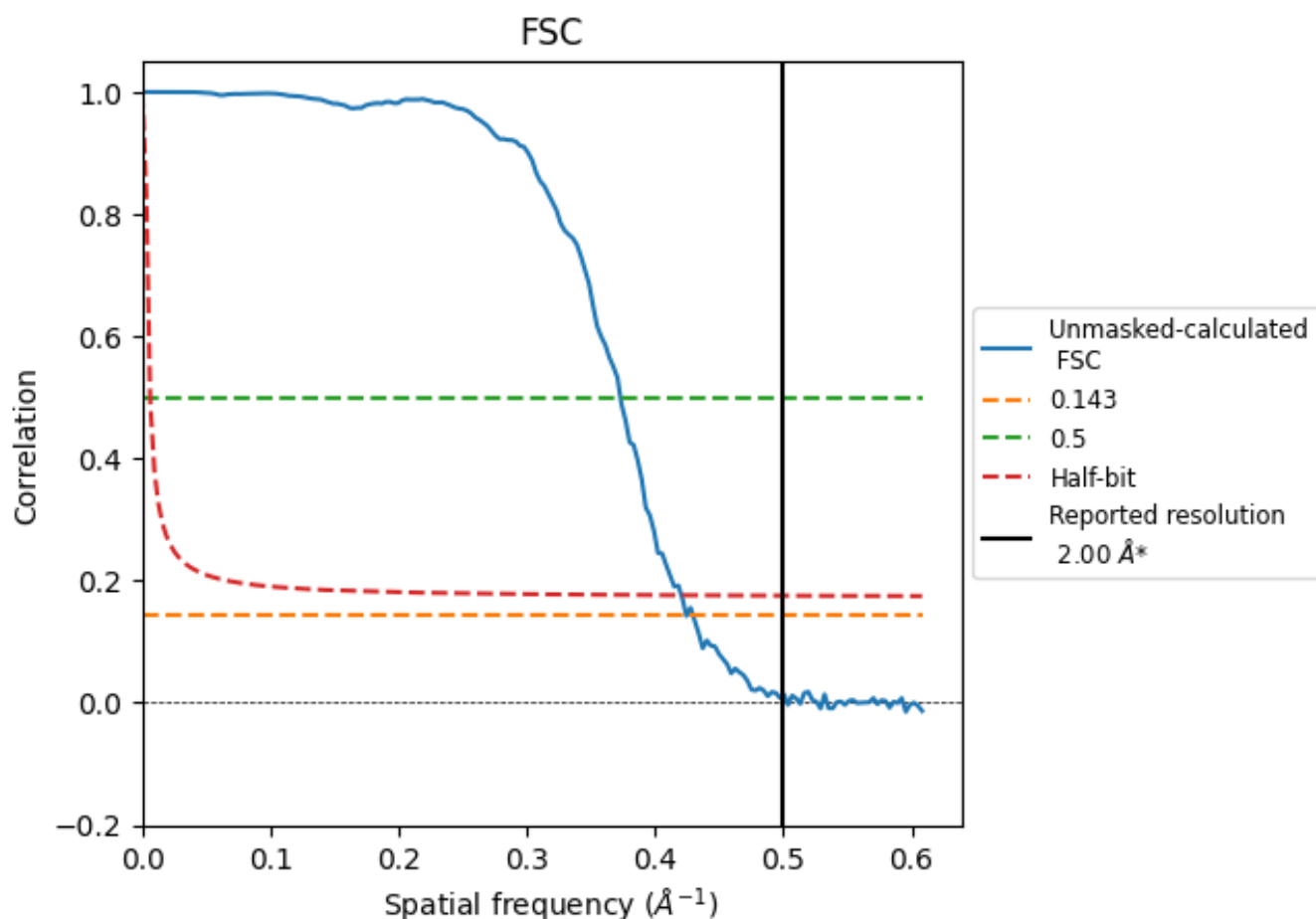


\*Reported resolution corresponds to spatial frequency of 0.500 Å<sup>-1</sup>

## 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 0.500 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

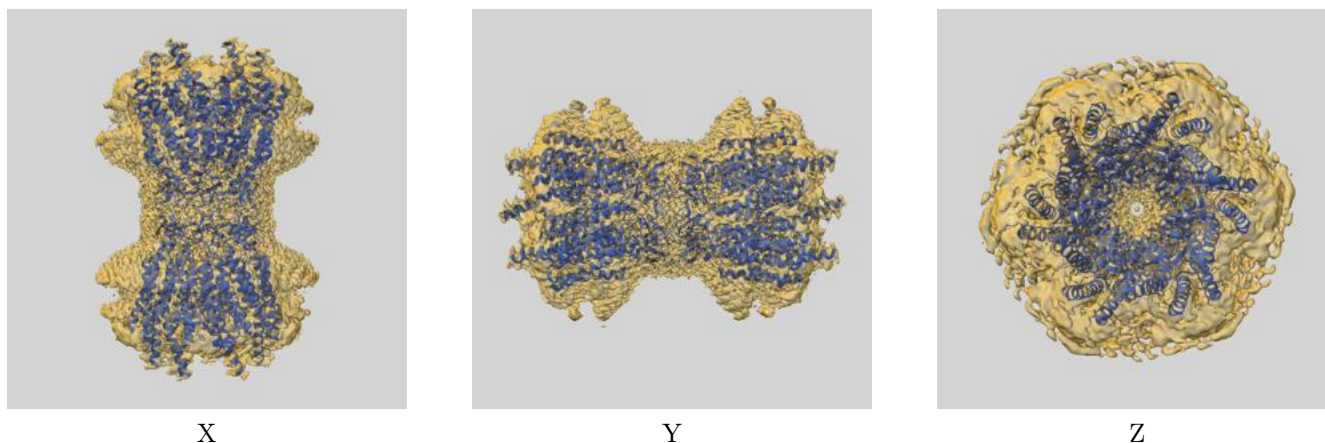
| Resolution estimate (Å)   | Estimation criterion (FSC cut-off) |      |          |
|---------------------------|------------------------------------|------|----------|
|                           | 0.143                              | 0.5  | Half-bit |
| Reported by author        | 2.00                               | -    | -        |
| Author-provided FSC curve | -                                  | -    | -        |
| Unmasked-calculated*      | 2.36                               | 2.68 | 2.38     |

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 2.36 differs from the reported value 2.0 by more than 10 %

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

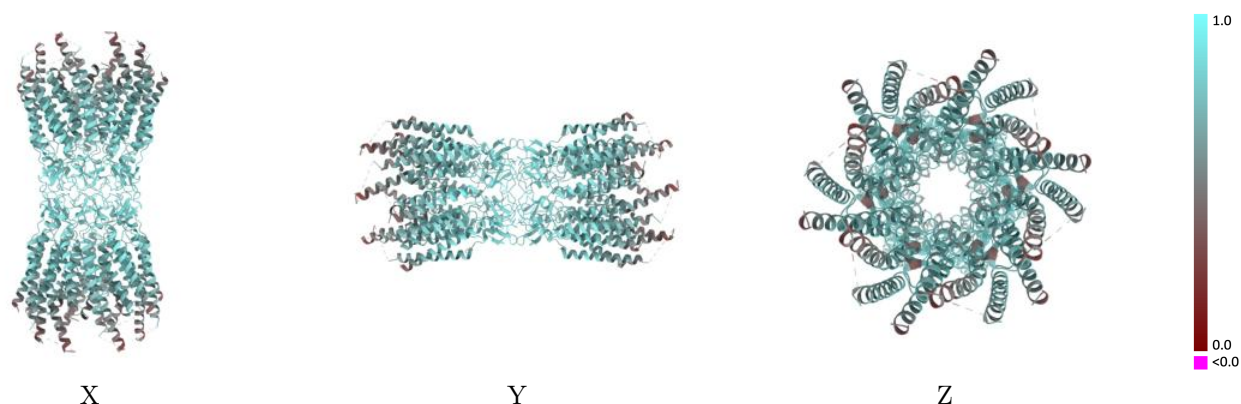
This section contains information regarding the fit between EMDB map EMD-73885 and PDB model 9Z82. Per-residue inclusion information can be found in section 3 on page 21.

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



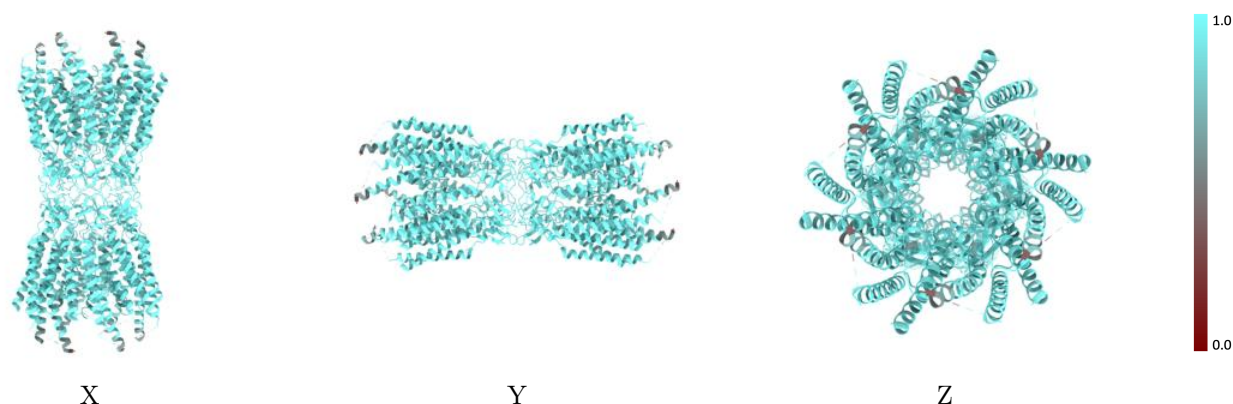
The images above show the 3D surface view of the map at the recommended contour level 0.0673 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



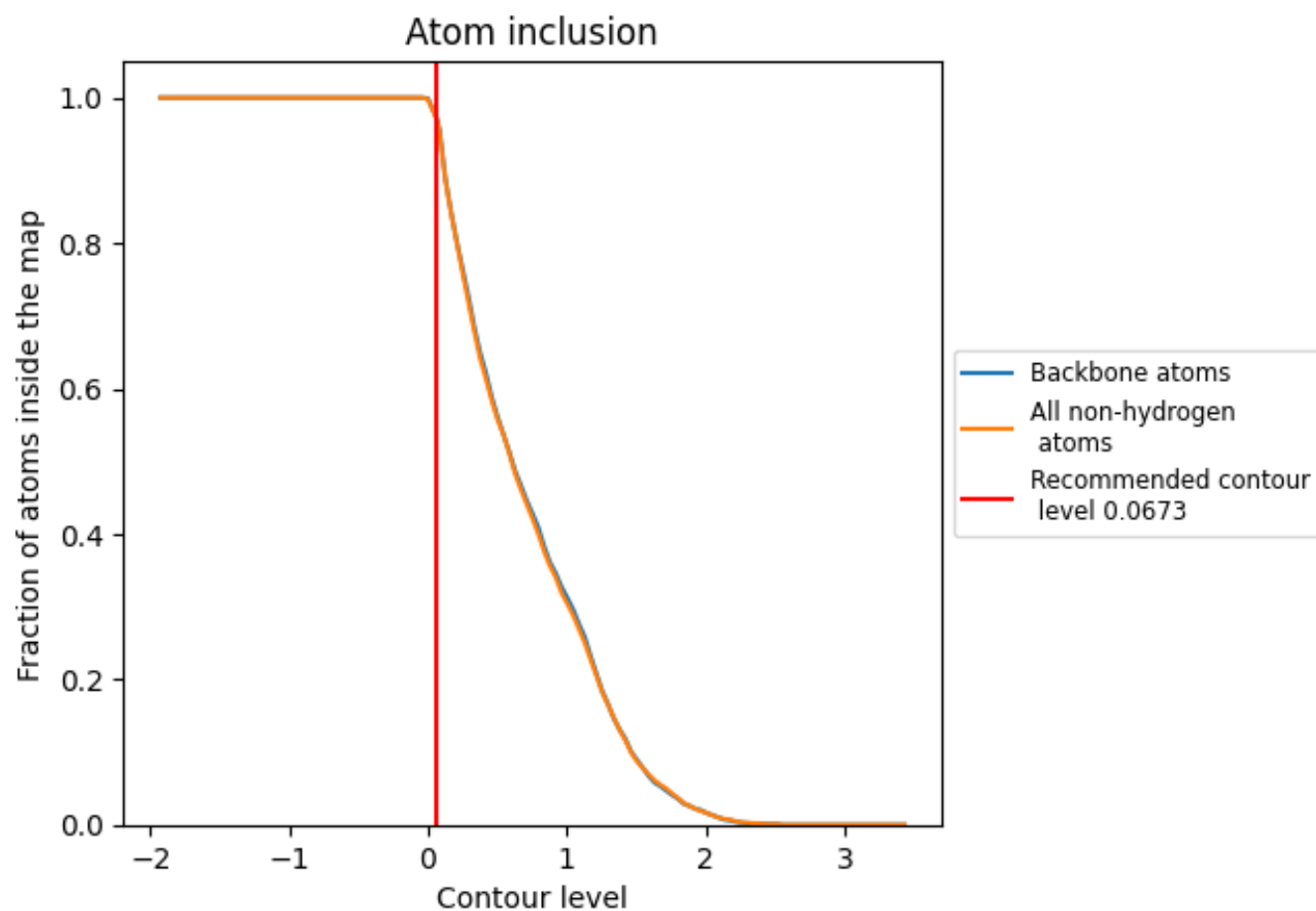
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0673).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 97% of all backbone atoms, 97% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.0673) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion               | Q-score                      |
|-------|------------------------------|------------------------------|
| All   | <div><div></div>0.9690</div> | <div><div></div>0.6860</div> |
| A     | <div><div></div>0.9700</div> | <div><div></div>0.6860</div> |
| B     | <div><div></div>0.9690</div> | <div><div></div>0.6860</div> |
| C     | <div><div></div>0.9690</div> | <div><div></div>0.6850</div> |
| D     | <div><div></div>0.9700</div> | <div><div></div>0.6840</div> |
| E     | <div><div></div>0.9680</div> | <div><div></div>0.6840</div> |
| F     | <div><div></div>0.9690</div> | <div><div></div>0.6860</div> |
| G     | <div><div></div>0.9680</div> | <div><div></div>0.6880</div> |
| H     | <div><div></div>0.9690</div> | <div><div></div>0.6870</div> |
| I     | <div><div></div>0.9680</div> | <div><div></div>0.6870</div> |
| J     | <div><div></div>0.9680</div> | <div><div></div>0.6850</div> |
| K     | <div><div></div>0.9700</div> | <div><div></div>0.6840</div> |
| L     | <div><div></div>0.9680</div> | <div><div></div>0.6840</div> |

1.0

0.0

<0.0