# Full wwPDB EM Validation Report ⓘ

Mar 10, 2026 – 10:40 AM UTC

| | | |
|---|---|---|
| PDB ID | : | 9G3O / pdb_00009g3o |
| EMDB ID | : | EMD-51005 |
| Title | : | Circularly permuted lumazine synthase 24-pentamer spherical cage |
| Authors | : | Koziej, L.; Azuma, Y. |
| Deposited on | : | 2024-07-12 |
| Resolution | : | 2.76 Å(reported) |
| Based on initial model | : | 1HQK |

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

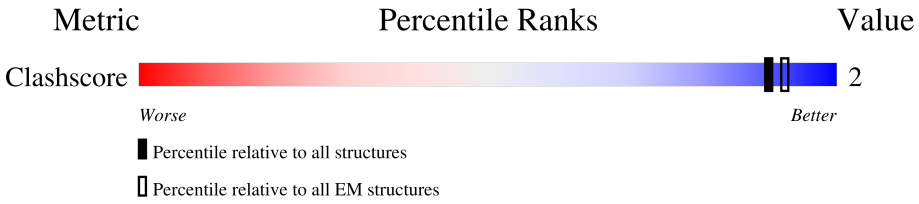
| | | |
|---|---|---|
| EMDB validation analysis | : | 0.0.1.dev132 |
| MolProbity | : | 4-5-2 with Phenix2.0 |
| Percentile statistics | : | 20250101.v01 (using entries in the PDB archive January 1st 2025) |
| EM percentile statistics | : | 202505.v01 (Using data in the EMDB archive up until May 2025) |
| MapQ | : | 1.9.13 |
| Ideal geometry (proteins) | : | Engh & Huber (2001) |
| Ideal geometry (DNA, RNA) | : | Parkinson et al. (1996) |
| Validation Pipeline (wwPDB-VP) | : | 2.49 |

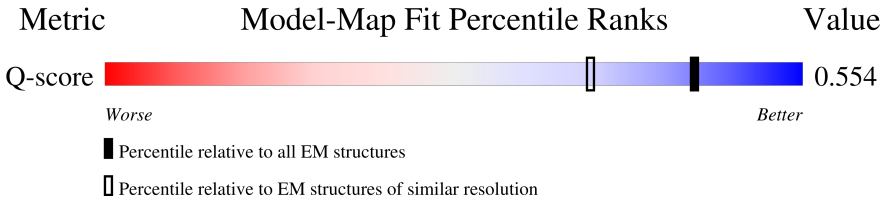
# 1 Overall quality at a glance

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

The reported resolution of this entry is 2.76 Å.

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




| Metric | Whole archive (#Entries) | EM structures (#Entries) | Similar EM resolution (#Entries, resolution range(Å)) |
|---|---|---|---|
| Clashscore | 229148 | 23984 | - |
| Q-score | - | 25397 | 10642 ( 2.26 - 3.26 ) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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 | 163 | 13% 88% • 9% |
| 1 | AA | 163 | 13% 90% • 9% |
| 1 | AB | 163 | 10% 87% • 9% |
| 1 | AC | 163 | 12% 89% • 9% |
| 1 | AD | 163 | 13% 88% • 7% |
| 1 | B | 163 | 10% 88% • 9% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | BA | 163 | 13% 90% 6% |
| 1 | BB | 163 | 17% 85% 5% 10% |
| 1 | BC | 163 | 12% 88% 8% |
| 1 | BD | 163 | 20% 84% 6% 10% |
| 1 | C | 163 | 10% 87% 9% |
| 1 | CA | 163 | 12% 89% 9% |
| 1 | CB | 163 | 15% 88% 7% |
| 1 | CC | 163 | 12% 88% 9% |
| 1 | CD | 163 | 13% 90% 9% |
| 1 | D | 163 | 18% 86% 10% |
| 1 | DA | 163 | 13% 87% 5% 8% |
| 1 | DB | 163 | 20% 83% 7% 10% |
| 1 | DC | 163 | 10% 89% 9% |
| 1 | DD | 163 | 13% 90% 6% |
| 1 | E | 163 | 15% 88% 7% |
| 1 | EA | 163 | 13% 88% 9% |
| 1 | EB | 163 | 14% 90% 9% |
| 1 | EC | 163 | 10% 87% 9% |
| 1 | ED | 163 | 13% 88% 9% |
| 1 | F | 163 | 18% 83% 7% 10% |
| 1 | FA | 163 | 10% 89% 9% |
| 1 | FB | 163 | 12% 91% 6% |
| 1 | FC | 163 | 15% 85% 5% 10% |
| 1 | FD | 163 | 12% 88% 8% |
| 1 | G | 163 | 12% 90% 9% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | GA | 163 | 10% 87% 9% |
| 1 | GB | 163 | 12% 89% 9% |
| 1 | GC | 163 | 15% 88% 7% |
| 1 | GD | 163 | 13% 88% 9% |
| 1 | H | 163 | 12% 91% 6% |
| 1 | HA | 163 | 17% 85% 5% 10% |
| 1 | HB | 163 | 12% 88% 8% |
| 1 | HC | 163 | 24% 84% 6% 10% |
| 1 | HD | 163 | 10% 89% 9% |
| 1 | I | 163 | 12% 89% 9% |
| 1 | IA | 163 | 14% 88% 7% |
| 1 | IB | 163 | 13% 88% 9% |
| 1 | IC | 163 | 15% 90% 9% |
| 1 | ID | 163 | 11% 87% 9% |
| 1 | J | 163 | 11% 88% 8% |
| 1 | JA | 163 | 21% 83% 7% 10% |
| 1 | JB | 163 | 10% 89% 9% |
| 1 | JC | 163 | 13% 90% 6% |
| 1 | JD | 163 | 18% 85% 5% 10% |
| 1 | K | 163 | 15% 88% 9% |
| 1 | KA | 163 | 15% 89% 9% |
| 1 | KB | 163 | 11% 87% 9% |
| 1 | KC | 163 | 13% 89% 9% |
| 1 | KD | 163 | 13% 88% 7% |
| 1 | L | 163 | 11% 90% 9% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | LA | 163 | 12% 90% 6% |
| 1 | LB | 163 | 16% 85% 5% 10% |
| 1 | LC | 163 | 13% 87% 5% 8% |
| 1 | LD | 163 | 21% 83% 7% 10% |
| 1 | M | 163 | 12% 87% 9% |
| 1 | MA | 163 | 13% 89% 9% |
| 1 | MB | 163 | 13% 88% 7% |
| 1 | MC | 163 | 14% 88% 9% |
| 1 | MD | 163 | 13% 89% 9% |
| 1 | N | 163 | 18% 86% 10% |
| 1 | NA | 163 | 13% 89% 8% |
| 1 | NB | 163 | 20% 83% 7% 10% |
| 1 | NC | 163 | 9% 89% 9% |
| 1 | ND | 163 | 13% 90% 6% |
| 1 | O | 163 | 15% 88% 7% |
| 1 | OA | 163 | 13% 88% 9% |
| 1 | OB | 163 | 13% 89% 9% |
| 1 | OC | 163 | 10% 87% 9% |
| 1 | OD | 163 | 12% 89% 9% |
| 1 | P | 163 | 18% 84% 6% 10% |
| 1 | PA | 163 | 10% 89% 9% |
| 1 | PB | 163 | 13% 90% 6% |
| 1 | PC | 163 | 18% 85% 5% 10% |
| 1 | PD | 163 | 12% 88% 8% |
| 1 | Q | 163 | 14% 89% 9% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | QA | 163 | 11% 87% 9% |
| 1 | QB | 163 | 13% 88% 9% |
| 1 | QC | 163 | 16% 88% 7% |
| 1 | R | 163 | 12% 90% 6% |
| 1 | RA | 163 | 18% 85% 5% 10% |
| 1 | RB | 163 | 12% 88% 8% |
| 1 | RC | 163 | 20% 83% 7% 10% |
| 1 | S | 163 | 12% 89% 9% |
| 1 | SA | 163 | 15% 88% 7% |
| 1 | SB | 163 | 13% 88% 9% |
| 1 | SC | 163 | 13% 90% 9% |
| 1 | T | 163 | 12% 89% 8% |
| 1 | TA | 163 | 19% 83% 7% 10% |
| 1 | TB | 163 | 10% 89% 9% |
| 1 | TC | 163 | 13% 91% 6% |
| 1 | U | 163 | 13% 88% 9% |
| 1 | UA | 163 | 14% 89% 9% |
| 1 | UB | 163 | 10% 87% 9% |
| 1 | UC | 163 | 13% 89% 9% |
| 1 | V | 163 | 10% 89% 9% |
| 1 | VA | 163 | 13% 90% 6% |
| 1 | VB | 163 | 19% 85% 5% 10% |
| 1 | VC | 163 | 13% 88% 8% |
| 1 | W | 163 | 10% 87% 9% |
| 1 | WA | 163 | 12% 89% 9% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | WB | 163 | 13% 88% 7% |
| 1 | WC | 163 | 12% 88% 9% |
| 1 | X | 163 | 17% 86% 10% |
| 1 | XA | 163 | 13% 89% 8% |
| 1 | XB | 163 | 18% 83% 7% 10% |
| 1 | XC | 163 | 9% 88% 9% |
| 1 | Y | 163 | 13% 88% 7% |
| 1 | YA | 163 | 13% 88% 9% |
| 1 | YB | 163 | 15% 90% 9% |
| 1 | YC | 163 | 13% 87% 9% |
| 1 | Z | 163 | 17% 83% 7% 10% |
| 1 | ZA | 163 | 9% 89% 9% |
| 1 | ZB | 163 | 12% 90% 6% |
| 1 | ZC | 163 | 17% 86% 10% |

# 2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 133824 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 6,7-dimethyl-8-ribityllumazine synthase.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | A | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | B | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | C | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | D | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | E | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | F | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | G | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | H | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | I | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | J | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | K | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | L | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | M | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | N | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | O | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | P | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | Q | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | R | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | S | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | T | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | U | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | V | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | W | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | X | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | Y | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | Z | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | AA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | BA | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | CA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | DA | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | EA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | FA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | GA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | HA | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | IA | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | JA | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | KA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | LA | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | MA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | NA | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | OA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | PA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | QA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | RA | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | SA | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | TA | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | UA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | VA | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | WA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | XA | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | YA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | ZA | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | AB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | BB | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | CB | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | DB | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | EB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | FB | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | GB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | HB | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | IB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | JB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | KB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | LB | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | MB | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | NB | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | OB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | PB | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | QB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | RB | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | SB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | TB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | UB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | VB | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | WB | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | XB | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | YB | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | ZB | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | AC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | BC | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | CC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | DC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | EC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | FC | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | GC | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | HC | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | IC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | JC | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | KC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | LC | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | MC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | NC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | OC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | PC | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | QC | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | RC | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | SC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | TC | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | UC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | VC | 150 | Total | C | N | O | S | 1 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | WC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | XC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | YC | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | ZC | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | AD | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | BD | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | CD | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | DD | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | ED | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | FD | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |
| 1 | GD | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | HD | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | ID | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | JD | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | KD | 151 | Total | C | N | O | S | 0 | 0 |
| | | | 1134 | 717 | 202 | 212 | 3 | | |
| 1 | LD | 147 | Total | C | N | O | S | 0 | 0 |
| | | | 1104 | 699 | 195 | 207 | 3 | | |
| 1 | MD | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | ND | 153 | Total | C | N | O | S | 0 | 0 |
| | | | 1143 | 722 | 204 | 214 | 3 | | |
| 1 | OD | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1108 | 701 | 196 | 208 | 3 | | |
| 1 | PD | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1127 | 713 | 201 | 210 | 3 | | |

There are 1320 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| A | 1 | MET | - | initiating methionine | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| A | 37 | GLY | - | linker | UNP O66529 |
| A | 38 | THR | - | linker | UNP O66529 |
| A | 39 | GLY | - | linker | UNP O66529 |
| A | 40 | GLY | - | linker | UNP O66529 |
| A | 41 | SER | - | linker | UNP O66529 |
| A | 42 | GLY | - | linker | UNP O66529 |
| A | 43 | SER | - | linker | UNP O66529 |
| A | 44 | SER | - | linker | UNP O66529 |
| A | 45 | MET | - | linker | UNP O66529 |
| A | 46 | GLU | - | linker | UNP O66529 |
| B | 1 | MET | - | initiating methionine | UNP O66529 |
| B | 37 | GLY | - | linker | UNP O66529 |
| B | 38 | THR | - | linker | UNP O66529 |
| B | 39 | GLY | - | linker | UNP O66529 |
| B | 40 | GLY | - | linker | UNP O66529 |
| B | 41 | SER | - | linker | UNP O66529 |
| B | 42 | GLY | - | linker | UNP O66529 |
| B | 43 | SER | - | linker | UNP O66529 |
| B | 44 | SER | - | linker | UNP O66529 |
| B | 45 | MET | - | linker | UNP O66529 |
| B | 46 | GLU | - | linker | UNP O66529 |
| C | 1 | MET | - | initiating methionine | UNP O66529 |
| C | 37 | GLY | - | linker | UNP O66529 |
| C | 38 | THR | - | linker | UNP O66529 |
| C | 39 | GLY | - | linker | UNP O66529 |
| C | 40 | GLY | - | linker | UNP O66529 |
| C | 41 | SER | - | linker | UNP O66529 |
| C | 42 | GLY | - | linker | UNP O66529 |
| C | 43 | SER | - | linker | UNP O66529 |
| C | 44 | SER | - | linker | UNP O66529 |
| C | 45 | MET | - | linker | UNP O66529 |
| C | 46 | GLU | - | linker | UNP O66529 |
| D | 1 | MET | - | initiating methionine | UNP O66529 |
| D | 37 | GLY | - | linker | UNP O66529 |
| D | 38 | THR | - | linker | UNP O66529 |
| D | 39 | GLY | - | linker | UNP O66529 |
| D | 40 | GLY | - | linker | UNP O66529 |
| D | 41 | SER | - | linker | UNP O66529 |
| D | 42 | GLY | - | linker | UNP O66529 |
| D | 43 | SER | - | linker | UNP O66529 |
| D | 44 | SER | - | linker | UNP O66529 |
| D | 45 | MET | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| D | 46 | GLU | - | linker | UNP O66529 |
| E | 1 | MET | - | initiating methionine | UNP O66529 |
| E | 37 | GLY | - | linker | UNP O66529 |
| E | 38 | THR | - | linker | UNP O66529 |
| E | 39 | GLY | - | linker | UNP O66529 |
| E | 40 | GLY | - | linker | UNP O66529 |
| E | 41 | SER | - | linker | UNP O66529 |
| E | 42 | GLY | - | linker | UNP O66529 |
| E | 43 | SER | - | linker | UNP O66529 |
| E | 44 | SER | - | linker | UNP O66529 |
| E | 45 | MET | - | linker | UNP O66529 |
| E | 46 | GLU | - | linker | UNP O66529 |
| F | 1 | MET | - | initiating methionine | UNP O66529 |
| F | 37 | GLY | - | linker | UNP O66529 |
| F | 38 | THR | - | linker | UNP O66529 |
| F | 39 | GLY | - | linker | UNP O66529 |
| F | 40 | GLY | - | linker | UNP O66529 |
| F | 41 | SER | - | linker | UNP O66529 |
| F | 42 | GLY | - | linker | UNP O66529 |
| F | 43 | SER | - | linker | UNP O66529 |
| F | 44 | SER | - | linker | UNP O66529 |
| F | 45 | MET | - | linker | UNP O66529 |
| F | 46 | GLU | - | linker | UNP O66529 |
| G | 1 | MET | - | initiating methionine | UNP O66529 |
| G | 37 | GLY | - | linker | UNP O66529 |
| G | 38 | THR | - | linker | UNP O66529 |
| G | 39 | GLY | - | linker | UNP O66529 |
| G | 40 | GLY | - | linker | UNP O66529 |
| G | 41 | SER | - | linker | UNP O66529 |
| G | 42 | GLY | - | linker | UNP O66529 |
| G | 43 | SER | - | linker | UNP O66529 |
| G | 44 | SER | - | linker | UNP O66529 |
| G | 45 | MET | - | linker | UNP O66529 |
| G | 46 | GLU | - | linker | UNP O66529 |
| H | 1 | MET | - | initiating methionine | UNP O66529 |
| H | 37 | GLY | - | linker | UNP O66529 |
| H | 38 | THR | - | linker | UNP O66529 |
| H | 39 | GLY | - | linker | UNP O66529 |
| H | 40 | GLY | - | linker | UNP O66529 |
| H | 41 | SER | - | linker | UNP O66529 |
| H | 42 | GLY | - | linker | UNP O66529 |
| H | 43 | SER | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| H | 44 | SER | - | linker | UNP O66529 |
| H | 45 | MET | - | linker | UNP O66529 |
| H | 46 | GLU | - | linker | UNP O66529 |
| I | 1 | MET | - | initiating methionine | UNP O66529 |
| I | 37 | GLY | - | linker | UNP O66529 |
| I | 38 | THR | - | linker | UNP O66529 |
| I | 39 | GLY | - | linker | UNP O66529 |
| I | 40 | GLY | - | linker | UNP O66529 |
| I | 41 | SER | - | linker | UNP O66529 |
| I | 42 | GLY | - | linker | UNP O66529 |
| I | 43 | SER | - | linker | UNP O66529 |
| I | 44 | SER | - | linker | UNP O66529 |
| I | 45 | MET | - | linker | UNP O66529 |
| I | 46 | GLU | - | linker | UNP O66529 |
| J | 1 | MET | - | initiating methionine | UNP O66529 |
| J | 37 | GLY | - | linker | UNP O66529 |
| J | 38 | THR | - | linker | UNP O66529 |
| J | 39 | GLY | - | linker | UNP O66529 |
| J | 40 | GLY | - | linker | UNP O66529 |
| J | 41 | SER | - | linker | UNP O66529 |
| J | 42 | GLY | - | linker | UNP O66529 |
| J | 43 | SER | - | linker | UNP O66529 |
| J | 44 | SER | - | linker | UNP O66529 |
| J | 45 | MET | - | linker | UNP O66529 |
| J | 46 | GLU | - | linker | UNP O66529 |
| K | 1 | MET | - | initiating methionine | UNP O66529 |
| K | 37 | GLY | - | linker | UNP O66529 |
| K | 38 | THR | - | linker | UNP O66529 |
| K | 39 | GLY | - | linker | UNP O66529 |
| K | 40 | GLY | - | linker | UNP O66529 |
| K | 41 | SER | - | linker | UNP O66529 |
| K | 42 | GLY | - | linker | UNP O66529 |
| K | 43 | SER | - | linker | UNP O66529 |
| K | 44 | SER | - | linker | UNP O66529 |
| K | 45 | MET | - | linker | UNP O66529 |
| K | 46 | GLU | - | linker | UNP O66529 |
| L | 1 | MET | - | initiating methionine | UNP O66529 |
| L | 37 | GLY | - | linker | UNP O66529 |
| L | 38 | THR | - | linker | UNP O66529 |
| L | 39 | GLY | - | linker | UNP O66529 |
| L | 40 | GLY | - | linker | UNP O66529 |
| L | 41 | SER | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| L | 42 | GLY | - | linker | UNP O66529 |
| L | 43 | SER | - | linker | UNP O66529 |
| L | 44 | SER | - | linker | UNP O66529 |
| L | 45 | MET | - | linker | UNP O66529 |
| L | 46 | GLU | - | linker | UNP O66529 |
| M | 1 | MET | - | initiating methionine | UNP O66529 |
| M | 37 | GLY | - | linker | UNP O66529 |
| M | 38 | THR | - | linker | UNP O66529 |
| M | 39 | GLY | - | linker | UNP O66529 |
| M | 40 | GLY | - | linker | UNP O66529 |
| M | 41 | SER | - | linker | UNP O66529 |
| M | 42 | GLY | - | linker | UNP O66529 |
| M | 43 | SER | - | linker | UNP O66529 |
| M | 44 | SER | - | linker | UNP O66529 |
| M | 45 | MET | - | linker | UNP O66529 |
| M | 46 | GLU | - | linker | UNP O66529 |
| N | 1 | MET | - | initiating methionine | UNP O66529 |
| N | 37 | GLY | - | linker | UNP O66529 |
| N | 38 | THR | - | linker | UNP O66529 |
| N | 39 | GLY | - | linker | UNP O66529 |
| N | 40 | GLY | - | linker | UNP O66529 |
| N | 41 | SER | - | linker | UNP O66529 |
| N | 42 | GLY | - | linker | UNP O66529 |
| N | 43 | SER | - | linker | UNP O66529 |
| N | 44 | SER | - | linker | UNP O66529 |
| N | 45 | MET | - | linker | UNP O66529 |
| N | 46 | GLU | - | linker | UNP O66529 |
| O | 1 | MET | - | initiating methionine | UNP O66529 |
| O | 37 | GLY | - | linker | UNP O66529 |
| O | 38 | THR | - | linker | UNP O66529 |
| O | 39 | GLY | - | linker | UNP O66529 |
| O | 40 | GLY | - | linker | UNP O66529 |
| O | 41 | SER | - | linker | UNP O66529 |
| O | 42 | GLY | - | linker | UNP O66529 |
| O | 43 | SER | - | linker | UNP O66529 |
| O | 44 | SER | - | linker | UNP O66529 |
| O | 45 | MET | - | linker | UNP O66529 |
| O | 46 | GLU | - | linker | UNP O66529 |
| P | 1 | MET | - | initiating methionine | UNP O66529 |
| P | 37 | GLY | - | linker | UNP O66529 |
| P | 38 | THR | - | linker | UNP O66529 |
| P | 39 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| P | 40 | GLY | - | linker | UNP O66529 |
| P | 41 | SER | - | linker | UNP O66529 |
| P | 42 | GLY | - | linker | UNP O66529 |
| P | 43 | SER | - | linker | UNP O66529 |
| P | 44 | SER | - | linker | UNP O66529 |
| P | 45 | MET | - | linker | UNP O66529 |
| P | 46 | GLU | - | linker | UNP O66529 |
| Q | 1 | MET | - | initiating methionine | UNP O66529 |
| Q | 37 | GLY | - | linker | UNP O66529 |
| Q | 38 | THR | - | linker | UNP O66529 |
| Q | 39 | GLY | - | linker | UNP O66529 |
| Q | 40 | GLY | - | linker | UNP O66529 |
| Q | 41 | SER | - | linker | UNP O66529 |
| Q | 42 | GLY | - | linker | UNP O66529 |
| Q | 43 | SER | - | linker | UNP O66529 |
| Q | 44 | SER | - | linker | UNP O66529 |
| Q | 45 | MET | - | linker | UNP O66529 |
| Q | 46 | GLU | - | linker | UNP O66529 |
| R | 1 | MET | - | initiating methionine | UNP O66529 |
| R | 37 | GLY | - | linker | UNP O66529 |
| R | 38 | THR | - | linker | UNP O66529 |
| R | 39 | GLY | - | linker | UNP O66529 |
| R | 40 | GLY | - | linker | UNP O66529 |
| R | 41 | SER | - | linker | UNP O66529 |
| R | 42 | GLY | - | linker | UNP O66529 |
| R | 43 | SER | - | linker | UNP O66529 |
| R | 44 | SER | - | linker | UNP O66529 |
| R | 45 | MET | - | linker | UNP O66529 |
| R | 46 | GLU | - | linker | UNP O66529 |
| S | 1 | MET | - | initiating methionine | UNP O66529 |
| S | 37 | GLY | - | linker | UNP O66529 |
| S | 38 | THR | - | linker | UNP O66529 |
| S | 39 | GLY | - | linker | UNP O66529 |
| S | 40 | GLY | - | linker | UNP O66529 |
| S | 41 | SER | - | linker | UNP O66529 |
| S | 42 | GLY | - | linker | UNP O66529 |
| S | 43 | SER | - | linker | UNP O66529 |
| S | 44 | SER | - | linker | UNP O66529 |
| S | 45 | MET | - | linker | UNP O66529 |
| S | 46 | GLU | - | linker | UNP O66529 |
| T | 1 | MET | - | initiating methionine | UNP O66529 |
| T | 37 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| T | 38 | THR | - | linker | UNP O66529 |
| T | 39 | GLY | - | linker | UNP O66529 |
| T | 40 | GLY | - | linker | UNP O66529 |
| T | 41 | SER | - | linker | UNP O66529 |
| T | 42 | GLY | - | linker | UNP O66529 |
| T | 43 | SER | - | linker | UNP O66529 |
| T | 44 | SER | - | linker | UNP O66529 |
| T | 45 | MET | - | linker | UNP O66529 |
| T | 46 | GLU | - | linker | UNP O66529 |
| U | 1 | MET | - | initiating methionine | UNP O66529 |
| U | 37 | GLY | - | linker | UNP O66529 |
| U | 38 | THR | - | linker | UNP O66529 |
| U | 39 | GLY | - | linker | UNP O66529 |
| U | 40 | GLY | - | linker | UNP O66529 |
| U | 41 | SER | - | linker | UNP O66529 |
| U | 42 | GLY | - | linker | UNP O66529 |
| U | 43 | SER | - | linker | UNP O66529 |
| U | 44 | SER | - | linker | UNP O66529 |
| U | 45 | MET | - | linker | UNP O66529 |
| U | 46 | GLU | - | linker | UNP O66529 |
| V | 1 | MET | - | initiating methionine | UNP O66529 |
| V | 37 | GLY | - | linker | UNP O66529 |
| V | 38 | THR | - | linker | UNP O66529 |
| V | 39 | GLY | - | linker | UNP O66529 |
| V | 40 | GLY | - | linker | UNP O66529 |
| V | 41 | SER | - | linker | UNP O66529 |
| V | 42 | GLY | - | linker | UNP O66529 |
| V | 43 | SER | - | linker | UNP O66529 |
| V | 44 | SER | - | linker | UNP O66529 |
| V | 45 | MET | - | linker | UNP O66529 |
| V | 46 | GLU | - | linker | UNP O66529 |
| W | 1 | MET | - | initiating methionine | UNP O66529 |
| W | 37 | GLY | - | linker | UNP O66529 |
| W | 38 | THR | - | linker | UNP O66529 |
| W | 39 | GLY | - | linker | UNP O66529 |
| W | 40 | GLY | - | linker | UNP O66529 |
| W | 41 | SER | - | linker | UNP O66529 |
| W | 42 | GLY | - | linker | UNP O66529 |
| W | 43 | SER | - | linker | UNP O66529 |
| W | 44 | SER | - | linker | UNP O66529 |
| W | 45 | MET | - | linker | UNP O66529 |
| W | 46 | GLU | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| X | 1 | MET | - | initiating methionine | UNP O66529 |
| X | 37 | GLY | - | linker | UNP O66529 |
| X | 38 | THR | - | linker | UNP O66529 |
| X | 39 | GLY | - | linker | UNP O66529 |
| X | 40 | GLY | - | linker | UNP O66529 |
| X | 41 | SER | - | linker | UNP O66529 |
| X | 42 | GLY | - | linker | UNP O66529 |
| X | 43 | SER | - | linker | UNP O66529 |
| X | 44 | SER | - | linker | UNP O66529 |
| X | 45 | MET | - | linker | UNP O66529 |
| X | 46 | GLU | - | linker | UNP O66529 |
| Y | 1 | MET | - | initiating methionine | UNP O66529 |
| Y | 37 | GLY | - | linker | UNP O66529 |
| Y | 38 | THR | - | linker | UNP O66529 |
| Y | 39 | GLY | - | linker | UNP O66529 |
| Y | 40 | GLY | - | linker | UNP O66529 |
| Y | 41 | SER | - | linker | UNP O66529 |
| Y | 42 | GLY | - | linker | UNP O66529 |
| Y | 43 | SER | - | linker | UNP O66529 |
| Y | 44 | SER | - | linker | UNP O66529 |
| Y | 45 | MET | - | linker | UNP O66529 |
| Y | 46 | GLU | - | linker | UNP O66529 |
| Z | 1 | MET | - | initiating methionine | UNP O66529 |
| Z | 37 | GLY | - | linker | UNP O66529 |
| Z | 38 | THR | - | linker | UNP O66529 |
| Z | 39 | GLY | - | linker | UNP O66529 |
| Z | 40 | GLY | - | linker | UNP O66529 |
| Z | 41 | SER | - | linker | UNP O66529 |
| Z | 42 | GLY | - | linker | UNP O66529 |
| Z | 43 | SER | - | linker | UNP O66529 |
| Z | 44 | SER | - | linker | UNP O66529 |
| Z | 45 | MET | - | linker | UNP O66529 |
| Z | 46 | GLU | - | linker | UNP O66529 |
| AA | 1 | MET | - | initiating methionine | UNP O66529 |
| AA | 37 | GLY | - | linker | UNP O66529 |
| AA | 38 | THR | - | linker | UNP O66529 |
| AA | 39 | GLY | - | linker | UNP O66529 |
| AA | 40 | GLY | - | linker | UNP O66529 |
| AA | 41 | SER | - | linker | UNP O66529 |
| AA | 42 | GLY | - | linker | UNP O66529 |
| AA | 43 | SER | - | linker | UNP O66529 |
| AA | 44 | SER | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| AA | 45 | MET | - | linker | UNP O66529 |
| AA | 46 | GLU | - | linker | UNP O66529 |
| BA | 1 | MET | - | initiating methionine | UNP O66529 |
| BA | 37 | GLY | - | linker | UNP O66529 |
| BA | 38 | THR | - | linker | UNP O66529 |
| BA | 39 | GLY | - | linker | UNP O66529 |
| BA | 40 | GLY | - | linker | UNP O66529 |
| BA | 41 | SER | - | linker | UNP O66529 |
| BA | 42 | GLY | - | linker | UNP O66529 |
| BA | 43 | SER | - | linker | UNP O66529 |
| BA | 44 | SER | - | linker | UNP O66529 |
| BA | 45 | MET | - | linker | UNP O66529 |
| BA | 46 | GLU | - | linker | UNP O66529 |
| CA | 1 | MET | - | initiating methionine | UNP O66529 |
| CA | 37 | GLY | - | linker | UNP O66529 |
| CA | 38 | THR | - | linker | UNP O66529 |
| CA | 39 | GLY | - | linker | UNP O66529 |
| CA | 40 | GLY | - | linker | UNP O66529 |
| CA | 41 | SER | - | linker | UNP O66529 |
| CA | 42 | GLY | - | linker | UNP O66529 |
| CA | 43 | SER | - | linker | UNP O66529 |
| CA | 44 | SER | - | linker | UNP O66529 |
| CA | 45 | MET | - | linker | UNP O66529 |
| CA | 46 | GLU | - | linker | UNP O66529 |
| DA | 1 | MET | - | initiating methionine | UNP O66529 |
| DA | 37 | GLY | - | linker | UNP O66529 |
| DA | 38 | THR | - | linker | UNP O66529 |
| DA | 39 | GLY | - | linker | UNP O66529 |
| DA | 40 | GLY | - | linker | UNP O66529 |
| DA | 41 | SER | - | linker | UNP O66529 |
| DA | 42 | GLY | - | linker | UNP O66529 |
| DA | 43 | SER | - | linker | UNP O66529 |
| DA | 44 | SER | - | linker | UNP O66529 |
| DA | 45 | MET | - | linker | UNP O66529 |
| DA | 46 | GLU | - | linker | UNP O66529 |
| EA | 1 | MET | - | initiating methionine | UNP O66529 |
| EA | 37 | GLY | - | linker | UNP O66529 |
| EA | 38 | THR | - | linker | UNP O66529 |
| EA | 39 | GLY | - | linker | UNP O66529 |
| EA | 40 | GLY | - | linker | UNP O66529 |
| EA | 41 | SER | - | linker | UNP O66529 |
| EA | 42 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| EA | 43 | SER | - | linker | UNP O66529 |
| EA | 44 | SER | - | linker | UNP O66529 |
| EA | 45 | MET | - | linker | UNP O66529 |
| EA | 46 | GLU | - | linker | UNP O66529 |
| FA | 1 | MET | - | initiating methionine | UNP O66529 |
| FA | 37 | GLY | - | linker | UNP O66529 |
| FA | 38 | THR | - | linker | UNP O66529 |
| FA | 39 | GLY | - | linker | UNP O66529 |
| FA | 40 | GLY | - | linker | UNP O66529 |
| FA | 41 | SER | - | linker | UNP O66529 |
| FA | 42 | GLY | - | linker | UNP O66529 |
| FA | 43 | SER | - | linker | UNP O66529 |
| FA | 44 | SER | - | linker | UNP O66529 |
| FA | 45 | MET | - | linker | UNP O66529 |
| FA | 46 | GLU | - | linker | UNP O66529 |
| GA | 1 | MET | - | initiating methionine | UNP O66529 |
| GA | 37 | GLY | - | linker | UNP O66529 |
| GA | 38 | THR | - | linker | UNP O66529 |
| GA | 39 | GLY | - | linker | UNP O66529 |
| GA | 40 | GLY | - | linker | UNP O66529 |
| GA | 41 | SER | - | linker | UNP O66529 |
| GA | 42 | GLY | - | linker | UNP O66529 |
| GA | 43 | SER | - | linker | UNP O66529 |
| GA | 44 | SER | - | linker | UNP O66529 |
| GA | 45 | MET | - | linker | UNP O66529 |
| GA | 46 | GLU | - | linker | UNP O66529 |
| HA | 1 | MET | - | initiating methionine | UNP O66529 |
| HA | 37 | GLY | - | linker | UNP O66529 |
| HA | 38 | THR | - | linker | UNP O66529 |
| HA | 39 | GLY | - | linker | UNP O66529 |
| HA | 40 | GLY | - | linker | UNP O66529 |
| HA | 41 | SER | - | linker | UNP O66529 |
| HA | 42 | GLY | - | linker | UNP O66529 |
| HA | 43 | SER | - | linker | UNP O66529 |
| HA | 44 | SER | - | linker | UNP O66529 |
| HA | 45 | MET | - | linker | UNP O66529 |
| HA | 46 | GLU | - | linker | UNP O66529 |
| IA | 1 | MET | - | initiating methionine | UNP O66529 |
| IA | 37 | GLY | - | linker | UNP O66529 |
| IA | 38 | THR | - | linker | UNP O66529 |
| IA | 39 | GLY | - | linker | UNP O66529 |
| IA | 40 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| IA | 41 | SER | - | linker | UNP O66529 |
| IA | 42 | GLY | - | linker | UNP O66529 |
| IA | 43 | SER | - | linker | UNP O66529 |
| IA | 44 | SER | - | linker | UNP O66529 |
| IA | 45 | MET | - | linker | UNP O66529 |
| IA | 46 | GLU | - | linker | UNP O66529 |
| JA | 1 | MET | - | initiating methionine | UNP O66529 |
| JA | 37 | GLY | - | linker | UNP O66529 |
| JA | 38 | THR | - | linker | UNP O66529 |
| JA | 39 | GLY | - | linker | UNP O66529 |
| JA | 40 | GLY | - | linker | UNP O66529 |
| JA | 41 | SER | - | linker | UNP O66529 |
| JA | 42 | GLY | - | linker | UNP O66529 |
| JA | 43 | SER | - | linker | UNP O66529 |
| JA | 44 | SER | - | linker | UNP O66529 |
| JA | 45 | MET | - | linker | UNP O66529 |
| JA | 46 | GLU | - | linker | UNP O66529 |
| KA | 1 | MET | - | initiating methionine | UNP O66529 |
| KA | 37 | GLY | - | linker | UNP O66529 |
| KA | 38 | THR | - | linker | UNP O66529 |
| KA | 39 | GLY | - | linker | UNP O66529 |
| KA | 40 | GLY | - | linker | UNP O66529 |
| KA | 41 | SER | - | linker | UNP O66529 |
| KA | 42 | GLY | - | linker | UNP O66529 |
| KA | 43 | SER | - | linker | UNP O66529 |
| KA | 44 | SER | - | linker | UNP O66529 |
| KA | 45 | MET | - | linker | UNP O66529 |
| KA | 46 | GLU | - | linker | UNP O66529 |
| LA | 1 | MET | - | initiating methionine | UNP O66529 |
| LA | 37 | GLY | - | linker | UNP O66529 |
| LA | 38 | THR | - | linker | UNP O66529 |
| LA | 39 | GLY | - | linker | UNP O66529 |
| LA | 40 | GLY | - | linker | UNP O66529 |
| LA | 41 | SER | - | linker | UNP O66529 |
| LA | 42 | GLY | - | linker | UNP O66529 |
| LA | 43 | SER | - | linker | UNP O66529 |
| LA | 44 | SER | - | linker | UNP O66529 |
| LA | 45 | MET | - | linker | UNP O66529 |
| LA | 46 | GLU | - | linker | UNP O66529 |
| MA | 1 | MET | - | initiating methionine | UNP O66529 |
| MA | 37 | GLY | - | linker | UNP O66529 |
| MA | 38 | THR | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| MA | 39 | GLY | - | linker | UNP O66529 |
| MA | 40 | GLY | - | linker | UNP O66529 |
| MA | 41 | SER | - | linker | UNP O66529 |
| MA | 42 | GLY | - | linker | UNP O66529 |
| MA | 43 | SER | - | linker | UNP O66529 |
| MA | 44 | SER | - | linker | UNP O66529 |
| MA | 45 | MET | - | linker | UNP O66529 |
| MA | 46 | GLU | - | linker | UNP O66529 |
| NA | 1 | MET | - | initiating methionine | UNP O66529 |
| NA | 37 | GLY | - | linker | UNP O66529 |
| NA | 38 | THR | - | linker | UNP O66529 |
| NA | 39 | GLY | - | linker | UNP O66529 |
| NA | 40 | GLY | - | linker | UNP O66529 |
| NA | 41 | SER | - | linker | UNP O66529 |
| NA | 42 | GLY | - | linker | UNP O66529 |
| NA | 43 | SER | - | linker | UNP O66529 |
| NA | 44 | SER | - | linker | UNP O66529 |
| NA | 45 | MET | - | linker | UNP O66529 |
| NA | 46 | GLU | - | linker | UNP O66529 |
| OA | 1 | MET | - | initiating methionine | UNP O66529 |
| OA | 37 | GLY | - | linker | UNP O66529 |
| OA | 38 | THR | - | linker | UNP O66529 |
| OA | 39 | GLY | - | linker | UNP O66529 |
| OA | 40 | GLY | - | linker | UNP O66529 |
| OA | 41 | SER | - | linker | UNP O66529 |
| OA | 42 | GLY | - | linker | UNP O66529 |
| OA | 43 | SER | - | linker | UNP O66529 |
| OA | 44 | SER | - | linker | UNP O66529 |
| OA | 45 | MET | - | linker | UNP O66529 |
| OA | 46 | GLU | - | linker | UNP O66529 |
| PA | 1 | MET | - | initiating methionine | UNP O66529 |
| PA | 37 | GLY | - | linker | UNP O66529 |
| PA | 38 | THR | - | linker | UNP O66529 |
| PA | 39 | GLY | - | linker | UNP O66529 |
| PA | 40 | GLY | - | linker | UNP O66529 |
| PA | 41 | SER | - | linker | UNP O66529 |
| PA | 42 | GLY | - | linker | UNP O66529 |
| PA | 43 | SER | - | linker | UNP O66529 |
| PA | 44 | SER | - | linker | UNP O66529 |
| PA | 45 | MET | - | linker | UNP O66529 |
| PA | 46 | GLU | - | linker | UNP O66529 |
| QA | 1 | MET | - | initiating methionine | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| QA | 37 | GLY | - | linker | UNP O66529 |
| QA | 38 | THR | - | linker | UNP O66529 |
| QA | 39 | GLY | - | linker | UNP O66529 |
| QA | 40 | GLY | - | linker | UNP O66529 |
| QA | 41 | SER | - | linker | UNP O66529 |
| QA | 42 | GLY | - | linker | UNP O66529 |
| QA | 43 | SER | - | linker | UNP O66529 |
| QA | 44 | SER | - | linker | UNP O66529 |
| QA | 45 | MET | - | linker | UNP O66529 |
| QA | 46 | GLU | - | linker | UNP O66529 |
| RA | 1 | MET | - | initiating methionine | UNP O66529 |
| RA | 37 | GLY | - | linker | UNP O66529 |
| RA | 38 | THR | - | linker | UNP O66529 |
| RA | 39 | GLY | - | linker | UNP O66529 |
| RA | 40 | GLY | - | linker | UNP O66529 |
| RA | 41 | SER | - | linker | UNP O66529 |
| RA | 42 | GLY | - | linker | UNP O66529 |
| RA | 43 | SER | - | linker | UNP O66529 |
| RA | 44 | SER | - | linker | UNP O66529 |
| RA | 45 | MET | - | linker | UNP O66529 |
| RA | 46 | GLU | - | linker | UNP O66529 |
| SA | 1 | MET | - | initiating methionine | UNP O66529 |
| SA | 37 | GLY | - | linker | UNP O66529 |
| SA | 38 | THR | - | linker | UNP O66529 |
| SA | 39 | GLY | - | linker | UNP O66529 |
| SA | 40 | GLY | - | linker | UNP O66529 |
| SA | 41 | SER | - | linker | UNP O66529 |
| SA | 42 | GLY | - | linker | UNP O66529 |
| SA | 43 | SER | - | linker | UNP O66529 |
| SA | 44 | SER | - | linker | UNP O66529 |
| SA | 45 | MET | - | linker | UNP O66529 |
| SA | 46 | GLU | - | linker | UNP O66529 |
| TA | 1 | MET | - | initiating methionine | UNP O66529 |
| TA | 37 | GLY | - | linker | UNP O66529 |
| TA | 38 | THR | - | linker | UNP O66529 |
| TA | 39 | GLY | - | linker | UNP O66529 |
| TA | 40 | GLY | - | linker | UNP O66529 |
| TA | 41 | SER | - | linker | UNP O66529 |
| TA | 42 | GLY | - | linker | UNP O66529 |
| TA | 43 | SER | - | linker | UNP O66529 |
| TA | 44 | SER | - | linker | UNP O66529 |
| TA | 45 | MET | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| TA | 46 | GLU | - | linker | UNP O66529 |
| UA | 1 | MET | - | initiating methionine | UNP O66529 |
| UA | 37 | GLY | - | linker | UNP O66529 |
| UA | 38 | THR | - | linker | UNP O66529 |
| UA | 39 | GLY | - | linker | UNP O66529 |
| UA | 40 | GLY | - | linker | UNP O66529 |
| UA | 41 | SER | - | linker | UNP O66529 |
| UA | 42 | GLY | - | linker | UNP O66529 |
| UA | 43 | SER | - | linker | UNP O66529 |
| UA | 44 | SER | - | linker | UNP O66529 |
| UA | 45 | MET | - | linker | UNP O66529 |
| UA | 46 | GLU | - | linker | UNP O66529 |
| VA | 1 | MET | - | initiating methionine | UNP O66529 |
| VA | 37 | GLY | - | linker | UNP O66529 |
| VA | 38 | THR | - | linker | UNP O66529 |
| VA | 39 | GLY | - | linker | UNP O66529 |
| VA | 40 | GLY | - | linker | UNP O66529 |
| VA | 41 | SER | - | linker | UNP O66529 |
| VA | 42 | GLY | - | linker | UNP O66529 |
| VA | 43 | SER | - | linker | UNP O66529 |
| VA | 44 | SER | - | linker | UNP O66529 |
| VA | 45 | MET | - | linker | UNP O66529 |
| VA | 46 | GLU | - | linker | UNP O66529 |
| WA | 1 | MET | - | initiating methionine | UNP O66529 |
| WA | 37 | GLY | - | linker | UNP O66529 |
| WA | 38 | THR | - | linker | UNP O66529 |
| WA | 39 | GLY | - | linker | UNP O66529 |
| WA | 40 | GLY | - | linker | UNP O66529 |
| WA | 41 | SER | - | linker | UNP O66529 |
| WA | 42 | GLY | - | linker | UNP O66529 |
| WA | 43 | SER | - | linker | UNP O66529 |
| WA | 44 | SER | - | linker | UNP O66529 |
| WA | 45 | MET | - | linker | UNP O66529 |
| WA | 46 | GLU | - | linker | UNP O66529 |
| XA | 1 | MET | - | initiating methionine | UNP O66529 |
| XA | 37 | GLY | - | linker | UNP O66529 |
| XA | 38 | THR | - | linker | UNP O66529 |
| XA | 39 | GLY | - | linker | UNP O66529 |
| XA | 40 | GLY | - | linker | UNP O66529 |
| XA | 41 | SER | - | linker | UNP O66529 |
| XA | 42 | GLY | - | linker | UNP O66529 |
| XA | 43 | SER | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| XA | 44 | SER | - | linker | UNP O66529 |
| XA | 45 | MET | - | linker | UNP O66529 |
| XA | 46 | GLU | - | linker | UNP O66529 |
| YA | 1 | MET | - | initiating methionine | UNP O66529 |
| YA | 37 | GLY | - | linker | UNP O66529 |
| YA | 38 | THR | - | linker | UNP O66529 |
| YA | 39 | GLY | - | linker | UNP O66529 |
| YA | 40 | GLY | - | linker | UNP O66529 |
| YA | 41 | SER | - | linker | UNP O66529 |
| YA | 42 | GLY | - | linker | UNP O66529 |
| YA | 43 | SER | - | linker | UNP O66529 |
| YA | 44 | SER | - | linker | UNP O66529 |
| YA | 45 | MET | - | linker | UNP O66529 |
| YA | 46 | GLU | - | linker | UNP O66529 |
| ZA | 1 | MET | - | initiating methionine | UNP O66529 |
| ZA | 37 | GLY | - | linker | UNP O66529 |
| ZA | 38 | THR | - | linker | UNP O66529 |
| ZA | 39 | GLY | - | linker | UNP O66529 |
| ZA | 40 | GLY | - | linker | UNP O66529 |
| ZA | 41 | SER | - | linker | UNP O66529 |
| ZA | 42 | GLY | - | linker | UNP O66529 |
| ZA | 43 | SER | - | linker | UNP O66529 |
| ZA | 44 | SER | - | linker | UNP O66529 |
| ZA | 45 | MET | - | linker | UNP O66529 |
| ZA | 46 | GLU | - | linker | UNP O66529 |
| AB | 1 | MET | - | initiating methionine | UNP O66529 |
| AB | 37 | GLY | - | linker | UNP O66529 |
| AB | 38 | THR | - | linker | UNP O66529 |
| AB | 39 | GLY | - | linker | UNP O66529 |
| AB | 40 | GLY | - | linker | UNP O66529 |
| AB | 41 | SER | - | linker | UNP O66529 |
| AB | 42 | GLY | - | linker | UNP O66529 |
| AB | 43 | SER | - | linker | UNP O66529 |
| AB | 44 | SER | - | linker | UNP O66529 |
| AB | 45 | MET | - | linker | UNP O66529 |
| AB | 46 | GLU | - | linker | UNP O66529 |
| BB | 1 | MET | - | initiating methionine | UNP O66529 |
| BB | 37 | GLY | - | linker | UNP O66529 |
| BB | 38 | THR | - | linker | UNP O66529 |
| BB | 39 | GLY | - | linker | UNP O66529 |
| BB | 40 | GLY | - | linker | UNP O66529 |
| BB | 41 | SER | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| BB | 42 | GLY | - | linker | UNP O66529 |
| BB | 43 | SER | - | linker | UNP O66529 |
| BB | 44 | SER | - | linker | UNP O66529 |
| BB | 45 | MET | - | linker | UNP O66529 |
| BB | 46 | GLU | - | linker | UNP O66529 |
| CB | 1 | MET | - | initiating methionine | UNP O66529 |
| CB | 37 | GLY | - | linker | UNP O66529 |
| CB | 38 | THR | - | linker | UNP O66529 |
| CB | 39 | GLY | - | linker | UNP O66529 |
| CB | 40 | GLY | - | linker | UNP O66529 |
| CB | 41 | SER | - | linker | UNP O66529 |
| CB | 42 | GLY | - | linker | UNP O66529 |
| CB | 43 | SER | - | linker | UNP O66529 |
| CB | 44 | SER | - | linker | UNP O66529 |
| CB | 45 | MET | - | linker | UNP O66529 |
| CB | 46 | GLU | - | linker | UNP O66529 |
| DB | 1 | MET | - | initiating methionine | UNP O66529 |
| DB | 37 | GLY | - | linker | UNP O66529 |
| DB | 38 | THR | - | linker | UNP O66529 |
| DB | 39 | GLY | - | linker | UNP O66529 |
| DB | 40 | GLY | - | linker | UNP O66529 |
| DB | 41 | SER | - | linker | UNP O66529 |
| DB | 42 | GLY | - | linker | UNP O66529 |
| DB | 43 | SER | - | linker | UNP O66529 |
| DB | 44 | SER | - | linker | UNP O66529 |
| DB | 45 | MET | - | linker | UNP O66529 |
| DB | 46 | GLU | - | linker | UNP O66529 |
| EB | 1 | MET | - | initiating methionine | UNP O66529 |
| EB | 37 | GLY | - | linker | UNP O66529 |
| EB | 38 | THR | - | linker | UNP O66529 |
| EB | 39 | GLY | - | linker | UNP O66529 |
| EB | 40 | GLY | - | linker | UNP O66529 |
| EB | 41 | SER | - | linker | UNP O66529 |
| EB | 42 | GLY | - | linker | UNP O66529 |
| EB | 43 | SER | - | linker | UNP O66529 |
| EB | 44 | SER | - | linker | UNP O66529 |
| EB | 45 | MET | - | linker | UNP O66529 |
| EB | 46 | GLU | - | linker | UNP O66529 |
| FB | 1 | MET | - | initiating methionine | UNP O66529 |
| FB | 37 | GLY | - | linker | UNP O66529 |
| FB | 38 | THR | - | linker | UNP O66529 |
| FB | 39 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| FB | 40 | GLY | - | linker | UNP O66529 |
| FB | 41 | SER | - | linker | UNP O66529 |
| FB | 42 | GLY | - | linker | UNP O66529 |
| FB | 43 | SER | - | linker | UNP O66529 |
| FB | 44 | SER | - | linker | UNP O66529 |
| FB | 45 | MET | - | linker | UNP O66529 |
| FB | 46 | GLU | - | linker | UNP O66529 |
| GB | 1 | MET | - | initiating methionine | UNP O66529 |
| GB | 37 | GLY | - | linker | UNP O66529 |
| GB | 38 | THR | - | linker | UNP O66529 |
| GB | 39 | GLY | - | linker | UNP O66529 |
| GB | 40 | GLY | - | linker | UNP O66529 |
| GB | 41 | SER | - | linker | UNP O66529 |
| GB | 42 | GLY | - | linker | UNP O66529 |
| GB | 43 | SER | - | linker | UNP O66529 |
| GB | 44 | SER | - | linker | UNP O66529 |
| GB | 45 | MET | - | linker | UNP O66529 |
| GB | 46 | GLU | - | linker | UNP O66529 |
| HB | 1 | MET | - | initiating methionine | UNP O66529 |
| HB | 37 | GLY | - | linker | UNP O66529 |
| HB | 38 | THR | - | linker | UNP O66529 |
| HB | 39 | GLY | - | linker | UNP O66529 |
| HB | 40 | GLY | - | linker | UNP O66529 |
| HB | 41 | SER | - | linker | UNP O66529 |
| HB | 42 | GLY | - | linker | UNP O66529 |
| HB | 43 | SER | - | linker | UNP O66529 |
| HB | 44 | SER | - | linker | UNP O66529 |
| HB | 45 | MET | - | linker | UNP O66529 |
| HB | 46 | GLU | - | linker | UNP O66529 |
| IB | 1 | MET | - | initiating methionine | UNP O66529 |
| IB | 37 | GLY | - | linker | UNP O66529 |
| IB | 38 | THR | - | linker | UNP O66529 |
| IB | 39 | GLY | - | linker | UNP O66529 |
| IB | 40 | GLY | - | linker | UNP O66529 |
| IB | 41 | SER | - | linker | UNP O66529 |
| IB | 42 | GLY | - | linker | UNP O66529 |
| IB | 43 | SER | - | linker | UNP O66529 |
| IB | 44 | SER | - | linker | UNP O66529 |
| IB | 45 | MET | - | linker | UNP O66529 |
| IB | 46 | GLU | - | linker | UNP O66529 |
| JB | 1 | MET | - | initiating methionine | UNP O66529 |
| JB | 37 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| JB | 38 | THR | - | linker | UNP O66529 |
| JB | 39 | GLY | - | linker | UNP O66529 |
| JB | 40 | GLY | - | linker | UNP O66529 |
| JB | 41 | SER | - | linker | UNP O66529 |
| JB | 42 | GLY | - | linker | UNP O66529 |
| JB | 43 | SER | - | linker | UNP O66529 |
| JB | 44 | SER | - | linker | UNP O66529 |
| JB | 45 | MET | - | linker | UNP O66529 |
| JB | 46 | GLU | - | linker | UNP O66529 |
| KB | 1 | MET | - | initiating methionine | UNP O66529 |
| KB | 37 | GLY | - | linker | UNP O66529 |
| KB | 38 | THR | - | linker | UNP O66529 |
| KB | 39 | GLY | - | linker | UNP O66529 |
| KB | 40 | GLY | - | linker | UNP O66529 |
| KB | 41 | SER | - | linker | UNP O66529 |
| KB | 42 | GLY | - | linker | UNP O66529 |
| KB | 43 | SER | - | linker | UNP O66529 |
| KB | 44 | SER | - | linker | UNP O66529 |
| KB | 45 | MET | - | linker | UNP O66529 |
| KB | 46 | GLU | - | linker | UNP O66529 |
| LB | 1 | MET | - | initiating methionine | UNP O66529 |
| LB | 37 | GLY | - | linker | UNP O66529 |
| LB | 38 | THR | - | linker | UNP O66529 |
| LB | 39 | GLY | - | linker | UNP O66529 |
| LB | 40 | GLY | - | linker | UNP O66529 |
| LB | 41 | SER | - | linker | UNP O66529 |
| LB | 42 | GLY | - | linker | UNP O66529 |
| LB | 43 | SER | - | linker | UNP O66529 |
| LB | 44 | SER | - | linker | UNP O66529 |
| LB | 45 | MET | - | linker | UNP O66529 |
| LB | 46 | GLU | - | linker | UNP O66529 |
| MB | 1 | MET | - | initiating methionine | UNP O66529 |
| MB | 37 | GLY | - | linker | UNP O66529 |
| MB | 38 | THR | - | linker | UNP O66529 |
| MB | 39 | GLY | - | linker | UNP O66529 |
| MB | 40 | GLY | - | linker | UNP O66529 |
| MB | 41 | SER | - | linker | UNP O66529 |
| MB | 42 | GLY | - | linker | UNP O66529 |
| MB | 43 | SER | - | linker | UNP O66529 |
| MB | 44 | SER | - | linker | UNP O66529 |
| MB | 45 | MET | - | linker | UNP O66529 |
| MB | 46 | GLU | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| NB | 1 | MET | - | initiating methionine | UNP O66529 |
| NB | 37 | GLY | - | linker | UNP O66529 |
| NB | 38 | THR | - | linker | UNP O66529 |
| NB | 39 | GLY | - | linker | UNP O66529 |
| NB | 40 | GLY | - | linker | UNP O66529 |
| NB | 41 | SER | - | linker | UNP O66529 |
| NB | 42 | GLY | - | linker | UNP O66529 |
| NB | 43 | SER | - | linker | UNP O66529 |
| NB | 44 | SER | - | linker | UNP O66529 |
| NB | 45 | MET | - | linker | UNP O66529 |
| NB | 46 | GLU | - | linker | UNP O66529 |
| OB | 1 | MET | - | initiating methionine | UNP O66529 |
| OB | 37 | GLY | - | linker | UNP O66529 |
| OB | 38 | THR | - | linker | UNP O66529 |
| OB | 39 | GLY | - | linker | UNP O66529 |
| OB | 40 | GLY | - | linker | UNP O66529 |
| OB | 41 | SER | - | linker | UNP O66529 |
| OB | 42 | GLY | - | linker | UNP O66529 |
| OB | 43 | SER | - | linker | UNP O66529 |
| OB | 44 | SER | - | linker | UNP O66529 |
| OB | 45 | MET | - | linker | UNP O66529 |
| OB | 46 | GLU | - | linker | UNP O66529 |
| PB | 1 | MET | - | initiating methionine | UNP O66529 |
| PB | 37 | GLY | - | linker | UNP O66529 |
| PB | 38 | THR | - | linker | UNP O66529 |
| PB | 39 | GLY | - | linker | UNP O66529 |
| PB | 40 | GLY | - | linker | UNP O66529 |
| PB | 41 | SER | - | linker | UNP O66529 |
| PB | 42 | GLY | - | linker | UNP O66529 |
| PB | 43 | SER | - | linker | UNP O66529 |
| PB | 44 | SER | - | linker | UNP O66529 |
| PB | 45 | MET | - | linker | UNP O66529 |
| PB | 46 | GLU | - | linker | UNP O66529 |
| QB | 1 | MET | - | initiating methionine | UNP O66529 |
| QB | 37 | GLY | - | linker | UNP O66529 |
| QB | 38 | THR | - | linker | UNP O66529 |
| QB | 39 | GLY | - | linker | UNP O66529 |
| QB | 40 | GLY | - | linker | UNP O66529 |
| QB | 41 | SER | - | linker | UNP O66529 |
| QB | 42 | GLY | - | linker | UNP O66529 |
| QB | 43 | SER | - | linker | UNP O66529 |
| QB | 44 | SER | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| QB | 45 | MET | - | linker | UNP O66529 |
| QB | 46 | GLU | - | linker | UNP O66529 |
| RB | 1 | MET | - | initiating methionine | UNP O66529 |
| RB | 37 | GLY | - | linker | UNP O66529 |
| RB | 38 | THR | - | linker | UNP O66529 |
| RB | 39 | GLY | - | linker | UNP O66529 |
| RB | 40 | GLY | - | linker | UNP O66529 |
| RB | 41 | SER | - | linker | UNP O66529 |
| RB | 42 | GLY | - | linker | UNP O66529 |
| RB | 43 | SER | - | linker | UNP O66529 |
| RB | 44 | SER | - | linker | UNP O66529 |
| RB | 45 | MET | - | linker | UNP O66529 |
| RB | 46 | GLU | - | linker | UNP O66529 |
| SB | 1 | MET | - | initiating methionine | UNP O66529 |
| SB | 37 | GLY | - | linker | UNP O66529 |
| SB | 38 | THR | - | linker | UNP O66529 |
| SB | 39 | GLY | - | linker | UNP O66529 |
| SB | 40 | GLY | - | linker | UNP O66529 |
| SB | 41 | SER | - | linker | UNP O66529 |
| SB | 42 | GLY | - | linker | UNP O66529 |
| SB | 43 | SER | - | linker | UNP O66529 |
| SB | 44 | SER | - | linker | UNP O66529 |
| SB | 45 | MET | - | linker | UNP O66529 |
| SB | 46 | GLU | - | linker | UNP O66529 |
| TB | 1 | MET | - | initiating methionine | UNP O66529 |
| TB | 37 | GLY | - | linker | UNP O66529 |
| TB | 38 | THR | - | linker | UNP O66529 |
| TB | 39 | GLY | - | linker | UNP O66529 |
| TB | 40 | GLY | - | linker | UNP O66529 |
| TB | 41 | SER | - | linker | UNP O66529 |
| TB | 42 | GLY | - | linker | UNP O66529 |
| TB | 43 | SER | - | linker | UNP O66529 |
| TB | 44 | SER | - | linker | UNP O66529 |
| TB | 45 | MET | - | linker | UNP O66529 |
| TB | 46 | GLU | - | linker | UNP O66529 |
| UB | 1 | MET | - | initiating methionine | UNP O66529 |
| UB | 37 | GLY | - | linker | UNP O66529 |
| UB | 38 | THR | - | linker | UNP O66529 |
| UB | 39 | GLY | - | linker | UNP O66529 |
| UB | 40 | GLY | - | linker | UNP O66529 |
| UB | 41 | SER | - | linker | UNP O66529 |
| UB | 42 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| UB | 43 | SER | - | linker | UNP O66529 |
| UB | 44 | SER | - | linker | UNP O66529 |
| UB | 45 | MET | - | linker | UNP O66529 |
| UB | 46 | GLU | - | linker | UNP O66529 |
| VB | 1 | MET | - | initiating methionine | UNP O66529 |
| VB | 37 | GLY | - | linker | UNP O66529 |
| VB | 38 | THR | - | linker | UNP O66529 |
| VB | 39 | GLY | - | linker | UNP O66529 |
| VB | 40 | GLY | - | linker | UNP O66529 |
| VB | 41 | SER | - | linker | UNP O66529 |
| VB | 42 | GLY | - | linker | UNP O66529 |
| VB | 43 | SER | - | linker | UNP O66529 |
| VB | 44 | SER | - | linker | UNP O66529 |
| VB | 45 | MET | - | linker | UNP O66529 |
| VB | 46 | GLU | - | linker | UNP O66529 |
| WB | 1 | MET | - | initiating methionine | UNP O66529 |
| WB | 37 | GLY | - | linker | UNP O66529 |
| WB | 38 | THR | - | linker | UNP O66529 |
| WB | 39 | GLY | - | linker | UNP O66529 |
| WB | 40 | GLY | - | linker | UNP O66529 |
| WB | 41 | SER | - | linker | UNP O66529 |
| WB | 42 | GLY | - | linker | UNP O66529 |
| WB | 43 | SER | - | linker | UNP O66529 |
| WB | 44 | SER | - | linker | UNP O66529 |
| WB | 45 | MET | - | linker | UNP O66529 |
| WB | 46 | GLU | - | linker | UNP O66529 |
| XB | 1 | MET | - | initiating methionine | UNP O66529 |
| XB | 37 | GLY | - | linker | UNP O66529 |
| XB | 38 | THR | - | linker | UNP O66529 |
| XB | 39 | GLY | - | linker | UNP O66529 |
| XB | 40 | GLY | - | linker | UNP O66529 |
| XB | 41 | SER | - | linker | UNP O66529 |
| XB | 42 | GLY | - | linker | UNP O66529 |
| XB | 43 | SER | - | linker | UNP O66529 |
| XB | 44 | SER | - | linker | UNP O66529 |
| XB | 45 | MET | - | linker | UNP O66529 |
| XB | 46 | GLU | - | linker | UNP O66529 |
| YB | 1 | MET | - | initiating methionine | UNP O66529 |
| YB | 37 | GLY | - | linker | UNP O66529 |
| YB | 38 | THR | - | linker | UNP O66529 |
| YB | 39 | GLY | - | linker | UNP O66529 |
| YB | 40 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| YB | 41 | SER | - | linker | UNP O66529 |
| YB | 42 | GLY | - | linker | UNP O66529 |
| YB | 43 | SER | - | linker | UNP O66529 |
| YB | 44 | SER | - | linker | UNP O66529 |
| YB | 45 | MET | - | linker | UNP O66529 |
| YB | 46 | GLU | - | linker | UNP O66529 |
| ZB | 1 | MET | - | initiating methionine | UNP O66529 |
| ZB | 37 | GLY | - | linker | UNP O66529 |
| ZB | 38 | THR | - | linker | UNP O66529 |
| ZB | 39 | GLY | - | linker | UNP O66529 |
| ZB | 40 | GLY | - | linker | UNP O66529 |
| ZB | 41 | SER | - | linker | UNP O66529 |
| ZB | 42 | GLY | - | linker | UNP O66529 |
| ZB | 43 | SER | - | linker | UNP O66529 |
| ZB | 44 | SER | - | linker | UNP O66529 |
| ZB | 45 | MET | - | linker | UNP O66529 |
| ZB | 46 | GLU | - | linker | UNP O66529 |
| AC | 1 | MET | - | initiating methionine | UNP O66529 |
| AC | 37 | GLY | - | linker | UNP O66529 |
| AC | 38 | THR | - | linker | UNP O66529 |
| AC | 39 | GLY | - | linker | UNP O66529 |
| AC | 40 | GLY | - | linker | UNP O66529 |
| AC | 41 | SER | - | linker | UNP O66529 |
| AC | 42 | GLY | - | linker | UNP O66529 |
| AC | 43 | SER | - | linker | UNP O66529 |
| AC | 44 | SER | - | linker | UNP O66529 |
| AC | 45 | MET | - | linker | UNP O66529 |
| AC | 46 | GLU | - | linker | UNP O66529 |
| BC | 1 | MET | - | initiating methionine | UNP O66529 |
| BC | 37 | GLY | - | linker | UNP O66529 |
| BC | 38 | THR | - | linker | UNP O66529 |
| BC | 39 | GLY | - | linker | UNP O66529 |
| BC | 40 | GLY | - | linker | UNP O66529 |
| BC | 41 | SER | - | linker | UNP O66529 |
| BC | 42 | GLY | - | linker | UNP O66529 |
| BC | 43 | SER | - | linker | UNP O66529 |
| BC | 44 | SER | - | linker | UNP O66529 |
| BC | 45 | MET | - | linker | UNP O66529 |
| BC | 46 | GLU | - | linker | UNP O66529 |
| CC | 1 | MET | - | initiating methionine | UNP O66529 |
| CC | 37 | GLY | - | linker | UNP O66529 |
| CC | 38 | THR | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| CC | 39 | GLY | - | linker | UNP O66529 |
| CC | 40 | GLY | - | linker | UNP O66529 |
| CC | 41 | SER | - | linker | UNP O66529 |
| CC | 42 | GLY | - | linker | UNP O66529 |
| CC | 43 | SER | - | linker | UNP O66529 |
| CC | 44 | SER | - | linker | UNP O66529 |
| CC | 45 | MET | - | linker | UNP O66529 |
| CC | 46 | GLU | - | linker | UNP O66529 |
| DC | 1 | MET | - | initiating methionine | UNP O66529 |
| DC | 37 | GLY | - | linker | UNP O66529 |
| DC | 38 | THR | - | linker | UNP O66529 |
| DC | 39 | GLY | - | linker | UNP O66529 |
| DC | 40 | GLY | - | linker | UNP O66529 |
| DC | 41 | SER | - | linker | UNP O66529 |
| DC | 42 | GLY | - | linker | UNP O66529 |
| DC | 43 | SER | - | linker | UNP O66529 |
| DC | 44 | SER | - | linker | UNP O66529 |
| DC | 45 | MET | - | linker | UNP O66529 |
| DC | 46 | GLU | - | linker | UNP O66529 |
| EC | 1 | MET | - | initiating methionine | UNP O66529 |
| EC | 37 | GLY | - | linker | UNP O66529 |
| EC | 38 | THR | - | linker | UNP O66529 |
| EC | 39 | GLY | - | linker | UNP O66529 |
| EC | 40 | GLY | - | linker | UNP O66529 |
| EC | 41 | SER | - | linker | UNP O66529 |
| EC | 42 | GLY | - | linker | UNP O66529 |
| EC | 43 | SER | - | linker | UNP O66529 |
| EC | 44 | SER | - | linker | UNP O66529 |
| EC | 45 | MET | - | linker | UNP O66529 |
| EC | 46 | GLU | - | linker | UNP O66529 |
| FC | 1 | MET | - | initiating methionine | UNP O66529 |
| FC | 37 | GLY | - | linker | UNP O66529 |
| FC | 38 | THR | - | linker | UNP O66529 |
| FC | 39 | GLY | - | linker | UNP O66529 |
| FC | 40 | GLY | - | linker | UNP O66529 |
| FC | 41 | SER | - | linker | UNP O66529 |
| FC | 42 | GLY | - | linker | UNP O66529 |
| FC | 43 | SER | - | linker | UNP O66529 |
| FC | 44 | SER | - | linker | UNP O66529 |
| FC | 45 | MET | - | linker | UNP O66529 |
| FC | 46 | GLU | - | linker | UNP O66529 |
| GC | 1 | MET | - | initiating methionine | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| GC | 37 | GLY | - | linker | UNP O66529 |
| GC | 38 | THR | - | linker | UNP O66529 |
| GC | 39 | GLY | - | linker | UNP O66529 |
| GC | 40 | GLY | - | linker | UNP O66529 |
| GC | 41 | SER | - | linker | UNP O66529 |
| GC | 42 | GLY | - | linker | UNP O66529 |
| GC | 43 | SER | - | linker | UNP O66529 |
| GC | 44 | SER | - | linker | UNP O66529 |
| GC | 45 | MET | - | linker | UNP O66529 |
| GC | 46 | GLU | - | linker | UNP O66529 |
| HC | 1 | MET | - | initiating methionine | UNP O66529 |
| HC | 37 | GLY | - | linker | UNP O66529 |
| HC | 38 | THR | - | linker | UNP O66529 |
| HC | 39 | GLY | - | linker | UNP O66529 |
| HC | 40 | GLY | - | linker | UNP O66529 |
| HC | 41 | SER | - | linker | UNP O66529 |
| HC | 42 | GLY | - | linker | UNP O66529 |
| HC | 43 | SER | - | linker | UNP O66529 |
| HC | 44 | SER | - | linker | UNP O66529 |
| HC | 45 | MET | - | linker | UNP O66529 |
| HC | 46 | GLU | - | linker | UNP O66529 |
| IC | 1 | MET | - | initiating methionine | UNP O66529 |
| IC | 37 | GLY | - | linker | UNP O66529 |
| IC | 38 | THR | - | linker | UNP O66529 |
| IC | 39 | GLY | - | linker | UNP O66529 |
| IC | 40 | GLY | - | linker | UNP O66529 |
| IC | 41 | SER | - | linker | UNP O66529 |
| IC | 42 | GLY | - | linker | UNP O66529 |
| IC | 43 | SER | - | linker | UNP O66529 |
| IC | 44 | SER | - | linker | UNP O66529 |
| IC | 45 | MET | - | linker | UNP O66529 |
| IC | 46 | GLU | - | linker | UNP O66529 |
| JC | 1 | MET | - | initiating methionine | UNP O66529 |
| JC | 37 | GLY | - | linker | UNP O66529 |
| JC | 38 | THR | - | linker | UNP O66529 |
| JC | 39 | GLY | - | linker | UNP O66529 |
| JC | 40 | GLY | - | linker | UNP O66529 |
| JC | 41 | SER | - | linker | UNP O66529 |
| JC | 42 | GLY | - | linker | UNP O66529 |
| JC | 43 | SER | - | linker | UNP O66529 |
| JC | 44 | SER | - | linker | UNP O66529 |
| JC | 45 | MET | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| JC | 46 | GLU | - | linker | UNP O66529 |
| KC | 1 | MET | - | initiating methionine | UNP O66529 |
| KC | 37 | GLY | - | linker | UNP O66529 |
| KC | 38 | THR | - | linker | UNP O66529 |
| KC | 39 | GLY | - | linker | UNP O66529 |
| KC | 40 | GLY | - | linker | UNP O66529 |
| KC | 41 | SER | - | linker | UNP O66529 |
| KC | 42 | GLY | - | linker | UNP O66529 |
| KC | 43 | SER | - | linker | UNP O66529 |
| KC | 44 | SER | - | linker | UNP O66529 |
| KC | 45 | MET | - | linker | UNP O66529 |
| KC | 46 | GLU | - | linker | UNP O66529 |
| LC | 1 | MET | - | initiating methionine | UNP O66529 |
| LC | 37 | GLY | - | linker | UNP O66529 |
| LC | 38 | THR | - | linker | UNP O66529 |
| LC | 39 | GLY | - | linker | UNP O66529 |
| LC | 40 | GLY | - | linker | UNP O66529 |
| LC | 41 | SER | - | linker | UNP O66529 |
| LC | 42 | GLY | - | linker | UNP O66529 |
| LC | 43 | SER | - | linker | UNP O66529 |
| LC | 44 | SER | - | linker | UNP O66529 |
| LC | 45 | MET | - | linker | UNP O66529 |
| LC | 46 | GLU | - | linker | UNP O66529 |
| MC | 1 | MET | - | initiating methionine | UNP O66529 |
| MC | 37 | GLY | - | linker | UNP O66529 |
| MC | 38 | THR | - | linker | UNP O66529 |
| MC | 39 | GLY | - | linker | UNP O66529 |
| MC | 40 | GLY | - | linker | UNP O66529 |
| MC | 41 | SER | - | linker | UNP O66529 |
| MC | 42 | GLY | - | linker | UNP O66529 |
| MC | 43 | SER | - | linker | UNP O66529 |
| MC | 44 | SER | - | linker | UNP O66529 |
| MC | 45 | MET | - | linker | UNP O66529 |
| MC | 46 | GLU | - | linker | UNP O66529 |
| NC | 1 | MET | - | initiating methionine | UNP O66529 |
| NC | 37 | GLY | - | linker | UNP O66529 |
| NC | 38 | THR | - | linker | UNP O66529 |
| NC | 39 | GLY | - | linker | UNP O66529 |
| NC | 40 | GLY | - | linker | UNP O66529 |
| NC | 41 | SER | - | linker | UNP O66529 |
| NC | 42 | GLY | - | linker | UNP O66529 |
| NC | 43 | SER | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| NC | 44 | SER | - | linker | UNP O66529 |
| NC | 45 | MET | - | linker | UNP O66529 |
| NC | 46 | GLU | - | linker | UNP O66529 |
| OC | 1 | MET | - | initiating methionine | UNP O66529 |
| OC | 37 | GLY | - | linker | UNP O66529 |
| OC | 38 | THR | - | linker | UNP O66529 |
| OC | 39 | GLY | - | linker | UNP O66529 |
| OC | 40 | GLY | - | linker | UNP O66529 |
| OC | 41 | SER | - | linker | UNP O66529 |
| OC | 42 | GLY | - | linker | UNP O66529 |
| OC | 43 | SER | - | linker | UNP O66529 |
| OC | 44 | SER | - | linker | UNP O66529 |
| OC | 45 | MET | - | linker | UNP O66529 |
| OC | 46 | GLU | - | linker | UNP O66529 |
| PC | 1 | MET | - | initiating methionine | UNP O66529 |
| PC | 37 | GLY | - | linker | UNP O66529 |
| PC | 38 | THR | - | linker | UNP O66529 |
| PC | 39 | GLY | - | linker | UNP O66529 |
| PC | 40 | GLY | - | linker | UNP O66529 |
| PC | 41 | SER | - | linker | UNP O66529 |
| PC | 42 | GLY | - | linker | UNP O66529 |
| PC | 43 | SER | - | linker | UNP O66529 |
| PC | 44 | SER | - | linker | UNP O66529 |
| PC | 45 | MET | - | linker | UNP O66529 |
| PC | 46 | GLU | - | linker | UNP O66529 |
| QC | 1 | MET | - | initiating methionine | UNP O66529 |
| QC | 37 | GLY | - | linker | UNP O66529 |
| QC | 38 | THR | - | linker | UNP O66529 |
| QC | 39 | GLY | - | linker | UNP O66529 |
| QC | 40 | GLY | - | linker | UNP O66529 |
| QC | 41 | SER | - | linker | UNP O66529 |
| QC | 42 | GLY | - | linker | UNP O66529 |
| QC | 43 | SER | - | linker | UNP O66529 |
| QC | 44 | SER | - | linker | UNP O66529 |
| QC | 45 | MET | - | linker | UNP O66529 |
| QC | 46 | GLU | - | linker | UNP O66529 |
| RC | 1 | MET | - | initiating methionine | UNP O66529 |
| RC | 37 | GLY | - | linker | UNP O66529 |
| RC | 38 | THR | - | linker | UNP O66529 |
| RC | 39 | GLY | - | linker | UNP O66529 |
| RC | 40 | GLY | - | linker | UNP O66529 |
| RC | 41 | SER | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| RC | 42 | GLY | - | linker | UNP O66529 |
| RC | 43 | SER | - | linker | UNP O66529 |
| RC | 44 | SER | - | linker | UNP O66529 |
| RC | 45 | MET | - | linker | UNP O66529 |
| RC | 46 | GLU | - | linker | UNP O66529 |
| SC | 1 | MET | - | initiating methionine | UNP O66529 |
| SC | 37 | GLY | - | linker | UNP O66529 |
| SC | 38 | THR | - | linker | UNP O66529 |
| SC | 39 | GLY | - | linker | UNP O66529 |
| SC | 40 | GLY | - | linker | UNP O66529 |
| SC | 41 | SER | - | linker | UNP O66529 |
| SC | 42 | GLY | - | linker | UNP O66529 |
| SC | 43 | SER | - | linker | UNP O66529 |
| SC | 44 | SER | - | linker | UNP O66529 |
| SC | 45 | MET | - | linker | UNP O66529 |
| SC | 46 | GLU | - | linker | UNP O66529 |
| TC | 1 | MET | - | initiating methionine | UNP O66529 |
| TC | 37 | GLY | - | linker | UNP O66529 |
| TC | 38 | THR | - | linker | UNP O66529 |
| TC | 39 | GLY | - | linker | UNP O66529 |
| TC | 40 | GLY | - | linker | UNP O66529 |
| TC | 41 | SER | - | linker | UNP O66529 |
| TC | 42 | GLY | - | linker | UNP O66529 |
| TC | 43 | SER | - | linker | UNP O66529 |
| TC | 44 | SER | - | linker | UNP O66529 |
| TC | 45 | MET | - | linker | UNP O66529 |
| TC | 46 | GLU | - | linker | UNP O66529 |
| UC | 1 | MET | - | initiating methionine | UNP O66529 |
| UC | 37 | GLY | - | linker | UNP O66529 |
| UC | 38 | THR | - | linker | UNP O66529 |
| UC | 39 | GLY | - | linker | UNP O66529 |
| UC | 40 | GLY | - | linker | UNP O66529 |
| UC | 41 | SER | - | linker | UNP O66529 |
| UC | 42 | GLY | - | linker | UNP O66529 |
| UC | 43 | SER | - | linker | UNP O66529 |
| UC | 44 | SER | - | linker | UNP O66529 |
| UC | 45 | MET | - | linker | UNP O66529 |
| UC | 46 | GLU | - | linker | UNP O66529 |
| VC | 1 | MET | - | initiating methionine | UNP O66529 |
| VC | 37 | GLY | - | linker | UNP O66529 |
| VC | 38 | THR | - | linker | UNP O66529 |
| VC | 39 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| VC | 40 | GLY | - | linker | UNP O66529 |
| VC | 41 | SER | - | linker | UNP O66529 |
| VC | 42 | GLY | - | linker | UNP O66529 |
| VC | 43 | SER | - | linker | UNP O66529 |
| VC | 44 | SER | - | linker | UNP O66529 |
| VC | 45 | MET | - | linker | UNP O66529 |
| VC | 46 | GLU | - | linker | UNP O66529 |
| WC | 1 | MET | - | initiating methionine | UNP O66529 |
| WC | 37 | GLY | - | linker | UNP O66529 |
| WC | 38 | THR | - | linker | UNP O66529 |
| WC | 39 | GLY | - | linker | UNP O66529 |
| WC | 40 | GLY | - | linker | UNP O66529 |
| WC | 41 | SER | - | linker | UNP O66529 |
| WC | 42 | GLY | - | linker | UNP O66529 |
| WC | 43 | SER | - | linker | UNP O66529 |
| WC | 44 | SER | - | linker | UNP O66529 |
| WC | 45 | MET | - | linker | UNP O66529 |
| WC | 46 | GLU | - | linker | UNP O66529 |
| XC | 1 | MET | - | initiating methionine | UNP O66529 |
| XC | 37 | GLY | - | linker | UNP O66529 |
| XC | 38 | THR | - | linker | UNP O66529 |
| XC | 39 | GLY | - | linker | UNP O66529 |
| XC | 40 | GLY | - | linker | UNP O66529 |
| XC | 41 | SER | - | linker | UNP O66529 |
| XC | 42 | GLY | - | linker | UNP O66529 |
| XC | 43 | SER | - | linker | UNP O66529 |
| XC | 44 | SER | - | linker | UNP O66529 |
| XC | 45 | MET | - | linker | UNP O66529 |
| XC | 46 | GLU | - | linker | UNP O66529 |
| YC | 1 | MET | - | initiating methionine | UNP O66529 |
| YC | 37 | GLY | - | linker | UNP O66529 |
| YC | 38 | THR | - | linker | UNP O66529 |
| YC | 39 | GLY | - | linker | UNP O66529 |
| YC | 40 | GLY | - | linker | UNP O66529 |
| YC | 41 | SER | - | linker | UNP O66529 |
| YC | 42 | GLY | - | linker | UNP O66529 |
| YC | 43 | SER | - | linker | UNP O66529 |
| YC | 44 | SER | - | linker | UNP O66529 |
| YC | 45 | MET | - | linker | UNP O66529 |
| YC | 46 | GLU | - | linker | UNP O66529 |
| ZC | 1 | MET | - | initiating methionine | UNP O66529 |
| ZC | 37 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| ZC | 38 | THR | - | linker | UNP O66529 |
| ZC | 39 | GLY | - | linker | UNP O66529 |
| ZC | 40 | GLY | - | linker | UNP O66529 |
| ZC | 41 | SER | - | linker | UNP O66529 |
| ZC | 42 | GLY | - | linker | UNP O66529 |
| ZC | 43 | SER | - | linker | UNP O66529 |
| ZC | 44 | SER | - | linker | UNP O66529 |
| ZC | 45 | MET | - | linker | UNP O66529 |
| ZC | 46 | GLU | - | linker | UNP O66529 |
| AD | 1 | MET | - | initiating methionine | UNP O66529 |
| AD | 37 | GLY | - | linker | UNP O66529 |
| AD | 38 | THR | - | linker | UNP O66529 |
| AD | 39 | GLY | - | linker | UNP O66529 |
| AD | 40 | GLY | - | linker | UNP O66529 |
| AD | 41 | SER | - | linker | UNP O66529 |
| AD | 42 | GLY | - | linker | UNP O66529 |
| AD | 43 | SER | - | linker | UNP O66529 |
| AD | 44 | SER | - | linker | UNP O66529 |
| AD | 45 | MET | - | linker | UNP O66529 |
| AD | 46 | GLU | - | linker | UNP O66529 |
| BD | 1 | MET | - | initiating methionine | UNP O66529 |
| BD | 37 | GLY | - | linker | UNP O66529 |
| BD | 38 | THR | - | linker | UNP O66529 |
| BD | 39 | GLY | - | linker | UNP O66529 |
| BD | 40 | GLY | - | linker | UNP O66529 |
| BD | 41 | SER | - | linker | UNP O66529 |
| BD | 42 | GLY | - | linker | UNP O66529 |
| BD | 43 | SER | - | linker | UNP O66529 |
| BD | 44 | SER | - | linker | UNP O66529 |
| BD | 45 | MET | - | linker | UNP O66529 |
| BD | 46 | GLU | - | linker | UNP O66529 |
| CD | 1 | MET | - | initiating methionine | UNP O66529 |
| CD | 37 | GLY | - | linker | UNP O66529 |
| CD | 38 | THR | - | linker | UNP O66529 |
| CD | 39 | GLY | - | linker | UNP O66529 |
| CD | 40 | GLY | - | linker | UNP O66529 |
| CD | 41 | SER | - | linker | UNP O66529 |
| CD | 42 | GLY | - | linker | UNP O66529 |
| CD | 43 | SER | - | linker | UNP O66529 |
| CD | 44 | SER | - | linker | UNP O66529 |
| CD | 45 | MET | - | linker | UNP O66529 |
| CD | 46 | GLU | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| DD | 1 | MET | - | initiating methionine | UNP O66529 |
| DD | 37 | GLY | - | linker | UNP O66529 |
| DD | 38 | THR | - | linker | UNP O66529 |
| DD | 39 | GLY | - | linker | UNP O66529 |
| DD | 40 | GLY | - | linker | UNP O66529 |
| DD | 41 | SER | - | linker | UNP O66529 |
| DD | 42 | GLY | - | linker | UNP O66529 |
| DD | 43 | SER | - | linker | UNP O66529 |
| DD | 44 | SER | - | linker | UNP O66529 |
| DD | 45 | MET | - | linker | UNP O66529 |
| DD | 46 | GLU | - | linker | UNP O66529 |
| ED | 1 | MET | - | initiating methionine | UNP O66529 |
| ED | 37 | GLY | - | linker | UNP O66529 |
| ED | 38 | THR | - | linker | UNP O66529 |
| ED | 39 | GLY | - | linker | UNP O66529 |
| ED | 40 | GLY | - | linker | UNP O66529 |
| ED | 41 | SER | - | linker | UNP O66529 |
| ED | 42 | GLY | - | linker | UNP O66529 |
| ED | 43 | SER | - | linker | UNP O66529 |
| ED | 44 | SER | - | linker | UNP O66529 |
| ED | 45 | MET | - | linker | UNP O66529 |
| ED | 46 | GLU | - | linker | UNP O66529 |
| FD | 1 | MET | - | initiating methionine | UNP O66529 |
| FD | 37 | GLY | - | linker | UNP O66529 |
| FD | 38 | THR | - | linker | UNP O66529 |
| FD | 39 | GLY | - | linker | UNP O66529 |
| FD | 40 | GLY | - | linker | UNP O66529 |
| FD | 41 | SER | - | linker | UNP O66529 |
| FD | 42 | GLY | - | linker | UNP O66529 |
| FD | 43 | SER | - | linker | UNP O66529 |
| FD | 44 | SER | - | linker | UNP O66529 |
| FD | 45 | MET | - | linker | UNP O66529 |
| FD | 46 | GLU | - | linker | UNP O66529 |
| GD | 1 | MET | - | initiating methionine | UNP O66529 |
| GD | 37 | GLY | - | linker | UNP O66529 |
| GD | 38 | THR | - | linker | UNP O66529 |
| GD | 39 | GLY | - | linker | UNP O66529 |
| GD | 40 | GLY | - | linker | UNP O66529 |
| GD | 41 | SER | - | linker | UNP O66529 |
| GD | 42 | GLY | - | linker | UNP O66529 |
| GD | 43 | SER | - | linker | UNP O66529 |
| GD | 44 | SER | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| GD | 45 | MET | - | linker | UNP O66529 |
| GD | 46 | GLU | - | linker | UNP O66529 |
| HD | 1 | MET | - | initiating methionine | UNP O66529 |
| HD | 37 | GLY | - | linker | UNP O66529 |
| HD | 38 | THR | - | linker | UNP O66529 |
| HD | 39 | GLY | - | linker | UNP O66529 |
| HD | 40 | GLY | - | linker | UNP O66529 |
| HD | 41 | SER | - | linker | UNP O66529 |
| HD | 42 | GLY | - | linker | UNP O66529 |
| HD | 43 | SER | - | linker | UNP O66529 |
| HD | 44 | SER | - | linker | UNP O66529 |
| HD | 45 | MET | - | linker | UNP O66529 |
| HD | 46 | GLU | - | linker | UNP O66529 |
| ID | 1 | MET | - | initiating methionine | UNP O66529 |
| ID | 37 | GLY | - | linker | UNP O66529 |
| ID | 38 | THR | - | linker | UNP O66529 |
| ID | 39 | GLY | - | linker | UNP O66529 |
| ID | 40 | GLY | - | linker | UNP O66529 |
| ID | 41 | SER | - | linker | UNP O66529 |
| ID | 42 | GLY | - | linker | UNP O66529 |
| ID | 43 | SER | - | linker | UNP O66529 |
| ID | 44 | SER | - | linker | UNP O66529 |
| ID | 45 | MET | - | linker | UNP O66529 |
| ID | 46 | GLU | - | linker | UNP O66529 |
| JD | 1 | MET | - | initiating methionine | UNP O66529 |
| JD | 37 | GLY | - | linker | UNP O66529 |
| JD | 38 | THR | - | linker | UNP O66529 |
| JD | 39 | GLY | - | linker | UNP O66529 |
| JD | 40 | GLY | - | linker | UNP O66529 |
| JD | 41 | SER | - | linker | UNP O66529 |
| JD | 42 | GLY | - | linker | UNP O66529 |
| JD | 43 | SER | - | linker | UNP O66529 |
| JD | 44 | SER | - | linker | UNP O66529 |
| JD | 45 | MET | - | linker | UNP O66529 |
| JD | 46 | GLU | - | linker | UNP O66529 |
| KD | 1 | MET | - | initiating methionine | UNP O66529 |
| KD | 37 | GLY | - | linker | UNP O66529 |
| KD | 38 | THR | - | linker | UNP O66529 |
| KD | 39 | GLY | - | linker | UNP O66529 |
| KD | 40 | GLY | - | linker | UNP O66529 |
| KD | 41 | SER | - | linker | UNP O66529 |
| KD | 42 | GLY | - | linker | UNP O66529 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| KD | 43 | SER | - | linker | UNP O66529 |
| KD | 44 | SER | - | linker | UNP O66529 |
| KD | 45 | MET | - | linker | UNP O66529 |
| KD | 46 | GLU | - | linker | UNP O66529 |
| LD | 1 | MET | - | initiating methionine | UNP O66529 |
| LD | 37 | GLY | - | linker | UNP O66529 |
| LD | 38 | THR | - | linker | UNP O66529 |
| LD | 39 | GLY | - | linker | UNP O66529 |
| LD | 40 | GLY | - | linker | UNP O66529 |
| LD | 41 | SER | - | linker | UNP O66529 |
| LD | 42 | GLY | - | linker | UNP O66529 |
| LD | 43 | SER | - | linker | UNP O66529 |
| LD | 44 | SER | - | linker | UNP O66529 |
| LD | 45 | MET | - | linker | UNP O66529 |
| LD | 46 | GLU | - | linker | UNP O66529 |
| MD | 1 | MET | - | initiating methionine | UNP O66529 |
| MD | 37 | GLY | - | linker | UNP O66529 |
| MD | 38 | THR | - | linker | UNP O66529 |
| MD | 39 | GLY | - | linker | UNP O66529 |
| MD | 40 | GLY | - | linker | UNP O66529 |
| MD | 41 | SER | - | linker | UNP O66529 |
| MD | 42 | GLY | - | linker | UNP O66529 |
| MD | 43 | SER | - | linker | UNP O66529 |
| MD | 44 | SER | - | linker | UNP O66529 |
| MD | 45 | MET | - | linker | UNP O66529 |
| MD | 46 | GLU | - | linker | UNP O66529 |
| ND | 1 | MET | - | initiating methionine | UNP O66529 |
| ND | 37 | GLY | - | linker | UNP O66529 |
| ND | 38 | THR | - | linker | UNP O66529 |
| ND | 39 | GLY | - | linker | UNP O66529 |
| ND | 40 | GLY | - | linker | UNP O66529 |
| ND | 41 | SER | - | linker | UNP O66529 |
| ND | 42 | GLY | - | linker | UNP O66529 |
| ND | 43 | SER | - | linker | UNP O66529 |
| ND | 44 | SER | - | linker | UNP O66529 |
| ND | 45 | MET | - | linker | UNP O66529 |
| ND | 46 | GLU | - | linker | UNP O66529 |
| OD | 1 | MET | - | initiating methionine | UNP O66529 |
| OD | 37 | GLY | - | linker | UNP O66529 |
| OD | 38 | THR | - | linker | UNP O66529 |
| OD | 39 | GLY | - | linker | UNP O66529 |
| OD | 40 | GLY | - | linker | UNP O66529 |

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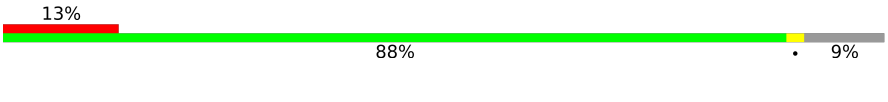
| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| OD | 41 | SER | - | linker | UNP O66529 |
| OD | 42 | GLY | - | linker | UNP O66529 |
| OD | 43 | SER | - | linker | UNP O66529 |
| OD | 44 | SER | - | linker | UNP O66529 |
| OD | 45 | MET | - | linker | UNP O66529 |
| OD | 46 | GLU | - | linker | UNP O66529 |
| PD | 1 | MET | - | initiating methionine | UNP O66529 |
| PD | 37 | GLY | - | linker | UNP O66529 |
| PD | 38 | THR | - | linker | UNP O66529 |
| PD | 39 | GLY | - | linker | UNP O66529 |
| PD | 40 | GLY | - | linker | UNP O66529 |
| PD | 41 | SER | - | linker | UNP O66529 |
| PD | 42 | GLY | - | linker | UNP O66529 |
| PD | 43 | SER | - | linker | UNP O66529 |
| PD | 44 | SER | - | linker | UNP O66529 |
| PD | 45 | MET | - | linker | UNP O66529 |
| PD | 46 | GLU | - | linker | UNP O66529 |

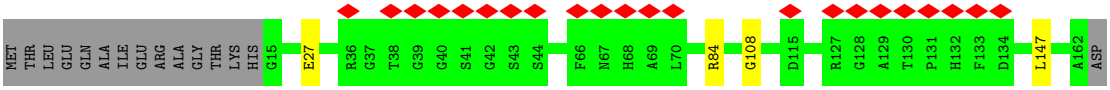
# 3 Residue-property plots (i)

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

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

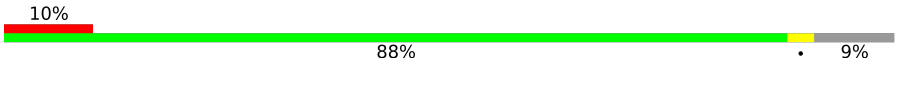
Chain A:

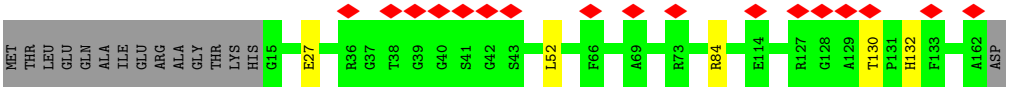



• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

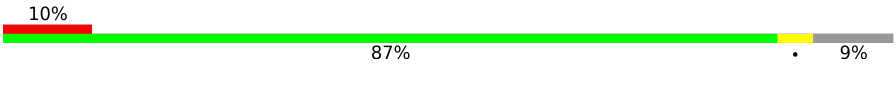
Chain B:

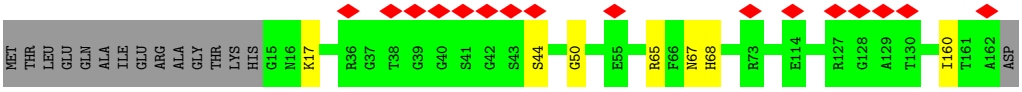



• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

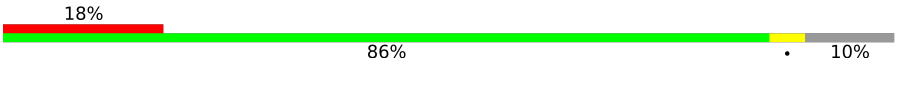
Chain C:

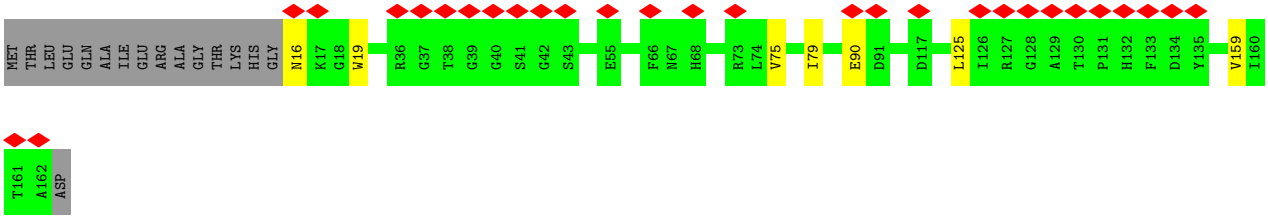



• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

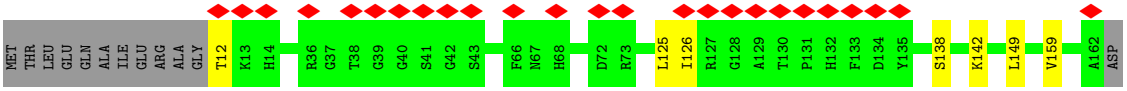
Chain D:



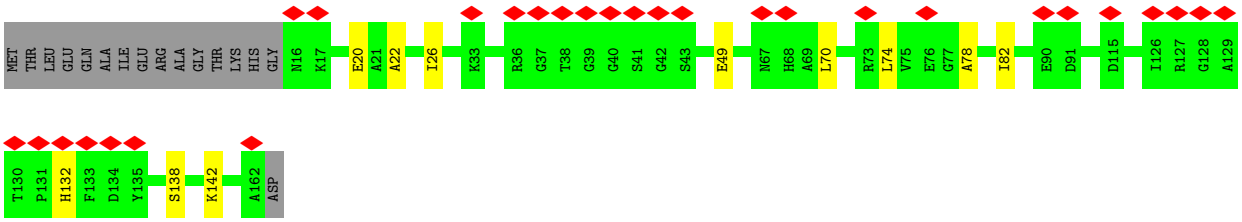

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain E:



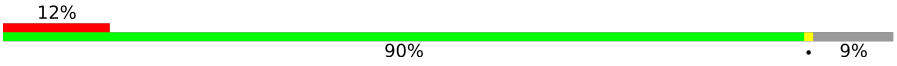

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

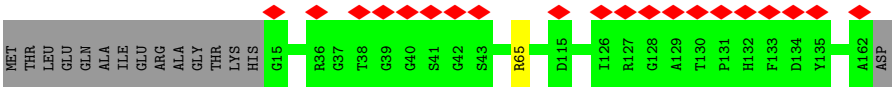
Chain F:


• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

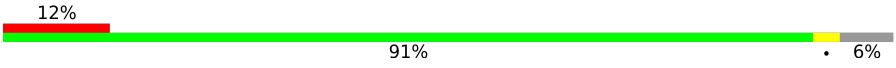
Chain G:

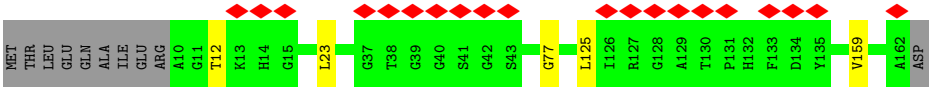



• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

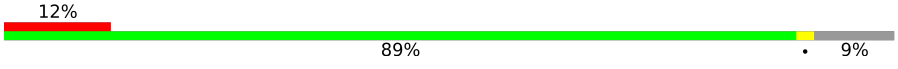
Chain H:

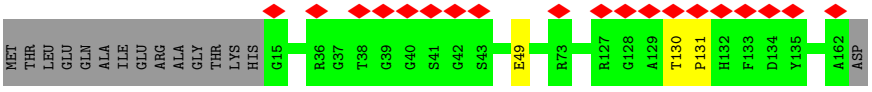



• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

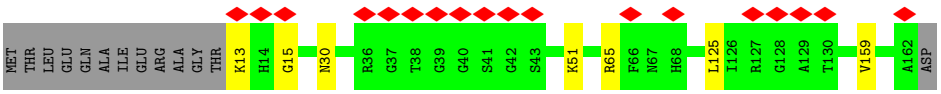
Chain I:



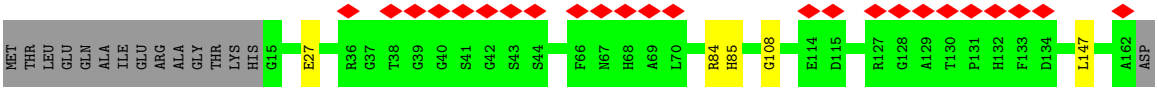

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain J:

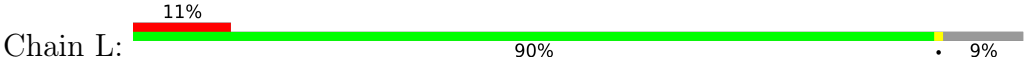



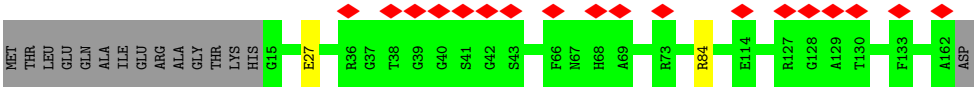

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain K:

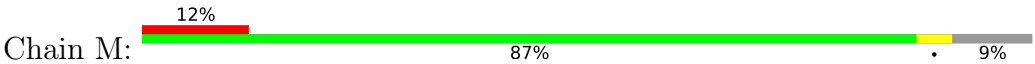


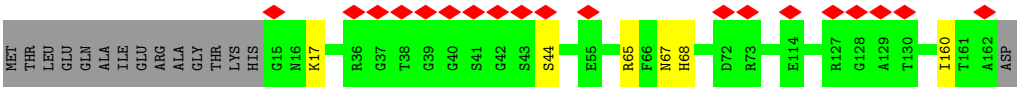

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



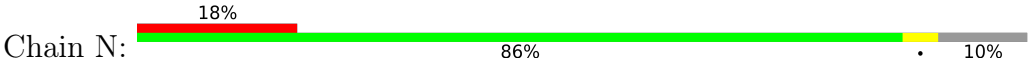



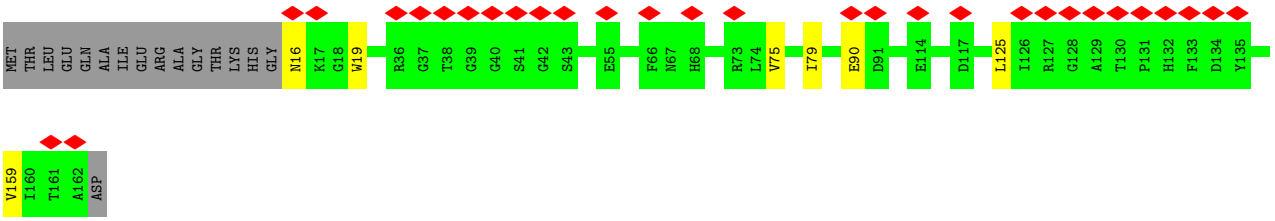

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



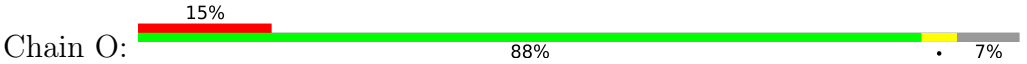



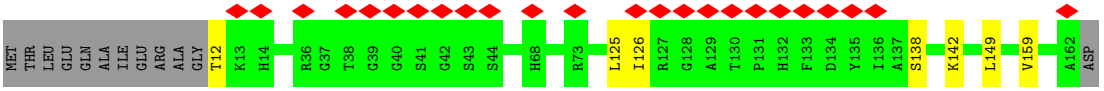

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



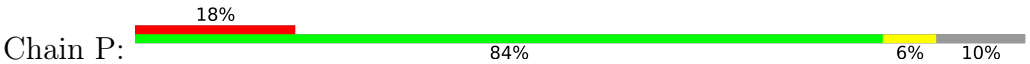



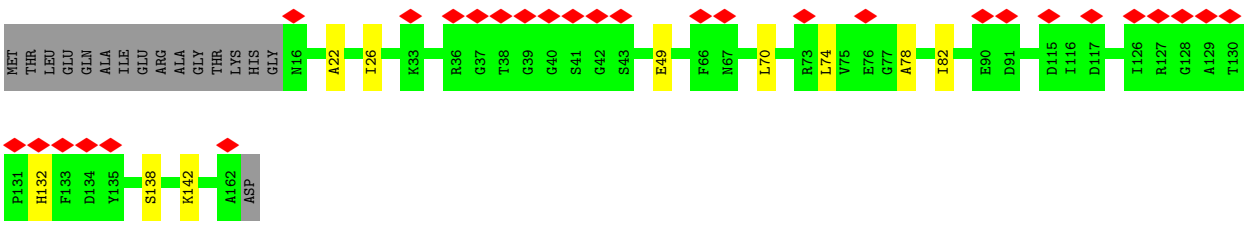

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



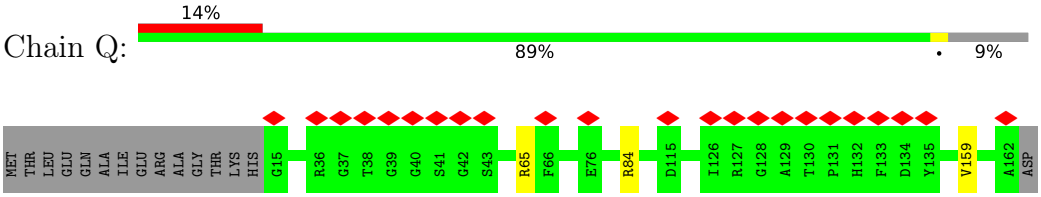

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



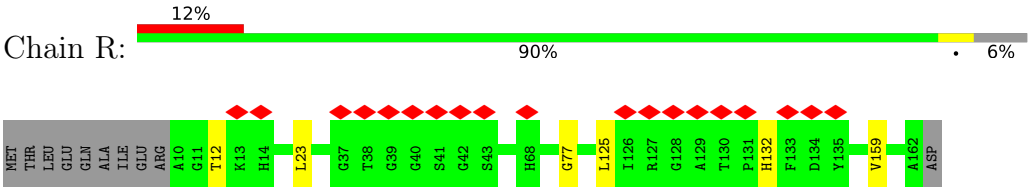

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain Q:



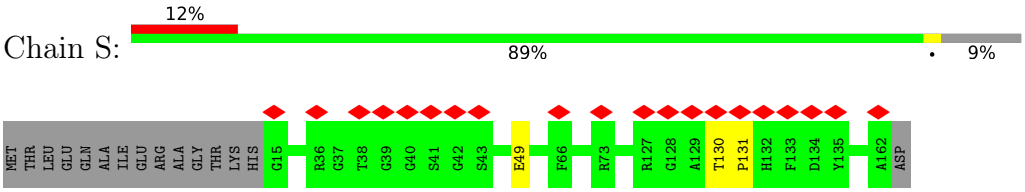

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain R:



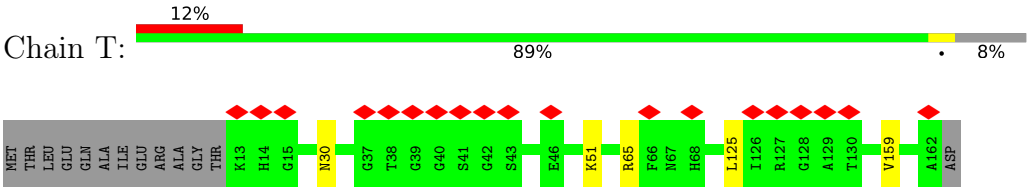

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain S:



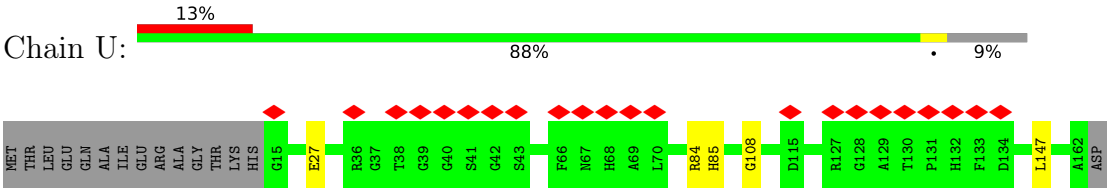

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain T:



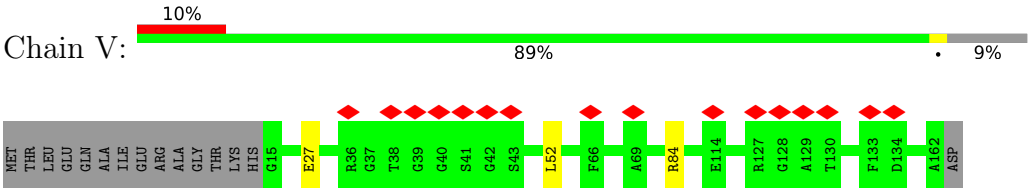

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain U:



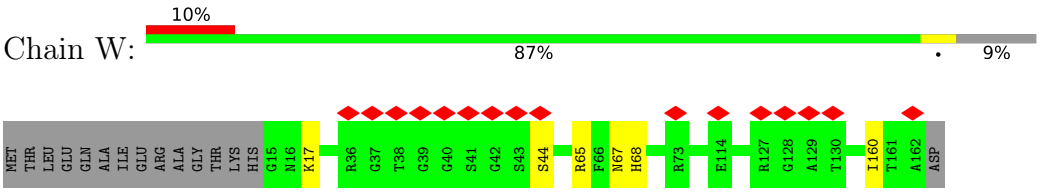

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain V:



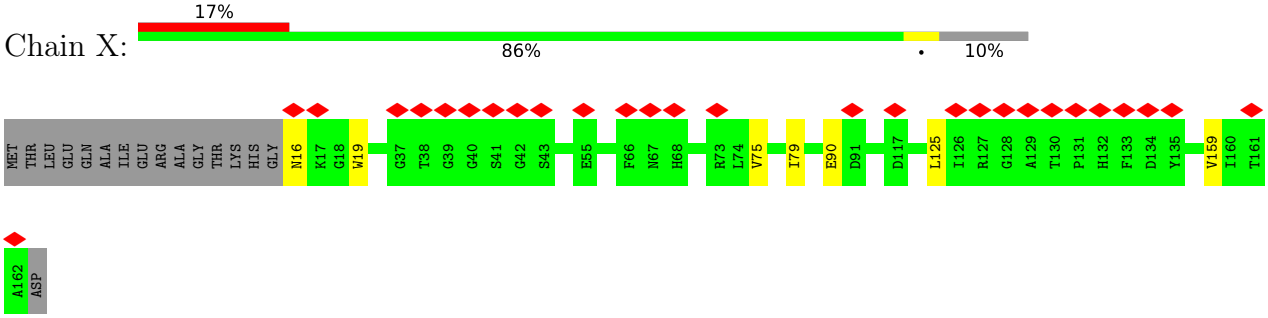

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain W:



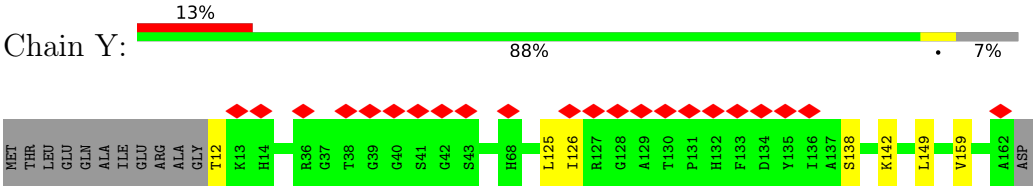
• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain X:



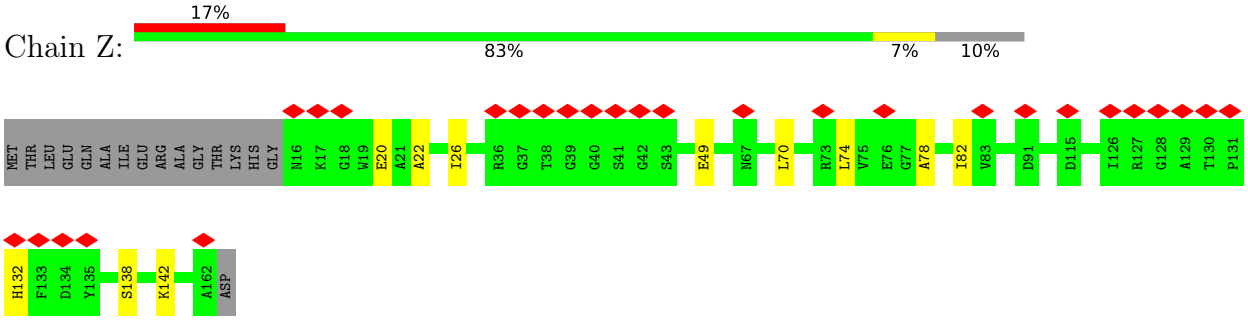

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain Y:



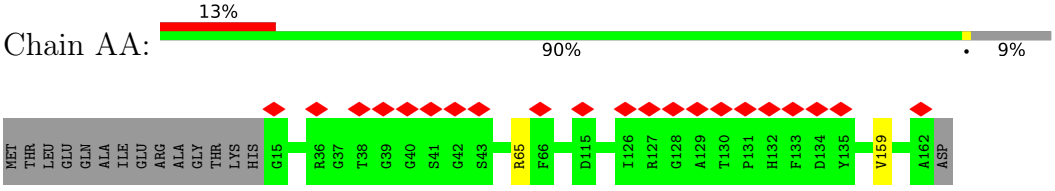

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain Z:



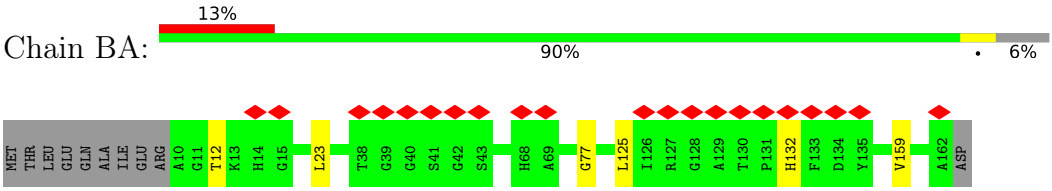

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain AA:



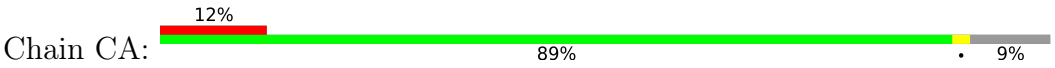

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

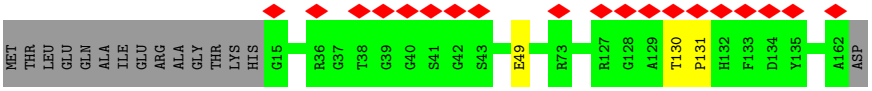
Chain BA:



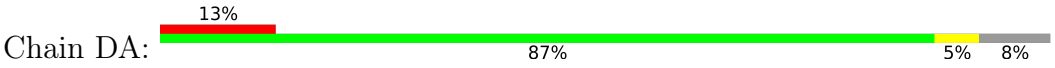

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

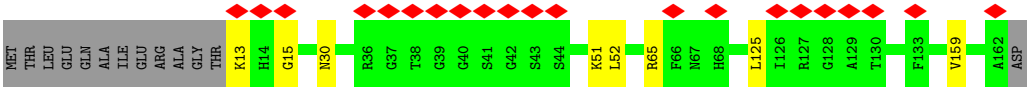
Chain CA:



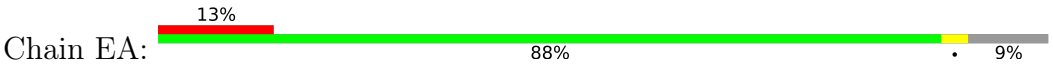


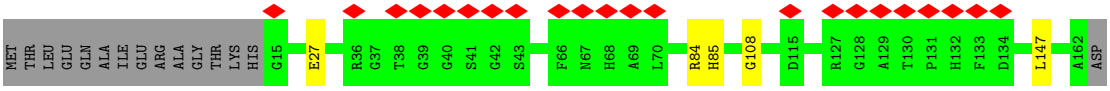

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



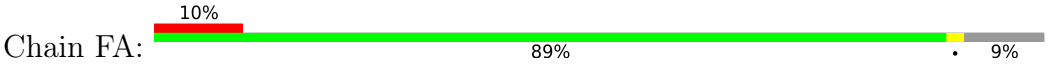



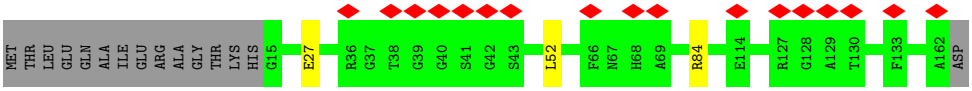

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



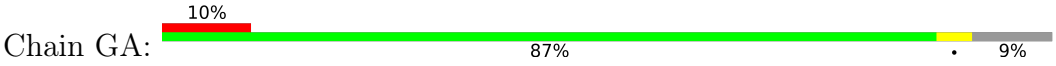



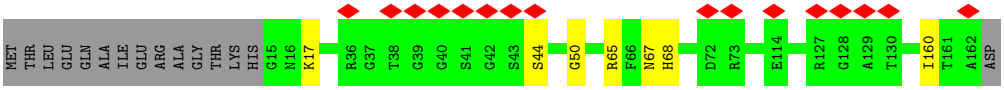

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



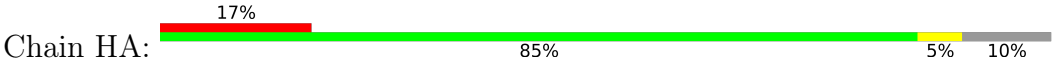



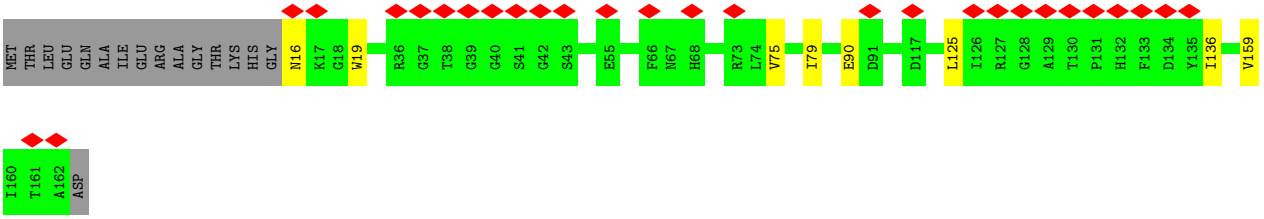

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



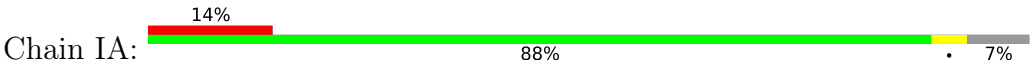



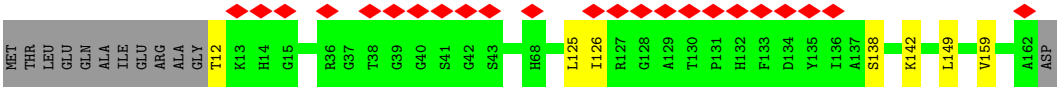

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



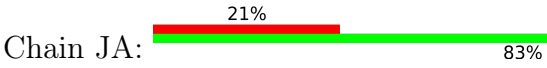



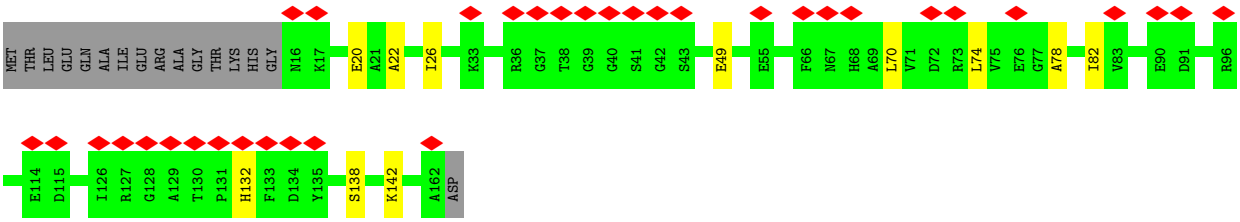

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



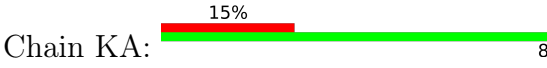


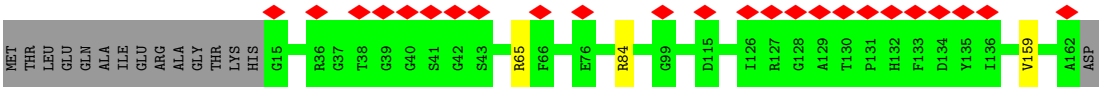

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



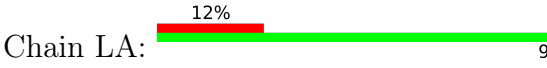



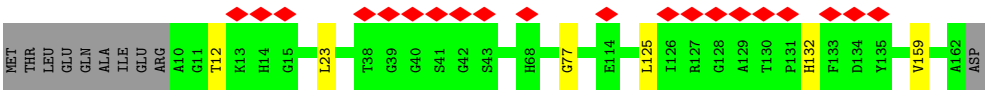

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



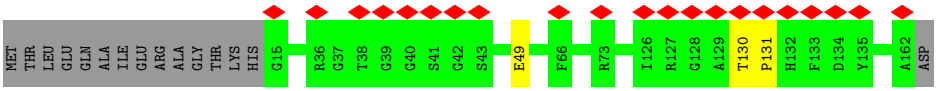




• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

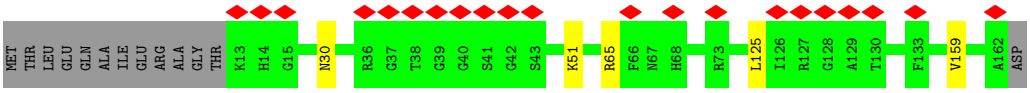


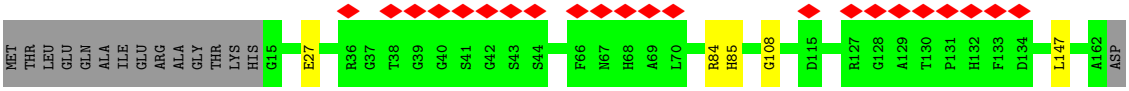

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase


• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

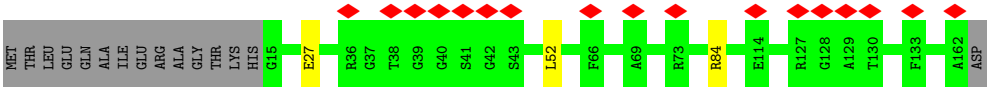




• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



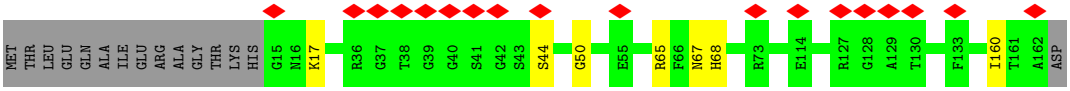

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain PA:

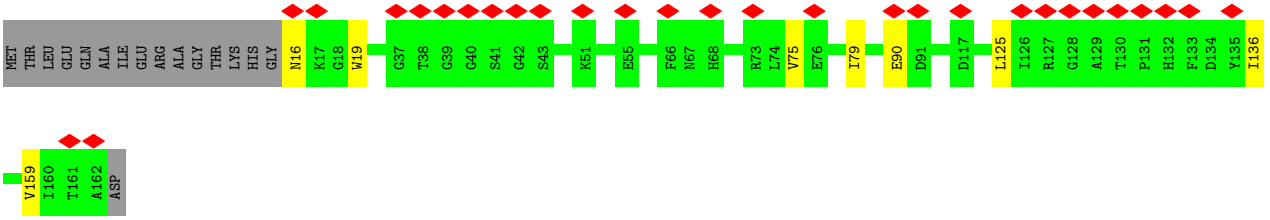

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain QA:

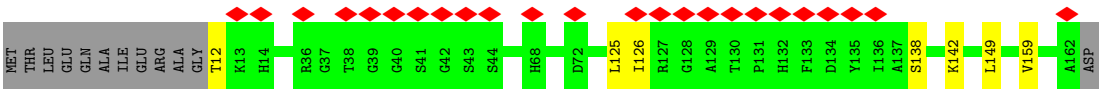

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain RA:

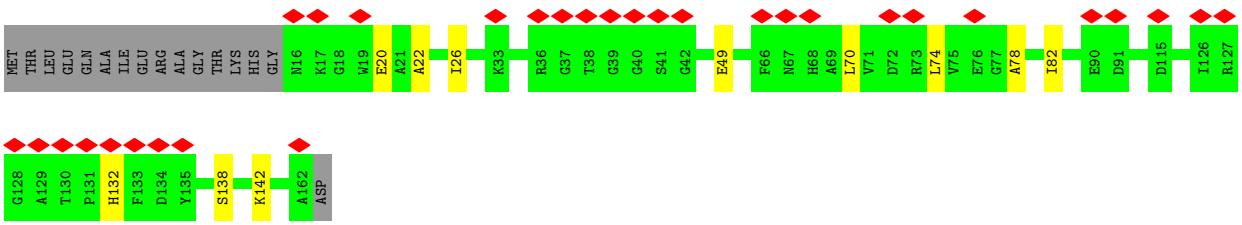

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain SA:

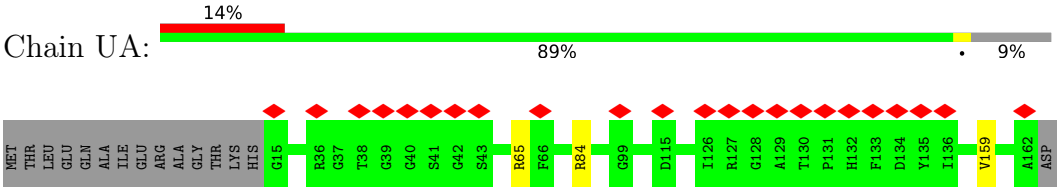

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain TA:

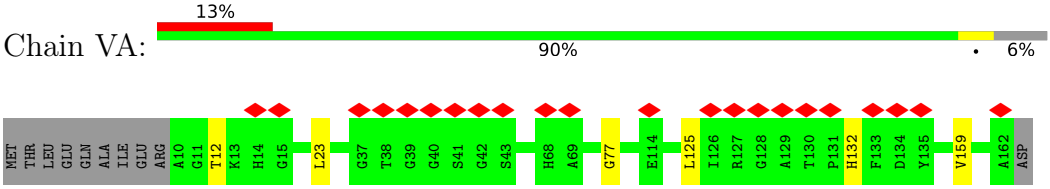

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain UA:



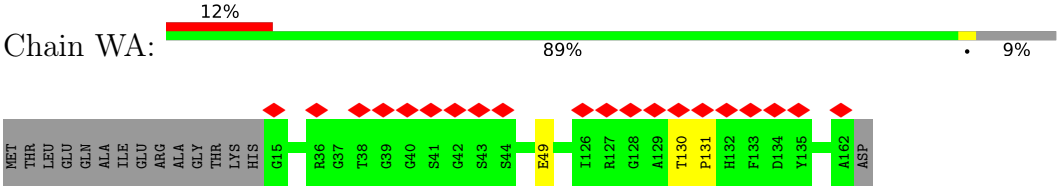

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain VA:



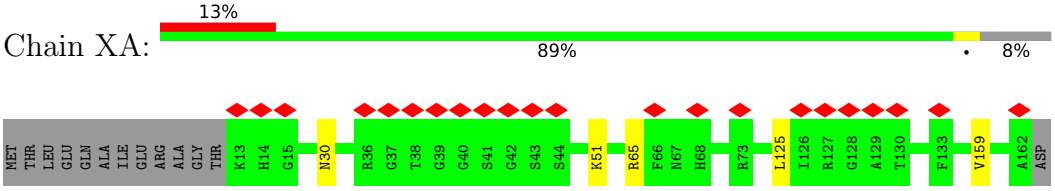

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain WA:



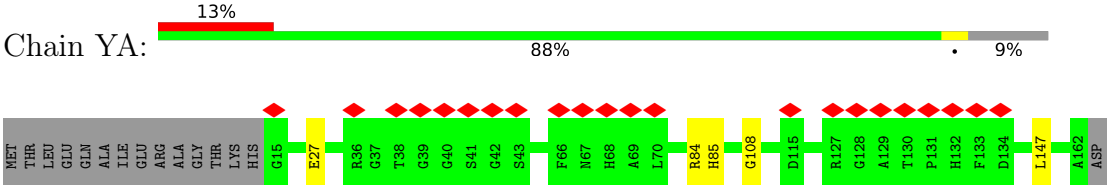

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain XA:



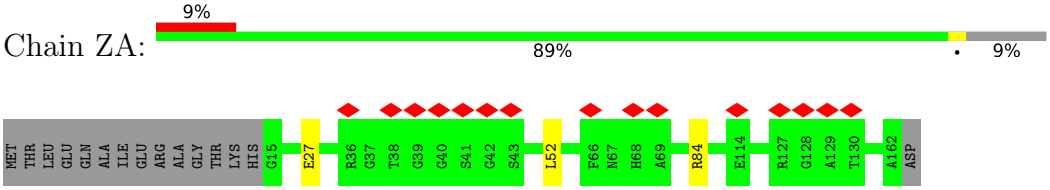

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain YA:



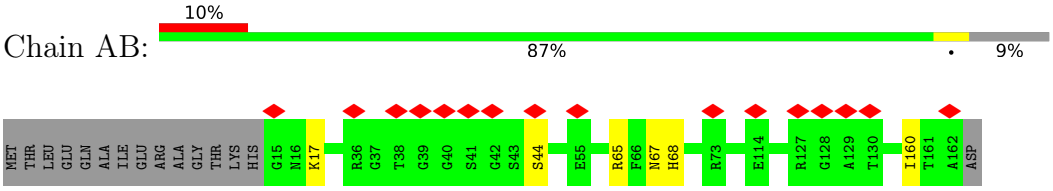

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain ZA:



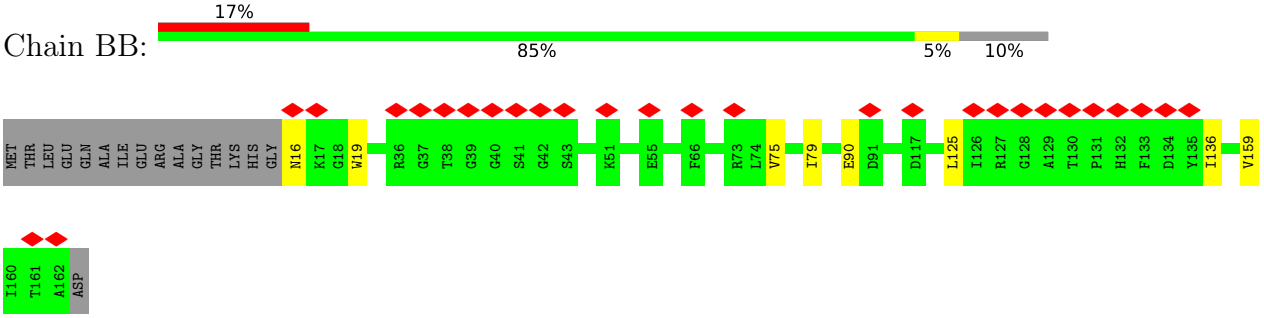

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain AB:



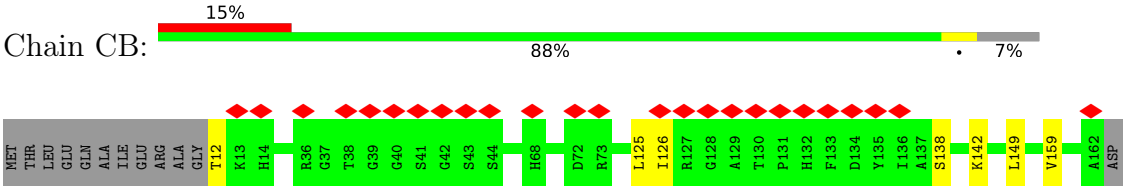
- Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain BB:



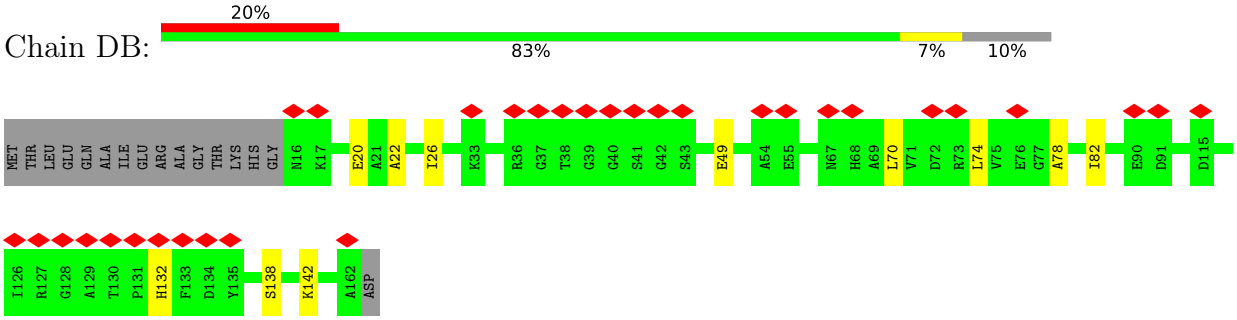

- Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain CB:



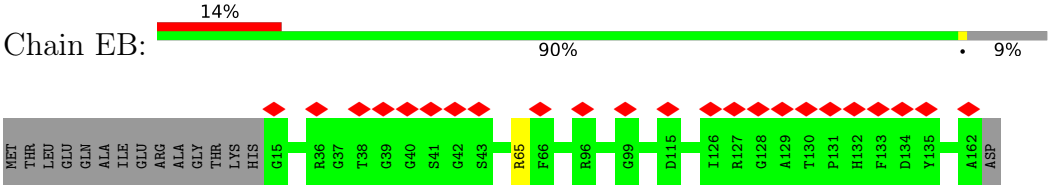

- Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain DB:



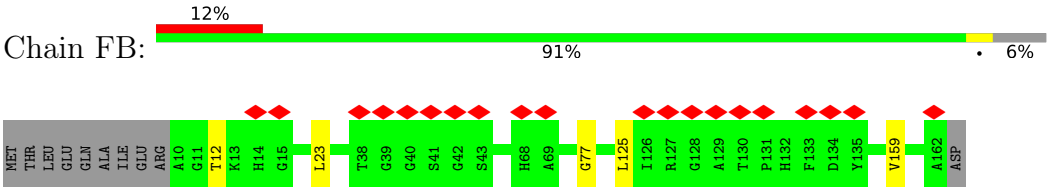

- Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain EB:



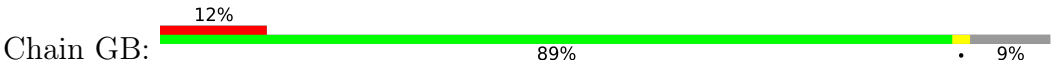

- Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

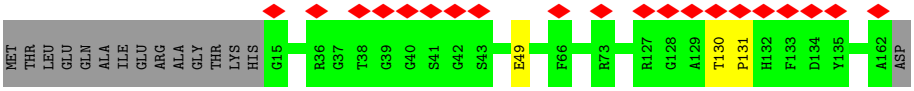
Chain FB:




- Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

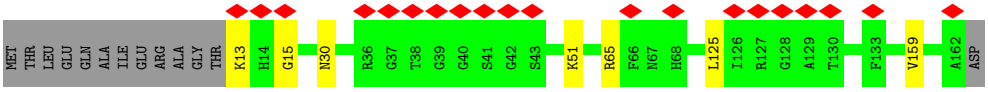
Chain GB:





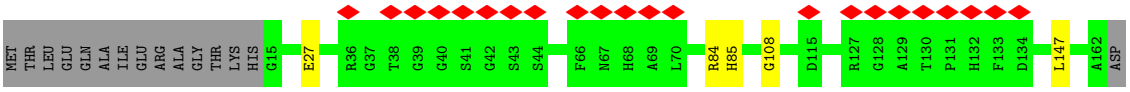

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain HB:

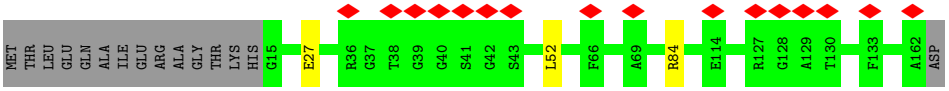

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain IB:

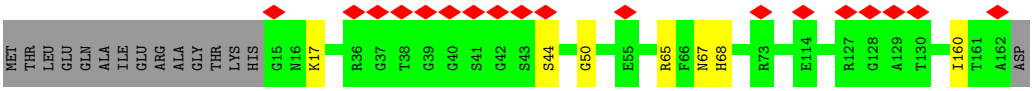

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain JB:

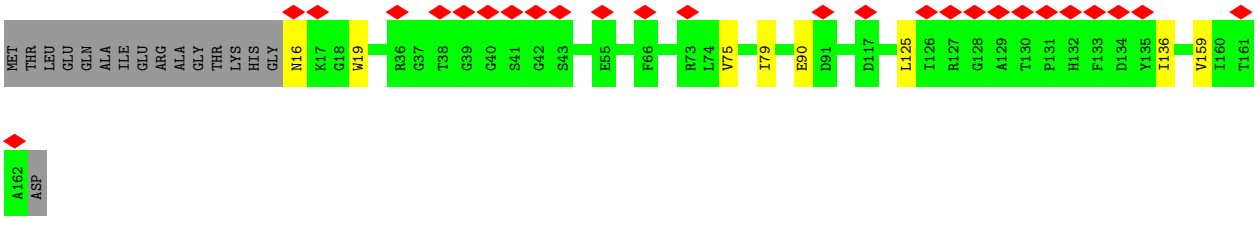

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain KB:

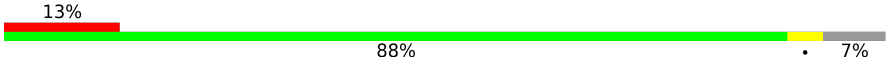

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

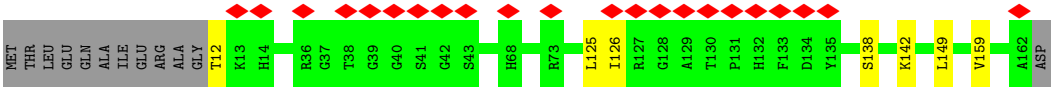
Chain LB:


• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

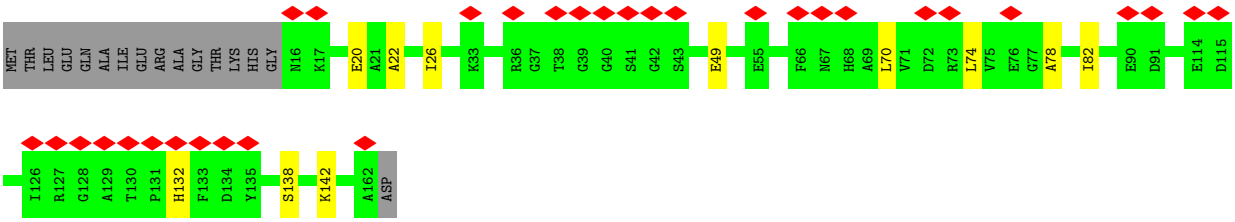
Chain MB:





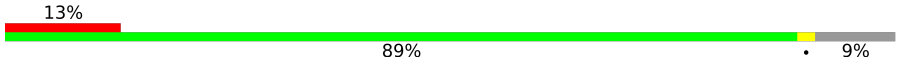

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

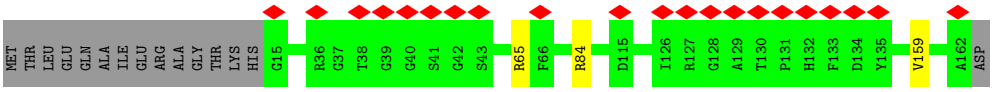
Chain NB:


• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

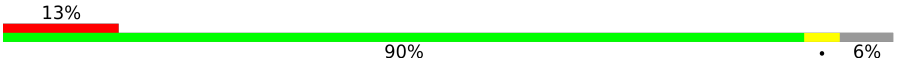
Chain OB:

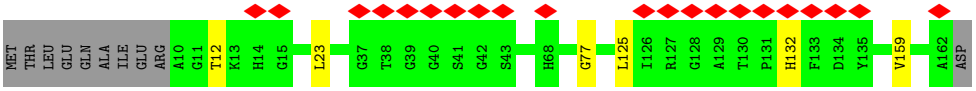



• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

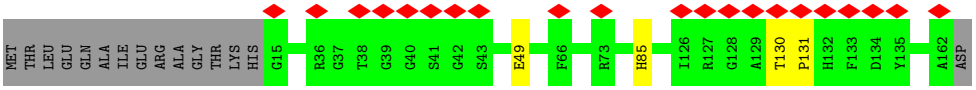
Chain PB:



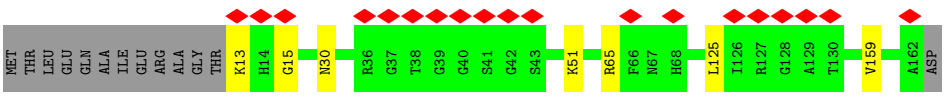

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain QB:

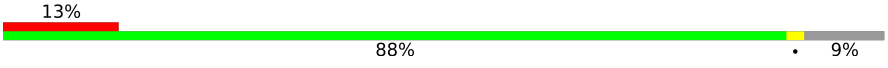

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

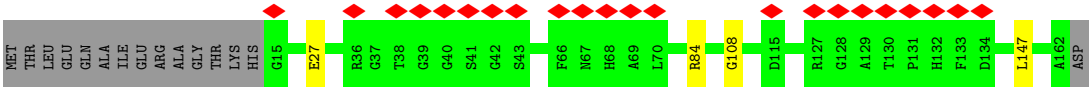
Chain RB:


• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

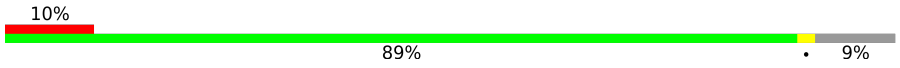
Chain SB:

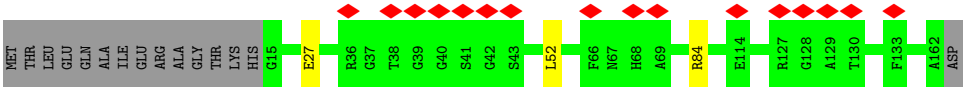





• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

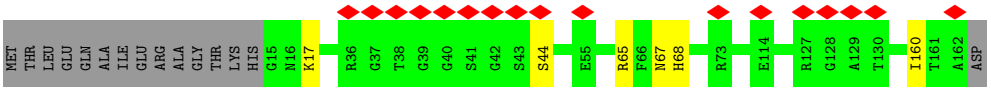
Chain TB:



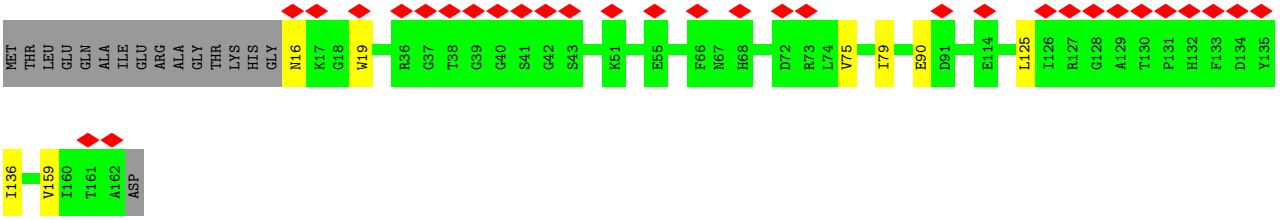

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain UB:

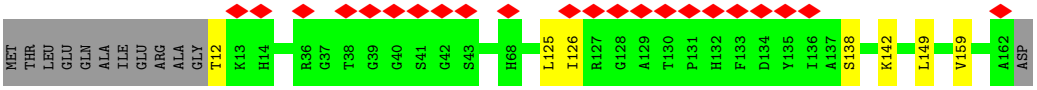

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain VB:

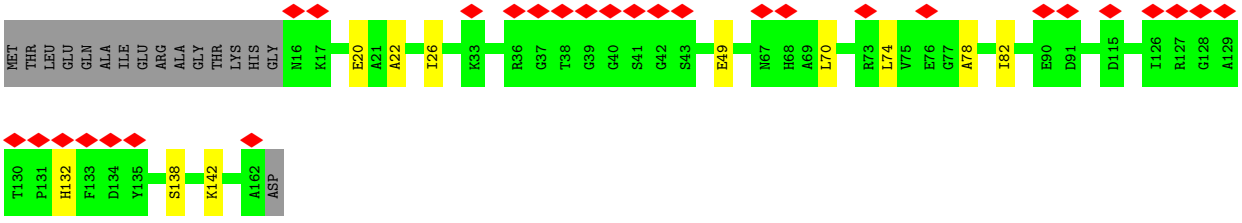

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain WB:

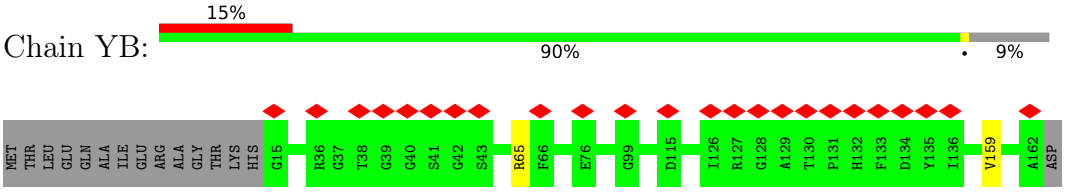

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain XB:

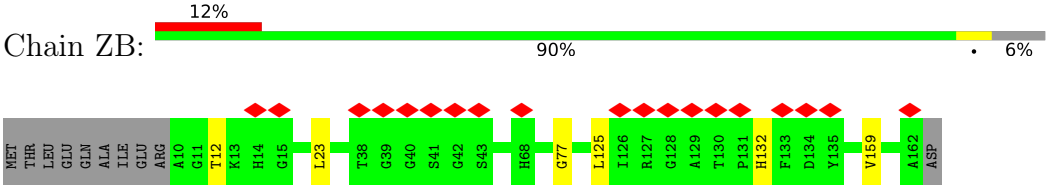

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain YB:



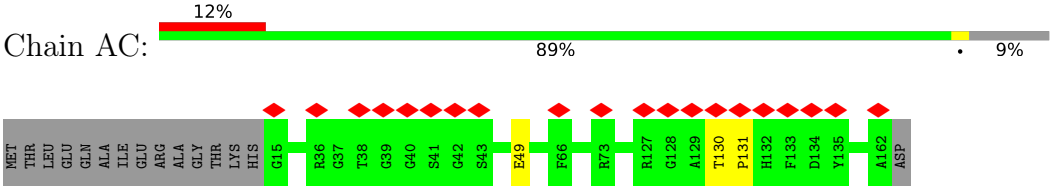

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain ZB:



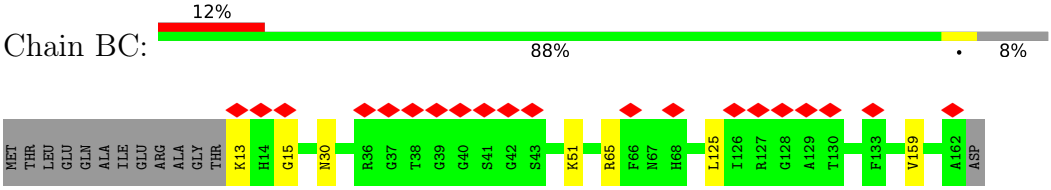

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain AC:



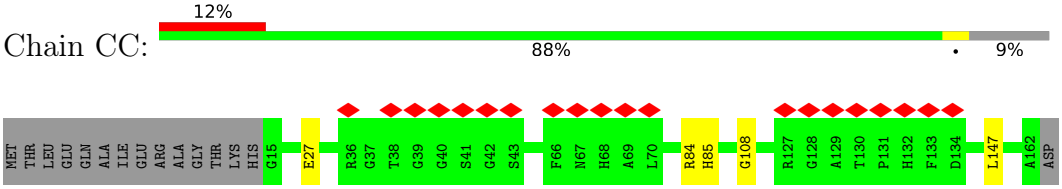

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain BC:



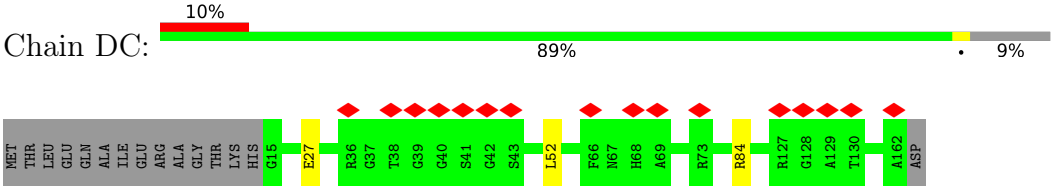

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain CC:



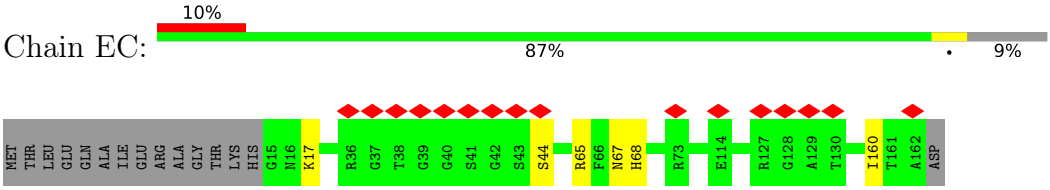

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain DC:



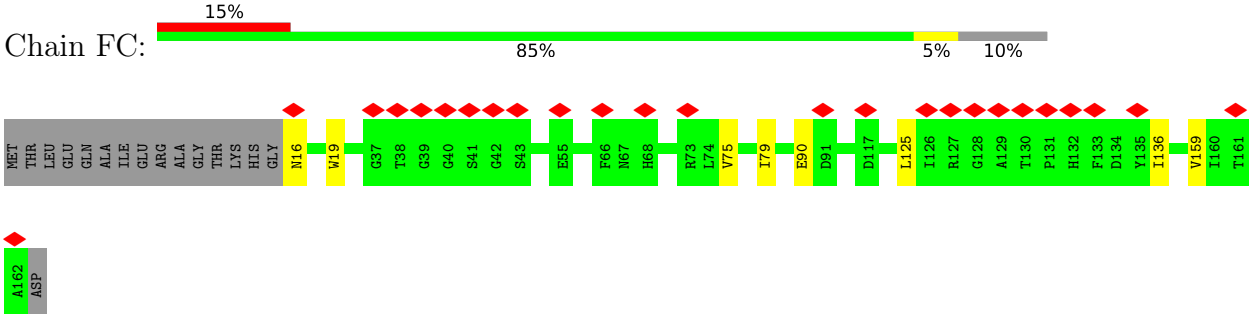

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain EC:



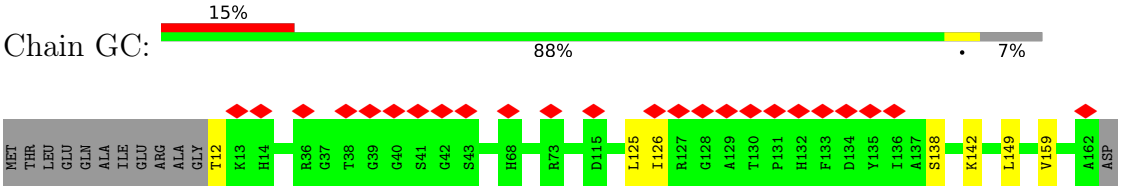
• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain FC:



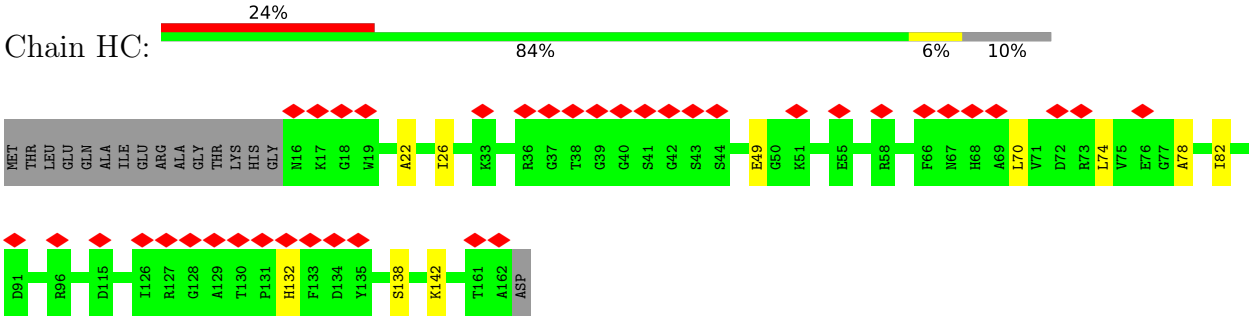

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain GC:



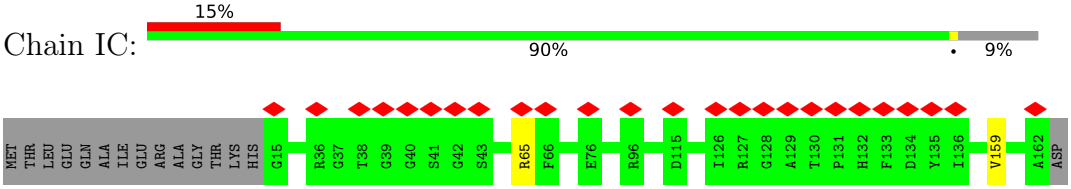

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain HC:



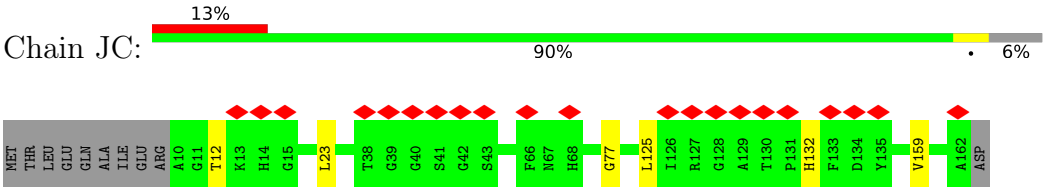

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain IC:



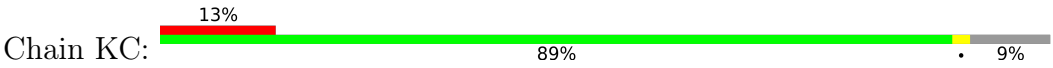

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

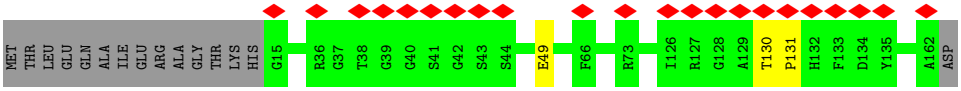
Chain JC:




• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

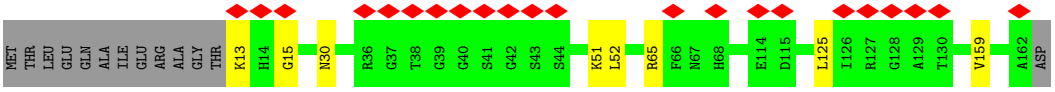
Chain KC:





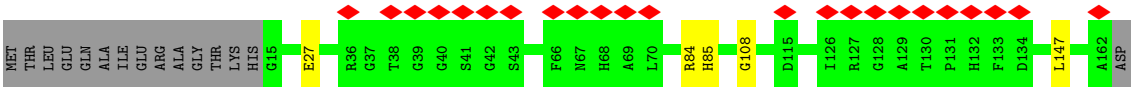

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain LC:

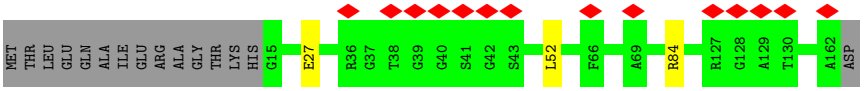

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain MC:

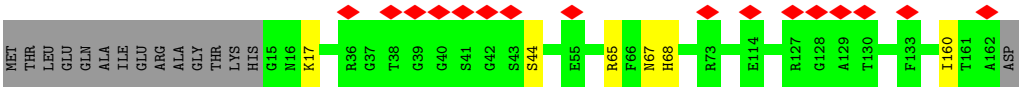

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain NC:

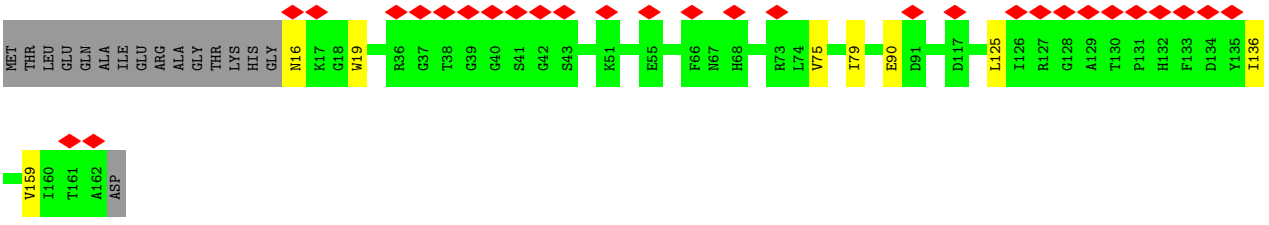

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain OC:

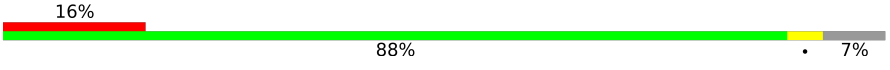

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

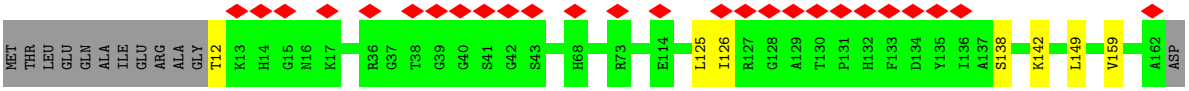
Chain PC:

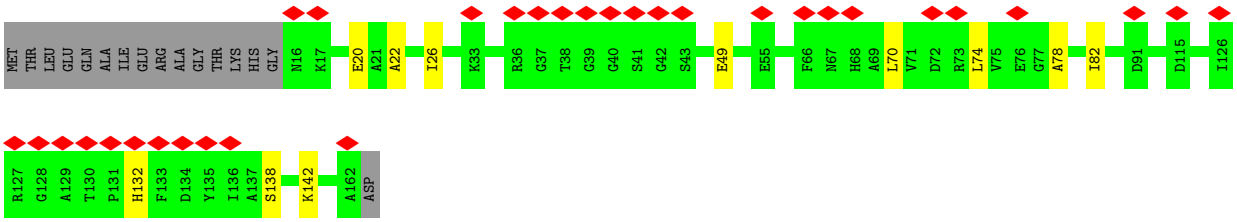

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain QC:

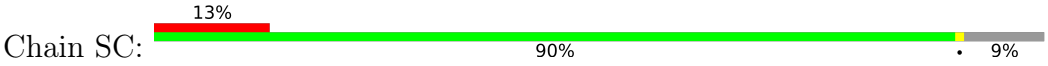


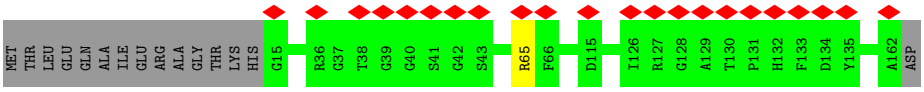



• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

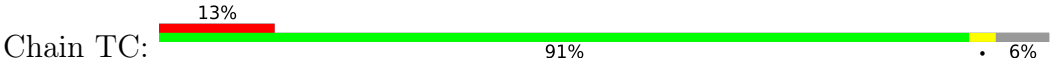



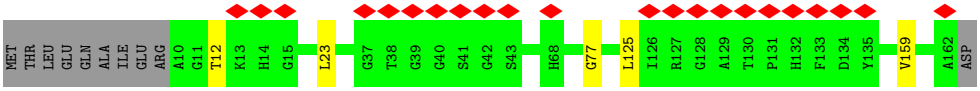

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



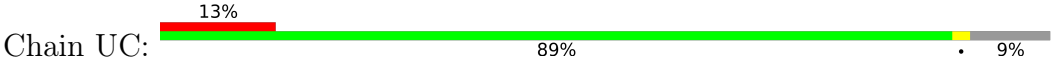



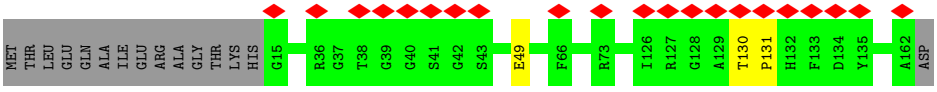

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



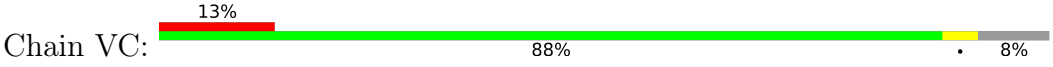



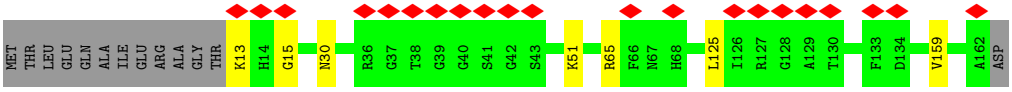

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



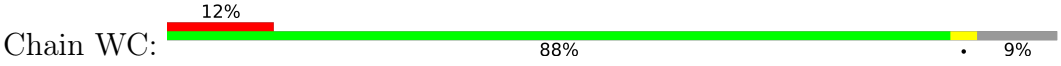



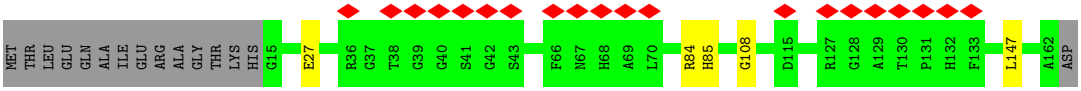

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



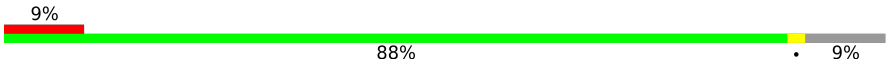

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

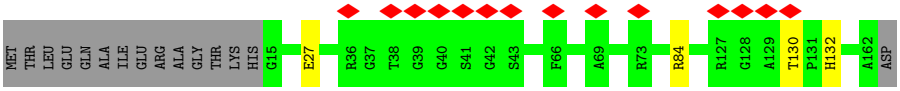





• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

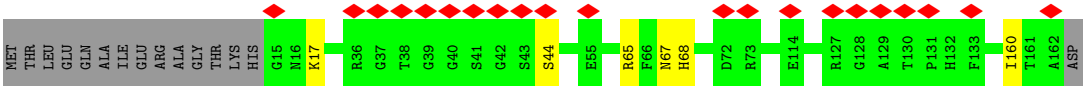
Chain XC:



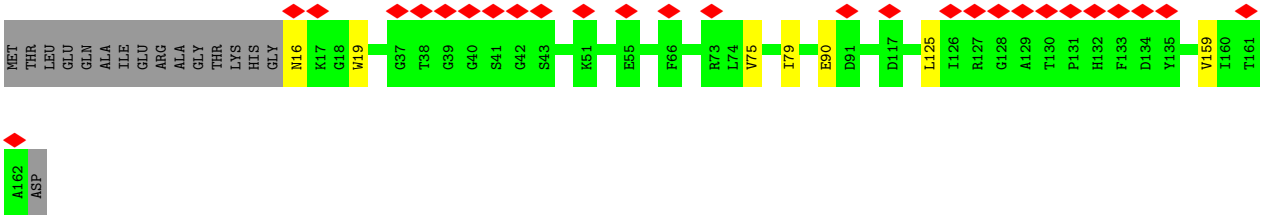

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain YC:

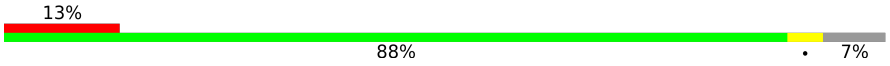

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

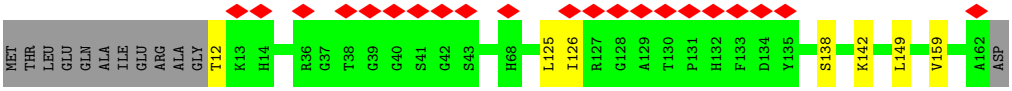
Chain ZC:


• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

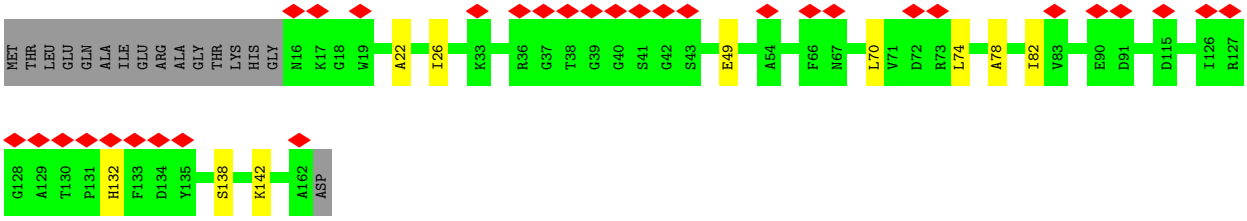
Chain AD:



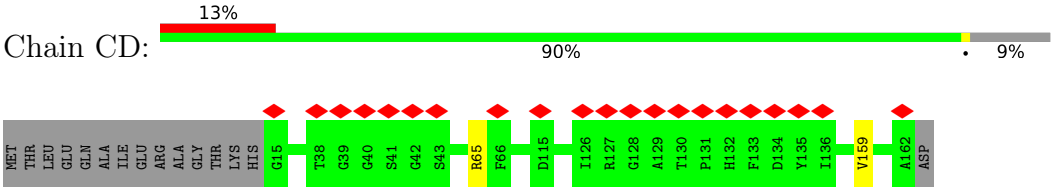

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain BD:

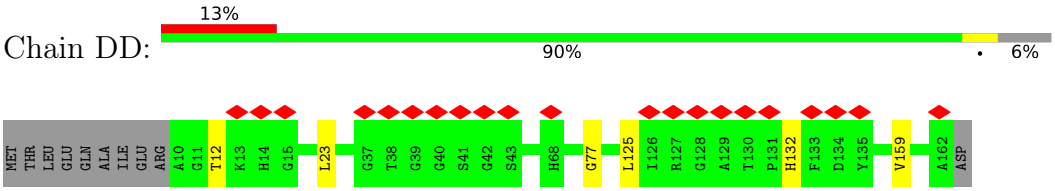

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain CD:



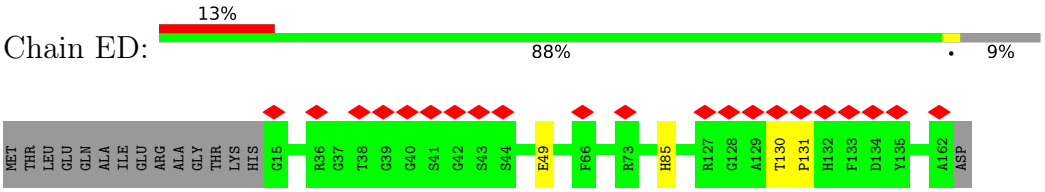

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain DD:



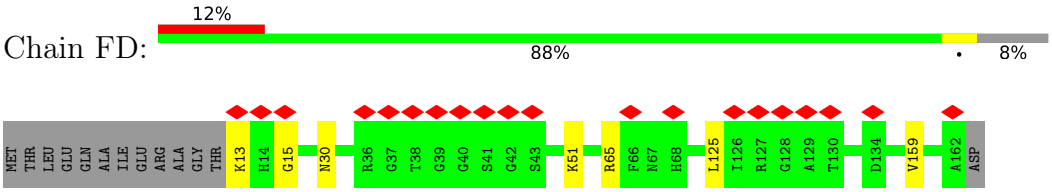

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain ED:



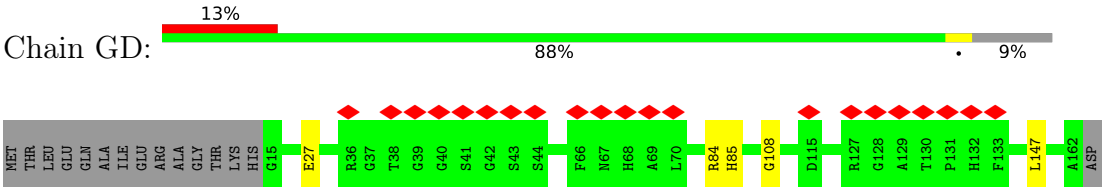

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain FD:



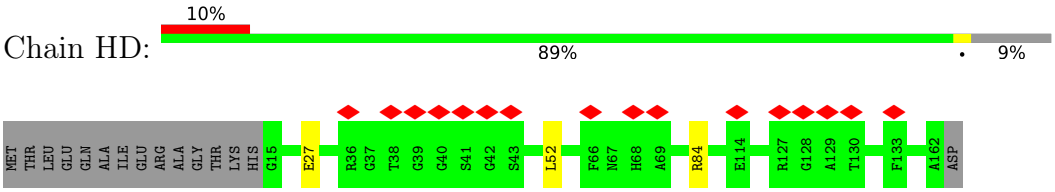

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain GD:



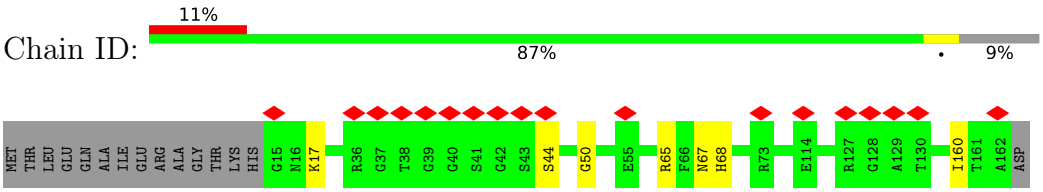

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain HD:



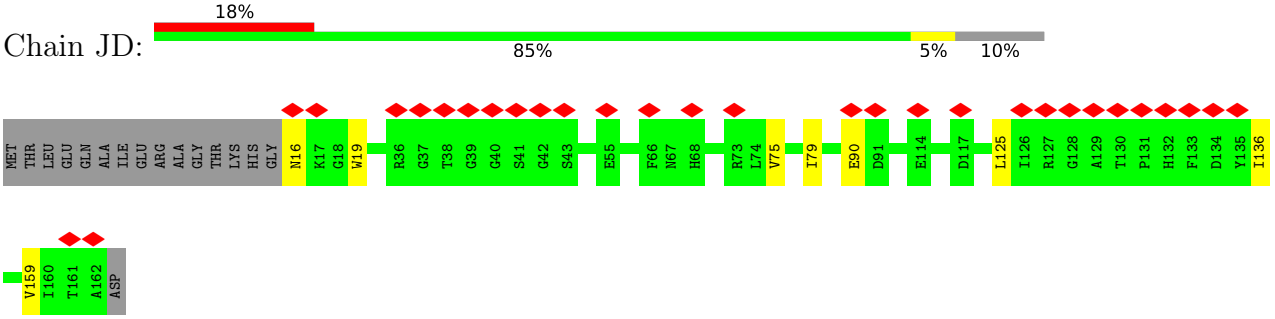

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain ID:



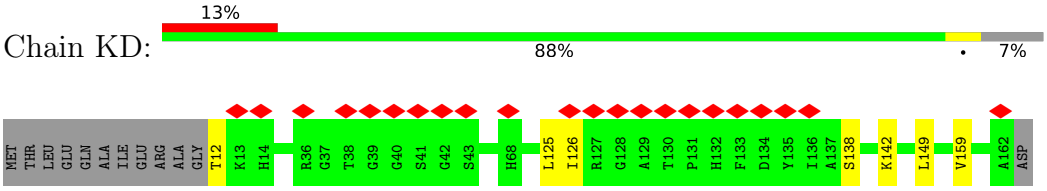
• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain JD:



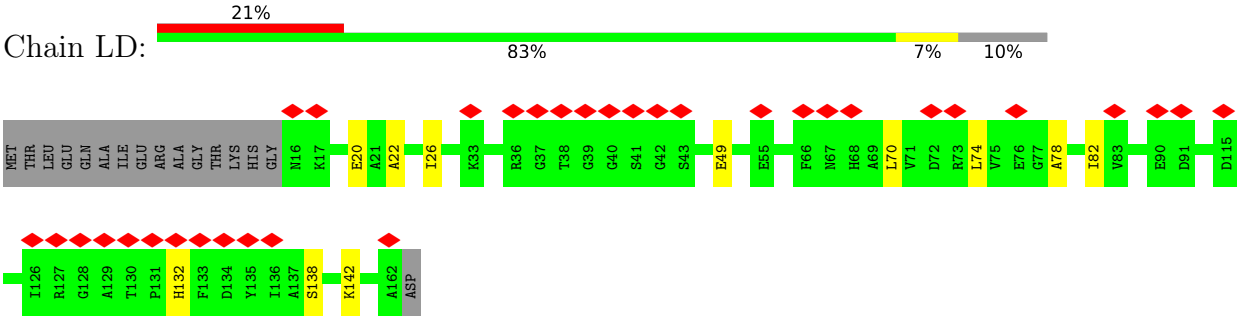

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain KD:



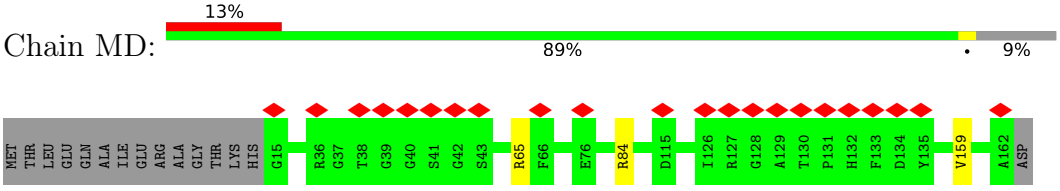

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain LD:



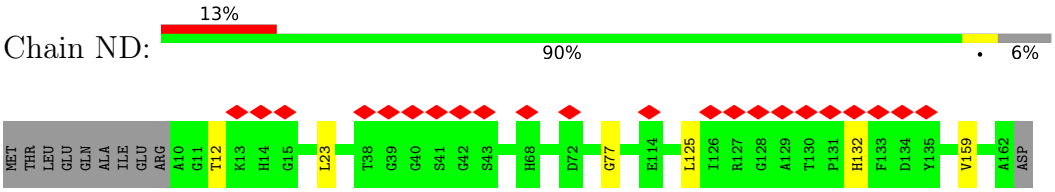

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

Chain MD:



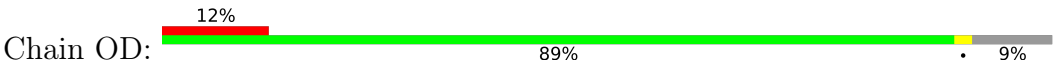

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

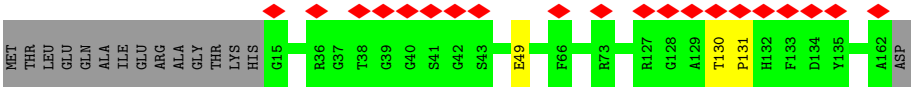
Chain ND:



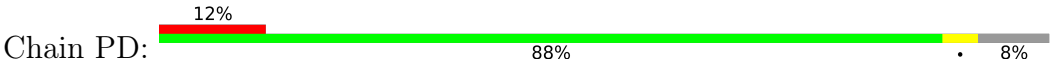

• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase

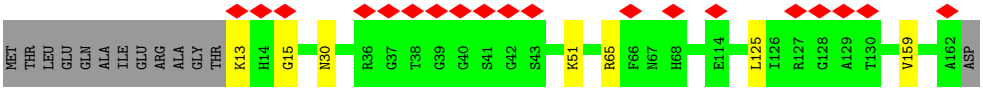
Chain OD:






• Molecule 1: 6,7-dimethyl-8-ribityllumazine synthase



# 4 Experimental information (i)

| Property | Value | Source |
|---|---|---|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, T | Depositor |
| Number of particles used | 83496 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope | TFS KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/Å^2$) | 40 | Depositor |
| Minimum defocus (nm) | 900 | Depositor |
| Maximum defocus (nm) | 2100 | Depositor |
| Magnification | 105000 | Depositor |
| Image detector | GATAN K3 BIOCONTINUUM (6k x 4k) | Depositor |
| Maximum map value | 2.016 | Depositor |
| Minimum map value | -0.064 | Depositor |
| Average map value | 0.011 | Depositor |
| Map value standard deviation | 0.074 | Depositor |
| Recommended contour level | 0.2 | Depositor |
| Map size (Å) | 292.4, 292.4, 292.4 | wwPDB |
| Map dimensions | 340, 340, 340 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 0.85999995, 0.85999995, 0.85999995 | Depositor |

# 5 Model quality

## 5.1 Standard geometry

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 | 0.17 | 0/1125 | 0.25 | 0/1519 |
| 1 | AA | 0.17 | 0/1125 | 0.29 | 0/1519 |
| 1 | AB | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | AC | 0.18 | 0/1125 | 0.27 | 0/1519 |
| 1 | AD | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | B | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | BA | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | BB | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | BC | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | BD | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | C | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | CA | 0.19 | 0/1125 | 0.26 | 0/1519 |
| 1 | CB | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | CC | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | CD | 0.18 | 0/1125 | 0.29 | 0/1519 |
| 1 | D | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | DA | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | DB | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | DC | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | DD | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | E | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | EA | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | EB | 0.17 | 0/1125 | 0.29 | 0/1519 |
| 1 | EC | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | ED | 0.19 | 0/1125 | 0.26 | 0/1519 |
| 1 | F | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | FA | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | FB | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | FC | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | FD | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | G | 0.17 | 0/1125 | 0.29 | 0/1519 |
| 1 | GA | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | GB | 0.19 | 0/1125 | 0.26 | 0/1519 |
| 1 | GC | 0.17 | 0/1152 | 0.26 | 0/1555 |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | $\#\|Z\| > 5$ | RMSZ | $\#\|Z\| > 5$ |
| 1 | GD | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | H | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | HA | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | HB | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | HC | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | HD | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | I | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | IA | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | IB | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | IC | 0.17 | 0/1125 | 0.29 | 0/1519 |
| 1 | ID | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | J | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | JA | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | JB | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | JC | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | JD | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | K | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | KA | 0.18 | 0/1125 | 0.29 | 0/1519 |
| 1 | KB | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | KC | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | KD | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | L | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | LA | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | LB | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | LC | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | LD | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | M | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | MA | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | MB | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | MC | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | MD | 0.18 | 0/1125 | 0.29 | 0/1519 |
| 1 | N | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | NA | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | NB | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | NC | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | ND | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | O | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | OA | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | OB | 0.17 | 0/1125 | 0.29 | 0/1519 |
| 1 | OC | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | OD | 0.19 | 0/1125 | 0.26 | 0/1519 |
| 1 | P | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | PA | 0.18 | 0/1125 | 0.26 | 0/1519 |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | $\#\|Z\|>5$ | RMSZ | $\#\|Z\|>5$ |
| 1 | PB | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | PC | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | PD | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | Q | 0.18 | 0/1125 | 0.29 | 0/1519 |
| 1 | QA | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | QB | 0.19 | 0/1125 | 0.26 | 0/1519 |
| 1 | QC | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | R | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | RA | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | RB | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | RC | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | S | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | SA | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | SB | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | SC | 0.17 | 0/1125 | 0.29 | 0/1519 |
| 1 | T | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | TA | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | TB | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | TC | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | U | 0.17 | 0/1125 | 0.25 | 0/1519 |
| 1 | UA | 0.18 | 0/1125 | 0.29 | 0/1519 |
| 1 | UB | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | UC | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | V | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | VA | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | VB | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | VC | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | W | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | WA | 0.19 | 0/1125 | 0.27 | 0/1519 |
| 1 | WB | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | WC | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | X | 0.14 | 0/1121 | 0.24 | 0/1514 |
| 1 | XA | 0.18 | 0/1145 | 0.25 | 0/1545 |
| 1 | XB | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | XC | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | Y | 0.17 | 0/1152 | 0.26 | 0/1555 |
| 1 | YA | 0.17 | 0/1125 | 0.26 | 0/1519 |
| 1 | YB | 0.17 | 0/1125 | 0.29 | 0/1519 |
| 1 | YC | 0.18 | 0/1125 | 0.31 | 0/1519 |
| 1 | Z | 0.14 | 0/1121 | 0.25 | 0/1514 |
| 1 | ZA | 0.18 | 0/1125 | 0.26 | 0/1519 |
| 1 | ZB | 0.23 | 0/1161 | 0.35 | 0/1567 |
| 1 | ZC | 0.14 | 0/1121 | 0.24 | 0/1514 |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | $\#\|Z\| > 5$ | RMSZ | $\#\|Z\| > 5$ |
| All | All | 0.18 | 0/135900 | 0.27 | 0/183480 |

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 | 1108 | 0 | 1126 | 7 | 0 |
| 1 | AA | 1108 | 0 | 1126 | 2 | 0 |
| 1 | AB | 1108 | 0 | 1126 | 6 | 0 |
| 1 | AC | 1108 | 0 | 1126 | 2 | 0 |
| 1 | AD | 1134 | 0 | 1153 | 5 | 0 |
| 1 | B | 1108 | 0 | 1126 | 5 | 0 |
| 1 | BA | 1143 | 0 | 1161 | 5 | 0 |
| 1 | BB | 1104 | 0 | 1123 | 7 | 0 |
| 1 | BC | 1127 | 0 | 1146 | 5 | 0 |
| 1 | BD | 1104 | 0 | 1123 | 6 | 0 |
| 1 | C | 1108 | 0 | 1126 | 7 | 0 |
| 1 | CA | 1108 | 0 | 1126 | 2 | 0 |
| 1 | CB | 1134 | 0 | 1153 | 5 | 0 |
| 1 | CC | 1108 | 0 | 1126 | 8 | 0 |
| 1 | CD | 1108 | 0 | 1126 | 2 | 0 |
| 1 | D | 1104 | 0 | 1123 | 5 | 0 |
| 1 | DA | 1127 | 0 | 1146 | 6 | 0 |
| 1 | DB | 1104 | 0 | 1123 | 7 | 0 |
| 1 | DC | 1108 | 0 | 1126 | 4 | 0 |
| 1 | DD | 1143 | 0 | 1161 | 5 | 0 |
| 1 | E | 1134 | 0 | 1153 | 5 | 0 |
| 1 | EA | 1108 | 0 | 1126 | 8 | 0 |
| 1 | EB | 1108 | 0 | 1126 | 1 | 0 |
| 1 | EC | 1108 | 0 | 1126 | 6 | 0 |
| 1 | ED | 1108 | 0 | 1126 | 3 | 0 |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 1 | F | 1104 | 0 | 1123 | 7 | 0 |
| 1 | FA | 1108 | 0 | 1126 | 4 | 0 |
| 1 | FB | 1143 | 0 | 1161 | 4 | 0 |
| 1 | FC | 1104 | 0 | 1123 | 6 | 0 |
| 1 | FD | 1127 | 0 | 1146 | 5 | 0 |
| 1 | G | 1108 | 0 | 1126 | 1 | 0 |
| 1 | GA | 1108 | 0 | 1126 | 7 | 0 |
| 1 | GB | 1108 | 0 | 1126 | 2 | 0 |
| 1 | GC | 1134 | 0 | 1153 | 5 | 0 |
| 1 | GD | 1108 | 0 | 1126 | 8 | 0 |
| 1 | H | 1143 | 0 | 1161 | 4 | 0 |
| 1 | HA | 1104 | 0 | 1123 | 7 | 0 |
| 1 | HB | 1127 | 0 | 1146 | 5 | 0 |
| 1 | HC | 1104 | 0 | 1123 | 6 | 0 |
| 1 | HD | 1108 | 0 | 1126 | 4 | 0 |
| 1 | I | 1108 | 0 | 1126 | 2 | 0 |
| 1 | IA | 1134 | 0 | 1153 | 5 | 0 |
| 1 | IB | 1108 | 0 | 1126 | 8 | 0 |
| 1 | IC | 1108 | 0 | 1126 | 2 | 0 |
| 1 | ID | 1108 | 0 | 1126 | 7 | 0 |
| 1 | J | 1127 | 0 | 1146 | 5 | 0 |
| 1 | JA | 1104 | 0 | 1123 | 7 | 0 |
| 1 | JB | 1108 | 0 | 1126 | 4 | 0 |
| 1 | JC | 1143 | 0 | 1161 | 5 | 0 |
| 1 | JD | 1104 | 0 | 1123 | 7 | 0 |
| 1 | K | 1108 | 0 | 1126 | 8 | 0 |
| 1 | KA | 1108 | 0 | 1126 | 3 | 0 |
| 1 | KB | 1108 | 0 | 1126 | 7 | 0 |
| 1 | KC | 1108 | 0 | 1126 | 2 | 0 |
| 1 | KD | 1134 | 0 | 1153 | 5 | 0 |
| 1 | L | 1108 | 0 | 1126 | 3 | 0 |
| 1 | LA | 1143 | 0 | 1161 | 5 | 0 |
| 1 | LB | 1104 | 0 | 1123 | 7 | 0 |
| 1 | LC | 1127 | 0 | 1146 | 6 | 0 |
| 1 | LD | 1104 | 0 | 1123 | 7 | 0 |
| 1 | M | 1108 | 0 | 1126 | 6 | 0 |
| 1 | MA | 1108 | 0 | 1126 | 2 | 0 |
| 1 | MB | 1134 | 0 | 1153 | 5 | 0 |
| 1 | MC | 1108 | 0 | 1126 | 8 | 0 |
| 1 | MD | 1108 | 0 | 1126 | 3 | 0 |
| 1 | N | 1104 | 0 | 1123 | 6 | 0 |
| 1 | NA | 1127 | 0 | 1146 | 4 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 1 | NB | 1104 | 0 | 1123 | 7 | 0 |
| 1 | NC | 1108 | 0 | 1126 | 4 | 0 |
| 1 | ND | 1143 | 0 | 1161 | 5 | 0 |
| 1 | O | 1134 | 0 | 1153 | 5 | 0 |
| 1 | OA | 1108 | 0 | 1126 | 8 | 0 |
| 1 | OB | 1108 | 0 | 1126 | 3 | 0 |
| 1 | OC | 1108 | 0 | 1126 | 6 | 0 |
| 1 | OD | 1108 | 0 | 1126 | 2 | 0 |
| 1 | P | 1104 | 0 | 1123 | 6 | 0 |
| 1 | PA | 1108 | 0 | 1126 | 4 | 0 |
| 1 | PB | 1143 | 0 | 1161 | 5 | 0 |
| 1 | PC | 1104 | 0 | 1123 | 6 | 0 |
| 1 | PD | 1127 | 0 | 1146 | 5 | 0 |
| 1 | Q | 1108 | 0 | 1126 | 3 | 0 |
| 1 | QA | 1108 | 0 | 1126 | 7 | 0 |
| 1 | QB | 1108 | 0 | 1126 | 3 | 0 |
| 1 | QC | 1134 | 0 | 1153 | 5 | 0 |
| 1 | R | 1143 | 0 | 1161 | 5 | 0 |
| 1 | RA | 1104 | 0 | 1123 | 7 | 0 |
| 1 | RB | 1127 | 0 | 1146 | 5 | 0 |
| 1 | RC | 1104 | 0 | 1123 | 7 | 0 |
| 1 | S | 1108 | 0 | 1126 | 2 | 0 |
| 1 | SA | 1134 | 0 | 1153 | 5 | 0 |
| 1 | SB | 1108 | 0 | 1126 | 7 | 0 |
| 1 | SC | 1108 | 0 | 1126 | 1 | 0 |
| 1 | T | 1127 | 0 | 1146 | 4 | 0 |
| 1 | TA | 1104 | 0 | 1123 | 7 | 0 |
| 1 | TB | 1108 | 0 | 1126 | 4 | 0 |
| 1 | TC | 1143 | 0 | 1161 | 4 | 0 |
| 1 | U | 1108 | 0 | 1126 | 8 | 0 |
| 1 | UA | 1108 | 0 | 1126 | 3 | 0 |
| 1 | UB | 1108 | 0 | 1126 | 6 | 0 |
| 1 | UC | 1108 | 0 | 1126 | 2 | 0 |
| 1 | V | 1108 | 0 | 1126 | 4 | 0 |
| 1 | VA | 1143 | 0 | 1161 | 5 | 0 |
| 1 | VB | 1104 | 0 | 1123 | 7 | 0 |
| 1 | VC | 1127 | 0 | 1145 | 5 | 0 |
| 1 | W | 1108 | 0 | 1126 | 6 | 0 |
| 1 | WA | 1108 | 0 | 1126 | 2 | 0 |
| 1 | WB | 1134 | 0 | 1153 | 5 | 0 |
| 1 | WC | 1108 | 0 | 1126 | 8 | 0 |
| 1 | X | 1104 | 0 | 1123 | 6 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 1 | XA | 1127 | 0 | 1146 | 4 | 0 |
| 1 | XB | 1104 | 0 | 1123 | 7 | 0 |
| 1 | XC | 1108 | 0 | 1126 | 4 | 0 |
| 1 | Y | 1134 | 0 | 1153 | 5 | 0 |
| 1 | YA | 1108 | 0 | 1126 | 8 | 0 |
| 1 | YB | 1108 | 0 | 1126 | 2 | 0 |
| 1 | YC | 1108 | 0 | 1126 | 6 | 0 |
| 1 | Z | 1104 | 0 | 1123 | 7 | 0 |
| 1 | ZA | 1108 | 0 | 1126 | 4 | 0 |
| 1 | ZB | 1143 | 0 | 1161 | 5 | 0 |
| 1 | ZC | 1104 | 0 | 1123 | 5 | 0 |
| All | All | 133824 | 0 | 136031 | 446 | 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.

All (446) 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:A:27:GLU:OE1 | 1:L:84:ARG:NH1 | 2.14 | 0.79 |
| 1:ZA:84:ARG:NH1 | 1:CC:27:GLU:OE1 | 2.16 | 0.78 |
| 1:B:84:ARG:NH1 | 1:GD:27:GLU:OE1 | 2.16 | 0.78 |
| 1:K:27:GLU:OE1 | 1:HD:84:ARG:NH1 | 2.17 | 0.78 |
| 1:TB:84:ARG:NH1 | 1:MC:27:GLU:OE1 | 2.16 | 0.78 |
| 1:U:27:GLU:OE1 | 1:DC:84:ARG:NH1 | 2.19 | 0.75 |
| 1:FA:84:ARG:NH1 | 1:IB:27:GLU:OE1 | 2.18 | 0.75 |
| 1:OA:27:GLU:OE1 | 1:JB:84:ARG:NH1 | 2.18 | 0.75 |
| 1:EA:27:GLU:OE1 | 1:PA:84:ARG:NH1 | 2.19 | 0.74 |
| 1:V:84:ARG:NH1 | 1:YA:27:GLU:OE1 | 2.20 | 0.74 |
| 1:NC:84:ARG:NH1 | 1:WC:27:GLU:OE1 | 2.20 | 0.73 |
| 1:SB:27:GLU:OE1 | 1:XC:84:ARG:NH1 | 2.21 | 0.73 |
| 1:Y:12:THR:HB | 1:BA:23:LEU:HD11 | 1.74 | 0.69 |
| 1:SA:12:THR:HB | 1:VA:23:LEU:HD11 | 1.74 | 0.69 |
| 1:GC:12:THR:HB | 1:JC:23:LEU:HD11 | 1.74 | 0.69 |
| 1:O:12:THR:HB | 1:R:23:LEU:HD11 | 1.74 | 0.69 |
| 1:MB:12:THR:HB | 1:PB:23:LEU:HD11 | 1.74 | 0.69 |
| 1:QC:12:THR:HB | 1:TC:23:LEU:HD11 | 1.74 | 0.69 |
| 1:E:12:THR:HB | 1:H:23:LEU:HD11 | 1.74 | 0.68 |
| 1:CB:12:THR:HB | 1:FB:23:LEU:HD11 | 1.74 | 0.68 |
| 1:IA:12:THR:HB | 1:LA:23:LEU:HD11 | 1.74 | 0.68 |
| 1:KD:12:THR:HB | 1:ND:23:LEU:HD11 | 1.74 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AD:12:THR:HB | 1:DD:23:LEU:HD11 | 1.74 | 0.68 |
| 1:WB:12:THR:HB | 1:ZB:23:LEU:HD11 | 1.74 | 0.68 |
| 1:SA:138:SER:OG | 1:SA:142:LYS:NZ | 2.29 | 0.66 |
| 1:O:138:SER:OG | 1:O:142:LYS:NZ | 2.29 | 0.66 |
| 1:IA:138:SER:OG | 1:IA:142:LYS:NZ | 2.29 | 0.66 |
| 1:KD:138:SER:OG | 1:KD:142:LYS:NZ | 2.29 | 0.66 |
| 1:MB:138:SER:OG | 1:MB:142:LYS:NZ | 2.29 | 0.66 |
| 1:WB:138:SER:OG | 1:WB:142:LYS:NZ | 2.29 | 0.66 |
| 1:AD:138:SER:OG | 1:AD:142:LYS:NZ | 2.29 | 0.65 |
| 1:K:84:ARG:NH1 | 1:HD:27:GLU:OE2 | 2.29 | 0.65 |
| 1:Y:138:SER:OG | 1:Y:142:LYS:NZ | 2.29 | 0.65 |
| 1:CB:138:SER:OG | 1:CB:142:LYS:NZ | 2.29 | 0.65 |
| 1:GC:138:SER:OG | 1:GC:142:LYS:NZ | 2.29 | 0.65 |
| 1:E:138:SER:OG | 1:E:142:LYS:NZ | 2.29 | 0.65 |
| 1:QC:138:SER:OG | 1:QC:142:LYS:NZ | 2.29 | 0.65 |
| 1:U:84:ARG:NH1 | 1:DC:27:GLU:OE2 | 2.29 | 0.65 |
| 1:OA:84:ARG:NH1 | 1:JB:27:GLU:OE2 | 2.31 | 0.64 |
| 1:NB:138:SER:OG | 1:NB:142:LYS:NZ | 2.32 | 0.63 |
| 1:HC:138:SER:OG | 1:HC:142:LYS:NZ | 2.32 | 0.63 |
| 1:P:138:SER:OG | 1:P:142:LYS:NZ | 2.32 | 0.63 |
| 1:XB:138:SER:OG | 1:XB:142:LYS:NZ | 2.32 | 0.63 |
| 1:RC:138:SER:OG | 1:RC:142:LYS:NZ | 2.32 | 0.63 |
| 1:LD:138:SER:OG | 1:LD:142:LYS:NZ | 2.32 | 0.63 |
| 1:F:138:SER:OG | 1:F:142:LYS:NZ | 2.32 | 0.63 |
| 1:V:27:GLU:OE2 | 1:YA:84:ARG:NH1 | 2.32 | 0.62 |
| 1:TA:138:SER:OG | 1:TA:142:LYS:NZ | 2.32 | 0.62 |
| 1:Z:138:SER:OG | 1:Z:142:LYS:NZ | 2.32 | 0.62 |
| 1:JA:138:SER:OG | 1:JA:142:LYS:NZ | 2.32 | 0.62 |
| 1:BD:138:SER:OG | 1:BD:142:LYS:NZ | 2.32 | 0.62 |
| 1:DB:138:SER:OG | 1:DB:142:LYS:NZ | 2.32 | 0.62 |
| 1:EA:84:ARG:NH1 | 1:PA:27:GLU:OE2 | 2.33 | 0.61 |
| 1:A:84:ARG:NH1 | 1:L:27:GLU:OE2 | 2.34 | 0.61 |
| 1:ZA:27:GLU:OE2 | 1:CC:84:ARG:NH1 | 2.34 | 0.61 |
| 1:TB:27:GLU:OE2 | 1:MC:84:ARG:NH1 | 2.35 | 0.60 |
| 1:NC:27:GLU:OE2 | 1:WC:84:ARG:NH1 | 2.33 | 0.60 |
| 1:FA:27:GLU:OE2 | 1:IB:84:ARG:NH1 | 2.35 | 0.60 |
| 1:ED:49:GLU:OE2 | 1:FD:65:ARG:NH2 | 2.36 | 0.59 |
| 1:B:27:GLU:OE2 | 1:GD:84:ARG:NH1 | 2.35 | 0.59 |
| 1:S:49:GLU:OE2 | 1:T:65:ARG:NH2 | 2.36 | 0.58 |
| 1:QB:49:GLU:OE2 | 1:RB:65:ARG:NH2 | 2.36 | 0.58 |
| 1:UC:49:GLU:OE2 | 1:VC:65:ARG:NH2 | 2.36 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:U:84:ARG:NH1 | 1:EC:65:ARG:HH12 | 2.01 | 0.58 |
| 1:WA:49:GLU:OE2 | 1:XA:65:ARG:NH2 | 2.36 | 0.57 |
| 1:CA:49:GLU:OE2 | 1:DA:65:ARG:NH2 | 2.36 | 0.57 |
| 1:SB:84:ARG:NH1 | 1:XC:27:GLU:OE2 | 2.37 | 0.57 |
| 1:KC:49:GLU:OE2 | 1:LC:65:ARG:NH2 | 2.36 | 0.57 |
| 1:MA:49:GLU:OE2 | 1:NA:65:ARG:NH2 | 2.36 | 0.56 |
| 1:I:49:GLU:OE2 | 1:J:65:ARG:NH2 | 2.36 | 0.56 |
| 1:GB:49:GLU:OE2 | 1:HB:65:ARG:NH2 | 2.36 | 0.56 |
| 1:OD:49:GLU:OE2 | 1:PD:65:ARG:NH2 | 2.36 | 0.56 |
| 1:U:84:ARG:NH1 | 1:EC:65:ARG:NH1 | 2.54 | 0.55 |
| 1:W:65:ARG:HH12 | 1:YA:84:ARG:NH1 | 2.05 | 0.54 |
| 1:C:67:ASN:OD1 | 1:C:68:HIS:N | 2.41 | 0.54 |
| 1:OC:67:ASN:OD1 | 1:OC:68:HIS:N | 2.41 | 0.54 |
| 1:GA:67:ASN:OD1 | 1:GA:68:HIS:N | 2.41 | 0.54 |
| 1:YA:108:GLY:CA | 1:YA:147:LEU:HD21 | 2.38 | 0.54 |
| 1:AB:67:ASN:OD1 | 1:AB:68:HIS:N | 2.41 | 0.54 |
| 1:RB:125:LEU:HD13 | 1:RB:159:VAL:CG1 | 2.38 | 0.54 |
| 1:EC:67:ASN:OD1 | 1:EC:68:HIS:N | 2.41 | 0.54 |
| 1:U:108:GLY:CA | 1:U:147:LEU:HD21 | 2.38 | 0.54 |
| 1:AC:49:GLU:OE2 | 1:BC:65:ARG:NH2 | 2.36 | 0.54 |
| 1:J:125:LEU:HD13 | 1:J:159:VAL:CG1 | 2.38 | 0.54 |
| 1:OA:84:ARG:NH1 | 1:KB:65:ARG:HH12 | 2.05 | 0.54 |
| 1:FD:125:LEU:HD13 | 1:FD:159:VAL:CG1 | 2.38 | 0.54 |
| 1:KB:67:ASN:OD1 | 1:KB:68:HIS:N | 2.41 | 0.54 |
| 1:BC:125:LEU:HD13 | 1:BC:159:VAL:CG1 | 2.38 | 0.54 |
| 1:A:108:GLY:CA | 1:A:147:LEU:HD21 | 2.38 | 0.54 |
| 1:C:50:GLY:O | 1:MD:84:ARG:NH2 | 2.39 | 0.54 |
| 1:W:67:ASN:OD1 | 1:W:68:HIS:N | 2.41 | 0.54 |
| 1:OA:108:GLY:CA | 1:OA:147:LEU:HD21 | 2.38 | 0.54 |
| 1:CC:108:GLY:CA | 1:CC:147:LEU:HD21 | 2.38 | 0.54 |
| 1:LC:125:LEU:HD13 | 1:LC:159:VAL:CG1 | 2.38 | 0.54 |
| 1:YC:67:ASN:OD1 | 1:YC:68:HIS:N | 2.41 | 0.54 |
| 1:GD:108:GLY:CA | 1:GD:147:LEU:HD21 | 2.38 | 0.54 |
| 1:PD:125:LEU:HD13 | 1:PD:159:VAL:CG1 | 2.38 | 0.54 |
| 1:T:125:LEU:HD13 | 1:T:159:VAL:CG1 | 2.38 | 0.54 |
| 1:EA:108:GLY:CA | 1:EA:147:LEU:HD21 | 2.38 | 0.54 |
| 1:W:65:ARG:NH1 | 1:YA:84:ARG:NH1 | 2.56 | 0.53 |
| 1:XA:125:LEU:HD13 | 1:XA:159:VAL:CG1 | 2.38 | 0.53 |
| 1:M:67:ASN:OD1 | 1:M:68:HIS:N | 2.41 | 0.53 |
| 1:NA:125:LEU:HD13 | 1:NA:159:VAL:CG1 | 2.38 | 0.53 |
| 1:LA:12:THR:HG22 | 1:LA:77:GLY:HA2 | 1.91 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:65:ARG:HH12 | 1:CC:84:ARG:NH1 | 2.07 | 0.53 |
| 1:K:108:GLY:CA | 1:K:147:LEU:HD21 | 2.38 | 0.53 |
| 1:DA:125:LEU:HD13 | 1:DA:159:VAL:CG1 | 2.38 | 0.53 |
| 1:HB:125:LEU:HD13 | 1:HB:159:VAL:CG1 | 2.38 | 0.53 |
| 1:UB:67:ASN:OD1 | 1:UB:68:HIS:N | 2.41 | 0.53 |
| 1:VC:125:LEU:HD13 | 1:VC:159:VAL:CG1 | 2.38 | 0.53 |
| 1:WC:108:GLY:CA | 1:WC:147:LEU:HD21 | 2.38 | 0.53 |
| 1:BA:12:THR:HG22 | 1:BA:77:GLY:HA2 | 1.91 | 0.53 |
| 1:QA:67:ASN:OD1 | 1:QA:68:HIS:N | 2.41 | 0.53 |
| 1:VA:12:THR:HG22 | 1:VA:77:GLY:HA2 | 1.91 | 0.53 |
| 1:PB:12:THR:HG22 | 1:PB:77:GLY:HA2 | 1.91 | 0.53 |
| 1:SB:108:GLY:CA | 1:SB:147:LEU:HD21 | 2.38 | 0.53 |
| 1:OC:65:ARG:HH12 | 1:WC:84:ARG:NH1 | 2.06 | 0.53 |
| 1:ID:67:ASN:OD1 | 1:ID:68:HIS:N | 2.41 | 0.53 |
| 1:EA:84:ARG:NH1 | 1:QA:65:ARG:HH12 | 2.07 | 0.53 |
| 1:BD:22:ALA:O | 1:BD:26:ILE:HD12 | 2.09 | 0.53 |
| 1:ZB:12:THR:HG22 | 1:ZB:77:GLY:HA2 | 1.91 | 0.53 |
| 1:MC:108:GLY:CA | 1:MC:147:LEU:HD21 | 2.38 | 0.53 |
| 1:LD:22:ALA:O | 1:LD:26:ILE:HD12 | 2.09 | 0.53 |
| 1:TA:22:ALA:O | 1:TA:26:ILE:HD12 | 2.09 | 0.52 |
| 1:R:12:THR:HG22 | 1:R:77:GLY:HA2 | 1.91 | 0.52 |
| 1:XB:22:ALA:O | 1:XB:26:ILE:HD12 | 2.10 | 0.52 |
| 1:OC:65:ARG:NH1 | 1:WC:84:ARG:NH1 | 2.58 | 0.52 |
| 1:P:132:HIS:NE2 | 1:T:159:VAL:O | 2.43 | 0.52 |
| 1:Z:132:HIS:NE2 | 1:DA:159:VAL:O | 2.43 | 0.52 |
| 1:DD:12:THR:HG22 | 1:DD:77:GLY:HA2 | 1.91 | 0.52 |
| 1:ND:12:THR:HG22 | 1:ND:77:GLY:HA2 | 1.91 | 0.52 |
| 1:XB:132:HIS:NE2 | 1:BC:159:VAL:O | 2.43 | 0.52 |
| 1:TC:12:THR:HG22 | 1:TC:77:GLY:HA2 | 1.91 | 0.52 |
| 1:TA:132:HIS:NE2 | 1:XA:159:VAL:O | 2.43 | 0.52 |
| 1:IB:108:GLY:CA | 1:IB:147:LEU:HD21 | 2.38 | 0.52 |
| 1:NB:22:ALA:O | 1:NB:26:ILE:HD12 | 2.09 | 0.52 |
| 1:NB:132:HIS:NE2 | 1:RB:159:VAL:O | 2.43 | 0.52 |
| 1:RC:132:HIS:NE2 | 1:VC:159:VAL:O | 2.43 | 0.52 |
| 1:F:132:HIS:NE2 | 1:J:159:VAL:O | 2.43 | 0.52 |
| 1:Z:22:ALA:O | 1:Z:26:ILE:HD12 | 2.10 | 0.52 |
| 1:JA:132:HIS:NE2 | 1:NA:159:VAL:O | 2.43 | 0.52 |
| 1:FB:12:THR:HG22 | 1:FB:77:GLY:HA2 | 1.91 | 0.52 |
| 1:RC:22:ALA:O | 1:RC:26:ILE:HD12 | 2.09 | 0.52 |
| 1:BD:132:HIS:NE2 | 1:FD:159:VAL:O | 2.43 | 0.52 |
| 1:DC:27:GLU:OE2 | 1:EC:65:ARG:NH1 | 2.43 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:H:12:THR:HG22 | 1:H:77:GLY:HA2 | 1.91 | 0.51 |
| 1:JC:12:THR:HG22 | 1:JC:77:GLY:HA2 | 1.91 | 0.51 |
| 1:F:22:ALA:O | 1:F:26:ILE:HD12 | 2.09 | 0.51 |
| 1:K:84:ARG:NH1 | 1:ID:65:ARG:HH12 | 2.07 | 0.51 |
| 1:FA:27:GLU:OE2 | 1:GA:65:ARG:NH1 | 2.43 | 0.51 |
| 1:JA:22:ALA:O | 1:JA:26:ILE:HD12 | 2.10 | 0.51 |
| 1:DB:22:ALA:O | 1:DB:26:ILE:HD12 | 2.10 | 0.51 |
| 1:HC:22:ALA:O | 1:HC:26:ILE:HD12 | 2.09 | 0.51 |
| 1:L:27:GLU:OE2 | 1:M:65:ARG:NH1 | 2.43 | 0.51 |
| 1:GA:65:ARG:HH12 | 1:IB:84:ARG:NH1 | 2.09 | 0.51 |
| 1:P:22:ALA:O | 1:P:26:ILE:HD12 | 2.09 | 0.51 |
| 1:ZA:27:GLU:OE2 | 1:AB:65:ARG:NH1 | 2.43 | 0.51 |
| 1:V:27:GLU:OE2 | 1:W:65:ARG:NH1 | 2.43 | 0.51 |
| 1:LD:132:HIS:NE2 | 1:PD:159:VAL:O | 2.43 | 0.51 |
| 1:DB:132:HIS:NE2 | 1:HB:159:VAL:O | 2.43 | 0.51 |
| 1:HC:132:HIS:NE2 | 1:LC:159:VAL:O | 2.43 | 0.51 |
| 1:XC:27:GLU:OE2 | 1:YC:65:ARG:NH1 | 2.43 | 0.51 |
| 1:B:27:GLU:OE2 | 1:C:65:ARG:NH1 | 2.43 | 0.51 |
| 1:PA:27:GLU:OE2 | 1:QA:65:ARG:NH1 | 2.43 | 0.51 |
| 1:JB:27:GLU:OE2 | 1:KB:65:ARG:NH1 | 2.43 | 0.51 |
| 1:NC:27:GLU:OE2 | 1:OC:65:ARG:NH1 | 2.44 | 0.51 |
| 1:Y:125:LEU:HD13 | 1:Y:159:VAL:HG13 | 1.94 | 0.50 |
| 1:O:125:LEU:HD13 | 1:O:159:VAL:HG13 | 1.94 | 0.50 |
| 1:IA:125:LEU:HD13 | 1:IA:159:VAL:HG13 | 1.94 | 0.50 |
| 1:E:125:LEU:HD13 | 1:E:159:VAL:HG13 | 1.94 | 0.50 |
| 1:K:84:ARG:NH1 | 1:ID:65:ARG:NH1 | 2.59 | 0.50 |
| 1:TB:27:GLU:OE2 | 1:UB:65:ARG:NH1 | 2.43 | 0.50 |
| 1:AD:125:LEU:HD13 | 1:AD:159:VAL:HG13 | 1.94 | 0.50 |
| 1:EA:84:ARG:NH1 | 1:QA:65:ARG:NH1 | 2.59 | 0.50 |
| 1:AB:65:ARG:NH1 | 1:CC:84:ARG:NH1 | 2.59 | 0.50 |
| 1:QC:125:LEU:HD13 | 1:QC:159:VAL:HG13 | 1.94 | 0.50 |
| 1:CB:125:LEU:HD13 | 1:CB:159:VAL:HG13 | 1.94 | 0.50 |
| 1:GC:125:LEU:HD13 | 1:GC:159:VAL:HG13 | 1.94 | 0.50 |
| 1:KD:125:LEU:HD13 | 1:KD:159:VAL:HG13 | 1.94 | 0.50 |
| 1:UA:84:ARG:NH2 | 1:KB:50:GLY:O | 2.41 | 0.50 |
| 1:UB:65:ARG:HH12 | 1:MC:84:ARG:NH1 | 2.10 | 0.50 |
| 1:HD:27:GLU:OE2 | 1:ID:65:ARG:NH1 | 2.43 | 0.50 |
| 1:OA:84:ARG:NH1 | 1:KB:65:ARG:NH1 | 2.59 | 0.50 |
| 1:SA:125:LEU:HD13 | 1:SA:159:VAL:HG13 | 1.94 | 0.50 |
| 1:MB:125:LEU:HD13 | 1:MB:159:VAL:HG13 | 1.94 | 0.49 |
| 1:WB:125:LEU:HD13 | 1:WB:159:VAL:HG13 | 1.94 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:U:85:HIS:CE1 | 1:DC:52:LEU:HD12 | 2.47 | 0.49 |
| 1:UB:65:ARG:NH1 | 1:MC:84:ARG:NH1 | 2.61 | 0.49 |
| 1:C:65:ARG:HH12 | 1:GD:84:ARG:NH1 | 2.11 | 0.48 |
| 1:SB:84:ARG:NH1 | 1:YC:65:ARG:NH1 | 2.62 | 0.48 |
| 1:GA:65:ARG:NH1 | 1:IB:84:ARG:NH1 | 2.62 | 0.48 |
| 1:P:70:LEU:O | 1:P:74:LEU:HD23 | 2.14 | 0.48 |
| 1:Z:70:LEU:O | 1:Z:74:LEU:HD23 | 2.14 | 0.48 |
| 1:JA:70:LEU:O | 1:JA:74:LEU:HD23 | 2.14 | 0.48 |
| 1:A:84:ARG:NH1 | 1:M:65:ARG:HH12 | 2.11 | 0.48 |
| 1:VB:16:ASN:O | 1:VB:19:TRP:NE1 | 2.47 | 0.47 |
| 1:A:84:ARG:NH1 | 1:M:65:ARG:NH1 | 2.62 | 0.47 |
| 1:D:16:ASN:O | 1:D:19:TRP:NE1 | 2.47 | 0.47 |
| 1:GA:50:GLY:O | 1:OB:84:ARG:NH2 | 2.44 | 0.47 |
| 1:LB:16:ASN:O | 1:LB:19:TRP:NE1 | 2.47 | 0.47 |
| 1:NB:70:LEU:O | 1:NB:74:LEU:HD23 | 2.14 | 0.47 |
| 1:TA:70:LEU:O | 1:TA:74:LEU:HD23 | 2.14 | 0.47 |
| 1:BD:70:LEU:O | 1:BD:74:LEU:HD23 | 2.14 | 0.47 |
| 1:BB:16:ASN:O | 1:BB:19:TRP:NE1 | 2.47 | 0.47 |
| 1:DB:70:LEU:O | 1:DB:74:LEU:HD23 | 2.14 | 0.47 |
| 1:SB:84:ARG:NH1 | 1:YC:65:ARG:HH12 | 2.11 | 0.47 |
| 1:HC:70:LEU:O | 1:HC:74:LEU:HD23 | 2.14 | 0.47 |
| 1:YC:44:SER:N | 1:ZC:90:GLU:OE1 | 2.48 | 0.47 |
| 1:ZC:16:ASN:O | 1:ZC:19:TRP:NE1 | 2.47 | 0.47 |
| 1:X:16:ASN:O | 1:X:19:TRP:NE1 | 2.47 | 0.47 |
| 1:XB:70:LEU:O | 1:XB:74:LEU:HD23 | 2.14 | 0.47 |
| 1:EC:44:SER:N | 1:FC:90:GLU:OE1 | 2.48 | 0.47 |
| 1:FC:16:ASN:O | 1:FC:19:TRP:NE1 | 2.47 | 0.47 |
| 1:C:44:SER:N | 1:D:90:GLU:OE1 | 2.48 | 0.47 |
| 1:N:16:ASN:O | 1:N:19:TRP:NE1 | 2.47 | 0.47 |
| 1:W:44:SER:N | 1:X:90:GLU:OE1 | 2.48 | 0.47 |
| 1:HA:16:ASN:O | 1:HA:19:TRP:NE1 | 2.47 | 0.47 |
| 1:QA:44:SER:N | 1:RA:90:GLU:OE1 | 2.48 | 0.47 |
| 1:RA:16:ASN:O | 1:RA:19:TRP:NE1 | 2.47 | 0.47 |
| 1:AB:44:SER:N | 1:BB:90:GLU:OE1 | 2.48 | 0.47 |
| 1:UB:44:SER:N | 1:VB:90:GLU:OE1 | 2.48 | 0.47 |
| 1:OC:44:SER:N | 1:PC:90:GLU:OE1 | 2.48 | 0.47 |
| 1:PC:16:ASN:O | 1:PC:19:TRP:NE1 | 2.47 | 0.47 |
| 1:F:70:LEU:O | 1:F:74:LEU:HD23 | 2.14 | 0.47 |
| 1:M:44:SER:N | 1:N:90:GLU:OE1 | 2.48 | 0.47 |
| 1:LD:70:LEU:O | 1:LD:74:LEU:HD23 | 2.14 | 0.47 |
| 1:KB:44:SER:N | 1:LB:90:GLU:OE1 | 2.48 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:RC:70:LEU:O | 1:RC:74:LEU:HD23 | 2.14 | 0.47 |
| 1:CC:147:LEU:HD13 | 1:GC:149:LEU:HD12 | 1.98 | 0.46 |
| 1:GA:44:SER:N | 1:HA:90:GLU:OE1 | 2.48 | 0.46 |
| 1:ID:44:SER:N | 1:JD:90:GLU:OE1 | 2.48 | 0.46 |
| 1:W:17:LYS:HD3 | 1:W:160:ILE:HG22 | 1.98 | 0.46 |
| 1:YA:147:LEU:HD13 | 1:CB:149:LEU:HD12 | 1.98 | 0.46 |
| 1:IB:147:LEU:HD13 | 1:MB:149:LEU:HD12 | 1.98 | 0.46 |
| 1:SB:108:GLY:HA2 | 1:SB:147:LEU:HD21 | 1.98 | 0.46 |
| 1:EC:17:LYS:HD3 | 1:EC:160:ILE:HG22 | 1.98 | 0.46 |
| 1:JD:16:ASN:O | 1:JD:19:TRP:NE1 | 2.47 | 0.46 |
| 1:A:147:LEU:HD13 | 1:E:149:LEU:HD12 | 1.98 | 0.46 |
| 1:EA:147:LEU:HD13 | 1:IA:149:LEU:HD12 | 1.98 | 0.46 |
| 1:WC:147:LEU:HD13 | 1:AD:149:LEU:HD12 | 1.98 | 0.46 |
| 1:YC:17:LYS:HD3 | 1:YC:160:ILE:HG22 | 1.98 | 0.46 |
| 1:QA:17:LYS:HD3 | 1:QA:160:ILE:HG22 | 1.98 | 0.46 |
| 1:RB:30:ASN:ND2 | 1:RB:51:LYS:O | 2.49 | 0.46 |
| 1:C:17:LYS:HD3 | 1:C:160:ILE:HG22 | 1.98 | 0.46 |
| 1:J:30:ASN:ND2 | 1:J:51:LYS:O | 2.49 | 0.46 |
| 1:U:108:GLY:HA2 | 1:U:147:LEU:HD21 | 1.98 | 0.46 |
| 1:DA:30:ASN:ND2 | 1:DA:51:LYS:O | 2.49 | 0.46 |
| 1:NA:30:ASN:ND2 | 1:NA:51:LYS:O | 2.49 | 0.46 |
| 1:SB:147:LEU:HD13 | 1:WB:149:LEU:HD12 | 1.98 | 0.46 |
| 1:VC:30:ASN:ND2 | 1:VC:51:LYS:O | 2.49 | 0.46 |
| 1:CC:108:GLY:HA2 | 1:CC:147:LEU:HD21 | 1.98 | 0.46 |
| 1:GD:147:LEU:HD13 | 1:KD:149:LEU:HD12 | 1.98 | 0.46 |
| 1:M:17:LYS:HD3 | 1:M:160:ILE:HG22 | 1.98 | 0.46 |
| 1:OA:85:HIS:CE1 | 1:JB:52:LEU:HD12 | 2.50 | 0.46 |
| 1:GD:108:GLY:HA2 | 1:GD:147:LEU:HD21 | 1.98 | 0.46 |
| 1:T:30:ASN:ND2 | 1:T:51:LYS:O | 2.49 | 0.45 |
| 1:U:147:LEU:HD13 | 1:Y:149:LEU:HD12 | 1.98 | 0.45 |
| 1:HB:30:ASN:ND2 | 1:HB:51:LYS:O | 2.49 | 0.45 |
| 1:FD:30:ASN:ND2 | 1:FD:51:LYS:O | 2.49 | 0.45 |
| 1:VA:125:LEU:HD23 | 1:VA:159:VAL:CG1 | 2.47 | 0.45 |
| 1:AB:17:LYS:HD3 | 1:AB:160:ILE:HG22 | 1.98 | 0.45 |
| 1:UB:17:LYS:HD3 | 1:UB:160:ILE:HG22 | 1.98 | 0.45 |
| 1:MC:108:GLY:HA2 | 1:MC:147:LEU:HD21 | 1.98 | 0.45 |
| 1:DD:125:LEU:HD23 | 1:DD:159:VAL:CG1 | 2.47 | 0.45 |
| 1:K:85:HIS:CE1 | 1:HD:52:LEU:HD12 | 2.51 | 0.45 |
| 1:YA:108:GLY:HA2 | 1:YA:147:LEU:HD21 | 1.98 | 0.45 |
| 1:LC:30:ASN:ND2 | 1:LC:51:LYS:O | 2.49 | 0.45 |
| 1:K:147:LEU:HD13 | 1:O:149:LEU:HD12 | 1.98 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:R:125:LEU:HD23 | 1:R:159:VAL:CG1 | 2.47 | 0.45 |
| 1:EA:108:GLY:HA2 | 1:EA:147:LEU:HD21 | 1.98 | 0.45 |
| 1:GA:17:LYS:HD3 | 1:GA:160:ILE:HG22 | 1.98 | 0.45 |
| 1:FC:125:LEU:HD13 | 1:FC:159:VAL:HG11 | 1.99 | 0.45 |
| 1:ZB:125:LEU:HD23 | 1:ZB:159:VAL:CG1 | 2.47 | 0.45 |
| 1:H:125:LEU:HD23 | 1:H:159:VAL:CG1 | 2.47 | 0.45 |
| 1:OA:147:LEU:HD13 | 1:SA:149:LEU:HD12 | 1.98 | 0.45 |
| 1:BB:125:LEU:HD13 | 1:BB:159:VAL:HG11 | 1.99 | 0.45 |
| 1:KB:17:LYS:HD3 | 1:KB:160:ILE:HG22 | 1.98 | 0.45 |
| 1:LB:125:LEU:HD13 | 1:LB:159:VAL:HG11 | 1.99 | 0.45 |
| 1:ID:17:LYS:HD3 | 1:ID:160:ILE:HG22 | 1.98 | 0.45 |
| 1:PD:30:ASN:ND2 | 1:PD:51:LYS:O | 2.49 | 0.45 |
| 1:A:108:GLY:HA2 | 1:A:147:LEU:HD21 | 1.98 | 0.45 |
| 1:D:125:LEU:HD13 | 1:D:159:VAL:HG11 | 1.99 | 0.45 |
| 1:BA:125:LEU:HD23 | 1:BA:159:VAL:CG1 | 2.47 | 0.45 |
| 1:ZA:52:LEU:HD12 | 1:CC:85:HIS:CE1 | 2.52 | 0.45 |
| 1:TC:125:LEU:HD23 | 1:TC:159:VAL:CG1 | 2.47 | 0.45 |
| 1:K:108:GLY:HA2 | 1:K:147:LEU:HD21 | 1.98 | 0.45 |
| 1:LA:125:LEU:HD23 | 1:LA:159:VAL:CG1 | 2.47 | 0.45 |
| 1:XA:30:ASN:ND2 | 1:XA:51:LYS:O | 2.49 | 0.45 |
| 1:IB:108:GLY:HA2 | 1:IB:147:LEU:HD21 | 1.98 | 0.45 |
| 1:JD:125:LEU:HD13 | 1:JD:159:VAL:HG11 | 1.99 | 0.45 |
| 1:H:12:THR:HG22 | 1:H:77:GLY:CA | 2.48 | 0.44 |
| 1:OA:108:GLY:HA2 | 1:OA:147:LEU:HD21 | 1.98 | 0.44 |
| 1:RA:125:LEU:HD13 | 1:RA:159:VAL:HG11 | 1.99 | 0.44 |
| 1:JC:125:LEU:HD23 | 1:JC:159:VAL:CG1 | 2.47 | 0.44 |
| 1:WC:108:GLY:HA2 | 1:WC:147:LEU:HD21 | 1.98 | 0.44 |
| 1:ZC:125:LEU:HD13 | 1:ZC:159:VAL:HG11 | 1.99 | 0.44 |
| 1:BA:12:THR:HG22 | 1:BA:77:GLY:CA | 2.48 | 0.44 |
| 1:BC:30:ASN:ND2 | 1:BC:51:LYS:O | 2.49 | 0.44 |
| 1:OC:17:LYS:HD3 | 1:OC:160:ILE:HG22 | 1.98 | 0.44 |
| 1:C:65:ARG:NH1 | 1:GD:84:ARG:NH1 | 2.65 | 0.44 |
| 1:O:126:ILE:HG23 | 1:O:126:ILE:O | 2.18 | 0.44 |
| 1:FB:12:THR:HG22 | 1:FB:77:GLY:CA | 2.48 | 0.44 |
| 1:PC:125:LEU:HD13 | 1:PC:159:VAL:HG11 | 1.99 | 0.44 |
| 1:TC:12:THR:HG22 | 1:TC:77:GLY:CA | 2.48 | 0.44 |
| 1:D:125:LEU:HD13 | 1:D:159:VAL:CG1 | 2.48 | 0.44 |
| 1:N:125:LEU:HD13 | 1:N:159:VAL:CG1 | 2.48 | 0.44 |
| 1:X:125:LEU:HD13 | 1:X:159:VAL:HG11 | 1.99 | 0.44 |
| 1:UA:159:VAL:O | 1:VA:132:HIS:ND1 | 2.49 | 0.44 |
| 1:CB:126:ILE:O | 1:CB:126:ILE:HG23 | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:XB:20:GLU:OE1 | 1:XB:20:GLU:N | 2.37 | 0.44 |
| 1:QC:126:ILE:O | 1:QC:126:ILE:HG23 | 2.18 | 0.44 |
| 1:CD:159:VAL:O | 1:DD:132:HIS:ND1 | 2.49 | 0.44 |
| 1:KD:126:ILE:HG23 | 1:KD:126:ILE:O | 2.18 | 0.44 |
| 1:V:52:LEU:HD12 | 1:YA:85:HIS:CE1 | 2.52 | 0.44 |
| 1:EA:85:HIS:CE1 | 1:PA:52:LEU:HD12 | 2.52 | 0.44 |
| 1:FB:125:LEU:HD23 | 1:FB:159:VAL:CG1 | 2.47 | 0.44 |
| 1:OB:159:VAL:O | 1:PB:132:HIS:ND1 | 2.49 | 0.44 |
| 1:PB:125:LEU:HD23 | 1:PB:159:VAL:CG1 | 2.47 | 0.44 |
| 1:WB:126:ILE:O | 1:WB:126:ILE:HG23 | 2.18 | 0.44 |
| 1:MC:147:LEU:HD13 | 1:QC:149:LEU:HD12 | 1.98 | 0.44 |
| 1:BD:49:GLU:OE2 | 1:CD:65:ARG:NH1 | 2.51 | 0.44 |
| 1:ND:125:LEU:HD23 | 1:ND:159:VAL:CG1 | 2.47 | 0.44 |
| 1:N:125:LEU:HD13 | 1:N:159:VAL:HG11 | 1.99 | 0.44 |
| 1:IA:126:ILE:HG23 | 1:IA:126:ILE:O | 2.18 | 0.44 |
| 1:BB:125:LEU:HD13 | 1:BB:159:VAL:CG1 | 2.48 | 0.44 |
| 1:VB:125:LEU:HD13 | 1:VB:159:VAL:CG1 | 2.48 | 0.44 |
| 1:ZB:12:THR:HG22 | 1:ZB:77:GLY:CA | 2.48 | 0.44 |
| 1:X:125:LEU:HD13 | 1:X:159:VAL:CG1 | 2.48 | 0.44 |
| 1:FA:52:LEU:HD12 | 1:IB:85:HIS:CE1 | 2.53 | 0.44 |
| 1:HA:125:LEU:HD13 | 1:HA:159:VAL:HG11 | 1.99 | 0.44 |
| 1:MB:126:ILE:O | 1:MB:126:ILE:HG23 | 2.18 | 0.44 |
| 1:VB:125:LEU:HD13 | 1:VB:159:VAL:HG11 | 1.99 | 0.44 |
| 1:PC:125:LEU:HD13 | 1:PC:159:VAL:CG1 | 2.48 | 0.44 |
| 1:DD:12:THR:HG22 | 1:DD:77:GLY:CA | 2.48 | 0.44 |
| 1:R:12:THR:HG22 | 1:R:77:GLY:CA | 2.48 | 0.44 |
| 1:LA:12:THR:HG22 | 1:LA:77:GLY:CA | 2.48 | 0.44 |
| 1:DB:49:GLU:OE2 | 1:EB:65:ARG:NH1 | 2.51 | 0.44 |
| 1:IC:159:VAL:O | 1:JC:132:HIS:ND1 | 2.49 | 0.44 |
| 1:HA:125:LEU:HD13 | 1:HA:159:VAL:CG1 | 2.48 | 0.43 |
| 1:LB:125:LEU:HD13 | 1:LB:159:VAL:CG1 | 2.48 | 0.43 |
| 1:Z:20:GLU:OE1 | 1:Z:20:GLU:N | 2.37 | 0.43 |
| 1:FC:125:LEU:HD13 | 1:FC:159:VAL:CG1 | 2.48 | 0.43 |
| 1:RA:125:LEU:HD13 | 1:RA:159:VAL:CG1 | 2.48 | 0.43 |
| 1:NC:52:LEU:HD12 | 1:WC:85:HIS:CE1 | 2.53 | 0.43 |
| 1:MD:159:VAL:O | 1:ND:132:HIS:ND1 | 2.49 | 0.43 |
| 1:VA:12:THR:HG22 | 1:VA:77:GLY:CA | 2.48 | 0.43 |
| 1:HC:49:GLU:OE2 | 1:IC:65:ARG:NH1 | 2.51 | 0.43 |
| 1:PB:12:THR:HG22 | 1:PB:77:GLY:CA | 2.48 | 0.43 |
| 1:JC:12:THR:HG22 | 1:JC:77:GLY:CA | 2.48 | 0.43 |
| 1:ZC:125:LEU:HD13 | 1:ZC:159:VAL:CG1 | 2.48 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:XB:49:GLU:OE2 | 1:YB:65:ARG:NH1 | 2.51 | 0.43 |
| 1:JD:125:LEU:HD13 | 1:JD:159:VAL:CG1 | 2.48 | 0.43 |
| 1:Q:84:ARG:NH2 | 1:ID:50:GLY:O | 2.46 | 0.43 |
| 1:Y:126:ILE:HG23 | 1:Y:126:ILE:O | 2.18 | 0.43 |
| 1:ND:12:THR:HG22 | 1:ND:77:GLY:CA | 2.48 | 0.43 |
| 1:B:52:LEU:HD12 | 1:GD:85:HIS:CE1 | 2.54 | 0.43 |
| 1:GC:126:ILE:HG23 | 1:GC:126:ILE:O | 2.18 | 0.43 |
| 1:OD:130:THR:N | 1:OD:131:PRO:HD2 | 2.34 | 0.43 |
| 1:P:49:GLU:OE2 | 1:Q:65:ARG:NH1 | 2.51 | 0.43 |
| 1:SA:126:ILE:HG23 | 1:SA:126:ILE:O | 2.18 | 0.43 |
| 1:E:126:ILE:HG23 | 1:E:126:ILE:O | 2.18 | 0.42 |
| 1:F:20:GLU:OE1 | 1:F:20:GLU:N | 2.37 | 0.42 |
| 1:S:130:THR:N | 1:S:131:PRO:HD2 | 2.34 | 0.42 |
| 1:DB:20:GLU:OE1 | 1:DB:20:GLU:N | 2.37 | 0.42 |
| 1:UC:130:THR:N | 1:UC:131:PRO:HD2 | 2.34 | 0.42 |
| 1:AD:126:ILE:HG23 | 1:AD:126:ILE:O | 2.18 | 0.42 |
| 1:XB:78:ALA:O | 1:XB:82:ILE:HD12 | 2.20 | 0.42 |
| 1:HC:78:ALA:O | 1:HC:82:ILE:HD12 | 2.20 | 0.42 |
| 1:LD:49:GLU:OE2 | 1:MD:65:ARG:NH1 | 2.51 | 0.42 |
| 1:P:78:ALA:O | 1:P:82:ILE:HD12 | 2.20 | 0.42 |
| 1:KA:84:ARG:NH2 | 1:QA:50:GLY:O | 2.44 | 0.42 |
| 1:MA:130:THR:N | 1:MA:131:PRO:HD2 | 2.34 | 0.42 |
| 1:JA:20:GLU:OE1 | 1:JA:20:GLU:N | 2.37 | 0.42 |
| 1:NB:78:ALA:O | 1:NB:82:ILE:HD12 | 2.20 | 0.42 |
| 1:JA:78:ALA:O | 1:JA:82:ILE:HD12 | 2.20 | 0.42 |
| 1:WA:130:THR:N | 1:WA:131:PRO:HD2 | 2.34 | 0.42 |
| 1:QB:130:THR:N | 1:QB:131:PRO:HD2 | 2.34 | 0.42 |
| 1:AC:130:THR:N | 1:AC:131:PRO:HD2 | 2.34 | 0.42 |
| 1:KC:130:THR:N | 1:KC:131:PRO:HD2 | 2.34 | 0.42 |
| 1:ED:130:THR:N | 1:ED:131:PRO:HD2 | 2.34 | 0.42 |
| 1:F:49:GLU:OE2 | 1:G:65:ARG:NH1 | 2.51 | 0.42 |
| 1:Z:49:GLU:OE2 | 1:AA:65:ARG:NH1 | 2.51 | 0.42 |
| 1:BD:78:ALA:O | 1:BD:82:ILE:HD12 | 2.20 | 0.42 |
| 1:Z:78:ALA:O | 1:Z:82:ILE:HD12 | 2.20 | 0.42 |
| 1:YB:159:VAL:O | 1:ZB:132:HIS:ND1 | 2.49 | 0.42 |
| 1:KA:159:VAL:O | 1:LA:132:HIS:ND1 | 2.49 | 0.42 |
| 1:TA:20:GLU:OE1 | 1:TA:20:GLU:N | 2.37 | 0.42 |
| 1:TA:49:GLU:OE2 | 1:UA:65:ARG:NH1 | 2.51 | 0.42 |
| 1:DB:78:ALA:O | 1:DB:82:ILE:HD12 | 2.20 | 0.42 |
| 1:NB:20:GLU:OE1 | 1:NB:20:GLU:N | 2.37 | 0.42 |
| 1:RC:78:ALA:O | 1:RC:82:ILE:HD12 | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:F:78:ALA:O | 1:F:82:ILE:HD12 | 2.20 | 0.42 |
| 1:TA:78:ALA:O | 1:TA:82:ILE:HD12 | 2.20 | 0.42 |
| 1:LD:78:ALA:O | 1:LD:82:ILE:HD12 | 2.20 | 0.42 |
| 1:I:130:THR:N | 1:I:131:PRO:HD2 | 2.34 | 0.41 |
| 1:CA:130:THR:N | 1:CA:131:PRO:HD2 | 2.34 | 0.41 |
| 1:D:75:VAL:O | 1:D:79:ILE:HD12 | 2.21 | 0.41 |
| 1:BB:75:VAL:O | 1:BB:79:ILE:HD12 | 2.21 | 0.41 |
| 1:N:75:VAL:O | 1:N:79:ILE:HD12 | 2.21 | 0.41 |
| 1:RA:75:VAL:O | 1:RA:79:ILE:HD12 | 2.20 | 0.41 |
| 1:LC:13:LYS:O | 1:LC:15:GLY:N | 2.54 | 0.41 |
| 1:JD:136:ILE:HD12 | 1:JD:136:ILE:H | 1.86 | 0.41 |
| 1:BB:136:ILE:HD12 | 1:BB:136:ILE:H | 1.86 | 0.41 |
| 1:FC:136:ILE:HD12 | 1:FC:136:ILE:H | 1.86 | 0.41 |
| 1:PC:75:VAL:O | 1:PC:79:ILE:HD12 | 2.21 | 0.41 |
| 1:PC:136:ILE:HD12 | 1:PC:136:ILE:H | 1.86 | 0.41 |
| 1:JA:49:GLU:OE2 | 1:KA:65:ARG:NH1 | 2.51 | 0.41 |
| 1:FC:75:VAL:O | 1:FC:79:ILE:HD12 | 2.21 | 0.41 |
| 1:ZC:75:VAL:O | 1:ZC:79:ILE:HD12 | 2.21 | 0.41 |
| 1:FD:13:LYS:O | 1:FD:15:GLY:N | 2.54 | 0.41 |
| 1:GB:130:THR:N | 1:GB:131:PRO:HD2 | 2.34 | 0.41 |
| 1:VC:13:LYS:O | 1:VC:15[A]:GLY:N | 2.54 | 0.41 |
| 1:LD:20:GLU:OE1 | 1:LD:20:GLU:N | 2.37 | 0.41 |
| 1:PD:13:LYS:O | 1:PD:15:GLY:N | 2.54 | 0.41 |
| 1:X:75:VAL:O | 1:X:79:ILE:HD12 | 2.21 | 0.41 |
| 1:DA:13:LYS:O | 1:DA:15:GLY:N | 2.54 | 0.41 |
| 1:RA:79:ILE:HD12 | 1:RA:79:ILE:H | 1.86 | 0.41 |
| 1:RA:136:ILE:HD12 | 1:RA:136:ILE:H | 1.86 | 0.41 |
| 1:LB:75:VAL:O | 1:LB:79:ILE:HD12 | 2.20 | 0.41 |
| 1:NB:49:GLU:OE2 | 1:OB:65:ARG:NH1 | 2.51 | 0.41 |
| 1:VB:136:ILE:HD12 | 1:VB:136:ILE:H | 1.86 | 0.41 |
| 1:RC:20:GLU:OE1 | 1:RC:20:GLU:N | 2.37 | 0.41 |
| 1:JD:79:ILE:HD12 | 1:JD:79:ILE:H | 1.86 | 0.41 |
| 1:Q:159:VAL:O | 1:R:132:HIS:ND1 | 2.49 | 0.41 |
| 1:HA:79:ILE:HD12 | 1:HA:79:ILE:H | 1.86 | 0.41 |
| 1:BC:13:LYS:O | 1:BC:15:GLY:N | 2.54 | 0.41 |
| 1:JD:75:VAL:O | 1:JD:79:ILE:HD12 | 2.21 | 0.41 |
| 1:HA:75:VAL:O | 1:HA:79:ILE:HD12 | 2.21 | 0.40 |
| 1:BB:79:ILE:HD12 | 1:BB:79:ILE:H | 1.86 | 0.40 |
| 1:LB:79:ILE:HD12 | 1:LB:79:ILE:H | 1.86 | 0.40 |
| 1:VB:79:ILE:H | 1:VB:79:ILE:HD12 | 1.86 | 0.40 |
| 1:RC:49:GLU:OE2 | 1:SC:65:ARG:NH1 | 2.51 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AA:159:VAL:O | 1:BA:132:HIS:ND1 | 2.49 | 0.40 |
| 1:HA:136:ILE:HD12 | 1:HA:136:ILE:H | 1.86 | 0.40 |
| 1:TB:52:LEU:HD12 | 1:MC:85:HIS:CE1 | 2.56 | 0.40 |
| 1:VB:75:VAL:O | 1:VB:79:ILE:HD12 | 2.21 | 0.40 |
| 1:N:79:ILE:HD12 | 1:N:79:ILE:H | 1.86 | 0.40 |
| 1:X:79:ILE:HD12 | 1:X:79:ILE:H | 1.86 | 0.40 |
| 1:LC:52:LEU:HD12 | 1:ED:85:HIS:CE1 | 2.56 | 0.40 |
| 1:HB:13:LYS:O | 1:HB:15:GLY:N | 2.54 | 0.40 |
| 1:RB:13:LYS:O | 1:RB:15:GLY:N | 2.54 | 0.40 |
| 1:B:130:THR:O | 1:B:132:HIS:N | 2.55 | 0.40 |
| 1:J:13:LYS:O | 1:J:15:GLY:N | 2.54 | 0.40 |
| 1:DA:52:LEU:HD12 | 1:QB:85:HIS:CE1 | 2.57 | 0.40 |
| 1:LB:136:ILE:H | 1:LB:136:ILE:HD12 | 1.86 | 0.40 |
| 1:XC:130:THR:O | 1:XC:132:HIS:N | 2.55 | 0.40 |

There are no symmetry-related clashes.

## 5.3 Torsion angles (i)

### 5.3.1 Protein backbone (i)

There are no protein backbone outliers to report in this entry.

### 5.3.2 Protein sidechains (i)

There are no protein residues with a non-rotameric sidechain to report in this entry.

### 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)

There are no ligands in this entry.

## 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.

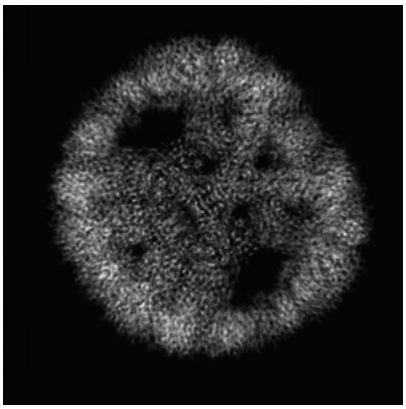
# 6 Map visualisation

This section contains visualisations of the EMDB entry EMD-51005. These allow visual inspection of the internal detail of the map and identification of artifacts.

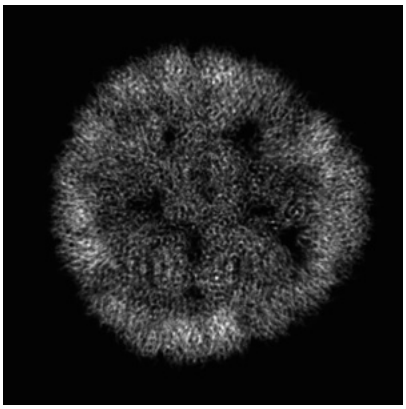
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

## 6.1 Orthogonal projections

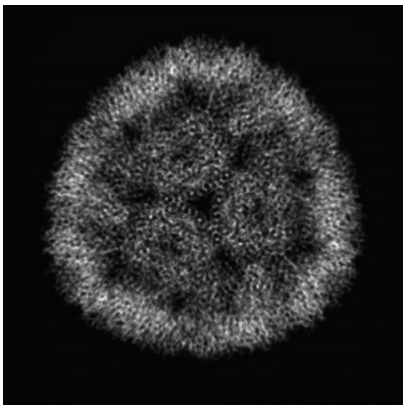
### 6.1.1 Primary map



X

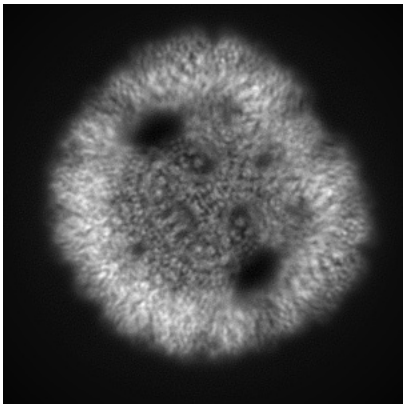


Y

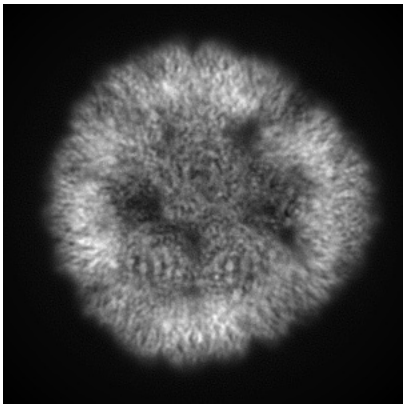


Z

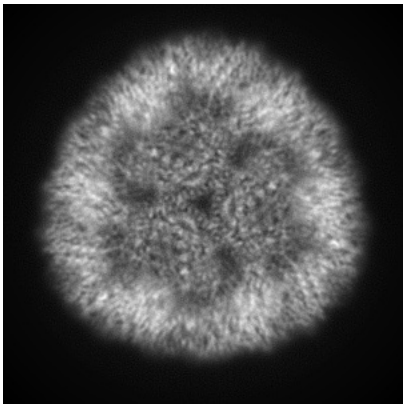
### 6.1.2 Raw map



X



Y



Z

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

## 6.2 Central slices (i)

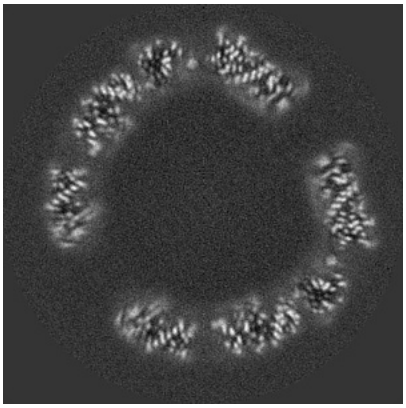
### 6.2.1 Primary map

X Index: 170

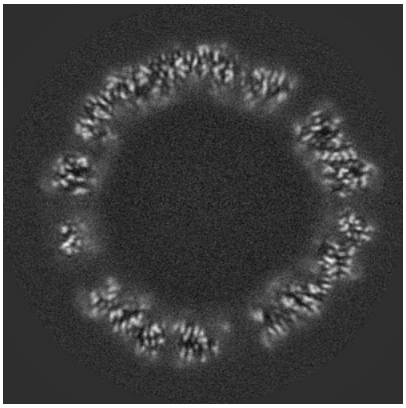
Y Index: 170

Z Index: 170

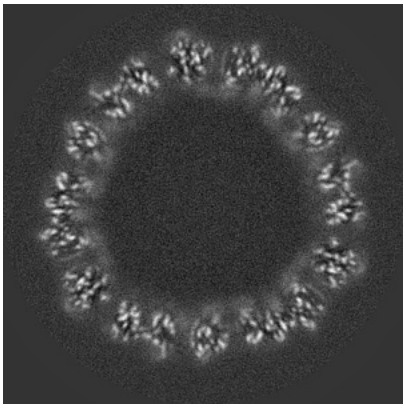
### 6.2.2 Raw map



X Index: 170



Y Index: 170



Z Index: 170

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

## 6.3 Largest variance slices (i)

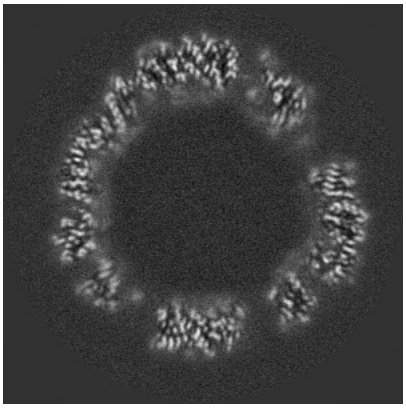
### 6.3.1 Primary map

X Index: 202

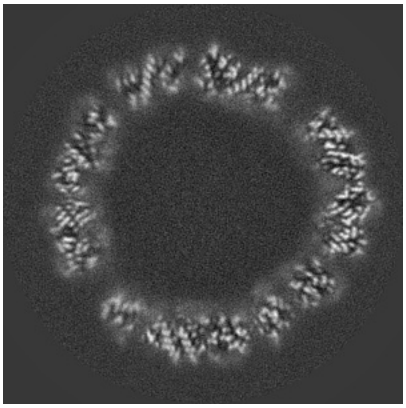
Y Index: 140

Z Index: 184

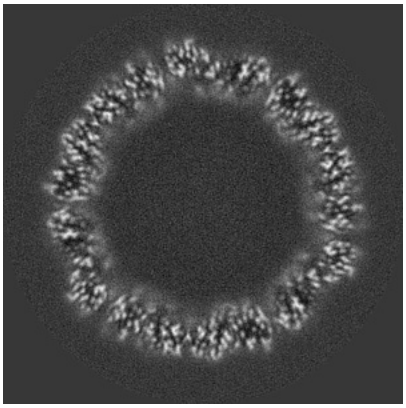
### 6.3.2 Raw map



X Index: 202



Y Index: 187

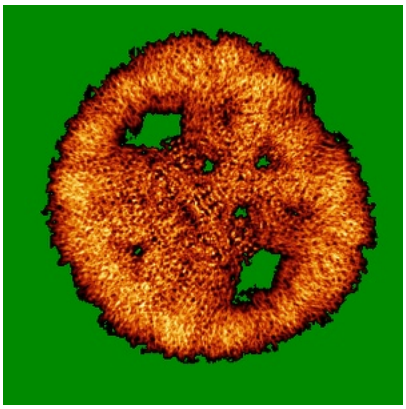


Z Index: 184

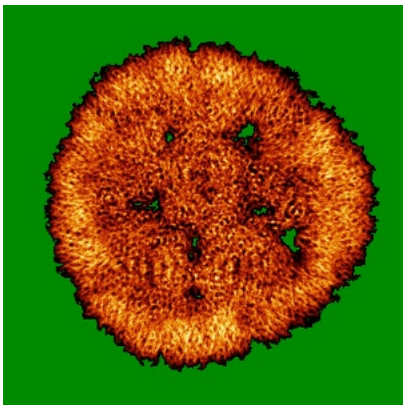
The images above show the largest variance slices of the map in three orthogonal directions.

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

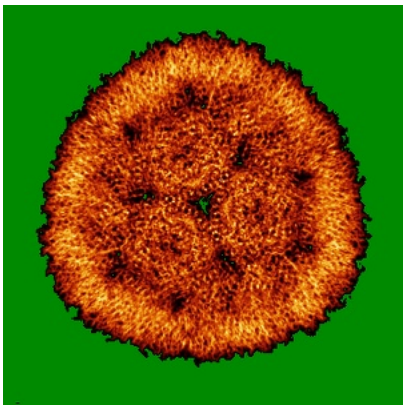
### 6.4.1 Primary map



X

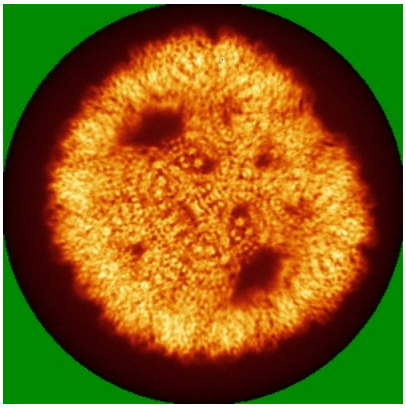


Y

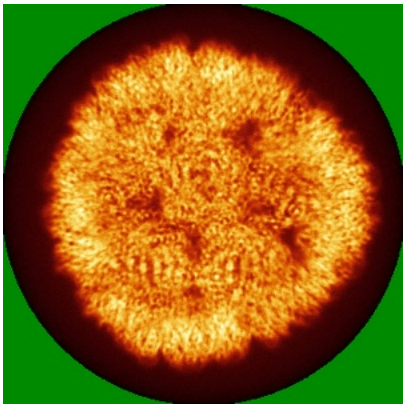


Z

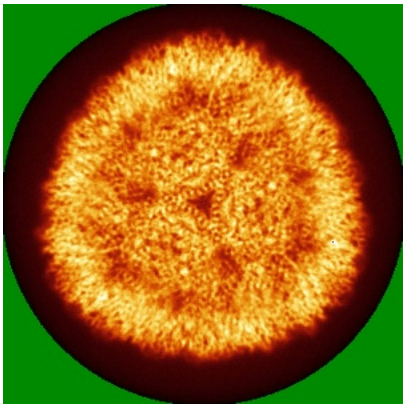
### 6.4.2 Raw map



X



Y

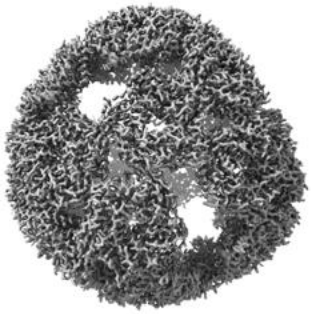


Z

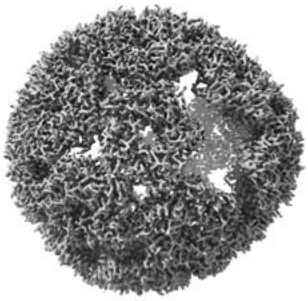
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

## 6.5 Orthogonal surface views (i)

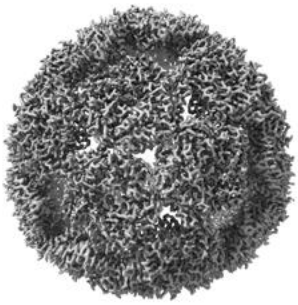
### 6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

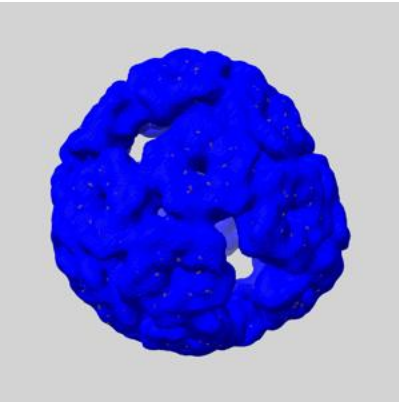
## 6.6 Mask visualisation (i)

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

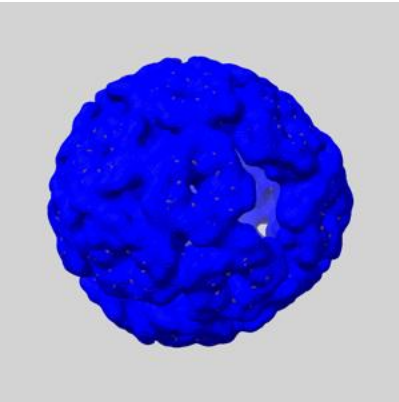
A mask typically either:

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

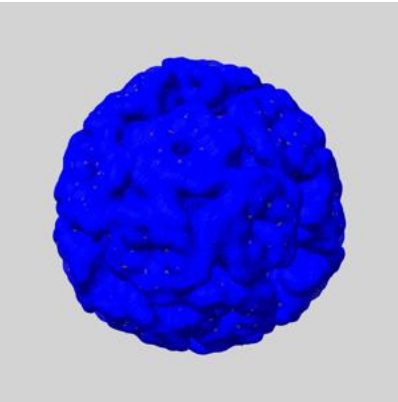
### 6.6.1 emd_51005_msk_1.map (i)



X



Y

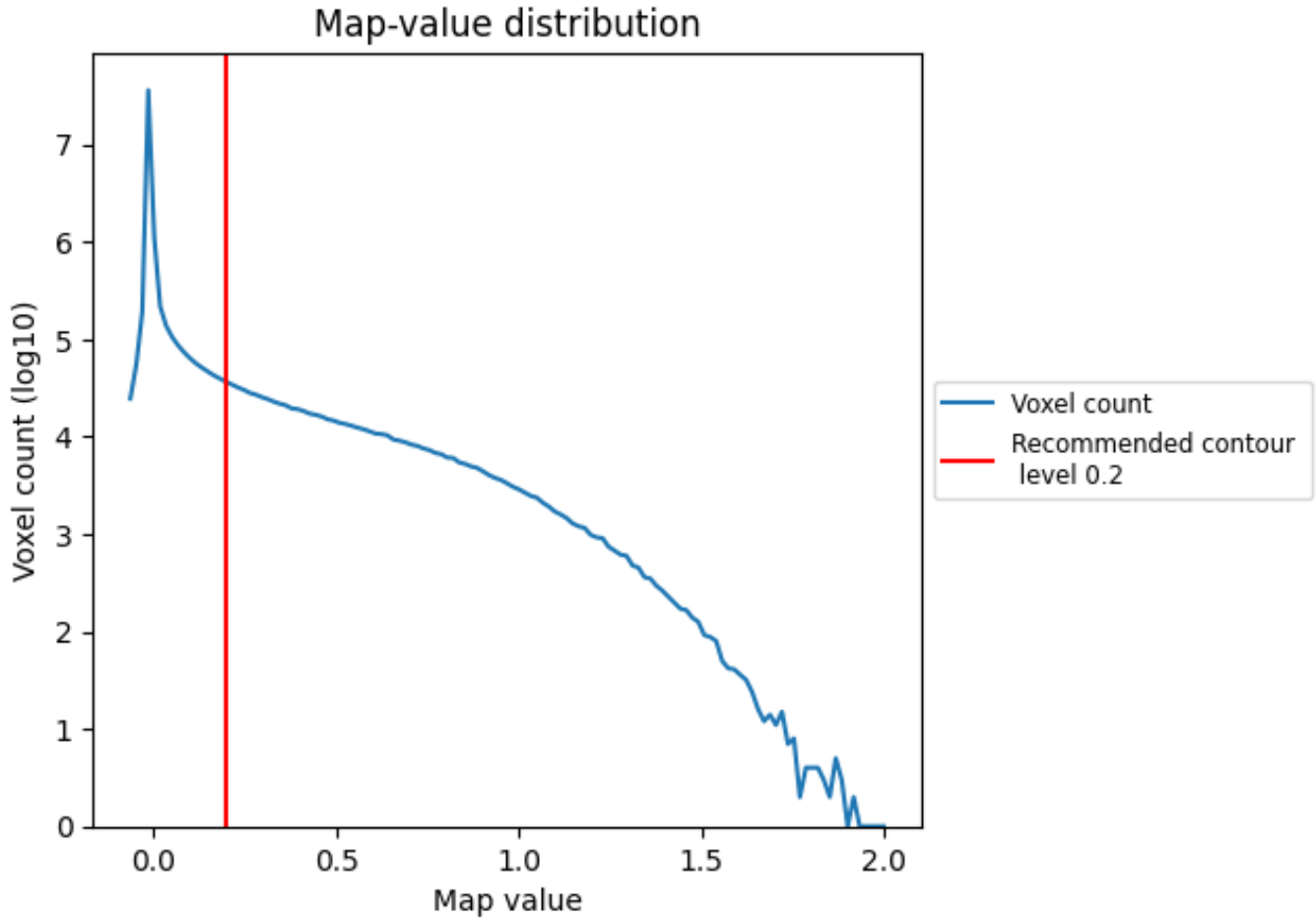


Z

# 7 Map analysis

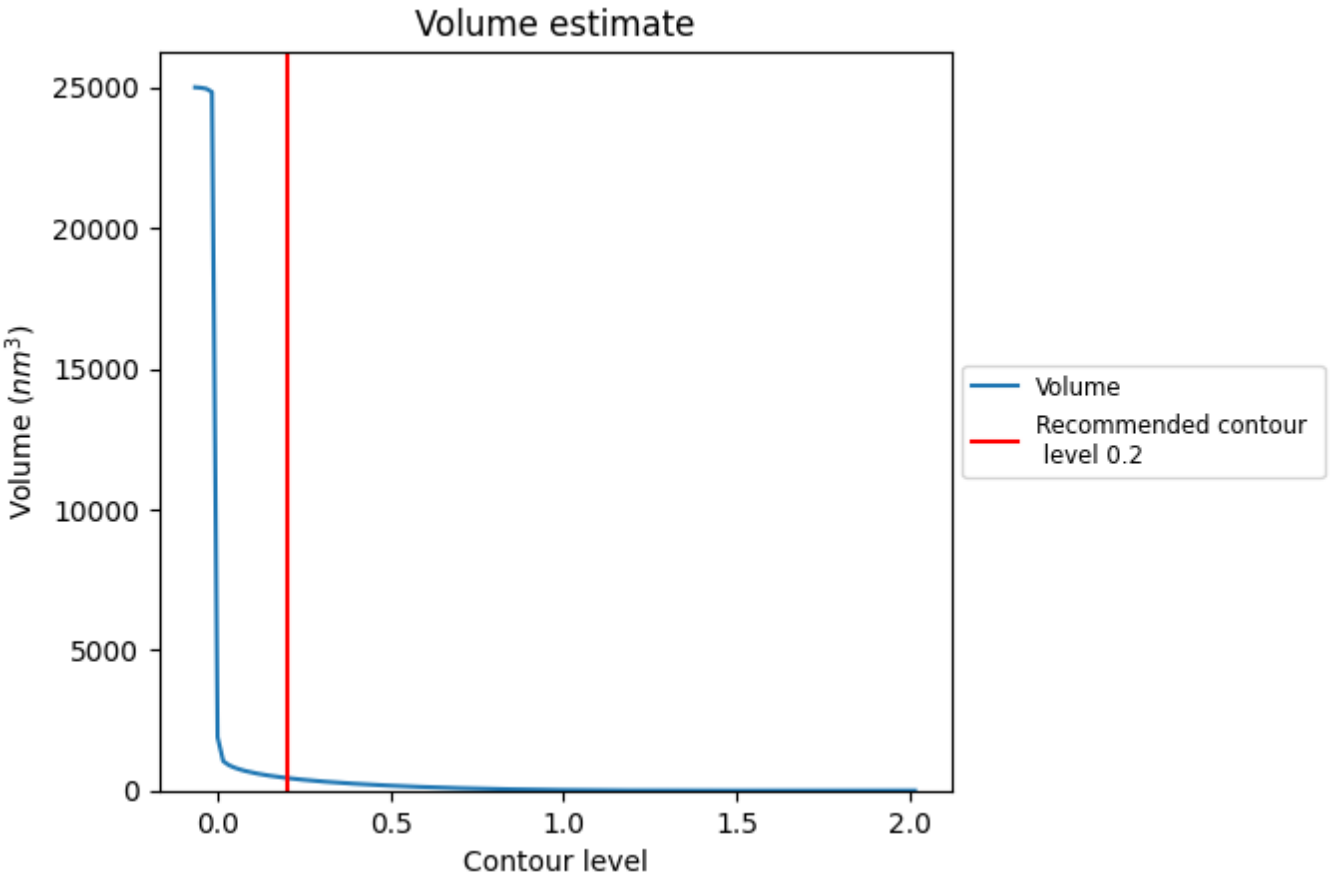
This section contains the results of statistical analysis of the map.

## 7.1 Map-value distribution




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.

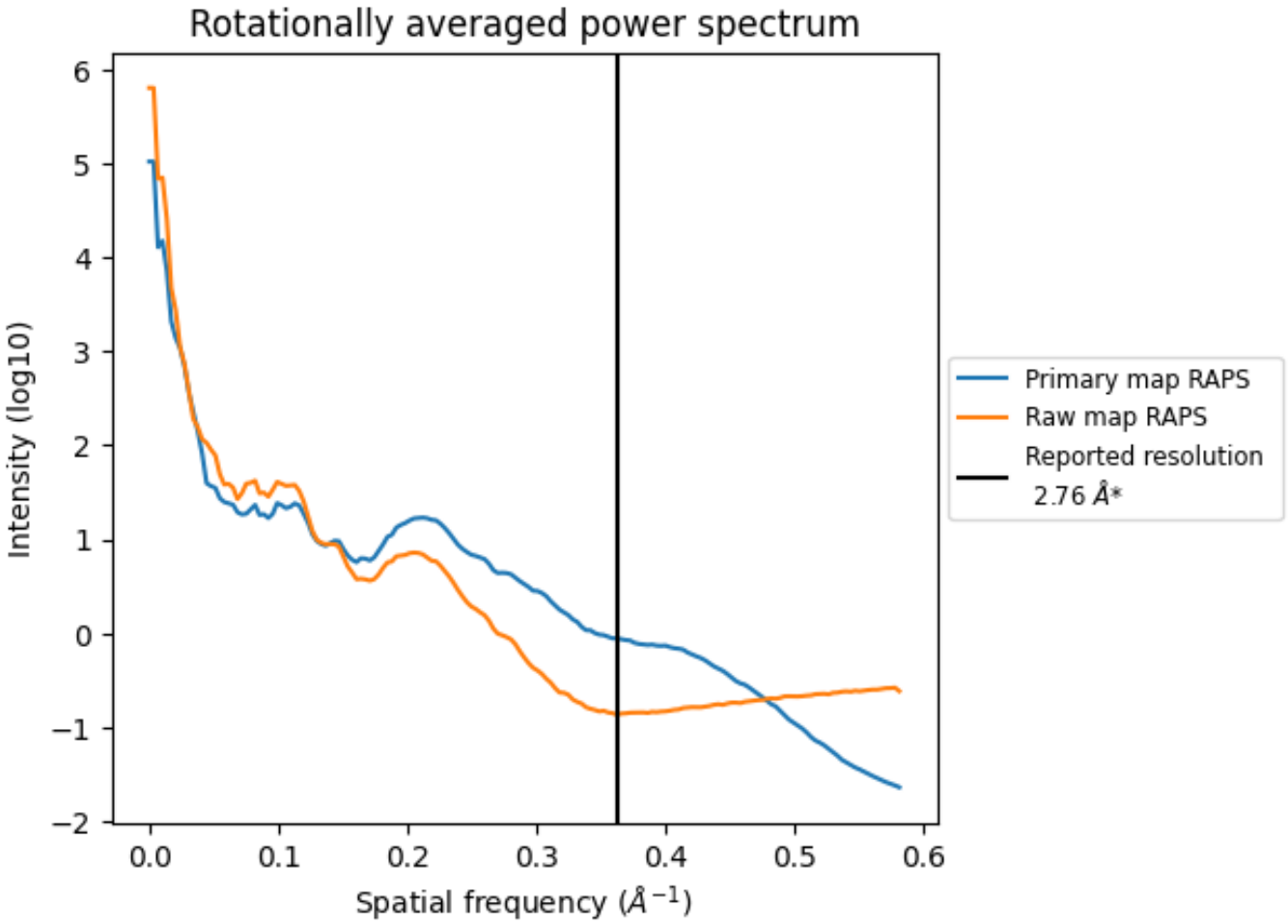
## 7.2 Volume estimate




The volume at the recommended contour level is 448 $nm^3$; this corresponds to an approximate mass of 405 kDa.

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

## 7.3 Rotationally averaged power spectrum (i)

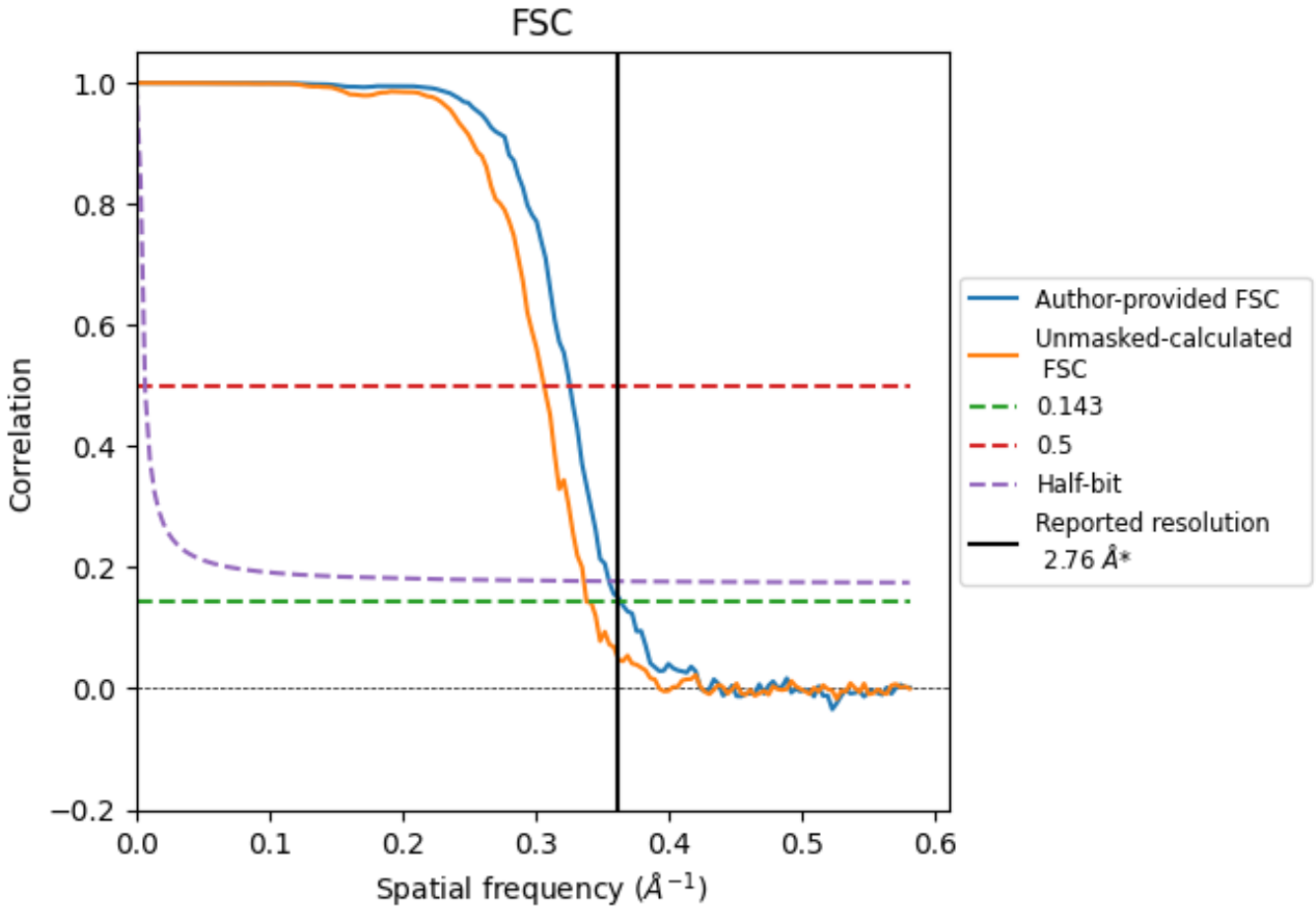



*Reported resolution corresponds to spatial frequency of 0.362 $Å^{-1}$

# 8 Fourier-Shell correlation

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




*Reported resolution corresponds to spatial frequency of 0.362 Å$^{-1}$

## 8.2 Resolution estimates (i)

| Resolution estimate (Å) | Estimation criterion (FSC cut-off) | | |
|---|---|---|---|
| | 0.143 | 0.5 | Half-bit |
| Reported by author | 2.76 | - | - |
| Author-provided FSC curve | 2.74 | 3.07 | 2.81 |
| Unmasked-calculated* | 2.95 | 3.26 | 2.97 |

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

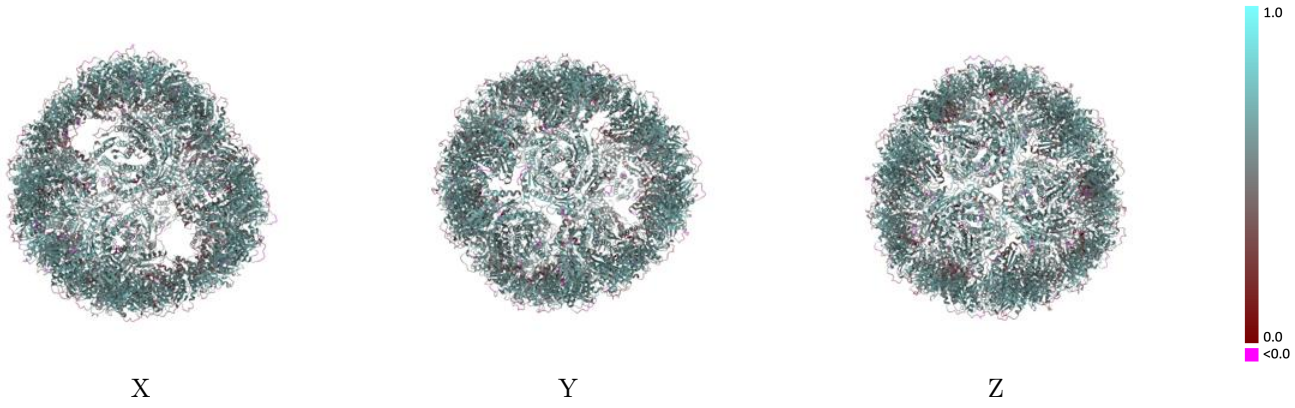
# 9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-51005 and PDB model 9G3O. Per-residue inclusion information can be found in section 3 on page 46.

## 9.1 Map-model overlay

This section was not generated.

## 9.2 Q-score mapped to coordinate model

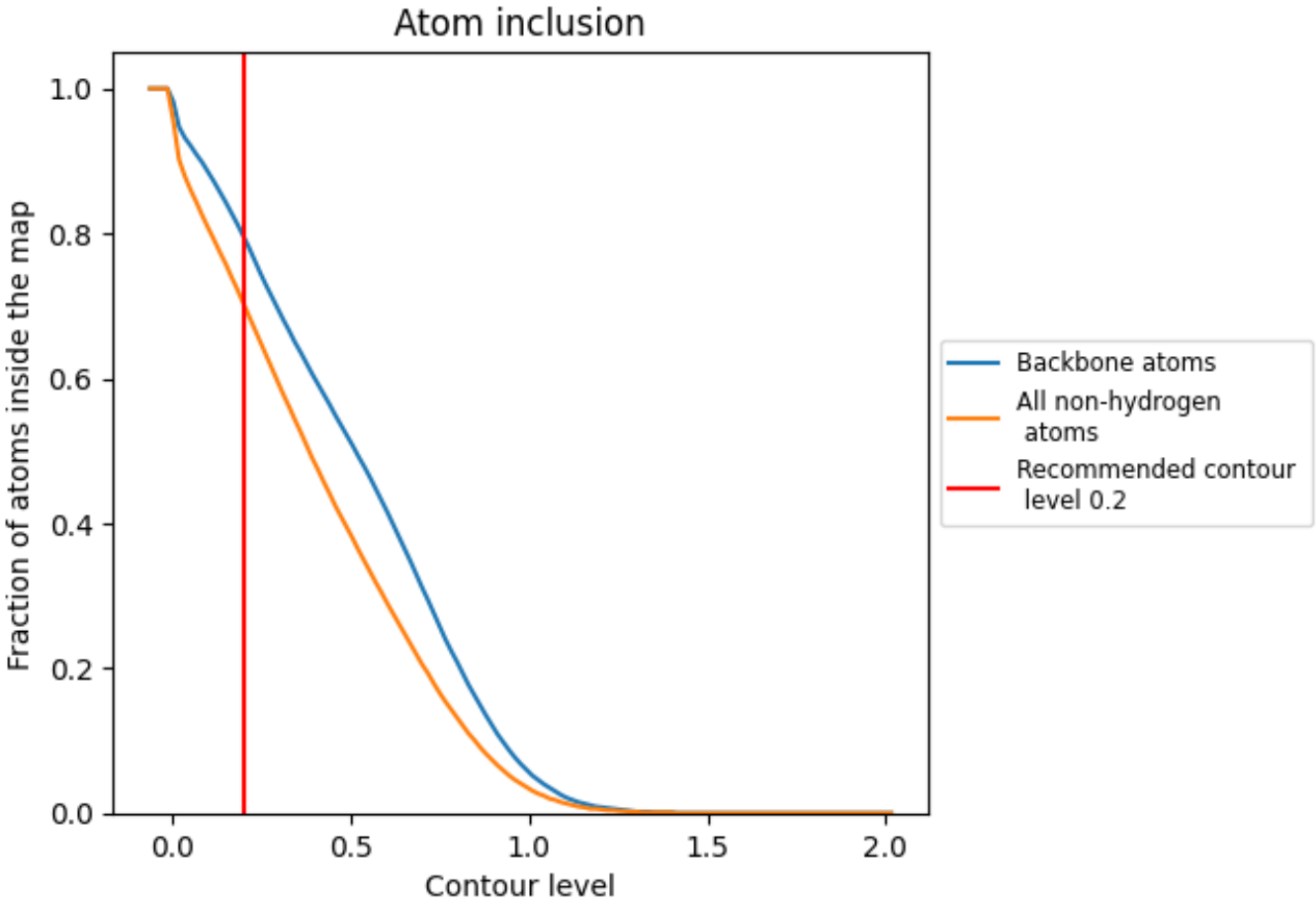



The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

This section was not generated.

## 9.4 Atom inclusion (i)




At the recommended contour level, 79% of all backbone atoms, 70% 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 (0.2) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|---|---|---|
| All | 0.7010 | 0.5540 |
| A | 0.7420 | 0.5850 |
| AA | 0.6940 | 0.5500 |
| AB | 0.7470 | 0.5820 |
| AC | 0.7240 | 0.5610 |
| AD | 0.7070 | 0.5500 |
| B | 0.7880 | 0.6090 |
| BA | 0.7140 | 0.5480 |
| BB | 0.6120 | 0.4980 |
| BC | 0.7200 | 0.5610 |
| BD | 0.5860 | 0.4930 |
| C | 0.7480 | 0.5880 |
| CA | 0.7330 | 0.5610 |
| CB | 0.6880 | 0.5450 |
| CC | 0.7480 | 0.5810 |
| CD | 0.6940 | 0.5550 |
| D | 0.6160 | 0.5140 |
| DA | 0.7320 | 0.5650 |
| DB | 0.6040 | 0.4890 |
| DC | 0.7750 | 0.5940 |
| DD | 0.7090 | 0.5530 |
| E | 0.7060 | 0.5570 |
| EA | 0.7320 | 0.5800 |
| EB | 0.6850 | 0.5520 |
| EC | 0.7490 | 0.5780 |
| ED | 0.7180 | 0.5550 |
| F | 0.6190 | 0.5070 |
| FA | 0.7910 | 0.6010 |
| FB | 0.7070 | 0.5540 |
| FC | 0.6270 | 0.4990 |
| FD | 0.7130 | 0.5650 |
| G | 0.7090 | 0.5690 |
| GA | 0.7580 | 0.5840 |
| GB | 0.7150 | 0.5580 |
| GC | 0.7100 | 0.5460 |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| Chain | Atom inclusion | Q-score |
|---|---|---|
| GD | 0.7400 | 0.5720 |
| H | 0.7170 | 0.5670 |
| HA | 0.6210 | 0.5030 |
| HB | 0.7260 | 0.5700 |
| HC | 0.5770 | 0.4810 |
| HD | 0.7720 | 0.5980 |
| I | 0.7340 | 0.5780 |
| IA | 0.6960 | 0.5510 |
| IB | 0.7410 | 0.5800 |
| IC | 0.6790 | 0.5480 |
| ID | 0.7300 | 0.5840 |
| J | 0.7390 | 0.5880 |
| JA | 0.5770 | 0.4980 |
| JB | 0.7800 | 0.6030 |
| JC | 0.7020 | 0.5480 |
| JD | 0.6120 | 0.5000 |
| K | 0.7350 | 0.5730 |
| KA | 0.6710 | 0.5590 |
| KB | 0.7370 | 0.5850 |
| KC | 0.7040 | 0.5530 |
| KD | 0.7060 | 0.5540 |
| L | 0.7500 | 0.5940 |
| LA | 0.6990 | 0.5580 |
| LB | 0.6030 | 0.5010 |
| LC | 0.7140 | 0.5560 |
| LD | 0.6020 | 0.4970 |
| M | 0.7260 | 0.5810 |
| MA | 0.7080 | 0.5640 |
| MB | 0.6930 | 0.5470 |
| MC | 0.7410 | 0.5780 |
| MD | 0.6950 | 0.5580 |
| N | 0.6070 | 0.5080 |
| NA | 0.7060 | 0.5680 |
| NB | 0.6120 | 0.4940 |
| NC | 0.7940 | 0.6100 |
| ND | 0.7160 | 0.5560 |
| O | 0.6880 | 0.5510 |
| OA | 0.7370 | 0.5710 |
| OB | 0.6980 | 0.5530 |
| OC | 0.7600 | 0.5880 |
| OD | 0.7280 | 0.5680 |
| P | 0.6040 | 0.4830 |

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| Chain | Atom inclusion | Q-score |
|---|---|---|
| PA | 0.7670 | 0.6010 |
| PB | 0.7100 | 0.5560 |
| PC | 0.6200 | 0.5020 |
| PD | 0.7240 | 0.5740 |
| Q | 0.6870 | 0.5490 |
| QA | 0.7290 | 0.5880 |
| QB | 0.7250 | 0.5690 |
| QC | 0.6900 | 0.5420 |
| R | 0.7170 | 0.5530 |
| RA | 0.6140 | 0.5060 |
| RB | 0.7210 | 0.5710 |
| RC | 0.5940 | 0.4880 |
| S | 0.7320 | 0.5620 |
| SA | 0.6960 | 0.5450 |
| SB | 0.7480 | 0.5840 |
| SC | 0.6820 | 0.5500 |
| T | 0.7190 | 0.5710 |
| TA | 0.5920 | 0.4880 |
| TB | 0.7750 | 0.6000 |
| TC | 0.6930 | 0.5490 |
| U | 0.7510 | 0.5820 |
| UA | 0.6740 | 0.5510 |
| UB | 0.7470 | 0.5790 |
| UC | 0.7090 | 0.5580 |
| V | 0.7840 | 0.5990 |
| VA | 0.7020 | 0.5560 |
| VB | 0.6170 | 0.5040 |
| VC | 0.7220 | 0.5660 |
| W | 0.7450 | 0.5760 |
| WA | 0.7150 | 0.5600 |
| WB | 0.7080 | 0.5500 |
| WC | 0.7520 | 0.5810 |
| X | 0.6240 | 0.5000 |
| XA | 0.7140 | 0.5660 |
| XB | 0.5910 | 0.4860 |
| XC | 0.7850 | 0.6010 |
| Y | 0.7120 | 0.5460 |
| YA | 0.7450 | 0.5770 |
| YB | 0.6850 | 0.5530 |
| YC | 0.7330 | 0.5830 |
| Z | 0.6000 | 0.4780 |
| ZA | 0.7760 | 0.6030 |

*Continued on next page...*

*Continued from previous page...*

| Chain | Atom inclusion | Q-score |
|---|---|---|
| ZB | 0.7190 | 0.5530 |
| ZC | 0.6280 | 0.5060 |