# Full wwPDB EM Validation Report ⓘ

Jun 4, 2026 – 03:44 PM EDT

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|---|---|---|
| PDB ID | : | 9YDO / pdb_00009ydo |
| EMDB ID | : | EMD-72815 |
| Title | : | LPHT-ring in Vibrio cholerae at assembled, opened state |
| Authors | : | Guo, W.; Yue, J. |
| Deposited on | : | 2025-09-22 |
| Resolution | : | 2.69 Å(reported) |

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

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

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

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

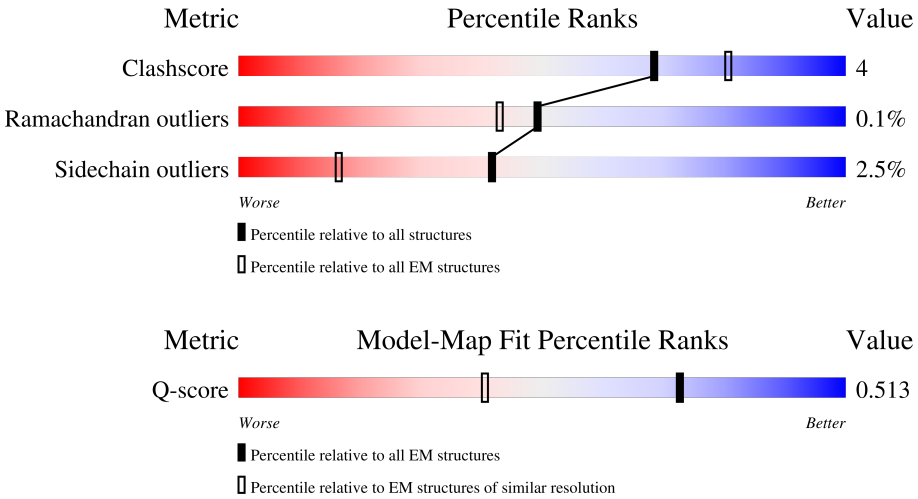
| | | |
|---|---|---|
| EMDB validation analysis | : | 0.0.1.dev132 |
| MolProbity | : | 4-5-2 with Phenix2.0 |
| Percentile statistics | : | 20250101.v01 (using entries in the PDB archive January 1st 2025) |
| EM percentile statistics | : | 202505.v01 (Using data in the EMDB archive up until May 2025) |
| 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 2.69 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 | - |
| Ramachandran outliers | 224038 | 23583 | - |
| Sidechain outliers | 223484 | 23102 | - |
| Q-score | - | 25397 | 9309 ( 2.19 - 3.19 ) |

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 | Aa | 227 | 9% 80% 17% |
| 1 | Ab | 227 | 8% 79% 18% |
| 1 | Ac | 227 | 9% 80% 18% |
| 1 | Ad | 227 | 9% 81% 17% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | Ae | 227 | 8% 80% 18% |
| 1 | Af | 227 | 10% 81% 16% |
| 1 | Ag | 227 | 10% 81% 16% |
| 1 | Ah | 227 | 10% 79% 18% |
| 1 | Ai | 227 | 9% 80% 17% |
| 1 | Aj | 227 | 10% 80% 17% |
| 1 | Ak | 227 | 9% 78% 19% |
| 1 | Al | 227 | 9% 81% 17% |
| 1 | Am | 227 | 10% 80% 17% |
| 1 | An | 227 | 10% 80% 18% |
| 1 | Ao | 227 | 9% 80% 18% |
| 1 | Ap | 227 | 9% 82% 15% |
| 1 | Aq | 227 | 9% 81% 16% |
| 1 | Ar | 227 | 8% 81% 17% |
| 1 | As | 227 | 10% 81% 16% |
| 1 | At | 227 | 10% 82% 16% |
| 1 | Au | 227 | 9% 82% 15% |
| 1 | Av | 227 | 9% 81% 17% |
| 1 | Aw | 227 | 9% 81% 16% |
| 1 | Ax | 227 | 9% 82% 16% |
| 1 | Ay | 227 | 9% 81% 16% |
| 1 | Az | 227 | 10% 81% 17% |
| 2 | Ba | 343 | 78% 14% 8% |
| 2 | Bb | 343 | 78% 14% 8% |
| 2 | Bc | 343 | 79% 13% 8% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 2 | Bd | 343 | 78% 13% 8% |
| 2 | Be | 343 | 77% 15% 8% |
| 2 | Bf | 343 | 78% 13% 8% |
| 2 | Bg | 343 | 78% 14% 8% |
| 2 | Bh | 343 | 78% 14% 8% |
| 2 | Bi | 343 | 77% 15% 8% |
| 2 | Bj | 343 | 80% 12% 8% |
| 2 | Bk | 343 | 78% 14% 8% |
| 2 | Bl | 343 | 78% 14% 8% |
| 2 | Bm | 343 | 78% 13% 8% |
| 2 | Bn | 343 | 79% 13% 8% |
| 2 | Bo | 343 | 80% 13% 8% |
| 2 | Bp | 343 | 79% 13% 8% |
| 2 | Bq | 343 | 79% 13% 8% |
| 2 | Br | 343 | 78% 13% 8% |
| 2 | Bs | 343 | 78% 13% 8% |
| 2 | Bt | 343 | 80% 12% 8% |
| 2 | Bu | 343 | 80% 12% 8% |
| 2 | Bv | 343 | 78% 15% 8% |
| 2 | Bw | 343 | 78% 14% 8% |
| 2 | Bx | 343 | 77% 15% 8% |
| 2 | By | 343 | 78% 14% 8% |
| 2 | Bz | 343 | 77% 14% 8% |
| 3 | Ca | 352 | 14% 91% 9% |
| 3 | Cb | 352 | 19% 90% 10% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 3 | Cc | 352 | 14% 91% 9% |
| 3 | Cd | 352 | 15% 89% 11% |
| 3 | Ce | 352 | 15% 93% 6% |
| 3 | Cf | 352 | 14% 92% 8% |
| 3 | Cg | 352 | 14% 91% 9% |
| 3 | Ch | 352 | 15% 90% 10% |
| 3 | Ci | 352 | 15% 89% 11% |
| 3 | Cj | 352 | 14% 94% 6% |
| 3 | Ck | 352 | 13% 90% 10% |
| 3 | Cl | 352 | 15% 92% 8% |
| 3 | Cm | 352 | 14% 91% 9% |
| 3 | Cn | 352 | 15% 91% 9% |
| 3 | Co | 352 | 15% 91% 9% |
| 3 | Cp | 352 | 15% 91% 9% |
| 3 | Cq | 352 | 14% 91% 9% |
| 3 | Cr | 352 | 15% 91% 9% |
| 3 | Cs | 352 | 15% 94% 6% |
| 3 | Ct | 352 | 15% 92% 8% |
| 3 | Cu | 352 | 14% 93% 7% |
| 3 | Cv | 352 | 14% 92% 8% |
| 3 | Cw | 352 | 16% 91% 9% |
| 3 | Cx | 352 | 14% 92% 8% |
| 3 | Cy | 352 | 14% 89% 11% |
| 3 | Cz | 352 | 14% 92% 8% |
| 4 | Da | 272 | 39% 84% 10% 6% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 4 | Db | 272 | 38% 89% 6% • 5% |
| 4 | Dc | 272 | 39% 83% 11% 6% |
| 4 | Dd | 272 | 38% 88% 7% 5% |
| 4 | De | 272 | 38% 85% 9% • 6% |
| 4 | Df | 272 | 38% 88% 7% 5% |
| 4 | Dg | 272 | 39% 83% 11% 6% |
| 4 | Dh | 272 | 38% 89% 6% 5% |
| 4 | Di | 272 | 38% 84% 10% 6% |
| 4 | Dj | 272 | 38% 88% 7% 5% |
| 4 | Dk | 272 | 38% 84% 10% 6% |
| 4 | Dl | 272 | 38% 89% 6% 5% |
| 4 | Dm | 272 | 38% 85% 9% 6% |
| 4 | Dn | 272 | 38% 88% 7% 5% |
| 4 | Do | 272 | 39% 83% 11% 6% |
| 4 | Dp | 272 | 38% 87% 7% 5% |
| 4 | Dq | 272 | 39% 83% 11% 6% |
| 4 | Dr | 272 | 38% 88% 6% • 5% |
| 4 | Ds | 272 | 38% 85% 9% 6% |
| 4 | Dt | 272 | 38% 88% 7% • 5% |
| 4 | Du | 272 | 38% 84% 10% 6% |
| 4 | Dv | 272 | 38% 88% 6% 5% |
| 4 | Dw | 272 | 38% 83% 11% 6% |
| 4 | Dx | 272 | 39% 87% 7% • 5% |
| 4 | Dy | 272 | 38% 85% 10% 6% |
| 4 | Dz | 272 | 38% 88% 6% • 5% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 5 | Fa | 15 | 60% 93% 7% |
| 5 | Fb | 15 | 67% 93% 7% |
| 5 | Fc | 15 | 60% 100% |
| 5 | Fd | 15 | 60% 87% 13% |
| 5 | Fe | 15 | 60% 93% 7% |
| 5 | Ff | 15 | 60% 93% 7% |
| 5 | Fg | 15 | 60% 100% |
| 5 | Fh | 15 | 73% 93% 7% |
| 5 | Fi | 15 | 60% 87% 13% |
| 5 | Fj | 15 | 67% 93% 7% |
| 5 | Fk | 15 | 60% 100% |
| 5 | Fl | 15 | 60% 87% 13% |
| 5 | Fm | 15 | 60% 93% 7% |
| 5 | Fn | 15 | 67% 100% |
| 5 | Fo | 15 | 60% 93% 7% |
| 5 | Fp | 15 | 60% 93% 7% |
| 5 | Fq | 15 | 67% 87% 13% |
| 5 | Fr | 15 | 60% 100% |
| 5 | Fs | 15 | 60% 100% |
| 5 | Ft | 15 | 67% 87% 13% |
| 5 | Fu | 15 | 60% 93% 7% |
| 5 | Fv | 15 | 67% 100% |
| 5 | Fw | 15 | 60% 93% 7% |
| 5 | Fx | 15 | 60% 100% |
| 5 | Fy | 15 | 67% 93% 7% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 5 | Fz | 15 | 67% 100% |
| 5 | Ga | 15 | 53% 80% 7% 13% |
| 5 | Gb | 15 | 60% 80% 7% 13% |
| 5 | Gc | 15 | 60% 67% 20% 13% |
| 5 | Gd | 15 | 60% 80% 7% 13% |
| 5 | Ge | 15 | 53% 80% 7% 13% |
| 5 | Gf | 15 | 60% 80% 7% 13% |
| 5 | Gg | 15 | 60% 87% 13% |
| 5 | Gh | 15 | 60% 80% 7% 13% |
| 5 | Gi | 15 | 60% 87% 13% |
| 5 | Gj | 15 | 53% 80% 7% 13% |
| 5 | Gk | 15 | 53% 80% 7% 13% |
| 5 | Gl | 15 | 60% 73% 13% 13% |
| 5 | Gm | 15 | 53% 60% 27% 13% |
| 5 | Gn | 15 | 60% 73% 13% 13% |
| 5 | Go | 15 | 60% 73% 13% 13% |
| 5 | Gp | 15 | 60% 73% 13% 13% |
| 5 | Gq | 15 | 60% 80% 7% 13% |
| 5 | Gr | 15 | 60% 80% 7% 13% |
| 5 | Gs | 15 | 60% 87% 13% |
| 5 | Gt | 15 | 60% 67% 20% 13% |
| 5 | Gu | 15 | 60% 80% 7% 13% |
| 5 | Gv | 15 | 60% 73% 13% 13% |
| 5 | Gw | 15 | 73% 73% 13% 13% |
| 5 | Gx | 15 | 53% 80% 7% 13% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 5 | Gy | 15 |   |
| 5 | Gz | 15 |   |

# 2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 236015 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 Flagellar L-ring protein.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Aa | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ab | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ac | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ad | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ae | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Af | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ag | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ah | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ai | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Aj | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ak | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Al | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Am | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | An | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ao | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ap | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Aq | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Ar | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | As | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | At | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Au | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Av | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Aw | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ax | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Ay | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |
| 1 | Az | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1674 | 1027 | 290 | 353 | 4 | | |

- Molecule 2 is a protein called Flagellar P-ring protein.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 2 | Ba | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bb | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bc | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bd | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Be | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bf | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bg | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bh | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bi | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bj | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 2 | Bk | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bl | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bm | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bn | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bo | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bp | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bq | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Br | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bs | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bt | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bu | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bv | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bw | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bx | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | By | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |
| 2 | Bz | 316 | Total | C | N | O | S | 0 | 0 |
| | | | 2314 | 1457 | 404 | 446 | 7 | | |

- Molecule 3 is a protein called Flagellar protein FlgT.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 3 | Ca | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cb | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cc | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 3 | Cd | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Ce | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cf | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cg | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Ch | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Ci | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cj | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Ck | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cl | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cm | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cn | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Co | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cp | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cq | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cr | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cs | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Ct | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cu | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cv | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cw | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cx | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 3 | Cy | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |
| 3 | Cz | 352 | Total | C | N | O | S | 0 | 0 |
| | | | 2770 | 1741 | 477 | 535 | 17 | | |

- Molecule 4 is a protein called Sodium-type flagellar protein MotY.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 4 | Da | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Db | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Dc | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dd | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | De | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Df | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Dg | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dh | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Di | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dj | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Dk | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dl | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Dm | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dn | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Do | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dp | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Dq | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 4 | Dr | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Ds | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dt | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Du | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dv | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Dw | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dx | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |
| 4 | Dy | 257 | Total | C | N | O | S | 0 | 0 |
| | | | 2085 | 1312 | 362 | 404 | 7 | | |
| 4 | Dz | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2080 | 1310 | 358 | 405 | 7 | | |

- Molecule 5 is a protein called Flagellar assembly lipoprotein FlgP.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 5 | Fa | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fb | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fc | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fd | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fe | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Ff | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fg | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fh | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fi | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fj | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 5 | Fk | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fl | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fm | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fn | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fo | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fp | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fq | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fr | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fs | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Ft | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fu | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fv | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fw | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fx | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fy | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Fz | 15 | Total | C | N | O | S | 0 | 0 |
| | | | 125 | 78 | 22 | 24 | 1 | | |
| 5 | Ga | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gb | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gc | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gd | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Ge | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |

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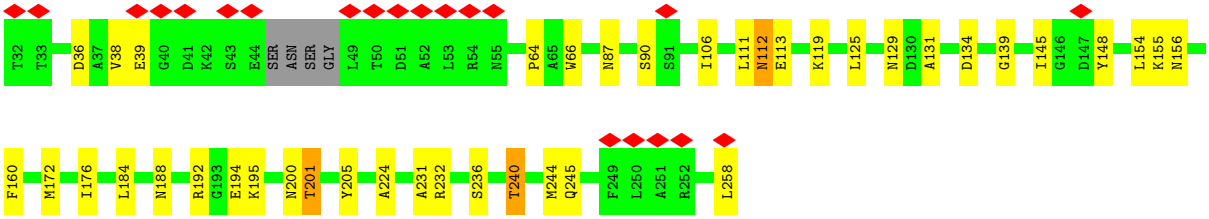
| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 5 | Gf | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gg | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gh | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gi | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gj | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gk | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gl | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gm | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gn | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Go | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gp | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gq | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gr | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gs | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gt | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gu | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gv | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gw | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gx | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gy | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |
| 5 | Gz | 13 | Total | C | N | O | S | 0 | 0 |
| | | | 112 | 71 | 20 | 20 | 1 | | |

# 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.

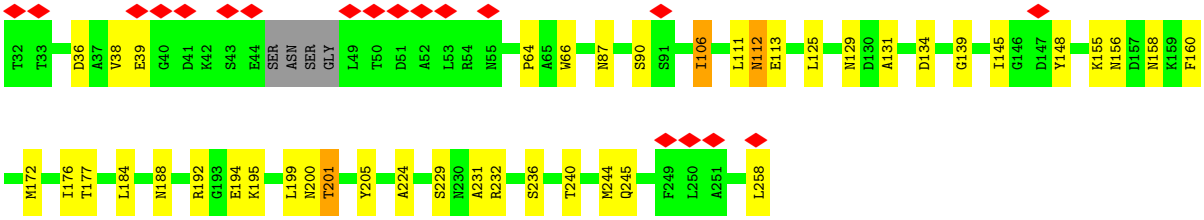
• Molecule 1: Flagellar L-ring protein

Chain Aa:

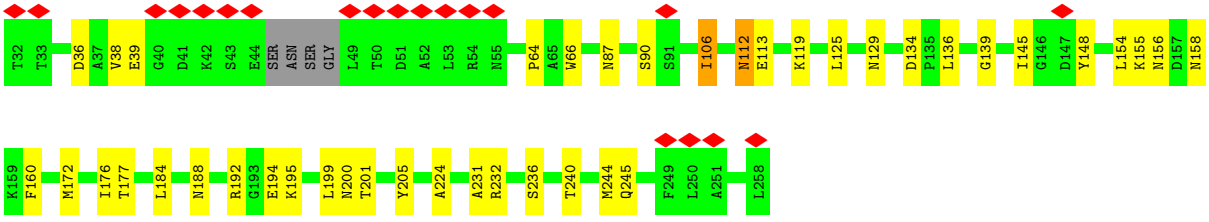

• Molecule 1: Flagellar L-ring protein

Chain Ab:

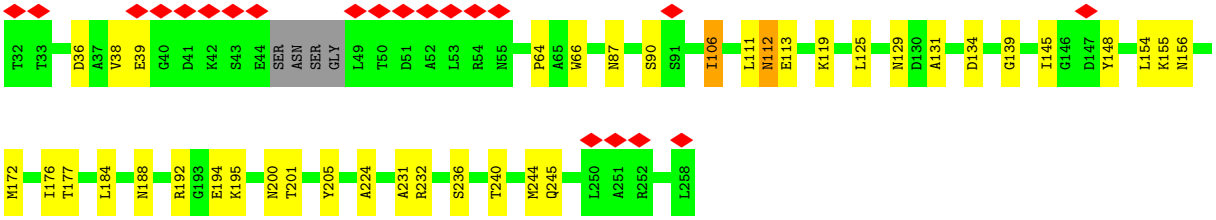

• Molecule 1: Flagellar L-ring protein

Chain Ac:

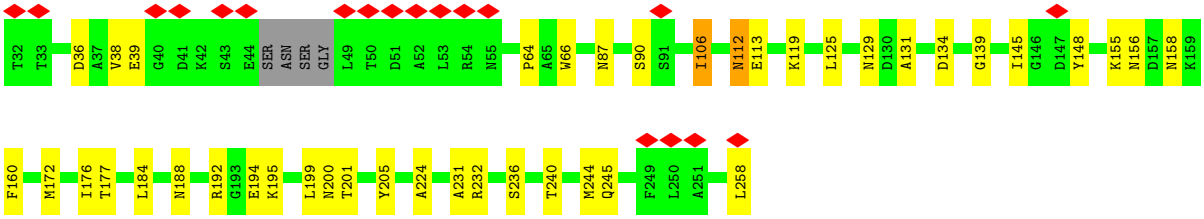

• Molecule 1: Flagellar L-ring protein

Chain Ad:



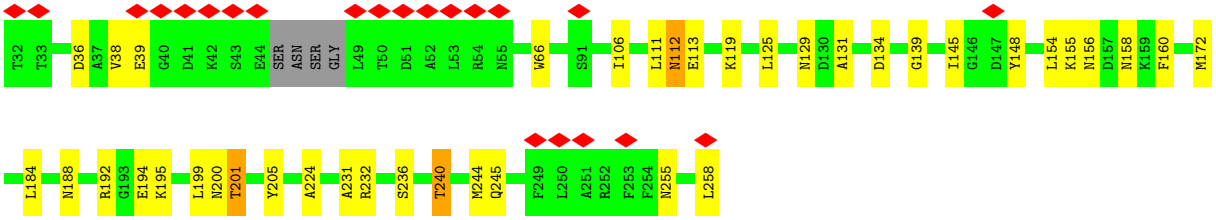

• Molecule 1: Flagellar L-ring protein

Chain Ae:

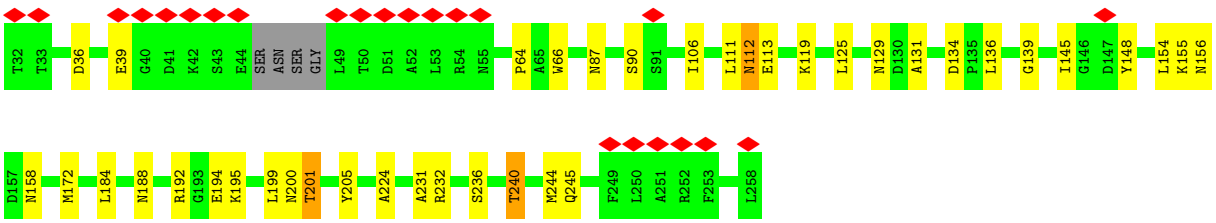

• Molecule 1: Flagellar L-ring protein

Chain Af:

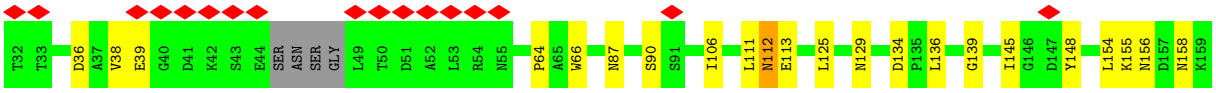

• Molecule 1: Flagellar L-ring protein

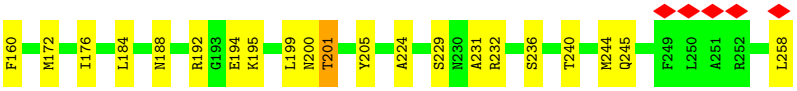
Chain Ag:


• Molecule 1: Flagellar L-ring protein

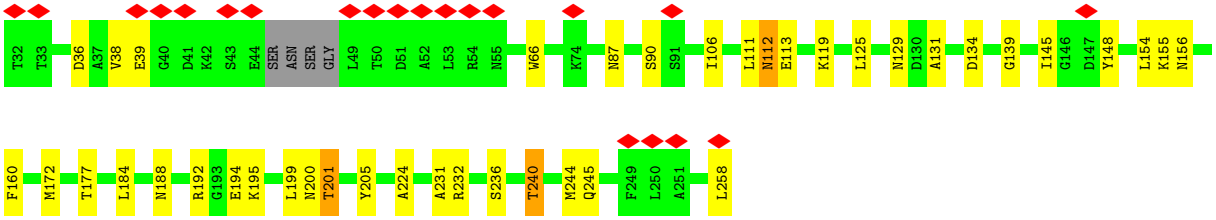
Chain Ah:



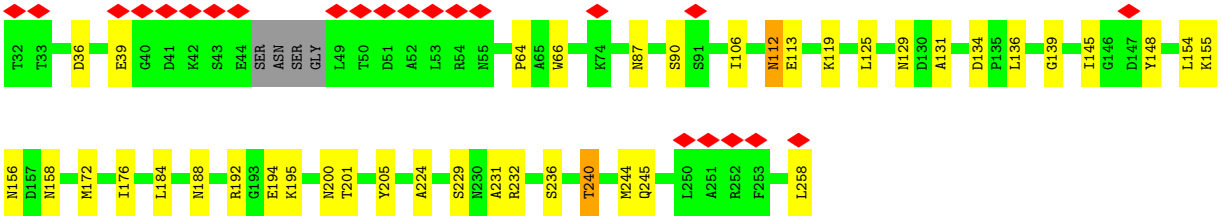

• Molecule 1: Flagellar L-ring protein

Chain Ai:

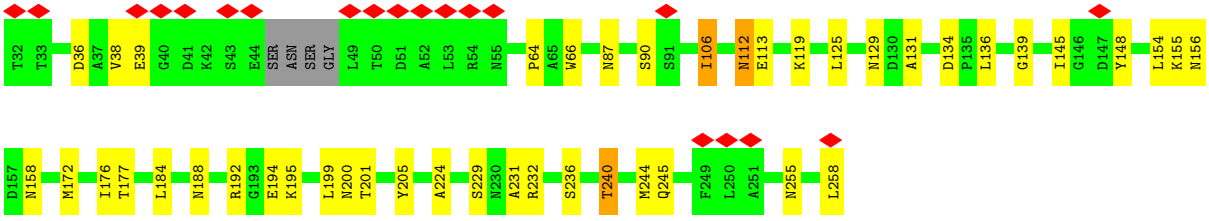

• Molecule 1: Flagellar L-ring protein

Chain Aj:

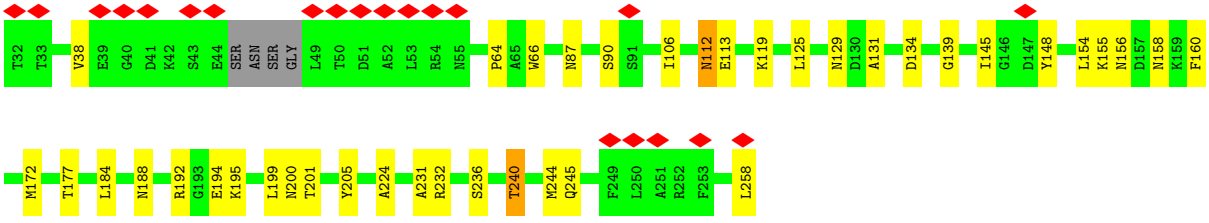

• Molecule 1: Flagellar L-ring protein

Chain Ak:

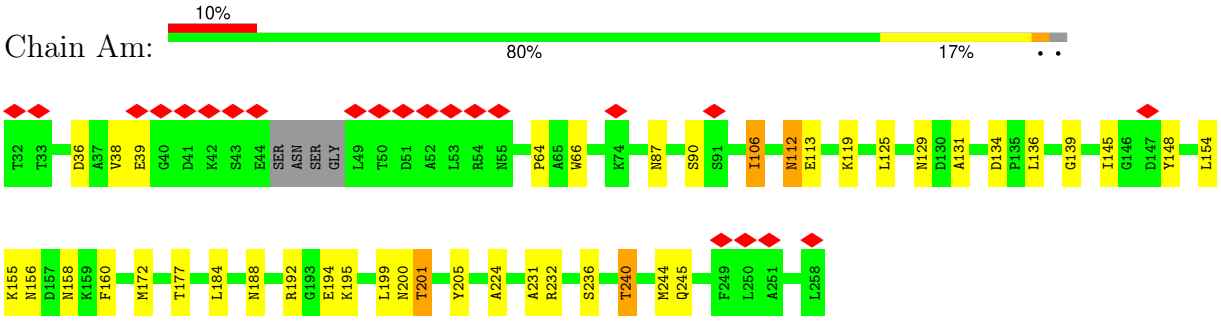

• Molecule 1: Flagellar L-ring protein

Chain Al:

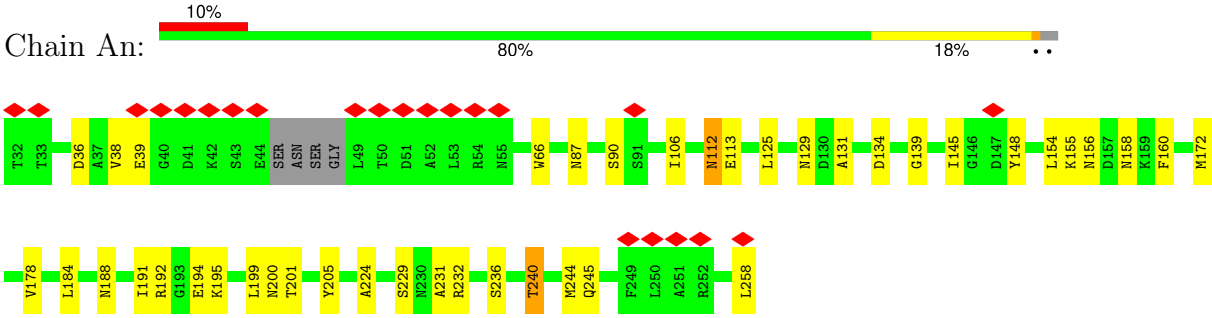

• Molecule 1: Flagellar L-ring protein

Chain Am:



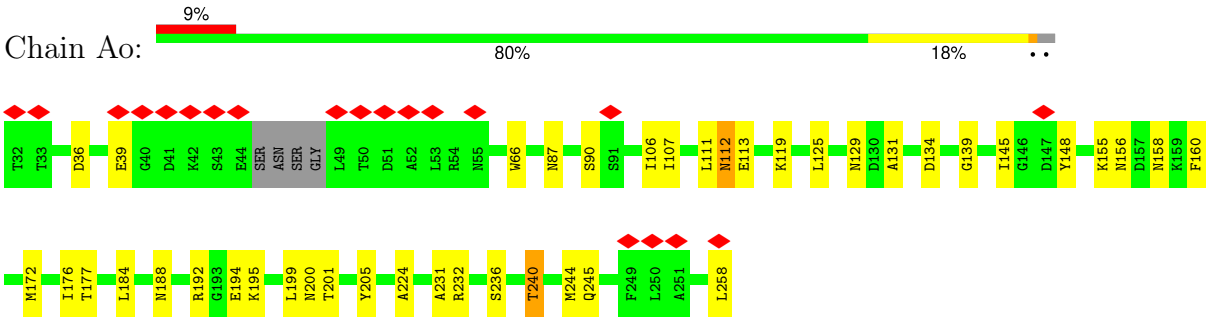

• Molecule 1: Flagellar L-ring protein

Chain An:



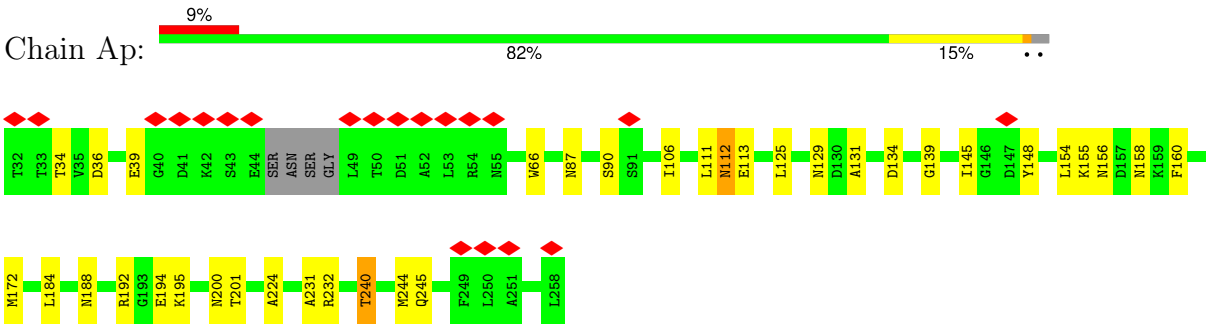

• Molecule 1: Flagellar L-ring protein

Chain Ao:



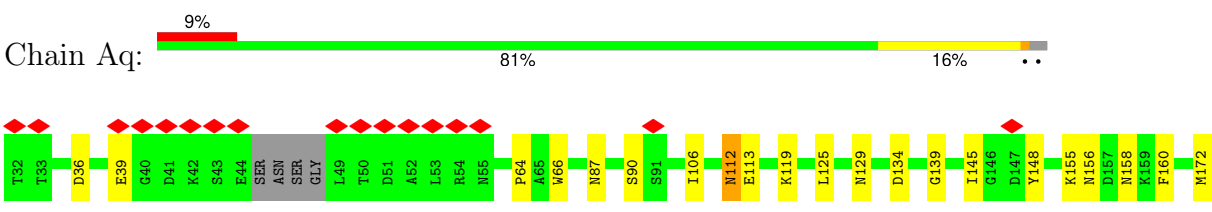

• Molecule 1: Flagellar L-ring protein

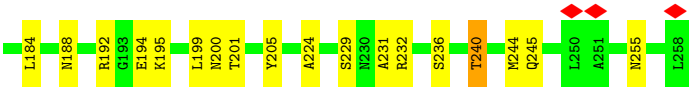
Chain Ap:




• Molecule 1: Flagellar L-ring protein

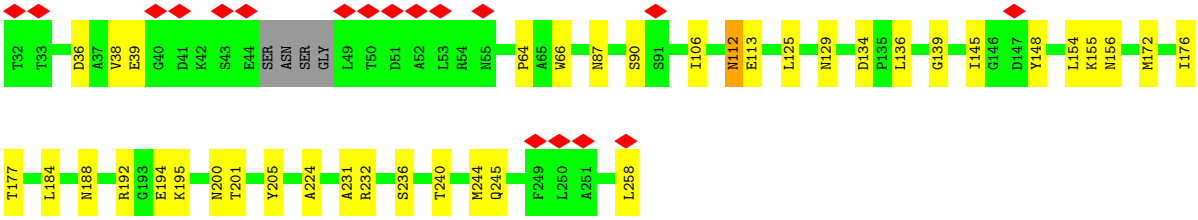
Chain Aq:





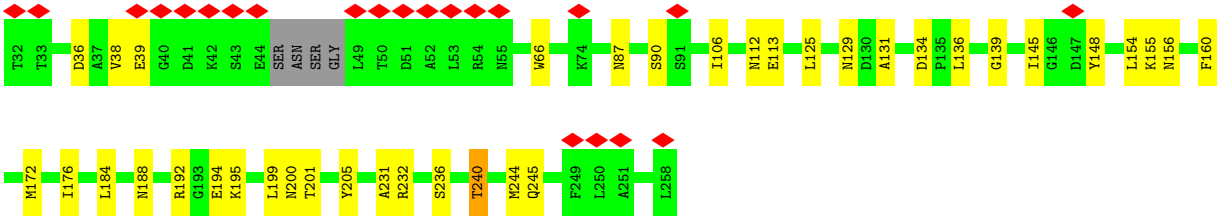

• Molecule 1: Flagellar L-ring protein

Chain Ar:

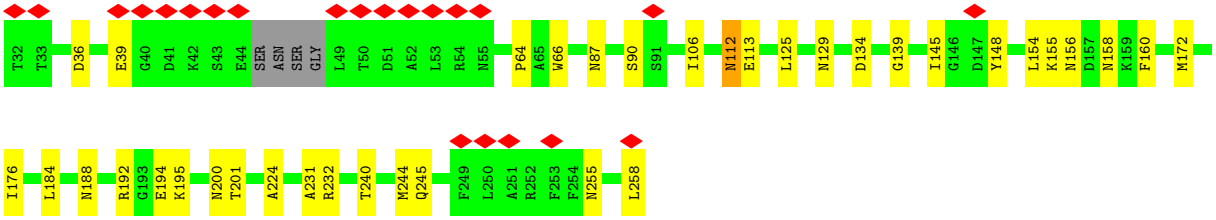

• Molecule 1: Flagellar L-ring protein

Chain As:

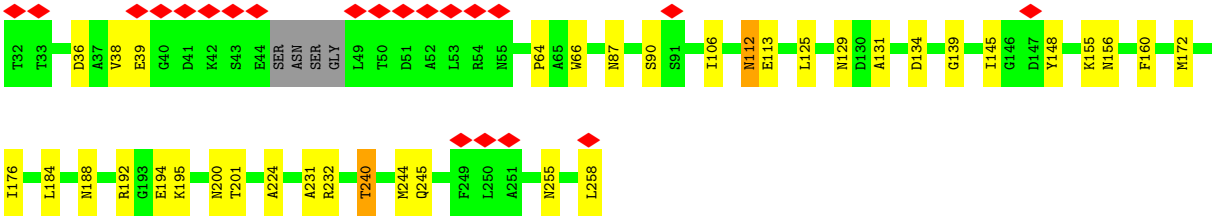

• Molecule 1: Flagellar L-ring protein

Chain At:

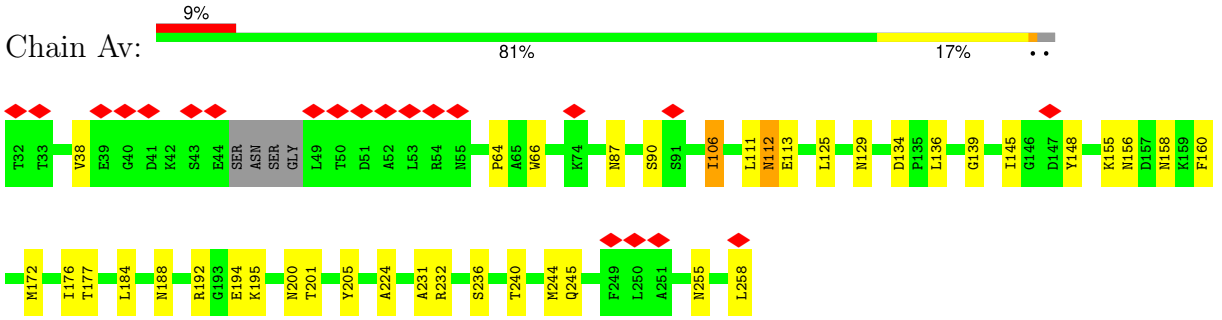

• Molecule 1: Flagellar L-ring protein

Chain Au:

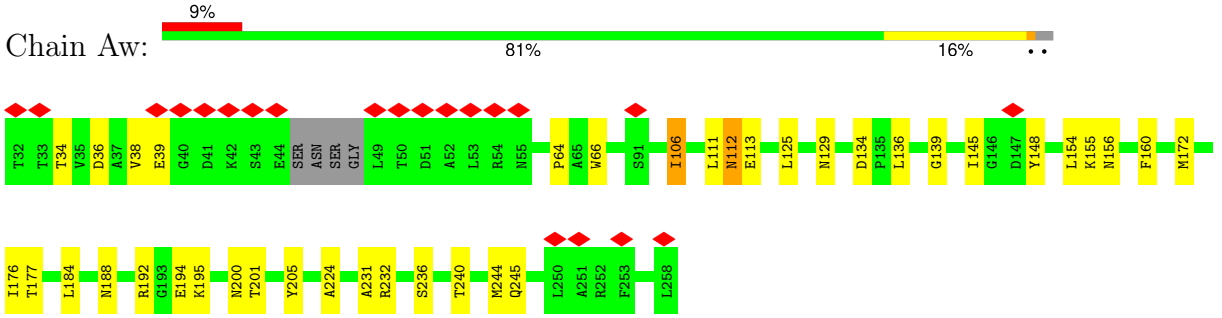

• Molecule 1: Flagellar L-ring protein

Chain Av:



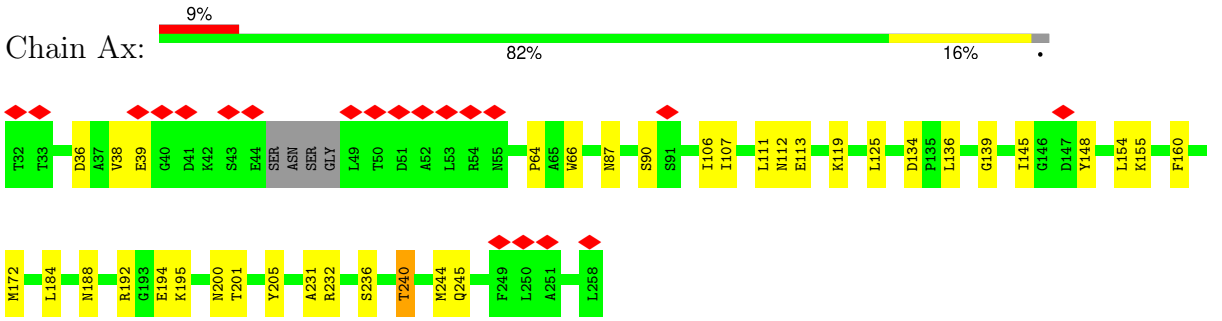

• Molecule 1: Flagellar L-ring protein

Chain Aw:



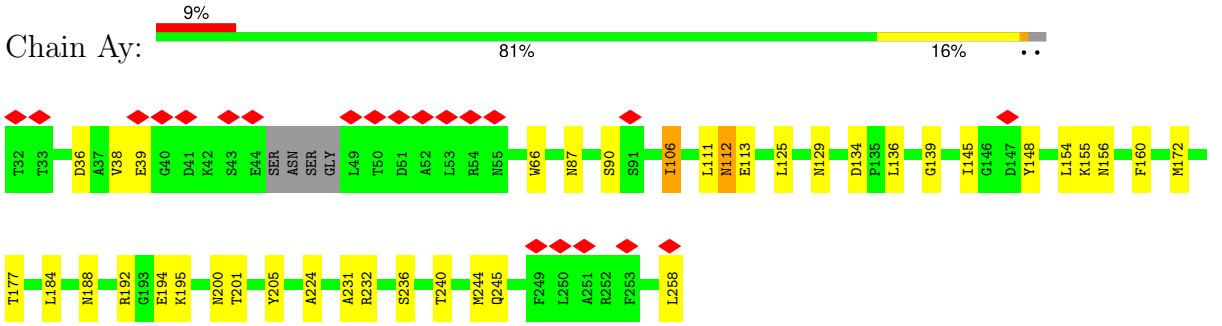

• Molecule 1: Flagellar L-ring protein

Chain Ax:




• Molecule 1: Flagellar L-ring protein

Chain Ay:




• Molecule 1: Flagellar L-ring protein

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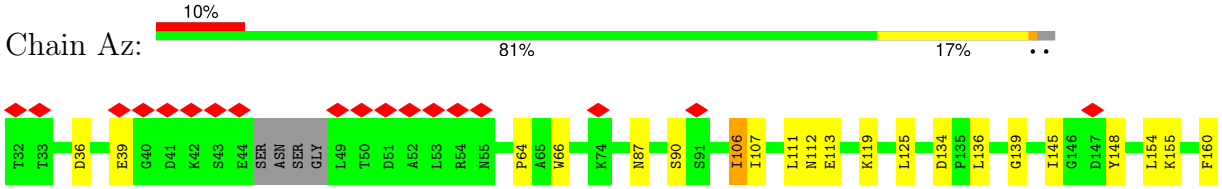
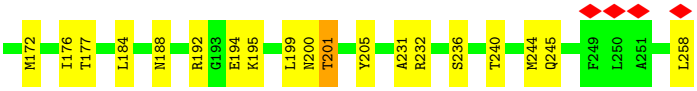
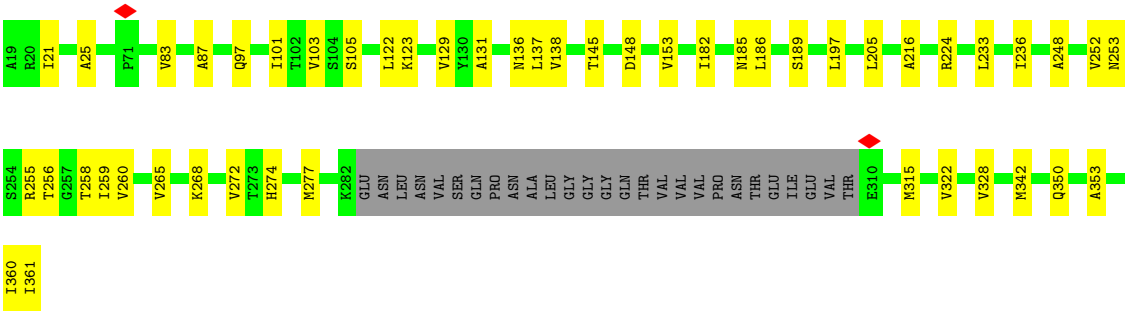




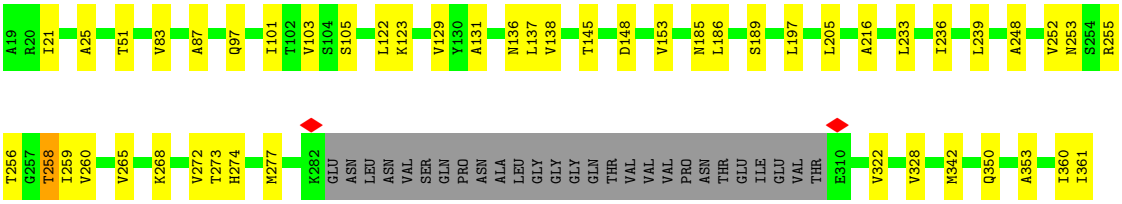

• Molecule 2: Flagellar P-ring protein

Chain Ba:

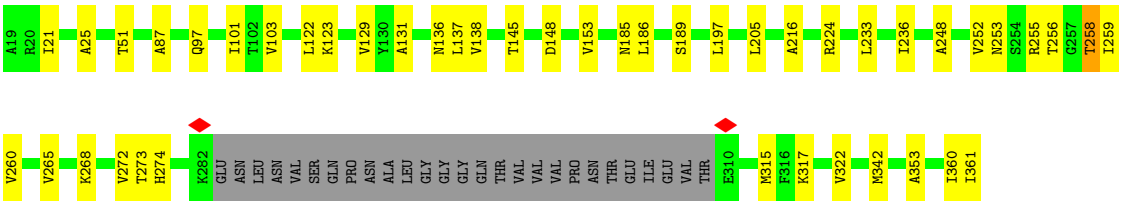

• Molecule 2: Flagellar P-ring protein

Chain Bb:

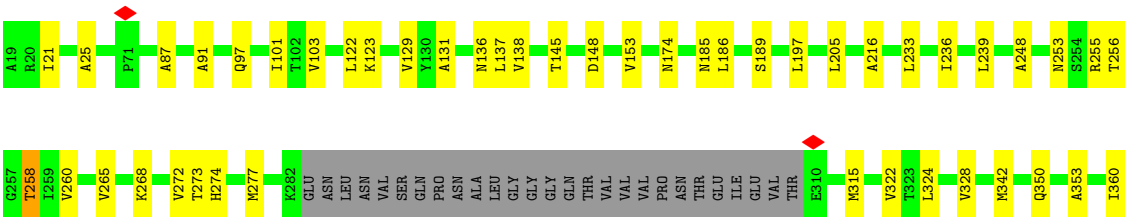

• Molecule 2: Flagellar P-ring protein

Chain Bc:

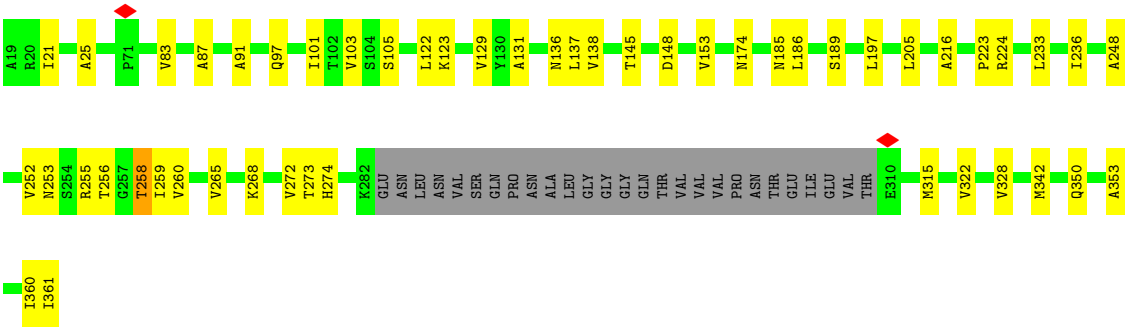

• Molecule 2: Flagellar P-ring protein

Chain Bd:

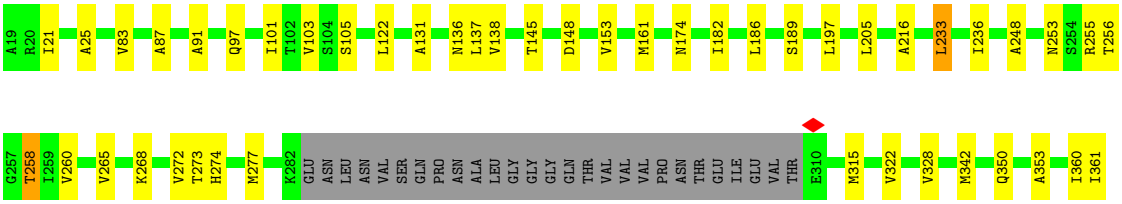

• Molecule 2: Flagellar P-ring protein

Chain Be:

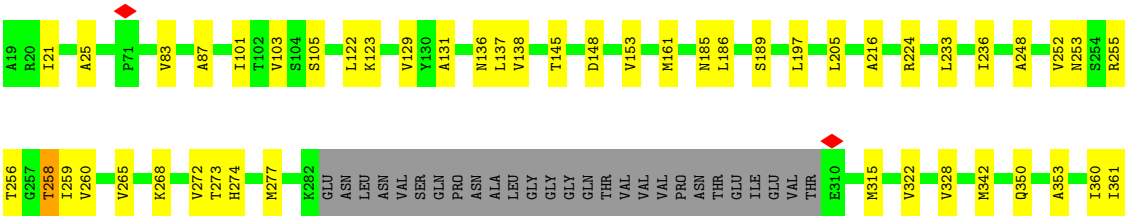

• Molecule 2: Flagellar P-ring protein

Chain Bf:

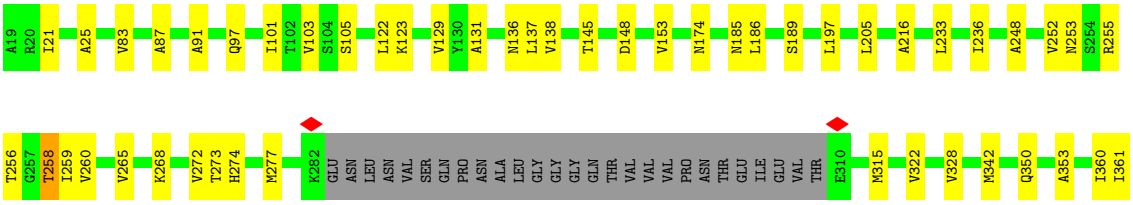

• Molecule 2: Flagellar P-ring protein

Chain Bg:

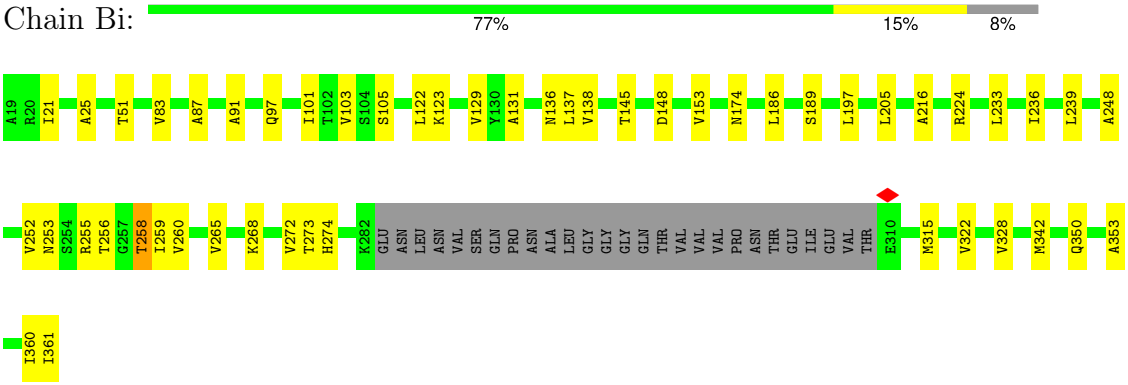

• Molecule 2: Flagellar P-ring protein

Chain Bh:

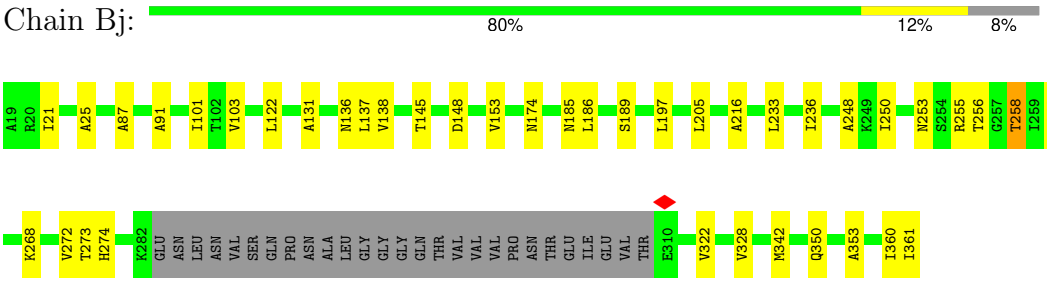
• Molecule 2: Flagellar P-ring protein

Chain Bi:



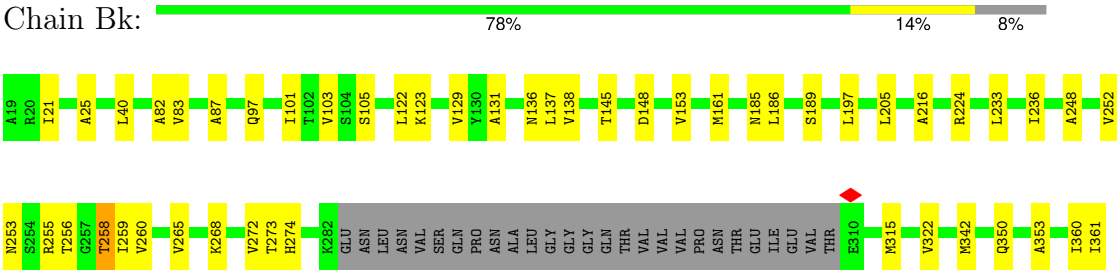

• Molecule 2: Flagellar P-ring protein

Chain Bj:



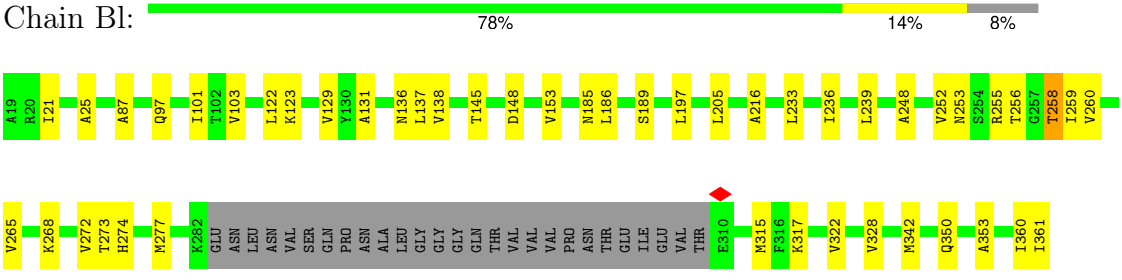

• Molecule 2: Flagellar P-ring protein

Chain Bk:



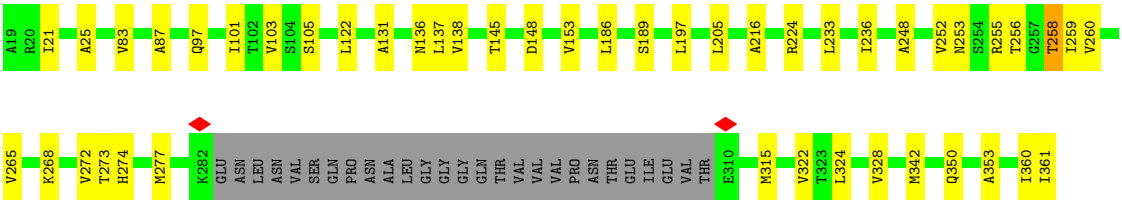

• Molecule 2: Flagellar P-ring protein

Chain Bl:




• Molecule 2: Flagellar P-ring protein

Chain Bm:




• Molecule 2: Flagellar P-ring protein

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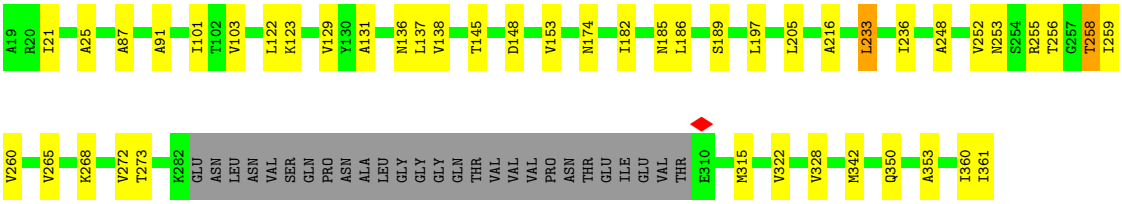
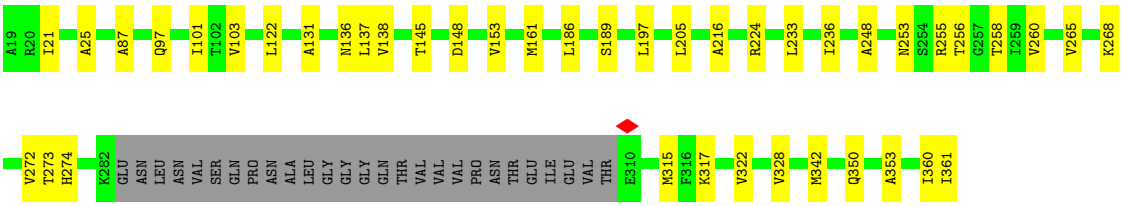


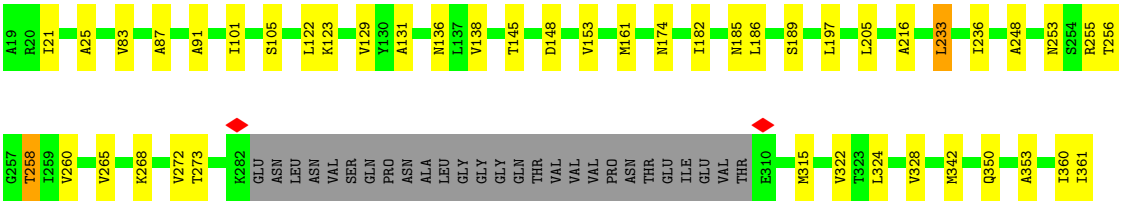

• Molecule 2: Flagellar P-ring protein

Chain Bo:

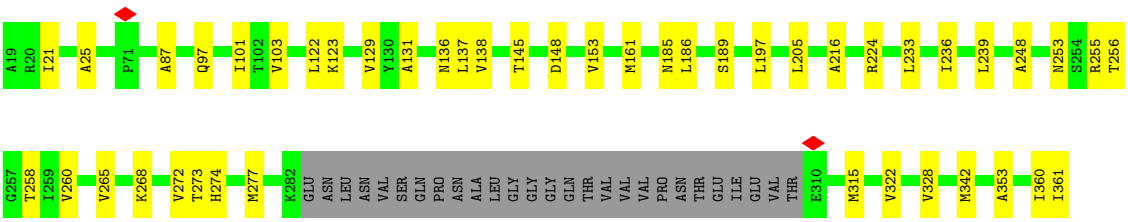

• Molecule 2: Flagellar P-ring protein

Chain Bp:

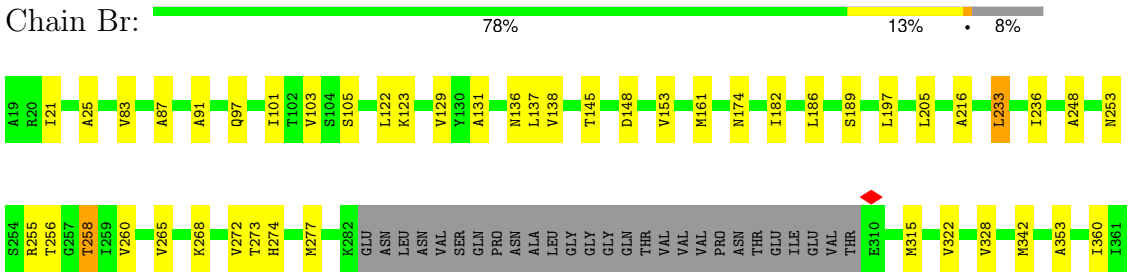

• Molecule 2: Flagellar P-ring protein

Chain Bq:

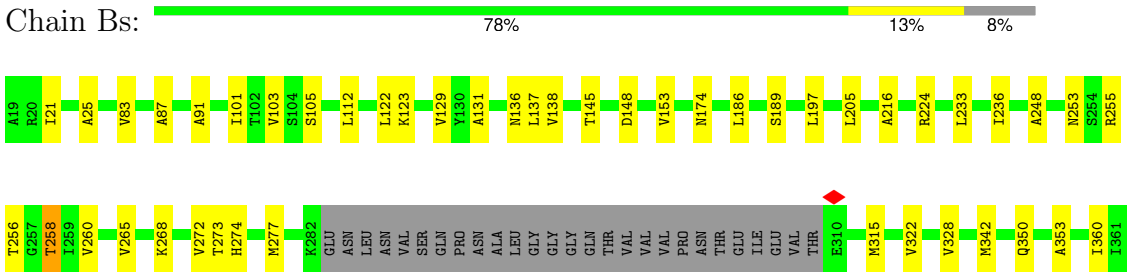
• Molecule 2: Flagellar P-ring protein

Chain Br:



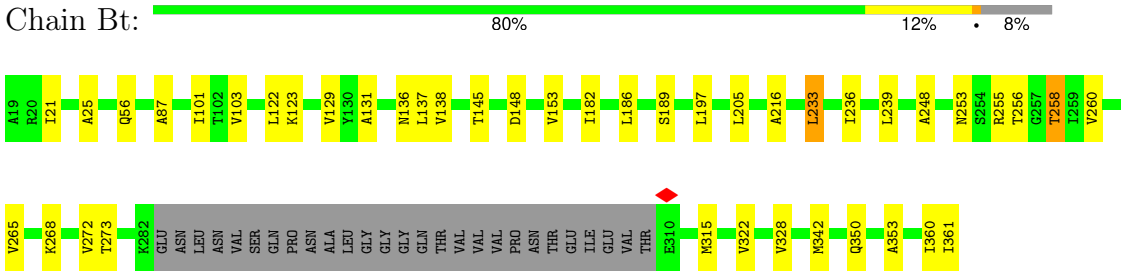

• Molecule 2: Flagellar P-ring protein

Chain Bs:



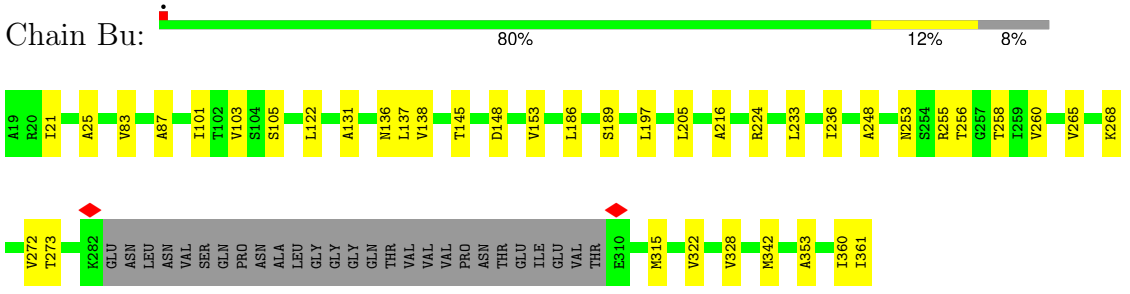

• Molecule 2: Flagellar P-ring protein

Chain Bt:



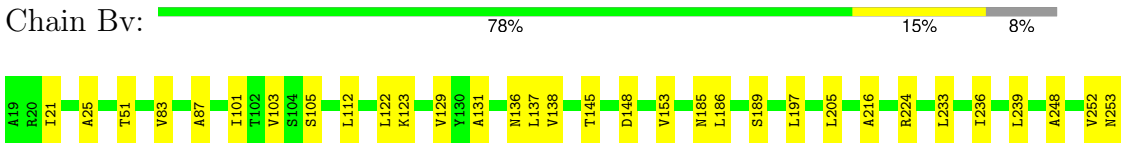

• Molecule 2: Flagellar P-ring protein

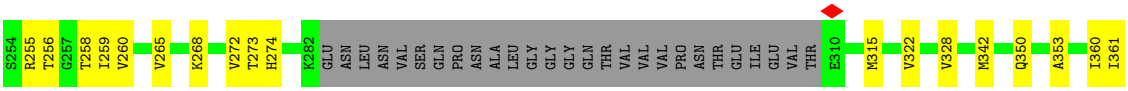
Chain Bu:




• Molecule 2: Flagellar P-ring protein

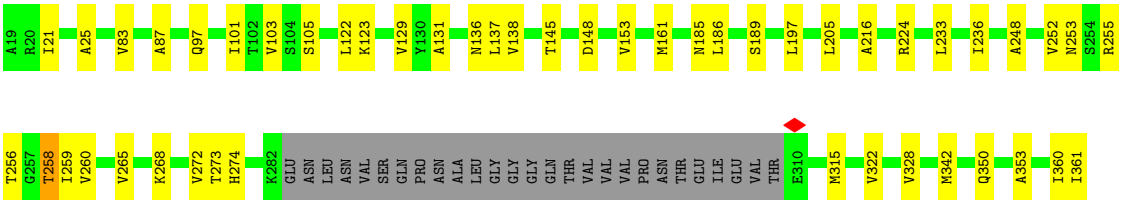
Chain Bv:





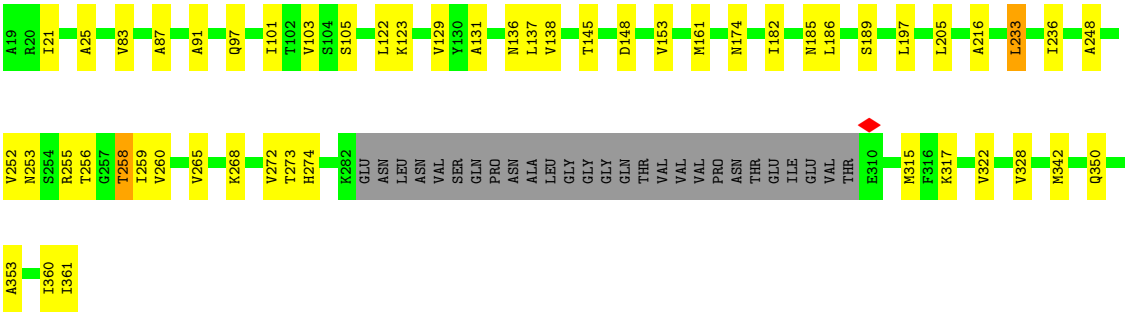

• Molecule 2: Flagellar P-ring protein

Chain Bw:

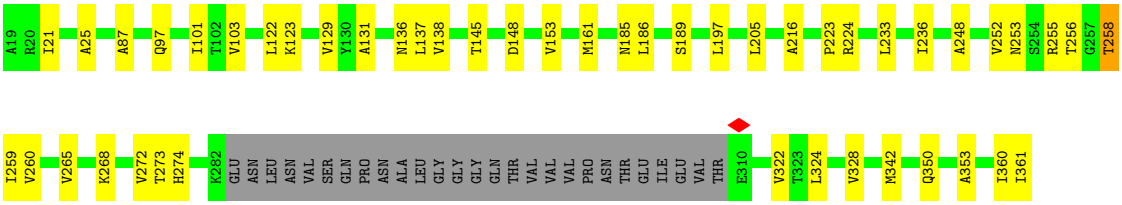

• Molecule 2: Flagellar P-ring protein

Chain Bx:

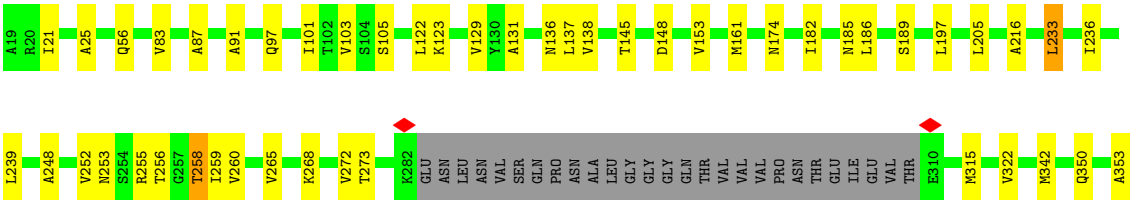

• Molecule 2: Flagellar P-ring protein

Chain By:

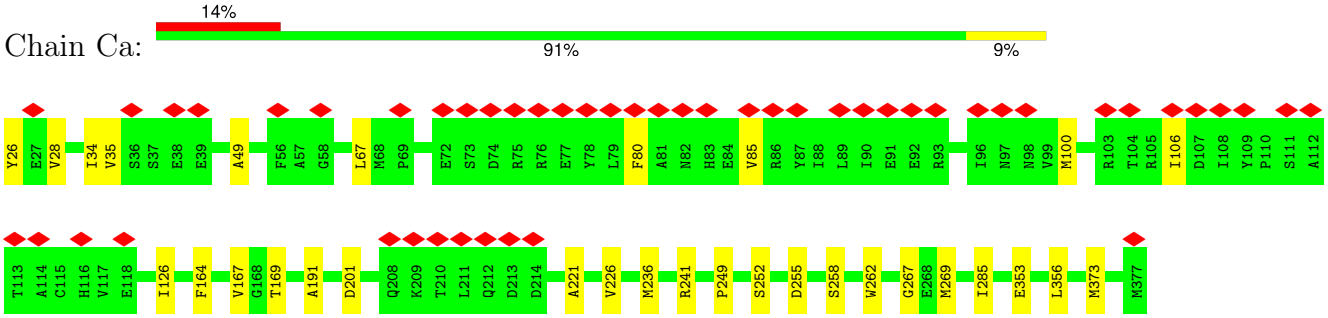

• Molecule 2: Flagellar P-ring protein

Chain Bz:

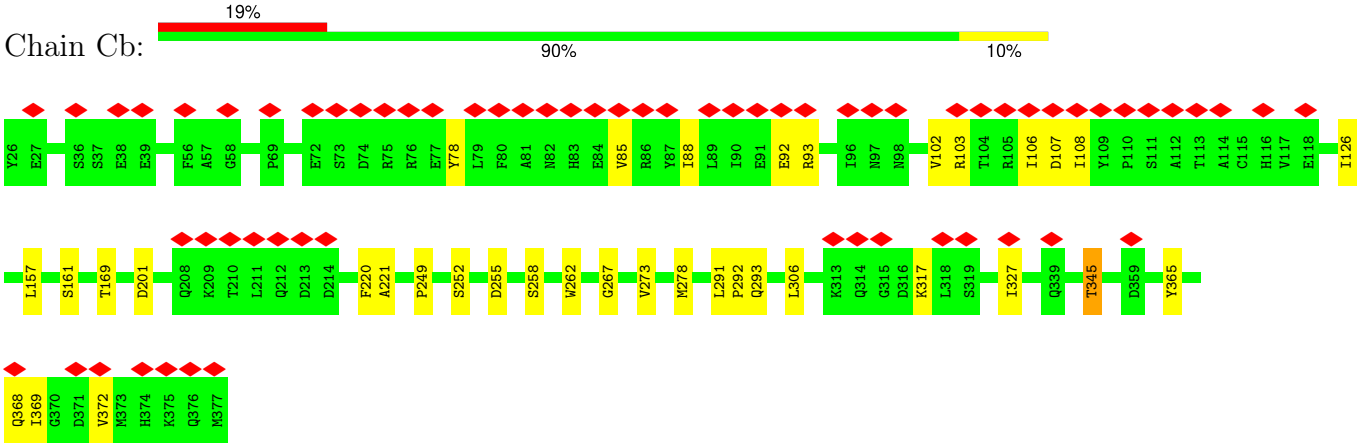

• Molecule 3: Flagellar protein FlgT

Chain Ca:



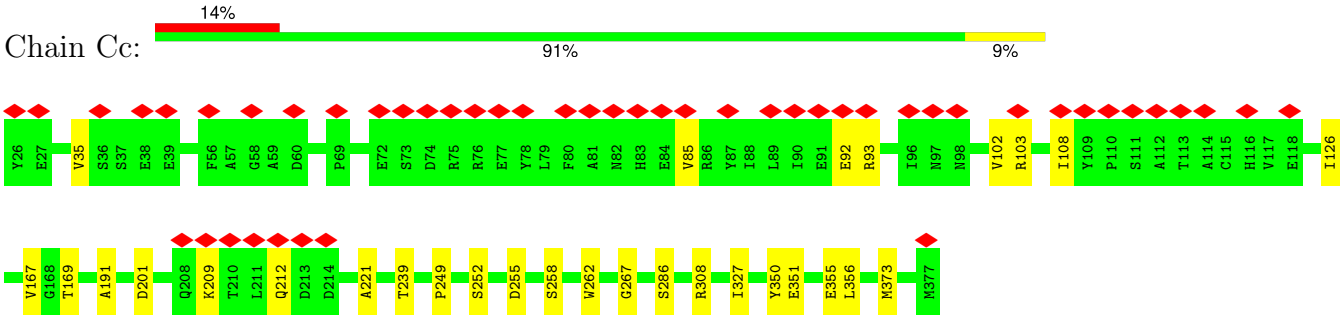

• Molecule 3: Flagellar protein FlgT

Chain Cb:




• Molecule 3: Flagellar protein FlgT

Chain Cc:




• Molecule 3: Flagellar protein FlgT

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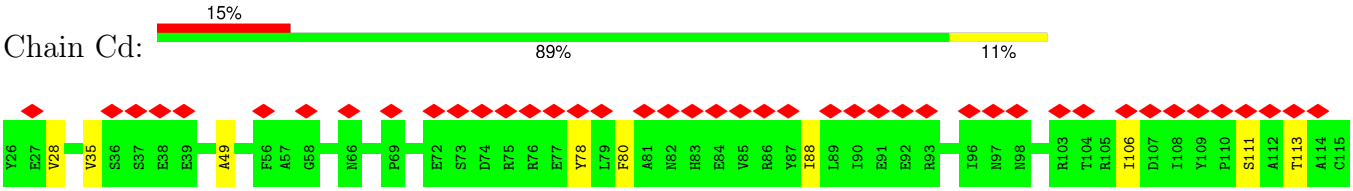
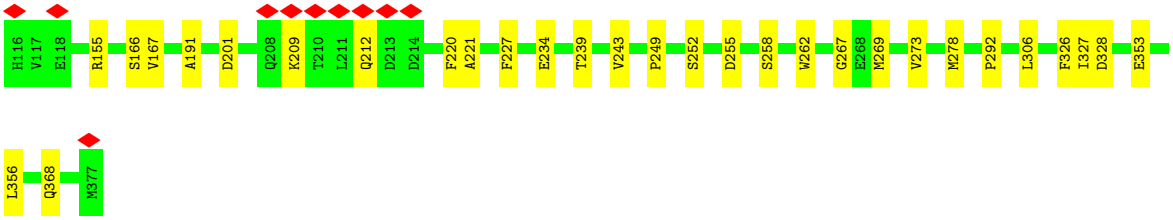
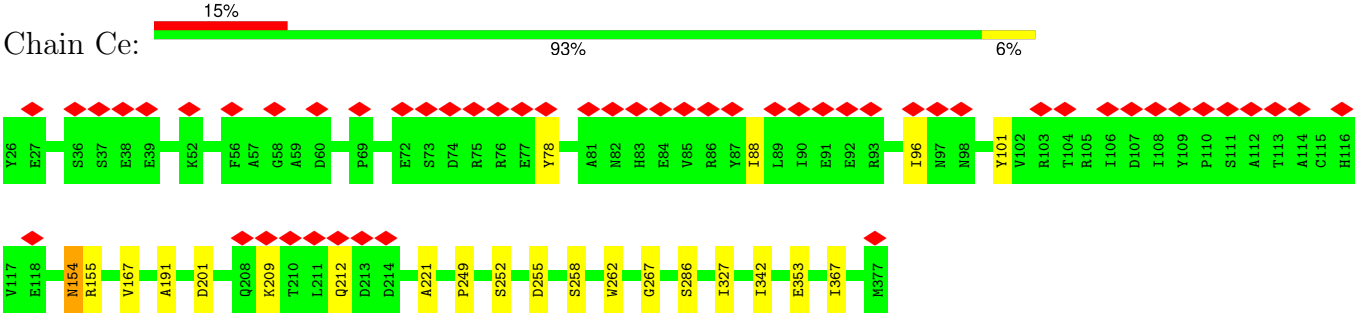
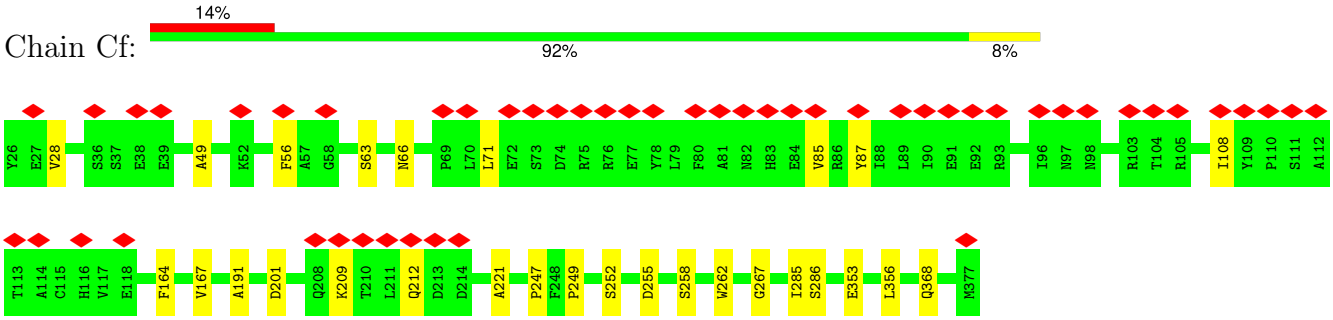




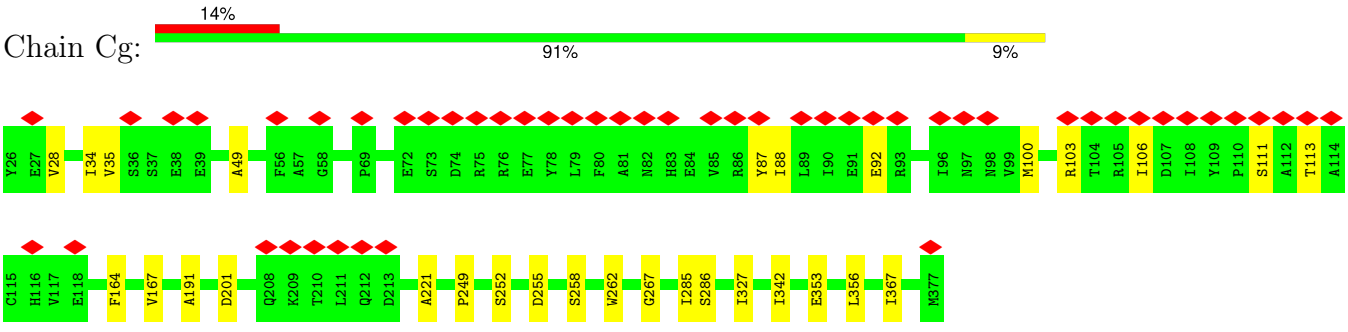

• Molecule 3: Flagellar protein FlgT



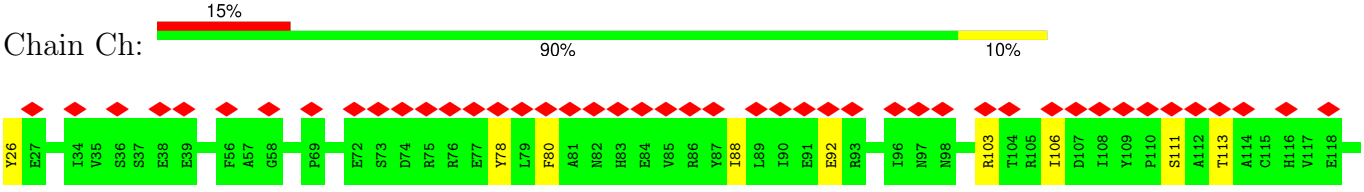

• Molecule 3: Flagellar protein FlgT

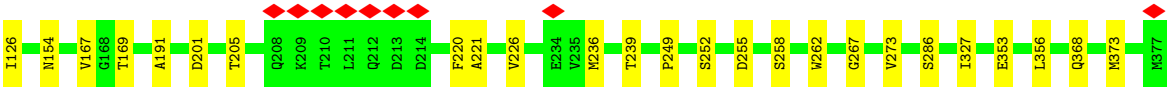



• Molecule 3: Flagellar protein FlgT



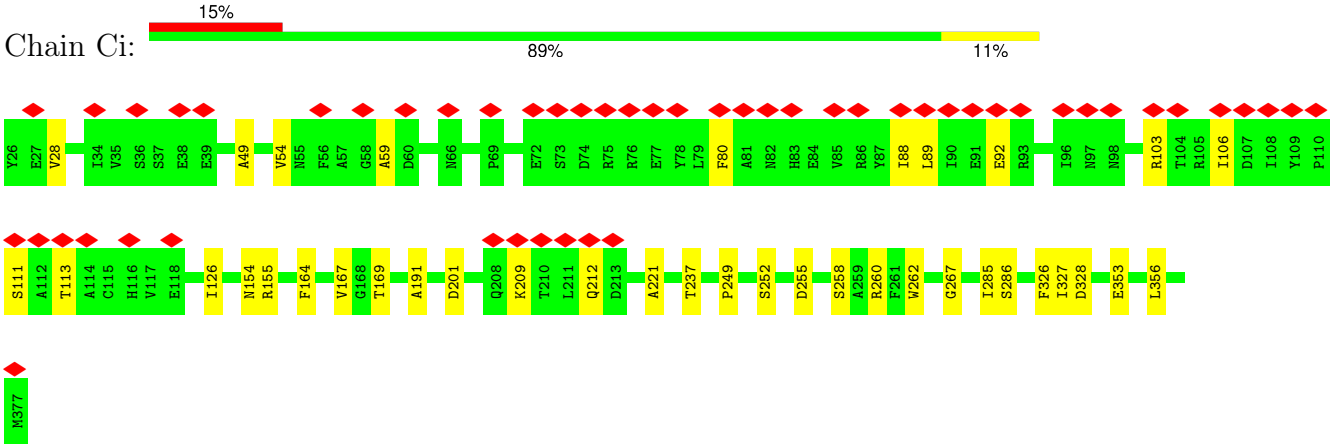

• Molecule 3: Flagellar protein FlgT





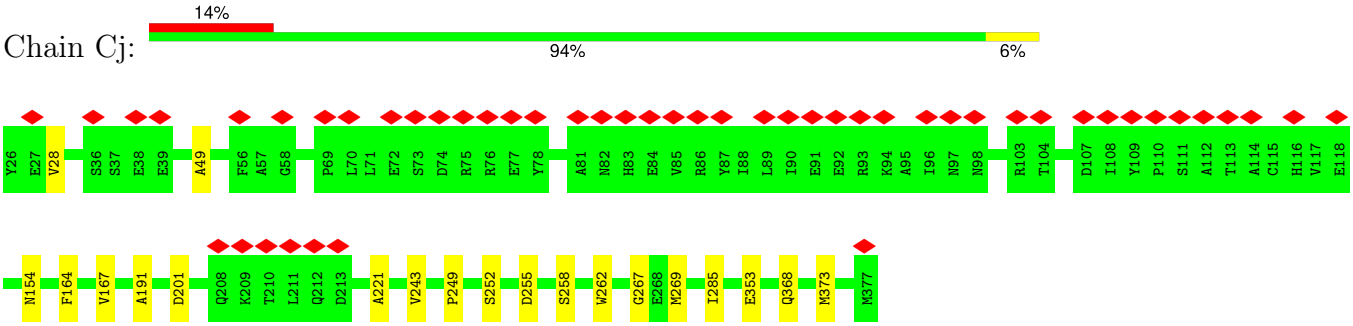

• Molecule 3: Flagellar protein FlgT

Chain Ci:



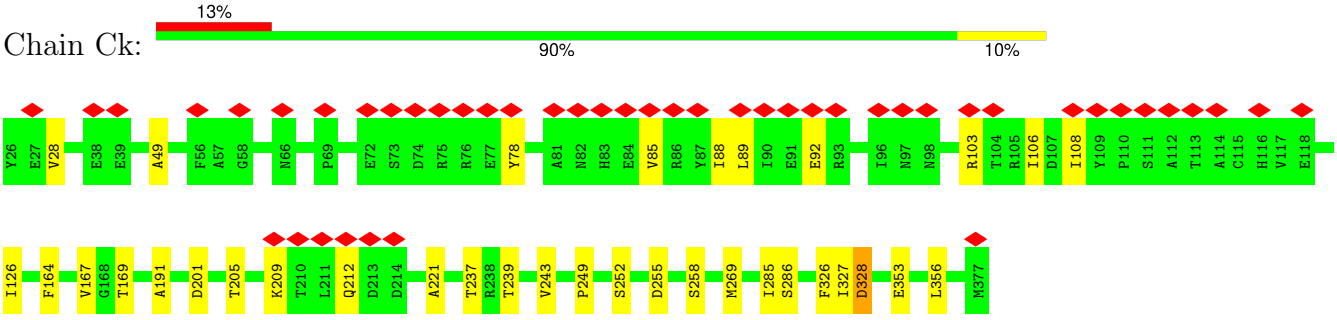

• Molecule 3: Flagellar protein FlgT

Chain Cj:



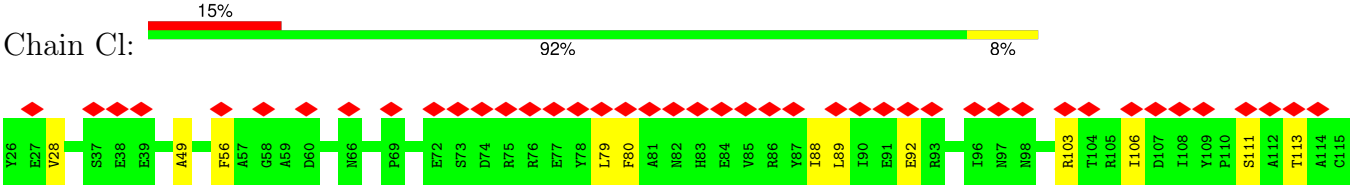

• Molecule 3: Flagellar protein FlgT

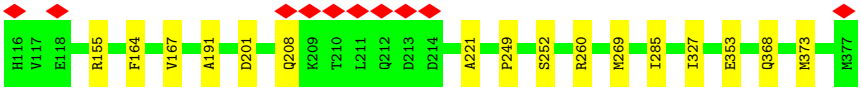
Chain Ck:




• Molecule 3: Flagellar protein FlgT

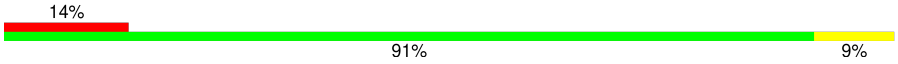
Chain Cl:

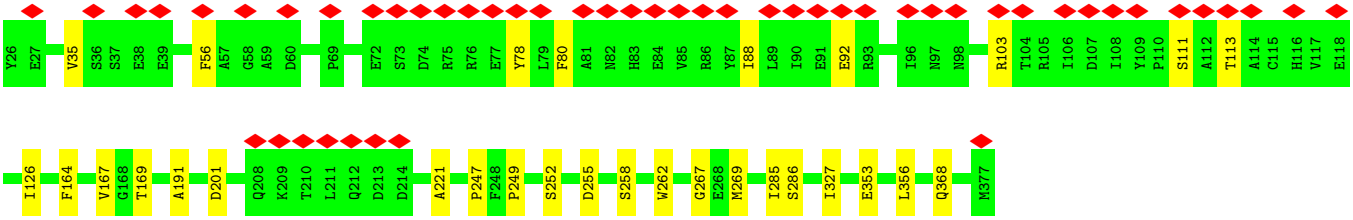





• Molecule 3: Flagellar protein FlgT

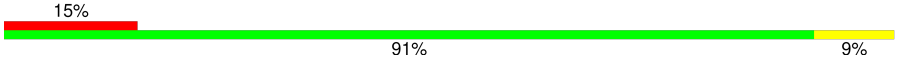
Chain Cm:

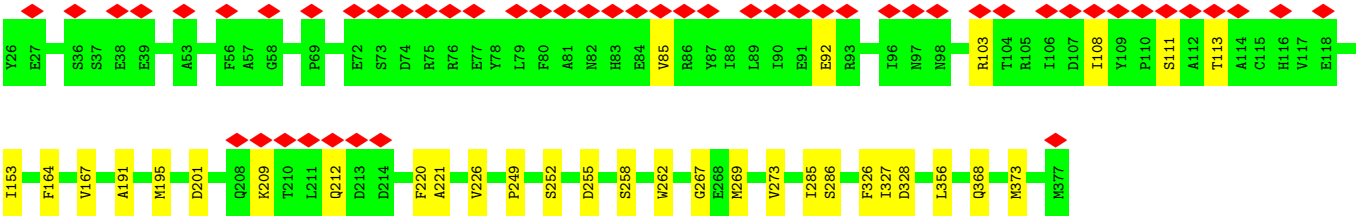



• Molecule 3: Flagellar protein FlgT

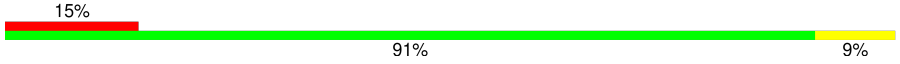
Chain Cn:

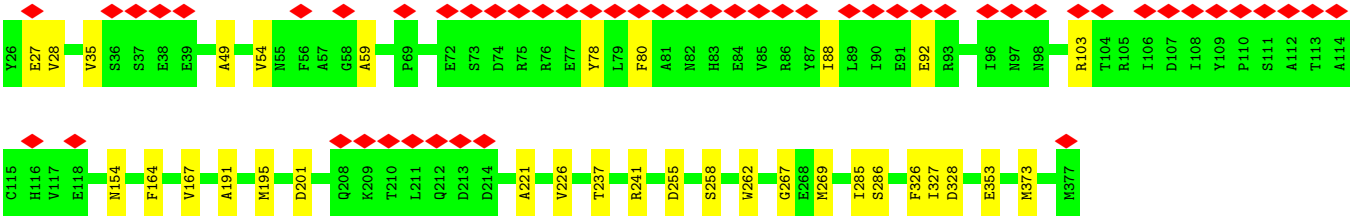



• Molecule 3: Flagellar protein FlgT

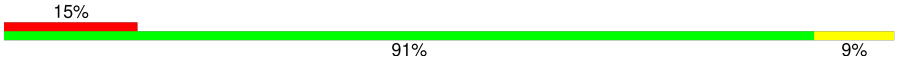
Chain Co:

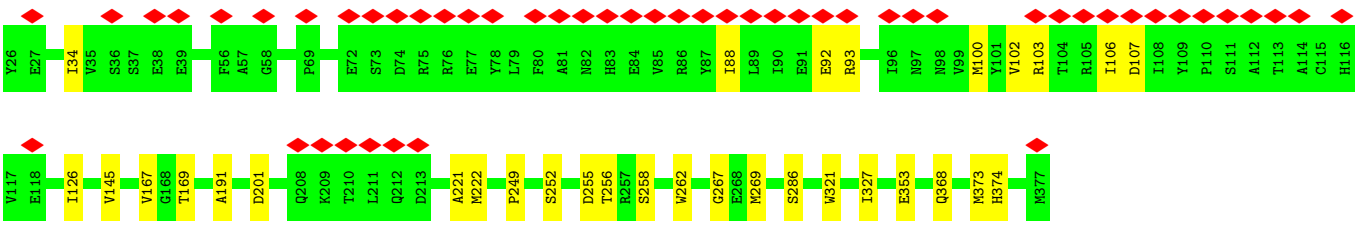



• Molecule 3: Flagellar protein FlgT

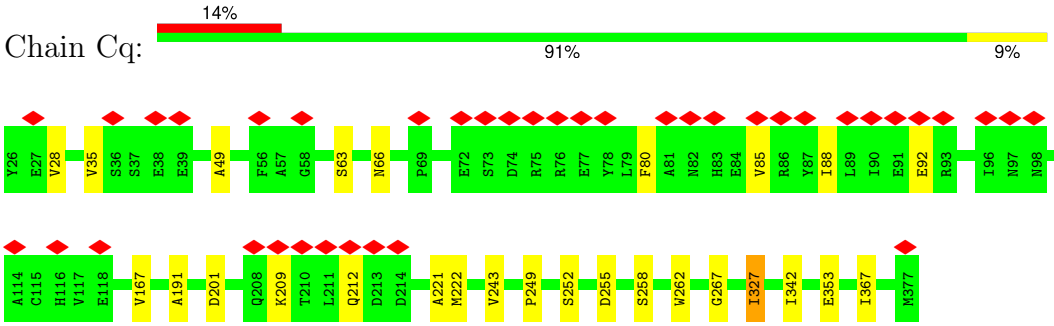
Chain Cp:



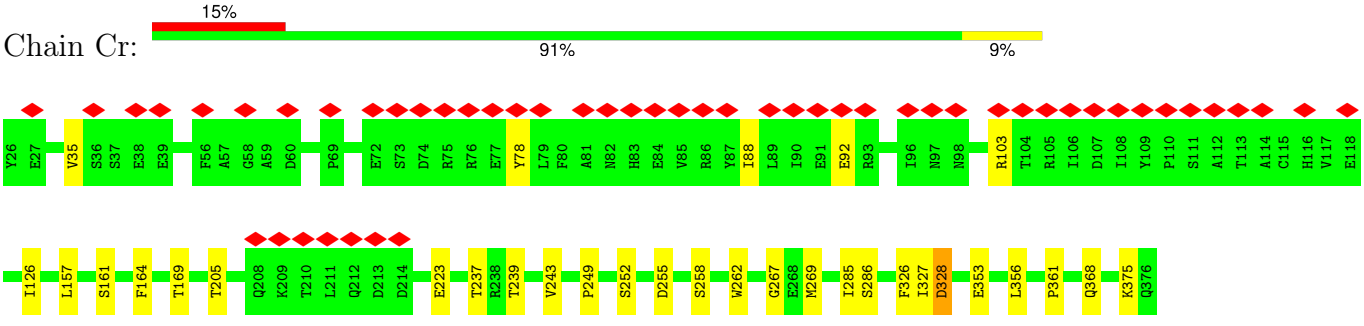

• Molecule 3: Flagellar protein FlgT

Chain Cq:



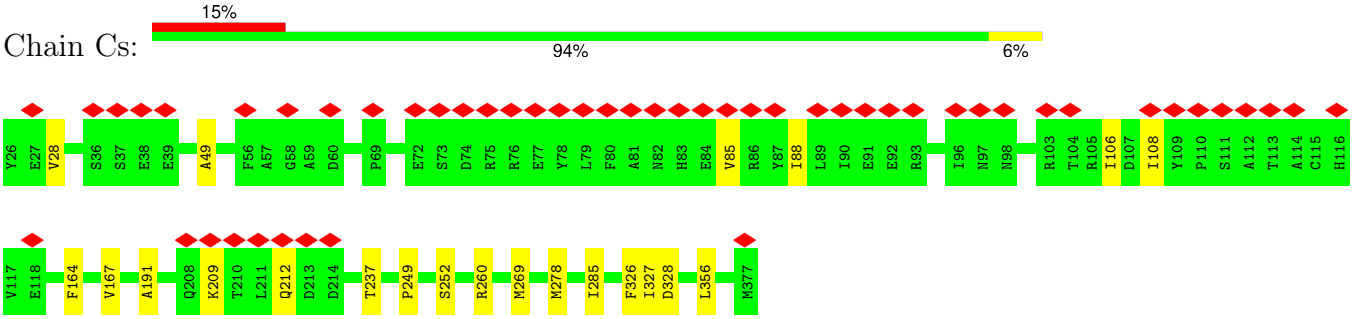

• Molecule 3: Flagellar protein FlgT

Chain Cr:



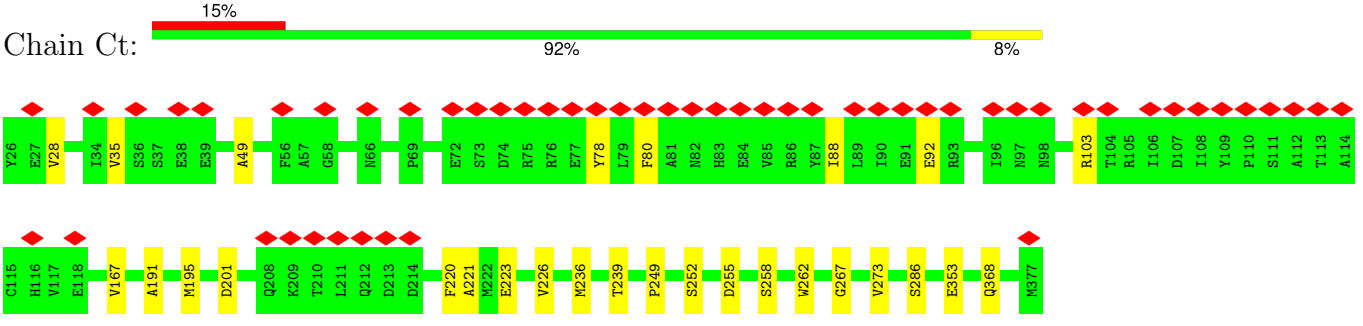

• Molecule 3: Flagellar protein FlgT

Chain Cs:



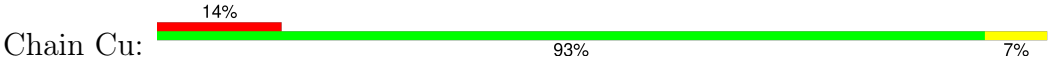

• Molecule 3: Flagellar protein FlgT

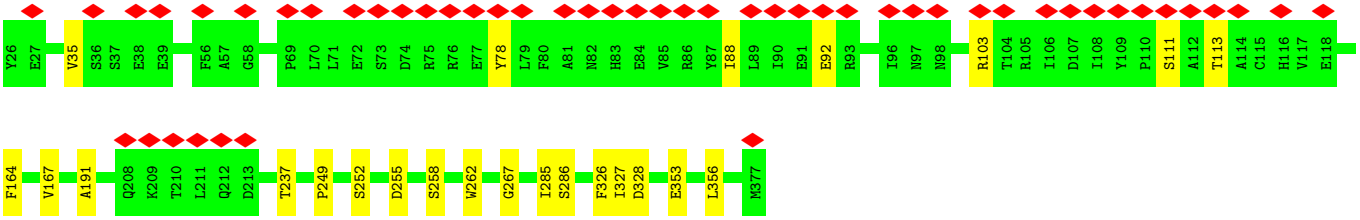
Chain Ct:



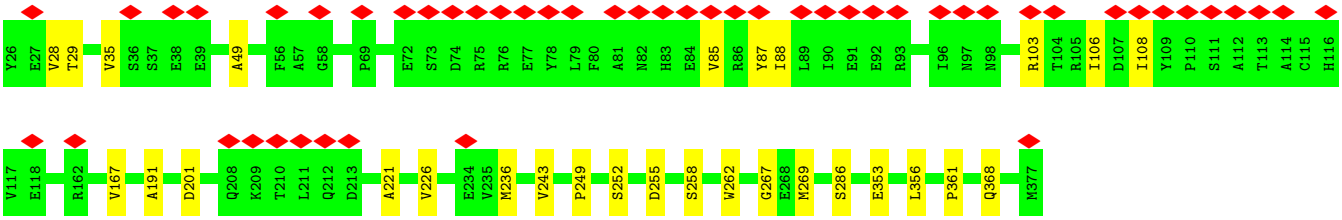

• Molecule 3: Flagellar protein FlgT

Chain Cu:

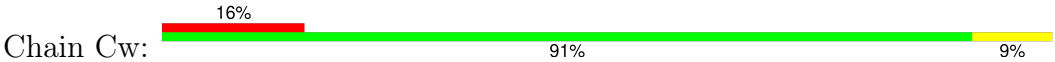


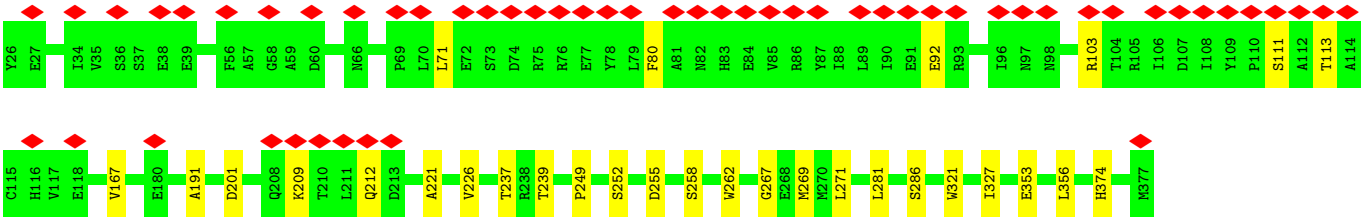



• Molecule 3: Flagellar protein FlgT

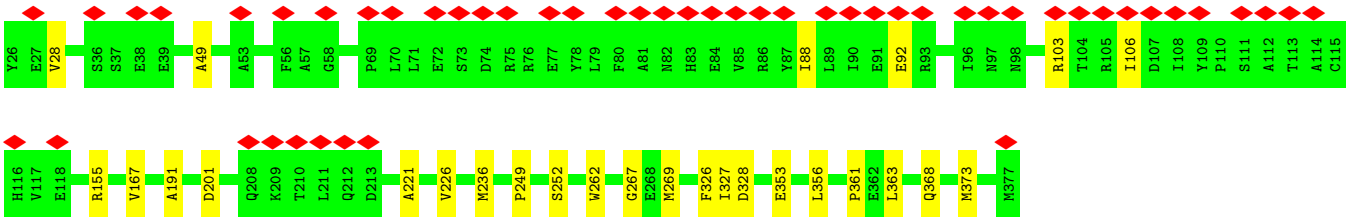




• Molecule 3: Flagellar protein FlgT

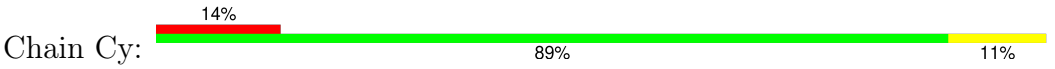


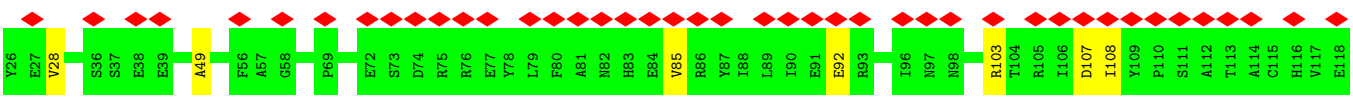



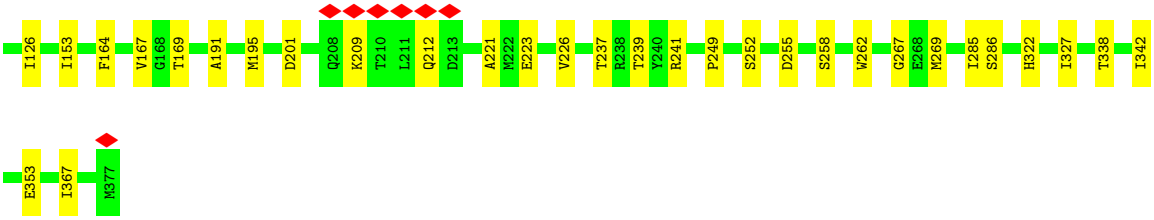

• Molecule 3: Flagellar protein FlgT

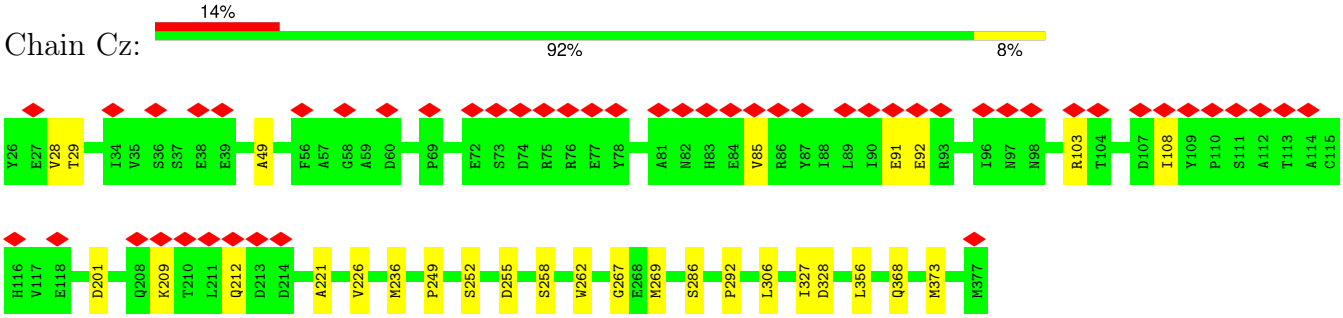

• Molecule 3: Flagellar protein FlgT



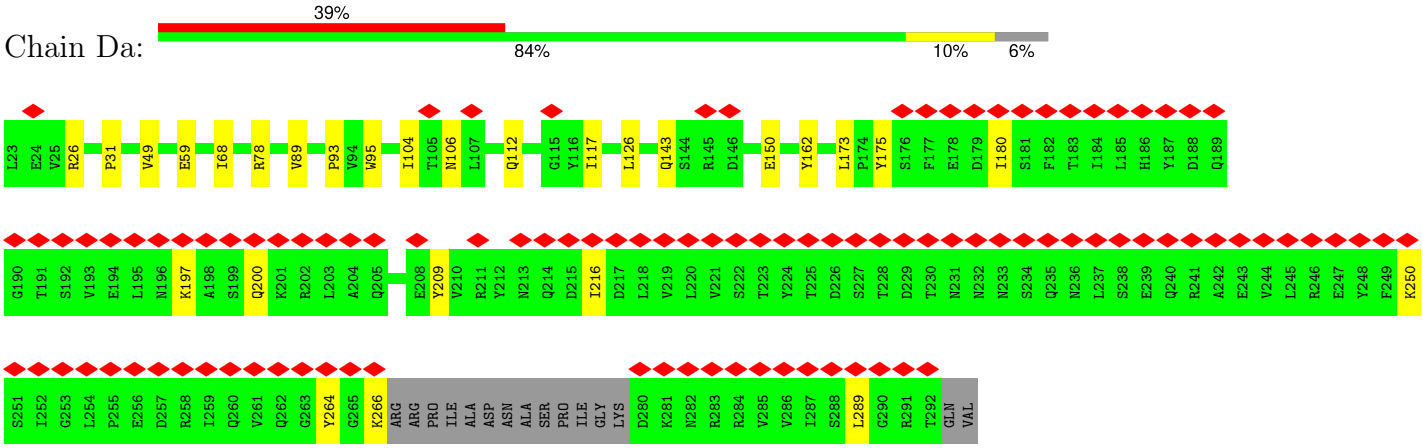





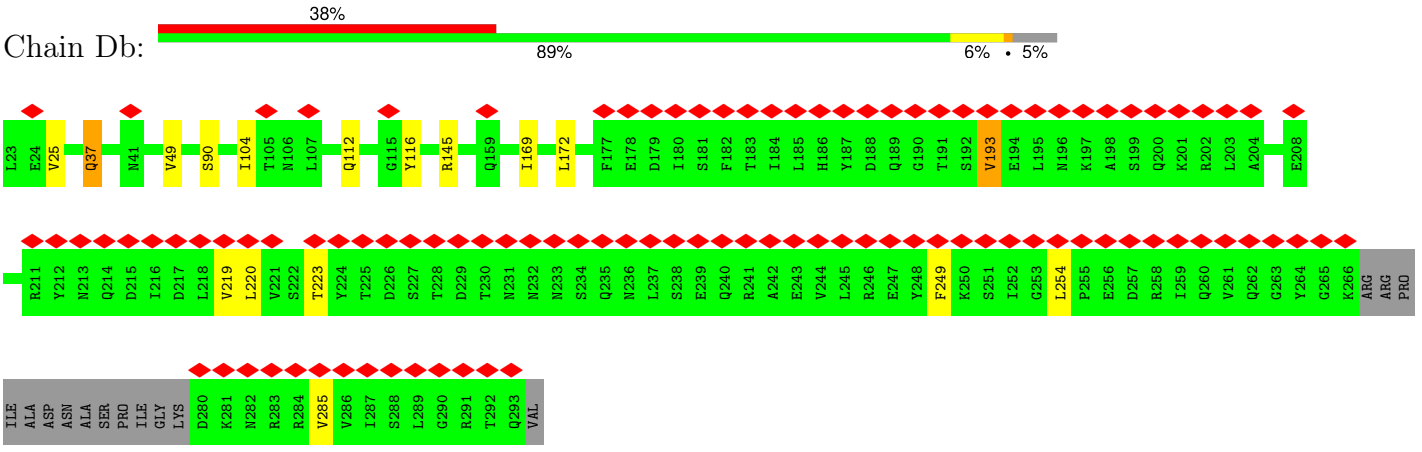

• Molecule 3: Flagellar protein FlgT




• Molecule 4: Sodium-type flagellar protein MotY

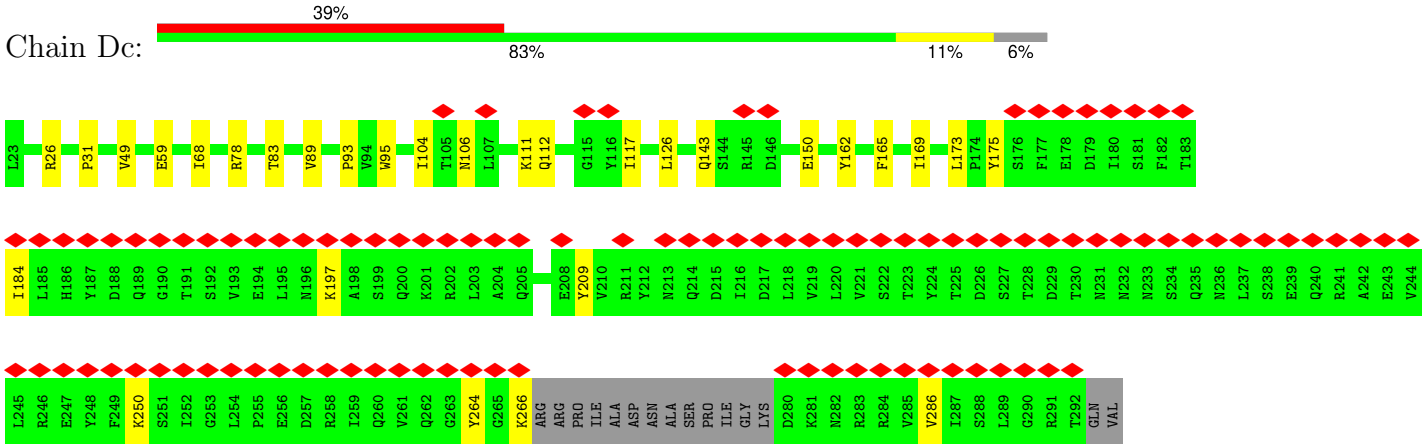



• Molecule 4: Sodium-type flagellar protein MotY



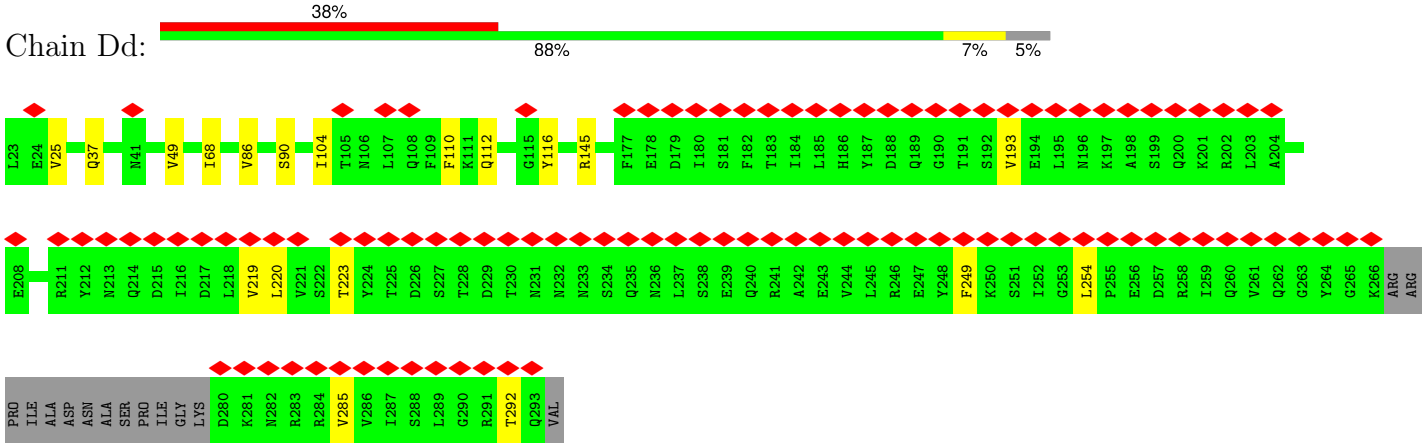

• Molecule 4: Sodium-type flagellar protein MotY

Chain Dc:




• Molecule 4: Sodium-type flagellar protein MotY

Chain Dd:




• Molecule 4: Sodium-type flagellar protein MotY

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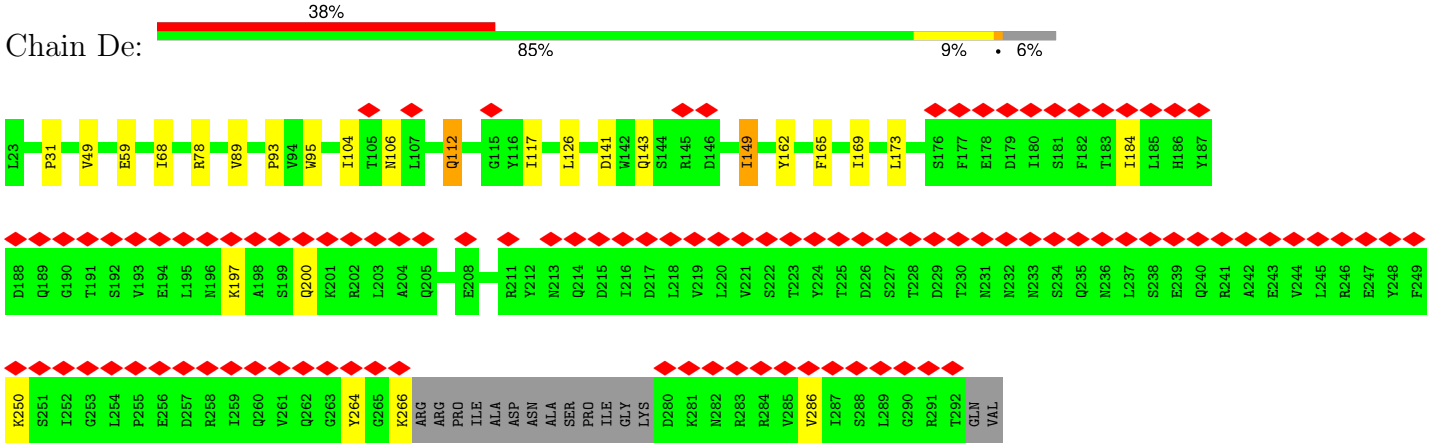
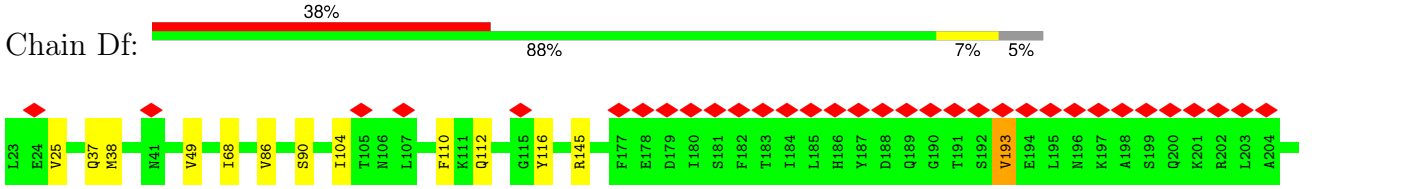
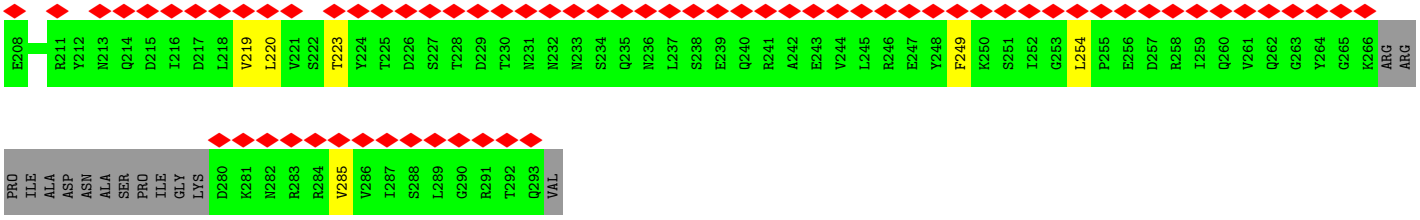



• Molecule 4: Sodium-type flagellar protein MotY

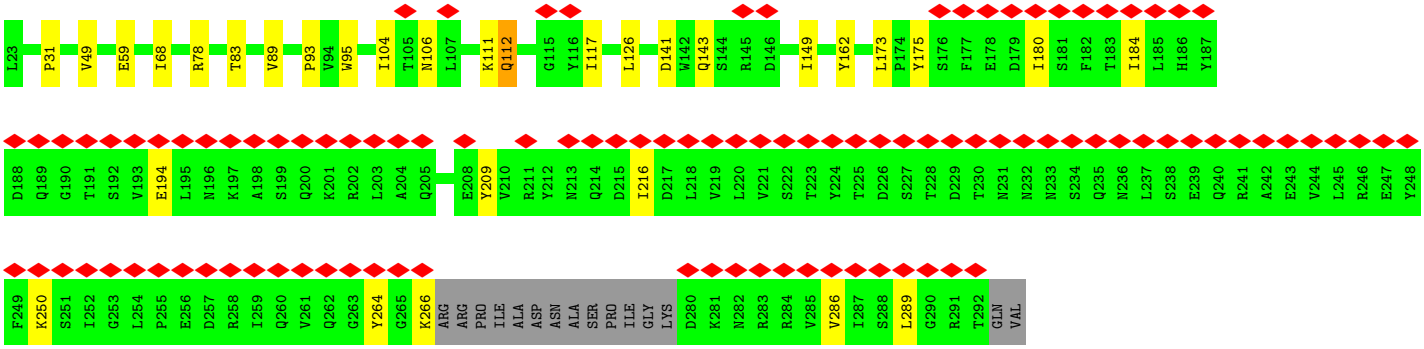
Chain Df:





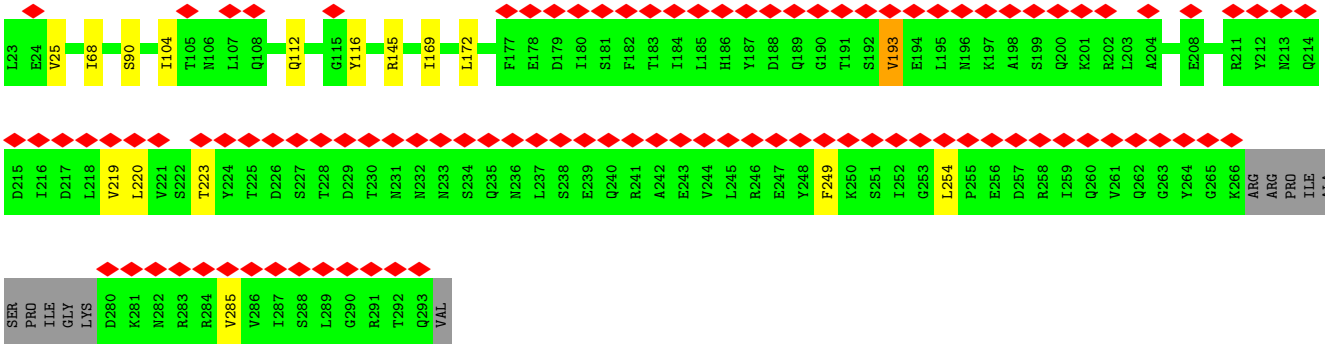

• Molecule 4: Sodium-type flagellar protein MotY

Chain Dg:

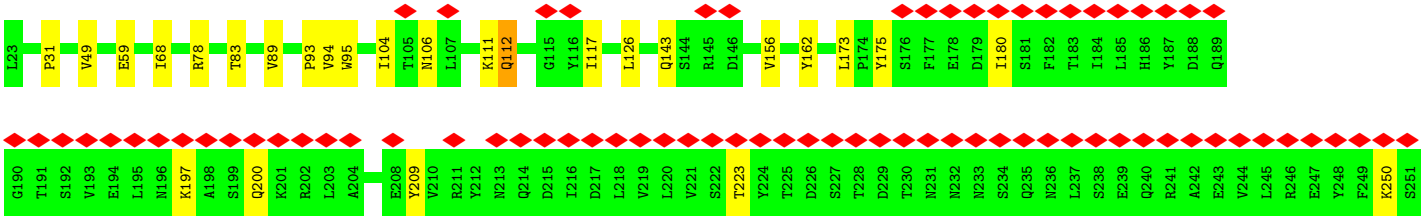

• Molecule 4: Sodium-type flagellar protein MotY

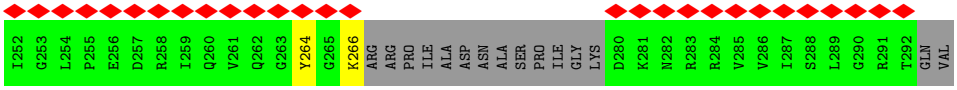
Chain Dh:


• Molecule 4: Sodium-type flagellar protein MotY

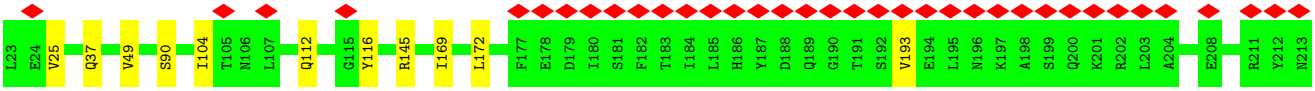
Chain Di:

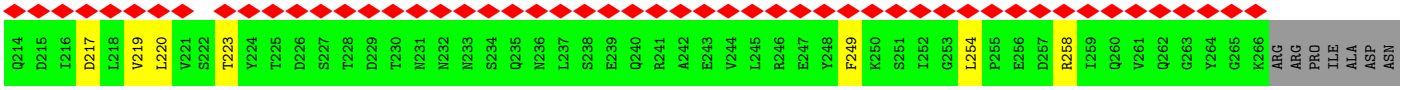



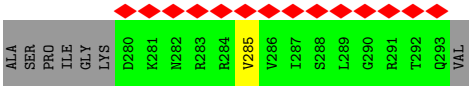



• Molecule 4: Sodium-type flagellar protein MotY

Chain Dj:

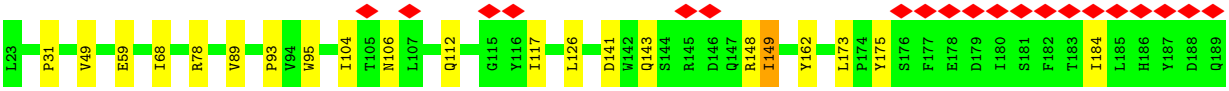



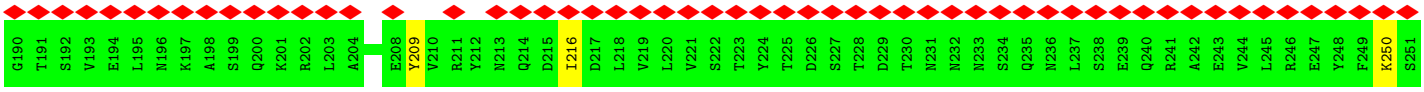



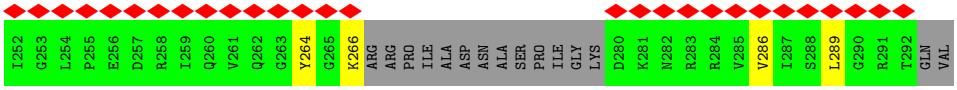




• Molecule 4: Sodium-type flagellar protein MotY

Chain Dk:

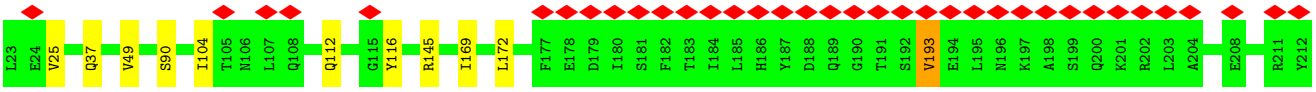



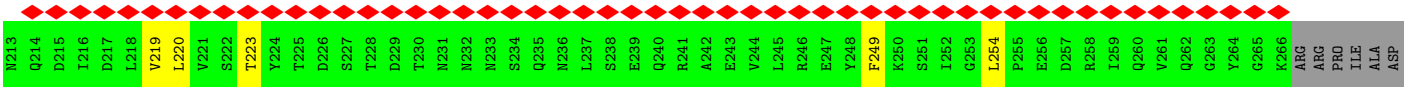



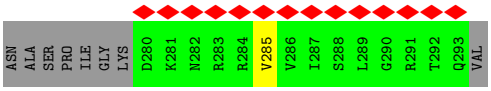




• Molecule 4: Sodium-type flagellar protein MotY

Chain Dl:

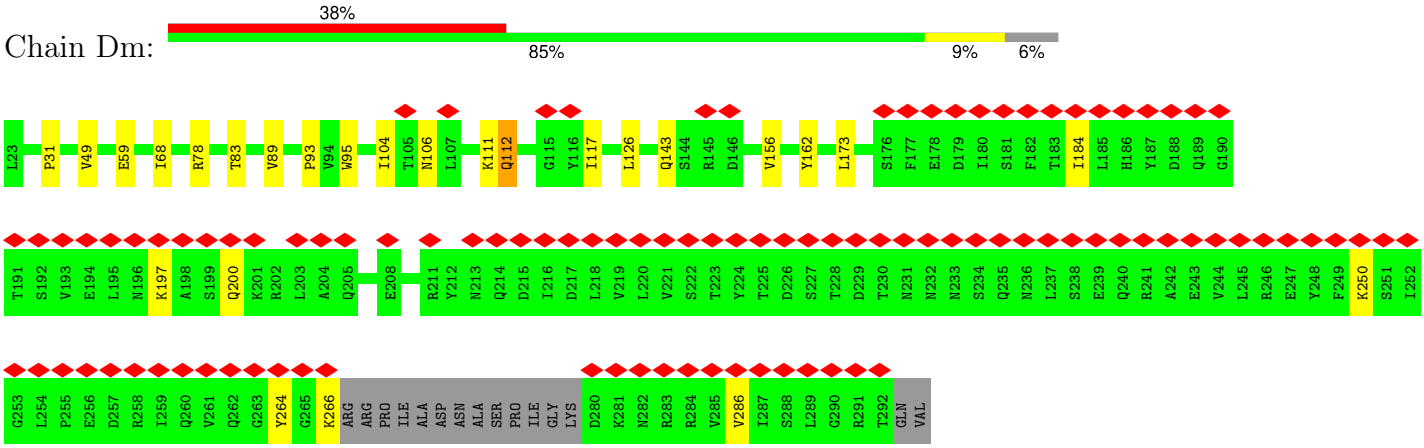



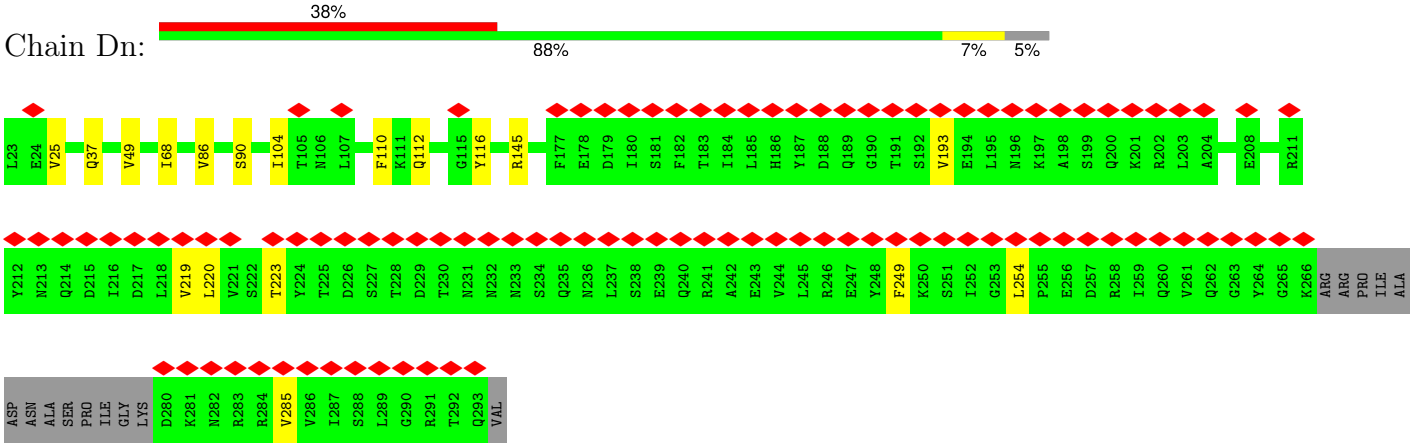

• Molecule 4: Sodium-type flagellar protein MotY

Chain Dm:



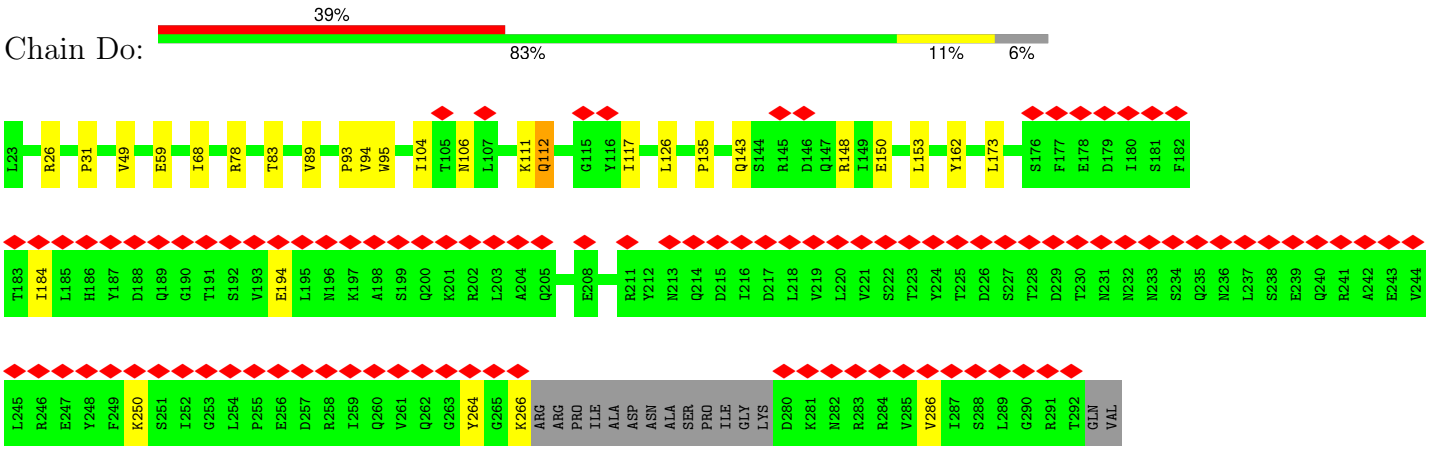

• Molecule 4: Sodium-type flagellar protein MotY

Chain Dn:



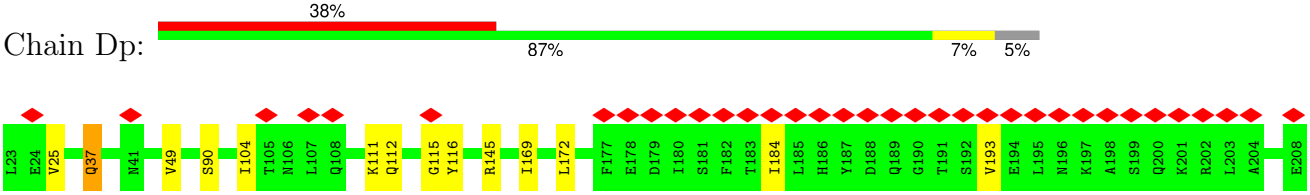

• Molecule 4: Sodium-type flagellar protein MotY

Chain Do:



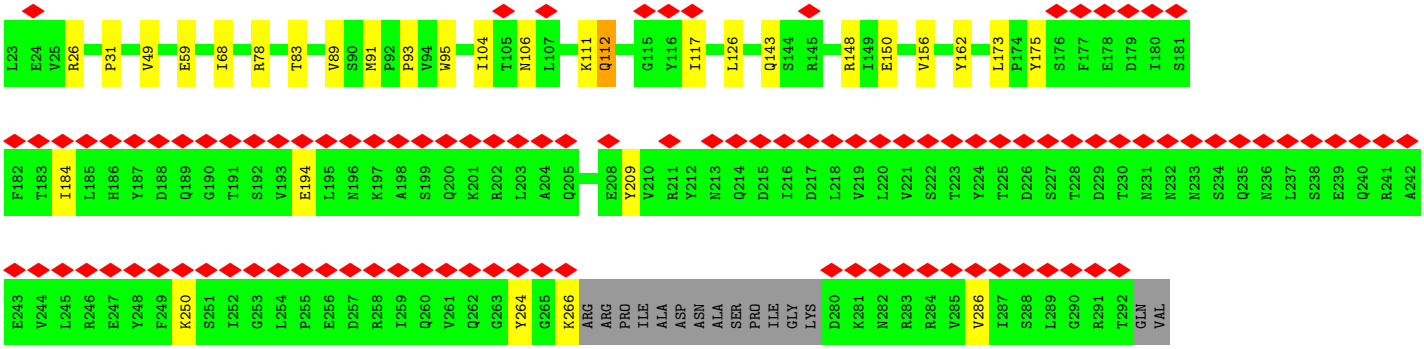

• Molecule 4: Sodium-type flagellar protein MotY

Chain Dp:



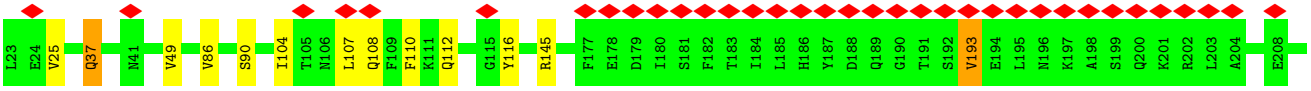

• Molecule 4: Sodium-type flagellar protein MotY

Chain Dq:


• Molecule 4: Sodium-type flagellar protein MotY

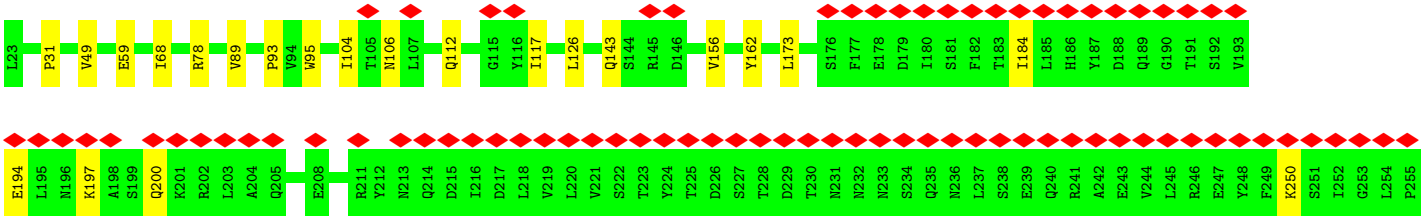
Chain Dr:

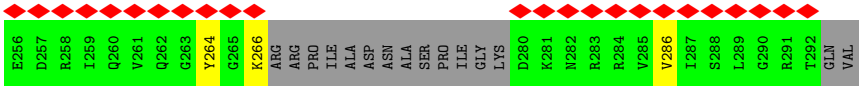





• Molecule 4: Sodium-type flagellar protein MotY

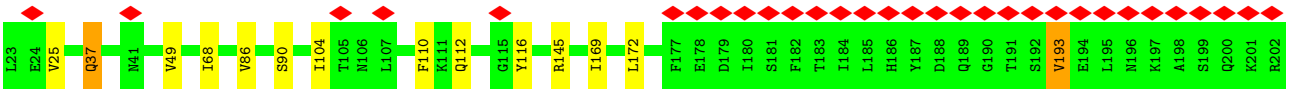
Chain Ds:

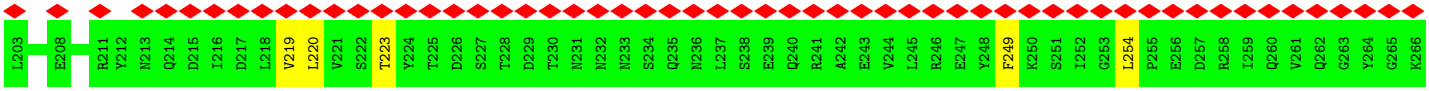



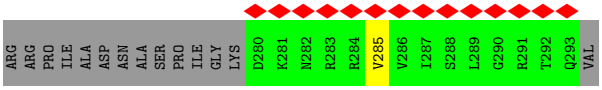



• Molecule 4: Sodium-type flagellar protein MotY

Chain Dt:

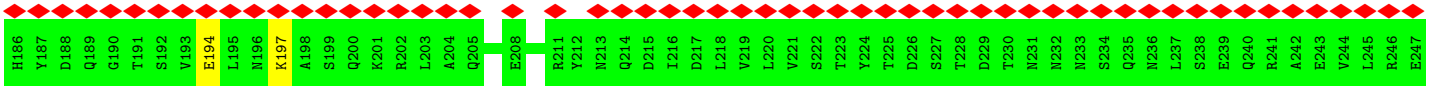



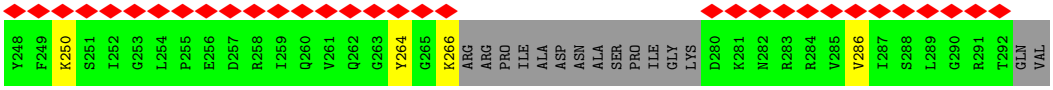




• Molecule 4: Sodium-type flagellar protein MotY

Chain Du:

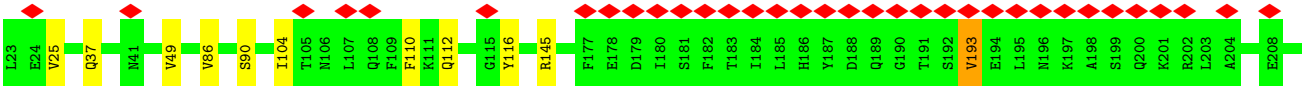


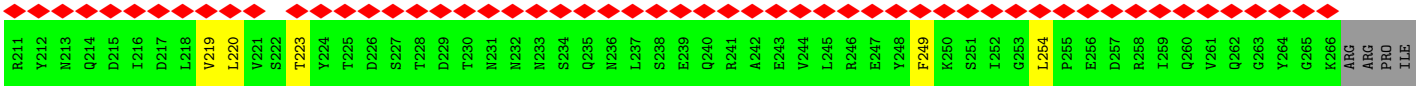


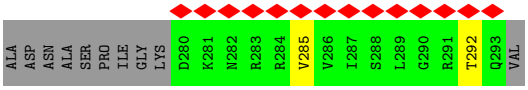




• Molecule 4: Sodium-type flagellar protein MotY

Chain Dv:

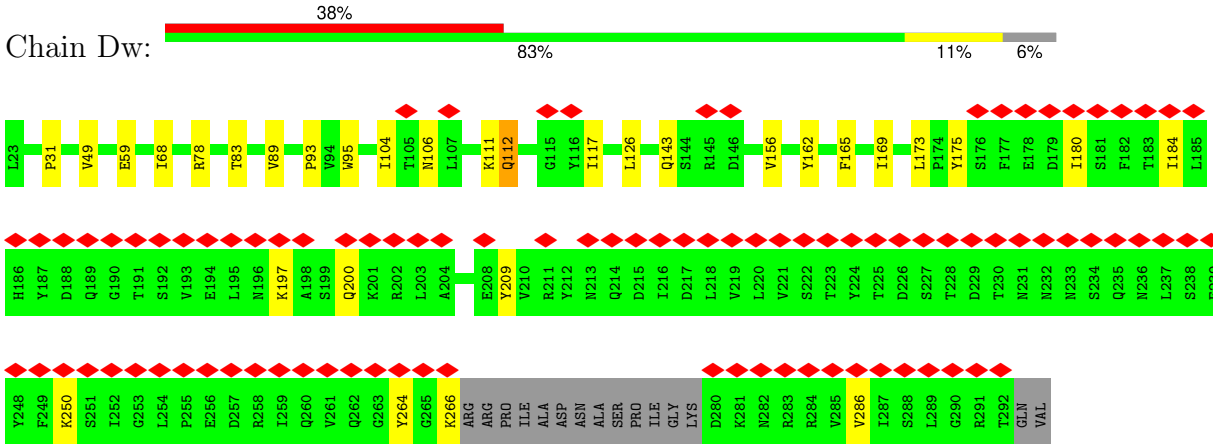



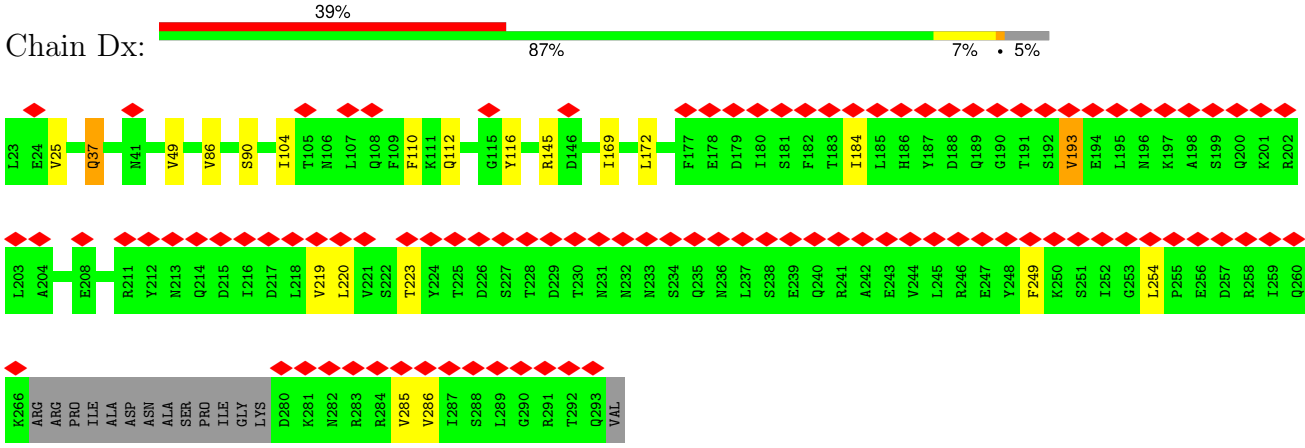

• Molecule 4: Sodium-type flagellar protein MotY

Chain Dw:



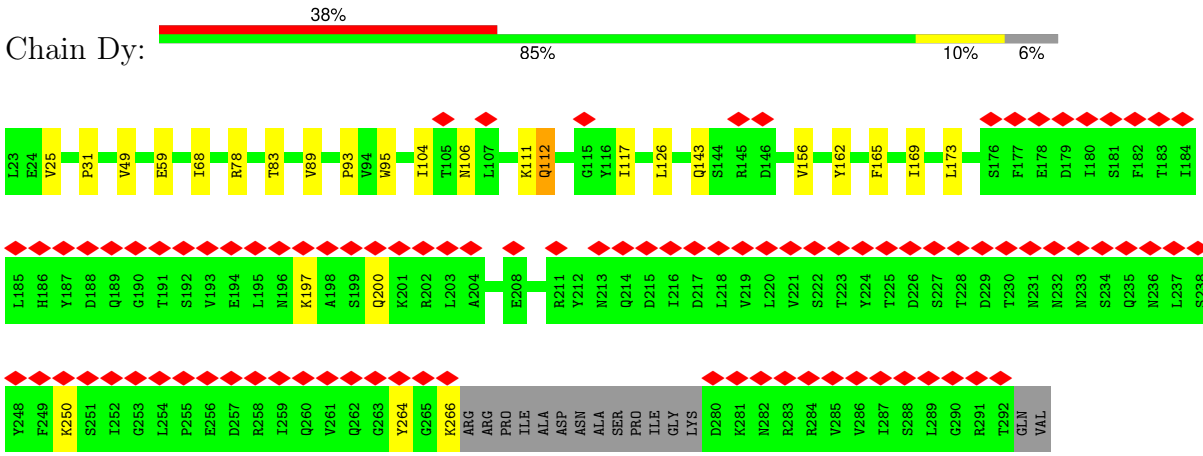

• Molecule 4: Sodium-type flagellar protein MotY

Chain Dx:



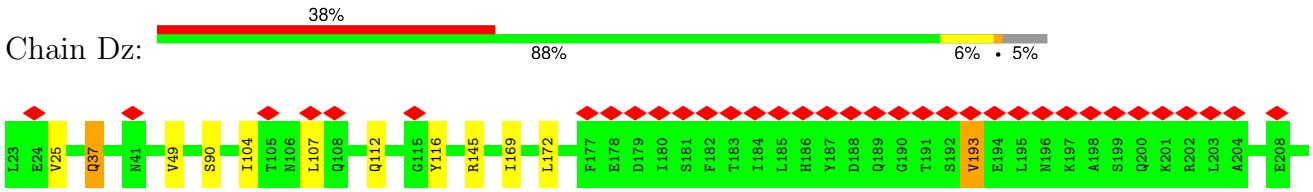

• Molecule 4: Sodium-type flagellar protein MotY

Chain Dy:



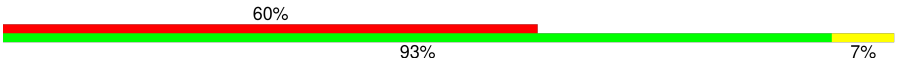

• Molecule 4: Sodium-type flagellar protein MotY

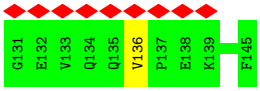
Chain Dz:




• Molecule 5: Flagellar assembly lipoprotein FlgP

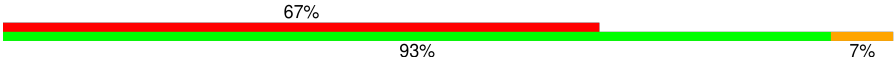
Chain Fa:

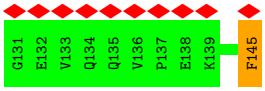



• Molecule 5: Flagellar assembly lipoprotein FlgP

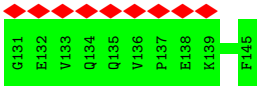
Chain Fb:



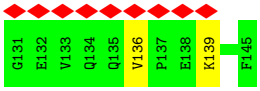

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Fc:

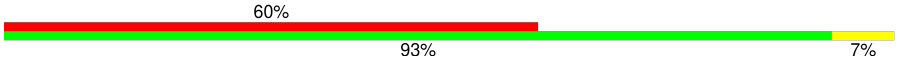

• Molecule 5: Flagellar assembly lipoprotein FlgP

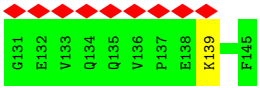
Chain Fd:


• Molecule 5: Flagellar assembly lipoprotein FlgP

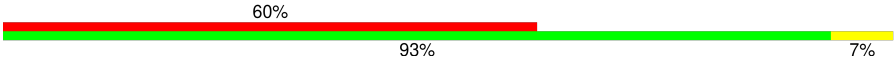
Chain Fe:

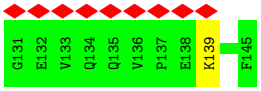



• Molecule 5: Flagellar assembly lipoprotein FlgP

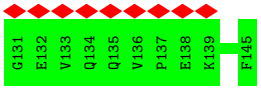
Chain Ff:





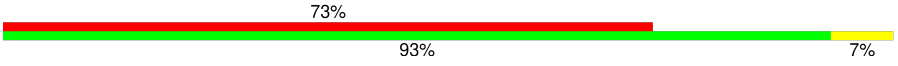

• Molecule 5: Flagellar assembly lipoprotein FlgP

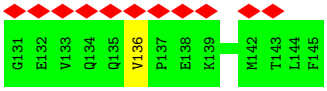
Chain Fg:


• Molecule 5: Flagellar assembly lipoprotein FlgP

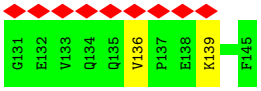
Chain Fh:



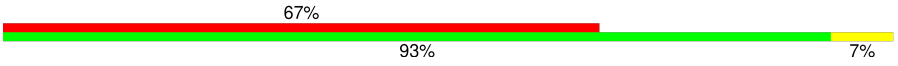

• Molecule 5: Flagellar assembly lipoprotein FlgP

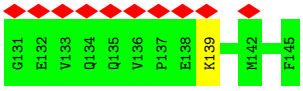
Chain Fi:


• Molecule 5: Flagellar assembly lipoprotein FlgP

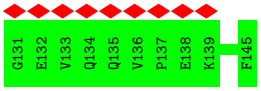
Chain Fj:



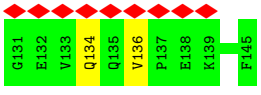

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Fk:

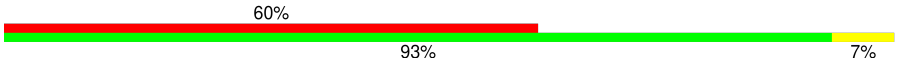

• Molecule 5: Flagellar assembly lipoprotein FlgP

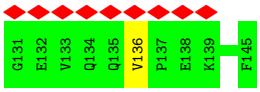
Chain Fl:


• Molecule 5: Flagellar assembly lipoprotein FlgP

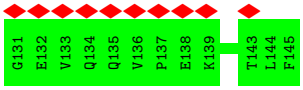
Chain Fm:



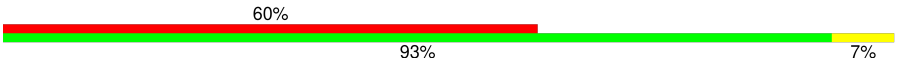

• Molecule 5: Flagellar assembly lipoprotein FlgP

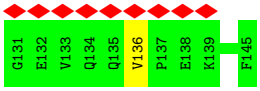
Chain Fn:


• Molecule 5: Flagellar assembly lipoprotein FlgP

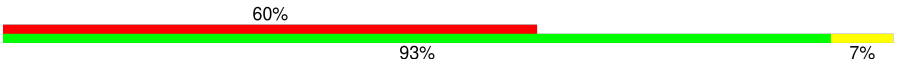
Chain Fo:

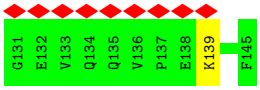



• Molecule 5: Flagellar assembly lipoprotein FlgP

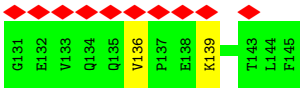
Chain Fp:



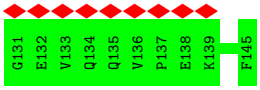

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Fq:

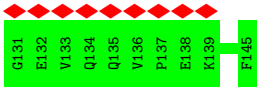

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Fr:

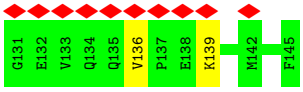

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Fs:



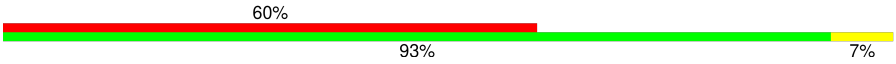

• Molecule 5: Flagellar assembly lipoprotein FlgP

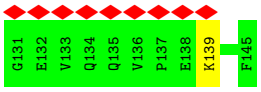
Chain Ft:


• Molecule 5: Flagellar assembly lipoprotein FlgP

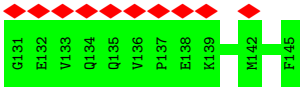
Chain Fu:



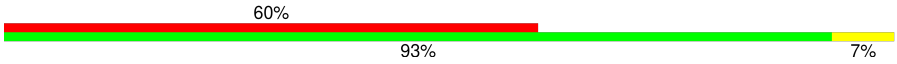

• Molecule 5: Flagellar assembly lipoprotein FlgP

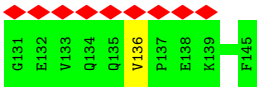
Chain Fv:


• Molecule 5: Flagellar assembly lipoprotein FlgP

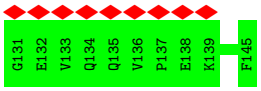
Chain Fw:



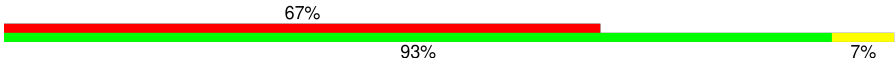

• Molecule 5: Flagellar assembly lipoprotein FlgP

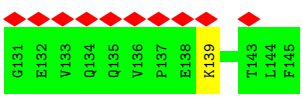
Chain Fx:


• Molecule 5: Flagellar assembly lipoprotein FlgP

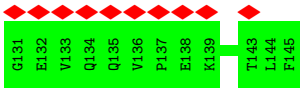
Chain Fy:



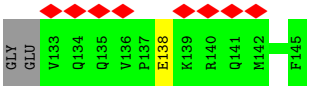

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Fz:

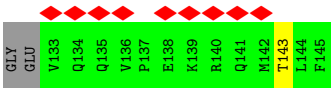

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Ga:

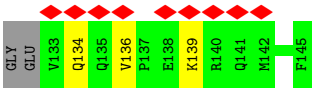

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gb:

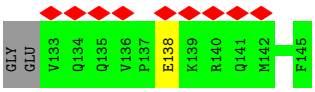

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gc:

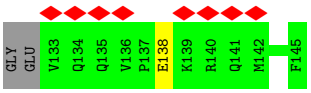

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gd:

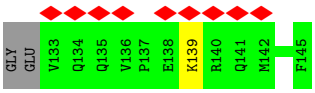

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Ge:

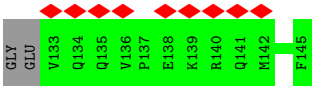

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gf:

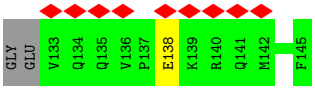
• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gg:

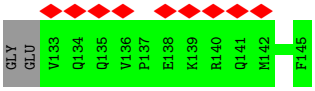

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gh:

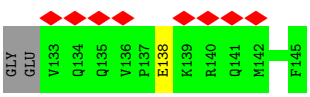

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gi:

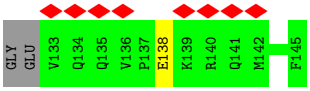

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gj:

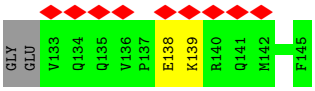

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gk:

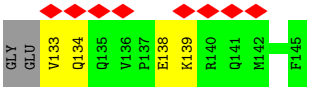

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gl:

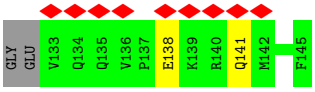

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gm:



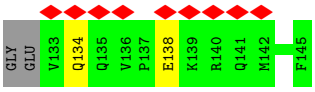

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gn:

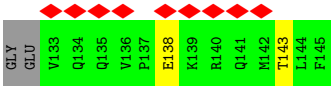

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Go:

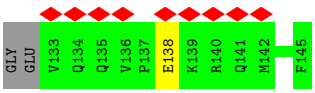

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gp:

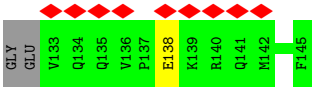

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gq:

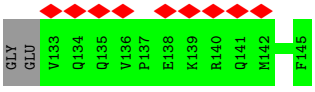

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gr:

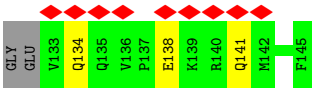

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gs:

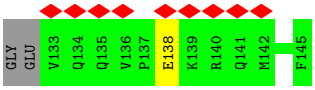

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gt:

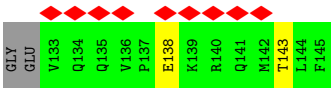

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gu:

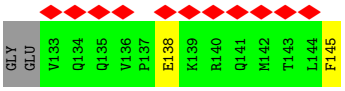

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gv:

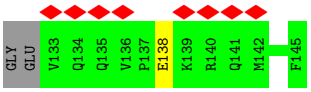

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gw:

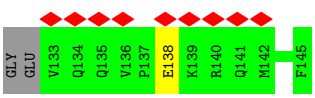

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gx:

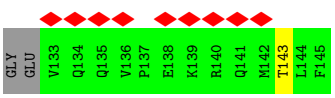

• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gy:


• Molecule 5: Flagellar assembly lipoprotein FlgP

Chain Gz:

# 4 Experimental information (i)

| Property | Value | Source |
|---|---|---|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, C26 | Depositor |
| Number of particles used | 112879 | 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 ($e^-/Å^2$) | 70 | Depositor |
| Minimum defocus (nm) | 1600 | Depositor |
| Maximum defocus (nm) | 2200 | Depositor |
| Magnification | Not provided | |
| Image detector | GATAN K3 (6k x 4k) | Depositor |
| Maximum map value | 1.250 | Depositor |
| Minimum map value | -0.672 | Depositor |
| Average map value | 0.005 | Depositor |
| Map value standard deviation | 0.050 | Depositor |
| Recommended contour level | 0.15 | Depositor |
| Map size (Å) | 478.464, 478.464, 478.464 | wwPDB |
| Map dimensions | 448, 448, 448 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 1.068, 1.068, 1.068 | 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 | Aa | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ab | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ac | 0.12 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ad | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ae | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Af | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ag | 0.12 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ah | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ai | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Aj | 0.12 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ak | 0.12 | 0/1699 | 0.28 | 0/2303 |
| 1 | Al | 0.12 | 0/1699 | 0.28 | 0/2303 |
| 1 | Am | 0.12 | 0/1699 | 0.28 | 0/2303 |
| 1 | An | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ao | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ap | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Aq | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ar | 0.12 | 0/1699 | 0.29 | 0/2303 |
| 1 | As | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | At | 0.11 | 0/1699 | 0.29 | 0/2303 |
| 1 | Au | 0.12 | 0/1699 | 0.28 | 0/2303 |
| 1 | Av | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Aw | 0.11 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ax | 0.12 | 0/1699 | 0.28 | 0/2303 |
| 1 | Ay | 0.12 | 0/1699 | 0.28 | 0/2303 |
| 1 | Az | 0.11 | 0/1699 | 0.29 | 0/2303 |
| 2 | Ba | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bb | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bc | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bd | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Be | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bf | 0.13 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bg | 0.12 | 0/2345 | 0.31 | 0/3177 |
| 2 | Bh | 0.13 | 0/2345 | 0.32 | 0/3177 |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | $\#\|Z\|>5$ | RMSZ | $\#\|Z\|>5$ |
| 2 | Bi | 0.13 | 0/2345 | 0.31 | 0/3177 |
| 2 | Bj | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bk | 0.13 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bl | 0.13 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bm | 0.13 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bn | 0.13 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bo | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bp | 0.13 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bq | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Br | 0.13 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bs | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bt | 0.13 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bu | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bv | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bw | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bx | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | By | 0.12 | 0/2345 | 0.32 | 0/3177 |
| 2 | Bz | 0.13 | 0/2345 | 0.32 | 0/3177 |
| 3 | Ca | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cb | 0.12 | 0/2816 | 0.32 | 0/3809 |
| 3 | Cc | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cd | 0.12 | 0/2816 | 0.31 | 0/3809 |
| 3 | Ce | 0.12 | 0/2816 | 0.31 | 0/3809 |
| 3 | Cf | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cg | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Ch | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Ci | 0.11 | 0/2816 | 0.31 | 0/3809 |
| 3 | Cj | 0.11 | 0/2816 | 0.29 | 0/3809 |
| 3 | Ck | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cl | 0.12 | 0/2816 | 0.32 | 0/3809 |
| 3 | Cm | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cn | 0.12 | 0/2816 | 0.29 | 0/3809 |
| 3 | Co | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cp | 0.12 | 0/2816 | 0.31 | 0/3809 |
| 3 | Cq | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cr | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cs | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Ct | 0.12 | 0/2816 | 0.32 | 0/3809 |
| 3 | Cu | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cv | 0.12 | 0/2816 | 0.29 | 0/3809 |
| 3 | Cw | 0.12 | 0/2816 | 0.30 | 0/3809 |
| 3 | Cx | 0.12 | 0/2816 | 0.29 | 0/3809 |
| 3 | Cy | 0.11 | 0/2816 | 0.29 | 0/3809 |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | #\|Z\| >5 | RMSZ | #\|Z\| >5 |
| 3 | Cz | 0.12 | 0/2816 | 0.29 | 0/3809 |
| 4 | Da | 0.14 | 0/2129 | 0.34 | 0/2882 |
| 4 | Db | 0.14 | 0/2124 | 0.36 | 0/2877 |
| 4 | Dc | 0.14 | 0/2129 | 0.34 | 0/2882 |
| 4 | Dd | 0.14 | 0/2124 | 0.37 | 0/2877 |
| 4 | De | 0.13 | 0/2129 | 0.33 | 0/2882 |
| 4 | Df | 0.14 | 0/2124 | 0.37 | 0/2877 |
| 4 | Dg | 0.14 | 0/2129 | 0.34 | 0/2882 |
| 4 | Dh | 0.14 | 0/2124 | 0.36 | 0/2877 |
| 4 | Di | 0.14 | 0/2129 | 0.34 | 0/2882 |
| 4 | Dj | 0.13 | 0/2124 | 0.36 | 0/2877 |
| 4 | Dk | 0.14 | 0/2129 | 0.34 | 0/2882 |
| 4 | Dl | 0.14 | 0/2124 | 0.36 | 0/2877 |
| 4 | Dm | 0.14 | 0/2129 | 0.33 | 0/2882 |
| 4 | Dn | 0.13 | 0/2124 | 0.35 | 0/2877 |
| 4 | Do | 0.14 | 0/2129 | 0.33 | 0/2882 |
| 4 | Dp | 0.14 | 0/2124 | 0.35 | 0/2877 |
| 4 | Dq | 0.14 | 0/2129 | 0.34 | 0/2882 |
| 4 | Dr | 0.13 | 0/2124 | 0.35 | 0/2877 |
| 4 | Ds | 0.14 | 0/2129 | 0.34 | 0/2882 |
| 4 | Dt | 0.13 | 0/2124 | 0.35 | 0/2877 |
| 4 | Du | 0.14 | 0/2129 | 0.34 | 0/2882 |
| 4 | Dv | 0.14 | 0/2124 | 0.35 | 0/2877 |
| 4 | Dw | 0.14 | 0/2129 | 0.33 | 0/2882 |
| 4 | Dx | 0.13 | 0/2124 | 0.35 | 0/2877 |
| 4 | Dy | 0.14 | 0/2129 | 0.32 | 0/2882 |
| 4 | Dz | 0.13 | 0/2124 | 0.35 | 0/2877 |
| 5 | Fa | 0.17 | 0/126 | 0.43 | 0/166 |
| 5 | Fb | 0.15 | 0/126 | 0.34 | 0/166 |
| 5 | Fc | 0.16 | 0/126 | 0.42 | 0/166 |
| 5 | Fd | 0.16 | 0/126 | 0.46 | 0/166 |
| 5 | Fe | 0.17 | 0/126 | 0.41 | 0/166 |
| 5 | Ff | 0.16 | 0/126 | 0.43 | 0/166 |
| 5 | Fg | 0.16 | 0/126 | 0.43 | 0/166 |
| 5 | Fh | 0.17 | 0/126 | 0.45 | 0/166 |
| 5 | Fi | 0.17 | 0/126 | 0.40 | 0/166 |
| 5 | Fj | 0.16 | 0/126 | 0.44 | 0/166 |
| 5 | Fk | 0.17 | 0/126 | 0.41 | 0/166 |
| 5 | Fl | 0.17 | 0/126 | 0.43 | 0/166 |
| 5 | Fm | 0.17 | 0/126 | 0.44 | 0/166 |
| 5 | Fn | 0.15 | 0/126 | 0.44 | 0/166 |
| 5 | Fo | 0.17 | 0/126 | 0.43 | 0/166 |
| 5 | Fp | 0.17 | 0/126 | 0.41 | 0/166 |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | $\#\|Z\|>5$ | RMSZ | $\#\|Z\|>5$ |
| 5 | Fq | 0.18 | 0/126 | 0.44 | 0/166 |
| 5 | Fr | 0.16 | 0/126 | 0.41 | 0/166 |
| 5 | Fs | 0.16 | 0/126 | 0.41 | 0/166 |
| 5 | Ft | 0.16 | 0/126 | 0.44 | 0/166 |
| 5 | Fu | 0.17 | 0/126 | 0.44 | 0/166 |
| 5 | Fv | 0.17 | 0/126 | 0.44 | 0/166 |
| 5 | Fw | 0.16 | 0/126 | 0.44 | 0/166 |
| 5 | Fx | 0.17 | 0/126 | 0.44 | 0/166 |
| 5 | Fy | 0.16 | 0/126 | 0.43 | 0/166 |
| 5 | Fz | 0.16 | 0/126 | 0.45 | 0/166 |
| 5 | Ga | 0.16 | 0/113 | 0.47 | 0/149 |
| 5 | Gb | 0.15 | 0/113 | 0.43 | 0/149 |
| 5 | Gc | 0.16 | 0/113 | 0.44 | 0/149 |
| 5 | Gd | 0.13 | 0/113 | 0.40 | 0/149 |
| 5 | Ge | 0.14 | 0/113 | 0.43 | 0/149 |
| 5 | Gf | 0.15 | 0/113 | 0.45 | 0/149 |
| 5 | Gg | 0.16 | 0/113 | 0.47 | 0/149 |
| 5 | Gh | 0.15 | 0/113 | 0.45 | 0/149 |
| 5 | Gi | 0.13 | 0/113 | 0.44 | 0/149 |
| 5 | Gj | 0.14 | 0/113 | 0.44 | 0/149 |
| 5 | Gk | 0.16 | 0/113 | 0.46 | 0/149 |
| 5 | Gl | 0.15 | 0/113 | 0.45 | 0/149 |
| 5 | Gm | 0.15 | 0/113 | 0.45 | 0/149 |
| 5 | Gn | 0.15 | 0/113 | 0.46 | 0/149 |
| 5 | Go | 0.14 | 0/113 | 0.43 | 0/149 |
| 5 | Gp | 0.15 | 0/113 | 0.46 | 0/149 |
| 5 | Gq | 0.13 | 0/113 | 0.44 | 0/149 |
| 5 | Gr | 0.17 | 0/113 | 0.43 | 0/149 |
| 5 | Gs | 0.14 | 0/113 | 0.49 | 0/149 |
| 5 | Gt | 0.16 | 0/113 | 0.50 | 0/149 |
| 5 | Gu | 0.12 | 0/113 | 0.42 | 0/149 |
| 5 | Gv | 0.18 | 0/113 | 0.51 | 0/149 |
| 5 | Gw | 0.21 | 0/113 | 0.59 | 0/149 |
| 5 | Gx | 0.17 | 0/113 | 0.41 | 0/149 |
| 5 | Gy | 0.13 | 0/113 | 0.44 | 0/149 |
| 5 | Gz | 0.16 | 0/113 | 0.43 | 0/149 |
| All | All | 0.12 | 0/239863 | 0.32 | 0/324571 |

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 | Aa | 1674 | 0 | 1609 | 31 | 0 |
| 1 | Ab | 1674 | 0 | 1609 | 32 | 0 |
| 1 | Ac | 1674 | 0 | 1609 | 32 | 0 |
| 1 | Ad | 1674 | 0 | 1609 | 29 | 0 |
| 1 | Ae | 1674 | 0 | 1609 | 31 | 0 |
| 1 | Af | 1674 | 0 | 1609 | 31 | 0 |
| 1 | Ag | 1674 | 0 | 1609 | 32 | 0 |
| 1 | Ah | 1674 | 0 | 1609 | 33 | 0 |
| 1 | Ai | 1674 | 0 | 1609 | 32 | 0 |
| 1 | Aj | 1674 | 0 | 1609 | 29 | 0 |
| 1 | Ak | 1674 | 0 | 1609 | 34 | 0 |
| 1 | Al | 1674 | 0 | 1609 | 32 | 0 |
| 1 | Am | 1674 | 0 | 1609 | 32 | 0 |
| 1 | An | 1674 | 0 | 1609 | 30 | 0 |
| 1 | Ao | 1674 | 0 | 1609 | 29 | 0 |
| 1 | Ap | 1674 | 0 | 1609 | 26 | 0 |
| 1 | Aq | 1674 | 0 | 1609 | 28 | 0 |
| 1 | Ar | 1674 | 0 | 1609 | 28 | 0 |
| 1 | As | 1674 | 0 | 1609 | 27 | 0 |
| 1 | At | 1674 | 0 | 1609 | 27 | 0 |
| 1 | Au | 1674 | 0 | 1609 | 27 | 0 |
| 1 | Av | 1674 | 0 | 1609 | 30 | 0 |
| 1 | Aw | 1674 | 0 | 1609 | 30 | 0 |
| 1 | Ax | 1674 | 0 | 1609 | 27 | 0 |
| 1 | Ay | 1674 | 0 | 1609 | 29 | 0 |
| 1 | Az | 1674 | 0 | 1609 | 30 | 0 |
| 2 | Ba | 2314 | 0 | 2373 | 32 | 0 |
| 2 | Bb | 2314 | 0 | 2373 | 31 | 0 |
| 2 | Bc | 2314 | 0 | 2373 | 29 | 0 |
| 2 | Bd | 2314 | 0 | 2373 | 31 | 0 |
| 2 | Be | 2314 | 0 | 2373 | 34 | 0 |
| 2 | Bf | 2314 | 0 | 2373 | 32 | 0 |
| 2 | Bg | 2314 | 0 | 2373 | 32 | 0 |
| 2 | Bh | 2314 | 0 | 2373 | 32 | 0 |
| 2 | Bi | 2314 | 0 | 2373 | 32 | 0 |
| 2 | Bj | 2314 | 0 | 2373 | 28 | 0 |
| 2 | Bk | 2314 | 0 | 2373 | 32 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 2 | Bl | 2314 | 0 | 2373 | 32 | 0 |
| 2 | Bm | 2314 | 0 | 2373 | 31 | 0 |
| 2 | Bn | 2314 | 0 | 2373 | 30 | 0 |
| 2 | Bo | 2314 | 0 | 2373 | 29 | 0 |
| 2 | Bp | 2314 | 0 | 2373 | 31 | 0 |
| 2 | Bq | 2314 | 0 | 2373 | 31 | 0 |
| 2 | Br | 2314 | 0 | 2373 | 30 | 0 |
| 2 | Bs | 2314 | 0 | 2373 | 30 | 0 |
| 2 | Bt | 2314 | 0 | 2373 | 28 | 0 |
| 2 | Bu | 2314 | 0 | 2373 | 24 | 0 |
| 2 | Bv | 2314 | 0 | 2373 | 31 | 0 |
| 2 | Bw | 2314 | 0 | 2373 | 33 | 0 |
| 2 | Bx | 2314 | 0 | 2373 | 35 | 0 |
| 2 | By | 2314 | 0 | 2373 | 33 | 0 |
| 2 | Bz | 2314 | 0 | 2373 | 33 | 0 |
| 3 | Ca | 2770 | 0 | 2749 | 16 | 0 |
| 3 | Cb | 2770 | 0 | 2749 | 20 | 0 |
| 3 | Cc | 2770 | 0 | 2749 | 14 | 0 |
| 3 | Cd | 2770 | 0 | 2749 | 20 | 0 |
| 3 | Ce | 2770 | 0 | 2749 | 11 | 0 |
| 3 | Cf | 2770 | 0 | 2749 | 13 | 0 |
| 3 | Cg | 2770 | 0 | 2749 | 12 | 0 |
| 3 | Ch | 2770 | 0 | 2749 | 18 | 0 |
| 3 | Ci | 2770 | 0 | 2749 | 17 | 0 |
| 3 | Cj | 2770 | 0 | 2749 | 10 | 0 |
| 3 | Ck | 2770 | 0 | 2749 | 16 | 0 |
| 3 | Cl | 2770 | 0 | 2749 | 16 | 0 |
| 3 | Cm | 2770 | 0 | 2749 | 15 | 0 |
| 3 | Cn | 2770 | 0 | 2749 | 17 | 0 |
| 3 | Co | 2770 | 0 | 2749 | 16 | 0 |
| 3 | Cp | 2770 | 0 | 2749 | 16 | 0 |
| 3 | Cq | 2770 | 0 | 2749 | 17 | 0 |
| 3 | Cr | 2770 | 0 | 2749 | 15 | 0 |
| 3 | Cs | 2770 | 0 | 2749 | 11 | 0 |
| 3 | Ct | 2770 | 0 | 2749 | 14 | 0 |
| 3 | Cu | 2770 | 0 | 2749 | 9 | 0 |
| 3 | Cv | 2770 | 0 | 2749 | 13 | 0 |
| 3 | Cw | 2770 | 0 | 2749 | 14 | 0 |
| 3 | Cx | 2770 | 0 | 2749 | 14 | 0 |
| 3 | Cy | 2770 | 0 | 2749 | 18 | 0 |
| 3 | Cz | 2770 | 0 | 2749 | 14 | 0 |
| 4 | Da | 2085 | 0 | 2022 | 11 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 4 | Db | 2080 | 0 | 2003 | 8 | 0 |
| 4 | Dc | 2085 | 0 | 2022 | 14 | 0 |
| 4 | Dd | 2080 | 0 | 2003 | 9 | 0 |
| 4 | De | 2085 | 0 | 2022 | 12 | 0 |
| 4 | Df | 2080 | 0 | 2003 | 9 | 0 |
| 4 | Dg | 2085 | 0 | 2022 | 14 | 0 |
| 4 | Dh | 2080 | 0 | 2003 | 7 | 0 |
| 4 | Di | 2085 | 0 | 2022 | 13 | 0 |
| 4 | Dj | 2080 | 0 | 2003 | 9 | 0 |
| 4 | Dk | 2085 | 0 | 2022 | 12 | 0 |
| 4 | Dl | 2080 | 0 | 2003 | 8 | 0 |
| 4 | Dm | 2085 | 0 | 2022 | 12 | 0 |
| 4 | Dn | 2080 | 0 | 2003 | 8 | 0 |
| 4 | Do | 2085 | 0 | 2022 | 15 | 0 |
| 4 | Dp | 2080 | 0 | 2003 | 10 | 0 |
| 4 | Dq | 2085 | 0 | 2022 | 16 | 0 |
| 4 | Dr | 2080 | 0 | 2003 | 9 | 0 |
| 4 | Ds | 2085 | 0 | 2022 | 11 | 0 |
| 4 | Dt | 2080 | 0 | 2003 | 9 | 0 |
| 4 | Du | 2085 | 0 | 2022 | 16 | 0 |
| 4 | Dv | 2080 | 0 | 2003 | 9 | 0 |
| 4 | Dw | 2085 | 0 | 2022 | 14 | 0 |
| 4 | Dx | 2080 | 0 | 2003 | 10 | 0 |
| 4 | Dy | 2085 | 0 | 2022 | 12 | 0 |
| 4 | Dz | 2080 | 0 | 2003 | 9 | 0 |
| 5 | Fa | 125 | 0 | 125 | 1 | 0 |
| 5 | Fb | 125 | 0 | 125 | 1 | 0 |
| 5 | Fc | 125 | 0 | 125 | 0 | 0 |
| 5 | Fd | 125 | 0 | 125 | 1 | 0 |
| 5 | Fe | 125 | 0 | 125 | 0 | 0 |
| 5 | Ff | 125 | 0 | 125 | 0 | 0 |
| 5 | Fg | 125 | 0 | 125 | 0 | 0 |
| 5 | Fh | 125 | 0 | 125 | 1 | 0 |
| 5 | Fi | 125 | 0 | 125 | 1 | 0 |
| 5 | Fj | 125 | 0 | 125 | 0 | 0 |
| 5 | Fk | 125 | 0 | 125 | 0 | 0 |
| 5 | Fl | 125 | 0 | 125 | 2 | 0 |
| 5 | Fm | 125 | 0 | 125 | 1 | 0 |
| 5 | Fn | 125 | 0 | 125 | 0 | 0 |
| 5 | Fo | 125 | 0 | 125 | 1 | 0 |
| 5 | Fp | 125 | 0 | 125 | 0 | 0 |
| 5 | Fq | 125 | 0 | 125 | 1 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 5 | Fr | 125 | 0 | 125 | 0 | 0 |
| 5 | Fs | 125 | 0 | 125 | 0 | 0 |
| 5 | Ft | 125 | 0 | 125 | 1 | 0 |
| 5 | Fu | 125 | 0 | 125 | 0 | 0 |
| 5 | Fv | 125 | 0 | 125 | 0 | 0 |
| 5 | Fw | 125 | 0 | 125 | 1 | 0 |
| 5 | Fx | 125 | 0 | 125 | 0 | 0 |
| 5 | Fy | 125 | 0 | 125 | 0 | 0 |
| 5 | Fz | 125 | 0 | 125 | 0 | 0 |
| 5 | Ga | 112 | 0 | 116 | 0 | 0 |
| 5 | Gb | 112 | 0 | 116 | 1 | 0 |
| 5 | Gc | 112 | 0 | 116 | 2 | 0 |
| 5 | Gd | 112 | 0 | 116 | 0 | 0 |
| 5 | Ge | 112 | 0 | 116 | 0 | 0 |
| 5 | Gf | 112 | 0 | 116 | 1 | 0 |
| 5 | Gg | 112 | 0 | 116 | 0 | 0 |
| 5 | Gh | 112 | 0 | 116 | 0 | 0 |
| 5 | Gi | 112 | 0 | 116 | 0 | 0 |
| 5 | Gj | 112 | 0 | 116 | 0 | 0 |
| 5 | Gk | 112 | 0 | 116 | 0 | 0 |
| 5 | Gl | 112 | 0 | 116 | 1 | 0 |
| 5 | Gm | 112 | 0 | 116 | 2 | 0 |
| 5 | Gn | 112 | 0 | 116 | 0 | 0 |
| 5 | Go | 112 | 0 | 116 | 1 | 0 |
| 5 | Gp | 112 | 0 | 116 | 1 | 0 |
| 5 | Gq | 112 | 0 | 116 | 0 | 0 |
| 5 | Gr | 112 | 0 | 116 | 0 | 0 |
| 5 | Gs | 112 | 0 | 116 | 0 | 0 |
| 5 | Gt | 112 | 0 | 116 | 0 | 0 |
| 5 | Gu | 112 | 0 | 116 | 0 | 0 |
| 5 | Gv | 112 | 0 | 116 | 0 | 0 |
| 5 | Gw | 112 | 0 | 116 | 1 | 0 |
| 5 | Gx | 112 | 0 | 116 | 0 | 0 |
| 5 | Gy | 112 | 0 | 116 | 0 | 0 |
| 5 | Gz | 112 | 0 | 116 | 1 | 0 |
| All | All | 236015 | 0 | 233597 | 1723 | 0 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 4.

All (1723) 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) |
|---|---|---|---|
| 2:Bb:185:ASN:HB3 | 2:Bc:97:GLN:HE21 | 1.59 | 0.68 |
| 3:Cw:271:LEU:HD21 | 5:Gw:145:PHE:HB3 | 1.80 | 0.63 |
| 2:Bs:25:ALA:HB2 | 2:Bs:186:LEU:HD23 | 1.82 | 0.62 |
| 2:Bv:25:ALA:HB2 | 2:Bv:186:LEU:HD23 | 1.82 | 0.62 |
| 2:By:25:ALA:HB2 | 2:By:186:LEU:HD23 | 1.81 | 0.61 |
| 2:Ba:97:GLN:HE21 | 2:Bz:185:ASN:HB3 | 1.65 | 0.61 |
| 2:Bu:25:ALA:HB2 | 2:Bu:186:LEU:HD23 | 1.82 | 0.61 |
| 4:Dc:78:ARG:HB3 | 4:Dc:143:GLN:HE22 | 1.65 | 0.61 |
| 2:Bq:25:ALA:HB2 | 2:Bq:186:LEU:HD23 | 1.83 | 0.61 |
| 4:Dm:78:ARG:HB3 | 4:Dm:143:GLN:HE22 | 1.66 | 0.61 |
| 2:Bn:25:ALA:HB2 | 2:Bn:186:LEU:HD23 | 1.81 | 0.61 |
| 2:Bo:25:ALA:HB2 | 2:Bo:186:LEU:HD23 | 1.83 | 0.61 |
| 3:Cb:291:LEU:HD22 | 3:Cb:372:VAL:HA | 1.83 | 0.61 |
| 2:Bg:25:ALA:HB2 | 2:Bg:186:LEU:HD23 | 1.82 | 0.60 |
| 2:Bp:25:ALA:HB2 | 2:Bp:186:LEU:HD23 | 1.83 | 0.60 |
| 1:Ak:112:ASN:HD21 | 1:Ak:224:ALA:HB1 | 1.65 | 0.60 |
| 2:Be:25:ALA:HB2 | 2:Be:186:LEU:HD23 | 1.83 | 0.60 |
| 2:Bi:25:ALA:HB2 | 2:Bi:186:LEU:HD23 | 1.83 | 0.60 |
| 2:Bw:25:ALA:HB2 | 2:Bw:186:LEU:HD23 | 1.83 | 0.60 |
| 1:Ap:112:ASN:HD21 | 1:Ap:224:ALA:HB1 | 1.66 | 0.60 |
| 4:Dq:78:ARG:HB3 | 4:Dq:143:GLN:HE22 | 1.66 | 0.60 |
| 1:Ar:112:ASN:HD21 | 1:Ar:224:ALA:HB1 | 1.66 | 0.60 |
| 4:Di:68:ILE:HD11 | 4:Dj:112:GLN:HE21 | 1.67 | 0.60 |
| 2:Bm:25:ALA:HB2 | 2:Bm:186:LEU:HD23 | 1.82 | 0.59 |
| 4:Do:68:ILE:HD11 | 4:Dp:112:GLN:HE21 | 1.67 | 0.59 |
| 1:Aq:125:LEU:HB3 | 1:At:244:MET:HE3 | 1.84 | 0.59 |
| 2:Ba:25:ALA:HB2 | 2:Ba:186:LEU:HD23 | 1.84 | 0.59 |
| 2:Bx:25:ALA:HB2 | 2:Bx:186:LEU:HD23 | 1.83 | 0.59 |
| 3:Ci:126:ILE:HB | 3:Ci:169:THR:HG22 | 1.84 | 0.59 |
| 3:Ck:126:ILE:HB | 3:Ck:169:THR:HG22 | 1.84 | 0.59 |
| 1:Au:125:LEU:HB3 | 1:Ax:244:MET:HE3 | 1.85 | 0.59 |
| 1:Am:66:TRP:HA | 1:Am:192:ARG:HD3 | 1.84 | 0.59 |
| 2:Bb:25:ALA:HB2 | 2:Bb:186:LEU:HD23 | 1.84 | 0.59 |
| 2:Bk:25:ALA:HB2 | 2:Bk:186:LEU:HD23 | 1.85 | 0.59 |
| 2:Bz:25:ALA:HB2 | 2:Bz:186:LEU:HD23 | 1.84 | 0.59 |
| 3:Cb:293:GLN:HB2 | 3:Cb:369:ILE:HG23 | 1.84 | 0.59 |
| 3:Ch:126:ILE:HB | 3:Ch:169:THR:HG22 | 1.85 | 0.59 |
| 4:Da:68:ILE:HD11 | 4:Db:112:GLN:HE21 | 1.68 | 0.59 |
| 4:Do:78:ARG:HB3 | 4:Do:143:GLN:HE22 | 1.66 | 0.59 |
| 1:Af:112:ASN:HD21 | 1:Af:224:ALA:HB1 | 1.68 | 0.59 |
| 2:Br:25:ALA:HB2 | 2:Br:186:LEU:HD23 | 1.84 | 0.59 |
| 3:Cz:85:VAL:HG22 | 3:Cz:108:ILE:HG12 | 1.84 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Am:112:ASN:HD21 | 1:Am:224:ALA:HB1 | 1.67 | 0.59 |
| 4:Dg:68:ILE:HD11 | 4:Dh:112:GLN:HE21 | 1.67 | 0.59 |
| 1:Ab:66:TRP:HA | 1:Ab:192:ARG:HD3 | 1.84 | 0.59 |
| 1:Al:112:ASN:HD21 | 1:Al:224:ALA:HB1 | 1.67 | 0.59 |
| 2:Bj:25:ALA:HB2 | 2:Bj:186:LEU:HD23 | 1.84 | 0.59 |
| 4:Dk:68:ILE:HD11 | 4:Dl:112:GLN:HE21 | 1.68 | 0.59 |
| 2:Bt:25:ALA:HB2 | 2:Bt:186:LEU:HD23 | 1.84 | 0.59 |
| 4:Dy:68:ILE:HD11 | 4:Dz:112:GLN:HE21 | 1.68 | 0.59 |
| 1:Ac:244:MET:HE3 | 1:Az:125:LEU:HB3 | 1.85 | 0.58 |
| 2:Bc:25:ALA:HB2 | 2:Bc:186:LEU:HD23 | 1.84 | 0.58 |
| 4:Dy:78:ARG:HB3 | 4:Dy:143:GLN:HE22 | 1.67 | 0.58 |
| 1:Al:66:TRP:HA | 1:Al:192:ARG:HD3 | 1.85 | 0.58 |
| 1:As:125:LEU:HB3 | 1:Av:244:MET:HE3 | 1.85 | 0.58 |
| 1:Ac:66:TRP:HA | 1:Ac:192:ARG:HD3 | 1.85 | 0.58 |
| 3:Ca:126:ILE:HB | 3:Ca:169:THR:HG22 | 1.85 | 0.58 |
| 1:Ap:125:LEU:HB3 | 1:As:244:MET:HE3 | 1.86 | 0.58 |
| 2:Bd:25:ALA:HB2 | 2:Bd:186:LEU:HD23 | 1.84 | 0.58 |
| 3:Cc:85:VAL:HG22 | 3:Cc:108:ILE:HG12 | 1.86 | 0.58 |
| 1:Ao:112:ASN:HD21 | 1:Ao:224:ALA:HB1 | 1.69 | 0.58 |
| 1:Ab:244:MET:HE3 | 1:Ay:125:LEU:HB3 | 1.86 | 0.58 |
| 1:Af:66:TRP:HA | 1:Af:192:ARG:HD3 | 1.85 | 0.58 |
| 1:Ai:112:ASN:HD21 | 1:Ai:224:ALA:HB1 | 1.69 | 0.58 |
| 1:At:125:LEU:HB3 | 1:Aw:244:MET:HE3 | 1.86 | 0.58 |
| 3:Cr:126:ILE:HB | 3:Cr:169:THR:HG22 | 1.86 | 0.58 |
| 4:De:68:ILE:HD11 | 4:Df:112:GLN:HE21 | 1.69 | 0.58 |
| 4:Du:93:PRO:HB2 | 4:Du:95:TRP:HE3 | 1.68 | 0.58 |
| 1:Ae:66:TRP:HA | 1:Ae:192:ARG:HD3 | 1.85 | 0.58 |
| 4:Ds:78:ARG:HB3 | 4:Ds:143:GLN:HE22 | 1.68 | 0.58 |
| 1:Aa:113:GLU:HB2 | 1:Aa:172:MET:HB3 | 1.86 | 0.58 |
| 2:Bk:185:ASN:HB3 | 2:Bl:97:GLN:HE21 | 1.69 | 0.58 |
| 3:Cm:126:ILE:HB | 3:Cm:169:THR:HG22 | 1.86 | 0.58 |
| 1:Aa:66:TRP:HA | 1:Aa:192:ARG:HD3 | 1.86 | 0.57 |
| 2:Bh:25:ALA:HB2 | 2:Bh:186:LEU:HD23 | 1.85 | 0.57 |
| 4:Di:78:ARG:HB3 | 4:Di:143:GLN:HE22 | 1.67 | 0.57 |
| 1:Ak:66:TRP:HA | 1:Ak:192:ARG:HD3 | 1.85 | 0.57 |
| 1:As:66:TRP:HA | 1:As:192:ARG:HD3 | 1.86 | 0.57 |
| 1:Aw:125:LEU:HB3 | 1:Az:244:MET:HE3 | 1.86 | 0.57 |
| 2:Bn:185:ASN:HB3 | 2:Bo:97:GLN:HE21 | 1.69 | 0.57 |
| 3:Cy:126:ILE:HB | 3:Cy:169:THR:HG22 | 1.86 | 0.57 |
| 4:Do:93:PRO:HB2 | 4:Do:95:TRP:HE3 | 1.69 | 0.57 |
| 4:Da:104:ILE:HG23 | 4:Db:145:ARG:HD3 | 1.87 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:An:112:ASN:HD21 | 1:An:224:ALA:HB1 | 1.68 | 0.57 |
| 1:Au:66:TRP:HA | 1:Au:192:ARG:HD3 | 1.86 | 0.57 |
| 1:Aw:66:TRP:HA | 1:Aw:192:ARG:HD3 | 1.86 | 0.57 |
| 2:Bf:25:ALA:HB2 | 2:Bf:186:LEU:HD23 | 1.84 | 0.57 |
| 3:Ca:226:VAL:HB | 3:Ca:236:MET:HB3 | 1.85 | 0.57 |
| 4:Dq:68:ILE:HD11 | 4:Dr:112:GLN:HE21 | 1.70 | 0.57 |
| 4:Du:68:ILE:HD11 | 4:Dv:112:GLN:HE21 | 1.69 | 0.57 |
| 4:De:49:VAL:HG12 | 4:De:59:GLU:HG2 | 1.87 | 0.57 |
| 4:Dk:49:VAL:HG12 | 4:Dk:59:GLU:HG2 | 1.87 | 0.57 |
| 4:Dm:93:PRO:HB2 | 4:Dm:95:TRP:HE3 | 1.69 | 0.57 |
| 1:Av:66:TRP:HA | 1:Av:192:ARG:HD3 | 1.86 | 0.57 |
| 3:Ce:262:TRP:HA | 3:Ce:267:GLY:HA3 | 1.87 | 0.57 |
| 1:Ad:66:TRP:HA | 1:Ad:192:ARG:HD3 | 1.86 | 0.57 |
| 4:Dc:49:VAL:HG12 | 4:Dc:59:GLU:HG2 | 1.87 | 0.57 |
| 4:Dc:93:PRO:HB2 | 4:Dc:95:TRP:HE3 | 1.70 | 0.57 |
| 1:An:125:LEU:HB3 | 1:Aq:244:MET:HE3 | 1.87 | 0.56 |
| 1:Aq:245:GLN:HG3 | 1:Ar:200:ASN:HD21 | 1.70 | 0.56 |
| 3:Ck:85:VAL:HG22 | 3:Ck:108:ILE:HG12 | 1.86 | 0.56 |
| 2:Bk:205:LEU:HD11 | 2:Bk:236:ILE:HD11 | 1.86 | 0.56 |
| 4:Dg:49:VAL:HG12 | 4:Dg:59:GLU:HG2 | 1.87 | 0.56 |
| 4:Dk:78:ARG:HB3 | 4:Dk:143:GLN:HE22 | 1.70 | 0.56 |
| 4:Dw:78:ARG:HB3 | 4:Dw:143:GLN:HE22 | 1.70 | 0.56 |
| 4:Dw:93:PRO:HB2 | 4:Dw:95:TRP:HE3 | 1.71 | 0.56 |
| 1:Ai:66:TRP:HA | 1:Ai:192:ARG:HD3 | 1.86 | 0.56 |
| 1:At:66:TRP:HA | 1:At:192:ARG:HD3 | 1.87 | 0.56 |
| 2:Bl:25:ALA:HB2 | 2:Bl:186:LEU:HD23 | 1.87 | 0.56 |
| 1:Ar:125:LEU:HB3 | 1:Au:244:MET:HE3 | 1.88 | 0.56 |
| 2:Bj:185:ASN:HB3 | 2:Bk:97:GLN:HE21 | 1.71 | 0.56 |
| 1:Ao:245:GLN:HG3 | 1:Ap:200:ASN:HD21 | 1.71 | 0.56 |
| 1:Ay:66:TRP:HA | 1:Ay:192:ARG:HD3 | 1.87 | 0.56 |
| 2:By:205:LEU:HD11 | 2:By:236:ILE:HD11 | 1.88 | 0.56 |
| 4:Dc:68:ILE:HD11 | 4:Dd:112:GLN:HE21 | 1.70 | 0.56 |
| 1:Ai:125:LEU:HB3 | 1:Al:244:MET:HE3 | 1.87 | 0.56 |
| 1:Az:66:TRP:HA | 1:Az:192:ARG:HD3 | 1.86 | 0.56 |
| 4:Dm:49:VAL:HG12 | 4:Dm:59:GLU:HG2 | 1.88 | 0.56 |
| 4:Dw:68:ILE:HD11 | 4:Dx:112:GLN:HE21 | 1.70 | 0.56 |
| 4:Dy:93:PRO:HB2 | 4:Dy:95:TRP:HE3 | 1.71 | 0.56 |
| 1:Ai:113:GLU:HB2 | 1:Ai:172:MET:HB3 | 1.87 | 0.56 |
| 1:Ap:66:TRP:HA | 1:Ap:192:ARG:HD3 | 1.87 | 0.56 |
| 1:Ay:112:ASN:HD21 | 1:Ay:224:ALA:HB1 | 1.71 | 0.56 |
| 4:Da:93:PRO:HB2 | 4:Da:95:TRP:HE3 | 1.71 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:Cs:85:VAL:HG22 | 3:Cs:108:ILE:HG12 | 1.87 | 0.56 |
| 4:Dy:49:VAL:HG12 | 4:Dy:59:GLU:HG2 | 1.88 | 0.56 |
| 1:Ak:125:LEU:HB3 | 1:An:244:MET:HE3 | 1.87 | 0.56 |
| 1:As:245:GLN:HG3 | 1:At:200:ASN:HD21 | 1.70 | 0.56 |
| 4:Dc:104:ILE:HG23 | 4:Dd:145:ARG:HD3 | 1.88 | 0.56 |
| 4:Di:49:VAL:HG12 | 4:Di:59:GLU:HG2 | 1.88 | 0.56 |
| 4:Ds:93:PRO:HB2 | 4:Ds:95:TRP:HE3 | 1.71 | 0.56 |
| 4:Du:104:ILE:HG23 | 4:Dv:145:ARG:HD3 | 1.88 | 0.56 |
| 1:Ai:245:GLN:HG3 | 1:Aj:200:ASN:HD21 | 1.71 | 0.55 |
| 1:Ao:125:LEU:HB3 | 1:Ar:244:MET:HE3 | 1.88 | 0.55 |
| 1:Av:125:LEU:HB3 | 1:Ay:244:MET:HE3 | 1.88 | 0.55 |
| 2:Bu:87:ALA:HB2 | 2:Bu:101:ILE:HG22 | 1.88 | 0.55 |
| 4:Ds:49:VAL:HG12 | 4:Ds:59:GLU:HG2 | 1.88 | 0.55 |
| 2:Bw:185:ASN:HB3 | 2:Bx:97:GLN:HE21 | 1.71 | 0.55 |
| 3:Cg:262:TRP:HA | 3:Cg:267:GLY:HA3 | 1.88 | 0.55 |
| 1:An:66:TRP:HA | 1:An:192:ARG:HD3 | 1.87 | 0.55 |
| 1:Ax:66:TRP:HA | 1:Ax:192:ARG:HD3 | 1.87 | 0.55 |
| 2:Bu:153:VAL:HG21 | 2:Bv:148:ASP:HB3 | 1.89 | 0.55 |
| 4:Dg:93:PRO:HB2 | 4:Dg:95:TRP:HE3 | 1.71 | 0.55 |
| 4:Dm:68:ILE:HD11 | 4:Dn:112:GLN:HE21 | 1.69 | 0.55 |
| 1:Ac:125:LEU:HB3 | 1:Af:244:MET:HE3 | 1.88 | 0.55 |
| 1:Ax:245:GLN:HG3 | 1:Ay:200:ASN:HD21 | 1.72 | 0.55 |
| 2:Ba:205:LEU:HD11 | 2:Ba:236:ILE:HD11 | 1.88 | 0.55 |
| 2:Bq:248:ALA:HB1 | 2:Bq:265:VAL:HG22 | 1.88 | 0.55 |
| 4:Da:49:VAL:HG12 | 4:Da:59:GLU:HG2 | 1.88 | 0.55 |
| 4:Dw:49:VAL:HG12 | 4:Dw:59:GLU:HG2 | 1.88 | 0.55 |
| 1:Aa:125:LEU:HB3 | 1:Ad:244:MET:HE3 | 1.89 | 0.55 |
| 1:Aj:66:TRP:HA | 1:Aj:192:ARG:HD3 | 1.86 | 0.55 |
| 1:Av:232:ARG:HH22 | 1:Aw:194:GLU:HG3 | 1.72 | 0.55 |
| 1:Az:113:GLU:HB2 | 1:Az:172:MET:HB3 | 1.89 | 0.55 |
| 2:Bk:248:ALA:HB1 | 2:Bk:265:VAL:HG22 | 1.89 | 0.55 |
| 2:Bl:248:ALA:HB1 | 2:Bl:265:VAL:HG22 | 1.89 | 0.55 |
| 2:Bo:248:ALA:HB1 | 2:Bo:265:VAL:HG22 | 1.88 | 0.55 |
| 4:Di:104:ILE:HG23 | 4:Dj:145:ARG:HD3 | 1.88 | 0.55 |
| 1:Aq:66:TRP:HA | 1:Aq:192:ARG:HD3 | 1.87 | 0.55 |
| 1:As:231:ALA:HB3 | 1:At:195:LYS:HG3 | 1.89 | 0.55 |
| 2:Bc:205:LEU:HD11 | 2:Bc:236:ILE:HD11 | 1.89 | 0.55 |
| 2:Bj:248:ALA:HB1 | 2:Bj:265:VAL:HG22 | 1.89 | 0.55 |
| 4:Dd:219:VAL:HG21 | 4:Dd:254:LEU:HD21 | 1.88 | 0.55 |
| 4:Ds:68:ILE:HD11 | 4:Dt:112:GLN:HE21 | 1.71 | 0.55 |
| 1:Ab:112:ASN:HD21 | 1:Ab:224:ALA:HB1 | 1.72 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Ar:245:GLN:HG3 | 1:As:200:ASN:HD21 | 1.71 | 0.55 |
| 2:Ba:87:ALA:HB2 | 2:Ba:101:ILE:HG22 | 1.89 | 0.55 |
| 3:Cc:92:GLU:HB2 | 3:Cc:103:ARG:HB3 | 1.89 | 0.55 |
| 1:Am:245:GLN:HG3 | 1:An:200:ASN:HD21 | 1.72 | 0.55 |
| 4:De:104:ILE:HG23 | 4:Df:145:ARG:HD3 | 1.88 | 0.55 |
| 4:Dg:104:ILE:HG23 | 4:Dh:145:ARG:HD3 | 1.88 | 0.55 |
| 4:Do:49:VAL:HG12 | 4:Do:59:GLU:HG2 | 1.89 | 0.55 |
| 1:Ao:66:TRP:HA | 1:Ao:192:ARG:HD3 | 1.89 | 0.55 |
| 1:As:240:THR:HG22 | 1:As:244:MET:HE2 | 1.89 | 0.55 |
| 1:Au:245:GLN:HG3 | 1:Av:200:ASN:HD21 | 1.72 | 0.55 |
| 1:Av:112:ASN:HD21 | 1:Av:224:ALA:HB1 | 1.72 | 0.55 |
| 1:Ay:245:GLN:HG3 | 1:Az:200:ASN:HD21 | 1.71 | 0.55 |
| 2:Bh:248:ALA:HB1 | 2:Bh:265:VAL:HG22 | 1.89 | 0.55 |
| 1:Ag:112:ASN:HD21 | 1:Ag:224:ALA:HB1 | 1.72 | 0.55 |
| 1:Av:245:GLN:HG3 | 1:Aw:200:ASN:HD21 | 1.72 | 0.55 |
| 1:Az:184:LEU:HD12 | 1:Az:188:ASN:HB2 | 1.88 | 0.55 |
| 1:Ab:125:LEU:HB3 | 1:Ae:244:MET:HE3 | 1.89 | 0.54 |
| 1:Ac:245:GLN:HG3 | 1:Ad:200:ASN:HD21 | 1.72 | 0.54 |
| 1:Ah:66:TRP:HA | 1:Ah:192:ARG:HD3 | 1.87 | 0.54 |
| 1:Ar:113:GLU:HB2 | 1:Ar:172:MET:HB3 | 1.88 | 0.54 |
| 3:Cc:262:TRP:HA | 3:Cc:267:GLY:HA3 | 1.88 | 0.54 |
| 4:Dq:49:VAL:HG12 | 4:Dq:59:GLU:HG2 | 1.90 | 0.54 |
| 1:Aa:245:GLN:HG3 | 1:Ab:200:ASN:HD21 | 1.73 | 0.54 |
| 1:Al:231:ALA:HB3 | 1:Am:195:LYS:HG3 | 1.89 | 0.54 |
| 2:Be:248:ALA:HB1 | 2:Be:265:VAL:HG22 | 1.89 | 0.54 |
| 2:Bf:248:ALA:HB1 | 2:Bf:265:VAL:HG22 | 1.89 | 0.54 |
| 2:Bg:224:ARG:HH21 | 3:Cx:368:GLN:HB2 | 1.73 | 0.54 |
| 2:Bq:87:ALA:HB2 | 2:Bq:101:ILE:HG22 | 1.89 | 0.54 |
| 4:Dq:93:PRO:HB2 | 4:Dq:95:TRP:HE3 | 1.72 | 0.54 |
| 4:Dy:104:ILE:HG23 | 4:Dz:145:ARG:HD3 | 1.89 | 0.54 |
| 1:Ag:125:LEU:HB3 | 1:Aj:244:MET:HE3 | 1.89 | 0.54 |
| 1:Aj:245:GLN:HG3 | 1:Ak:200:ASN:HD21 | 1.72 | 0.54 |
| 1:Ap:245:GLN:HG3 | 1:Aq:200:ASN:HD21 | 1.72 | 0.54 |
| 1:Aq:112:ASN:HD21 | 1:Aq:224:ALA:HB1 | 1.72 | 0.54 |
| 1:Ar:66:TRP:HA | 1:Ar:192:ARG:HD3 | 1.89 | 0.54 |
| 2:Bm:205:LEU:HD11 | 2:Bm:236:ILE:HD11 | 1.88 | 0.54 |
| 2:Bp:248:ALA:HB1 | 2:Bp:265:VAL:HG22 | 1.89 | 0.54 |
| 3:Cl:80:PHE:HA | 5:Fl:136:VAL:HG21 | 1.88 | 0.54 |
| 1:Ae:245:GLN:HG3 | 1:Af:200:ASN:HD21 | 1.72 | 0.54 |
| 1:Ak:245:GLN:HG3 | 1:Al:200:ASN:HD21 | 1.73 | 0.54 |
| 1:At:113:GLU:HB2 | 1:At:172:MET:HB3 | 1.88 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Az:36:ASP:HB3 | 1:Az:39:GLU:HG2 | 1.90 | 0.54 |
| 2:Bg:248:ALA:HB1 | 2:Bg:265:VAL:HG22 | 1.89 | 0.54 |
| 3:Cp:255:ASP:HB3 | 3:Cp:258:SER:HB3 | 1.90 | 0.54 |
| 3:Cy:262:TRP:HA | 3:Cy:267:GLY:HA3 | 1.89 | 0.54 |
| 3:Cz:262:TRP:HA | 3:Cz:267:GLY:HA3 | 1.89 | 0.54 |
| 1:Aj:125:LEU:HB3 | 1:Am:244:MET:HE3 | 1.89 | 0.54 |
| 2:Bn:248:ALA:HB1 | 2:Bn:265:VAL:HG22 | 1.90 | 0.54 |
| 4:Dw:104:ILE:HG23 | 4:Dx:145:ARG:HD3 | 1.88 | 0.54 |
| 1:Ac:240:THR:HG22 | 1:Ac:244:MET:HE2 | 1.90 | 0.54 |
| 1:Ad:112:ASN:HD21 | 1:Ad:224:ALA:HB1 | 1.72 | 0.54 |
| 1:Ao:231:ALA:HB3 | 1:Ap:195:LYS:HG3 | 1.90 | 0.54 |
| 1:Av:231:ALA:HB3 | 1:Aw:195:LYS:HG3 | 1.90 | 0.54 |
| 1:Ax:240:THR:HG22 | 1:Ax:244:MET:HE2 | 1.89 | 0.54 |
| 2:Be:205:LEU:HD11 | 2:Be:236:ILE:HD11 | 1.88 | 0.54 |
| 2:Bo:153:VAL:HG21 | 2:Bp:148:ASP:HB3 | 1.89 | 0.54 |
| 3:Cq:255:ASP:HB3 | 3:Cq:258:SER:HB3 | 1.89 | 0.54 |
| 4:Df:219:VAL:HG21 | 4:Df:254:LEU:HD21 | 1.90 | 0.54 |
| 1:Aa:244:MET:HE3 | 1:Ax:125:LEU:HB3 | 1.90 | 0.54 |
| 1:Ag:66:TRP:HA | 1:Ag:192:ARG:HD3 | 1.89 | 0.54 |
| 1:Ag:245:GLN:HG3 | 1:Ah:200:ASN:HD21 | 1.73 | 0.54 |
| 1:Ar:240:THR:HG22 | 1:Ar:244:MET:HE2 | 1.90 | 0.54 |
| 2:Bb:248:ALA:HB1 | 2:Bb:265:VAL:HG22 | 1.89 | 0.54 |
| 2:Bq:205:LEU:HD11 | 2:Bq:236:ILE:HD11 | 1.89 | 0.54 |
| 2:Bs:205:LEU:HD11 | 2:Bs:236:ILE:HD11 | 1.89 | 0.54 |
| 2:Bu:205:LEU:HD11 | 2:Bu:236:ILE:HD11 | 1.90 | 0.54 |
| 4:De:78:ARG:HB3 | 4:De:143:GLN:HE22 | 1.73 | 0.54 |
| 4:Dk:104:ILE:HG23 | 4:Dl:145:ARG:HD3 | 1.88 | 0.54 |
| 4:Du:78:ARG:HB3 | 4:Du:143:GLN:HE22 | 1.72 | 0.54 |
| 1:Ab:184:LEU:HD12 | 1:Ab:188:ASN:HB2 | 1.90 | 0.54 |
| 1:Af:125:LEU:HB3 | 1:Ai:244:MET:HE3 | 1.89 | 0.54 |
| 1:Aq:240:THR:HG22 | 1:Aq:244:MET:HE2 | 1.90 | 0.54 |
| 1:At:245:GLN:HG3 | 1:Au:200:ASN:HD21 | 1.73 | 0.54 |
| 2:Bf:87:ALA:HB2 | 2:Bf:101:ILE:HG22 | 1.90 | 0.54 |
| 2:Bg:205:LEU:HD11 | 2:Bg:236:ILE:HD11 | 1.89 | 0.54 |
| 2:Bu:248:ALA:HB1 | 2:Bu:265:VAL:HG22 | 1.88 | 0.54 |
| 2:Bv:153:VAL:HG21 | 2:Bw:148:ASP:HB3 | 1.89 | 0.54 |
| 2:By:223:PRO:HB3 | 4:Di:94:VAL:HB | 1.90 | 0.54 |
| 3:Ci:262:TRP:HA | 3:Ci:267:GLY:HA3 | 1.90 | 0.54 |
| 1:Ad:184:LEU:HD12 | 1:Ad:188:ASN:HB2 | 1.90 | 0.54 |
| 2:Be:21:ILE:HG23 | 2:Be:197:LEU:HD11 | 1.90 | 0.54 |
| 2:Bm:248:ALA:HB1 | 2:Bm:265:VAL:HG22 | 1.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Bp:87:ALA:HB2 | 2:Bp:101:ILE:HG22 | 1.90 | 0.54 |
| 2:Br:248:ALA:HB1 | 2:Br:265:VAL:HG22 | 1.90 | 0.54 |
| 4:De:93:PRO:HB2 | 4:De:95:TRP:HE3 | 1.72 | 0.54 |
| 4:Dm:104:ILE:HG23 | 4:Dn:145:ARG:HD3 | 1.88 | 0.54 |
| 1:Ak:113:GLU:HB2 | 1:Ak:172:MET:HB3 | 1.90 | 0.54 |
| 2:Bd:248:ALA:HB1 | 2:Bd:265:VAL:HG22 | 1.90 | 0.54 |
| 2:Be:223:PRO:HB3 | 4:Do:94:VAL:HB | 1.90 | 0.54 |
| 2:Bf:122:LEU:HB2 | 2:Bf:131:ALA:HB3 | 1.90 | 0.54 |
| 2:Bo:205:LEU:HD11 | 2:Bo:236:ILE:HD11 | 1.90 | 0.54 |
| 2:Bv:185:ASN:HB3 | 2:Bw:97:GLN:HE21 | 1.72 | 0.54 |
| 4:Ds:104:ILE:HG23 | 4:Dt:145:ARG:HD3 | 1.88 | 0.54 |
| 1:Ae:125:LEU:HB3 | 1:Ah:244:MET:HE3 | 1.88 | 0.53 |
| 1:Ae:231:ALA:HB3 | 1:Af:195:LYS:HG3 | 1.89 | 0.53 |
| 1:Al:113:GLU:HB2 | 1:Al:172:MET:HB3 | 1.90 | 0.53 |
| 1:Ao:113:GLU:HB2 | 1:Ao:172:MET:HB3 | 1.90 | 0.53 |
| 1:Ax:113:GLU:HB2 | 1:Ax:172:MET:HB3 | 1.90 | 0.53 |
| 2:Ba:248:ALA:HB1 | 2:Ba:265:VAL:HG22 | 1.89 | 0.53 |
| 2:Bz:122:LEU:HB2 | 2:Bz:131:ALA:HB3 | 1.90 | 0.53 |
| 3:Cb:92:GLU:HB2 | 3:Cb:103:ARG:HB3 | 1.90 | 0.53 |
| 3:Cb:126:ILE:HB | 3:Cb:169:THR:HG22 | 1.90 | 0.53 |
| 3:Cf:85:VAL:HG22 | 3:Cf:108:ILE:HG12 | 1.90 | 0.53 |
| 4:Dk:93:PRO:HB2 | 4:Dk:95:TRP:HE3 | 1.71 | 0.53 |
| 4:Do:104:ILE:HG23 | 4:Dp:145:ARG:HD3 | 1.89 | 0.53 |
| 4:Dq:104:ILE:HG23 | 4:Dr:145:ARG:HD3 | 1.89 | 0.53 |
| 1:Ad:113:GLU:HB2 | 1:Ad:172:MET:HB3 | 1.90 | 0.53 |
| 1:Ae:184:LEU:HD12 | 1:Ae:188:ASN:HB2 | 1.91 | 0.53 |
| 2:Bb:136:ASN:HB2 | 2:Bz:360:ILE:HG22 | 1.90 | 0.53 |
| 2:Bg:360:ILE:HG22 | 2:Bi:136:ASN:HB2 | 1.89 | 0.53 |
| 2:Bm:153:VAL:HG21 | 2:Bn:148:ASP:HB3 | 1.89 | 0.53 |
| 2:Bs:248:ALA:HB1 | 2:Bs:265:VAL:HG22 | 1.91 | 0.53 |
| 3:Ck:209:LYS:HD2 | 3:Ck:212:GLN:HB2 | 1.91 | 0.53 |
| 1:Aj:231:ALA:HB3 | 1:Ak:195:LYS:HG3 | 1.90 | 0.53 |
| 1:Aw:231:ALA:HB3 | 1:Ax:195:LYS:HG3 | 1.90 | 0.53 |
| 1:Aw:240:THR:HG22 | 1:Aw:244:MET:HE2 | 1.90 | 0.53 |
| 2:Bc:87:ALA:HB2 | 2:Bc:101:ILE:HG22 | 1.90 | 0.53 |
| 2:Bc:122:LEU:HB2 | 2:Bc:131:ALA:HB3 | 1.90 | 0.53 |
| 2:Bi:248:ALA:HB1 | 2:Bi:265:VAL:HG22 | 1.91 | 0.53 |
| 2:Bq:21:ILE:HG23 | 2:Bq:197:LEU:HD11 | 1.90 | 0.53 |
| 2:Bv:87:ALA:HB2 | 2:Bv:101:ILE:HG22 | 1.91 | 0.53 |
| 2:Bz:248:ALA:HB1 | 2:Bz:265:VAL:HG22 | 1.90 | 0.53 |
| 3:Ct:255:ASP:HB3 | 3:Ct:258:SER:HB3 | 1.91 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Di:93:PRO:HB2 | 4:Di:95:TRP:HE3 | 1.71 | 0.53 |
| 1:Am:240:THR:HG22 | 1:Am:244:MET:HE2 | 1.90 | 0.53 |
| 1:Aw:245:GLN:HG3 | 1:Ax:200:ASN:HD21 | 1.72 | 0.53 |
| 2:Bc:248:ALA:HB1 | 2:Bc:265:VAL:HG22 | 1.89 | 0.53 |
| 2:Bd:122:LEU:HB2 | 2:Bd:131:ALA:HB3 | 1.90 | 0.53 |
| 2:Bf:360:ILE:HG22 | 2:Bh:136:ASN:HB2 | 1.91 | 0.53 |
| 2:Bh:360:ILE:HG22 | 2:Bj:136:ASN:HB2 | 1.91 | 0.53 |
| 2:Bw:205:LEU:HD11 | 2:Bw:236:ILE:HD11 | 1.91 | 0.53 |
| 4:Dn:219:VAL:HG21 | 4:Dn:254:LEU:HD21 | 1.91 | 0.53 |
| 1:Aa:200:ASN:HD21 | 1:Az:245:GLN:HG3 | 1.73 | 0.53 |
| 1:An:245:GLN:HG3 | 1:Ao:200:ASN:HD21 | 1.72 | 0.53 |
| 1:Au:113:GLU:HB2 | 1:Au:172:MET:HB3 | 1.89 | 0.53 |
| 1:Au:240:THR:HG22 | 1:Au:244:MET:HE2 | 1.90 | 0.53 |
| 1:Av:240:THR:HG22 | 1:Av:244:MET:HE2 | 1.89 | 0.53 |
| 2:Ba:122:LEU:HB2 | 2:Ba:131:ALA:HB3 | 1.91 | 0.53 |
| 2:Bb:87:ALA:HB2 | 2:Bb:101:ILE:HG22 | 1.90 | 0.53 |
| 2:Bx:87:ALA:HB2 | 2:Bx:101:ILE:HG22 | 1.91 | 0.53 |
| 3:Cx:262:TRP:HA | 3:Cx:267:GLY:HA3 | 1.90 | 0.53 |
| 1:Ah:240:THR:HG22 | 1:Ah:244:MET:HE2 | 1.91 | 0.53 |
| 1:An:232:ARG:HH22 | 1:Ao:194:GLU:HG3 | 1.74 | 0.53 |
| 1:At:231:ALA:HB3 | 1:Au:195:LYS:HG3 | 1.91 | 0.53 |
| 2:Ba:21:ILE:HG23 | 2:Ba:197:LEU:HD11 | 1.89 | 0.53 |
| 2:Bc:360:ILE:HG22 | 2:Be:136:ASN:HB2 | 1.90 | 0.53 |
| 2:Be:360:ILE:HG22 | 2:Bg:136:ASN:HB2 | 1.90 | 0.53 |
| 2:Bh:185:ASN:HB3 | 2:Bi:97:GLN:HE21 | 1.74 | 0.53 |
| 2:Bv:21:ILE:HG23 | 2:Bv:197:LEU:HD11 | 1.89 | 0.53 |
| 2:Bw:224:ARG:HH21 | 3:Cn:368:GLN:HB2 | 1.74 | 0.53 |
| 3:Cb:262:TRP:HA | 3:Cb:267:GLY:HA3 | 1.89 | 0.53 |
| 3:Cw:80:PHE:HA | 5:Fw:136:VAL:HG21 | 1.90 | 0.53 |
| 1:Ad:245:GLN:HG3 | 1:Ae:200:ASN:HD21 | 1.73 | 0.53 |
| 1:Aq:232:ARG:HH22 | 1:Ar:194:GLU:HG3 | 1.73 | 0.53 |
| 2:Bb:360:ILE:HG22 | 2:Bd:136:ASN:HB2 | 1.89 | 0.53 |
| 2:Bd:360:ILE:HG22 | 2:Bf:136:ASN:HB2 | 1.91 | 0.53 |
| 2:Bi:205:LEU:HD11 | 2:Bi:236:ILE:HD11 | 1.89 | 0.53 |
| 2:Bo:360:ILE:HG22 | 2:Bq:136:ASN:HB2 | 1.91 | 0.53 |
| 1:Ac:184:LEU:HD12 | 1:Ac:188:ASN:HB2 | 1.90 | 0.53 |
| 1:Ah:245:GLN:HG3 | 1:Ai:200:ASN:HD21 | 1.72 | 0.53 |
| 1:Al:245:GLN:HG3 | 1:Am:200:ASN:HD21 | 1.72 | 0.53 |
| 1:Au:112:ASN:HD21 | 1:Au:224:ALA:HB1 | 1.74 | 0.53 |
| 1:Ay:232:ARG:HH22 | 1:Az:194:GLU:HG3 | 1.73 | 0.53 |
| 2:Bi:360:ILE:HG22 | 2:Bk:136:ASN:HB2 | 1.91 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Br:87:ALA:HB2 | 2:Br:101:ILE:HG22 | 1.91 | 0.53 |
| 2:Bt:248:ALA:HB1 | 2:Bt:265:VAL:HG22 | 1.90 | 0.53 |
| 3:Cp:145:VAL:HA | 3:Cp:256:THR:HG21 | 1.88 | 0.53 |
| 1:Aa:195:LYS:HG3 | 1:Az:231:ALA:HB3 | 1.91 | 0.53 |
| 1:Ac:232:ARG:HH22 | 1:Ad:194:GLU:HG3 | 1.74 | 0.53 |
| 1:Ah:184:LEU:HD12 | 1:Ah:188:ASN:HB2 | 1.91 | 0.53 |
| 1:Aj:184:LEU:HD12 | 1:Aj:188:ASN:HB2 | 1.89 | 0.53 |
| 1:An:240:THR:HG22 | 1:An:244:MET:HE2 | 1.91 | 0.53 |
| 1:As:232:ARG:HH22 | 1:At:194:GLU:HG3 | 1.73 | 0.53 |
| 2:Bj:360:ILE:HG22 | 2:Bl:136:ASN:HB2 | 1.91 | 0.53 |
| 4:Dh:223:THR:HG22 | 4:Dh:285:VAL:HG22 | 1.91 | 0.53 |
| 1:Ac:231:ALA:HB3 | 1:Ad:195:LYS:HG3 | 1.90 | 0.53 |
| 1:Af:245:GLN:HG3 | 1:Ag:200:ASN:HD21 | 1.73 | 0.53 |
| 1:Aj:113:GLU:HB2 | 1:Aj:172:MET:HB3 | 1.91 | 0.53 |
| 1:Au:231:ALA:HB3 | 1:Av:195:LYS:HG3 | 1.91 | 0.53 |
| 1:Ax:231:ALA:HB3 | 1:Ay:195:LYS:HG3 | 1.91 | 0.53 |
| 2:Bq:153:VAL:HG21 | 2:Br:148:ASP:HB3 | 1.91 | 0.53 |
| 1:Ad:125:LEU:HB3 | 1:Ag:244:MET:HE3 | 1.91 | 0.52 |
| 1:Ap:231:ALA:HB3 | 1:Aq:195:LYS:HG3 | 1.92 | 0.52 |
| 1:Aq:231:ALA:HB3 | 1:Ar:195:LYS:HG3 | 1.91 | 0.52 |
| 2:Bw:248:ALA:HB1 | 2:Bw:265:VAL:HG22 | 1.90 | 0.52 |
| 1:Ag:113:GLU:HB2 | 1:Ag:172:MET:HB3 | 1.91 | 0.52 |
| 1:Al:240:THR:HG22 | 1:Al:244:MET:HE2 | 1.90 | 0.52 |
| 1:Am:113:GLU:HB2 | 1:Am:172:MET:HB3 | 1.91 | 0.52 |
| 1:An:231:ALA:HB3 | 1:Ao:195:LYS:HG3 | 1.92 | 0.52 |
| 1:Ao:232:ARG:HH22 | 1:Ap:194:GLU:HG3 | 1.74 | 0.52 |
| 1:As:113:GLU:HB2 | 1:As:172:MET:HB3 | 1.91 | 0.52 |
| 1:Aw:113:GLU:HB2 | 1:Aw:172:MET:HB3 | 1.91 | 0.52 |
| 2:Bf:21:ILE:HG23 | 2:Bf:197:LEU:HD11 | 1.91 | 0.52 |
| 2:Bh:122:LEU:HB2 | 2:Bh:131:ALA:HB3 | 1.91 | 0.52 |
| 2:Bn:360:ILE:HG22 | 2:Bp:136:ASN:HB2 | 1.89 | 0.52 |
| 2:Bt:153:VAL:HG21 | 2:Bu:148:ASP:HB3 | 1.91 | 0.52 |
| 3:Cw:262:TRP:HA | 3:Cw:267:GLY:HA3 | 1.91 | 0.52 |
| 1:Ag:232:ARG:HH22 | 1:Ah:194:GLU:HG3 | 1.75 | 0.52 |
| 1:Am:125:LEU:HB3 | 1:Ap:244:MET:HE3 | 1.90 | 0.52 |
| 1:Ao:240:THR:HG22 | 1:Ao:244:MET:HE2 | 1.91 | 0.52 |
| 2:Be:122:LEU:HB2 | 2:Be:131:ALA:HB3 | 1.91 | 0.52 |
| 2:Bi:87:ALA:HB2 | 2:Bi:101:ILE:HG22 | 1.91 | 0.52 |
| 2:Bk:360:ILE:HG22 | 2:Bm:136:ASN:HB2 | 1.91 | 0.52 |
| 2:Bl:87:ALA:HB2 | 2:Bl:101:ILE:HG22 | 1.91 | 0.52 |
| 2:Bx:248:ALA:HB1 | 2:Bx:265:VAL:HG22 | 1.91 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Bx:360:ILE:HG22 | 2:Bz:136:ASN:HB2 | 1.90 | 0.52 |
| 2:By:248:ALA:HB1 | 2:By:265:VAL:HG22 | 1.90 | 0.52 |
| 1:Ap:232:ARG:HH22 | 1:Aq:194:GLU:HG3 | 1.74 | 0.52 |
| 2:Bi:224:ARG:HH21 | 3:Cz:368:GLN:HB2 | 1.75 | 0.52 |
| 2:Bm:360:ILE:HG22 | 2:Bo:136:ASN:HB2 | 1.90 | 0.52 |
| 2:Bv:248:ALA:HB1 | 2:Bv:265:VAL:HG22 | 1.90 | 0.52 |
| 3:Cn:85:VAL:HG22 | 3:Cn:108:ILE:HG12 | 1.91 | 0.52 |
| 4:Da:78:ARG:HB3 | 4:Da:143:GLN:HE22 | 1.75 | 0.52 |
| 4:Du:49:VAL:HG12 | 4:Du:59:GLU:HG2 | 1.92 | 0.52 |
| 1:Ab:232:ARG:HH22 | 1:Ac:194:GLU:HG3 | 1.75 | 0.52 |
| 1:Ab:245:GLN:HG3 | 1:Ac:200:ASN:HD21 | 1.74 | 0.52 |
| 1:Ae:232:ARG:HH22 | 1:Af:194:GLU:HG3 | 1.74 | 0.52 |
| 1:Ai:184:LEU:HD12 | 1:Ai:188:ASN:HB2 | 1.90 | 0.52 |
| 1:Ak:184:LEU:HD12 | 1:Ak:188:ASN:HB2 | 1.90 | 0.52 |
| 2:Ba:138:VAL:HG21 | 2:By:342:MET:HE2 | 1.92 | 0.52 |
| 2:Bl:360:ILE:HG22 | 2:Bn:136:ASN:HB2 | 1.91 | 0.52 |
| 4:Dl:223:THR:HG22 | 4:Dl:285:VAL:HG22 | 1.92 | 0.52 |
| 1:Ag:139:GLY:HA3 | 1:Ah:148:TYR:HD1 | 1.75 | 0.52 |
| 1:Al:139:GLY:HA3 | 1:Am:148:TYR:HD1 | 1.75 | 0.52 |
| 1:Ap:113:GLU:HB2 | 1:Ap:172:MET:HB3 | 1.92 | 0.52 |
| 2:Bu:21:ILE:HG23 | 2:Bu:197:LEU:HD11 | 1.91 | 0.52 |
| 2:Bu:360:ILE:HG22 | 2:Bw:136:ASN:HB2 | 1.90 | 0.52 |
| 3:Cw:255:ASP:HB3 | 3:Cw:258:SER:HB3 | 1.91 | 0.52 |
| 4:Dr:219:VAL:HG21 | 4:Dr:254:LEU:HD21 | 1.92 | 0.52 |
| 1:Af:113:GLU:HB2 | 1:Af:172:MET:HB3 | 1.92 | 0.52 |
| 1:Aj:232:ARG:HH22 | 1:Ak:194:GLU:HG3 | 1.74 | 0.52 |
| 1:Aq:113:GLU:HB2 | 1:Aq:172:MET:HB3 | 1.91 | 0.52 |
| 2:Bj:87:ALA:HB2 | 2:Bj:101:ILE:HG22 | 1.91 | 0.52 |
| 2:Bp:360:ILE:HG22 | 2:Br:136:ASN:HB2 | 1.90 | 0.52 |
| 2:Bq:224:ARG:HH21 | 3:Ch:368:GLN:HB2 | 1.74 | 0.52 |
| 1:Aa:240:THR:HG22 | 1:Aa:244:MET:HE2 | 1.91 | 0.52 |
| 1:At:240:THR:HG22 | 1:At:244:MET:HE2 | 1.92 | 0.52 |
| 2:Ba:224:ARG:HH21 | 3:Cr:368:GLN:HB2 | 1.74 | 0.52 |
| 2:Bg:122:LEU:HB2 | 2:Bg:131:ALA:HB3 | 1.92 | 0.52 |
| 2:Bl:122:LEU:HB2 | 2:Bl:131:ALA:HB3 | 1.90 | 0.52 |
| 2:Bm:87:ALA:HB2 | 2:Bm:101:ILE:HG22 | 1.90 | 0.52 |
| 2:Bo:87:ALA:HB2 | 2:Bo:101:ILE:HG22 | 1.92 | 0.52 |
| 2:Bs:87:ALA:HB2 | 2:Bs:101:ILE:HG22 | 1.92 | 0.52 |
| 2:Bv:360:ILE:HG22 | 2:Bx:136:ASN:HB2 | 1.91 | 0.52 |
| 2:Bz:87:ALA:HB2 | 2:Bz:101:ILE:HG22 | 1.92 | 0.52 |
| 1:Ab:113:GLU:HB2 | 1:Ab:172:MET:HB3 | 1.92 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Aj:240:THR:HG22 | 1:Aj:244:MET:HE2 | 1.92 | 0.52 |
| 1:At:125:LEU:HB2 | 1:At:160:PHE:HB3 | 1.92 | 0.52 |
| 2:Bn:153:VAL:HG21 | 2:Bo:148:ASP:HB3 | 1.91 | 0.52 |
| 2:Br:360:ILE:HG22 | 2:Bt:136:ASN:HB2 | 1.90 | 0.52 |
| 3:Cp:262:TRP:HA | 3:Cp:267:GLY:HA3 | 1.91 | 0.52 |
| 4:Db:223:THR:HG22 | 4:Db:285:VAL:HG22 | 1.92 | 0.52 |
| 1:Ac:113:GLU:HB2 | 1:Ac:172:MET:HB3 | 1.91 | 0.52 |
| 1:Ag:240:THR:HG22 | 1:Ag:244:MET:HE2 | 1.91 | 0.52 |
| 1:Ah:231:ALA:HB3 | 1:Ai:195:LYS:HG3 | 1.91 | 0.52 |
| 1:Ay:113:GLU:HB2 | 1:Ay:172:MET:HB3 | 1.92 | 0.52 |
| 2:Bb:21:ILE:HG23 | 2:Bb:197:LEU:HD11 | 1.90 | 0.52 |
| 2:Bs:153:VAL:HG21 | 2:Bt:148:ASP:HB3 | 1.91 | 0.52 |
| 2:Bs:360:ILE:HG22 | 2:Bu:136:ASN:HB2 | 1.91 | 0.52 |
| 2:Bt:87:ALA:HB2 | 2:Bt:101:ILE:HG22 | 1.92 | 0.52 |
| 3:Cf:262:TRP:HA | 3:Cf:267:GLY:HA3 | 1.91 | 0.52 |
| 1:Ah:232:ARG:HH22 | 1:Ai:194:GLU:HG3 | 1.75 | 0.51 |
| 1:Al:232:ARG:HH22 | 1:Am:194:GLU:HG3 | 1.75 | 0.51 |
| 2:Ba:136:ASN:HB2 | 2:By:360:ILE:HG22 | 1.91 | 0.51 |
| 2:Ba:153:VAL:HG21 | 2:Bb:148:ASP:HB3 | 1.91 | 0.51 |
| 2:Be:342:MET:HE2 | 2:Bg:138:VAL:HG21 | 1.92 | 0.51 |
| 2:Bh:21:ILE:HG23 | 2:Bh:197:LEU:HD11 | 1.92 | 0.51 |
| 2:Bh:255:ARG:HH12 | 2:Bj:136:ASN:HB3 | 1.75 | 0.51 |
| 2:Bo:122:LEU:HB2 | 2:Bo:131:ALA:HB3 | 1.91 | 0.51 |
| 2:Bq:360:ILE:HG22 | 2:Bs:136:ASN:HB2 | 1.91 | 0.51 |
| 2:Bw:153:VAL:HG21 | 2:Bx:148:ASP:HB3 | 1.92 | 0.51 |
| 3:Cm:262:TRP:HA | 3:Cm:267:GLY:HA3 | 1.90 | 0.51 |
| 3:Co:262:TRP:HA | 3:Co:267:GLY:HA3 | 1.91 | 0.51 |
| 1:Ae:112:ASN:HD21 | 1:Ae:224:ALA:HB1 | 1.75 | 0.51 |
| 2:Ba:148:ASP:HB3 | 2:Bz:153:VAL:HG21 | 1.92 | 0.51 |
| 3:Cd:262:TRP:HA | 3:Cd:267:GLY:HA3 | 1.91 | 0.51 |
| 3:Cj:262:TRP:HA | 3:Cj:267:GLY:HA3 | 1.91 | 0.51 |
| 3:Cp:92:GLU:HB2 | 3:Cp:103:ARG:HB3 | 1.91 | 0.51 |
| 4:Df:223:THR:HG22 | 4:Df:285:VAL:HG22 | 1.92 | 0.51 |
| 1:Aa:194:GLU:HG3 | 1:Az:232:ARG:HH22 | 1.75 | 0.51 |
| 1:Ah:125:LEU:HB3 | 1:Ak:244:MET:HE3 | 1.92 | 0.51 |
| 2:Bb:138:VAL:HG21 | 2:Bz:342:MET:HE2 | 1.92 | 0.51 |
| 3:Cd:78:TYR:HD2 | 3:Cd:88:ILE:HB | 1.75 | 0.51 |
| 3:Cr:361:PRO:HB2 | 4:Dk:148:ARG:HD2 | 1.92 | 0.51 |
| 3:Ct:262:TRP:HA | 3:Ct:267:GLY:HA3 | 1.93 | 0.51 |
| 4:Dd:249:PHE:HB3 | 4:Dd:254:LEU:HD23 | 1.92 | 0.51 |
| 4:Dv:219:VAL:HG21 | 4:Dv:254:LEU:HD21 | 1.92 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Ab:231:ALA:HB3 | 1:Ac:195:LYS:HG3 | 1.91 | 0.51 |
| 1:Af:184:LEU:HD12 | 1:Af:188:ASN:HB2 | 1.92 | 0.51 |
| 1:At:232:ARG:HH22 | 1:Au:194:GLU:HG3 | 1.75 | 0.51 |
| 2:Bd:87:ALA:HB2 | 2:Bd:101:ILE:HG22 | 1.92 | 0.51 |
| 2:Bd:185:ASN:HB3 | 2:Be:97:GLN:HE21 | 1.75 | 0.51 |
| 2:Be:153:VAL:HG21 | 2:Bf:148:ASP:HB3 | 1.91 | 0.51 |
| 3:Cr:255:ASP:HB3 | 3:Cr:258:SER:HB3 | 1.92 | 0.51 |
| 4:Dh:219:VAL:HG21 | 4:Dh:254:LEU:HD21 | 1.93 | 0.51 |
| 2:Bc:342:MET:HE2 | 2:Be:138:VAL:HG21 | 1.92 | 0.51 |
| 2:Bi:255:ARG:HH12 | 2:Bk:136:ASN:HB3 | 1.76 | 0.51 |
| 2:Bl:255:ARG:HH12 | 2:Bn:136:ASN:HB3 | 1.75 | 0.51 |
| 2:Bx:153:VAL:HG21 | 2:By:148:ASP:HB3 | 1.92 | 0.51 |
| 3:Ch:80:PHE:HA | 5:Fh:136:VAL:HG21 | 1.92 | 0.51 |
| 4:Db:219:VAL:HG21 | 4:Db:254:LEU:HD21 | 1.93 | 0.51 |
| 4:Db:249:PHE:HB3 | 4:Db:254:LEU:HD23 | 1.93 | 0.51 |
| 4:Dp:219:VAL:HG21 | 4:Dp:254:LEU:HD21 | 1.92 | 0.51 |
| 4:Dr:223:THR:HG22 | 4:Dr:285:VAL:HG22 | 1.92 | 0.51 |
| 4:Dz:223:THR:HG22 | 4:Dz:285:VAL:HG22 | 1.93 | 0.51 |
| 1:Ad:231:ALA:HB3 | 1:Ae:195:LYS:HG3 | 1.91 | 0.51 |
| 1:Al:64:PRO:HB2 | 1:Am:38:VAL:HG13 | 1.92 | 0.51 |
| 1:Al:184:LEU:HD12 | 1:Al:188:ASN:HB2 | 1.92 | 0.51 |
| 1:Am:232:ARG:HH22 | 1:An:194:GLU:HG3 | 1.76 | 0.51 |
| 1:Ar:232:ARG:HH22 | 1:As:194:GLU:HG3 | 1.75 | 0.51 |
| 1:Ay:231:ALA:HB3 | 1:Az:195:LYS:HG3 | 1.93 | 0.51 |
| 2:Be:87:ALA:HB2 | 2:Be:101:ILE:HG22 | 1.93 | 0.51 |
| 2:Bf:342:MET:HE2 | 2:Bh:138:VAL:HG21 | 1.91 | 0.51 |
| 2:Bk:122:LEU:HB2 | 2:Bk:131:ALA:HB3 | 1.91 | 0.51 |
| 2:Bw:122:LEU:HB2 | 2:Bw:131:ALA:HB3 | 1.92 | 0.51 |
| 3:Ca:241:ARG:HB3 | 5:Gb:143:THR:HG21 | 1.92 | 0.51 |
| 3:Cu:262:TRP:HA | 3:Cu:267:GLY:HA3 | 1.92 | 0.51 |
| 3:Cy:195:MET:HG3 | 3:Cy:226:VAL:HG22 | 1.93 | 0.51 |
| 4:Dd:223:THR:HG22 | 4:Dd:285:VAL:HG22 | 1.92 | 0.51 |
| 4:Dv:223:THR:HG22 | 4:Dv:285:VAL:HG22 | 1.93 | 0.51 |
| 1:Aa:231:ALA:HB3 | 1:Ab:195:LYS:HG3 | 1.92 | 0.51 |
| 1:Ac:112:ASN:HD21 | 1:Ac:224:ALA:HB1 | 1.75 | 0.51 |
| 1:Ao:139:GLY:HA3 | 1:Ap:148:TYR:HD1 | 1.74 | 0.51 |
| 1:Ay:240:THR:HG22 | 1:Ay:244:MET:HE2 | 1.93 | 0.51 |
| 2:Bt:360:ILE:HG22 | 2:Bv:136:ASN:HB2 | 1.91 | 0.51 |
| 3:Cp:93:ARG:HG2 | 3:Cp:102:VAL:HG23 | 1.92 | 0.51 |
| 4:Dx:249:PHE:HB3 | 4:Dx:254:LEU:HD23 | 1.93 | 0.51 |
| 1:Aa:112:ASN:HD21 | 1:Aa:224:ALA:HB1 | 1.75 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Ag:231:ALA:HB3 | 1:Ah:195:LYS:HG3 | 1.92 | 0.51 |
| 1:An:113:GLU:HB2 | 1:An:172:MET:HB3 | 1.93 | 0.51 |
| 2:Ba:360:ILE:HG22 | 2:Bc:136:ASN:HB2 | 1.90 | 0.51 |
| 2:Bw:21:ILE:HG23 | 2:Bw:197:LEU:HD11 | 1.92 | 0.51 |
| 2:Bw:360:ILE:HG22 | 2:By:136:ASN:HB2 | 1.91 | 0.51 |
| 2:By:21:ILE:HG23 | 2:By:197:LEU:HD11 | 1.92 | 0.51 |
| 4:Dj:223:THR:HG22 | 4:Dj:285:VAL:HG22 | 1.93 | 0.51 |
| 1:Aa:184:LEU:HD12 | 1:Aa:188:ASN:HB2 | 1.93 | 0.51 |
| 1:Af:240:THR:HG22 | 1:Af:244:MET:HE2 | 1.92 | 0.51 |
| 1:At:184:LEU:HD12 | 1:At:188:ASN:HB2 | 1.92 | 0.51 |
| 1:Aw:232:ARG:HH22 | 1:Ax:194:GLU:HG3 | 1.75 | 0.51 |
| 1:Ay:184:LEU:HD12 | 1:Ay:188:ASN:HB2 | 1.93 | 0.51 |
| 2:Ba:136:ASN:HB3 | 2:By:255:ARG:HH12 | 1.76 | 0.51 |
| 2:Bd:342:MET:HE2 | 2:Bf:138:VAL:HG21 | 1.92 | 0.51 |
| 2:Bk:224:ARG:HH21 | 3:Cb:368:GLN:HB3 | 1.75 | 0.51 |
| 3:Ch:262:TRP:HA | 3:Ch:267:GLY:HA3 | 1.93 | 0.51 |
| 4:Dg:78:ARG:HB3 | 4:Dg:143:GLN:HE22 | 1.75 | 0.51 |
| 4:Dt:223:THR:HG22 | 4:Dt:285:VAL:HG22 | 1.93 | 0.51 |
| 1:Aj:112:ASN:HD21 | 1:Aj:224:ALA:HB1 | 1.76 | 0.51 |
| 1:Ak:231:ALA:HB3 | 1:Al:195:LYS:HG3 | 1.93 | 0.51 |
| 1:Ak:240:THR:HG22 | 1:Ak:244:MET:HE2 | 1.93 | 0.51 |
| 2:Bc:153:VAL:HG21 | 2:Bd:148:ASP:HB3 | 1.93 | 0.51 |
| 2:Bh:87:ALA:HB2 | 2:Bh:101:ILE:HG22 | 1.92 | 0.51 |
| 2:Bv:255:ARG:HH12 | 2:Bx:136:ASN:HB3 | 1.76 | 0.51 |
| 2:Bv:342:MET:HE2 | 2:Bx:138:VAL:HG21 | 1.92 | 0.51 |
| 2:Bw:87:ALA:HB2 | 2:Bw:101:ILE:HG22 | 1.93 | 0.51 |
| 3:Ca:262:TRP:HA | 3:Ca:267:GLY:HA3 | 1.92 | 0.51 |
| 3:Cn:262:TRP:HA | 3:Cn:267:GLY:HA3 | 1.92 | 0.51 |
| 3:Co:78:TYR:HD2 | 3:Co:88:ILE:HB | 1.76 | 0.51 |
| 3:Cv:262:TRP:HA | 3:Cv:267:GLY:HA3 | 1.93 | 0.51 |
| 4:Df:249:PHE:HB3 | 4:Df:254:LEU:HD23 | 1.93 | 0.51 |
| 1:Ah:112:ASN:HD21 | 1:Ah:224:ALA:HB1 | 1.76 | 0.50 |
| 2:Bd:153:VAL:HG21 | 2:Be:148:ASP:HB3 | 1.93 | 0.50 |
| 2:Bh:153:VAL:HG21 | 2:Bi:148:ASP:HB3 | 1.93 | 0.50 |
| 2:Bv:122:LEU:HB2 | 2:Bv:131:ALA:HB3 | 1.92 | 0.50 |
| 2:By:87:ALA:HB2 | 2:By:101:ILE:HG22 | 1.93 | 0.50 |
| 3:Cn:92:GLU:HB2 | 3:Cn:103:ARG:HB3 | 1.92 | 0.50 |
| 4:Dx:223:THR:HG22 | 4:Dx:285:VAL:HG22 | 1.93 | 0.50 |
| 1:Ad:232:ARG:HH22 | 1:Ae:194:GLU:HG3 | 1.76 | 0.50 |
| 1:Ah:113:GLU:HB2 | 1:Ah:172:MET:HB3 | 1.93 | 0.50 |
| 1:Ai:232:ARG:HH22 | 1:Aj:194:GLU:HG3 | 1.76 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Ak:232:ARG:HH22 | 1:Al:194:GLU:HG3 | 1.76 | 0.50 |
| 1:Aq:139:GLY:HA3 | 1:Ar:148:TYR:HD1 | 1.76 | 0.50 |
| 1:Ay:36:ASP:HB3 | 1:Ay:39:GLU:HG2 | 1.93 | 0.50 |
| 2:Bp:21:ILE:HG23 | 2:Bp:197:LEU:HD11 | 1.92 | 0.50 |
| 2:Bs:122:LEU:HB2 | 2:Bs:131:ALA:HB3 | 1.93 | 0.50 |
| 3:Cc:93:ARG:HG2 | 3:Cc:102:VAL:HG23 | 1.93 | 0.50 |
| 3:Cf:255:ASP:HB3 | 3:Cf:258:SER:HB3 | 1.93 | 0.50 |
| 1:Af:231:ALA:HB3 | 1:Ag:195:LYS:HG3 | 1.93 | 0.50 |
| 1:Am:139:GLY:HA3 | 1:An:148:TYR:HD1 | 1.76 | 0.50 |
| 1:An:184:LEU:HD12 | 1:An:188:ASN:HB2 | 1.92 | 0.50 |
| 1:Ar:139:GLY:HA3 | 1:As:148:TYR:HD1 | 1.76 | 0.50 |
| 1:Av:64:PRO:HB2 | 1:Aw:38:VAL:HG13 | 1.94 | 0.50 |
| 2:Bp:153:VAL:HG21 | 2:Bq:148:ASP:HB3 | 1.93 | 0.50 |
| 2:Bq:342:MET:HE2 | 2:Bs:138:VAL:HG21 | 1.93 | 0.50 |
| 2:Bw:342:MET:HE2 | 2:By:138:VAL:HG21 | 1.94 | 0.50 |
| 3:Cr:249:PRO:HG2 | 3:Cr:252:SER:HB3 | 1.94 | 0.50 |
| 3:Cz:255:ASP:HB3 | 3:Cz:258:SER:HB3 | 1.92 | 0.50 |
| 1:Af:232:ARG:HH22 | 1:Ag:194:GLU:HG3 | 1.76 | 0.50 |
| 1:Aw:125:LEU:HB2 | 1:Aw:160:PHE:HB3 | 1.94 | 0.50 |
| 2:Bj:122:LEU:HB2 | 2:Bj:131:ALA:HB3 | 1.92 | 0.50 |
| 3:Cm:56:PHE:HD1 | 5:Gm:139:LYS:HE2 | 1.76 | 0.50 |
| 3:Co:80:PHE:HA | 5:Fo:136:VAL:HG21 | 1.93 | 0.50 |
| 3:Cs:249:PRO:HG2 | 3:Cs:252:SER:HB3 | 1.93 | 0.50 |
| 4:Dp:249:PHE:HB3 | 4:Dp:254:LEU:HD23 | 1.93 | 0.50 |
| 1:Ae:113:GLU:HB2 | 1:Ae:172:MET:HB3 | 1.93 | 0.50 |
| 1:Ai:240:THR:HG22 | 1:Ai:244:MET:HE2 | 1.94 | 0.50 |
| 1:Am:231:ALA:HB3 | 1:An:195:LYS:HG3 | 1.93 | 0.50 |
| 2:Bj:153:VAL:HG21 | 2:Bk:148:ASP:HB3 | 1.93 | 0.50 |
| 2:Bo:224:ARG:HH21 | 3:Cf:368:GLN:HB2 | 1.77 | 0.50 |
| 3:Cv:85:VAL:HG22 | 3:Cv:108:ILE:HG12 | 1.93 | 0.50 |
| 1:Aa:139:GLY:HA3 | 1:Ab:148:TYR:HD1 | 1.76 | 0.50 |
| 1:Al:125:LEU:HB3 | 1:Ao:244:MET:HE3 | 1.92 | 0.50 |
| 2:Bc:224:ARG:HH21 | 3:Ct:368:GLN:HB2 | 1.77 | 0.50 |
| 2:Be:255:ARG:HH12 | 2:Bg:136:ASN:HB3 | 1.77 | 0.50 |
| 2:Bg:255:ARG:HH12 | 2:Bi:136:ASN:HB3 | 1.77 | 0.50 |
| 3:Cm:78:TYR:HD2 | 3:Cm:88:ILE:HB | 1.76 | 0.50 |
| 3:Cm:249:PRO:HG2 | 3:Cm:252:SER:HB3 | 1.94 | 0.50 |
| 4:Dz:219:VAL:HG21 | 4:Dz:254:LEU:HD21 | 1.93 | 0.50 |
| 1:Ab:139:GLY:HA3 | 1:Ac:148:TYR:HD1 | 1.77 | 0.50 |
| 1:Ab:240:THR:HG22 | 1:Ab:244:MET:HE2 | 1.93 | 0.50 |
| 1:Ad:240:THR:HG22 | 1:Ad:244:MET:HE2 | 1.93 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Ao:184:LEU:HD12 | 1:Ao:188:ASN:HB2 | 1.92 | 0.50 |
| 1:Ap:34:THR:HG21 | 3:Cf:247:PRO:HB2 | 1.93 | 0.50 |
| 1:Ar:231:ALA:HB3 | 1:As:195:LYS:HG3 | 1.94 | 0.50 |
| 2:Bj:255:ARG:HH12 | 2:Bl:136:ASN:HB3 | 1.77 | 0.50 |
| 2:Bk:21:ILE:HG23 | 2:Bk:197:LEU:HD11 | 1.93 | 0.50 |
| 2:Bl:153:VAL:HG21 | 2:Bm:148:ASP:HB3 | 1.93 | 0.50 |
| 2:Bq:255:ARG:HH12 | 2:Bs:136:ASN:HB3 | 1.76 | 0.50 |
| 2:Br:122:LEU:HB2 | 2:Br:131:ALA:HB3 | 1.92 | 0.50 |
| 3:Ca:249:PRO:HG2 | 3:Ca:252:SER:HB3 | 1.94 | 0.50 |
| 4:Dp:223:THR:HG22 | 4:Dp:285:VAL:HG22 | 1.93 | 0.50 |
| 4:Dt:249:PHE:HB3 | 4:Dt:254:LEU:HD23 | 1.93 | 0.50 |
| 4:Dx:219:VAL:HG21 | 4:Dx:254:LEU:HD21 | 1.93 | 0.50 |
| 1:Ad:87:ASN:HB3 | 1:Ad:90:SER:HB2 | 1.93 | 0.50 |
| 1:As:36:ASP:HB3 | 1:As:39:GLU:HG2 | 1.94 | 0.50 |
| 1:Ax:139:GLY:HA3 | 1:Ay:148:TYR:HD1 | 1.76 | 0.50 |
| 1:Ax:232:ARG:HH22 | 1:Ay:194:GLU:HG3 | 1.75 | 0.50 |
| 2:Bn:87:ALA:HB2 | 2:Bn:101:ILE:HG22 | 1.93 | 0.50 |
| 2:Bq:185:ASN:HB3 | 2:Br:97:GLN:HE21 | 1.77 | 0.50 |
| 3:Cb:78:TYR:HD2 | 3:Cb:88:ILE:HB | 1.76 | 0.50 |
| 4:Dt:219:VAL:HG21 | 4:Dt:254:LEU:HD21 | 1.94 | 0.50 |
| 1:Aa:232:ARG:HH22 | 1:Ab:194:GLU:HG3 | 1.77 | 0.50 |
| 2:Bg:87:ALA:HB2 | 2:Bg:101:ILE:HG22 | 1.93 | 0.50 |
| 2:Bk:87:ALA:HB2 | 2:Bk:101:ILE:HG22 | 1.94 | 0.50 |
| 2:Bk:342:MET:HE2 | 2:Bm:138:VAL:HG21 | 1.93 | 0.50 |
| 2:Bt:342:MET:HE2 | 2:Bv:138:VAL:HG21 | 1.94 | 0.50 |
| 1:Ai:231:ALA:HB3 | 1:Aj:195:LYS:HG3 | 1.93 | 0.49 |
| 2:Bk:255:ARG:HH12 | 2:Bm:136:ASN:HB3 | 1.77 | 0.49 |
| 2:Bs:224:ARG:HH21 | 3:Cj:368:GLN:HB2 | 1.77 | 0.49 |
| 2:Bt:21:ILE:HG23 | 2:Bt:197:LEU:HD11 | 1.93 | 0.49 |
| 2:Bx:21:ILE:HG23 | 2:Bx:197:LEU:HD11 | 1.93 | 0.49 |
| 3:Cf:56:PHE:HD1 | 5:Gf:139:LYS:HE2 | 1.76 | 0.49 |
| 3:Cr:78:TYR:HD2 | 3:Cr:88:ILE:HB | 1.76 | 0.49 |
| 3:Cy:153:ILE:HG21 | 3:Cy:195:MET:HE1 | 1.94 | 0.49 |
| 3:Cy:223:GLU:HG2 | 3:Cy:239:THR:HG22 | 1.94 | 0.49 |
| 4:Dr:249:PHE:HB3 | 4:Dr:254:LEU:HD23 | 1.93 | 0.49 |
| 1:Ad:139:GLY:HA3 | 1:Ae:148:TYR:HD1 | 1.76 | 0.49 |
| 1:Ak:87:ASN:HB3 | 1:Ak:90:SER:HB2 | 1.94 | 0.49 |
| 1:Au:139:GLY:HA3 | 1:Av:148:TYR:HD1 | 1.76 | 0.49 |
| 1:Av:184:LEU:HD12 | 1:Av:188:ASN:HB2 | 1.94 | 0.49 |
| 2:By:122:LEU:HB2 | 2:By:131:ALA:HB3 | 1.94 | 0.49 |
| 4:Dl:219:VAL:HG21 | 4:Dl:254:LEU:HD21 | 1.94 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Aq:36:ASP:HB3 | 1:Aq:39:GLU:HG2 | 1.94 | 0.49 |
| 2:Bb:255:ARG:HH12 | 2:Bd:136:ASN:HB3 | 1.77 | 0.49 |
| 2:Bm:122:LEU:HB2 | 2:Bm:131:ALA:HB3 | 1.93 | 0.49 |
| 2:Bp:185:ASN:HB3 | 2:Bq:97:GLN:HE21 | 1.76 | 0.49 |
| 2:Br:255:ARG:HH12 | 2:Bt:136:ASN:HB3 | 1.76 | 0.49 |
| 2:Bs:21:ILE:HG23 | 2:Bs:197:LEU:HD11 | 1.94 | 0.49 |
| 2:By:153:VAL:HG21 | 2:Bz:148:ASP:HB3 | 1.93 | 0.49 |
| 2:By:224:ARG:HH21 | 3:Cp:368:GLN:HB2 | 1.77 | 0.49 |
| 3:Cz:91:GLU:HG2 | 3:Cz:92:GLU:HG3 | 1.94 | 0.49 |
| 4:Dz:249:PHE:HB3 | 4:Dz:254:LEU:HD23 | 1.94 | 0.49 |
| 2:Bg:153:VAL:HG21 | 2:Bh:148:ASP:HB3 | 1.92 | 0.49 |
| 2:Bg:189:SER:HA | 2:Bg:216:ALA:HB2 | 1.95 | 0.49 |
| 2:Bh:189:SER:HA | 2:Bh:216:ALA:HB2 | 1.95 | 0.49 |
| 1:Ap:184:LEU:HD12 | 1:Ap:188:ASN:HB2 | 1.93 | 0.49 |
| 2:Bd:255:ARG:HH12 | 2:Bf:136:ASN:HB3 | 1.77 | 0.49 |
| 2:Bi:122:LEU:HB2 | 2:Bi:131:ALA:HB3 | 1.94 | 0.49 |
| 3:Cb:85:VAL:HG22 | 3:Cb:108:ILE:HG12 | 1.94 | 0.49 |
| 3:Ce:78:TYR:HD2 | 3:Ce:88:ILE:HB | 1.78 | 0.49 |
| 4:Dn:223:THR:HG22 | 4:Dn:285:VAL:HG22 | 1.94 | 0.49 |
| 1:As:184:LEU:HD12 | 1:As:188:ASN:HB2 | 1.95 | 0.49 |
| 2:Ba:342:MET:HE2 | 2:Bc:138:VAL:HG21 | 1.93 | 0.49 |
| 2:Bc:21:ILE:HG23 | 2:Bc:197:LEU:HD11 | 1.93 | 0.49 |
| 2:Bg:21:ILE:HG23 | 2:Bg:197:LEU:HD11 | 1.94 | 0.49 |
| 2:Bh:272:VAL:HG22 | 2:Bi:260:VAL:HG22 | 1.94 | 0.49 |
| 4:Dp:37:GLN:HG3 | 4:Dp:49:VAL:HG23 | 1.94 | 0.49 |
| 4:Dv:249:PHE:HB3 | 4:Dv:254:LEU:HD23 | 1.94 | 0.49 |
| 1:Am:129:ASN:HB2 | 1:Am:156:ASN:HB3 | 1.95 | 0.49 |
| 1:At:36:ASP:HB3 | 1:At:39:GLU:HG2 | 1.95 | 0.49 |
| 2:Bh:342:MET:HE2 | 2:Bj:138:VAL:HG21 | 1.93 | 0.49 |
| 3:Co:27:GLU:HG3 | 5:Go:134:GLN:HE22 | 1.77 | 0.49 |
| 3:Cu:255:ASP:HB3 | 3:Cu:258:SER:HB3 | 1.94 | 0.49 |
| 1:Aj:139:GLY:HA3 | 1:Ak:148:TYR:HD1 | 1.77 | 0.49 |
| 1:At:64:PRO:HB2 | 1:Au:38:VAL:HG13 | 1.95 | 0.49 |
| 2:Bb:153:VAL:HG21 | 2:Bc:148:ASP:HB3 | 1.94 | 0.49 |
| 2:Bf:255:ARG:HH12 | 2:Bh:136:ASN:HB3 | 1.78 | 0.49 |
| 2:Bj:21:ILE:HG23 | 2:Bj:197:LEU:HD11 | 1.94 | 0.49 |
| 2:Bs:342:MET:HE2 | 2:Bu:138:VAL:HG21 | 1.94 | 0.49 |
| 2:Bx:122:LEU:HB2 | 2:Bx:131:ALA:HB3 | 1.94 | 0.49 |
| 2:Bx:272:VAL:HG22 | 2:By:260:VAL:HG22 | 1.95 | 0.49 |
| 3:Cm:80:PHE:HA | 5:Fm:136:VAL:HG21 | 1.93 | 0.49 |
| 4:Dh:249:PHE:HB3 | 4:Dh:254:LEU:HD23 | 1.95 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Ak:129:ASN:HB2 | 1:Ak:156:ASN:HB3 | 1.95 | 0.49 |
| 1:Ap:240:THR:HG22 | 1:Ap:244:MET:HE2 | 1.93 | 0.49 |
| 1:Aw:112:ASN:HD21 | 1:Aw:224:ALA:HB1 | 1.78 | 0.49 |
| 1:Ay:139:GLY:HA3 | 1:Az:148:TYR:HD1 | 1.78 | 0.49 |
| 2:Bg:342:MET:HE2 | 2:Bi:138:VAL:HG21 | 1.93 | 0.49 |
| 2:Bl:342:MET:HE2 | 2:Bn:138:VAL:HG21 | 1.94 | 0.49 |
| 2:Bt:122:LEU:HB2 | 2:Bt:131:ALA:HB3 | 1.94 | 0.49 |
| 3:Ct:223:GLU:HG2 | 3:Ct:239:THR:HG22 | 1.95 | 0.49 |
| 3:Cw:167:VAL:HG21 | 3:Cw:191:ALA:HB2 | 1.95 | 0.49 |
| 1:Ae:125:LEU:HB2 | 1:Ae:160:PHE:HB3 | 1.95 | 0.49 |
| 2:Bc:272:VAL:HG22 | 2:Bd:260:VAL:HG22 | 1.95 | 0.49 |
| 2:Bk:153:VAL:HG21 | 2:Bl:148:ASP:HB3 | 1.93 | 0.49 |
| 2:Bz:21:ILE:HG23 | 2:Bz:197:LEU:HD11 | 1.94 | 0.49 |
| 3:Cq:167:VAL:HG21 | 3:Cq:191:ALA:HB2 | 1.94 | 0.49 |
| 4:De:141:ASP:HB2 | 4:De:149:ILE:HG12 | 1.94 | 0.49 |
| 1:Ak:36:ASP:HB3 | 1:Ak:39:GLU:HG2 | 1.95 | 0.48 |
| 1:Au:232:ARG:HH22 | 1:Av:194:GLU:HG3 | 1.77 | 0.48 |
| 1:Av:113:GLU:HB2 | 1:Av:172:MET:HB3 | 1.95 | 0.48 |
| 2:Bb:342:MET:HE2 | 2:Bd:138:VAL:HG21 | 1.94 | 0.48 |
| 2:Bp:342:MET:HE2 | 2:Br:138:VAL:HG21 | 1.95 | 0.48 |
| 3:Cg:92:GLU:HB2 | 3:Cg:103:ARG:HB3 | 1.94 | 0.48 |
| 4:Dj:219:VAL:HG21 | 4:Dj:254:LEU:HD21 | 1.95 | 0.48 |
| 2:Bn:122:LEU:HB2 | 2:Bn:131:ALA:HB3 | 1.94 | 0.48 |
| 2:Bn:255:ARG:HH12 | 2:Bp:136:ASN:HB3 | 1.78 | 0.48 |
| 2:Br:342:MET:HE2 | 2:Bt:138:VAL:HG21 | 1.95 | 0.48 |
| 3:Ca:80:PHE:HA | 5:Fa:136:VAL:HG21 | 1.94 | 0.48 |
| 3:Cm:92:GLU:HB2 | 3:Cm:103:ARG:HB3 | 1.94 | 0.48 |
| 3:Cr:223:GLU:HG2 | 3:Cr:239:THR:HG22 | 1.94 | 0.48 |
| 3:Ct:80:PHE:HA | 5:Ft:136:VAL:HG21 | 1.95 | 0.48 |
| 4:Dl:249:PHE:HB3 | 4:Dl:254:LEU:HD23 | 1.94 | 0.48 |
| 1:Aq:64:PRO:HB2 | 1:Ar:38:VAL:HG13 | 1.96 | 0.48 |
| 2:Bm:255:ARG:HH12 | 2:Bo:136:ASN:HB3 | 1.78 | 0.48 |
| 2:Bs:255:ARG:HH12 | 2:Bu:136:ASN:HB3 | 1.77 | 0.48 |
| 2:Bu:224:ARG:HH21 | 3:Cl:368:GLN:HB2 | 1.78 | 0.48 |
| 1:Ap:87:ASN:HB3 | 1:Ap:90:SER:HB2 | 1.95 | 0.48 |
| 1:Av:125:LEU:HB2 | 1:Av:160:PHE:HB3 | 1.94 | 0.48 |
| 2:Bf:153:VAL:HG21 | 2:Bg:148:ASP:HB3 | 1.94 | 0.48 |
| 2:Bp:255:ARG:HH12 | 2:Br:136:ASN:HB3 | 1.78 | 0.48 |
| 2:Bq:122:LEU:HB2 | 2:Bq:131:ALA:HB3 | 1.94 | 0.48 |
| 2:Br:21:ILE:HG23 | 2:Br:197:LEU:HD11 | 1.95 | 0.48 |
| 2:Bt:272:VAL:HG22 | 2:Bu:260:VAL:HG22 | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:Ck:92:GLU:HB2 | 3:Ck:103:ARG:HB3 | 1.95 | 0.48 |
| 1:Aa:36:ASP:HB3 | 1:Aa:39:GLU:HG2 | 1.94 | 0.48 |
| 1:Ae:139:GLY:HA3 | 1:Af:148:TYR:HD1 | 1.79 | 0.48 |
| 1:Au:184:LEU:HD12 | 1:Au:188:ASN:HB2 | 1.95 | 0.48 |
| 2:Bb:122:LEU:HB2 | 2:Bb:131:ALA:HB3 | 1.96 | 0.48 |
| 2:Bg:185:ASN:HB3 | 2:Bh:97:GLN:HE21 | 1.79 | 0.48 |
| 2:Bi:21:ILE:HG23 | 2:Bi:197:LEU:HD11 | 1.95 | 0.48 |
| 2:Bo:255:ARG:HH12 | 2:Bq:136:ASN:HB3 | 1.79 | 0.48 |
| 2:Bw:255:ARG:HH12 | 2:By:136:ASN:HB3 | 1.78 | 0.48 |
| 3:Cl:92:GLU:HB2 | 3:Cl:103:ARG:HB3 | 1.93 | 0.48 |
| 3:Cn:255:ASP:HB3 | 3:Cn:258:SER:HB3 | 1.95 | 0.48 |
| 3:Cv:255:ASP:HB3 | 3:Cv:258:SER:HB3 | 1.94 | 0.48 |
| 3:Cy:255:ASP:HB3 | 3:Cy:258:SER:HB3 | 1.95 | 0.48 |
| 1:Ai:139:GLY:HA3 | 1:Aj:148:TYR:HD1 | 1.78 | 0.48 |
| 1:At:112:ASN:HD21 | 1:At:224:ALA:HB1 | 1.79 | 0.48 |
| 1:Az:240:THR:HG22 | 1:Az:244:MET:HE2 | 1.95 | 0.48 |
| 2:Bm:21:ILE:HG23 | 2:Bm:197:LEU:HD11 | 1.94 | 0.48 |
| 2:Bv:224:ARG:HH21 | 3:Cm:368:GLN:HB2 | 1.77 | 0.48 |
| 4:Dg:141:ASP:HB2 | 4:Dg:149:ILE:HG12 | 1.94 | 0.48 |
| 1:Ah:125:LEU:HB2 | 1:Ah:160:PHE:HB3 | 1.96 | 0.48 |
| 1:Ap:139:GLY:HA3 | 1:Aq:148:TYR:HD1 | 1.79 | 0.48 |
| 3:Cw:239:THR:HG21 | 3:Cx:155:ARG:HD3 | 1.95 | 0.48 |
| 1:Ax:125:LEU:HB2 | 1:Ax:160:PHE:HB3 | 1.96 | 0.48 |
| 2:Bi:153:VAL:HG21 | 2:Bj:148:ASP:HB3 | 1.94 | 0.48 |
| 2:Bl:272:VAL:HG22 | 2:Bm:260:VAL:HG22 | 1.96 | 0.48 |
| 2:Br:153:VAL:HG21 | 2:Bs:148:ASP:HB3 | 1.96 | 0.48 |
| 2:Bx:255:ARG:HH12 | 2:Bz:136:ASN:HB3 | 1.79 | 0.48 |
| 3:Cu:78:TYR:HD2 | 3:Cu:88:ILE:HB | 1.77 | 0.48 |
| 4:Dz:37:GLN:HG3 | 4:Dz:49:VAL:HG23 | 1.96 | 0.48 |
| 1:Ae:119:LYS:HB3 | 1:Ag:199:LEU:HD12 | 1.96 | 0.48 |
| 1:Ae:240:THR:HG22 | 1:Ae:244:MET:HE2 | 1.95 | 0.48 |
| 1:Af:36:ASP:HB3 | 1:Af:39:GLU:HG2 | 1.95 | 0.48 |
| 1:At:139:GLY:HA3 | 1:Au:148:TYR:HD1 | 1.79 | 0.48 |
| 2:Bn:272:VAL:HG22 | 2:Bo:260:VAL:HG22 | 1.96 | 0.48 |
| 3:Cn:249:PRO:HG2 | 3:Cn:252:SER:HB3 | 1.95 | 0.48 |
| 1:Ae:129:ASN:HB2 | 1:Ae:156:ASN:HB3 | 1.96 | 0.48 |
| 1:Ah:139:GLY:HA3 | 1:Ai:148:TYR:HD1 | 1.79 | 0.48 |
| 2:Bp:272:VAL:HG22 | 2:Bq:260:VAL:HG22 | 1.96 | 0.48 |
| 3:Cq:92:GLU:HB2 | 3:Cq:103:ARG:HB3 | 1.95 | 0.48 |
| 3:Cx:92:GLU:HB2 | 3:Cx:103:ARG:HB2 | 1.95 | 0.48 |
| 1:Av:139:GLY:HA3 | 1:Aw:148:TYR:HD1 | 1.78 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Br:189:SER:HA | 2:Br:216:ALA:HB2 | 1.96 | 0.47 |
| 3:Ca:255:ASP:HB3 | 3:Ca:258:SER:HB3 | 1.96 | 0.47 |
| 3:Cq:262:TRP:HA | 3:Cq:267:GLY:HA3 | 1.95 | 0.47 |
| 3:Cv:28:VAL:HG13 | 3:Cv:49:ALA:HB1 | 1.96 | 0.47 |
| 1:Ad:129:ASN:HB2 | 1:Ad:156:ASN:HB3 | 1.96 | 0.47 |
| 1:An:129:ASN:HB2 | 1:An:156:ASN:HB3 | 1.97 | 0.47 |
| 1:Ax:154:LEU:HD21 | 1:Az:258:LEU:HD11 | 1.96 | 0.47 |
| 2:Ba:255:ARG:HH12 | 2:Bc:136:ASN:HB3 | 1.79 | 0.47 |
| 2:Bi:189:SER:HA | 2:Bi:216:ALA:HB2 | 1.96 | 0.47 |
| 2:Bq:272:VAL:HG22 | 2:Br:260:VAL:HG22 | 1.95 | 0.47 |
| 3:Cb:88:ILE:HG12 | 3:Cb:106:ILE:HG23 | 1.96 | 0.47 |
| 3:Ci:92:GLU:HB2 | 3:Ci:103:ARG:HB3 | 1.96 | 0.47 |
| 3:Cl:56:PHE:HD1 | 5:Gl:139:LYS:HE2 | 1.79 | 0.47 |
| 4:Dj:169:ILE:HG13 | 4:Dj:172:LEU:HD12 | 1.95 | 0.47 |
| 1:Aa:64:PRO:HB2 | 1:Ab:38:VAL:HG13 | 1.96 | 0.47 |
| 1:Al:125:LEU:HB2 | 1:Al:160:PHE:HB3 | 1.96 | 0.47 |
| 1:Al:129:ASN:HB2 | 1:Al:156:ASN:HB3 | 1.96 | 0.47 |
| 1:Ar:184:LEU:HD12 | 1:Ar:188:ASN:HB2 | 1.96 | 0.47 |
| 1:Aw:64:PRO:HB2 | 1:Ax:38:VAL:HG13 | 1.96 | 0.47 |
| 2:Bm:189:SER:HA | 2:Bm:216:ALA:HB2 | 1.97 | 0.47 |
| 2:Bo:272:VAL:HG22 | 2:Bp:260:VAL:HG22 | 1.95 | 0.47 |
| 2:Bu:342:MET:HE2 | 2:Bw:138:VAL:HG21 | 1.95 | 0.47 |
| 1:Ak:64:PRO:HB2 | 1:Al:38:VAL:HG13 | 1.95 | 0.47 |
| 1:Ar:36:ASP:HB3 | 1:Ar:39:GLU:HG2 | 1.96 | 0.47 |
| 1:At:129:ASN:HB2 | 1:At:156:ASN:HB3 | 1.97 | 0.47 |
| 2:Bh:268:LYS:HB2 | 2:Bh:353:ALA:HB1 | 1.96 | 0.47 |
| 2:Bi:272:VAL:HG22 | 2:Bj:260:VAL:HG22 | 1.96 | 0.47 |
| 2:Bv:272:VAL:HG22 | 2:Bw:260:VAL:HG22 | 1.97 | 0.47 |
| 3:Cd:255:ASP:HB3 | 3:Cd:258:SER:HB3 | 1.96 | 0.47 |
| 4:Dn:249:PHE:HB3 | 4:Dn:254:LEU:HD23 | 1.95 | 0.47 |
| 1:Ai:129:ASN:HB2 | 1:Ai:156:ASN:HB3 | 1.96 | 0.47 |
| 2:Bc:185:ASN:HB3 | 2:Bd:97:GLN:HE21 | 1.79 | 0.47 |
| 2:Be:272:VAL:HG22 | 2:Bf:260:VAL:HG22 | 1.97 | 0.47 |
| 2:Bu:272:VAL:HG22 | 2:Bv:260:VAL:HG22 | 1.96 | 0.47 |
| 3:Cb:255:ASP:HB3 | 3:Cb:258:SER:HB3 | 1.96 | 0.47 |
| 3:Co:255:ASP:HB3 | 3:Co:258:SER:HB3 | 1.95 | 0.47 |
| 3:Cq:209:LYS:HD2 | 3:Cq:212:GLN:HB2 | 1.97 | 0.47 |
| 2:Bg:272:VAL:HG22 | 2:Bh:260:VAL:HG22 | 1.97 | 0.47 |
| 2:Bm:272:VAL:HG22 | 2:Bn:260:VAL:HG22 | 1.95 | 0.47 |
| 1:Ao:129:ASN:HB2 | 1:Ao:156:ASN:HB3 | 1.97 | 0.47 |
| 2:Bb:136:ASN:HB3 | 2:Bz:255:ARG:HH12 | 1.79 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Bf:272:VAL:HG22 | 2:Bg:260:VAL:HG22 | 1.97 | 0.47 |
| 2:Bj:272:VAL:HG22 | 2:Bk:260:VAL:HG22 | 1.97 | 0.47 |
| 2:Bm:224:ARG:HH21 | 3:Cd:368:GLN:HB2 | 1.79 | 0.47 |
| 2:Bo:342:MET:HE2 | 2:Bq:138:VAL:HG21 | 1.95 | 0.47 |
| 2:Bu:255:ARG:HH12 | 2:Bw:136:ASN:HB3 | 1.80 | 0.47 |
| 3:Cb:88:ILE:HG23 | 3:Cb:106:ILE:HG12 | 1.96 | 0.47 |
| 3:Cc:249:PRO:HG2 | 3:Cc:252:SER:HB3 | 1.97 | 0.47 |
| 3:Ch:92:GLU:HB2 | 3:Ch:103:ARG:HB3 | 1.95 | 0.47 |
| 3:Cy:92:GLU:HB2 | 3:Cy:103:ARG:HB3 | 1.96 | 0.47 |
| 4:Dj:217:ASP:HA | 4:Dj:258:ARG:HD3 | 1.97 | 0.47 |
| 2:Bf:268:LYS:HB2 | 2:Bf:353:ALA:HB1 | 1.96 | 0.47 |
| 2:Bj:342:MET:HE2 | 2:Bl:138:VAL:HG21 | 1.96 | 0.47 |
| 2:Bl:21:ILE:HG23 | 2:Bl:197:LEU:HD11 | 1.97 | 0.47 |
| 2:Bn:189:SER:HA | 2:Bn:216:ALA:HB2 | 1.97 | 0.47 |
| 2:Bn:342:MET:HE2 | 2:Bp:138:VAL:HG21 | 1.96 | 0.47 |
| 3:Cu:249:PRO:HG2 | 3:Cu:252:SER:HB3 | 1.95 | 0.47 |
| 4:Dp:90:SER:HB2 | 4:Dp:104:ILE:HD11 | 1.97 | 0.47 |
| 1:As:87:ASN:HB3 | 1:As:90:SER:HB2 | 1.96 | 0.47 |
| 2:Bc:255:ARG:HH12 | 2:Be:136:ASN:HB3 | 1.79 | 0.47 |
| 2:Bl:189:SER:HA | 2:Bl:216:ALA:HB2 | 1.97 | 0.47 |
| 2:Bo:189:SER:HA | 2:Bo:216:ALA:HB2 | 1.96 | 0.47 |
| 2:Bu:122:LEU:HB2 | 2:Bu:131:ALA:HB3 | 1.96 | 0.47 |
| 2:Bx:185:ASN:HB3 | 2:By:97:GLN:HE21 | 1.80 | 0.47 |
| 2:Bx:189:SER:HA | 2:Bx:216:ALA:HB2 | 1.97 | 0.47 |
| 3:Cw:92:GLU:HB2 | 3:Cw:103:ARG:HB3 | 1.96 | 0.47 |
| 1:Ab:87:ASN:HB3 | 1:Ab:90:SER:HB2 | 1.95 | 0.47 |
| 1:Ab:129:ASN:HB2 | 1:Ab:156:ASN:HB3 | 1.97 | 0.47 |
| 1:Ah:154:LEU:HD21 | 1:Aj:258:LEU:HD11 | 1.96 | 0.47 |
| 1:At:87:ASN:HB3 | 1:At:90:SER:HB2 | 1.97 | 0.47 |
| 2:Bj:189:SER:HA | 2:Bj:216:ALA:HB2 | 1.96 | 0.47 |
| 2:By:189:SER:HA | 2:By:216:ALA:HB2 | 1.98 | 0.47 |
| 3:Cc:209:LYS:HD2 | 3:Cc:212:GLN:HB2 | 1.97 | 0.47 |
| 3:Cr:262:TRP:HA | 3:Cr:267:GLY:HA3 | 1.95 | 0.47 |
| 3:Cy:85:VAL:HG22 | 3:Cy:108:ILE:HG12 | 1.97 | 0.47 |
| 1:Ab:125:LEU:HB2 | 1:Ab:160:PHE:HB3 | 1.96 | 0.46 |
| 1:Ag:87:ASN:HB3 | 1:Ag:90:SER:HB2 | 1.96 | 0.46 |
| 1:Aj:154:LEU:HD21 | 1:Al:258:LEU:HD11 | 1.96 | 0.46 |
| 1:Al:87:ASN:HB3 | 1:Al:90:SER:HB2 | 1.97 | 0.46 |
| 2:Bm:342:MET:HE2 | 2:Bo:138:VAL:HG21 | 1.96 | 0.46 |
| 2:Br:272:VAL:HG22 | 2:Bs:260:VAL:HG22 | 1.97 | 0.46 |
| 2:Bt:255:ARG:HH12 | 2:Bv:136:ASN:HB3 | 1.80 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:Cg:167:VAL:HG21 | 3:Cg:191:ALA:HB2 | 1.98 | 0.46 |
| 4:Dn:37:GLN:HG3 | 4:Dn:49:VAL:HG23 | 1.97 | 0.46 |
| 1:Ac:36:ASP:HB3 | 1:Ac:39:GLU:HG2 | 1.96 | 0.46 |
| 1:Ac:129:ASN:HB2 | 1:Ac:156:ASN:HB3 | 1.98 | 0.46 |
| 1:Ad:36:ASP:HB3 | 1:Ad:39:GLU:HG2 | 1.96 | 0.46 |
| 1:Ai:154:LEU:HD21 | 1:Ak:258:LEU:HD11 | 1.95 | 0.46 |
| 1:Aw:36:ASP:HB3 | 1:Aw:39:GLU:HG2 | 1.96 | 0.46 |
| 2:Bb:83:VAL:HG12 | 2:Bb:105:SER:HA | 1.97 | 0.46 |
| 2:Bd:268:LYS:HB2 | 2:Bd:353:ALA:HB1 | 1.97 | 0.46 |
| 2:Bh:91:ALA:HB1 | 2:Bh:174:ASN:HD21 | 1.80 | 0.46 |
| 1:Ab:36:ASP:HB3 | 1:Ab:39:GLU:HG2 | 1.96 | 0.46 |
| 1:Ah:36:ASP:HB3 | 1:Ah:39:GLU:HG2 | 1.96 | 0.46 |
| 1:Av:87:ASN:HB3 | 1:Av:90:SER:HB2 | 1.97 | 0.46 |
| 2:Ba:185:ASN:HB3 | 2:Bb:97:GLN:HE21 | 1.80 | 0.46 |
| 2:Bs:272:VAL:HG22 | 2:Bt:260:VAL:HG22 | 1.97 | 0.46 |
| 2:Bt:268:LYS:HB2 | 2:Bt:353:ALA:HB1 | 1.96 | 0.46 |
| 2:Bv:205:LEU:HD11 | 2:Bv:236:ILE:HD11 | 1.97 | 0.46 |
| 2:Bx:342:MET:HE2 | 2:Bz:138:VAL:HG21 | 1.97 | 0.46 |
| 3:Cb:93:ARG:HG2 | 3:Cb:102:VAL:HG23 | 1.96 | 0.46 |
| 1:Ae:87:ASN:HB3 | 1:Ae:90:SER:HB2 | 1.95 | 0.46 |
| 1:Af:154:LEU:HD21 | 1:Ah:258:LEU:HD11 | 1.98 | 0.46 |
| 2:Bd:272:VAL:HG22 | 2:Be:260:VAL:HG22 | 1.96 | 0.46 |
| 2:Bp:189:SER:HA | 2:Bp:216:ALA:HB2 | 1.96 | 0.46 |
| 2:Bz:189:SER:HA | 2:Bz:216:ALA:HB2 | 1.97 | 0.46 |
| 3:Cd:249:PRO:HG2 | 3:Cd:252:SER:HB3 | 1.95 | 0.46 |
| 3:Ci:209:LYS:HD3 | 3:Ci:212:GLN:HE21 | 1.81 | 0.46 |
| 3:Cx:226:VAL:HB | 3:Cx:236:MET:HB3 | 1.98 | 0.46 |
| 1:Aa:125:LEU:HB2 | 1:Aa:160:PHE:HB3 | 1.98 | 0.46 |
| 2:Bf:315:MET:HG2 | 2:Bg:328:VAL:HG22 | 1.98 | 0.46 |
| 2:Bo:21:ILE:HG23 | 2:Bo:197:LEU:HD11 | 1.97 | 0.46 |
| 2:Bu:189:SER:HA | 2:Bu:216:ALA:HB2 | 1.96 | 0.46 |
| 2:Bw:272:VAL:HG22 | 2:Bx:260:VAL:HG22 | 1.96 | 0.46 |
| 3:Cd:269:MET:HE3 | 3:Cd:269:MET:HB3 | 1.79 | 0.46 |
| 3:Ce:249:PRO:HG2 | 3:Ce:252:SER:HB3 | 1.97 | 0.46 |
| 1:Aa:148:TYR:HD1 | 1:Az:139:GLY:HA3 | 1.80 | 0.46 |
| 1:Af:119:LYS:HD2 | 1:Ah:199:LEU:HB2 | 1.98 | 0.46 |
| 1:Ah:87:ASN:HB3 | 1:Ah:90:SER:HB2 | 1.97 | 0.46 |
| 1:Aj:87:ASN:HB3 | 1:Aj:90:SER:HB2 | 1.97 | 0.46 |
| 1:Aj:129:ASN:HB2 | 1:Aj:156:ASN:HB3 | 1.97 | 0.46 |
| 1:Ao:36:ASP:HB3 | 1:Ao:39:GLU:HG2 | 1.97 | 0.46 |
| 1:As:125:LEU:HB2 | 1:As:160:PHE:HB3 | 1.98 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:Cc:167:VAL:HG21 | 3:Cc:191:ALA:HB2 | 1.98 | 0.46 |
| 3:Cq:249:PRO:HG2 | 3:Cq:252:SER:HB3 | 1.97 | 0.46 |
| 1:Ak:139:GLY:HA3 | 1:Al:148:TYR:HD1 | 1.81 | 0.46 |
| 1:Aw:139:GLY:HA3 | 1:Ax:148:TYR:HD1 | 1.80 | 0.46 |
| 1:Ay:125:LEU:HB2 | 1:Ay:160:PHE:HB3 | 1.98 | 0.46 |
| 2:Bc:268:LYS:HB2 | 2:Bc:353:ALA:HB1 | 1.98 | 0.46 |
| 2:Bv:189:SER:HA | 2:Bv:216:ALA:HB2 | 1.97 | 0.46 |
| 3:Ca:28:VAL:HG13 | 3:Ca:49:ALA:HB1 | 1.98 | 0.46 |
| 4:Dj:90:SER:HB2 | 4:Dj:104:ILE:HD11 | 1.98 | 0.46 |
| 1:Ap:129:ASN:HB2 | 1:Ap:156:ASN:HB3 | 1.97 | 0.46 |
| 1:Aq:87:ASN:HB3 | 1:Aq:90:SER:HB2 | 1.97 | 0.46 |
| 3:Cd:167:VAL:HG21 | 3:Cd:191:ALA:HB2 | 1.98 | 0.46 |
| 3:Cg:249:PRO:HG2 | 3:Cg:252:SER:HB3 | 1.97 | 0.46 |
| 3:Cv:201:ASP:HB3 | 3:Cv:221:ALA:HB3 | 1.98 | 0.46 |
| 3:Cw:209:LYS:HD2 | 3:Cw:212:GLN:HB2 | 1.98 | 0.46 |
| 4:Dj:249:PHE:HB3 | 4:Dj:254:LEU:HD23 | 1.97 | 0.46 |
| 1:Aa:129:ASN:HB2 | 1:Aa:156:ASN:HB3 | 1.98 | 0.46 |
| 1:Ag:154:LEU:HD21 | 1:Ai:258:LEU:HD11 | 1.98 | 0.46 |
| 1:As:139:GLY:HA3 | 1:At:148:TYR:HD1 | 1.81 | 0.46 |
| 1:Au:87:ASN:HB3 | 1:Au:90:SER:HB2 | 1.97 | 0.46 |
| 1:Ay:87:ASN:HB3 | 1:Ay:90:SER:HB2 | 1.98 | 0.46 |
| 2:Bd:205:LEU:HD11 | 2:Bd:236:ILE:HD11 | 1.97 | 0.46 |
| 2:By:272:VAL:HG22 | 2:Bz:260:VAL:HG22 | 1.97 | 0.46 |
| 3:Cc:255:ASP:HB3 | 3:Cc:258:SER:HB3 | 1.97 | 0.46 |
| 3:Ci:255:ASP:HB3 | 3:Ci:258:SER:HB3 | 1.96 | 0.46 |
| 3:Cl:249:PRO:HG2 | 3:Cl:252:SER:HB3 | 1.96 | 0.46 |
| 3:Cv:269:MET:HE3 | 3:Cv:269:MET:HB3 | 1.88 | 0.46 |
| 3:Cw:249:PRO:HG2 | 3:Cw:252:SER:HB3 | 1.97 | 0.46 |
| 1:Aa:87:ASN:HB3 | 1:Aa:90:SER:HB2 | 1.97 | 0.46 |
| 1:Ai:87:ASN:HB3 | 1:Ai:90:SER:HB2 | 1.97 | 0.46 |
| 1:Ax:87:ASN:HB3 | 1:Ax:90:SER:HB2 | 1.97 | 0.46 |
| 2:Ba:272:VAL:HG22 | 2:Bb:260:VAL:HG22 | 1.98 | 0.46 |
| 2:Bb:272:VAL:HG22 | 2:Bc:260:VAL:HG22 | 1.97 | 0.46 |
| 2:Bv:268:LYS:HB2 | 2:Bv:353:ALA:HB1 | 1.98 | 0.46 |
| 3:Co:241:ARG:HB3 | 5:Gp:143:THR:HG21 | 1.98 | 0.46 |
| 3:Cp:88:ILE:HG23 | 3:Cp:106:ILE:HG12 | 1.97 | 0.46 |
| 3:Cy:249:PRO:HG2 | 3:Cy:252:SER:HB3 | 1.98 | 0.46 |
| 1:An:139:GLY:HA3 | 1:Ao:148:TYR:HD1 | 1.81 | 0.45 |
| 1:As:129:ASN:HB2 | 1:As:156:ASN:HB3 | 1.98 | 0.45 |
| 1:Ax:119:LYS:HD2 | 1:Az:199:LEU:HB2 | 1.97 | 0.45 |
| 3:Cx:249:PRO:HG2 | 3:Cx:252:SER:HB3 | 1.97 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Dm:126:LEU:HD13 | 4:Dm:162:TYR:HE1 | 1.81 | 0.45 |
| 1:Af:139:GLY:HA3 | 1:Ag:148:TYR:HD1 | 1.81 | 0.45 |
| 1:Al:154:LEU:HD21 | 1:An:258:LEU:HD11 | 1.97 | 0.45 |
| 1:Ar:87:ASN:HB3 | 1:Ar:90:SER:HB2 | 1.97 | 0.45 |
| 2:Bk:268:LYS:HB2 | 2:Bk:353:ALA:HB1 | 1.98 | 0.45 |
| 3:Cb:249:PRO:HG2 | 3:Cb:252:SER:HB3 | 1.98 | 0.45 |
| 4:Dp:169:ILE:HG13 | 4:Dp:172:LEU:HD12 | 1.97 | 0.45 |
| 1:An:87:ASN:HB3 | 1:An:90:SER:HB2 | 1.98 | 0.45 |
| 1:Ax:64:PRO:HB2 | 1:Ay:38:VAL:HG13 | 1.98 | 0.45 |
| 1:Az:87:ASN:HB3 | 1:Az:90:SER:HB2 | 1.98 | 0.45 |
| 2:Be:350:GLN:HG3 | 2:Bf:361:ILE:HG21 | 1.98 | 0.45 |
| 2:Bt:189:SER:HA | 2:Bt:216:ALA:HB2 | 1.98 | 0.45 |
| 3:Cf:28:VAL:HG13 | 3:Cf:49:ALA:HB1 | 1.98 | 0.45 |
| 3:Cx:167:VAL:HG21 | 3:Cx:191:ALA:HB2 | 1.97 | 0.45 |
| 4:Dk:126:LEU:HD13 | 4:Dk:162:TYR:HE1 | 1.82 | 0.45 |
| 4:Do:126:LEU:HD13 | 4:Do:162:TYR:HE1 | 1.82 | 0.45 |
| 4:Dz:169:ILE:HG13 | 4:Dz:172:LEU:HD12 | 1.99 | 0.45 |
| 5:Gc:134:GLN:HE21 | 5:Gc:136:VAL:HG22 | 1.81 | 0.45 |
| 1:Af:129:ASN:HB2 | 1:Af:156:ASN:HB3 | 1.98 | 0.45 |
| 1:Av:129:ASN:HB2 | 1:Av:156:ASN:HB3 | 1.98 | 0.45 |
| 2:Be:268:LYS:HB2 | 2:Be:353:ALA:HB1 | 1.97 | 0.45 |
| 2:Bl:103:VAL:HB | 2:Bl:137:LEU:HD21 | 1.98 | 0.45 |
| 2:Bp:83:VAL:HG12 | 2:Bp:105:SER:HA | 1.99 | 0.45 |
| 2:Bq:315:MET:HG2 | 2:Br:328:VAL:HG22 | 1.98 | 0.45 |
| 2:Bw:83:VAL:HG12 | 2:Bw:105:SER:HA | 1.99 | 0.45 |
| 3:Cr:269:MET:HE3 | 3:Cr:269:MET:HB3 | 1.88 | 0.45 |
| 3:Cx:326:PHE:HD1 | 3:Cx:328:ASP:H | 1.64 | 0.45 |
| 1:Au:129:ASN:HB2 | 1:Au:156:ASN:HB3 | 1.97 | 0.45 |
| 1:Aw:184:LEU:HD12 | 1:Aw:188:ASN:HB2 | 1.99 | 0.45 |
| 2:Ba:260:VAL:HG22 | 2:Bz:272:VAL:HG22 | 1.98 | 0.45 |
| 2:Bb:189:SER:HA | 2:Bb:216:ALA:HB2 | 1.98 | 0.45 |
| 2:Bj:91:ALA:HB1 | 2:Bj:174:ASN:HD21 | 1.82 | 0.45 |
| 2:Bk:272:VAL:HG22 | 2:Bl:260:VAL:HG22 | 1.98 | 0.45 |
| 2:Bl:185:ASN:HB3 | 2:Bm:97:GLN:HE21 | 1.81 | 0.45 |
| 2:Bq:268:LYS:HB2 | 2:Bq:353:ALA:HB1 | 1.99 | 0.45 |
| 3:Ck:239:THR:HG21 | 3:Cl:155:ARG:HD3 | 1.98 | 0.45 |
| 3:Ck:269:MET:HE3 | 3:Ck:269:MET:HB3 | 1.87 | 0.45 |
| 3:Cp:167:VAL:HG21 | 3:Cp:191:ALA:HB2 | 1.98 | 0.45 |
| 3:Cs:269:MET:HE3 | 3:Cs:269:MET:HB3 | 1.89 | 0.45 |
| 1:Ac:139:GLY:HA3 | 1:Ad:148:TYR:HD1 | 1.82 | 0.45 |
| 1:Ax:184:LEU:HD12 | 1:Ax:188:ASN:HB2 | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Ba:103:VAL:HB | 2:Ba:137:LEU:HD21 | 1.98 | 0.45 |
| 2:Bb:350:GLN:HG3 | 2:Bc:361:ILE:HG21 | 1.97 | 0.45 |
| 2:Bd:189:SER:HA | 2:Bd:216:ALA:HB2 | 1.99 | 0.45 |
| 3:Cb:292:PRO:HB3 | 3:Cb:306:LEU:HD22 | 1.97 | 0.45 |
| 3:Ch:255:ASP:HB3 | 3:Ch:258:SER:HB3 | 1.98 | 0.45 |
| 3:Cx:201:ASP:HB3 | 3:Cx:221:ALA:HB3 | 1.99 | 0.45 |
| 4:Dk:175:TYR:HE1 | 4:Dk:209:TYR:HB2 | 1.80 | 0.45 |
| 4:Dq:126:LEU:HD13 | 4:Dq:162:TYR:HE1 | 1.81 | 0.45 |
| 4:Dx:37:GLN:HG3 | 4:Dx:49:VAL:HG23 | 1.98 | 0.45 |
| 2:Bb:268:LYS:HB2 | 2:Bb:353:ALA:HB1 | 1.99 | 0.45 |
| 2:Bf:189:SER:HA | 2:Bf:216:ALA:HB2 | 1.99 | 0.45 |
| 2:Bf:350:GLN:HG3 | 2:Bg:361:ILE:HG21 | 1.99 | 0.45 |
| 2:Bg:103:VAL:HB | 2:Bg:137:LEU:HD21 | 1.99 | 0.45 |
| 2:Bi:342:MET:HE2 | 2:Bk:138:VAL:HG21 | 1.98 | 0.45 |
| 2:Bw:189:SER:HA | 2:Bw:216:ALA:HB2 | 1.99 | 0.45 |
| 3:Ca:164:PHE:HZ | 3:Ca:285:ILE:HB | 1.81 | 0.45 |
| 3:Cf:249:PRO:HG2 | 3:Cf:252:SER:HB3 | 1.97 | 0.45 |
| 3:Cm:255:ASP:HB3 | 3:Cm:258:SER:HB3 | 1.99 | 0.45 |
| 3:Ct:28:VAL:HG13 | 3:Ct:49:ALA:HB1 | 1.99 | 0.45 |
| 3:Cw:226:VAL:HG21 | 3:Cw:281:LEU:HD21 | 1.99 | 0.45 |
| 4:Dm:112:GLN:HE21 | 4:Dm:112:GLN:HB3 | 1.59 | 0.45 |
| 4:Dy:112:GLN:HE21 | 4:Dy:112:GLN:HB3 | 1.61 | 0.45 |
| 1:Ag:184:LEU:HD12 | 1:Ag:188:ASN:HB2 | 1.98 | 0.45 |
| 1:Ah:205:TYR:CZ | 1:Ah:236:SER:HB3 | 2.52 | 0.45 |
| 1:Ap:36:ASP:HB3 | 1:Ap:39:GLU:HG2 | 1.98 | 0.45 |
| 1:Aw:134:ASP:HB2 | 1:Ax:155:LYS:HB2 | 1.99 | 0.45 |
| 2:Bf:182:ILE:HD12 | 2:Bf:233:LEU:HD23 | 1.99 | 0.45 |
| 2:Bs:189:SER:HA | 2:Bs:216:ALA:HB2 | 1.98 | 0.45 |
| 2:Bx:91:ALA:HB1 | 2:Bx:174:ASN:HD21 | 1.80 | 0.45 |
| 2:Bz:268:LYS:HB2 | 2:Bz:353:ALA:HB1 | 1.98 | 0.45 |
| 3:Ce:167:VAL:HG21 | 3:Ce:191:ALA:HB2 | 1.98 | 0.45 |
| 3:Cx:361:PRO:HB2 | 4:Dq:148:ARG:HD2 | 1.98 | 0.45 |
| 4:Dd:37:GLN:HG3 | 4:Dd:49:VAL:HG23 | 1.99 | 0.45 |
| 4:Dg:175:TYR:HE1 | 4:Dg:209:TYR:HB2 | 1.82 | 0.45 |
| 4:Dr:90:SER:HB2 | 4:Dr:104:ILE:HD11 | 1.98 | 0.45 |
| 1:Ac:64:PRO:HB2 | 1:Ad:38:VAL:HG13 | 1.99 | 0.45 |
| 1:Ae:36:ASP:HB3 | 1:Ae:39:GLU:HG2 | 1.98 | 0.45 |
| 1:Ai:36:ASP:HB3 | 1:Ai:39:GLU:HG2 | 1.97 | 0.45 |
| 1:Ai:131:ALA:HA | 1:Aj:158:ASN:HA | 1.99 | 0.45 |
| 1:An:36:ASP:HB3 | 1:An:39:GLU:HG2 | 1.98 | 0.45 |
| 2:Bk:189:SER:HA | 2:Bk:216:ALA:HB2 | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Bn:182:ILE:HD12 | 2:Bn:233:LEU:HD23 | 1.99 | 0.45 |
| 2:Bq:189:SER:HA | 2:Bq:216:ALA:HB2 | 1.98 | 0.45 |
| 2:Bu:103:VAL:HB | 2:Bu:137:LEU:HD21 | 1.97 | 0.45 |
| 3:Ce:154:ASN:HD22 | 3:Ce:154:ASN:HA | 1.59 | 0.45 |
| 3:Ck:164:PHE:HZ | 3:Ck:285:ILE:HB | 1.81 | 0.45 |
| 1:Am:119:LYS:HD2 | 1:Ao:199:LEU:HB2 | 1.99 | 0.45 |
| 1:Am:125:LEU:HB2 | 1:Am:160:PHE:HB3 | 1.99 | 0.45 |
| 2:Be:224:ARG:HH21 | 3:Cv:368:GLN:HB2 | 1.81 | 0.45 |
| 2:Bf:361:ILE:HD12 | 2:Bg:161:MET:HE1 | 1.99 | 0.45 |
| 2:Bj:103:VAL:HB | 2:Bj:137:LEU:HD21 | 1.99 | 0.45 |
| 2:Bn:268:LYS:HB2 | 2:Bn:353:ALA:HB1 | 1.98 | 0.45 |
| 2:Bz:91:ALA:HB1 | 2:Bz:174:ASN:HD21 | 1.82 | 0.45 |
| 3:Cm:164:PHE:HZ | 3:Cm:285:ILE:HB | 1.81 | 0.45 |
| 3:Cv:249:PRO:HG2 | 3:Cv:252:SER:HB3 | 1.98 | 0.45 |
| 3:Cy:269:MET:HE3 | 3:Cy:269:MET:HB3 | 1.89 | 0.45 |
| 4:Du:31:PRO:HG3 | 4:Du:95:TRP:HZ2 | 1.81 | 0.45 |
| 1:Ab:199:LEU:HB2 | 1:Az:119:LYS:HD2 | 1.98 | 0.44 |
| 1:Ac:134:ASP:HB2 | 1:Ad:155:LYS:HB2 | 1.99 | 0.44 |
| 1:Ae:131:ALA:HA | 1:Af:158:ASN:HA | 2.00 | 0.44 |
| 1:Ag:36:ASP:HB3 | 1:Ag:39:GLU:HG2 | 1.99 | 0.44 |
| 1:An:125:LEU:HB2 | 1:An:160:PHE:HB3 | 2.00 | 0.44 |
| 1:Au:131:ALA:HA | 1:Av:158:ASN:HA | 1.99 | 0.44 |
| 2:Ba:328:VAL:HG22 | 2:Bz:315:MET:HG2 | 1.99 | 0.44 |
| 2:Bd:103:VAL:HB | 2:Bd:137:LEU:HD21 | 1.99 | 0.44 |
| 2:Bj:268:LYS:HB2 | 2:Bj:353:ALA:HB1 | 1.99 | 0.44 |
| 2:Bx:123:LYS:HG2 | 2:Bx:129:VAL:HG22 | 1.99 | 0.44 |
| 3:Cd:111:SER:HB3 | 3:Cd:113:THR:HG22 | 2.00 | 0.44 |
| 3:Ch:26:TYR:HB2 | 3:Ch:106:ILE:O | 2.17 | 0.44 |
| 3:Ck:78:TYR:HD2 | 3:Ck:88:ILE:HB | 1.82 | 0.44 |
| 3:Cy:241:ARG:HB3 | 5:Gz:143:THR:HG21 | 1.99 | 0.44 |
| 3:Cy:342:ILE:HG21 | 3:Cy:367:ILE:HD11 | 2.00 | 0.44 |
| 1:Aq:129:ASN:HB2 | 1:Aq:156:ASN:HB3 | 1.99 | 0.44 |
| 2:Ba:83:VAL:HG12 | 2:Ba:105:SER:HA | 1.99 | 0.44 |
| 2:Bh:315:MET:HG2 | 2:Bi:328:VAL:HG22 | 1.99 | 0.44 |
| 2:Bl:268:LYS:HB2 | 2:Bl:353:ALA:HB1 | 1.99 | 0.44 |
| 2:By:185:ASN:HB3 | 2:Bz:97:GLN:HE21 | 1.82 | 0.44 |
| 3:Cz:28:VAL:HG13 | 3:Cz:49:ALA:HB1 | 1.99 | 0.44 |
| 4:Dg:184:ILE:HG12 | 4:Dg:286:VAL:HG22 | 1.99 | 0.44 |
| 4:Du:31:PRO:HB3 | 4:Du:156:VAL:HG21 | 2.00 | 0.44 |
| 2:Ba:189:SER:HA | 2:Ba:216:ALA:HB2 | 1.98 | 0.44 |
| 2:Bm:103:VAL:HB | 2:Bm:137:LEU:HD21 | 1.99 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Bs:123:LYS:HG2 | 2:Bs:129:VAL:HG22 | 2.00 | 0.44 |
| 2:Bt:182:ILE:HD12 | 2:Bt:233:LEU:HD23 | 2.00 | 0.44 |
| 3:Cg:255:ASP:HB3 | 3:Cg:258:SER:HB3 | 1.99 | 0.44 |
| 3:Cq:63:SER:HA | 3:Cq:66:ASN:HD21 | 1.82 | 0.44 |
| 1:Ac:205:TYR:CZ | 1:Ac:236:SER:HB3 | 2.52 | 0.44 |
| 1:Aj:131:ALA:HA | 1:Ak:158:ASN:HA | 1.99 | 0.44 |
| 1:At:134:ASP:HB2 | 1:Au:155:LYS:HB2 | 2.00 | 0.44 |
| 2:Bb:103:VAL:HB | 2:Bb:137:LEU:HD21 | 1.99 | 0.44 |
| 2:Bd:21:ILE:HG23 | 2:Bd:197:LEU:HD11 | 1.99 | 0.44 |
| 2:Bi:268:LYS:HB2 | 2:Bi:353:ALA:HB1 | 2.00 | 0.44 |
| 2:Bp:122:LEU:HB2 | 2:Bp:131:ALA:HB3 | 1.97 | 0.44 |
| 2:Bv:123:LYS:HG2 | 2:Bv:129:VAL:HG22 | 2.00 | 0.44 |
| 2:Bx:350:GLN:HG3 | 2:By:361:ILE:HG21 | 1.98 | 0.44 |
| 3:Cf:201:ASP:HB3 | 3:Cf:221:ALA:HB3 | 1.99 | 0.44 |
| 3:Cj:167:VAL:HG21 | 3:Cj:191:ALA:HB2 | 2.00 | 0.44 |
| 3:Cl:373:MET:HE3 | 3:Cl:373:MET:HB2 | 1.84 | 0.44 |
| 3:Cn:209:LYS:HD2 | 3:Cn:212:GLN:HB2 | 1.98 | 0.44 |
| 3:Cq:342:ILE:HG21 | 3:Cq:367:ILE:HD11 | 1.98 | 0.44 |
| 4:Dg:31:PRO:HG3 | 4:Dg:95:TRP:HZ2 | 1.83 | 0.44 |
| 4:Dr:37:GLN:HG3 | 4:Dr:49:VAL:HG23 | 1.98 | 0.44 |
| 4:Ds:184:ILE:HG12 | 4:Ds:286:VAL:HG22 | 1.99 | 0.44 |
| 4:Du:197:LYS:HD3 | 4:Dv:292:THR:HB | 1.99 | 0.44 |
| 1:Ai:200:ASN:HB3 | 1:Ai:201:THR:H | 1.70 | 0.44 |
| 1:An:205:TYR:CZ | 1:An:236:SER:HB3 | 2.53 | 0.44 |
| 2:Be:123:LYS:HG2 | 2:Be:129:VAL:HG22 | 1.99 | 0.44 |
| 2:Br:182:ILE:HD12 | 2:Br:233:LEU:HD23 | 2.00 | 0.44 |
| 2:Bx:205:LEU:HD11 | 2:Bx:236:ILE:HD11 | 2.00 | 0.44 |
| 3:Cb:317:LYS:HG2 | 3:Cb:345:THR:HB | 1.99 | 0.44 |
| 3:Cd:239:THR:HG21 | 3:Ce:155:ARG:HD3 | 1.99 | 0.44 |
| 3:Cf:167:VAL:HG21 | 3:Cf:191:ALA:HB2 | 2.00 | 0.44 |
| 3:Cn:153:ILE:HG21 | 3:Cn:195:MET:HE1 | 1.99 | 0.44 |
| 3:Co:269:MET:HE3 | 3:Co:269:MET:HB3 | 1.87 | 0.44 |
| 3:Cr:375:LYS:HE3 | 3:Cr:377:MET:HE2 | 2.00 | 0.44 |
| 4:Dm:31:PRO:HB3 | 4:Dm:156:VAL:HG21 | 1.99 | 0.44 |
| 4:Ds:126:LEU:HD13 | 4:Ds:162:TYR:HE1 | 1.82 | 0.44 |
| 2:Be:185:ASN:HB3 | 2:Bf:97:GLN:HE21 | 1.82 | 0.44 |
| 2:Bs:103:VAL:HB | 2:Bs:137:LEU:HD21 | 1.99 | 0.44 |
| 3:Ci:28:VAL:HG13 | 3:Ci:49:ALA:HB1 | 2.00 | 0.44 |
| 3:Cj:255:ASP:HB3 | 3:Cj:258:SER:HB3 | 1.99 | 0.44 |
| 3:Cn:201:ASP:HB3 | 3:Cn:221:ALA:HB3 | 2.00 | 0.44 |
| 3:Cp:269:MET:HE3 | 3:Cp:269:MET:HB3 | 1.88 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Dg:126:LEU:HD13 | 4:Dg:162:TYR:HE1 | 1.83 | 0.44 |
| 4:Di:112:GLN:HE21 | 4:Di:112:GLN:HB3 | 1.60 | 0.44 |
| 1:Ag:131:ALA:HA | 1:Ah:158:ASN:HA | 2.00 | 0.44 |
| 1:Aj:205:TYR:CZ | 1:Aj:236:SER:HB3 | 2.53 | 0.44 |
| 2:Bc:189:SER:HA | 2:Bc:216:ALA:HB2 | 1.99 | 0.44 |
| 2:Bp:182:ILE:HD12 | 2:Bp:233:LEU:HD23 | 2.00 | 0.44 |
| 2:Bu:83:VAL:HG12 | 2:Bu:105:SER:HA | 2.00 | 0.44 |
| 2:Bw:361:ILE:HD12 | 2:Bx:161:MET:HE1 | 2.00 | 0.44 |
| 4:Dq:26:ARG:HG3 | 4:Dq:150:GLU:HB2 | 1.98 | 0.44 |
| 1:Ag:64:PRO:HB2 | 1:Ah:38:VAL:HG13 | 2.00 | 0.44 |
| 2:Be:189:SER:HA | 2:Be:216:ALA:HB2 | 2.00 | 0.44 |
| 2:Bi:91:ALA:HB1 | 2:Bi:174:ASN:HD21 | 1.83 | 0.44 |
| 2:Bo:268:LYS:HB2 | 2:Bo:353:ALA:HB1 | 1.99 | 0.44 |
| 2:Bv:83:VAL:HG12 | 2:Bv:105:SER:HA | 2.00 | 0.44 |
| 3:Cf:63:SER:HA | 3:Cf:66:ASN:HD21 | 1.82 | 0.44 |
| 3:Ck:201:ASP:HB3 | 3:Ck:221:ALA:HB3 | 2.00 | 0.44 |
| 4:Dm:31:PRO:HG3 | 4:Dm:95:TRP:HZ2 | 1.83 | 0.44 |
| 4:Dq:31:PRO:HG3 | 4:Dq:95:TRP:HZ2 | 1.83 | 0.44 |
| 2:Ba:123:LYS:HG2 | 2:Ba:129:VAL:HG22 | 1.99 | 0.44 |
| 2:Bc:103:VAL:HB | 2:Bc:137:LEU:HD21 | 2.00 | 0.44 |
| 3:Cn:326:PHE:HD1 | 3:Cn:328:ASP:H | 1.65 | 0.44 |
| 1:Ag:129:ASN:HB2 | 1:Ag:156:ASN:HB3 | 1.99 | 0.43 |
| 1:Al:131:ALA:HA | 1:Am:158:ASN:HA | 2.00 | 0.43 |
| 1:Au:134:ASP:HB2 | 1:Av:155:LYS:HB2 | 2.00 | 0.43 |
| 2:Bb:123:LYS:HG2 | 2:Bb:129:VAL:HG22 | 1.99 | 0.43 |
| 2:Be:361:ILE:HD12 | 2:Bf:161:MET:HE1 | 1.99 | 0.43 |
| 2:Bg:123:LYS:HG2 | 2:Bg:129:VAL:HG22 | 1.99 | 0.43 |
| 2:Bh:205:LEU:HD11 | 2:Bh:236:ILE:HD11 | 1.98 | 0.43 |
| 2:Bn:91:ALA:HB1 | 2:Bn:174:ASN:HD21 | 1.83 | 0.43 |
| 2:Br:315:MET:HG2 | 2:Bs:328:VAL:HG22 | 2.00 | 0.43 |
| 3:Co:92:GLU:HB2 | 3:Co:103:ARG:HB3 | 1.99 | 0.43 |
| 3:Ct:220:PHE:HE2 | 3:Ct:273:VAL:HG11 | 1.83 | 0.43 |
| 3:Cy:209:LYS:HD2 | 3:Cy:212:GLN:HB2 | 1.99 | 0.43 |
| 4:Da:126:LEU:HD13 | 4:Da:162:TYR:HE1 | 1.82 | 0.43 |
| 4:Dc:175:TYR:HE1 | 4:Dc:209:TYR:HB2 | 1.83 | 0.43 |
| 4:Dk:31:PRO:HG3 | 4:Dk:95:TRP:HZ2 | 1.83 | 0.43 |
| 1:Ar:205:TYR:CZ | 1:Ar:236:SER:HB3 | 2.53 | 0.43 |
| 1:Au:36:ASP:HB3 | 1:Au:39:GLU:HG2 | 1.99 | 0.43 |
| 1:Ax:134:ASP:HB2 | 1:Ay:155:LYS:HB2 | 2.00 | 0.43 |
| 1:Ay:129:ASN:HB2 | 1:Ay:156:ASN:HB3 | 1.99 | 0.43 |
| 1:Ay:134:ASP:HB2 | 1:Az:155:LYS:HB2 | 2.01 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Ba:361:ILE:HG21 | 2:Bz:350:GLN:HG3 | 1.99 | 0.43 |
| 2:Bg:83:VAL:HG12 | 2:Bg:105:SER:HA | 2.00 | 0.43 |
| 3:Cg:28:VAL:HG13 | 3:Cg:49:ALA:HB1 | 2.01 | 0.43 |
| 3:Cm:201:ASP:HB3 | 3:Cm:221:ALA:HB3 | 2.01 | 0.43 |
| 3:Cu:92:GLU:HB2 | 3:Cu:103:ARG:HB3 | 2.00 | 0.43 |
| 3:Cz:249:PRO:HG2 | 3:Cz:252:SER:HB3 | 2.00 | 0.43 |
| 4:Dh:90:SER:HB2 | 4:Dh:104:ILE:HD11 | 2.00 | 0.43 |
| 4:Dk:184:ILE:HG12 | 4:Dk:286:VAL:HG22 | 2.00 | 0.43 |
| 1:Ac:125:LEU:HB2 | 1:Ac:160:PHE:HB3 | 1.99 | 0.43 |
| 1:Ae:134:ASP:HB2 | 1:Af:155:LYS:HB2 | 2.00 | 0.43 |
| 1:Aj:64:PRO:HB2 | 1:Ak:38:VAL:HG13 | 1.99 | 0.43 |
| 1:Aj:119:LYS:HD2 | 1:Al:199:LEU:HB2 | 1.99 | 0.43 |
| 1:Am:154:LEU:HD21 | 1:Ao:258:LEU:HD11 | 1.99 | 0.43 |
| 1:At:154:LEU:HD21 | 1:Av:258:LEU:HD11 | 1.98 | 0.43 |
| 1:Aw:129:ASN:HB2 | 1:Aw:156:ASN:HB3 | 1.99 | 0.43 |
| 2:Be:315:MET:HG2 | 2:Bf:328:VAL:HG22 | 2.00 | 0.43 |
| 2:Bp:91:ALA:HB1 | 2:Bp:174:ASN:HD21 | 1.83 | 0.43 |
| 2:Bp:268:LYS:HB2 | 2:Bp:353:ALA:HB1 | 2.00 | 0.43 |
| 3:Cd:326:PHE:HD1 | 3:Cd:328:ASP:H | 1.65 | 0.43 |
| 3:Cn:373:MET:HE3 | 3:Cn:373:MET:HB2 | 1.80 | 0.43 |
| 3:Cs:326:PHE:HD1 | 3:Cs:328:ASP:H | 1.64 | 0.43 |
| 4:Db:90:SER:HB2 | 4:Db:104:ILE:HD11 | 2.00 | 0.43 |
| 4:Dq:175:TYR:HE1 | 4:Dq:209:TYR:HB2 | 1.82 | 0.43 |
| 4:Dt:90:SER:HB2 | 4:Dt:104:ILE:HD11 | 2.00 | 0.43 |
| 1:Aa:131:ALA:HA | 1:Ab:158:ASN:HA | 2.01 | 0.43 |
| 1:Ag:205:TYR:CZ | 1:Ag:236:SER:HB3 | 2.54 | 0.43 |
| 1:Ah:129:ASN:HB2 | 1:Ah:156:ASN:HB3 | 2.00 | 0.43 |
| 1:Aj:36:ASP:HB3 | 1:Aj:39:GLU:HG2 | 1.99 | 0.43 |
| 1:Ax:36:ASP:HB3 | 1:Ax:39:GLU:HG2 | 2.00 | 0.43 |
| 2:Bi:123:LYS:HG2 | 2:Bi:129:VAL:HG22 | 2.00 | 0.43 |
| 2:Bn:103:VAL:HB | 2:Bn:137:LEU:HD21 | 2.00 | 0.43 |
| 2:Bo:361:ILE:HD12 | 2:Bp:161:MET:HE1 | 2.00 | 0.43 |
| 2:Bp:205:LEU:HD11 | 2:Bp:236:ILE:HD11 | 2.00 | 0.43 |
| 3:Ce:201:ASP:HB3 | 3:Ce:221:ALA:HB3 | 2.00 | 0.43 |
| 3:Cj:201:ASP:HB3 | 3:Cj:221:ALA:HB3 | 2.00 | 0.43 |
| 3:Ct:167:VAL:HG21 | 3:Ct:191:ALA:HB2 | 2.00 | 0.43 |
| 3:Cu:326:PHE:HD1 | 3:Cu:328:ASP:H | 1.66 | 0.43 |
| 3:Cx:28:VAL:HG13 | 3:Cx:49:ALA:HB1 | 2.00 | 0.43 |
| 3:Cz:29:THR:HG22 | 3:Cz:103:ARG:HG2 | 2.01 | 0.43 |
| 4:Dq:112:GLN:HE21 | 4:Dq:112:GLN:HB3 | 1.60 | 0.43 |
| 4:Dt:169:ILE:HG13 | 4:Dt:172:LEU:HD12 | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Aa:38:VAL:HG13 | 1:Az:64:PRO:HB2 | 1.99 | 0.43 |
| 1:Au:125:LEU:HB2 | 1:Au:160:PHE:HB3 | 2.01 | 0.43 |
| 2:Be:252:VAL:HG22 | 2:Be:259:ILE:HG12 | 2.00 | 0.43 |
| 2:Bx:361:ILE:HD12 | 2:By:161:MET:HE1 | 2.01 | 0.43 |
| 2:Bz:123:LYS:HG2 | 2:Bz:129:VAL:HG22 | 1.99 | 0.43 |
| 3:Cb:220:PHE:HE2 | 3:Cb:273:VAL:HG11 | 1.83 | 0.43 |
| 3:Cc:308:ARG:HD2 | 3:Cc:351:GLU:HA | 2.00 | 0.43 |
| 3:Ch:167:VAL:HG21 | 3:Ch:191:ALA:HB2 | 2.01 | 0.43 |
| 3:Ch:205:THR:HG22 | 3:Ci:260:ARG:HD3 | 2.01 | 0.43 |
| 3:Cl:111:SER:HB3 | 3:Cl:113:THR:HG22 | 2.00 | 0.43 |
| 3:Cn:167:VAL:HG21 | 3:Cn:191:ALA:HB2 | 2.00 | 0.43 |
| 3:Co:326:PHE:HD1 | 3:Co:328:ASP:H | 1.65 | 0.43 |
| 3:Cr:92:GLU:HB2 | 3:Cr:103:ARG:HB3 | 1.99 | 0.43 |
| 3:Cx:269:MET:HE3 | 3:Cx:269:MET:HB3 | 1.84 | 0.43 |
| 4:Dl:37:GLN:HG3 | 4:Dl:49:VAL:HG23 | 2.01 | 0.43 |
| 1:Aa:155:LYS:HB2 | 1:Az:134:ASP:HB2 | 2.01 | 0.43 |
| 1:Ab:64:PRO:HB2 | 1:Ac:38:VAL:HG13 | 1.99 | 0.43 |
| 1:Ab:131:ALA:HA | 1:Ac:158:ASN:HA | 2.00 | 0.43 |
| 1:Ab:205:TYR:CZ | 1:Ab:236:SER:HB3 | 2.54 | 0.43 |
| 1:Ad:154:LEU:HD21 | 1:Af:258:LEU:HD11 | 2.01 | 0.43 |
| 1:Af:125:LEU:HB2 | 1:Af:160:PHE:HB3 | 2.01 | 0.43 |
| 1:Ah:200:ASN:HB3 | 1:Ah:201:THR:H | 1.68 | 0.43 |
| 1:Ai:119:LYS:HD2 | 1:Ak:199:LEU:HB2 | 2.00 | 0.43 |
| 1:Aq:134:ASP:HB2 | 1:Ar:155:LYS:HB2 | 2.00 | 0.43 |
| 1:Av:134:ASP:HB2 | 1:Aw:155:LYS:HB2 | 2.01 | 0.43 |
| 1:Az:125:LEU:HB2 | 1:Az:160:PHE:HB3 | 2.01 | 0.43 |
| 2:Ba:350:GLN:HG3 | 2:Bb:361:ILE:HG21 | 2.00 | 0.43 |
| 2:Bk:315:MET:HG2 | 2:Bl:328:VAL:HG22 | 2.01 | 0.43 |
| 2:Bt:315:MET:HG2 | 2:Bu:328:VAL:HG22 | 2.00 | 0.43 |
| 2:Bw:268:LYS:HB2 | 2:Bw:353:ALA:HB1 | 2.00 | 0.43 |
| 2:By:268:LYS:HB2 | 2:By:353:ALA:HB1 | 1.99 | 0.43 |
| 3:Cd:201:ASP:HB3 | 3:Cd:221:ALA:HB3 | 2.00 | 0.43 |
| 3:Ci:167:VAL:HG21 | 3:Ci:191:ALA:HB2 | 2.01 | 0.43 |
| 3:Cq:111:SER:HB3 | 3:Cq:113:THR:HG22 | 2.01 | 0.43 |
| 3:Cs:28:VAL:HG13 | 3:Cs:49:ALA:HB1 | 2.01 | 0.43 |
| 4:Dw:112:GLN:HE21 | 4:Dw:112:GLN:HB3 | 1.60 | 0.43 |
| 1:Aa:258:LEU:HD11 | 1:Ay:154:LEU:HD21 | 2.00 | 0.43 |
| 1:Ab:258:LEU:HD11 | 1:Az:154:LEU:HD21 | 2.01 | 0.43 |
| 1:Ag:200:ASN:HB3 | 1:Ag:201:THR:H | 1.68 | 0.43 |
| 1:Ai:205:TYR:CZ | 1:Ai:236:SER:HB3 | 2.54 | 0.43 |
| 1:Am:36:ASP:HB3 | 1:Am:39:GLU:HG2 | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Ao:134:ASP:HB2 | 1:Ap:155:LYS:HB2 | 2.00 | 0.43 |
| 1:Ar:134:ASP:HB2 | 1:As:155:LYS:HB2 | 2.00 | 0.43 |
| 2:Bl:315:MET:HG2 | 2:Bm:328:VAL:HG22 | 2.00 | 0.43 |
| 2:Bq:361:ILE:HD12 | 2:Br:161:MET:HE1 | 2.01 | 0.43 |
| 2:Bx:103:VAL:HB | 2:Bx:137:LEU:HD21 | 2.00 | 0.43 |
| 2:Bz:103:VAL:HB | 2:Bz:137:LEU:HD21 | 2.00 | 0.43 |
| 3:Ce:255:ASP:HB3 | 3:Ce:258:SER:HB3 | 2.00 | 0.43 |
| 3:Ci:249:PRO:HG2 | 3:Ci:252:SER:HB3 | 1.99 | 0.43 |
| 3:Cn:111:SER:HB3 | 3:Cn:113:THR:HG22 | 1.99 | 0.43 |
| 1:Ac:119:LYS:HD2 | 1:Ae:199:LEU:HB2 | 2.00 | 0.43 |
| 1:Af:134:ASP:HB2 | 1:Ag:155:LYS:HB2 | 2.01 | 0.43 |
| 1:Ao:125:LEU:HB2 | 1:Ao:160:PHE:HB3 | 2.01 | 0.43 |
| 2:Bf:83:VAL:HG12 | 2:Bf:105:SER:HA | 2.00 | 0.43 |
| 2:Bj:205:LEU:HD11 | 2:Bj:236:ILE:HD11 | 2.00 | 0.43 |
| 2:Bn:361:ILE:HD12 | 2:Bo:161:MET:HE1 | 2.00 | 0.43 |
| 2:Br:123:LYS:HG2 | 2:Br:129:VAL:HG22 | 2.01 | 0.43 |
| 2:Bv:239:LEU:HD23 | 2:Bv:239:LEU:HA | 1.92 | 0.43 |
| 2:By:361:ILE:HD12 | 2:Bz:161:MET:HE1 | 2.01 | 0.43 |
| 3:Ci:164:PHE:HZ | 3:Ci:285:ILE:HB | 1.84 | 0.43 |
| 3:Cl:167:VAL:HG21 | 3:Cl:191:ALA:HB2 | 2.00 | 0.43 |
| 3:Cy:164:PHE:HZ | 3:Cy:285:ILE:HB | 1.84 | 0.43 |
| 4:Dv:37:GLN:HG3 | 4:Dv:49:VAL:HG23 | 2.01 | 0.43 |
| 4:Dv:90:SER:HB2 | 4:Dv:104:ILE:HD11 | 2.00 | 0.43 |
| 4:Dx:169:ILE:HG13 | 4:Dx:172:LEU:HD12 | 2.00 | 0.43 |
| 1:Ac:87:ASN:HB3 | 1:Ac:90:SER:HB2 | 2.00 | 0.43 |
| 1:Ad:119:LYS:HD2 | 1:Af:199:LEU:HB2 | 2.01 | 0.43 |
| 1:Ai:111:LEU:HB3 | 1:Ai:172:MET:HG3 | 2.01 | 0.43 |
| 1:An:134:ASP:HB2 | 1:Ao:155:LYS:HB2 | 2.00 | 0.43 |
| 1:Ao:111:LEU:HB3 | 1:Ao:172:MET:HG3 | 2.01 | 0.43 |
| 1:As:205:TYR:CZ | 1:As:236:SER:HB3 | 2.54 | 0.43 |
| 2:Ba:274:HIS:CD2 | 2:Bb:258:THR:HB | 2.54 | 0.43 |
| 2:Bc:252:VAL:HG22 | 2:Bc:259:ILE:HG12 | 2.00 | 0.43 |
| 3:Cg:342:ILE:HG21 | 3:Cg:367:ILE:HD11 | 1.99 | 0.43 |
| 3:Ch:249:PRO:HG2 | 3:Ch:252:SER:HB3 | 2.00 | 0.43 |
| 3:Cn:164:PHE:HZ | 3:Cn:285:ILE:HB | 1.84 | 0.43 |
| 4:Ds:31:PRO:HG3 | 4:Ds:95:TRP:HZ2 | 1.84 | 0.43 |
| 4:Dy:31:PRO:HG3 | 4:Dy:95:TRP:HZ2 | 1.84 | 0.43 |
| 1:Ad:134:ASP:HB2 | 1:Ae:155:LYS:HB2 | 2.01 | 0.43 |
| 1:Am:134:ASP:HB2 | 1:An:155:LYS:HB2 | 2.00 | 0.43 |
| 1:Av:106:ILE:HD12 | 1:Av:177:THR:HG21 | 2.01 | 0.43 |
| 2:Bd:91:ALA:HB1 | 2:Bd:174:ASN:HD21 | 1.83 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Bf:205:LEU:HD11 | 2:Bf:236:ILE:HD11 | 2.01 | 0.43 |
| 2:Br:268:LYS:HB2 | 2:Br:353:ALA:HB1 | 2.01 | 0.43 |
| 3:Ce:342:ILE:HG21 | 3:Ce:367:ILE:HD11 | 2.00 | 0.43 |
| 3:Cp:222:MET:HE2 | 3:Cp:222:MET:HB3 | 1.82 | 0.43 |
| 3:Cq:85:VAL:HG22 | 3:Cq:108:ILE:HG12 | 1.99 | 0.43 |
| 3:Ct:201:ASP:HB3 | 3:Ct:221:ALA:HB3 | 2.01 | 0.43 |
| 4:Dx:90:SER:HB2 | 4:Dx:104:ILE:HD11 | 2.01 | 0.43 |
| 1:Ae:119:LYS:HD2 | 1:Ag:199:LEU:HB2 | 2.01 | 0.42 |
| 1:Al:205:TYR:CZ | 1:Al:236:SER:HB3 | 2.54 | 0.42 |
| 1:Av:136:LEU:HD13 | 1:Aw:154:LEU:HD13 | 2.01 | 0.42 |
| 2:Bd:350:GLN:HG3 | 2:Be:361:ILE:HG21 | 2.00 | 0.42 |
| 2:Bl:252:VAL:HG22 | 2:Bl:259:ILE:HG12 | 2.00 | 0.42 |
| 2:Bn:21:ILE:HG23 | 2:Bn:197:LEU:HD11 | 2.00 | 0.42 |
| 3:Ci:111:SER:HB3 | 3:Ci:113:THR:HG22 | 2.01 | 0.42 |
| 3:Cn:195:MET:HG3 | 3:Cn:226:VAL:HG22 | 2.01 | 0.42 |
| 3:Cq:88:ILE:HG12 | 3:Cq:106:ILE:HG23 | 2.01 | 0.42 |
| 3:Cs:164:PHE:HZ | 3:Cs:285:ILE:HB | 1.84 | 0.42 |
| 4:Dd:90:SER:HB2 | 4:Dd:104:ILE:HD11 | 2.01 | 0.42 |
| 4:Df:37:GLN:HG3 | 4:Df:49:VAL:HG23 | 2.01 | 0.42 |
| 1:Aa:134:ASP:HB2 | 1:Ab:155:LYS:HB2 | 2.02 | 0.42 |
| 1:Ab:134:ASP:HB2 | 1:Ac:155:LYS:HB2 | 2.01 | 0.42 |
| 1:Ad:205:TYR:CZ | 1:Ad:236:SER:HB3 | 2.54 | 0.42 |
| 1:Ag:119:LYS:HD2 | 1:Ai:199:LEU:HB2 | 2.01 | 0.42 |
| 1:Ah:111:LEU:HB3 | 1:Ah:172:MET:HG3 | 2.01 | 0.42 |
| 1:Al:119:LYS:HD2 | 1:An:199:LEU:HB2 | 2.00 | 0.42 |
| 2:Ba:315:MET:HG2 | 2:Bb:328:VAL:HG22 | 2.00 | 0.42 |
| 2:Bg:350:GLN:HG3 | 2:Bh:361:ILE:HG21 | 2.01 | 0.42 |
| 2:Bh:274:HIS:HB3 | 2:Bh:277:MET:HE2 | 2.01 | 0.42 |
| 2:Bl:350:GLN:HG3 | 2:Bm:361:ILE:HG21 | 2.00 | 0.42 |
| 2:Bo:350:GLN:HG3 | 2:Bp:361:ILE:HG21 | 2.01 | 0.42 |
| 2:Bp:350:GLN:HG3 | 2:Bq:361:ILE:HG21 | 2.00 | 0.42 |
| 2:Bs:268:LYS:HB2 | 2:Bs:353:ALA:HB1 | 2.01 | 0.42 |
| 2:Bw:123:LYS:HG2 | 2:Bw:129:VAL:HG22 | 2.02 | 0.42 |
| 2:Bz:83:VAL:HG12 | 2:Bz:105:SER:HA | 2.01 | 0.42 |
| 3:Ca:373:MET:HE3 | 3:Ca:373:MET:HB2 | 1.85 | 0.42 |
| 3:Co:28:VAL:HG13 | 3:Co:49:ALA:HB1 | 2.01 | 0.42 |
| 3:Co:167:VAL:HG21 | 3:Co:191:ALA:HB2 | 2.00 | 0.42 |
| 3:Cr:326:PHE:HD1 | 3:Cr:328:ASP:H | 1.66 | 0.42 |
| 4:Da:31:PRO:HG3 | 4:Da:95:TRP:HZ2 | 1.84 | 0.42 |
| 4:Dc:126:LEU:HD13 | 4:Dc:162:TYR:HE1 | 1.84 | 0.42 |
| 4:Di:83:THR:HG22 | 4:Di:111:LYS:HA | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Di:126:LEU:HD13 | 4:Di:162:TYR:HE1 | 1.83 | 0.42 |
| 1:Ac:154:LEU:HD21 | 1:Ae:258:LEU:HD11 | 2.01 | 0.42 |
| 1:Aj:134:ASP:HB2 | 1:Ak:155:LYS:HB2 | 2.00 | 0.42 |
| 1:Am:205:TYR:CZ | 1:Am:236:SER:HB3 | 2.54 | 0.42 |
| 2:Bf:103:VAL:HB | 2:Bf:137:LEU:HD21 | 2.02 | 0.42 |
| 2:Bo:315:MET:HG2 | 2:Bp:328:VAL:HG22 | 2.01 | 0.42 |
| 2:Bp:315:MET:HG2 | 2:Bq:328:VAL:HG22 | 2.02 | 0.42 |
| 2:Bv:105:SER:HB2 | 2:Bv:112:LEU:HD11 | 2.01 | 0.42 |
| 3:Cc:350:TYR:HE2 | 3:Cc:355:GLU:HG3 | 1.84 | 0.42 |
| 3:Cj:164:PHE:HZ | 3:Cj:285:ILE:HB | 1.84 | 0.42 |
| 3:Cj:373:MET:HE3 | 3:Cj:373:MET:HB2 | 1.82 | 0.42 |
| 3:Cl:164:PHE:HZ | 3:Cl:285:ILE:HB | 1.84 | 0.42 |
| 3:Cv:167:VAL:HG21 | 3:Cv:191:ALA:HB2 | 2.01 | 0.42 |
| 4:Db:169:ILE:HG13 | 4:Db:172:LEU:HD12 | 2.00 | 0.42 |
| 4:De:31:PRO:HG3 | 4:De:95:TRP:HZ2 | 1.84 | 0.42 |
| 4:Dy:126:LEU:HD13 | 4:Dy:162:TYR:HE1 | 1.82 | 0.42 |
| 1:Ao:87:ASN:HB3 | 1:Ao:90:SER:HB2 | 2.00 | 0.42 |
| 1:Ap:125:LEU:HB2 | 1:Ap:160:PHE:HB3 | 2.00 | 0.42 |
| 1:Ap:134:ASP:HB2 | 1:Aq:155:LYS:HB2 | 2.00 | 0.42 |
| 1:Aq:184:LEU:HD12 | 1:Aq:188:ASN:HB2 | 2.01 | 0.42 |
| 1:Aq:205:TYR:CZ | 1:Aq:236:SER:HB3 | 2.54 | 0.42 |
| 2:Bb:274:HIS:HB3 | 2:Bb:277:MET:HE2 | 2.02 | 0.42 |
| 2:Bc:315:MET:HG2 | 2:Bd:328:VAL:HG22 | 2.01 | 0.42 |
| 2:Be:103:VAL:HB | 2:Be:137:LEU:HD21 | 2.02 | 0.42 |
| 2:Bi:103:VAL:HB | 2:Bi:137:LEU:HD21 | 2.01 | 0.42 |
| 2:Bl:205:LEU:HD11 | 2:Bl:236:ILE:HD11 | 2.00 | 0.42 |
| 2:Bn:205:LEU:HD11 | 2:Bn:236:ILE:HD11 | 2.01 | 0.42 |
| 2:Bn:350:GLN:HG3 | 2:Bo:361:ILE:HG21 | 2.00 | 0.42 |
| 2:Bz:182:ILE:HD12 | 2:Bz:233:LEU:HD23 | 2.00 | 0.42 |
| 3:Ca:167:VAL:HG21 | 3:Ca:191:ALA:HB2 | 2.00 | 0.42 |
| 3:Cj:249:PRO:HG2 | 3:Cj:252:SER:HB3 | 2.00 | 0.42 |
| 3:Ck:88:ILE:HG12 | 3:Ck:106:ILE:HG23 | 2.01 | 0.42 |
| 3:Co:373:MET:HE3 | 3:Co:373:MET:HB2 | 1.81 | 0.42 |
| 3:Cp:34:ILE:HD11 | 3:Cp:100:MET:HB2 | 2.02 | 0.42 |
| 3:Ct:92:GLU:HB2 | 3:Ct:103:ARG:HB3 | 2.01 | 0.42 |
| 4:Dc:31:PRO:HG3 | 4:Dc:95:TRP:HZ2 | 1.83 | 0.42 |
| 1:Ae:205:TYR:CZ | 1:Ae:236:SER:HB3 | 2.55 | 0.42 |
| 1:Af:131:ALA:HA | 1:Ag:158:ASN:HA | 2.01 | 0.42 |
| 1:Ak:205:TYR:CZ | 1:Ak:236:SER:HB3 | 2.54 | 0.42 |
| 1:Am:87:ASN:HB3 | 1:Am:90:SER:HB2 | 2.00 | 0.42 |
| 1:Aw:34:THR:HG21 | 3:Cm:247:PRO:HB2 | 2.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Bg:274:HIS:CD2 | 2:Bh:258:THR:HB | 2.55 | 0.42 |
| 2:Bi:239:LEU:HD23 | 2:Bi:239:LEU:HA | 1.92 | 0.42 |
| 2:Bj:350:GLN:HG3 | 2:Bk:361:ILE:HG21 | 2.00 | 0.42 |
| 2:Bm:83:VAL:HG12 | 2:Bm:105:SER:HA | 2.02 | 0.42 |
| 2:Bt:205:LEU:HD11 | 2:Bt:236:ILE:HD11 | 2.02 | 0.42 |
| 2:Bw:315:MET:HG2 | 2:Bx:328:VAL:HG22 | 1.99 | 0.42 |
| 3:Ce:96:ILE:HB | 3:Ce:101:TYR:HE2 | 1.85 | 0.42 |
| 3:Cj:28:VAL:HG13 | 3:Cj:49:ALA:HB1 | 2.02 | 0.42 |
| 3:Cs:167:VAL:HG21 | 3:Cs:191:ALA:HB2 | 2.02 | 0.42 |
| 3:Cu:111:SER:HB3 | 3:Cu:113:THR:HG22 | 2.02 | 0.42 |
| 3:Cy:201:ASP:HB3 | 3:Cy:221:ALA:HB3 | 2.01 | 0.42 |
| 3:Cz:373:MET:HE3 | 3:Cz:373:MET:HB2 | 1.82 | 0.42 |
| 4:Da:26:ARG:HG3 | 4:Da:150:GLU:HB2 | 2.00 | 0.42 |
| 4:De:126:LEU:HD13 | 4:De:162:TYR:HE1 | 1.85 | 0.42 |
| 4:Di:31:PRO:HB3 | 4:Di:156:VAL:HG21 | 2.02 | 0.42 |
| 4:Dn:86:VAL:HG21 | 4:Dn:110:PHE:CG | 2.54 | 0.42 |
| 4:Do:112:GLN:HE21 | 4:Do:112:GLN:HB3 | 1.60 | 0.42 |
| 5:Gc:139:LYS:HD2 | 5:Gc:139:LYS:HA | 1.75 | 0.42 |
| 1:Ai:134:ASP:HB2 | 1:Aj:155:LYS:HB2 | 2.01 | 0.42 |
| 1:Ar:129:ASN:HB2 | 1:Ar:156:ASN:HB3 | 2.01 | 0.42 |
| 2:Bk:123:LYS:HG2 | 2:Bk:129:VAL:HG22 | 2.00 | 0.42 |
| 3:Cv:29:THR:HB | 3:Cv:103:ARG:HG2 | 2.01 | 0.42 |
| 3:Cx:88:ILE:HG12 | 3:Cx:106:ILE:HG12 | 2.00 | 0.42 |
| 4:Dc:184:ILE:HG12 | 4:Dc:286:VAL:HG22 | 2.02 | 0.42 |
| 4:Dg:83:THR:HG22 | 4:Dg:111:LYS:HA | 2.00 | 0.42 |
| 4:Dk:141:ASP:HB2 | 4:Dk:149:ILE:HG12 | 2.00 | 0.42 |
| 4:Do:26:ARG:HG3 | 4:Do:150:GLU:HB2 | 2.01 | 0.42 |
| 4:Dz:90:SER:HB2 | 4:Dz:104:ILE:HD11 | 2.00 | 0.42 |
| 1:Af:111:LEU:HB3 | 1:Af:172:MET:HG3 | 2.02 | 0.42 |
| 1:Ak:119:LYS:HD2 | 1:Am:199:LEU:HB2 | 2.00 | 0.42 |
| 1:As:131:ALA:HA | 1:At:158:ASN:HA | 2.01 | 0.42 |
| 1:As:134:ASP:HB2 | 1:At:155:LYS:HB2 | 2.01 | 0.42 |
| 1:Ay:111:LEU:HB3 | 1:Ay:172:MET:HG3 | 2.02 | 0.42 |
| 2:Ba:274:HIS:HB3 | 2:Ba:277:MET:HE2 | 2.02 | 0.42 |
| 2:Bh:83:VAL:HG12 | 2:Bh:105:SER:HA | 2.02 | 0.42 |
| 2:Br:103:VAL:HB | 2:Br:137:LEU:HD21 | 2.01 | 0.42 |
| 2:Bt:123:LYS:HG2 | 2:Bt:129:VAL:HG22 | 2.02 | 0.42 |
| 2:Bx:317:LYS:HE2 | 2:By:324:LEU:HB2 | 2.02 | 0.42 |
| 3:Cb:201:ASP:HB3 | 3:Cb:221:ALA:HB3 | 2.01 | 0.42 |
| 3:Cd:278:MET:HE2 | 3:Cd:278:MET:HB3 | 1.95 | 0.42 |
| 3:Ck:249:PRO:HG2 | 3:Ck:252:SER:HB3 | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:Cp:201:ASP:HB3 | 3:Cp:221:ALA:HB3 | 2.02 | 0.42 |
| 3:Cw:111:SER:HB3 | 3:Cw:113:THR:HG22 | 2.02 | 0.42 |
| 4:Da:175:TYR:HE1 | 4:Da:209:TYR:HB2 | 1.85 | 0.42 |
| 4:De:197:LYS:HA | 4:De:200:GLN:HB2 | 2.02 | 0.42 |
| 4:Dg:194:GLU:H | 4:Dg:194:GLU:HG3 | 1.71 | 0.42 |
| 4:Dq:91:MET:HE2 | 4:Dq:91:MET:HB3 | 1.80 | 0.42 |
| 4:Dw:31:PRO:HB3 | 4:Dw:156:VAL:HG21 | 2.02 | 0.42 |
| 4:Dw:31:PRO:HG3 | 4:Dw:95:TRP:HZ2 | 1.84 | 0.42 |
| 4:Dw:83:THR:HG22 | 4:Dw:111:LYS:HA | 2.01 | 0.42 |
| 1:Ab:229:SER:HB3 | 1:Ac:177:THR:HG22 | 2.01 | 0.42 |
| 1:Ai:125:LEU:HB2 | 1:Ai:160:PHE:HB3 | 2.01 | 0.42 |
| 2:Bb:252:VAL:HG22 | 2:Bb:259:ILE:HG12 | 2.01 | 0.42 |
| 2:Bd:274:HIS:CD2 | 2:Be:258:THR:HB | 2.55 | 0.42 |
| 2:Bm:268:LYS:HB2 | 2:Bm:353:ALA:HB1 | 2.02 | 0.42 |
| 2:Bp:123:LYS:HG2 | 2:Bp:129:VAL:HG22 | 2.01 | 0.42 |
| 2:Br:83:VAL:HG12 | 2:Br:105:SER:HA | 2.02 | 0.42 |
| 2:Bs:91:ALA:HB1 | 2:Bs:174:ASN:HD21 | 1.84 | 0.42 |
| 3:Cd:209:LYS:HD2 | 3:Cd:212:GLN:HB2 | 2.02 | 0.42 |
| 3:Cg:111:SER:HB3 | 3:Cg:113:THR:HG22 | 2.01 | 0.42 |
| 3:Ck:205:THR:HG22 | 3:Cl:260:ARG:HD3 | 2.01 | 0.42 |
| 3:Cl:269:MET:HE3 | 3:Cl:269:MET:HB3 | 1.96 | 0.42 |
| 3:Cq:80:PHE:HA | 5:Fq:136:VAL:HG21 | 2.01 | 0.42 |
| 3:Cu:167:VAL:HG21 | 3:Cu:191:ALA:HB2 | 2.02 | 0.42 |
| 4:Dj:37:GLN:HG3 | 4:Dj:49:VAL:HG23 | 2.02 | 0.42 |
| 4:Do:83:THR:HG22 | 4:Do:111:LYS:HA | 2.01 | 0.42 |
| 4:Dy:31:PRO:HB3 | 4:Dy:156:VAL:HG21 | 2.02 | 0.42 |
| 4:Dy:83:THR:HG22 | 4:Dy:111:LYS:HA | 2.01 | 0.42 |
| 1:Ag:134:ASP:HB2 | 1:Ah:155:LYS:HB2 | 2.02 | 0.42 |
| 1:An:229:SER:HB3 | 1:Ao:177:THR:HG22 | 2.02 | 0.42 |
| 1:Ap:111:LEU:HB3 | 1:Ap:172:MET:HG3 | 2.01 | 0.42 |
| 1:Aw:154:LEU:HD21 | 1:Ay:258:LEU:HD11 | 2.02 | 0.42 |
| 1:Ax:205:TYR:CZ | 1:Ax:236:SER:HB3 | 2.54 | 0.42 |
| 2:Bb:205:LEU:HD11 | 2:Bb:236:ILE:HD11 | 2.02 | 0.42 |
| 2:Bo:103:VAL:HB | 2:Bo:137:LEU:HD21 | 2.01 | 0.42 |
| 2:Bp:361:ILE:HD12 | 2:Bq:161:MET:HE1 | 2.02 | 0.42 |
| 2:Bq:123:LYS:HG2 | 2:Bq:129:VAL:HG22 | 2.01 | 0.42 |
| 2:Br:274:HIS:CD2 | 2:Bs:258:THR:HB | 2.55 | 0.42 |
| 3:Cm:111:SER:HB3 | 3:Cm:113:THR:HG22 | 2.01 | 0.42 |
| 3:Ct:78:TYR:HD2 | 3:Ct:88:ILE:HB | 1.84 | 0.42 |
| 3:Cv:226:VAL:HB | 3:Cv:236:MET:HB3 | 2.01 | 0.42 |
| 4:Du:91:MET:HE2 | 4:Du:91:MET:HB3 | 1.73 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Du:126:LEU:HD13 | 4:Du:162:TYR:HE1 | 1.85 | 0.42 |
| 1:Ae:64:PRO:HB2 | 1:Af:38:VAL:HG13 | 2.02 | 0.42 |
| 1:Ak:229:SER:HB3 | 1:Al:177:THR:HG22 | 2.02 | 0.42 |
| 1:Av:111:LEU:HB3 | 1:Av:172:MET:HG3 | 2.02 | 0.42 |
| 1:Aw:111:LEU:HB3 | 1:Aw:172:MET:HG3 | 2.02 | 0.42 |
| 2:Bi:315:MET:HG2 | 2:Bj:328:VAL:HG22 | 2.01 | 0.42 |
| 3:Cd:80:PHE:HA | 5:Fd:136:VAL:HG21 | 2.02 | 0.42 |
| 3:Ci:201:ASP:HB3 | 3:Ci:221:ALA:HB3 | 2.02 | 0.42 |
| 3:Cm:269:MET:HE3 | 3:Cm:269:MET:HB3 | 1.95 | 0.42 |
| 3:Cz:209:LYS:HD2 | 3:Cz:212:GLN:HB2 | 2.01 | 0.42 |
| 4:Df:90:SER:HB2 | 4:Df:104:ILE:HD11 | 2.01 | 0.42 |
| 4:Di:175:TYR:HE1 | 4:Di:209:TYR:HB2 | 1.84 | 0.42 |
| 4:Dt:86:VAL:HG21 | 4:Dt:110:PHE:CG | 2.55 | 0.42 |
| 4:Dw:197:LYS:HA | 4:Dw:200:GLN:HB2 | 2.02 | 0.42 |
| 1:Aa:119:LYS:HB3 | 1:Ac:199:LEU:HD12 | 2.02 | 0.41 |
| 1:Av:205:TYR:CZ | 1:Av:236:SER:HB3 | 2.55 | 0.41 |
| 2:Ba:268:LYS:HB2 | 2:Ba:353:ALA:HB1 | 2.00 | 0.41 |
| 2:Bn:123:LYS:HG2 | 2:Bn:129:VAL:HG22 | 2.01 | 0.41 |
| 2:Bo:317:LYS:HE2 | 2:Bp:324:LEU:HB2 | 2.03 | 0.41 |
| 2:Bs:274:HIS:CD2 | 2:Bt:258:THR:HB | 2.55 | 0.41 |
| 2:Bs:350:GLN:HG3 | 2:Bt:361:ILE:HG21 | 2.01 | 0.41 |
| 2:Bz:56:GLN:HE21 | 2:Bz:56:GLN:HB3 | 1.65 | 0.41 |
| 3:Ca:34:ILE:HD11 | 3:Ca:100:MET:HB2 | 2.02 | 0.41 |
| 3:Ch:220:PHE:HE2 | 3:Ch:273:VAL:HG11 | 1.84 | 0.41 |
| 3:Ck:326:PHE:HD1 | 3:Ck:328:ASP:H | 1.68 | 0.41 |
| 3:Cp:373:MET:HE3 | 3:Cp:373:MET:HB2 | 1.84 | 0.41 |
| 3:Cq:201:ASP:HB3 | 3:Cq:221:ALA:HB3 | 2.02 | 0.41 |
| 3:Cv:361:PRO:HB2 | 4:Do:148:ARG:HD2 | 2.01 | 0.41 |
| 3:Cw:201:ASP:HB3 | 3:Cw:221:ALA:HB3 | 2.02 | 0.41 |
| 4:Dm:197:LYS:HA | 4:Dm:200:GLN:HB2 | 2.02 | 0.41 |
| 4:Do:135:PRO:HD2 | 4:Do:153:LEU:HB2 | 2.02 | 0.41 |
| 4:Dq:184:ILE:HG12 | 4:Dq:286:VAL:HG22 | 2.01 | 0.41 |
| 4:Dw:126:LEU:HD13 | 4:Dw:162:TYR:HE1 | 1.83 | 0.41 |
| 1:Ac:136:LEU:HD13 | 1:Ad:154:LEU:HD13 | 2.00 | 0.41 |
| 1:Ah:136:LEU:HD13 | 1:Ai:154:LEU:HD13 | 2.01 | 0.41 |
| 1:Aq:229:SER:HB3 | 1:Ar:177:THR:HG22 | 2.03 | 0.41 |
| 1:Aw:205:TYR:CZ | 1:Aw:236:SER:HB3 | 2.55 | 0.41 |
| 1:Ay:136:LEU:HD13 | 1:Az:154:LEU:HD13 | 2.01 | 0.41 |
| 2:Bd:239:LEU:HD23 | 2:Bd:239:LEU:HA | 1.92 | 0.41 |
| 2:Bi:83:VAL:HG12 | 2:Bi:105:SER:HA | 2.02 | 0.41 |
| 2:Bw:252:VAL:HG22 | 2:Bw:259:ILE:HG12 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:By:274:HIS:CD2 | 2:Bz:258:THR:HB | 2.55 | 0.41 |
| 3:Ca:201:ASP:HB3 | 3:Ca:221:ALA:HB3 | 2.02 | 0.41 |
| 3:Ci:54:VAL:HG13 | 3:Ci:59:ALA:HB3 | 2.02 | 0.41 |
| 3:Cl:88:ILE:HG23 | 3:Cl:106:ILE:HG12 | 2.02 | 0.41 |
| 3:Cs:88:ILE:HG12 | 3:Cs:106:ILE:HG23 | 2.01 | 0.41 |
| 3:Cy:28:VAL:HG13 | 3:Cy:49:ALA:HB1 | 2.03 | 0.41 |
| 4:Dc:26:ARG:HG3 | 4:Dc:150:GLU:HB2 | 2.01 | 0.41 |
| 4:Do:31:PRO:HG3 | 4:Do:95:TRP:HZ2 | 1.84 | 0.41 |
| 1:Ah:229:SER:HB3 | 1:Ai:177:THR:HG22 | 2.01 | 0.41 |
| 1:Az:205:TYR:CZ | 1:Az:236:SER:HB3 | 2.55 | 0.41 |
| 2:Bh:274:HIS:CD2 | 2:Bi:258:THR:HB | 2.55 | 0.41 |
| 2:Bl:274:HIS:HB3 | 2:Bl:277:MET:HE2 | 2.02 | 0.41 |
| 2:Bn:315:MET:HG2 | 2:Bo:328:VAL:HG22 | 2.02 | 0.41 |
| 2:Bv:315:MET:HG2 | 2:Bw:328:VAL:HG22 | 2.02 | 0.41 |
| 2:Bx:274:HIS:CD2 | 2:By:258:THR:HB | 2.55 | 0.41 |
| 3:Cb:157:LEU:HA | 3:Cb:161:SER:HB2 | 2.01 | 0.41 |
| 3:Ch:226:VAL:HB | 3:Ch:236:MET:HB3 | 2.02 | 0.41 |
| 4:Dd:86:VAL:HG21 | 4:Dd:110:PHE:CG | 2.55 | 0.41 |
| 4:Df:86:VAL:HG21 | 4:Df:110:PHE:CG | 2.55 | 0.41 |
| 4:Du:112:GLN:HE21 | 4:Du:112:GLN:HB3 | 1.60 | 0.41 |
| 1:Ad:111:LEU:HB3 | 1:Ad:172:MET:HG3 | 2.03 | 0.41 |
| 1:Ak:134:ASP:HB2 | 1:Al:155:LYS:HB2 | 2.02 | 0.41 |
| 1:Ao:205:TYR:CZ | 1:Ao:236:SER:HB3 | 2.55 | 0.41 |
| 2:Bb:239:LEU:HD23 | 2:Bb:239:LEU:HA | 1.93 | 0.41 |
| 2:Bh:103:VAL:HB | 2:Bh:137:LEU:HD21 | 2.02 | 0.41 |
| 2:Bm:274:HIS:HB3 | 2:Bm:277:MET:HE2 | 2.01 | 0.41 |
| 2:Bv:103:VAL:HB | 2:Bv:137:LEU:HD21 | 2.01 | 0.41 |
| 2:Bx:315:MET:HG2 | 2:By:328:VAL:HG22 | 2.02 | 0.41 |
| 2:Bz:205:LEU:HD11 | 2:Bz:236:ILE:HD11 | 2.02 | 0.41 |
| 3:Ch:111:SER:HB3 | 3:Ch:113:THR:HG22 | 2.02 | 0.41 |
| 3:Cp:249:PRO:HG2 | 3:Cp:252:SER:HB3 | 2.01 | 0.41 |
| 3:Cq:222:MET:HE3 | 3:Cq:222:MET:HB2 | 1.95 | 0.41 |
| 3:Cr:164:PHE:HZ | 3:Cr:285:ILE:HB | 1.85 | 0.41 |
| 3:Cs:209:LYS:HD2 | 3:Cs:212:GLN:HB2 | 2.01 | 0.41 |
| 4:Dc:83:THR:HG22 | 4:Dc:111:LYS:HA | 2.02 | 0.41 |
| 4:Di:31:PRO:HG3 | 4:Di:95:TRP:HZ2 | 1.84 | 0.41 |
| 4:Dp:111:LYS:H | 4:Dp:115:GLY:HA2 | 1.85 | 0.41 |
| 4:Dy:197:LYS:HA | 4:Dy:200:GLN:HB2 | 2.03 | 0.41 |
| 1:Ah:134:ASP:HB2 | 1:Ai:155:LYS:HB2 | 2.02 | 0.41 |
| 1:Aj:229:SER:HB3 | 1:Ak:177:THR:HG22 | 2.02 | 0.41 |
| 1:Ak:106:ILE:HD12 | 1:Ak:177:THR:HG21 | 2.01 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:Ak:131:ALA:HA | 1:Al:158:ASN:HA | 2.02 | 0.41 |
| 1:Aw:106:ILE:HD12 | 1:Aw:177:THR:HG21 | 2.02 | 0.41 |
| 2:Bf:274:HIS:HB3 | 2:Bf:277:MET:HE2 | 2.02 | 0.41 |
| 2:Bg:268:LYS:HB2 | 2:Bg:353:ALA:HB1 | 2.02 | 0.41 |
| 2:Bj:250:ILE:HG23 | 2:Bj:261:VAL:HG22 | 2.03 | 0.41 |
| 2:Bl:123:LYS:HG2 | 2:Bl:129:VAL:HG22 | 2.01 | 0.41 |
| 2:Bm:274:HIS:CD2 | 2:Bn:258:THR:HB | 2.55 | 0.41 |
| 2:Bq:239:LEU:HD23 | 2:Bq:239:LEU:HA | 1.94 | 0.41 |
| 2:Br:205:LEU:HD11 | 2:Br:236:ILE:HD11 | 2.02 | 0.41 |
| 2:Bw:274:HIS:CD2 | 2:Bx:258:THR:HB | 2.55 | 0.41 |
| 2:Bx:268:LYS:HB2 | 2:Bx:353:ALA:HB1 | 2.02 | 0.41 |
| 2:By:103:VAL:HB | 2:By:137:LEU:HD21 | 2.01 | 0.41 |
| 2:By:350:GLN:HG3 | 2:Bz:361:ILE:HG21 | 2.02 | 0.41 |
| 3:Ca:269:MET:HE3 | 3:Ca:269:MET:HB3 | 1.89 | 0.41 |
| 3:Cb:278:MET:HE2 | 3:Cb:278:MET:HB3 | 1.96 | 0.41 |
| 3:Cg:34:ILE:HD11 | 3:Cg:100:MET:HB2 | 2.02 | 0.41 |
| 3:Ci:80:PHE:HA | 5:Fi:136:VAL:HG21 | 2.02 | 0.41 |
| 3:Ck:28:VAL:HG13 | 3:Ck:49:ALA:HB1 | 2.03 | 0.41 |
| 3:Cw:269:MET:HE3 | 3:Cw:269:MET:HB3 | 1.82 | 0.41 |
| 4:Db:37:GLN:HG3 | 4:Db:49:VAL:HG23 | 2.01 | 0.41 |
| 1:Aa:119:LYS:HD2 | 1:Ac:199:LEU:HB2 | 2.02 | 0.41 |
| 1:Aa:154:LEU:HD13 | 1:Az:136:LEU:HD13 | 2.03 | 0.41 |
| 1:An:131:ALA:HA | 1:Ao:158:ASN:HA | 2.02 | 0.41 |
| 1:Az:111:LEU:HB3 | 1:Az:172:MET:HG3 | 2.03 | 0.41 |
| 2:Be:83:VAL:HG12 | 2:Be:105:SER:HA | 2.02 | 0.41 |
| 2:Be:274:HIS:CD2 | 2:Bf:258:THR:HB | 2.56 | 0.41 |
| 2:Bg:252:VAL:HG22 | 2:Bg:259:ILE:HG12 | 2.01 | 0.41 |
| 2:Bh:252:VAL:HG22 | 2:Bh:259:ILE:HG12 | 2.02 | 0.41 |
| 2:Bi:252:VAL:HG22 | 2:Bi:259:ILE:HG12 | 2.01 | 0.41 |
| 2:Bi:274:HIS:CD2 | 2:Bj:258:THR:HB | 2.56 | 0.41 |
| 2:Bi:350:GLN:HG3 | 2:Bj:361:ILE:HG21 | 2.02 | 0.41 |
| 2:Bm:350:GLN:HG3 | 2:Bn:361:ILE:HG21 | 2.01 | 0.41 |
| 2:Bs:83:VAL:HG12 | 2:Bs:105:SER:HA | 2.03 | 0.41 |
| 2:Bt:239:LEU:HD23 | 2:Bt:239:LEU:HA | 1.93 | 0.41 |
| 2:Bx:83:VAL:HG12 | 2:Bx:105:SER:HA | 2.03 | 0.41 |
| 2:Bx:182:ILE:HD12 | 2:Bx:233:LEU:HD23 | 2.02 | 0.41 |
| 2:By:123:LYS:HG2 | 2:By:129:VAL:HG22 | 2.02 | 0.41 |
| 3:Ca:26:TYR:HB2 | 3:Ca:106:ILE:O | 2.20 | 0.41 |
| 3:Cg:88:ILE:HG12 | 3:Cg:106:ILE:HG23 | 2.03 | 0.41 |
| 3:Cl:201:ASP:HB3 | 3:Cl:221:ALA:HB3 | 2.03 | 0.41 |
| 3:Cm:167:VAL:HG21 | 3:Cm:191:ALA:HB2 | 2.03 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:Cn:269:MET:HE3 | 3:Cn:269:MET:HB3 | 1.94 | 0.41 |
| 3:Co:201:ASP:HB3 | 3:Co:221:ALA:HB3 | 2.03 | 0.41 |
| 3:Cp:321:TRP:HE1 | 3:Cp:374:HIS:CE1 | 2.38 | 0.41 |
| 4:Dg:216:ILE:HG21 | 4:Dg:289:LEU:HD22 | 2.03 | 0.41 |
| 4:Dt:37:GLN:HG3 | 4:Dt:49:VAL:HG23 | 2.02 | 0.41 |
| 5:Fb:145:PHE:HD1 | 5:Fb:145:PHE:HA | 1.68 | 0.41 |
| 1:Ag:111:LEU:HB3 | 1:Ag:172:MET:HG3 | 2.03 | 0.41 |
| 1:Ak:136:LEU:HD13 | 1:Al:154:LEU:HD13 | 2.02 | 0.41 |
| 2:Ba:252:VAL:HG22 | 2:Ba:259:ILE:HG12 | 2.02 | 0.41 |
| 2:Bc:317:LYS:HE2 | 2:Bd:324:LEU:HB2 | 2.03 | 0.41 |
| 2:Bf:274:HIS:CD2 | 2:Bg:258:THR:HB | 2.56 | 0.41 |
| 2:Bk:83:VAL:HG12 | 2:Bk:105:SER:HA | 2.03 | 0.41 |
| 2:Bt:103:VAL:HB | 2:Bt:137:LEU:HD21 | 2.01 | 0.41 |
| 2:Bx:252:VAL:HG22 | 2:Bx:259:ILE:HG12 | 2.02 | 0.41 |
| 3:Ca:67:LEU:HD22 | 3:Ca:85:VAL:HG21 | 2.03 | 0.41 |
| 3:Cd:220:PHE:HE2 | 3:Cd:273:VAL:HG11 | 1.85 | 0.41 |
| 3:Ch:373:MET:HE3 | 3:Ch:373:MET:HB2 | 1.81 | 0.41 |
| 3:Co:195:MET:HG3 | 3:Co:226:VAL:HG22 | 2.02 | 0.41 |
| 3:Cr:157:LEU:HA | 3:Cr:161:SER:HB2 | 2.02 | 0.41 |
| 3:Cw:321:TRP:HE1 | 3:Cw:374:HIS:CE1 | 2.38 | 0.41 |
| 4:De:165:PHE:O | 4:De:169:ILE:HG12 | 2.20 | 0.41 |
| 4:Dg:112:GLN:HE21 | 4:Dg:112:GLN:HB3 | 1.61 | 0.41 |
| 4:Dm:184:ILE:HG12 | 4:Dm:286:VAL:HG22 | 2.03 | 0.41 |
| 4:Dp:184:ILE:HG12 | 4:Dp:286:VAL:HG22 | 2.02 | 0.41 |
| 4:Dx:184:ILE:HG12 | 4:Dx:286:VAL:HG22 | 2.03 | 0.41 |
| 5:Gm:133:VAL:HG12 | 5:Gm:134:GLN:HG2 | 2.01 | 0.41 |
| 1:Aa:200:ASN:HB3 | 1:Aa:201:THR:H | 1.69 | 0.41 |
| 1:Ad:64:PRO:HB2 | 1:Ae:38:VAL:HG13 | 2.02 | 0.41 |
| 1:Aq:255:ASN:ND2 | 1:Ar:244:MET:HE1 | 2.36 | 0.41 |
| 2:Bd:315:MET:HG2 | 2:Be:328:VAL:HG22 | 2.02 | 0.41 |
| 2:Bh:123:LYS:HG2 | 2:Bh:129:VAL:HG22 | 2.02 | 0.41 |
| 2:Bj:361:ILE:HD12 | 2:Bk:161:MET:HE1 | 2.02 | 0.41 |
| 2:Bq:274:HIS:CD2 | 2:Br:258:THR:HB | 2.56 | 0.41 |
| 2:Bv:274:HIS:CD2 | 2:Bw:258:THR:HB | 2.55 | 0.41 |
| 2:Bw:350:GLN:HG3 | 2:Bx:361:ILE:HG21 | 2.02 | 0.41 |
| 2:By:252:VAL:HG22 | 2:By:259:ILE:HG12 | 2.03 | 0.41 |
| 3:Cd:88:ILE:HG23 | 3:Cd:106:ILE:HG12 | 2.03 | 0.41 |
| 3:Ce:209:LYS:HD2 | 3:Ce:212:GLN:HB2 | 2.02 | 0.41 |
| 3:Cg:201:ASP:HB3 | 3:Cg:221:ALA:HB3 | 2.02 | 0.41 |
| 3:Ck:255:ASP:HB3 | 3:Ck:258:SER:HB3 | 2.01 | 0.41 |
| 3:Cl:79:LEU:HD23 | 5:Fl:134:GLN:HB2 | 2.03 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:Cr:205:THR:HG22 | 3:Cs:260:ARG:HD3 | 2.02 | 0.41 |
| 3:Cu:164:PHE:HZ | 3:Cu:285:ILE:HB | 1.86 | 0.41 |
| 3:Cv:88:ILE:HG12 | 3:Cv:106:ILE:HG12 | 2.02 | 0.41 |
| 3:Cz:201:ASP:HB3 | 3:Cz:221:ALA:HB3 | 2.03 | 0.41 |
| 3:Cz:292:PRO:HB3 | 3:Cz:306:LEU:HD22 | 2.02 | 0.41 |
| 4:De:112:GLN:HE21 | 4:De:112:GLN:HB3 | 1.60 | 0.41 |
| 4:Du:83:THR:HG22 | 4:Du:111:LYS:HA | 2.02 | 0.41 |
| 4:Dv:86:VAL:HG21 | 4:Dv:110:PHE:CG | 2.56 | 0.41 |
| 1:Aa:111:LEU:HB3 | 1:Aa:172:MET:HG3 | 2.03 | 0.41 |
| 1:Ab:200:ASN:HB3 | 1:Ab:201:THR:H | 1.69 | 0.41 |
| 1:Ac:106:ILE:HD12 | 1:Ac:177:THR:HG21 | 2.03 | 0.41 |
| 1:Ad:106:ILE:HD12 | 1:Ad:177:THR:HG21 | 2.03 | 0.41 |
| 1:Ad:131:ALA:HA | 1:Ae:158:ASN:HA | 2.03 | 0.41 |
| 1:Af:200:ASN:HB3 | 1:Af:201:THR:H | 1.69 | 0.41 |
| 1:Af:205:TYR:CZ | 1:Af:236:SER:HB3 | 2.56 | 0.41 |
| 1:Am:106:ILE:HD12 | 1:Am:177:THR:HG21 | 2.02 | 0.41 |
| 1:Am:200:ASN:HB3 | 1:Am:201:THR:H | 1.69 | 0.41 |
| 1:Ao:131:ALA:HA | 1:Ap:158:ASN:HA | 2.01 | 0.41 |
| 1:Aq:125:LEU:HB2 | 1:Aq:160:PHE:HB3 | 2.02 | 0.41 |
| 1:Au:64:PRO:HB2 | 1:Av:38:VAL:HG13 | 2.03 | 0.41 |
| 1:Ax:111:LEU:HB3 | 1:Ax:172:MET:HG3 | 2.03 | 0.41 |
| 1:Az:200:ASN:HB3 | 1:Az:201:THR:H | 1.68 | 0.41 |
| 2:Bf:91:ALA:HB1 | 2:Bf:174:ASN:HD21 | 1.85 | 0.41 |
| 2:Bn:252:VAL:HG22 | 2:Bn:259:ILE:HG12 | 2.02 | 0.41 |
| 2:Br:91:ALA:HB1 | 2:Br:174:ASN:HD21 | 1.85 | 0.41 |
| 2:Bs:315:MET:HG2 | 2:Bt:328:VAL:HG22 | 2.02 | 0.41 |
| 2:Bt:350:GLN:HG3 | 2:Bu:361:ILE:HG21 | 2.01 | 0.41 |
| 2:Bu:315:MET:HG2 | 2:Bv:328:VAL:HG22 | 2.02 | 0.41 |
| 2:Bv:350:GLN:HG3 | 2:Bw:361:ILE:HG21 | 2.02 | 0.41 |
| 2:Bw:103:VAL:HB | 2:Bw:137:LEU:HD21 | 2.02 | 0.41 |
| 2:Bz:252:VAL:HG22 | 2:Bz:259:ILE:HG12 | 2.03 | 0.41 |
| 3:Cc:373:MET:HE3 | 3:Cc:373:MET:HB2 | 1.86 | 0.41 |
| 3:Ci:88:ILE:HG12 | 3:Ci:106:ILE:HG23 | 2.03 | 0.41 |
| 3:Cj:269:MET:HE3 | 3:Cj:269:MET:HB3 | 1.86 | 0.41 |
| 3:Cn:220:PHE:HE2 | 3:Cn:273:VAL:HG11 | 1.86 | 0.41 |
| 3:Co:164:PHE:HZ | 3:Co:285:ILE:HB | 1.86 | 0.41 |
| 3:Cs:278:MET:HE2 | 3:Cs:278:MET:HB3 | 2.00 | 0.41 |
| 3:Cx:373:MET:HE3 | 3:Cx:373:MET:HB2 | 1.82 | 0.41 |
| 3:Cy:322:HIS:HB2 | 3:Cy:338:THR:HB | 2.03 | 0.41 |
| 3:Cz:226:VAL:HB | 3:Cz:236:MET:HB3 | 2.03 | 0.41 |
| 4:Dn:90:SER:HB2 | 4:Dn:104:ILE:HD11 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Do:194:GLU:H | 4:Do:194:GLU:HG3 | 1.71 | 0.41 |
| 4:Dq:31:PRO:HB3 | 4:Dq:156:VAL:HG21 | 2.03 | 0.41 |
| 4:Dr:86:VAL:HG21 | 4:Dr:110:PHE:CG | 2.55 | 0.41 |
| 4:Ds:31:PRO:HB3 | 4:Ds:156:VAL:HG21 | 2.03 | 0.41 |
| 4:Ds:194:GLU:H | 4:Ds:194:GLU:HG3 | 1.71 | 0.41 |
| 4:Dw:175:TYR:HE1 | 4:Dw:209:TYR:HB2 | 1.86 | 0.41 |
| 4:Dx:86:VAL:HG21 | 4:Dx:110:PHE:CG | 2.55 | 0.41 |
| 1:Am:64:PRO:HB2 | 1:An:38:VAL:HG13 | 2.03 | 0.41 |
| 1:Am:184:LEU:HD12 | 1:Am:188:ASN:HB2 | 2.01 | 0.41 |
| 1:Aq:119:LYS:HB3 | 1:As:199:LEU:HD12 | 2.03 | 0.41 |
| 1:As:154:LEU:HD21 | 1:Au:258:LEU:HD11 | 2.02 | 0.41 |
| 1:Ax:136:LEU:HD13 | 1:Ay:154:LEU:HD13 | 2.03 | 0.41 |
| 2:Bb:274:HIS:CD2 | 2:Bc:258:THR:HB | 2.56 | 0.41 |
| 2:Bg:274:HIS:HB3 | 2:Bg:277:MET:HE2 | 2.03 | 0.41 |
| 2:Bh:350:GLN:HG3 | 2:Bi:361:ILE:HG21 | 2.02 | 0.41 |
| 2:Bl:274:HIS:CD2 | 2:Bm:258:THR:HB | 2.56 | 0.41 |
| 2:Bs:105:SER:HB2 | 2:Bs:112:LEU:HD11 | 2.03 | 0.41 |
| 3:Ci:326:PHE:HD1 | 3:Ci:328:ASP:H | 1.68 | 0.41 |
| 3:Cq:88:ILE:HG23 | 3:Cq:106:ILE:HG12 | 2.02 | 0.41 |
| 3:Ct:249:PRO:HG2 | 3:Ct:252:SER:HB3 | 2.01 | 0.41 |
| 1:Aa:205:TYR:CZ | 1:Aa:236:SER:HB3 | 2.56 | 0.40 |
| 1:Ab:111:LEU:HB3 | 1:Ab:172:MET:HG3 | 2.04 | 0.40 |
| 1:Ag:136:LEU:HD13 | 1:Ah:154:LEU:HD13 | 2.02 | 0.40 |
| 1:Ah:64:PRO:HB2 | 1:Ai:38:VAL:HG13 | 2.02 | 0.40 |
| 1:Aj:136:LEU:HD13 | 1:Ak:154:LEU:HD13 | 2.03 | 0.40 |
| 1:Ar:64:PRO:HB2 | 1:As:38:VAL:HG13 | 2.03 | 0.40 |
| 1:As:136:LEU:HD13 | 1:At:154:LEU:HD13 | 2.02 | 0.40 |
| 1:Ay:106:ILE:HD12 | 1:Ay:177:THR:HG21 | 2.03 | 0.40 |
| 2:Bg:315:MET:HG2 | 2:Bh:328:VAL:HG22 | 2.02 | 0.40 |
| 2:Bj:274:HIS:CD2 | 2:Bk:258:THR:HB | 2.56 | 0.40 |
| 2:Bk:103:VAL:HB | 2:Bk:137:LEU:HD21 | 2.04 | 0.40 |
| 2:Bk:274:HIS:CD2 | 2:Bl:258:THR:HB | 2.56 | 0.40 |
| 2:Bm:315:MET:HG2 | 2:Bn:328:VAL:HG22 | 2.03 | 0.40 |
| 2:Bo:274:HIS:CD2 | 2:Bp:258:THR:HB | 2.55 | 0.40 |
| 3:Cb:365:TYR:HB3 | 4:Du:91:MET:HE1 | 2.03 | 0.40 |
| 3:Cf:209:LYS:HD2 | 3:Cf:212:GLN:HB2 | 2.02 | 0.40 |
| 3:Ch:78:TYR:HD2 | 3:Ch:88:ILE:HB | 1.86 | 0.40 |
| 3:Ch:201:ASP:HB3 | 3:Ch:221:ALA:HB3 | 2.03 | 0.40 |
| 3:Ch:239:THR:HG21 | 3:Ci:155:ARG:HD3 | 2.03 | 0.40 |
| 3:Ck:167:VAL:HG21 | 3:Ck:191:ALA:HB2 | 2.03 | 0.40 |
| 3:Co:54:VAL:HG13 | 3:Co:59:ALA:HB3 | 2.03 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:Ct:195:MET:HG3 | 3:Ct:226:VAL:HG22 | 2.03 | 0.40 |
| 4:Da:197:LYS:HA | 4:Da:200:GLN:HB2 | 2.04 | 0.40 |
| 4:Da:216:ILE:HG21 | 4:Da:289:LEU:HD22 | 2.03 | 0.40 |
| 4:De:184:ILE:HG12 | 4:De:286:VAL:HG22 | 2.03 | 0.40 |
| 4:Dq:83:THR:HG22 | 4:Dq:111:LYS:HA | 2.02 | 0.40 |
| 1:Al:134:ASP:HB2 | 1:Am:155:LYS:HB2 | 2.02 | 0.40 |
| 1:Ar:136:LEU:HD13 | 1:As:154:LEU:HD13 | 2.04 | 0.40 |
| 1:At:255:ASN:ND2 | 1:Au:244:MET:HE1 | 2.37 | 0.40 |
| 2:Ba:259:ILE:HD11 | 2:Ba:342:MET:HB2 | 2.03 | 0.40 |
| 2:Be:91:ALA:HB1 | 2:Be:174:ASN:HD21 | 1.86 | 0.40 |
| 2:Bk:40:LEU:HD23 | 2:Bk:82:ALA:HA | 2.03 | 0.40 |
| 2:Bl:239:LEU:HD23 | 2:Bl:239:LEU:HA | 1.92 | 0.40 |
| 2:Bl:317:LYS:HE2 | 2:Bm:324:LEU:HB2 | 2.04 | 0.40 |
| 2:Br:274:HIS:HB3 | 2:Br:277:MET:HE2 | 2.02 | 0.40 |
| 2:Bt:56:GLN:HE21 | 2:Bt:56:GLN:HB3 | 1.63 | 0.40 |
| 3:Cc:201:ASP:HB3 | 3:Cc:221:ALA:HB3 | 2.03 | 0.40 |
| 3:Cq:327:ILE:H | 3:Cq:327:ILE:HG13 | 1.66 | 0.40 |
| 3:Cy:167:VAL:HG21 | 3:Cy:191:ALA:HB2 | 2.03 | 0.40 |
| 4:Dm:83:THR:HG22 | 4:Dm:111:LYS:HA | 2.03 | 0.40 |
| 4:Dy:165:PHE:O | 4:Dy:169:ILE:HG12 | 2.21 | 0.40 |
| 4:Dz:107:LEU:HD13 | 4:Dz:107:LEU:HA | 1.98 | 0.40 |
| 1:Ae:106:ILE:HD12 | 1:Ae:177:THR:HG21 | 2.04 | 0.40 |
| 1:Am:131:ALA:HA | 1:An:158:ASN:HA | 2.02 | 0.40 |
| 1:Au:255:ASN:ND2 | 1:Av:244:MET:HE1 | 2.36 | 0.40 |
| 2:Bc:123:LYS:HG2 | 2:Bc:129:VAL:HG22 | 2.02 | 0.40 |
| 2:Bk:350:GLN:HG3 | 2:Bl:361:ILE:HG21 | 2.03 | 0.40 |
| 3:Cd:28:VAL:HG13 | 3:Cd:49:ALA:HB1 | 2.04 | 0.40 |
| 3:Cd:292:PRO:HB3 | 3:Cd:306:LEU:HD22 | 2.04 | 0.40 |
| 4:Dc:165:PHE:O | 4:Dc:169:ILE:HG12 | 2.21 | 0.40 |
| 4:Dh:169:ILE:HG13 | 4:Dh:172:LEU:HD12 | 2.02 | 0.40 |
| 4:Di:197:LYS:HA | 4:Di:200:GLN:HB2 | 2.04 | 0.40 |
| 4:Dq:194:GLU:H | 4:Dq:194:GLU:HG3 | 1.72 | 0.40 |
| 1:Ab:106:ILE:HD12 | 1:Ab:177:THR:HG21 | 2.02 | 0.40 |
| 1:Am:136:LEU:HD13 | 1:An:154:LEU:HD13 | 2.03 | 0.40 |
| 1:An:178:VAL:HG21 | 1:An:191:ILE:HD12 | 2.03 | 0.40 |
| 1:Ao:119:LYS:HD2 | 1:Aq:199:LEU:HB2 | 2.02 | 0.40 |
| 1:Ar:154:LEU:HD21 | 1:At:258:LEU:HD11 | 2.03 | 0.40 |
| 1:Av:255:ASN:ND2 | 1:Aw:244:MET:HE1 | 2.37 | 0.40 |
| 2:Bc:274:HIS:CD2 | 2:Bd:258:THR:HB | 2.56 | 0.40 |
| 2:Bd:123:LYS:HG2 | 2:Bd:129:VAL:HG22 | 2.02 | 0.40 |
| 2:Bk:252:VAL:HG22 | 2:Bk:259:ILE:HG12 | 2.03 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:Bq:103:VAL:HB | 2:Bq:137:LEU:HD21 | 2.03 | 0.40 |
| 2:Bs:274:HIS:HB3 | 2:Bs:277:MET:HE2 | 2.03 | 0.40 |
| 2:Bz:239:LEU:HD23 | 2:Bz:239:LEU:HA | 1.92 | 0.40 |
| 3:Cc:239:THR:HG21 | 3:Cd:155:ARG:HD3 | 2.03 | 0.40 |
| 3:Cf:164:PHE:HZ | 3:Cf:285:ILE:HB | 1.87 | 0.40 |
| 3:Ch:88:ILE:HG23 | 3:Ch:106:ILE:HG12 | 2.04 | 0.40 |
| 3:Cp:126:ILE:O | 3:Cp:169:THR:HA | 2.22 | 0.40 |
| 3:Ct:226:VAL:HB | 3:Ct:236:MET:HB3 | 2.03 | 0.40 |
| 3:Cz:269:MET:HE3 | 3:Cz:269:MET:HB3 | 1.82 | 0.40 |
| 4:Dk:216:ILE:HG21 | 4:Dk:289:LEU:HD22 | 2.03 | 0.40 |
| 4:Dl:90:SER:HB2 | 4:Dl:104:ILE:HD11 | 2.04 | 0.40 |
| 4:Dl:169:ILE:HG13 | 4:Dl:172:LEU:HD12 | 2.02 | 0.40 |
| 4:Ds:197:LYS:HA | 4:Ds:200:GLN:HB2 | 2.03 | 0.40 |
| 4:Du:165:PHE:O | 4:Du:169:ILE:HG12 | 2.22 | 0.40 |
| 4:Du:184:ILE:HG12 | 4:Du:286:VAL:HG22 | 2.04 | 0.40 |
| 1:Af:255:ASN:ND2 | 1:Ag:244:MET:HE1 | 2.36 | 0.40 |
| 1:Ak:255:ASN:ND2 | 1:Al:244:MET:HE1 | 2.36 | 0.40 |
| 1:Ap:131:ALA:HA | 1:Aq:158:ASN:HA | 2.02 | 0.40 |
| 1:Ap:154:LEU:HD21 | 1:Ar:258:LEU:HD11 | 2.03 | 0.40 |
| 1:Aw:136:LEU:HD13 | 1:Ax:154:LEU:HD13 | 2.03 | 0.40 |
| 1:Ay:205:TYR:CZ | 1:Ay:236:SER:HB3 | 2.56 | 0.40 |
| 1:Az:106:ILE:HD12 | 1:Az:177:THR:HG21 | 2.04 | 0.40 |
| 2:Bd:274:HIS:HB3 | 2:Bd:277:MET:HE2 | 2.02 | 0.40 |
| 2:Bm:252:VAL:HG22 | 2:Bm:259:ILE:HG12 | 2.02 | 0.40 |
| 2:Bq:274:HIS:HB3 | 2:Bq:277:MET:HE2 | 2.02 | 0.40 |
| 2:Bu:268:LYS:HB2 | 2:Bu:353:ALA:HB1 | 2.01 | 0.40 |
| 2:Bv:252:VAL:HG22 | 2:Bv:259:ILE:HG12 | 2.04 | 0.40 |
| 2:Bv:361:ILE:HD12 | 2:Bw:161:MET:HE1 | 2.04 | 0.40 |
| 3:Cc:126:ILE:O | 3:Cc:169:THR:HA | 2.21 | 0.40 |
| 3:Cd:227:PHE:HD1 | 3:Cd:234:GLU:HA | 1.86 | 0.40 |
| 3:Cg:164:PHE:HZ | 3:Cg:285:ILE:HB | 1.87 | 0.40 |
| 3:Cl:28:VAL:HG13 | 3:Cl:49:ALA:HB1 | 2.03 | 0.40 |
| 3:Cq:28:VAL:HG13 | 3:Cq:49:ALA:HB1 | 2.03 | 0.40 |
| 4:Dc:93:PRO:HB2 | 4:Dc:95:TRP:CE3 | 2.54 | 0.40 |
| 4:Dc:197:LYS:HD3 | 4:Dd:292:THR:HB | 2.02 | 0.40 |
| 4:Df:38:MET:HE2 | 4:Df:38:MET:HB2 | 1.95 | 0.40 |
| 4:Do:184:ILE:HG12 | 4:Do:286:VAL:HG22 | 2.03 | 0.40 |
| 4:Dr:107:LEU:HB3 | 4:Dr:108:GLN:H | 1.81 | 0.40 |
| 4:Du:194:GLU:H | 4:Du:194:GLU:HG3 | 1.71 | 0.40 |
| 4:Dw:165:PHE:O | 4:Dw:169:ILE:HG12 | 2.22 | 0.40 |
| 4:Dw:184:ILE:HG12 | 4:Dw:286:VAL:HG22 | 2.04 | 0.40 |

There are no symmetry-related clashes.

## 5.3 Torsion angles (i)

### 5.3.1 Protein backbone (i)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 1 | Aa | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | Ab | 219/227 (96%) | 215 (98%) | 4 (2%) | 0 | 100 | 100 |
| 1 | Ac | 219/227 (96%) | 213 (97%) | 6 (3%) | 0 | 100 | 100 |
| 1 | Ad | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | Ae | 219/227 (96%) | 215 (98%) | 4 (2%) | 0 | 100 | 100 |
| 1 | Af | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | Ag | 219/227 (96%) | 212 (97%) | 7 (3%) | 0 | 100 | 100 |
| 1 | Ah | 219/227 (96%) | 213 (97%) | 6 (3%) | 0 | 100 | 100 |
| 1 | Ai | 219/227 (96%) | 215 (98%) | 4 (2%) | 0 | 100 | 100 |
| 1 | Aj | 219/227 (96%) | 216 (99%) | 3 (1%) | 0 | 100 | 100 |
| 1 | Ak | 219/227 (96%) | 215 (98%) | 4 (2%) | 0 | 100 | 100 |
| 1 | Al | 219/227 (96%) | 215 (98%) | 4 (2%) | 0 | 100 | 100 |
| 1 | Am | 219/227 (96%) | 213 (97%) | 6 (3%) | 0 | 100 | 100 |
| 1 | An | 219/227 (96%) | 215 (98%) | 4 (2%) | 0 | 100 | 100 |
| 1 | Ao | 219/227 (96%) | 213 (97%) | 6 (3%) | 0 | 100 | 100 |
| 1 | Ap | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | Aq | 219/227 (96%) | 215 (98%) | 4 (2%) | 0 | 100 | 100 |
| 1 | Ar | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | As | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | At | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | Au | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | Av | 219/227 (96%) | 215 (98%) | 4 (2%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 1 | Aw | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | Ax | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 1 | Ay | 219/227 (96%) | 213 (97%) | 6 (3%) | 0 | 100 | 100 |
| 1 | Az | 219/227 (96%) | 214 (98%) | 5 (2%) | 0 | 100 | 100 |
| 2 | Ba | 312/343 (91%) | 304 (97%) | 8 (3%) | 0 | 100 | 100 |
| 2 | Bb | 312/343 (91%) | 302 (97%) | 10 (3%) | 0 | 100 | 100 |
| 2 | Bc | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bd | 312/343 (91%) | 302 (97%) | 10 (3%) | 0 | 100 | 100 |
| 2 | Be | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bf | 312/343 (91%) | 302 (97%) | 10 (3%) | 0 | 100 | 100 |
| 2 | Bg | 312/343 (91%) | 304 (97%) | 8 (3%) | 0 | 100 | 100 |
| 2 | Bh | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bi | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bj | 312/343 (91%) | 302 (97%) | 10 (3%) | 0 | 100 | 100 |
| 2 | Bk | 312/343 (91%) | 304 (97%) | 8 (3%) | 0 | 100 | 100 |
| 2 | Bl | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bm | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bn | 312/343 (91%) | 304 (97%) | 8 (3%) | 0 | 100 | 100 |
| 2 | Bo | 312/343 (91%) | 304 (97%) | 8 (3%) | 0 | 100 | 100 |
| 2 | Bp | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bq | 312/343 (91%) | 304 (97%) | 8 (3%) | 0 | 100 | 100 |
| 2 | Br | 312/343 (91%) | 301 (96%) | 11 (4%) | 0 | 100 | 100 |
| 2 | Bs | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bt | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bu | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bv | 312/343 (91%) | 304 (97%) | 8 (3%) | 0 | 100 | 100 |
| 2 | Bw | 312/343 (91%) | 302 (97%) | 10 (3%) | 0 | 100 | 100 |
| 2 | Bx | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | By | 312/343 (91%) | 303 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | Bz | 312/343 (91%) | 302 (97%) | 10 (3%) | 0 | 100 | 100 |
| 3 | Ca | 350/352 (99%) | 342 (98%) | 8 (2%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 3 | Cb | 350/352 (99%) | 332 (95%) | 18 (5%) | 0 | 100 | 100 |
| 3 | Cc | 350/352 (99%) | 343 (98%) | 7 (2%) | 0 | 100 | 100 |
| 3 | Cd | 350/352 (99%) | 340 (97%) | 10 (3%) | 0 | 100 | 100 |
| 3 | Ce | 350/352 (99%) | 338 (97%) | 12 (3%) | 0 | 100 | 100 |
| 3 | Cf | 350/352 (99%) | 342 (98%) | 8 (2%) | 0 | 100 | 100 |
| 3 | Cg | 350/352 (99%) | 342 (98%) | 8 (2%) | 0 | 100 | 100 |
| 3 | Ch | 350/352 (99%) | 340 (97%) | 10 (3%) | 0 | 100 | 100 |
| 3 | Ci | 350/352 (99%) | 338 (97%) | 12 (3%) | 0 | 100 | 100 |
| 3 | Cj | 350/352 (99%) | 339 (97%) | 11 (3%) | 0 | 100 | 100 |
| 3 | Ck | 350/352 (99%) | 341 (97%) | 9 (3%) | 0 | 100 | 100 |
| 3 | Cl | 350/352 (99%) | 339 (97%) | 11 (3%) | 0 | 100 | 100 |
| 3 | Cm | 350/352 (99%) | 343 (98%) | 7 (2%) | 0 | 100 | 100 |
| 3 | Cn | 350/352 (99%) | 340 (97%) | 10 (3%) | 0 | 100 | 100 |
| 3 | Co | 350/352 (99%) | 341 (97%) | 9 (3%) | 0 | 100 | 100 |
| 3 | Cp | 350/352 (99%) | 340 (97%) | 10 (3%) | 0 | 100 | 100 |
| 3 | Cq | 350/352 (99%) | 343 (98%) | 7 (2%) | 0 | 100 | 100 |
| 3 | Cr | 350/352 (99%) | 341 (97%) | 9 (3%) | 0 | 100 | 100 |
| 3 | Cs | 350/352 (99%) | 341 (97%) | 9 (3%) | 0 | 100 | 100 |
| 3 | Ct | 350/352 (99%) | 339 (97%) | 11 (3%) | 0 | 100 | 100 |
| 3 | Cu | 350/352 (99%) | 340 (97%) | 10 (3%) | 0 | 100 | 100 |
| 3 | Cv | 350/352 (99%) | 343 (98%) | 7 (2%) | 0 | 100 | 100 |
| 3 | Cw | 350/352 (99%) | 338 (97%) | 12 (3%) | 0 | 100 | 100 |
| 3 | Cx | 350/352 (99%) | 340 (97%) | 10 (3%) | 0 | 100 | 100 |
| 3 | Cy | 350/352 (99%) | 342 (98%) | 8 (2%) | 0 | 100 | 100 |
| 3 | Cz | 350/352 (99%) | 341 (97%) | 9 (3%) | 0 | 100 | 100 |
| 4 | Da | 253/272 (93%) | 239 (94%) | 14 (6%) | 0 | 100 | 100 |
| 4 | Db | 254/272 (93%) | 234 (92%) | 18 (7%) | 2 (1%) | 16 | 37 |
| 4 | Dc | 253/272 (93%) | 239 (94%) | 14 (6%) | 0 | 100 | 100 |
| 4 | Dd | 254/272 (93%) | 234 (92%) | 18 (7%) | 2 (1%) | 16 | 37 |
| 4 | De | 253/272 (93%) | 239 (94%) | 14 (6%) | 0 | 100 | 100 |
| 4 | Df | 254/272 (93%) | 234 (92%) | 18 (7%) | 2 (1%) | 16 | 37 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 4 | Dg | 253/272 (93%) | 239 (94%) | 14 (6%) | 0 | 100 | 100 |
| 4 | Dh | 254/272 (93%) | 235 (92%) | 17 (7%) | 2 (1%) | 16 | 37 |
| 4 | Di | 253/272 (93%) | 238 (94%) | 15 (6%) | 0 | 100 | 100 |
| 4 | Dj | 254/272 (93%) | 234 (92%) | 18 (7%) | 2 (1%) | 16 | 37 |
| 4 | Dk | 253/272 (93%) | 236 (93%) | 17 (7%) | 0 | 100 | 100 |
| 4 | Dl | 254/272 (93%) | 233 (92%) | 19 (8%) | 2 (1%) | 16 | 37 |
| 4 | Dm | 253/272 (93%) | 238 (94%) | 15 (6%) | 0 | 100 | 100 |
| 4 | Dn | 254/272 (93%) | 233 (92%) | 19 (8%) | 2 (1%) | 16 | 37 |
| 4 | Do | 253/272 (93%) | 239 (94%) | 14 (6%) | 0 | 100 | 100 |
| 4 | Dp | 254/272 (93%) | 235 (92%) | 17 (7%) | 2 (1%) | 16 | 37 |
| 4 | Dq | 253/272 (93%) | 237 (94%) | 16 (6%) | 0 | 100 | 100 |
| 4 | Dr | 254/272 (93%) | 232 (91%) | 20 (8%) | 2 (1%) | 16 | 37 |
| 4 | Ds | 253/272 (93%) | 239 (94%) | 14 (6%) | 0 | 100 | 100 |
| 4 | Dt | 254/272 (93%) | 234 (92%) | 18 (7%) | 2 (1%) | 16 | 37 |
| 4 | Du | 253/272 (93%) | 238 (94%) | 15 (6%) | 0 | 100 | 100 |
| 4 | Dv | 254/272 (93%) | 233 (92%) | 19 (8%) | 2 (1%) | 16 | 37 |
| 4 | Dw | 253/272 (93%) | 239 (94%) | 14 (6%) | 0 | 100 | 100 |
| 4 | Dx | 254/272 (93%) | 233 (92%) | 19 (8%) | 2 (1%) | 16 | 37 |
| 4 | Dy | 253/272 (93%) | 240 (95%) | 13 (5%) | 0 | 100 | 100 |
| 4 | Dz | 254/272 (93%) | 234 (92%) | 18 (7%) | 2 (1%) | 16 | 37 |
| 5 | Fa | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fb | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fc | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fd | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fe | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Ff | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fg | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fh | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fi | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fj | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fk | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 5 | Fl | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fm | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fn | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fo | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fp | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fq | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fr | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fs | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Ft | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fu | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fv | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fw | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fx | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fy | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Fz | 13/15 (87%) | 12 (92%) | 1 (8%) | 0 | 100 | 100 |
| 5 | Ga | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gb | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gc | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gd | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Ge | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gf | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gg | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gh | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gi | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gj | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gk | 11/15 (73%) | 7 (64%) | 4 (36%) | 0 | 100 | 100 |
| 5 | Gl | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gm | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gn | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Go | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gp | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 5 | Gq | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gr | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gs | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gt | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gu | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| 5 | Gv | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gw | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gx | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gy | 11/15 (73%) | 8 (73%) | 3 (27%) | 0 | 100 | 100 |
| 5 | Gz | 11/15 (73%) | 9 (82%) | 2 (18%) | 0 | 100 | 100 |
| All | All | 30121/31824 (95%) | 28961 (96%) | 1134 (4%) | 26 (0%) | 49 | 73 |

All (26) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | Db | 116 | TYR |
| 4 | Dd | 116 | TYR |
| 4 | Df | 116 | TYR |
| 4 | Dh | 116 | TYR |
| 4 | Dj | 116 | TYR |
| 4 | Dl | 116 | TYR |
| 4 | Dn | 116 | TYR |
| 4 | Dp | 116 | TYR |
| 4 | Dr | 116 | TYR |
| 4 | Dt | 116 | TYR |
| 4 | Dv | 116 | TYR |
| 4 | Dx | 116 | TYR |
| 4 | Dz | 116 | TYR |
| 4 | Db | 193 | VAL |
| 4 | Df | 193 | VAL |
| 4 | Dh | 193 | VAL |
| 4 | Dl | 193 | VAL |
| 4 | Dd | 193 | VAL |
| 4 | Dj | 193 | VAL |
| 4 | Dn | 193 | VAL |
| 4 | Dp | 193 | VAL |
| 4 | Dr | 193 | VAL |
| 4 | Dt | 193 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | Dv | 193 | VAL |
| 4 | Dx | 193 | VAL |
| 4 | Dz | 193 | VAL |

### 5.3.2 Protein sidechains (i)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|---|---|---|---|---|---|---|
| 1 | Aa | 182/186 (98%) | 176 (97%) | 6 (3%) | 33 | 63 |
| 1 | Ab | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Ac | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Ad | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Ae | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Af | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Ag | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Ah | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Ai | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Aj | 182/186 (98%) | 176 (97%) | 6 (3%) | 33 | 63 |
| 1 | Ak | 182/186 (98%) | 176 (97%) | 6 (3%) | 33 | 63 |
| 1 | Al | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Am | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | An | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Ao | 182/186 (98%) | 175 (96%) | 7 (4%) | 29 | 58 |
| 1 | Ap | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Aq | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Ar | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | As | 182/186 (98%) | 176 (97%) | 6 (3%) | 33 | 63 |
| 1 | At | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Au | 182/186 (98%) | 176 (97%) | 6 (3%) | 33 | 63 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|---|---|---|---|---|---|---|
| 1 | Av | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Aw | 182/186 (98%) | 177 (97%) | 5 (3%) | 39 | 69 |
| 1 | Ax | 182/186 (98%) | 176 (97%) | 6 (3%) | 33 | 63 |
| 1 | Ay | 182/186 (98%) | 178 (98%) | 4 (2%) | 45 | 74 |
| 1 | Az | 182/186 (98%) | 176 (97%) | 6 (3%) | 33 | 63 |
| 2 | Ba | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bb | 246/269 (91%) | 238 (97%) | 8 (3%) | 33 | 63 |
| 2 | Bc | 246/269 (91%) | 238 (97%) | 8 (3%) | 33 | 63 |
| 2 | Bd | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Be | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bf | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bg | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bh | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bi | 246/269 (91%) | 238 (97%) | 8 (3%) | 33 | 63 |
| 2 | Bj | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bk | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bl | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bm | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bn | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bo | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bp | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bq | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Br | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bs | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bt | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bu | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bv | 246/269 (91%) | 238 (97%) | 8 (3%) | 33 | 63 |
| 2 | Bw | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bx | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | By | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |
| 2 | Bz | 246/269 (91%) | 239 (97%) | 7 (3%) | 38 | 68 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|---|---|---|---|---|---|---|
| 3 | Ca | 299/303 (99%) | 296 (99%) | 3 (1%) | 68 | 86 |
| 3 | Cb | 299/303 (99%) | 296 (99%) | 3 (1%) | 68 | 86 |
| 3 | Cc | 299/303 (99%) | 295 (99%) | 4 (1%) | 61 | 83 |
| 3 | Cd | 299/303 (99%) | 293 (98%) | 6 (2%) | 48 | 76 |
| 3 | Ce | 299/303 (99%) | 295 (99%) | 4 (1%) | 61 | 83 |
| 3 | Cf | 299/303 (99%) | 294 (98%) | 5 (2%) | 53 | 79 |
| 3 | Cg | 299/303 (99%) | 293 (98%) | 6 (2%) | 48 | 76 |
| 3 | Ch | 299/303 (99%) | 294 (98%) | 5 (2%) | 53 | 79 |
| 3 | Ci | 299/303 (99%) | 292 (98%) | 7 (2%) | 44 | 73 |
| 3 | Cj | 299/303 (99%) | 296 (99%) | 3 (1%) | 68 | 86 |
| 3 | Ck | 299/303 (99%) | 291 (97%) | 8 (3%) | 39 | 69 |
| 3 | Cl | 299/303 (99%) | 295 (99%) | 4 (1%) | 61 | 83 |
| 3 | Cm | 299/303 (99%) | 294 (98%) | 5 (2%) | 53 | 79 |
| 3 | Cn | 299/303 (99%) | 296 (99%) | 3 (1%) | 68 | 86 |
| 3 | Co | 299/303 (99%) | 293 (98%) | 6 (2%) | 48 | 76 |
| 3 | Cp | 299/303 (99%) | 295 (99%) | 4 (1%) | 61 | 83 |
| 3 | Cq | 299/303 (99%) | 295 (99%) | 4 (1%) | 61 | 83 |
| 3 | Cr | 299/303 (99%) | 291 (97%) | 8 (3%) | 39 | 69 |
| 3 | Cs | 299/303 (99%) | 296 (99%) | 3 (1%) | 68 | 86 |
| 3 | Ct | 299/303 (99%) | 296 (99%) | 3 (1%) | 68 | 86 |
| 3 | Cu | 299/303 (99%) | 293 (98%) | 6 (2%) | 48 | 76 |
| 3 | Cv | 299/303 (99%) | 293 (98%) | 6 (2%) | 48 | 76 |
| 3 | Cw | 299/303 (99%) | 293 (98%) | 6 (2%) | 48 | 76 |
| 3 | Cx | 299/303 (99%) | 295 (99%) | 4 (1%) | 61 | 83 |
| 3 | Cy | 299/303 (99%) | 294 (98%) | 5 (2%) | 53 | 79 |
| 3 | Cz | 299/303 (99%) | 295 (99%) | 4 (1%) | 61 | 83 |
| 4 | Da | 231/244 (95%) | 222 (96%) | 9 (4%) | 28 | 57 |
| 4 | Db | 229/244 (94%) | 225 (98%) | 4 (2%) | 53 | 79 |
| 4 | Dc | 231/244 (95%) | 223 (96%) | 8 (4%) | 32 | 61 |
| 4 | Dd | 229/244 (94%) | 226 (99%) | 3 (1%) | 61 | 83 |
| 4 | De | 231/244 (95%) | 222 (96%) | 9 (4%) | 28 | 57 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|---|---|---|---|---|---|
| 4 | Df | 229/244 (94%) | 225 (98%) | 4 (2%) | 53 79 |
| 4 | Dg | 231/244 (95%) | 222 (96%) | 9 (4%) | 28 57 |
| 4 | Dh | 229/244 (94%) | 225 (98%) | 4 (2%) | 53 79 |
| 4 | Di | 231/244 (95%) | 221 (96%) | 10 (4%) | 26 54 |
| 4 | Dj | 229/244 (94%) | 227 (99%) | 2 (1%) | 70 87 |
| 4 | Dk | 231/244 (95%) | 222 (96%) | 9 (4%) | 28 57 |
| 4 | Dl | 229/244 (94%) | 226 (99%) | 3 (1%) | 61 83 |
| 4 | Dm | 231/244 (95%) | 223 (96%) | 8 (4%) | 32 61 |
| 4 | Dn | 229/244 (94%) | 226 (99%) | 3 (1%) | 61 83 |
| 4 | Do | 231/244 (95%) | 223 (96%) | 8 (4%) | 32 61 |
| 4 | Dp | 229/244 (94%) | 226 (99%) | 3 (1%) | 61 83 |
| 4 | Dq | 231/244 (95%) | 223 (96%) | 8 (4%) | 32 61 |
| 4 | Dr | 229/244 (94%) | 225 (98%) | 4 (2%) | 53 79 |
| 4 | Ds | 231/244 (95%) | 223 (96%) | 8 (4%) | 32 61 |
| 4 | Dt | 229/244 (94%) | 224 (98%) | 5 (2%) | 45 74 |
| 4 | Du | 231/244 (95%) | 223 (96%) | 8 (4%) | 32 61 |
| 4 | Dv | 229/244 (94%) | 226 (99%) | 3 (1%) | 61 83 |
| 4 | Dw | 231/244 (95%) | 222 (96%) | 9 (4%) | 28 57 |
| 4 | Dx | 229/244 (94%) | 225 (98%) | 4 (2%) | 53 79 |
| 4 | Dy | 231/244 (95%) | 222 (96%) | 9 (4%) | 28 57 |
| 4 | Dz | 229/244 (94%) | 225 (98%) | 4 (2%) | 53 79 |
| 5 | Fa | 14/14 (100%) | 14 (100%) | 0 | 100 100 |
| 5 | Fb | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 33 |
| 5 | Fc | 14/14 (100%) | 14 (100%) | 0 | 100 100 |
| 5 | Fd | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 33 |
| 5 | Fe | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 33 |
| 5 | Ff | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 33 |
| 5 | Fg | 14/14 (100%) | 14 (100%) | 0 | 100 100 |
| 5 | Fh | 14/14 (100%) | 14 (100%) | 0 | 100 100 |
| 5 | Fi | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 33 |
| 5 | Fj | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 33 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|---|---|---|---|---|---|---|
| 5 | Fk | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Fl | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Fm | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Fn | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Fo | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Fp | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 | 33 |
| 5 | Fq | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 | 33 |
| 5 | Fr | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Fs | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Ft | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 | 33 |
| 5 | Fu | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 | 33 |
| 5 | Fv | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Fw | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Fx | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Fy | 14/14 (100%) | 13 (93%) | 1 (7%) | 13 | 33 |
| 5 | Fz | 14/14 (100%) | 14 (100%) | 0 | 100 | 100 |
| 5 | Ga | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 | 30 |
| 5 | Gb | 13/14 (93%) | 13 (100%) | 0 | 100 | 100 |
| 5 | Gc | 13/14 (93%) | 13 (100%) | 0 | 100 | 100 |
| 5 | Gd | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 | 30 |
| 5 | Ge | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 | 30 |
| 5 | Gf | 13/14 (93%) | 13 (100%) | 0 | 100 | 100 |
| 5 | Gg | 13/14 (93%) | 13 (100%) | 0 | 100 | 100 |
| 5 | Gh | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 | 30 |
| 5 | Gi | 13/14 (93%) | 13 (100%) | 0 | 100 | 100 |
| 5 | Gj | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 | 30 |
| 5 | Gk | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 | 30 |
| 5 | Gl | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 | 30 |
| 5 | Gm | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 | 30 |
| 5 | Gn | 13/14 (93%) | 11 (85%) | 2 (15%) | 2 | 7 |
| 5 | Go | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 | 30 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|---|---|---|---|---|---|
| 5 | Gp | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 30 |
| 5 | Gq | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 30 |
| 5 | Gr | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 30 |
| 5 | Gs | 13/14 (93%) | 13 (100%) | 0 | 100 100 |
| 5 | Gt | 13/14 (93%) | 10 (77%) | 3 (23%) | 1 2 |
| 5 | Gu | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 30 |
| 5 | Gv | 13/14 (93%) | 11 (85%) | 2 (15%) | 2 7 |
| 5 | Gw | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 30 |
| 5 | Gx | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 30 |
| 5 | Gy | 13/14 (93%) | 12 (92%) | 1 (8%) | 12 30 |
| 5 | Gz | 13/14 (93%) | 13 (100%) | 0 | 100 100 |
| All | All | 25584/26780 (96%) | 24943 (98%) | 641 (2%) | 42 71 |

All (641) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | Aa | 106 | ILE |
| 1 | Aa | 112 | ASN |
| 1 | Aa | 145 | ILE |
| 1 | Aa | 176 | ILE |
| 1 | Aa | 201 | THR |
| 1 | Aa | 240 | THR |
| 1 | Ab | 106 | ILE |
| 1 | Ab | 112 | ASN |
| 1 | Ab | 145 | ILE |
| 1 | Ab | 176 | ILE |
| 1 | Ab | 201 | THR |
| 1 | Ac | 106 | ILE |
| 1 | Ac | 112 | ASN |
| 1 | Ac | 145 | ILE |
| 1 | Ac | 176 | ILE |
| 1 | Ac | 201 | THR |
| 1 | Ad | 106 | ILE |
| 1 | Ad | 112 | ASN |
| 1 | Ad | 145 | ILE |
| 1 | Ad | 176 | ILE |
| 1 | Ad | 201 | THR |
| 1 | Ae | 106 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | Ae | 112 | ASN |
| 1 | Ae | 145 | ILE |
| 1 | Ae | 176 | ILE |
| 1 | Ae | 201 | THR |
| 1 | Af | 106 | ILE |
| 1 | Af | 112 | ASN |
| 1 | Af | 145 | ILE |
| 1 | Af | 201 | THR |
| 1 | Af | 240 | THR |
| 1 | Ag | 106 | ILE |
| 1 | Ag | 112 | ASN |
| 1 | Ag | 145 | ILE |
| 1 | Ag | 201 | THR |
| 1 | Ag | 240 | THR |
| 1 | Ah | 106 | ILE |
| 1 | Ah | 112 | ASN |
| 1 | Ah | 145 | ILE |
| 1 | Ah | 176 | ILE |
| 1 | Ah | 201 | THR |
| 1 | Ai | 106 | ILE |
| 1 | Ai | 112 | ASN |
| 1 | Ai | 145 | ILE |
| 1 | Ai | 201 | THR |
| 1 | Ai | 240 | THR |
| 1 | Aj | 106 | ILE |
| 1 | Aj | 112 | ASN |
| 1 | Aj | 145 | ILE |
| 1 | Aj | 176 | ILE |
| 1 | Aj | 201 | THR |
| 1 | Aj | 240 | THR |
| 1 | Ak | 106 | ILE |
| 1 | Ak | 112 | ASN |
| 1 | Ak | 145 | ILE |
| 1 | Ak | 176 | ILE |
| 1 | Ak | 201 | THR |
| 1 | Ak | 240 | THR |
| 1 | Al | 106 | ILE |
| 1 | Al | 112 | ASN |
| 1 | Al | 145 | ILE |
| 1 | Al | 201 | THR |
| 1 | Al | 240 | THR |
| 1 | Am | 106 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | Am | 112 | ASN |
| 1 | Am | 145 | ILE |
| 1 | Am | 201 | THR |
| 1 | Am | 240 | THR |
| 1 | An | 106 | ILE |
| 1 | An | 112 | ASN |
| 1 | An | 145 | ILE |
| 1 | An | 201 | THR |
| 1 | An | 240 | THR |
| 1 | Ao | 106 | ILE |
| 1 | Ao | 107 | ILE |
| 1 | Ao | 112 | ASN |
| 1 | Ao | 145 | ILE |
| 1 | Ao | 176 | ILE |
| 1 | Ao | 201 | THR |
| 1 | Ao | 240 | THR |
| 1 | Ap | 106 | ILE |
| 1 | Ap | 112 | ASN |
| 1 | Ap | 145 | ILE |
| 1 | Ap | 201 | THR |
| 1 | Ap | 240 | THR |
| 1 | Aq | 106 | ILE |
| 1 | Aq | 112 | ASN |
| 1 | Aq | 145 | ILE |
| 1 | Aq | 201 | THR |
| 1 | Aq | 240 | THR |
| 1 | Ar | 106 | ILE |
| 1 | Ar | 112 | ASN |
| 1 | Ar | 145 | ILE |
| 1 | Ar | 176 | ILE |
| 1 | Ar | 201 | THR |
| 1 | As | 106 | ILE |
| 1 | As | 112 | ASN |
| 1 | As | 145 | ILE |
| 1 | As | 176 | ILE |
| 1 | As | 201 | THR |
| 1 | As | 240 | THR |
| 1 | At | 106 | ILE |
| 1 | At | 112 | ASN |
| 1 | At | 145 | ILE |
| 1 | At | 176 | ILE |
| 1 | At | 201 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | Au | 106 | ILE |
| 1 | Au | 112 | ASN |
| 1 | Au | 145 | ILE |
| 1 | Au | 176 | ILE |
| 1 | Au | 201 | THR |
| 1 | Au | 240 | THR |
| 1 | Av | 106 | ILE |
| 1 | Av | 112 | ASN |
| 1 | Av | 145 | ILE |
| 1 | Av | 176 | ILE |
| 1 | Av | 201 | THR |
| 1 | Aw | 106 | ILE |
| 1 | Aw | 112 | ASN |
| 1 | Aw | 145 | ILE |
| 1 | Aw | 176 | ILE |
| 1 | Aw | 201 | THR |
| 1 | Ax | 106 | ILE |
| 1 | Ax | 107 | ILE |
| 1 | Ax | 112 | ASN |
| 1 | Ax | 145 | ILE |
| 1 | Ax | 201 | THR |
| 1 | Ax | 240 | THR |
| 1 | Ay | 106 | ILE |
| 1 | Ay | 112 | ASN |
| 1 | Ay | 145 | ILE |
| 1 | Ay | 201 | THR |
| 1 | Az | 106 | ILE |
| 1 | Az | 107 | ILE |
| 1 | Az | 112 | ASN |
| 1 | Az | 145 | ILE |
| 1 | Az | 176 | ILE |
| 1 | Az | 201 | THR |
| 2 | Ba | 145 | THR |
| 2 | Ba | 182 | ILE |
| 2 | Ba | 233 | LEU |
| 2 | Ba | 253 | ASN |
| 2 | Ba | 256 | THR |
| 2 | Ba | 258 | THR |
| 2 | Ba | 322 | VAL |
| 2 | Bb | 51 | THR |
| 2 | Bb | 145 | THR |
| 2 | Bb | 233 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | Bb | 253 | ASN |
| 2 | Bb | 256 | THR |
| 2 | Bb | 258 | THR |
| 2 | Bb | 273 | THR |
| 2 | Bb | 322 | VAL |
| 2 | Bc | 51 | THR |
| 2 | Bc | 145 | THR |
| 2 | Bc | 233 | LEU |
| 2 | Bc | 253 | ASN |
| 2 | Bc | 256 | THR |
| 2 | Bc | 258 | THR |
| 2 | Bc | 273 | THR |
| 2 | Bc | 322 | VAL |
| 2 | Bd | 145 | THR |
| 2 | Bd | 233 | LEU |
| 2 | Bd | 253 | ASN |
| 2 | Bd | 256 | THR |
| 2 | Bd | 258 | THR |
| 2 | Bd | 273 | THR |
| 2 | Bd | 322 | VAL |
| 2 | Be | 145 | THR |
| 2 | Be | 233 | LEU |
| 2 | Be | 253 | ASN |
| 2 | Be | 256 | THR |
| 2 | Be | 258 | THR |
| 2 | Be | 273 | THR |
| 2 | Be | 322 | VAL |
| 2 | Bf | 145 | THR |
| 2 | Bf | 233 | LEU |
| 2 | Bf | 253 | ASN |
| 2 | Bf | 256 | THR |
| 2 | Bf | 258 | THR |
| 2 | Bf | 273 | THR |
| 2 | Bf | 322 | VAL |
| 2 | Bg | 145 | THR |
| 2 | Bg | 233 | LEU |
| 2 | Bg | 253 | ASN |
| 2 | Bg | 256 | THR |
| 2 | Bg | 258 | THR |
| 2 | Bg | 273 | THR |
| 2 | Bg | 322 | VAL |
| 2 | Bh | 145 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | Bh | 233 | LEU |
| 2 | Bh | 253 | ASN |
| 2 | Bh | 256 | THR |
| 2 | Bh | 258 | THR |
| 2 | Bh | 273 | THR |
| 2 | Bh | 322 | VAL |
| 2 | Bi | 51 | THR |
| 2 | Bi | 145 | THR |
| 2 | Bi | 233 | LEU |
| 2 | Bi | 253 | ASN |
| 2 | Bi | 256 | THR |
| 2 | Bi | 258 | THR |
| 2 | Bi | 273 | THR |
| 2 | Bi | 322 | VAL |
| 2 | Bj | 145 | THR |
| 2 | Bj | 233 | LEU |
| 2 | Bj | 253 | ASN |
| 2 | Bj | 256 | THR |
| 2 | Bj | 258 | THR |
| 2 | Bj | 273 | THR |
| 2 | Bj | 322 | VAL |
| 2 | Bk | 145 | THR |
| 2 | Bk | 233 | LEU |
| 2 | Bk | 253 | ASN |
| 2 | Bk | 256 | THR |
| 2 | Bk | 258 | THR |
| 2 | Bk | 273 | THR |
| 2 | Bk | 322 | VAL |
| 2 | Bl | 145 | THR |
| 2 | Bl | 233 | LEU |
| 2 | Bl | 253 | ASN |
| 2 | Bl | 256 | THR |
| 2 | Bl | 258 | THR |
| 2 | Bl | 273 | THR |
| 2 | Bl | 322 | VAL |
| 2 | Bm | 145 | THR |
| 2 | Bm | 233 | LEU |
| 2 | Bm | 253 | ASN |
| 2 | Bm | 256 | THR |
| 2 | Bm | 258 | THR |
| 2 | Bm | 273 | THR |
| 2 | Bm | 322 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | Bn | 145 | THR |
| 2 | Bn | 233 | LEU |
| 2 | Bn | 253 | ASN |
| 2 | Bn | 256 | THR |
| 2 | Bn | 258 | THR |
| 2 | Bn | 273 | THR |
| 2 | Bn | 322 | VAL |
| 2 | Bo | 145 | THR |
| 2 | Bo | 233 | LEU |
| 2 | Bo | 253 | ASN |
| 2 | Bo | 256 | THR |
| 2 | Bo | 258 | THR |
| 2 | Bo | 273 | THR |
| 2 | Bo | 322 | VAL |
| 2 | Bp | 145 | THR |
| 2 | Bp | 233 | LEU |
| 2 | Bp | 253 | ASN |
| 2 | Bp | 256 | THR |
| 2 | Bp | 258 | THR |
| 2 | Bp | 273 | THR |
| 2 | Bp | 322 | VAL |
| 2 | Bq | 145 | THR |
| 2 | Bq | 233 | LEU |
| 2 | Bq | 253 | ASN |
| 2 | Bq | 256 | THR |
| 2 | Bq | 258 | THR |
| 2 | Bq | 273 | THR |
| 2 | Bq | 322 | VAL |
| 2 | Br | 145 | THR |
| 2 | Br | 233 | LEU |
| 2 | Br | 253 | ASN |
| 2 | Br | 256 | THR |
| 2 | Br | 258 | THR |
| 2 | Br | 273 | THR |
| 2 | Br | 322 | VAL |
| 2 | Bs | 145 | THR |
| 2 | Bs | 233 | LEU |
| 2 | Bs | 253 | ASN |
| 2 | Bs | 256 | THR |
| 2 | Bs | 258 | THR |
| 2 | Bs | 273 | THR |
| 2 | Bs | 322 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | Bt | 145 | THR |
| 2 | Bt | 233 | LEU |
| 2 | Bt | 253 | ASN |
| 2 | Bt | 256 | THR |
| 2 | Bt | 258 | THR |
| 2 | Bt | 273 | THR |
| 2 | Bt | 322 | VAL |
| 2 | Bu | 145 | THR |
| 2 | Bu | 233 | LEU |
| 2 | Bu | 253 | ASN |
| 2 | Bu | 256 | THR |
| 2 | Bu | 258 | THR |
| 2 | Bu | 273 | THR |
| 2 | Bu | 322 | VAL |
| 2 | Bv | 51 | THR |
| 2 | Bv | 145 | THR |
| 2 | Bv | 233 | LEU |
| 2 | Bv | 253 | ASN |
| 2 | Bv | 256 | THR |
| 2 | Bv | 258 | THR |
| 2 | Bv | 273 | THR |
| 2 | Bv | 322 | VAL |
| 2 | Bw | 145 | THR |
| 2 | Bw | 233 | LEU |
| 2 | Bw | 253 | ASN |
| 2 | Bw | 256 | THR |
| 2 | Bw | 258 | THR |
| 2 | Bw | 273 | THR |
| 2 | Bw | 322 | VAL |
| 2 | Bx | 145 | THR |
| 2 | Bx | 233 | LEU |
| 2 | Bx | 253 | ASN |
| 2 | Bx | 256 | THR |
| 2 | Bx | 258 | THR |
| 2 | Bx | 273 | THR |
| 2 | Bx | 322 | VAL |
| 2 | By | 145 | THR |
| 2 | By | 233 | LEU |
| 2 | By | 253 | ASN |
| 2 | By | 256 | THR |
| 2 | By | 258 | THR |
| 2 | By | 273 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | By | 322 | VAL |
| 2 | Bz | 145 | THR |
| 2 | Bz | 233 | LEU |
| 2 | Bz | 253 | ASN |
| 2 | Bz | 256 | THR |
| 2 | Bz | 258 | THR |
| 2 | Bz | 273 | THR |
| 2 | Bz | 322 | VAL |
| 3 | Ca | 35 | VAL |
| 3 | Ca | 353 | GLU |
| 3 | Ca | 356 | LEU |
| 3 | Cb | 107 | ASP |
| 3 | Cb | 327 | ILE |
| 3 | Cb | 345 | THR |
| 3 | Cc | 35 | VAL |
| 3 | Cc | 286 | SER |
| 3 | Cc | 327 | ILE |
| 3 | Cc | 356 | LEU |
| 3 | Cd | 35 | VAL |
| 3 | Cd | 166 | SER |
| 3 | Cd | 243 | VAL |
| 3 | Cd | 327 | ILE |
| 3 | Cd | 353 | GLU |
| 3 | Cd | 356 | LEU |
| 3 | Ce | 154 | ASN |
| 3 | Ce | 286 | SER |
| 3 | Ce | 327 | ILE |
| 3 | Ce | 353 | GLU |
| 3 | Cf | 71 | LEU |
| 3 | Cf | 87 | TYR |
| 3 | Cf | 286 | SER |
| 3 | Cf | 353 | GLU |
| 3 | Cf | 356 | LEU |
| 3 | Cg | 35 | VAL |
| 3 | Cg | 87 | TYR |
| 3 | Cg | 286 | SER |
| 3 | Cg | 327 | ILE |
| 3 | Cg | 353 | GLU |
| 3 | Cg | 356 | LEU |
| 3 | Ch | 154 | ASN |
| 3 | Ch | 286 | SER |
| 3 | Ch | 327 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | Ch | 353 | GLU |
| 3 | Ch | 356 | LEU |
| 3 | Ci | 89 | LEU |
| 3 | Ci | 154 | ASN |
| 3 | Ci | 237 | THR |
| 3 | Ci | 286 | SER |
| 3 | Ci | 327 | ILE |
| 3 | Ci | 353 | GLU |
| 3 | Ci | 356 | LEU |
| 3 | Cj | 154 | ASN |
| 3 | Cj | 243 | VAL |
| 3 | Cj | 353 | GLU |
| 3 | Ck | 89 | LEU |
| 3 | Ck | 237 | THR |
| 3 | Ck | 243 | VAL |
| 3 | Ck | 286 | SER |
| 3 | Ck | 327 | ILE |
| 3 | Ck | 328 | ASP |
| 3 | Ck | 353 | GLU |
| 3 | Ck | 356 | LEU |
| 3 | Cl | 89 | LEU |
| 3 | Cl | 208 | GLN |
| 3 | Cl | 327 | ILE |
| 3 | Cl | 353 | GLU |
| 3 | Cm | 35 | VAL |
| 3 | Cm | 286 | SER |
| 3 | Cm | 327 | ILE |
| 3 | Cm | 353 | GLU |
| 3 | Cm | 356 | LEU |
| 3 | Cn | 286 | SER |
| 3 | Cn | 327 | ILE |
| 3 | Cn | 356 | LEU |
| 3 | Co | 35 | VAL |
| 3 | Co | 154 | ASN |
| 3 | Co | 237 | THR |
| 3 | Co | 286 | SER |
| 3 | Co | 327 | ILE |
| 3 | Co | 353 | GLU |
| 3 | Cp | 107 | ASP |
| 3 | Cp | 286 | SER |
| 3 | Cp | 327 | ILE |
| 3 | Cp | 353 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | Cq | 35 | VAL |
| 3 | Cq | 243 | VAL |
| 3 | Cq | 327 | ILE |
| 3 | Cq | 353 | GLU |
| 3 | Cr | 35 | VAL |
| 3 | Cr | 237 | THR |
| 3 | Cr | 243 | VAL |
| 3 | Cr | 286 | SER |
| 3 | Cr | 327 | ILE |
| 3 | Cr | 328 | ASP |
| 3 | Cr | 353 | GLU |
| 3 | Cr | 356 | LEU |
| 3 | Cs | 237 | THR |
| 3 | Cs | 327 | ILE |
| 3 | Cs | 356 | LEU |
| 3 | Ct | 35 | VAL |
| 3 | Ct | 286 | SER |
| 3 | Ct | 353 | GLU |
| 3 | Cu | 35 | VAL |
| 3 | Cu | 237 | THR |
| 3 | Cu | 286 | SER |
| 3 | Cu | 327 | ILE |
| 3 | Cu | 353 | GLU |
| 3 | Cu | 356 | LEU |
| 3 | Cv | 35 | VAL |
| 3 | Cv | 87 | TYR |
| 3 | Cv | 243 | VAL |
| 3 | Cv | 286 | SER |
| 3 | Cv | 353 | GLU |
| 3 | Cv | 356 | LEU |
| 3 | Cw | 71 | LEU |
| 3 | Cw | 237 | THR |
| 3 | Cw | 286 | SER |
| 3 | Cw | 327 | ILE |
| 3 | Cw | 353 | GLU |
| 3 | Cw | 356 | LEU |
| 3 | Cx | 327 | ILE |
| 3 | Cx | 353 | GLU |
| 3 | Cx | 356 | LEU |
| 3 | Cx | 363 | LEU |
| 3 | Cy | 107 | ASP |
| 3 | Cy | 237 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | Cy | 286 | SER |
| 3 | Cy | 327 | ILE |
| 3 | Cy | 353 | GLU |
| 3 | Cz | 286 | SER |
| 3 | Cz | 327 | ILE |
| 3 | Cz | 328 | ASP |
| 3 | Cz | 356 | LEU |
| 4 | Da | 89 | VAL |
| 4 | Da | 106 | ASN |
| 4 | Da | 112 | GLN |
| 4 | Da | 117 | ILE |
| 4 | Da | 173 | LEU |
| 4 | Da | 180 | ILE |
| 4 | Da | 250 | LYS |
| 4 | Da | 264 | TYR |
| 4 | Da | 266 | LYS |
| 4 | Db | 25 | VAL |
| 4 | Db | 37 | GLN |
| 4 | Db | 193 | VAL |
| 4 | Db | 220 | LEU |
| 4 | Dc | 89 | VAL |
| 4 | Dc | 106 | ASN |
| 4 | Dc | 112 | GLN |
| 4 | Dc | 117 | ILE |
| 4 | Dc | 173 | LEU |
| 4 | Dc | 250 | LYS |
| 4 | Dc | 264 | TYR |
| 4 | Dc | 266 | LYS |
| 4 | Dd | 25 | VAL |
| 4 | Dd | 68 | ILE |
| 4 | Dd | 220 | LEU |
| 4 | De | 89 | VAL |
| 4 | De | 106 | ASN |
| 4 | De | 112 | GLN |
| 4 | De | 117 | ILE |
| 4 | De | 149 | ILE |
| 4 | De | 173 | LEU |
| 4 | De | 250 | LYS |
| 4 | De | 264 | TYR |
| 4 | De | 266 | LYS |
| 4 | Df | 25 | VAL |
| 4 | Df | 68 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | Df | 193 | VAL |
| 4 | Df | 220 | LEU |
| 4 | Dg | 89 | VAL |
| 4 | Dg | 106 | ASN |
| 4 | Dg | 112 | GLN |
| 4 | Dg | 117 | ILE |
| 4 | Dg | 173 | LEU |
| 4 | Dg | 180 | ILE |
| 4 | Dg | 250 | LYS |
| 4 | Dg | 264 | TYR |
| 4 | Dg | 266 | LYS |
| 4 | Dh | 25 | VAL |
| 4 | Dh | 68 | ILE |
| 4 | Dh | 193 | VAL |
| 4 | Dh | 220 | LEU |
| 4 | Di | 89 | VAL |
| 4 | Di | 106 | ASN |
| 4 | Di | 112 | GLN |
| 4 | Di | 117 | ILE |
| 4 | Di | 173 | LEU |
| 4 | Di | 180 | ILE |
| 4 | Di | 223 | THR |
| 4 | Di | 250 | LYS |
| 4 | Di | 264 | TYR |
| 4 | Di | 266 | LYS |
| 4 | Dj | 25 | VAL |
| 4 | Dj | 220 | LEU |
| 4 | Dk | 89 | VAL |
| 4 | Dk | 106 | ASN |
| 4 | Dk | 112 | GLN |
| 4 | Dk | 117 | ILE |
| 4 | Dk | 149 | ILE |
| 4 | Dk | 173 | LEU |
| 4 | Dk | 250 | LYS |
| 4 | Dk | 264 | TYR |
| 4 | Dk | 266 | LYS |
| 4 | Dl | 25 | VAL |
| 4 | Dl | 193 | VAL |
| 4 | Dl | 220 | LEU |
| 4 | Dm | 89 | VAL |
| 4 | Dm | 106 | ASN |
| 4 | Dm | 112 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | Dm | 117 | ILE |
| 4 | Dm | 173 | LEU |
| 4 | Dm | 250 | LYS |
| 4 | Dm | 264 | TYR |
| 4 | Dm | 266 | LYS |
| 4 | Dn | 25 | VAL |
| 4 | Dn | 68 | ILE |
| 4 | Dn | 220 | LEU |
| 4 | Do | 89 | VAL |
| 4 | Do | 106 | ASN |
| 4 | Do | 112 | GLN |
| 4 | Do | 117 | ILE |
| 4 | Do | 173 | LEU |
| 4 | Do | 250 | LYS |
| 4 | Do | 264 | TYR |
| 4 | Do | 266 | LYS |
| 4 | Dp | 25 | VAL |
| 4 | Dp | 37 | GLN |
| 4 | Dp | 220 | LEU |
| 4 | Dq | 89 | VAL |
| 4 | Dq | 106 | ASN |
| 4 | Dq | 112 | GLN |
| 4 | Dq | 117 | ILE |
| 4 | Dq | 173 | LEU |
| 4 | Dq | 250 | LYS |
| 4 | Dq | 264 | TYR |
| 4 | Dq | 266 | LYS |
| 4 | Dr | 25 | VAL |
| 4 | Dr | 37 | GLN |
| 4 | Dr | 193 | VAL |
| 4 | Dr | 220 | LEU |
| 4 | Ds | 89 | VAL |
| 4 | Ds | 106 | ASN |
| 4 | Ds | 112 | GLN |
| 4 | Ds | 117 | ILE |
| 4 | Ds | 173 | LEU |
| 4 | Ds | 250 | LYS |
| 4 | Ds | 264 | TYR |
| 4 | Ds | 266 | LYS |
| 4 | Dt | 25 | VAL |
| 4 | Dt | 37 | GLN |
| 4 | Dt | 68 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | Dt | 193 | VAL |
| 4 | Dt | 220 | LEU |
| 4 | Du | 89 | VAL |
| 4 | Du | 106 | ASN |
| 4 | Du | 112 | GLN |
| 4 | Du | 117 | ILE |
| 4 | Du | 173 | LEU |
| 4 | Du | 250 | LYS |
| 4 | Du | 264 | TYR |
| 4 | Du | 266 | LYS |
| 4 | Dv | 25 | VAL |
| 4 | Dv | 193 | VAL |
| 4 | Dv | 220 | LEU |
| 4 | Dw | 89 | VAL |
| 4 | Dw | 106 | ASN |
| 4 | Dw | 112 | GLN |
| 4 | Dw | 117 | ILE |
| 4 | Dw | 173 | LEU |
| 4 | Dw | 180 | ILE |
| 4 | Dw | 250 | LYS |
| 4 | Dw | 264 | TYR |
| 4 | Dw | 266 | LYS |
| 4 | Dx | 25 | VAL |
| 4 | Dx | 37 | GLN |
| 4 | Dx | 193 | VAL |
| 4 | Dx | 220 | LEU |
| 4 | Dy | 25 | VAL |
| 4 | Dy | 89 | VAL |
| 4 | Dy | 106 | ASN |
| 4 | Dy | 112 | GLN |
| 4 | Dy | 117 | ILE |
| 4 | Dy | 173 | LEU |
| 4 | Dy | 250 | LYS |
| 4 | Dy | 264 | TYR |
| 4 | Dy | 266 | LYS |
| 4 | Dz | 25 | VAL |
| 4 | Dz | 37 | GLN |
| 4 | Dz | 193 | VAL |
| 4 | Dz | 220 | LEU |
| 5 | Fb | 145 | PHE |
| 5 | Fd | 139 | LYS |
| 5 | Fe | 139 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 5 | Ff | 139 | LYS |
| 5 | Fi | 139 | LYS |
| 5 | Fj | 139 | LYS |
| 5 | Fp | 139 | LYS |
| 5 | Fq | 139 | LYS |
| 5 | Ft | 139 | LYS |
| 5 | Fu | 139 | LYS |
| 5 | Fy | 139 | LYS |
| 5 | Ga | 138 | GLU |
| 5 | Gd | 138 | GLU |
| 5 | Ge | 138 | GLU |
| 5 | Gh | 138 | GLU |
| 5 | Gj | 138 | GLU |
| 5 | Gk | 138 | GLU |
| 5 | Gl | 138 | GLU |
| 5 | Gm | 138 | GLU |
| 5 | Gn | 138 | GLU |
| 5 | Gn | 141 | GLN |
| 5 | Go | 138 | GLU |
| 5 | Gp | 138 | GLU |
| 5 | Gq | 138 | GLU |
| 5 | Gr | 138 | GLU |
| 5 | Gt | 134 | GLN |
| 5 | Gt | 138 | GLU |
| 5 | Gt | 141 | GLN |
| 5 | Gu | 138 | GLU |
| 5 | Gv | 138 | GLU |
| 5 | Gv | 143 | THR |
| 5 | Gw | 138 | GLU |
| 5 | Gx | 138 | GLU |
| 5 | Gy | 138 | GLU |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (529) such sidechains are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | Aa | 112 | ASN |
| 1 | Aa | 200 | ASN |
| 1 | Aa | 226 | ASN |
| 1 | Aa | 255 | ASN |
| 1 | Ab | 70 | HIS |
| 1 | Ab | 112 | ASN |
| 1 | Ab | 200 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | Ab | 226 | ASN |
| 1 | Ab | 255 | ASN |
| 1 | Ac | 112 | ASN |
| 1 | Ac | 200 | ASN |
| 1 | Ac | 226 | ASN |
| 1 | Ac | 255 | ASN |
| 1 | Ad | 112 | ASN |
| 1 | Ad | 200 | ASN |
| 1 | Ad | 226 | ASN |
| 1 | Ad | 255 | ASN |
| 1 | Ae | 112 | ASN |
| 1 | Ae | 129 | ASN |
| 1 | Ae | 200 | ASN |
| 1 | Ae | 226 | ASN |
| 1 | Ae | 255 | ASN |
| 1 | Af | 112 | ASN |
| 1 | Af | 129 | ASN |
| 1 | Af | 158 | ASN |
| 1 | Af | 167 | ASN |
| 1 | Af | 200 | ASN |
| 1 | Af | 226 | ASN |
| 1 | Af | 255 | ASN |
| 1 | Ag | 112 | ASN |
| 1 | Ag | 129 | ASN |
| 1 | Ag | 158 | ASN |
| 1 | Ag | 200 | ASN |
| 1 | Ag | 226 | ASN |
| 1 | Ag | 255 | ASN |
| 1 | Ah | 112 | ASN |
| 1 | Ah | 200 | ASN |
| 1 | Ah | 226 | ASN |
| 1 | Ah | 255 | ASN |
| 1 | Ai | 112 | ASN |
| 1 | Ai | 200 | ASN |
| 1 | Ai | 226 | ASN |
| 1 | Ai | 242 | GLN |
| 1 | Ai | 255 | ASN |
| 1 | Aj | 112 | ASN |
| 1 | Aj | 200 | ASN |
| 1 | Aj | 226 | ASN |
| 1 | Aj | 255 | ASN |
| 1 | Ak | 112 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | Ak | 167 | ASN |
| 1 | Ak | 200 | ASN |
| 1 | Ak | 226 | ASN |
| 1 | Ak | 255 | ASN |
| 1 | Al | 112 | ASN |
| 1 | Al | 129 | ASN |
| 1 | Al | 200 | ASN |
| 1 | Al | 226 | ASN |
| 1 | Al | 255 | ASN |
| 1 | Am | 112 | ASN |
| 1 | Am | 129 | ASN |
| 1 | Am | 200 | ASN |
| 1 | Am | 226 | ASN |
| 1 | Am | 255 | ASN |
| 1 | An | 112 | ASN |
| 1 | An | 129 | ASN |
| 1 | An | 167 | ASN |
| 1 | An | 200 | ASN |
| 1 | An | 226 | ASN |
| 1 | An | 255 | ASN |
| 1 | Ao | 112 | ASN |
| 1 | Ao | 129 | ASN |
| 1 | Ao | 200 | ASN |
| 1 | Ao | 226 | ASN |
| 1 | Ao | 255 | ASN |
| 1 | Ap | 112 | ASN |
| 1 | Ap | 129 | ASN |
| 1 | Ap | 158 | ASN |
| 1 | Ap | 200 | ASN |
| 1 | Ap | 226 | ASN |
| 1 | Ap | 255 | ASN |
| 1 | Aq | 112 | ASN |
| 1 | Aq | 129 | ASN |
| 1 | Aq | 200 | ASN |
| 1 | Aq | 226 | ASN |
| 1 | Aq | 255 | ASN |
| 1 | Ar | 112 | ASN |
| 1 | Ar | 129 | ASN |
| 1 | Ar | 158 | ASN |
| 1 | Ar | 200 | ASN |
| 1 | Ar | 226 | ASN |
| 1 | Ar | 255 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | As | 112 | ASN |
| 1 | As | 200 | ASN |
| 1 | As | 226 | ASN |
| 1 | As | 242 | GLN |
| 1 | As | 255 | ASN |
| 1 | At | 112 | ASN |
| 1 | At | 200 | ASN |
| 1 | At | 226 | ASN |
| 1 | At | 255 | ASN |
| 1 | Au | 112 | ASN |
| 1 | Au | 167 | ASN |
| 1 | Au | 200 | ASN |
| 1 | Au | 226 | ASN |
| 1 | Au | 255 | ASN |
| 1 | Av | 112 | ASN |
| 1 | Av | 200 | ASN |
| 1 | Av | 226 | ASN |
| 1 | Av | 255 | ASN |
| 1 | Aw | 112 | ASN |
| 1 | Aw | 129 | ASN |
| 1 | Aw | 200 | ASN |
| 1 | Aw | 226 | ASN |
| 1 | Aw | 255 | ASN |
| 1 | Ax | 112 | ASN |
| 1 | Ax | 129 | ASN |
| 1 | Ax | 200 | ASN |
| 1 | Ax | 226 | ASN |
| 1 | Ax | 255 | ASN |
| 1 | Ay | 112 | ASN |
| 1 | Ay | 129 | ASN |
| 1 | Ay | 200 | ASN |
| 1 | Ay | 226 | ASN |
| 1 | Az | 112 | ASN |
| 1 | Az | 129 | ASN |
| 1 | Az | 158 | ASN |
| 1 | Az | 200 | ASN |
| 1 | Az | 226 | ASN |
| 1 | Az | 255 | ASN |
| 2 | Ba | 26 | GLN |
| 2 | Ba | 56 | GLN |
| 2 | Ba | 97 | GLN |
| 2 | Ba | 134 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | Ba | 253 | ASN |
| 2 | Ba | 357 | GLN |
| 2 | Bb | 26 | GLN |
| 2 | Bb | 56 | GLN |
| 2 | Bb | 134 | GLN |
| 2 | Bb | 228 | GLN |
| 2 | Bb | 253 | ASN |
| 2 | Bb | 264 | ASN |
| 2 | Bb | 346 | GLN |
| 2 | Bb | 357 | GLN |
| 2 | Bc | 26 | GLN |
| 2 | Bc | 56 | GLN |
| 2 | Bc | 97 | GLN |
| 2 | Bc | 238 | ASN |
| 2 | Bc | 253 | ASN |
| 2 | Bc | 264 | ASN |
| 2 | Bc | 346 | GLN |
| 2 | Bc | 357 | GLN |
| 2 | Bd | 26 | GLN |
| 2 | Bd | 56 | GLN |
| 2 | Bd | 195 | GLN |
| 2 | Bd | 253 | ASN |
| 2 | Bd | 357 | GLN |
| 2 | Be | 26 | GLN |
| 2 | Be | 56 | GLN |
| 2 | Be | 134 | GLN |
| 2 | Be | 228 | GLN |
| 2 | Be | 253 | ASN |
| 2 | Be | 357 | GLN |
| 2 | Bf | 26 | GLN |
| 2 | Bf | 56 | GLN |
| 2 | Bf | 134 | GLN |
| 2 | Bf | 253 | ASN |
| 2 | Bf | 264 | ASN |
| 2 | Bf | 346 | GLN |
| 2 | Bf | 357 | GLN |
| 2 | Bg | 26 | GLN |
| 2 | Bg | 56 | GLN |
| 2 | Bg | 134 | GLN |
| 2 | Bg | 253 | ASN |
| 2 | Bg | 346 | GLN |
| 2 | Bg | 357 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | Bh | 26 | GLN |
| 2 | Bh | 56 | GLN |
| 2 | Bh | 134 | GLN |
| 2 | Bh | 253 | ASN |
| 2 | Bh | 264 | ASN |
| 2 | Bh | 357 | GLN |
| 2 | Bi | 26 | GLN |
| 2 | Bi | 56 | GLN |
| 2 | Bi | 97 | GLN |
| 2 | Bi | 253 | ASN |
| 2 | Bi | 357 | GLN |
| 2 | Bj | 26 | GLN |
| 2 | Bj | 56 | GLN |
| 2 | Bj | 134 | GLN |
| 2 | Bj | 228 | GLN |
| 2 | Bj | 253 | ASN |
| 2 | Bj | 357 | GLN |
| 2 | Bk | 26 | GLN |
| 2 | Bk | 56 | GLN |
| 2 | Bk | 97 | GLN |
| 2 | Bk | 253 | ASN |
| 2 | Bk | 264 | ASN |
| 2 | Bk | 357 | GLN |
| 2 | Bl | 26 | GLN |
| 2 | Bl | 56 | GLN |
| 2 | Bl | 97 | GLN |
| 2 | Bl | 253 | ASN |
| 2 | Bl | 264 | ASN |
| 2 | Bm | 26 | GLN |
| 2 | Bm | 56 | GLN |
| 2 | Bm | 134 | GLN |
| 2 | Bm | 253 | ASN |
| 2 | Bm | 264 | ASN |
| 2 | Bm | 357 | GLN |
| 2 | Bn | 26 | GLN |
| 2 | Bn | 56 | GLN |
| 2 | Bn | 134 | GLN |
| 2 | Bn | 238 | ASN |
| 2 | Bn | 253 | ASN |
| 2 | Bn | 264 | ASN |
| 2 | Bn | 357 | GLN |
| 2 | Bo | 26 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | Bo | 56 | GLN |
| 2 | Bo | 97 | GLN |
| 2 | Bo | 195 | GLN |
| 2 | Bo | 253 | ASN |
| 2 | Bo | 357 | GLN |
| 2 | Bp | 26 | GLN |
| 2 | Bp | 56 | GLN |
| 2 | Bp | 134 | GLN |
| 2 | Bp | 253 | ASN |
| 2 | Bp | 357 | GLN |
| 2 | Bq | 26 | GLN |
| 2 | Bq | 56 | GLN |
| 2 | Bq | 134 | GLN |
| 2 | Bq | 238 | ASN |
| 2 | Bq | 253 | ASN |
| 2 | Bq | 346 | GLN |
| 2 | Bq | 357 | GLN |
| 2 | Br | 26 | GLN |
| 2 | Br | 56 | GLN |
| 2 | Br | 97 | GLN |
| 2 | Br | 195 | GLN |
| 2 | Br | 253 | ASN |
| 2 | Br | 264 | ASN |
| 2 | Br | 357 | GLN |
| 2 | Bs | 26 | GLN |
| 2 | Bs | 56 | GLN |
| 2 | Bs | 134 | GLN |
| 2 | Bs | 253 | ASN |
| 2 | Bs | 264 | ASN |
| 2 | Bs | 357 | GLN |
| 2 | Bt | 26 | GLN |
| 2 | Bt | 56 | GLN |
| 2 | Bt | 134 | GLN |
| 2 | Bt | 253 | ASN |
| 2 | Bt | 264 | ASN |
| 2 | Bu | 26 | GLN |
| 2 | Bu | 56 | GLN |
| 2 | Bu | 134 | GLN |
| 2 | Bu | 253 | ASN |
| 2 | Bu | 357 | GLN |
| 2 | Bv | 26 | GLN |
| 2 | Bv | 56 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | Bv | 134 | GLN |
| 2 | Bv | 195 | GLN |
| 2 | Bv | 253 | ASN |
| 2 | Bv | 264 | ASN |
| 2 | Bv | 357 | GLN |
| 2 | Bw | 26 | GLN |
| 2 | Bw | 56 | GLN |
| 2 | Bw | 97 | GLN |
| 2 | Bw | 134 | GLN |
| 2 | Bw | 253 | ASN |
| 2 | Bw | 264 | ASN |
| 2 | Bw | 357 | GLN |
| 2 | Bx | 26 | GLN |
| 2 | Bx | 56 | GLN |
| 2 | Bx | 97 | GLN |
| 2 | Bx | 134 | GLN |
| 2 | Bx | 228 | GLN |
| 2 | Bx | 253 | ASN |
| 2 | Bx | 264 | ASN |
| 2 | Bx | 357 | GLN |
| 2 | By | 26 | GLN |
| 2 | By | 56 | GLN |
| 2 | By | 134 | GLN |
| 2 | By | 228 | GLN |
| 2 | By | 253 | ASN |
| 2 | By | 264 | ASN |
| 2 | By | 357 | GLN |
| 2 | Bz | 26 | GLN |
| 2 | Bz | 56 | GLN |
| 2 | Bz | 134 | GLN |
| 2 | Bz | 253 | ASN |
| 2 | Bz | 357 | GLN |
| 3 | Ca | 128 | ASN |
| 3 | Cb | 97 | ASN |
| 3 | Cb | 116 | HIS |
| 3 | Cb | 154 | ASN |
| 3 | Cb | 217 | ASN |
| 3 | Cb | 329 | GLN |
| 3 | Cb | 374 | HIS |
| 3 | Cc | 154 | ASN |
| 3 | Cc | 208 | GLN |
| 3 | Cc | 253 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | Cc | 276 | ASN |
| 3 | Cc | 329 | GLN |
| 3 | Cd | 154 | ASN |
| 3 | Cd | 293 | GLN |
| 3 | Cd | 322 | HIS |
| 3 | Ce | 97 | ASN |
| 3 | Ce | 154 | ASN |
| 3 | Ce | 212 | GLN |
| 3 | Ce | 339 | GLN |
| 3 | Cf | 66 | ASN |
| 3 | Cf | 128 | ASN |
| 3 | Cf | 135 | GLN |
| 3 | Cf | 154 | ASN |
| 3 | Cf | 159 | GLN |
| 3 | Cf | 217 | ASN |
| 3 | Cf | 253 | GLN |
| 3 | Cf | 322 | HIS |
| 3 | Cg | 128 | ASN |
| 3 | Cg | 293 | GLN |
| 3 | Cg | 314 | GLN |
| 3 | Cg | 322 | HIS |
| 3 | Ch | 253 | GLN |
| 3 | Ch | 322 | HIS |
| 3 | Ci | 128 | ASN |
| 3 | Ci | 135 | GLN |
| 3 | Ci | 212 | GLN |
| 3 | Cj | 97 | ASN |
| 3 | Cj | 253 | GLN |
| 3 | Cj | 322 | HIS |
| 3 | Ck | 97 | ASN |
| 3 | Ck | 253 | GLN |
| 3 | Cl | 314 | GLN |
| 3 | Cl | 322 | HIS |
| 3 | Cm | 314 | GLN |
| 3 | Cn | 135 | GLN |
| 3 | Cn | 212 | GLN |
| 3 | Cn | 253 | GLN |
| 3 | Cn | 322 | HIS |
| 3 | Co | 97 | ASN |
| 3 | Co | 128 | ASN |
| 3 | Co | 253 | GLN |
| 3 | Co | 276 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | Cp | 253 | GLN |
| 3 | Cp | 322 | HIS |
| 3 | Cq | 66 | ASN |
| 3 | Cq | 322 | HIS |
| 3 | Cr | 135 | GLN |
| 3 | Cr | 322 | HIS |
| 3 | Cs | 116 | HIS |
| 3 | Cs | 135 | GLN |
| 3 | Cs | 212 | GLN |
| 3 | Ct | 97 | ASN |
| 3 | Ct | 135 | GLN |
| 3 | Ct | 322 | HIS |
| 3 | Cu | 276 | ASN |
| 3 | Cu | 329 | GLN |
| 3 | Cv | 97 | ASN |
| 3 | Cv | 116 | HIS |
| 3 | Cv | 322 | HIS |
| 3 | Cw | 66 | ASN |
| 3 | Cw | 154 | ASN |
| 3 | Cw | 212 | GLN |
| 3 | Cx | 97 | ASN |
| 3 | Cx | 322 | HIS |
| 3 | Cx | 339 | GLN |
| 3 | Cy | 97 | ASN |
| 3 | Cy | 135 | GLN |
| 3 | Cz | 97 | ASN |
| 3 | Cz | 135 | GLN |
| 3 | Cz | 159 | GLN |
| 3 | Cz | 322 | HIS |
| 3 | Cz | 376 | GLN |
| 4 | Da | 108 | GLN |
| 4 | Da | 112 | GLN |
| 4 | Da | 143 | GLN |
| 4 | Da | 147 | GLN |
| 4 | Da | 282 | ASN |
| 4 | Db | 50 | HIS |
| 4 | Db | 112 | GLN |
| 4 | Db | 120 | GLN |
| 4 | Db | 189 | GLN |
| 4 | Db | 235 | GLN |
| 4 | Db | 293 | GLN |
| 4 | Dc | 33 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | Dc | 108 | GLN |
| 4 | Dc | 112 | GLN |
| 4 | Dc | 143 | GLN |
| 4 | Dc | 147 | GLN |
| 4 | Dc | 282 | ASN |
| 4 | Dd | 32 | GLN |
| 4 | Dd | 50 | HIS |
| 4 | Dd | 112 | GLN |
| 4 | Dd | 120 | GLN |
| 4 | Dd | 235 | GLN |
| 4 | Dd | 293 | GLN |
| 4 | De | 108 | GLN |
| 4 | De | 112 | GLN |
| 4 | De | 143 | GLN |
| 4 | De | 147 | GLN |
| 4 | De | 282 | ASN |
| 4 | Df | 50 | HIS |
| 4 | Df | 112 | GLN |
| 4 | Df | 120 | GLN |
| 4 | Df | 189 | GLN |
| 4 | Df | 235 | GLN |
| 4 | Df | 293 | GLN |
| 4 | Dg | 108 | GLN |
| 4 | Dg | 112 | GLN |
| 4 | Dg | 143 | GLN |
| 4 | Dg | 147 | GLN |
| 4 | Dg | 282 | ASN |
| 4 | Dh | 50 | HIS |
| 4 | Dh | 112 | GLN |
| 4 | Dh | 120 | GLN |
| 4 | Dh | 189 | GLN |
| 4 | Dh | 235 | GLN |
| 4 | Dh | 293 | GLN |
| 4 | Di | 33 | GLN |
| 4 | Di | 108 | GLN |
| 4 | Di | 112 | GLN |
| 4 | Di | 143 | GLN |
| 4 | Di | 147 | GLN |
| 4 | Di | 282 | ASN |
| 4 | Dj | 50 | HIS |
| 4 | Dj | 112 | GLN |
| 4 | Dj | 120 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | Dj | 235 | GLN |
| 4 | Dj | 293 | GLN |
| 4 | Dk | 33 | GLN |
| 4 | Dk | 108 | GLN |
| 4 | Dk | 112 | GLN |
| 4 | Dk | 143 | GLN |
| 4 | Dk | 147 | GLN |
| 4 | Dk | 282 | ASN |
| 4 | Dl | 50 | HIS |
| 4 | Dl | 112 | GLN |
| 4 | Dl | 120 | GLN |
| 4 | Dl | 189 | GLN |
| 4 | Dl | 235 | GLN |
| 4 | Dl | 293 | GLN |
| 4 | Dm | 108 | GLN |
| 4 | Dm | 112 | GLN |
| 4 | Dm | 143 | GLN |
| 4 | Dm | 147 | GLN |
| 4 | Dm | 282 | ASN |
| 4 | Dn | 32 | GLN |
| 4 | Dn | 112 | GLN |
| 4 | Dn | 120 | GLN |
| 4 | Dn | 235 | GLN |
| 4 | Dn | 293 | GLN |
| 4 | Do | 108 | GLN |
| 4 | Do | 112 | GLN |
| 4 | Do | 143 | GLN |
| 4 | Do | 147 | GLN |
| 4 | Do | 282 | ASN |
| 4 | Dp | 32 | GLN |
| 4 | Dp | 50 | HIS |
| 4 | Dp | 112 | GLN |
| 4 | Dp | 120 | GLN |
| 4 | Dp | 235 | GLN |
| 4 | Dp | 293 | GLN |
| 4 | Dq | 108 | GLN |
| 4 | Dq | 112 | GLN |
| 4 | Dq | 143 | GLN |
| 4 | Dq | 147 | GLN |
| 4 | Dq | 282 | ASN |
| 4 | Dr | 112 | GLN |
| 4 | Dr | 120 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | Dr | 235 | GLN |
| 4 | Dr | 293 | GLN |
| 4 | Ds | 108 | GLN |
| 4 | Ds | 112 | GLN |
| 4 | Ds | 143 | GLN |
| 4 | Ds | 147 | GLN |
| 4 | Ds | 282 | ASN |
| 4 | Dt | 32 | GLN |
| 4 | Dt | 50 | HIS |
| 4 | Dt | 112 | GLN |
| 4 | Dt | 120 | GLN |
| 4 | Dt | 235 | GLN |
| 4 | Dt | 293 | GLN |
| 4 | Du | 33 | GLN |
| 4 | Du | 108 | GLN |
| 4 | Du | 112 | GLN |
| 4 | Du | 143 | GLN |
| 4 | Du | 147 | GLN |
| 4 | Du | 282 | ASN |
| 4 | Dv | 32 | GLN |
| 4 | Dv | 50 | HIS |
| 4 | Dv | 112 | GLN |
| 4 | Dv | 120 | GLN |
| 4 | Dv | 235 | GLN |
| 4 | Dv | 293 | GLN |
| 4 | Dw | 33 | GLN |
| 4 | Dw | 108 | GLN |
| 4 | Dw | 112 | GLN |
| 4 | Dw | 143 | GLN |
| 4 | Dw | 147 | GLN |
| 4 | Dw | 282 | ASN |
| 4 | Dx | 32 | GLN |
| 4 | Dx | 50 | HIS |
| 4 | Dx | 112 | GLN |
| 4 | Dx | 120 | GLN |
| 4 | Dx | 235 | GLN |
| 4 | Dx | 293 | GLN |
| 4 | Dy | 108 | GLN |
| 4 | Dy | 112 | GLN |
| 4 | Dy | 143 | GLN |
| 4 | Dy | 147 | GLN |
| 4 | Dy | 282 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | Dz | 50 | HIS |
| 4 | Dz | 112 | GLN |
| 4 | Dz | 120 | GLN |
| 4 | Dz | 235 | GLN |
| 4 | Dz | 293 | GLN |
| 5 | Gf | 141 | GLN |
| 5 | Gg | 135 | GLN |
| 5 | Gi | 134 | GLN |
| 5 | Gi | 135 | GLN |
| 5 | Gk | 135 | GLN |
| 5 | Go | 134 | GLN |
| 5 | Go | 135 | GLN |
| 5 | Gq | 135 | GLN |
| 5 | Gr | 135 | GLN |
| 5 | Gs | 141 | GLN |
| 5 | Gt | 135 | GLN |
| 5 | Gx | 141 | GLN |
| 5 | Gy | 135 | GLN |

### 5.3.3 RNA

There are no RNA molecules in this entry.

## 5.4 Non-standard residues in protein, DNA, RNA chains

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

## 5.5 Carbohydrates

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry

There are no ligands in this entry.

## 5.7 Other polymers

There are no such residues in this entry.

## 5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

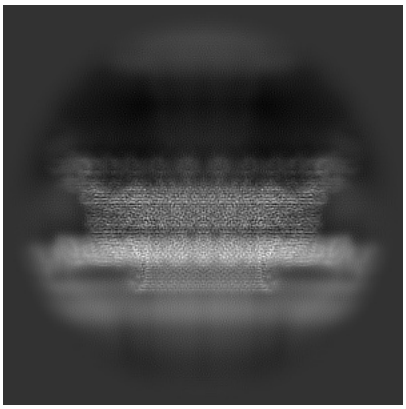
# 6 Map visualisation

This section contains visualisations of the EMDB entry EMD-72815. These allow visual inspection of the internal detail of the map and identification of artifacts.

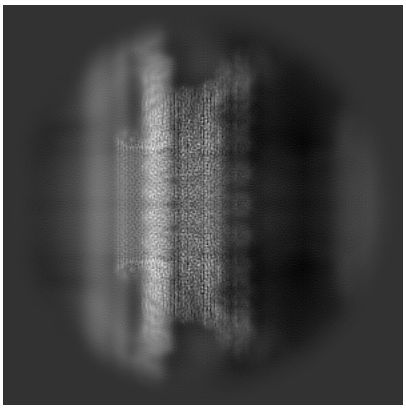
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

## 6.1 Orthogonal projections

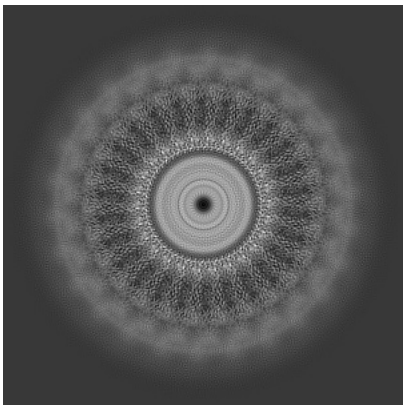
### 6.1.1 Primary map



X

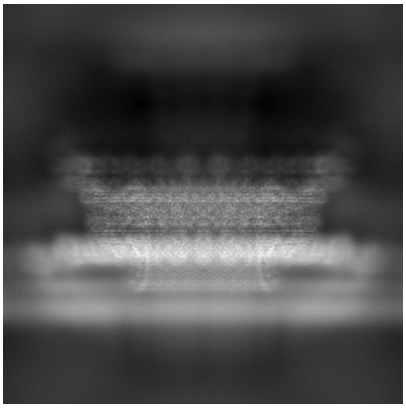


Y

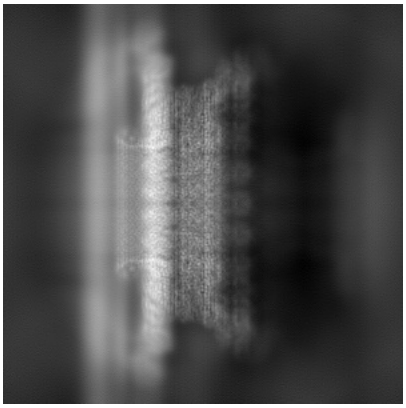


Z

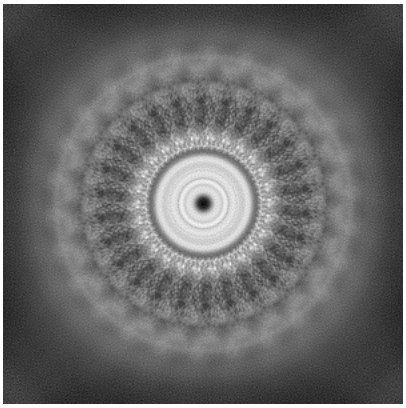
### 6.1.2 Raw map



X



Y

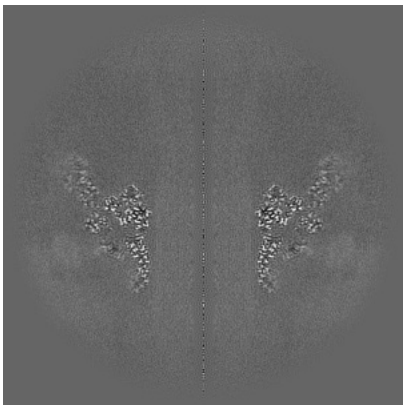


Z

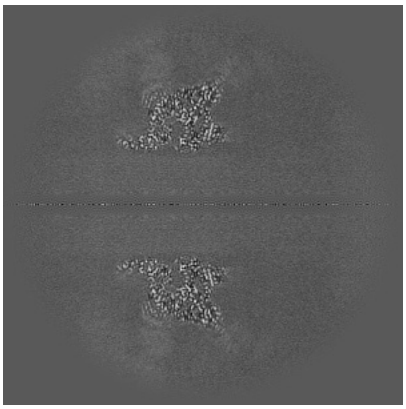
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices (i)

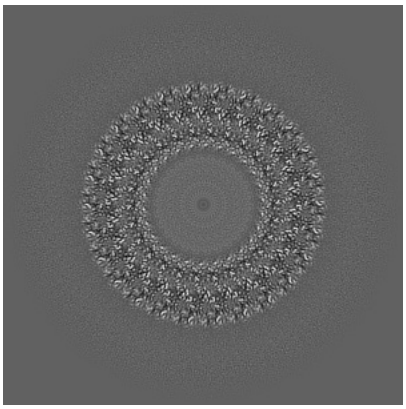
### 6.2.1 Primary map



X Index: 224

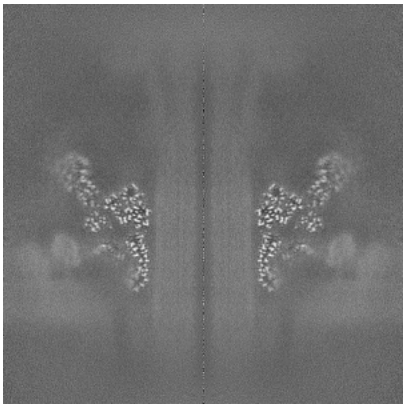


Y Index: 224

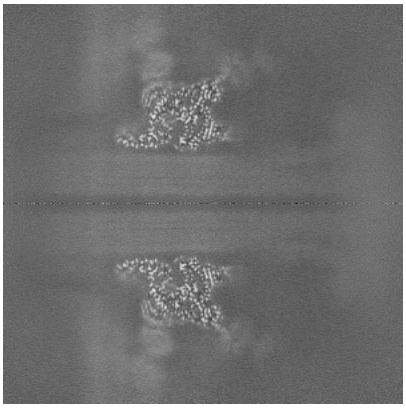


Z Index: 224

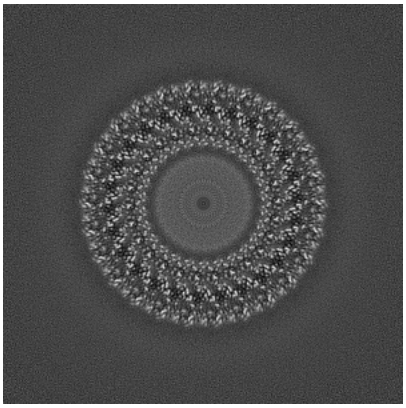
### 6.2.2 Raw map



X Index: 224



Y Index: 224

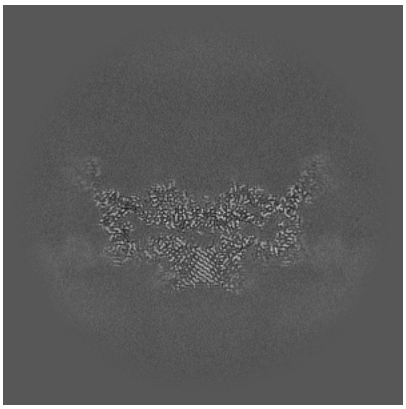


Z Index: 224

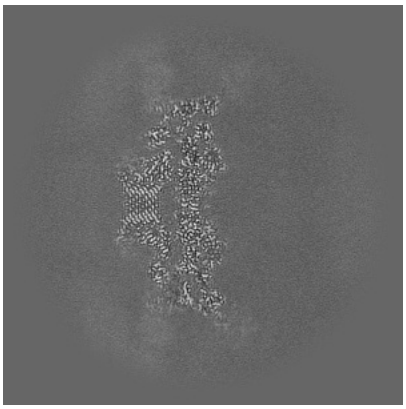
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices (i)

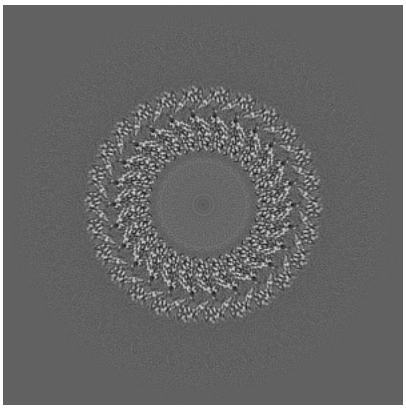
### 6.3.1 Primary map



X Index: 289

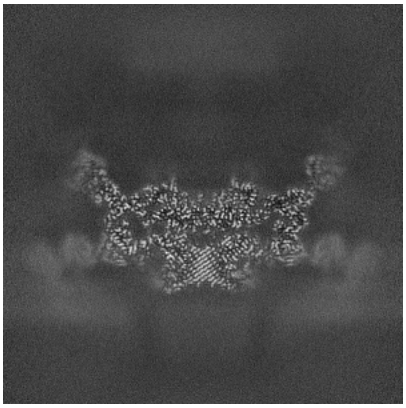


Y Index: 161

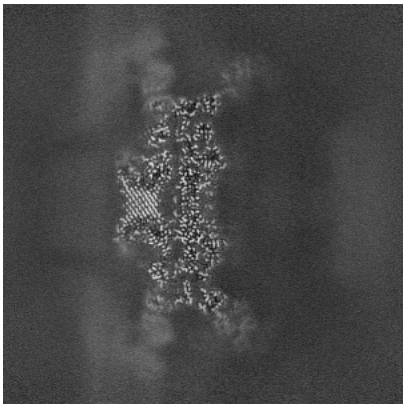


Z Index: 208

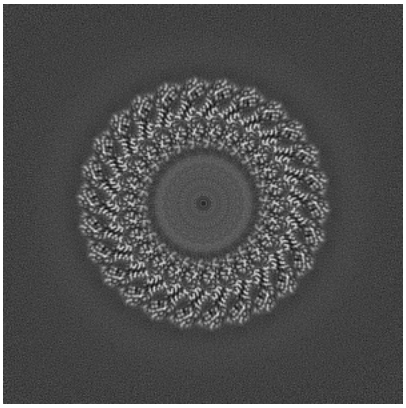
### 6.3.2 Raw map



X Index: 159



Y Index: 160

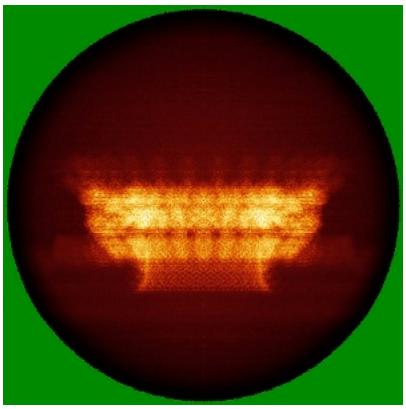


Z Index: 227

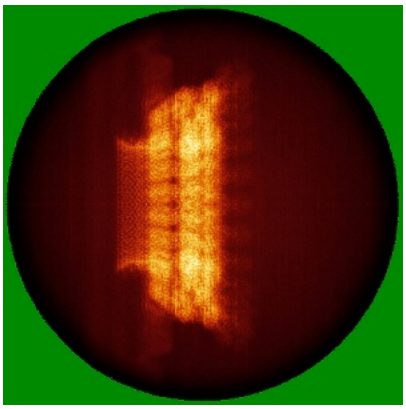
The images above show the largest variance slices of the map in three orthogonal directions.

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

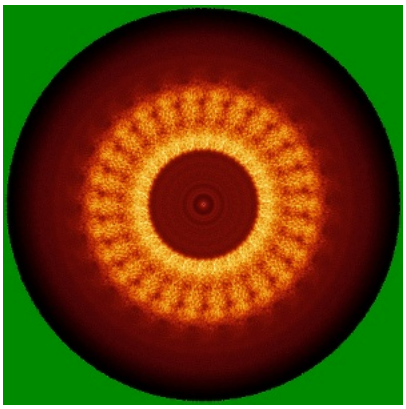
### 6.4.1 Primary map



X

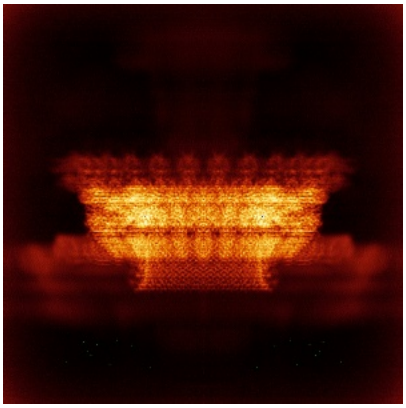


Y

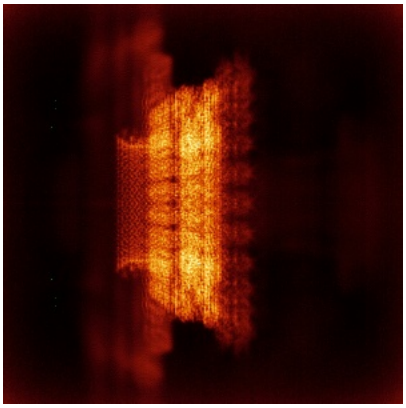


Z

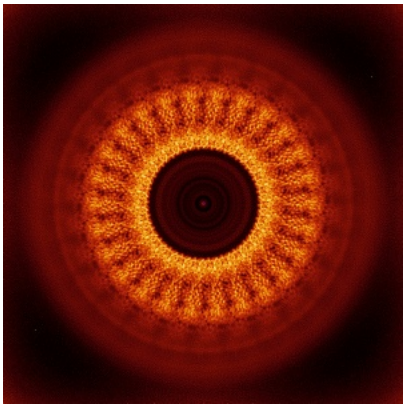
### 6.4.2 Raw map



X



Y

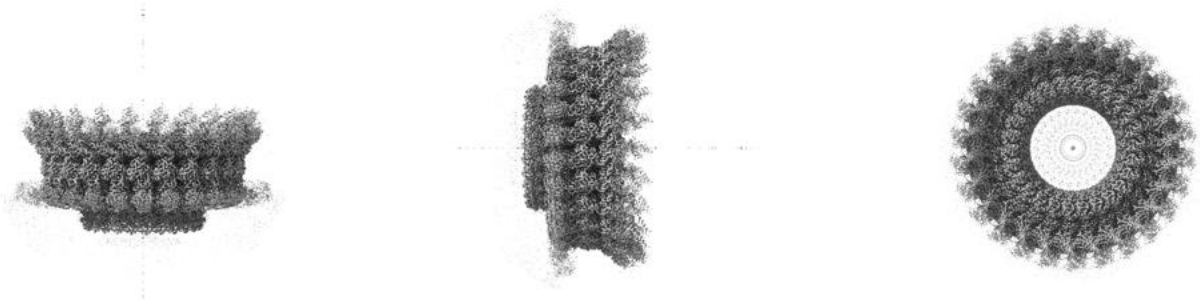


Z

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)

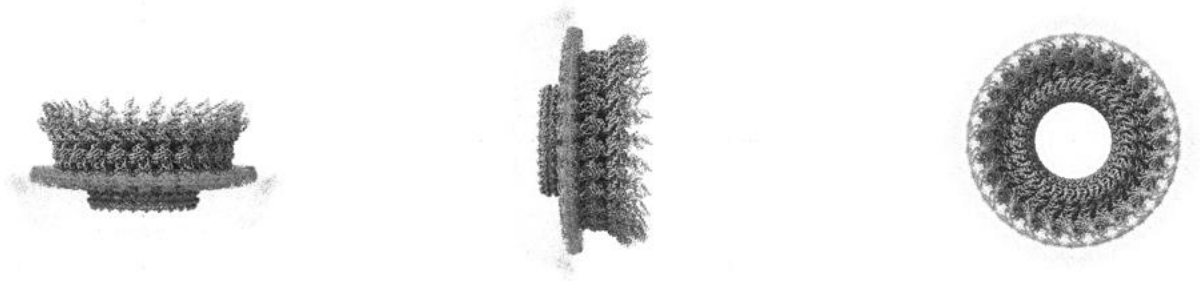
### 6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.15. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



X Y Z

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

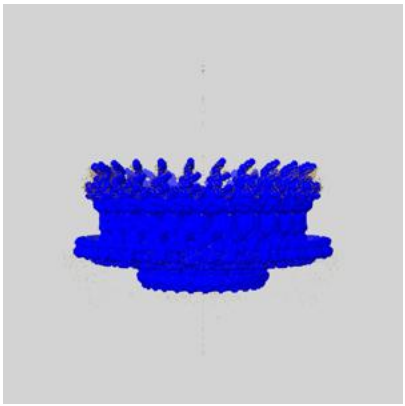
## 6.6 Mask visualisation (i)

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

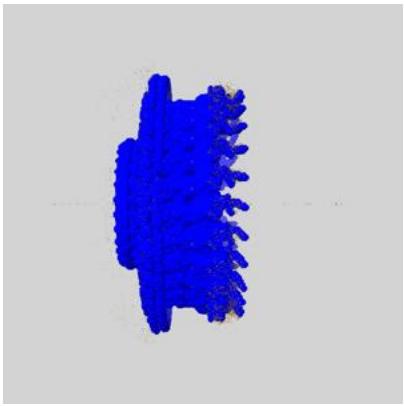
A mask typically either:

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

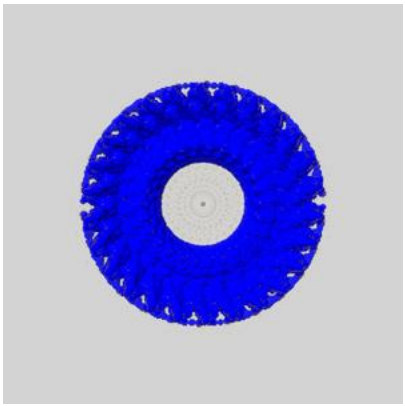
### 6.6.1 emd_72815_msk_1.map (i)



X



Y

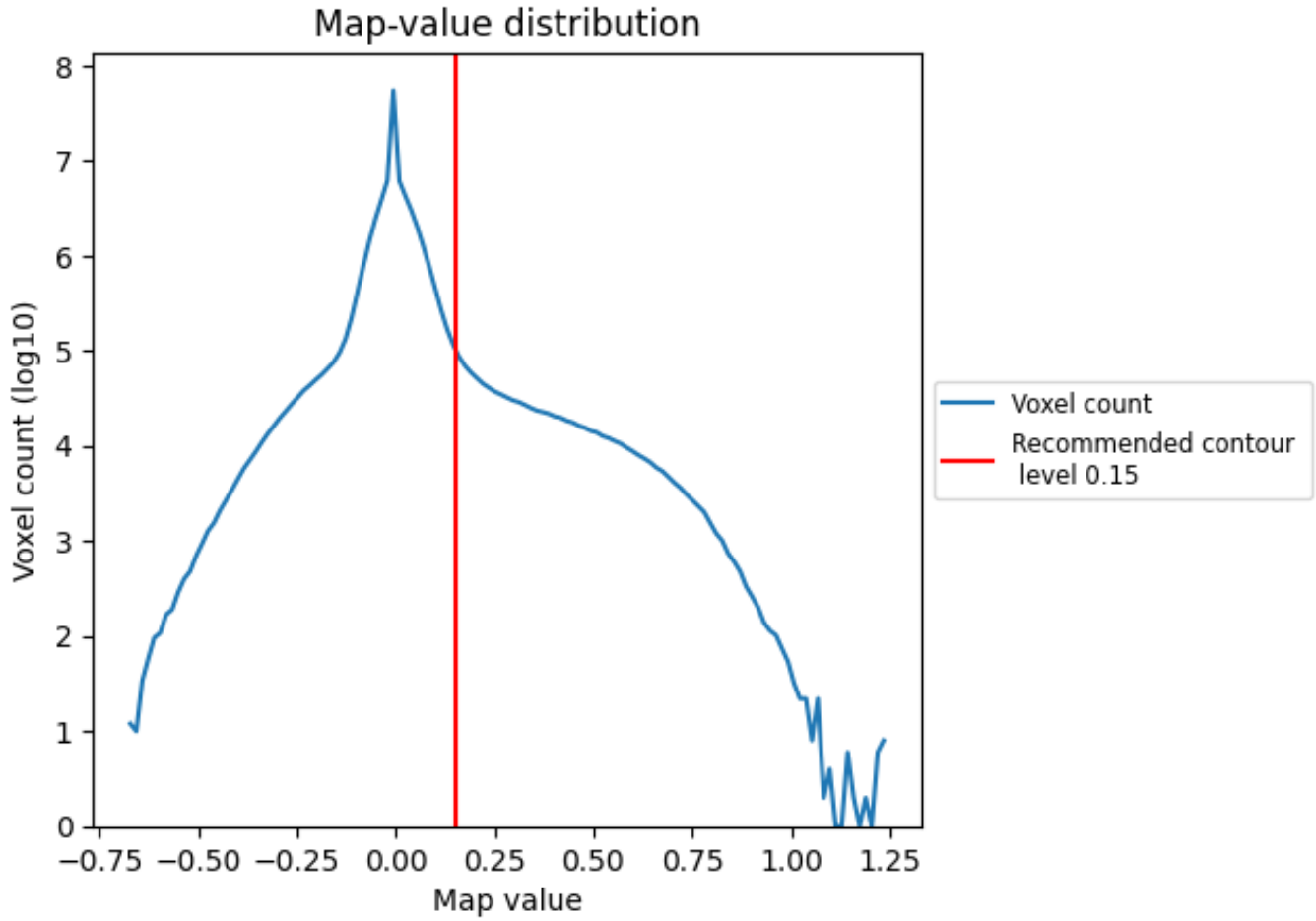


Z

# 7 Map analysis

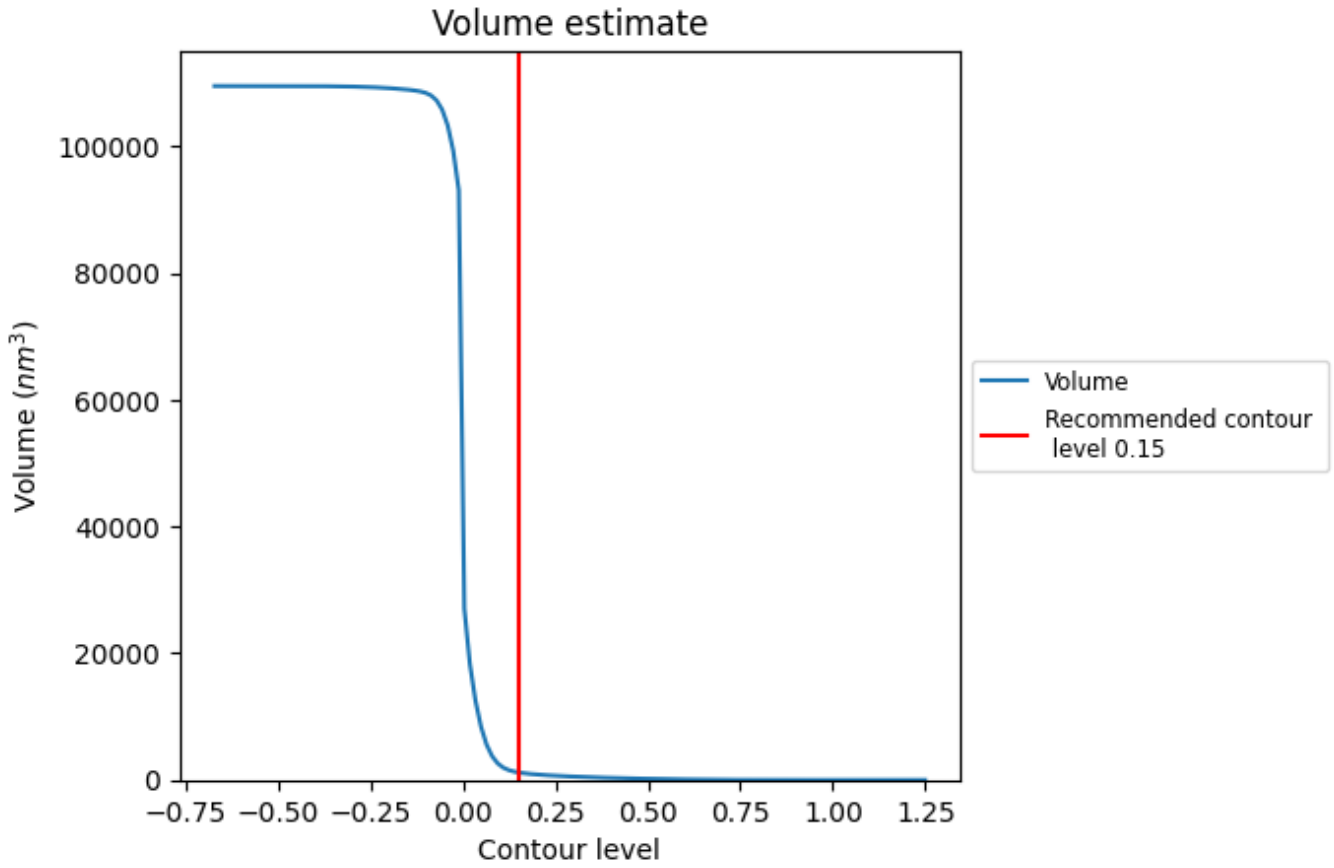
This section contains the results of statistical analysis of the map.

## 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.

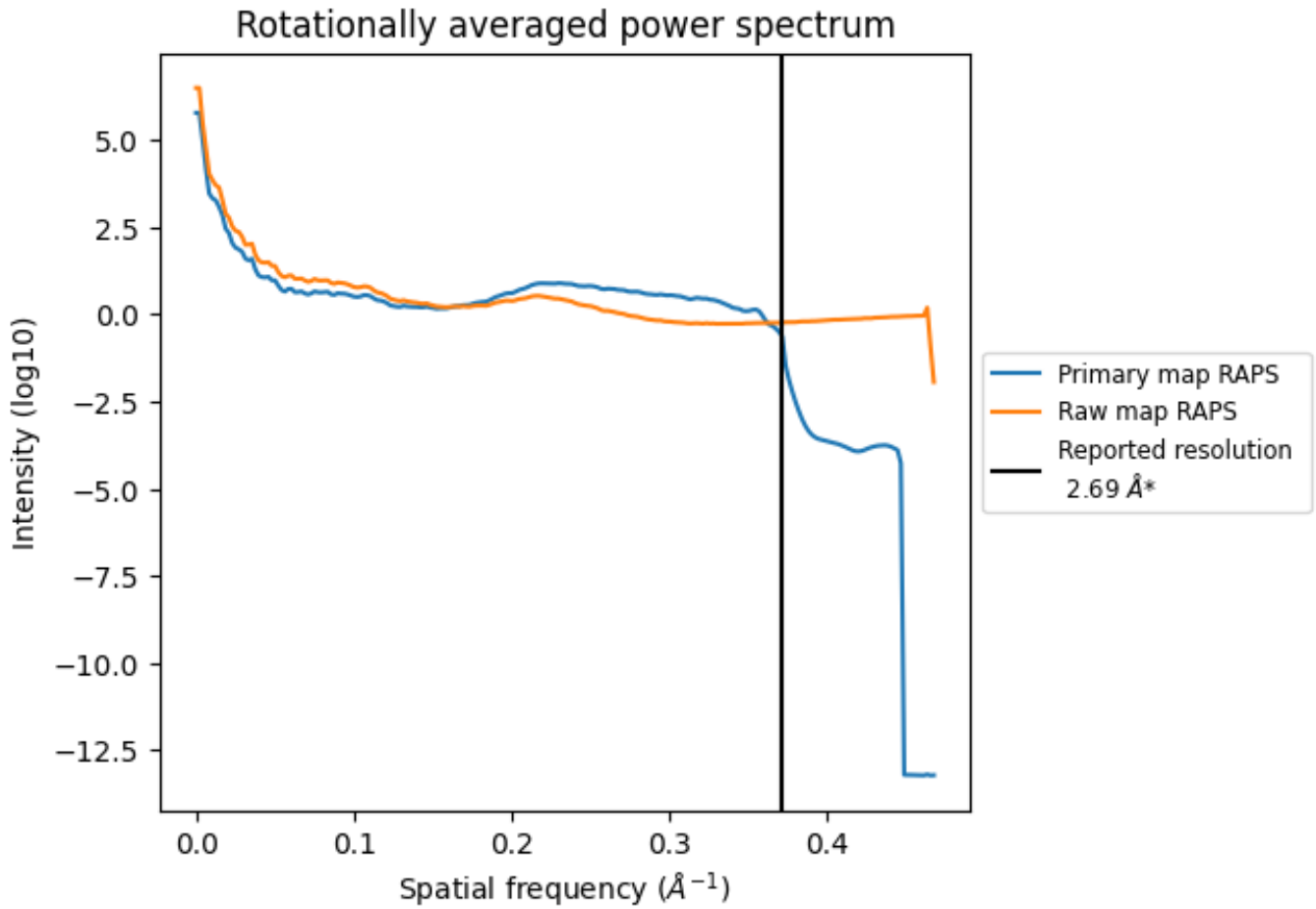
## 7.2 Volume estimate




The volume at the recommended contour level is 1189 $nm^3$; this corresponds to an approximate mass of 1074 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)

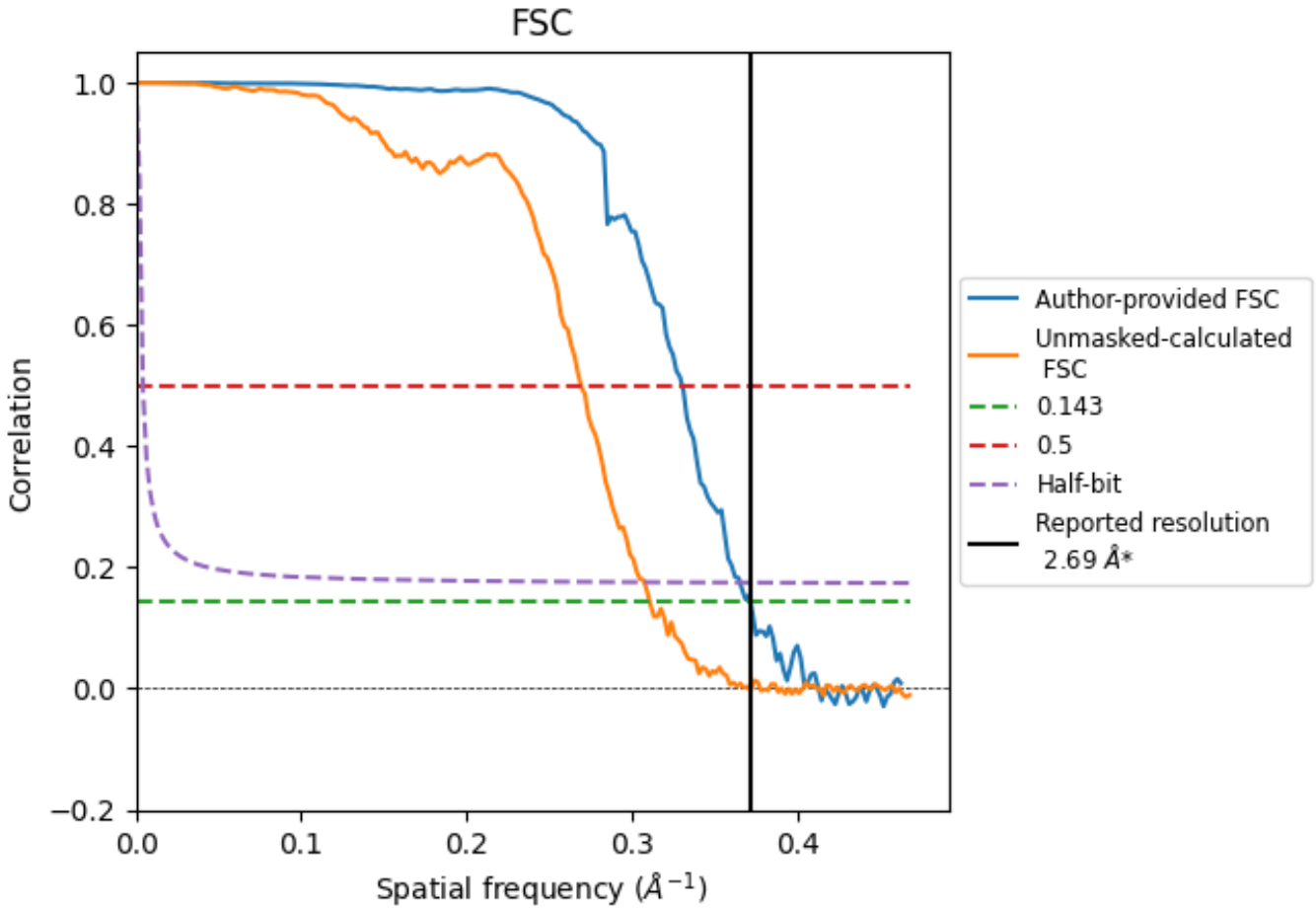



*Reported resolution corresponds to spatial frequency of 0.372 $Å^{-1}$

# 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 0.372 Å$^{-1}$

## 8.2 Resolution estimates (i)

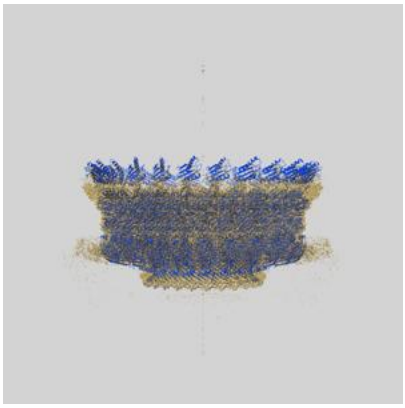
| Resolution estimate (Å) | Estimation criterion (FSC cut-off) | | |
|---|---|---|---|
| | 0.143 | 0.5 | Half-bit |
| Reported by author | 2.69 | - | - |
| Author-provided FSC curve | 2.69 | 3.03 | 2.74 |
| Unmasked-calculated* | 3.22 | 3.71 | 3.25 |

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.22 differs from the reported value 2.69 by more than 10 %

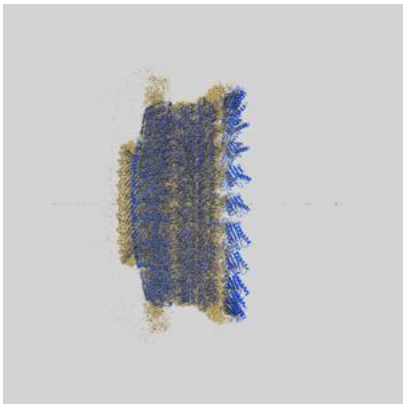
# 9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-72815 and PDB model 9YDO. Per-residue inclusion information can be found in section 3 on page 18.

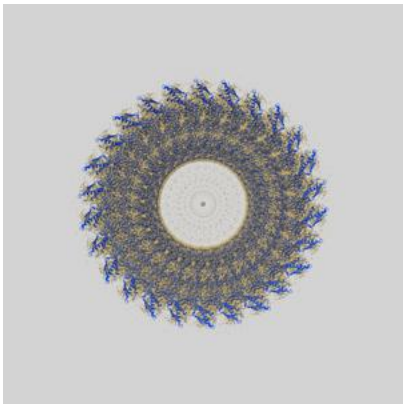
## 9.1 Map-model overlay



X



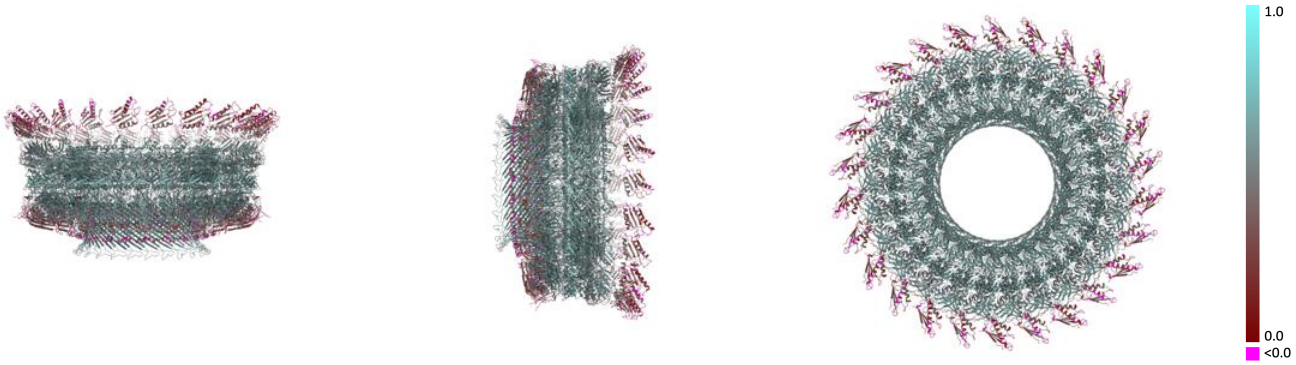
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

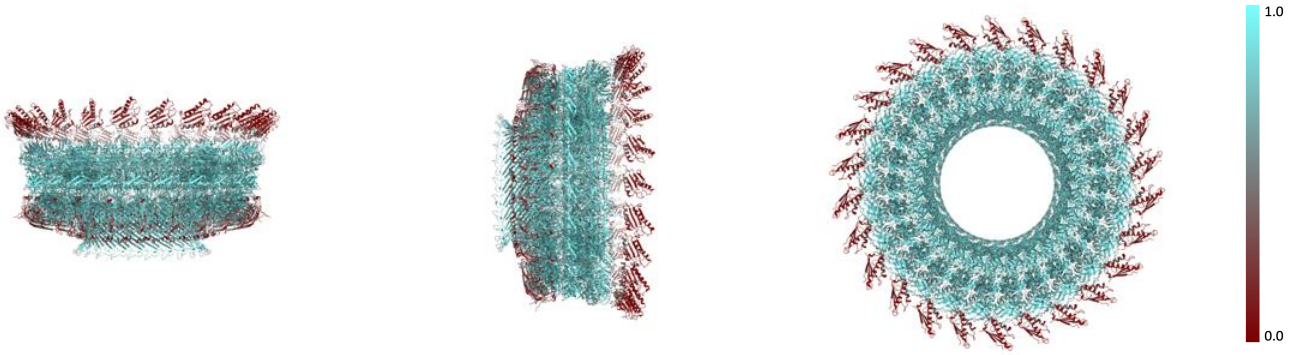
## 9.2 Q-score mapped to coordinate model (i)




X Y Z

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.

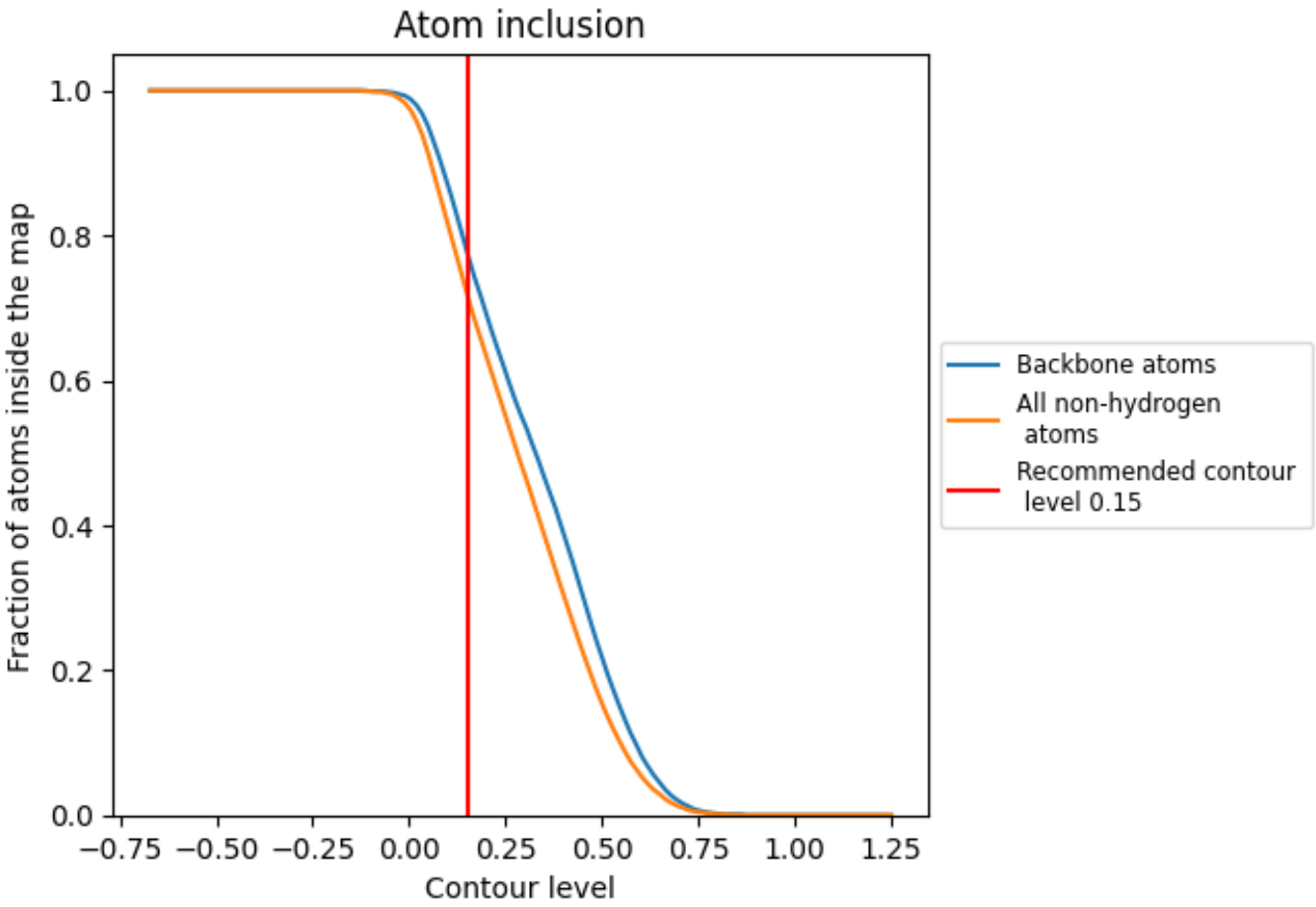
## 9.3 Atom inclusion mapped to coordinate model (i)




X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.15).

## 9.4 Atom inclusion (i)




At the recommended contour level, 78% of all backbone atoms, 72% 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 (0.15) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|---|---|---|
| All | 0.7190 | 0.5130 |
| Aa | 0.7940 | 0.5590 |
| Ab | 0.8020 | 0.5610 |
| Ac | 0.7980 | 0.5600 |
| Ad | 0.7950 | 0.5600 |
| Ae | 0.7940 | 0.5610 |
| Af | 0.7920 | 0.5600 |
| Ag | 0.7940 | 0.5590 |
| Ah | 0.7950 | 0.5590 |
| Ai | 0.7970 | 0.5600 |
| Aj | 0.7940 | 0.5590 |
| Ak | 0.7940 | 0.5600 |
| Al | 0.7940 | 0.5610 |
| Am | 0.7940 | 0.5590 |
| An | 0.7940 | 0.5590 |
| Ao | 0.8020 | 0.5610 |
| Ap | 0.7970 | 0.5600 |
| Aq | 0.7950 | 0.5610 |
| Ar | 0.7970 | 0.5620 |
| As | 0.7900 | 0.5590 |
| At | 0.7950 | 0.5610 |
| Au | 0.7970 | 0.5620 |
| Av | 0.7940 | 0.5600 |
| Aw | 0.7940 | 0.5600 |
| Ax | 0.8000 | 0.5610 |
| Ay | 0.7990 | 0.5610 |
| Az | 0.7970 | 0.5600 |
| Ba | 0.8850 | 0.6030 |
| Bb | 0.8810 | 0.6020 |
| Bc | 0.8810 | 0.6020 |
| Bd | 0.8790 | 0.6010 |
| Be | 0.8810 | 0.6010 |
| Bf | 0.8790 | 0.6040 |
| Bg | 0.8830 | 0.6030 |
| Bh | 0.8850 | 0.6020 |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| Chain | Atom inclusion | Q-score |
|---|---|---|
| Bi | 0.8800 | 0.6030 |
| Bj | 0.8790 | 0.6020 |
| Bk | 0.8750 | 0.6010 |
| Bl | 0.8810 | 0.6020 |
| Bm | 0.8850 | 0.6030 |
| Bn | 0.8870 | 0.6020 |
| Bo | 0.8830 | 0.6010 |
| Bp | 0.8810 | 0.6010 |
| Bq | 0.8800 | 0.6010 |
| Br | 0.8810 | 0.6010 |
| Bs | 0.8820 | 0.6020 |
| Bt | 0.8810 | 0.6000 |
| Bu | 0.8870 | 0.6000 |
| Bv | 0.8810 | 0.6010 |
| Bw | 0.8820 | 0.6010 |
| Bx | 0.8790 | 0.6020 |
| By | 0.8790 | 0.6020 |
| Bz | 0.8830 | 0.6020 |
| Ca | 0.7330 | 0.5160 |
| Cb | 0.6900 | 0.4750 |
| Cc | 0.7300 | 0.5200 |
| Cd | 0.7310 | 0.5170 |
| Ce | 0.7340 | 0.5160 |
| Cf | 0.7380 | 0.5180 |
| Cg | 0.7330 | 0.5230 |
| Ch | 0.7250 | 0.5180 |
| Ci | 0.7310 | 0.5170 |
| Cj | 0.7360 | 0.5210 |
| Ck | 0.7360 | 0.5210 |
| Cl | 0.7320 | 0.5170 |
| Cm | 0.7320 | 0.5130 |
| Cn | 0.7340 | 0.5170 |
| Co | 0.7310 | 0.5180 |
| Cp | 0.7280 | 0.5170 |
| Cq | 0.7340 | 0.5200 |
| Cr | 0.7310 | 0.5190 |
| Cs | 0.7310 | 0.5150 |
| Ct | 0.7270 | 0.5180 |
| Cu | 0.7270 | 0.5130 |
| Cv | 0.7300 | 0.5200 |
| Cw | 0.7270 | 0.5150 |
| Cx | 0.7350 | 0.5230 |

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| Chain | Atom inclusion | Q-score |
|---|---|---|
| Cy | 0.7310 | 0.5170 |
| Cz | 0.7340 | 0.5190 |
| Da | 0.5000 | 0.3930 |
| Db | 0.5080 | 0.4160 |
| Dc | 0.5070 | 0.3930 |
| Dd | 0.5110 | 0.4150 |
| De | 0.5030 | 0.3920 |
| Df | 0.5100 | 0.4160 |
| Dg | 0.4970 | 0.3900 |
| Dh | 0.5100 | 0.4170 |
| Di | 0.5030 | 0.3910 |
| Dj | 0.5060 | 0.4150 |
| Dk | 0.5030 | 0.3910 |
| Dl | 0.5130 | 0.4150 |
| Dm | 0.5040 | 0.3920 |
| Dn | 0.5090 | 0.4140 |
| Do | 0.5010 | 0.3910 |
| Dp | 0.5110 | 0.4120 |
| Dq | 0.5020 | 0.3900 |
| Dr | 0.5130 | 0.4120 |
| Ds | 0.5020 | 0.3920 |
| Dt | 0.5070 | 0.4150 |
| Du | 0.4990 | 0.3910 |
| Dv | 0.5090 | 0.4130 |
| Dw | 0.5000 | 0.3930 |
| Dx | 0.5060 | 0.4140 |
| Dy | 0.5020 | 0.3950 |
| Dz | 0.5100 | 0.4170 |
| Fa | 0.3090 | 0.2680 |
| Fb | 0.2850 | 0.2610 |
| Fc | 0.3010 | 0.2470 |
| Fd | 0.3010 | 0.2690 |
| Fe | 0.2930 | 0.2500 |
| Ff | 0.3090 | 0.2670 |
| Fg | 0.3090 | 0.2670 |
| Fh | 0.2680 | 0.2390 |
| Fi | 0.3090 | 0.2200 |
| Fj | 0.2850 | 0.2890 |
| Fk | 0.3250 | 0.2050 |
| Fl | 0.3090 | 0.2520 |
| Fm | 0.3170 | 0.2590 |
| Fn | 0.2850 | 0.2450 |

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| Chain | Atom inclusion | Q-score |
|---|---|---|
| Fo | 0.3010 | 0.2360 |
| Fp | 0.2850 | 0.2260 |
| Fq | 0.2930 | 0.2750 |
| Fr | 0.3010 | 0.2440 |
| Fs | 0.3170 | 0.1930 |
| Ft | 0.2930 | 0.2480 |
| Fu | 0.3010 | 0.2330 |
| Fv | 0.3010 | 0.2520 |
| Fw | 0.3010 | 0.2710 |
| Fx | 0.3330 | 0.2720 |
| Fy | 0.2850 | 0.2590 |
| Fz | 0.2850 | 0.1910 |
| Ga | 0.3180 | 0.2600 |
| Gb | 0.3000 | 0.2230 |
| Gc | 0.3270 | 0.2060 |
| Gd | 0.3090 | 0.2480 |
| Ge | 0.3090 | 0.2240 |
| Gf | 0.3360 | 0.2240 |
| Gg | 0.3000 | 0.2460 |
| Gh | 0.3180 | 0.2590 |
| Gi | 0.3090 | 0.2340 |
| Gj | 0.3450 | 0.2570 |
| Gk | 0.3540 | 0.2410 |
| Gl | 0.3360 | 0.2090 |
| Gm | 0.3450 | 0.2380 |
| Gn | 0.3640 | 0.2800 |
| Go | 0.3180 | 0.2690 |
| Gp | 0.2730 | 0.2510 |
| Gq | 0.3270 | 0.2330 |
| Gr | 0.2910 | 0.2540 |
| Gs | 0.3090 | 0.2390 |
| Gt | 0.3180 | 0.2720 |
| Gu | 0.3270 | 0.2790 |
| Gv | 0.3360 | 0.2600 |
| Gw | 0.2450 | 0.1440 |
| Gx | 0.3540 | 0.2400 |
| Gy | 0.3540 | 0.2750 |
| Gz | 0.2910 | 0.2460 |