



Full wwPDB EM Validation Report ⓘ

Jun 10, 2024 – 04:22 AM EDT

PDB ID : 8FNV
EMDB ID : EMD-29327
Title : Structure of RdrB from Escherichia coli RADAR defense system
Authors : Duncan-Lowey, B.; Johnson, A.G.; Rawson, S.; Mayer, M.L.; Kranzusch, P.J.
Deposited on : 2022-12-28
Resolution : 2.11 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:

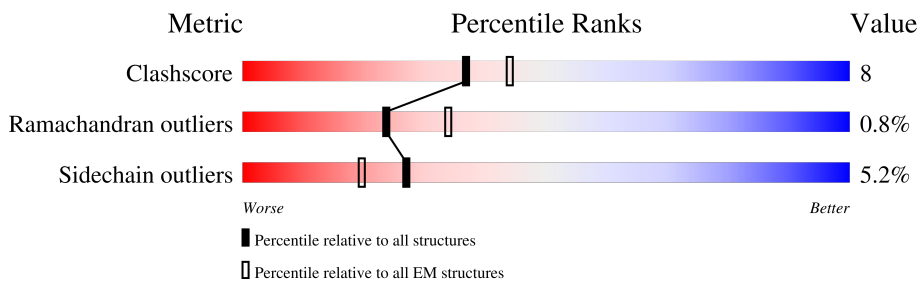
EMDB validation analysis : 0.0.1.dev92
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.11 Å.

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



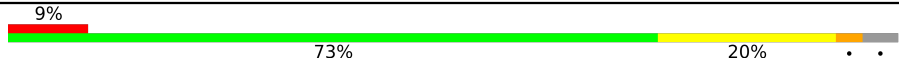

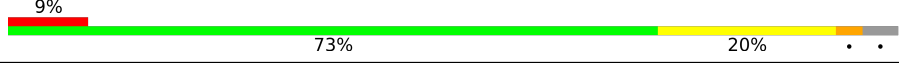
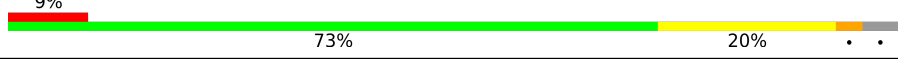
| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|-----------------------|--------------------------|--------------------------|
| Clashscore | 158937 | 4297 |
| Ramachandran outliers | 154571 | 4023 |
| Sidechain outliers | 154315 | 3826 |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 798 | |
| 1 | B | 798 | |
| 1 | C | 798 | |
| 1 | D | 798 | |
| 1 | E | 798 | |
| 1 | F | 798 | |
| 1 | G | 798 | |
| 1 | H | 798 | |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 1 | I | 798 |  |
| 1 | J | 798 |  |
| 1 | K | 798 |  |
| 1 | L | 798 |  |

2 Entry composition i

There are 2 unique types of molecules in this entry. The entry contains 74928 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 Adenosine deaminase.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|------|------|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 1 | A | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | B | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | C | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | D | 767 | 6221 | 3989 | 1078 | 1120 | 34 | 0 | 0 |
| 1 | E | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | F | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | G | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | H | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | I | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | J | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | K | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |
| 1 | L | 770 | 6245 | 4002 | 1082 | 1127 | 34 | 0 | 0 |

There are 12 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------|----------------|
| A | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| B | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| C | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| D | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| E | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| F | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------|----------------|
| G | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| H | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| I | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| J | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| K | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |
| L | 274 | THR | ILE | conflict | UNP A0A8E2SFD7 |

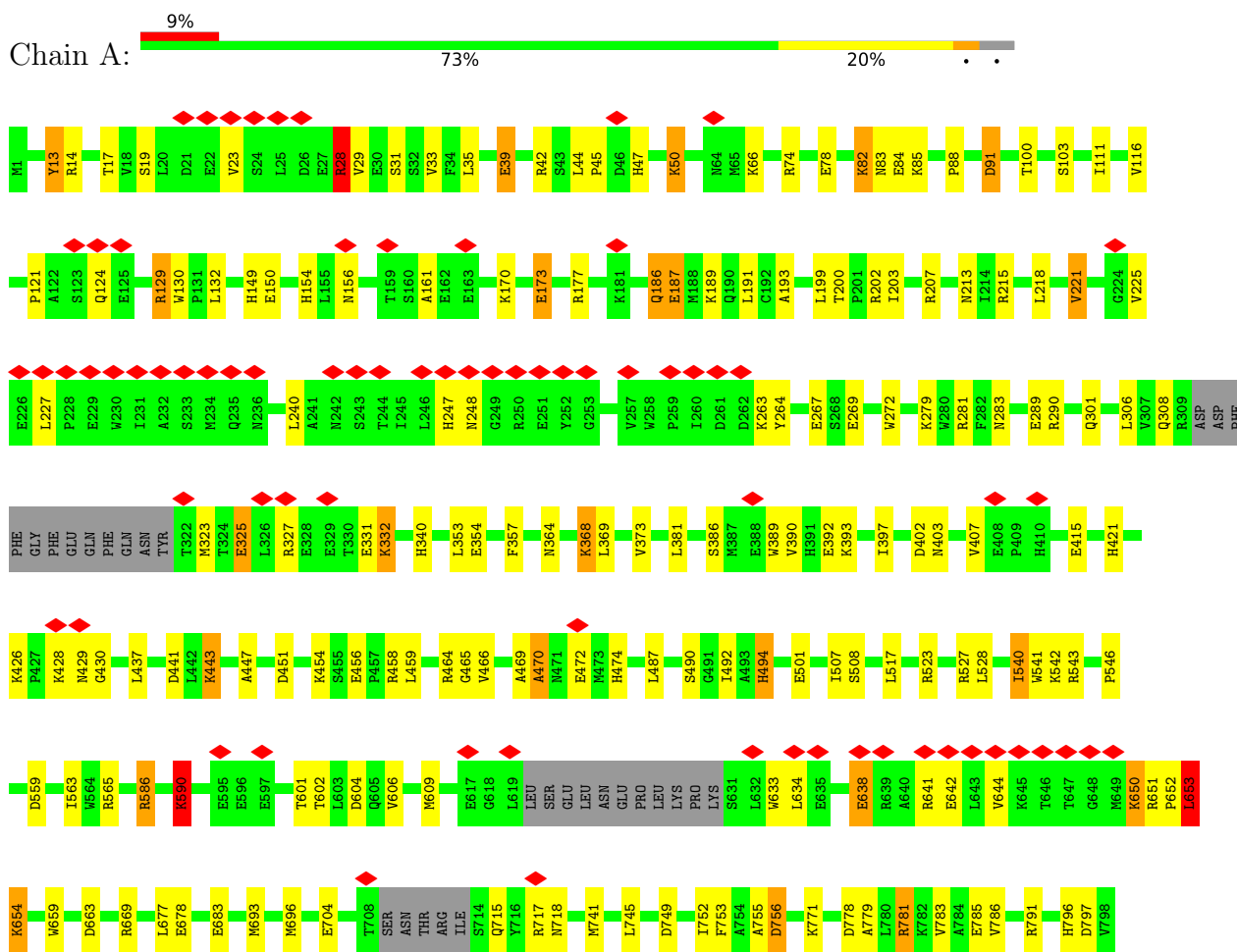
- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

| Mol | Chain | Residues | Atoms | AltConf |
|-----|-------|----------|-----------------|---------|
| 2 | A | 1 | Total Zn 1 1 | 0 |
| 2 | B | 1 | Total Zn 1 1 | 0 |
| 2 | C | 1 | Total Zn 1 1 | 0 |
| 2 | D | 1 | Total Zn 1 1 | 0 |
| 2 | E | 1 | Total Zn 1 1 | 0 |
| 2 | F | 1 | Total Zn 1 1 | 0 |
| 2 | G | 1 | Total Zn 1 1 | 0 |
| 2 | H | 1 | Total Zn 1 1 | 0 |
| 2 | I | 1 | Total Zn 1 1 | 0 |
| 2 | J | 1 | Total Zn 1 1 | 0 |
| 2 | K | 1 | Total Zn 1 1 | 0 |
| 2 | L | 1 | Total Zn 1 1 | 0 |

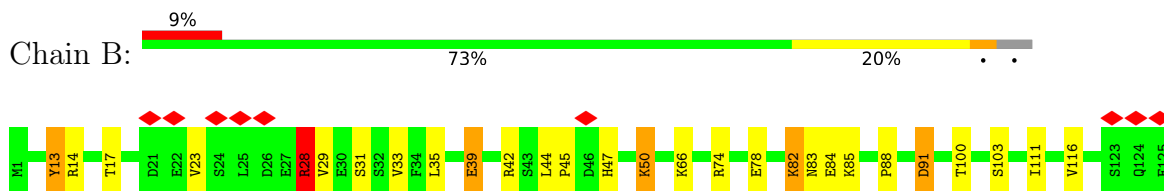
3 Residue-property plots

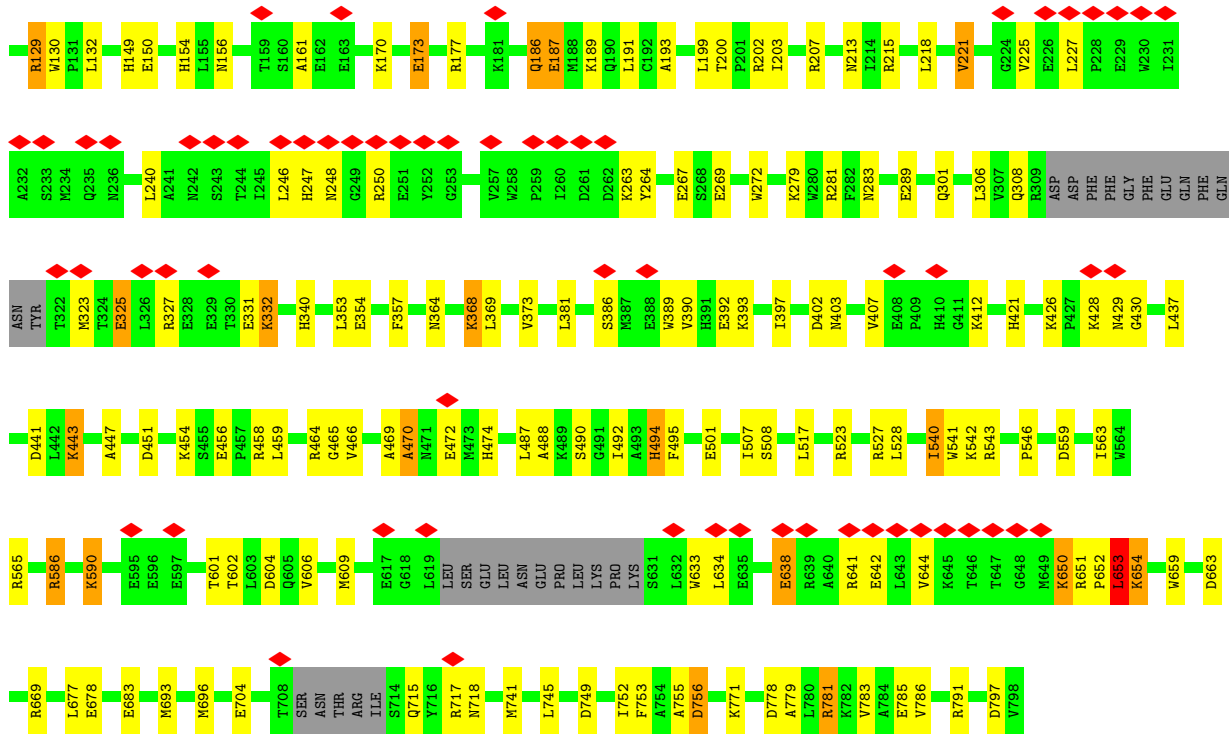
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: Adenosine deaminase

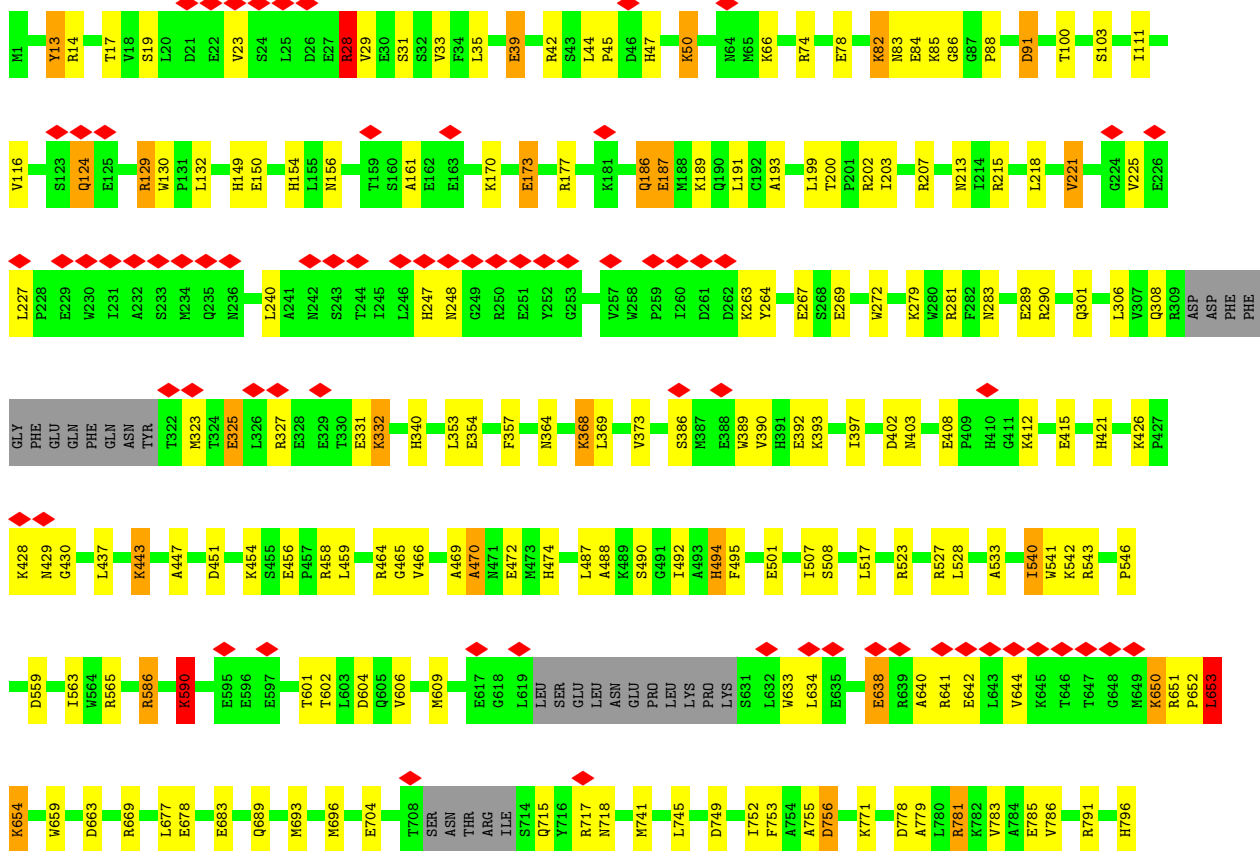
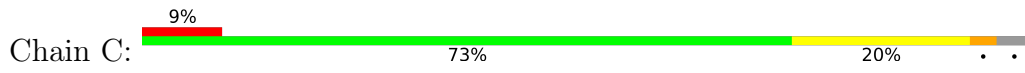


- Molecule 1: Adenosine deaminase



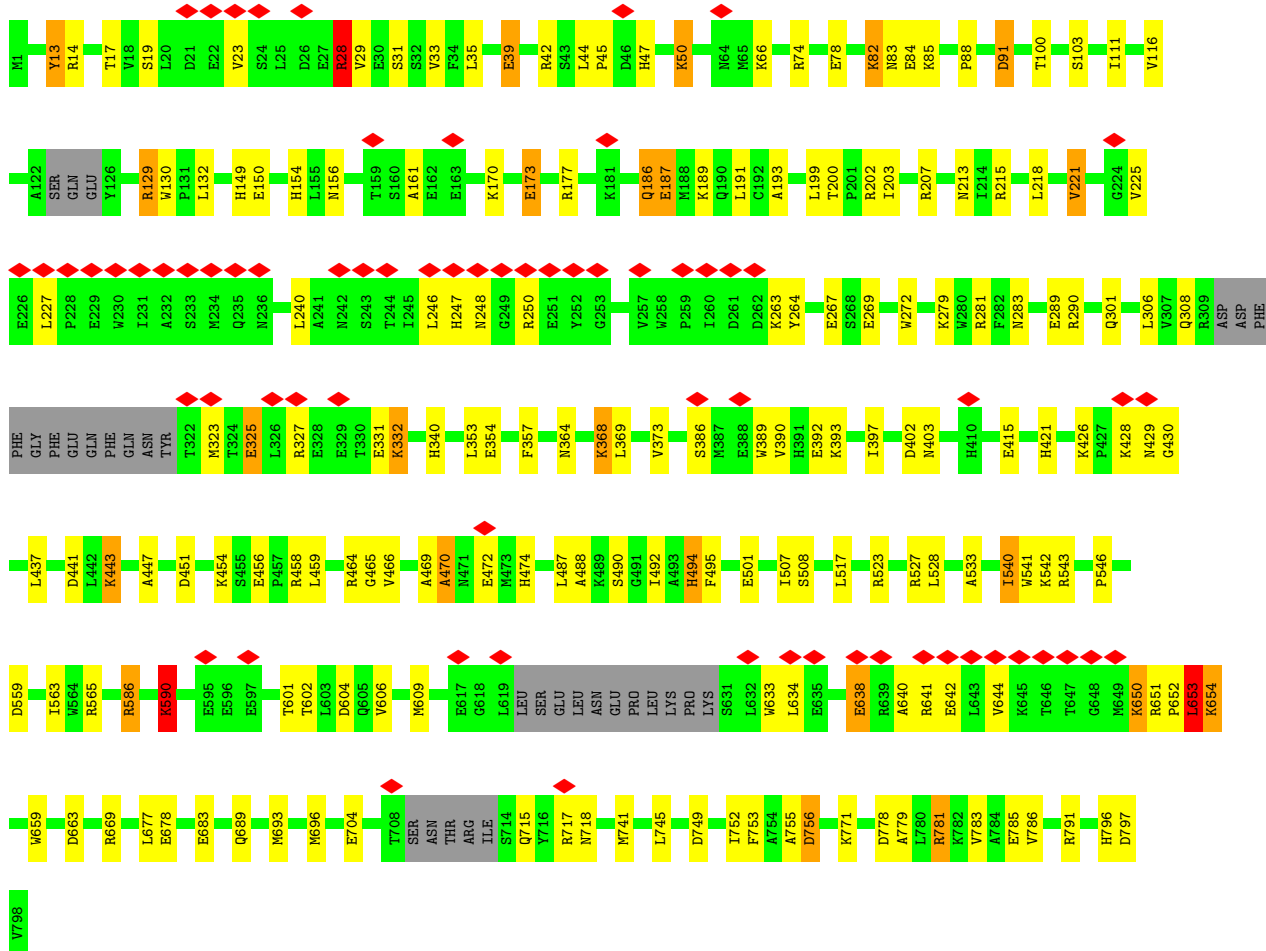
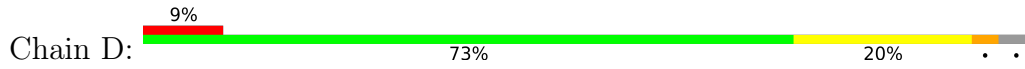


• Molecule 1: Adenosine deaminase

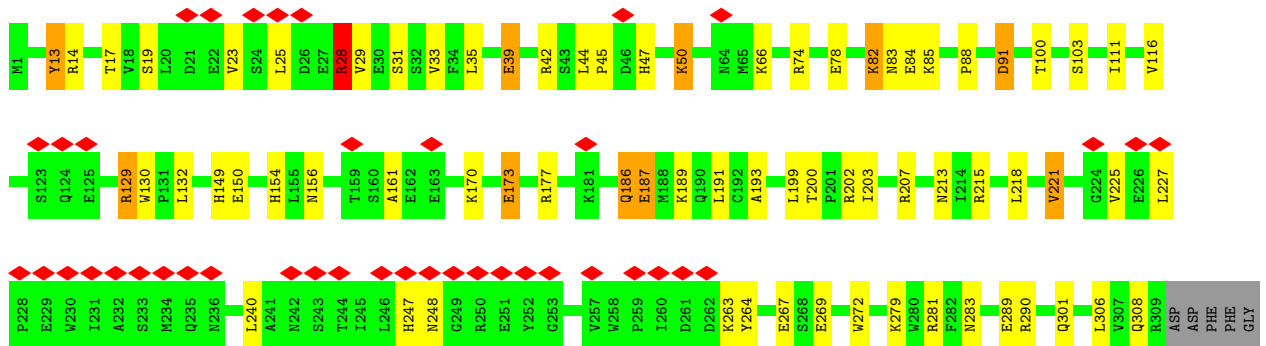


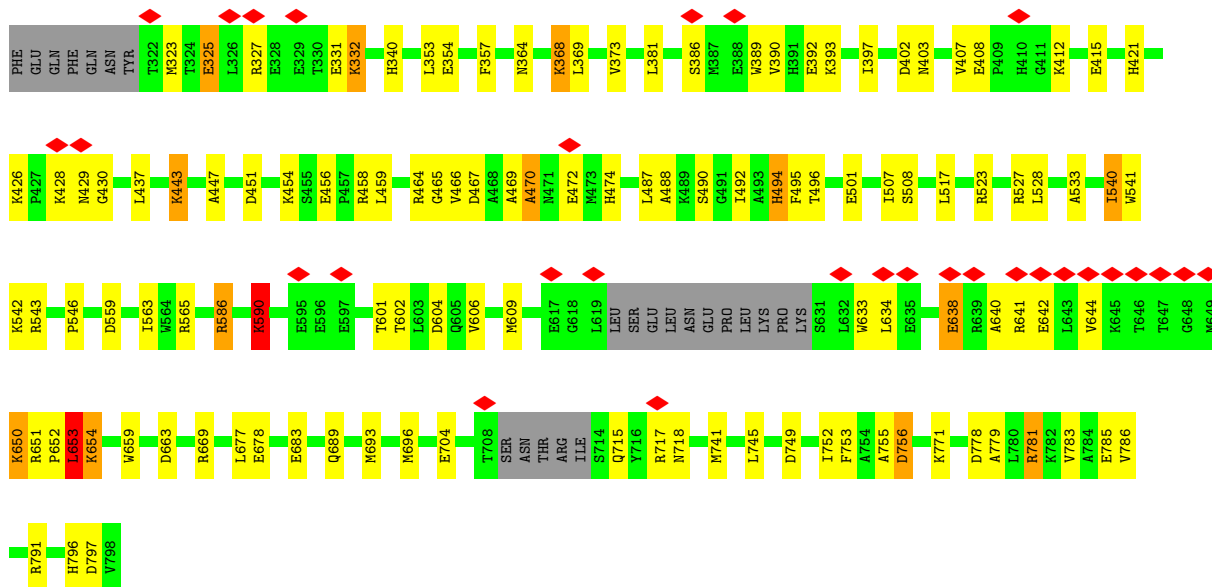
D797
V796

• Molecule 1: Adenosine deaminase

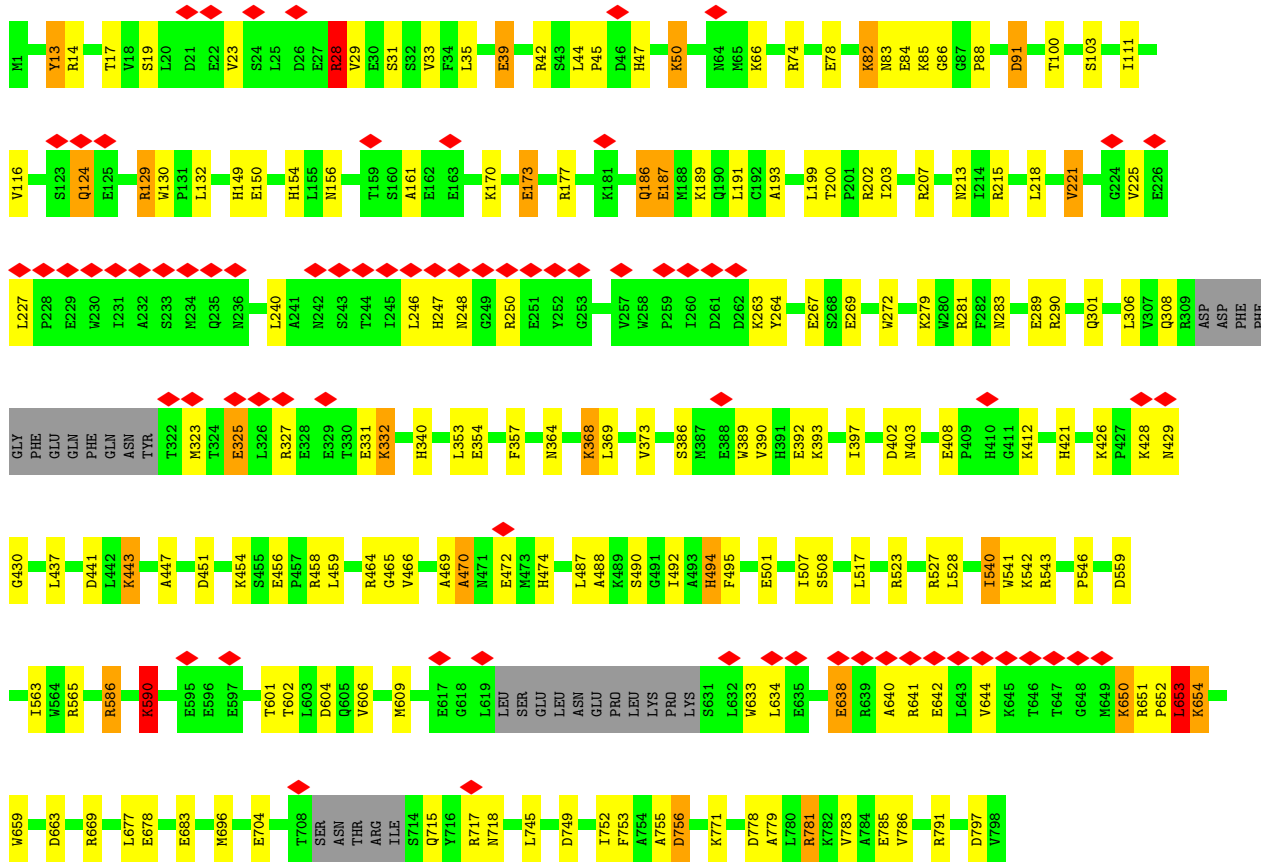
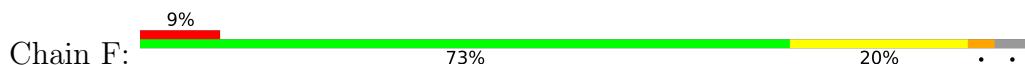


• Molecule 1: Adenosine deaminase



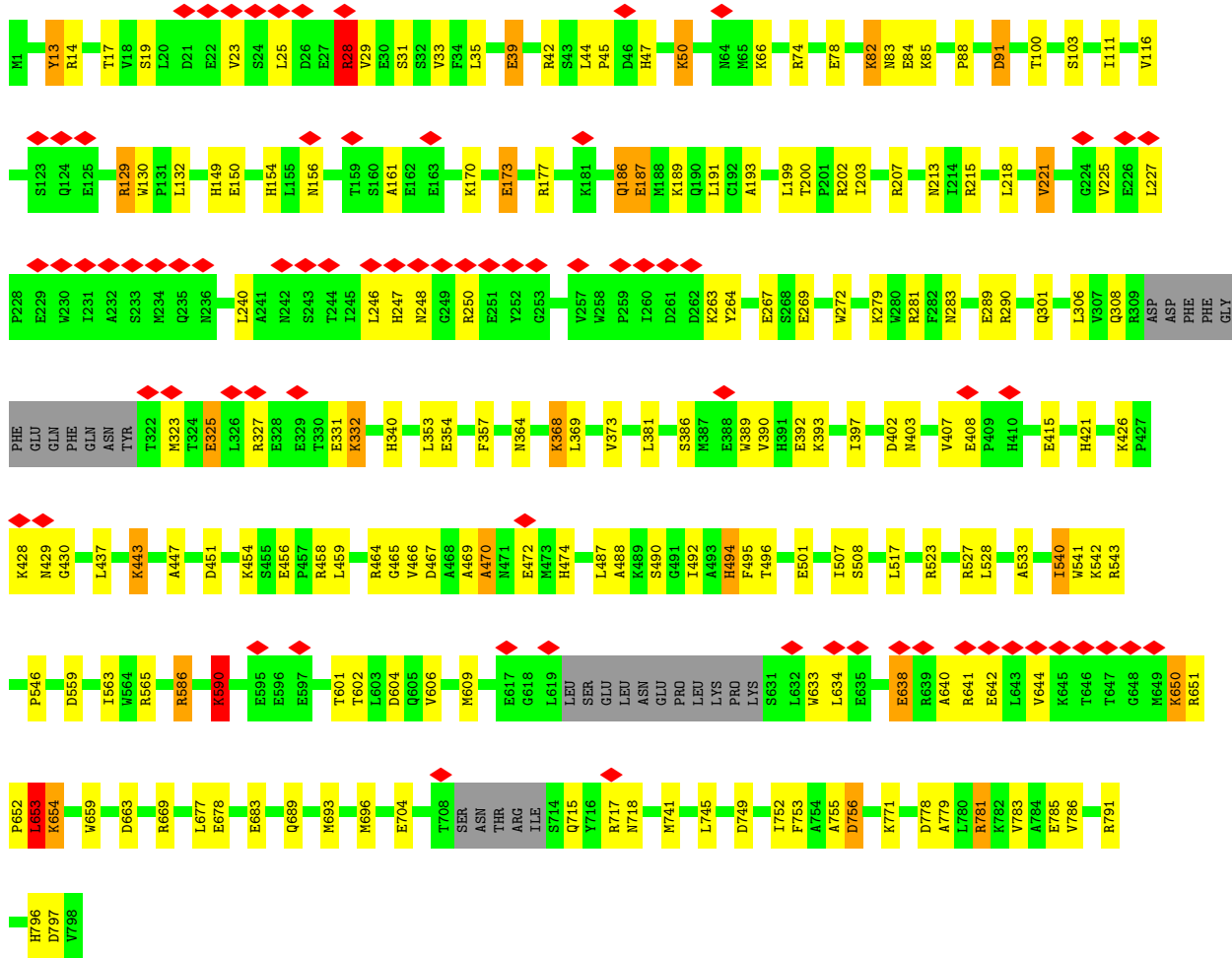


• Molecule 1: Adenosine deaminase

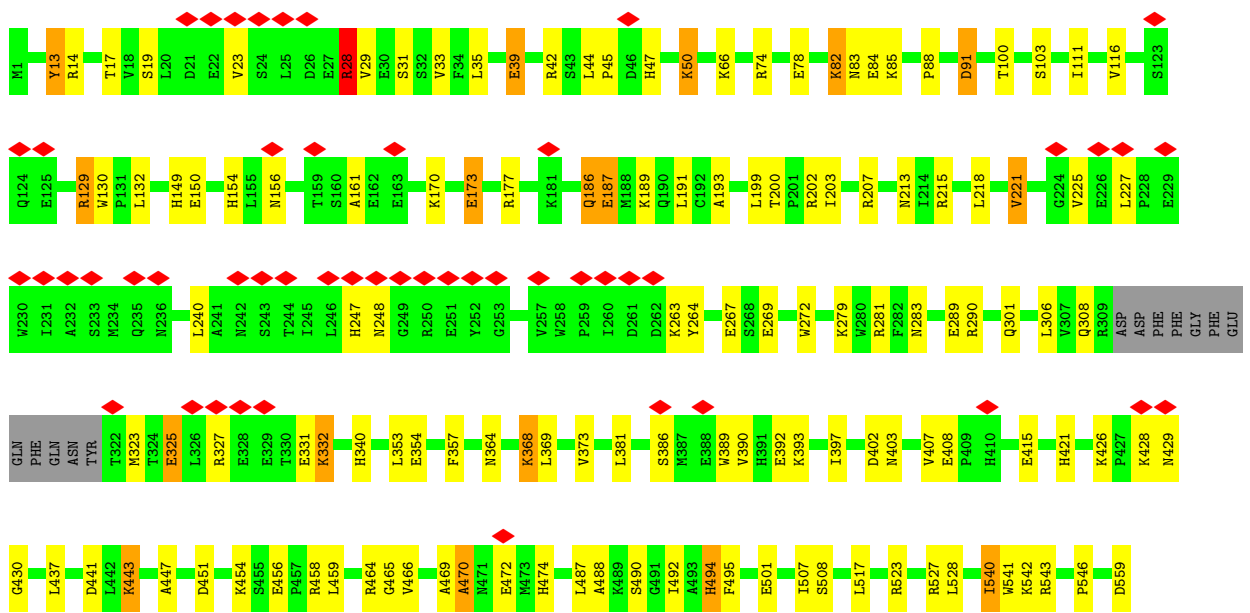
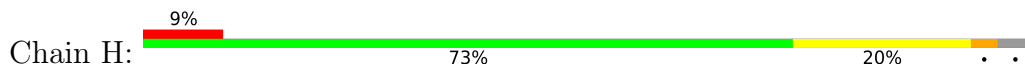


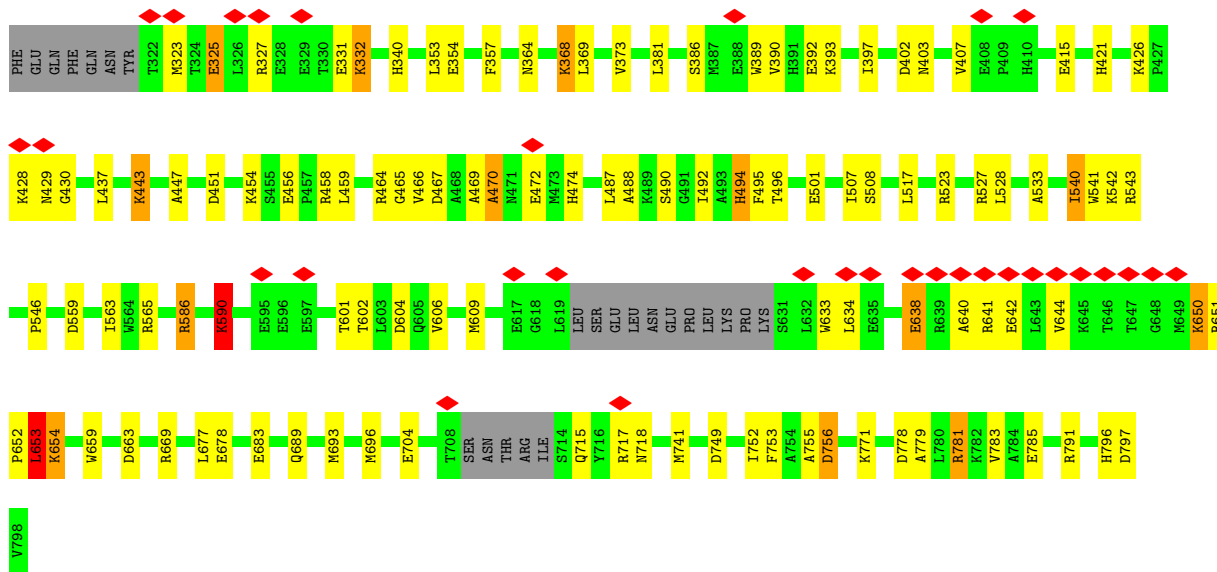
• Molecule 1: Adenosine deaminase



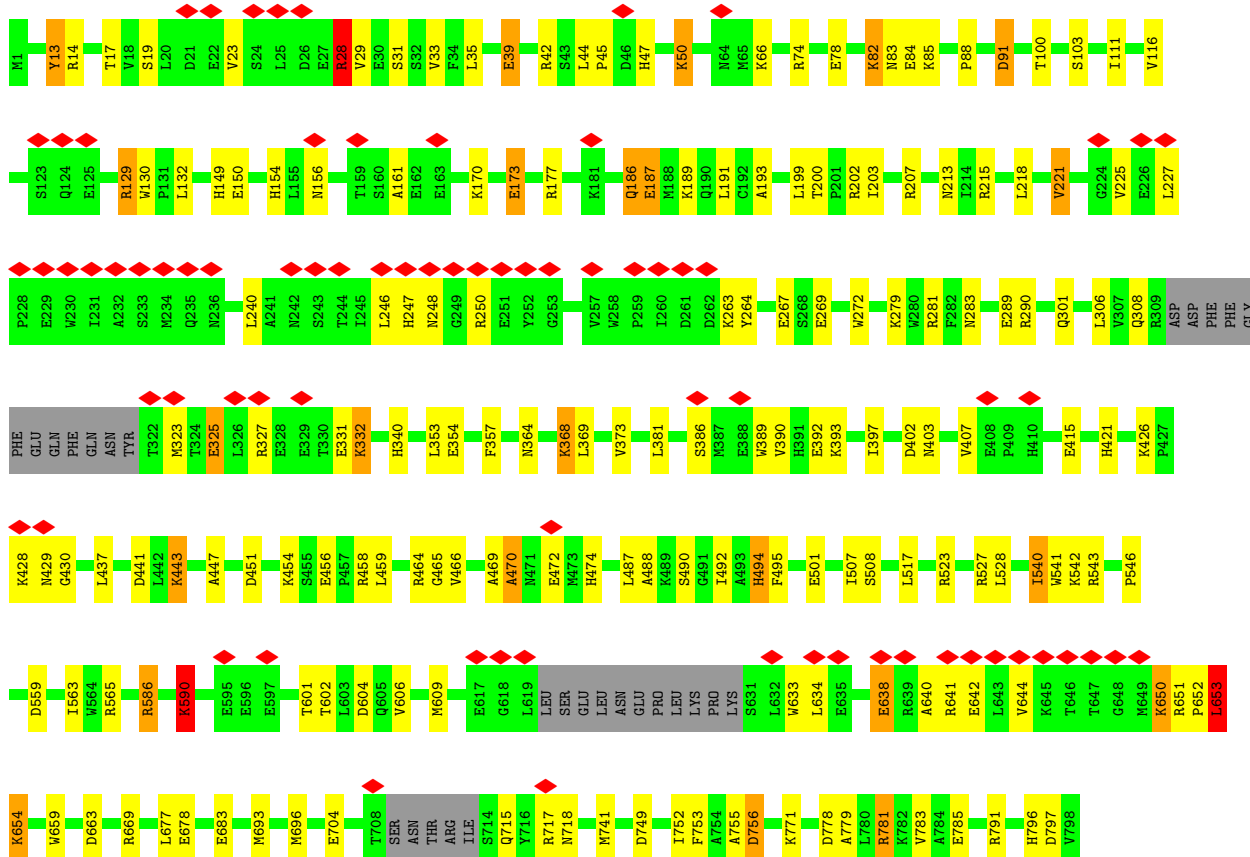
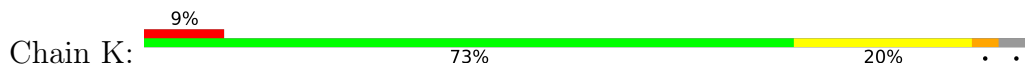


● Molecule 1: Adenosine deaminase



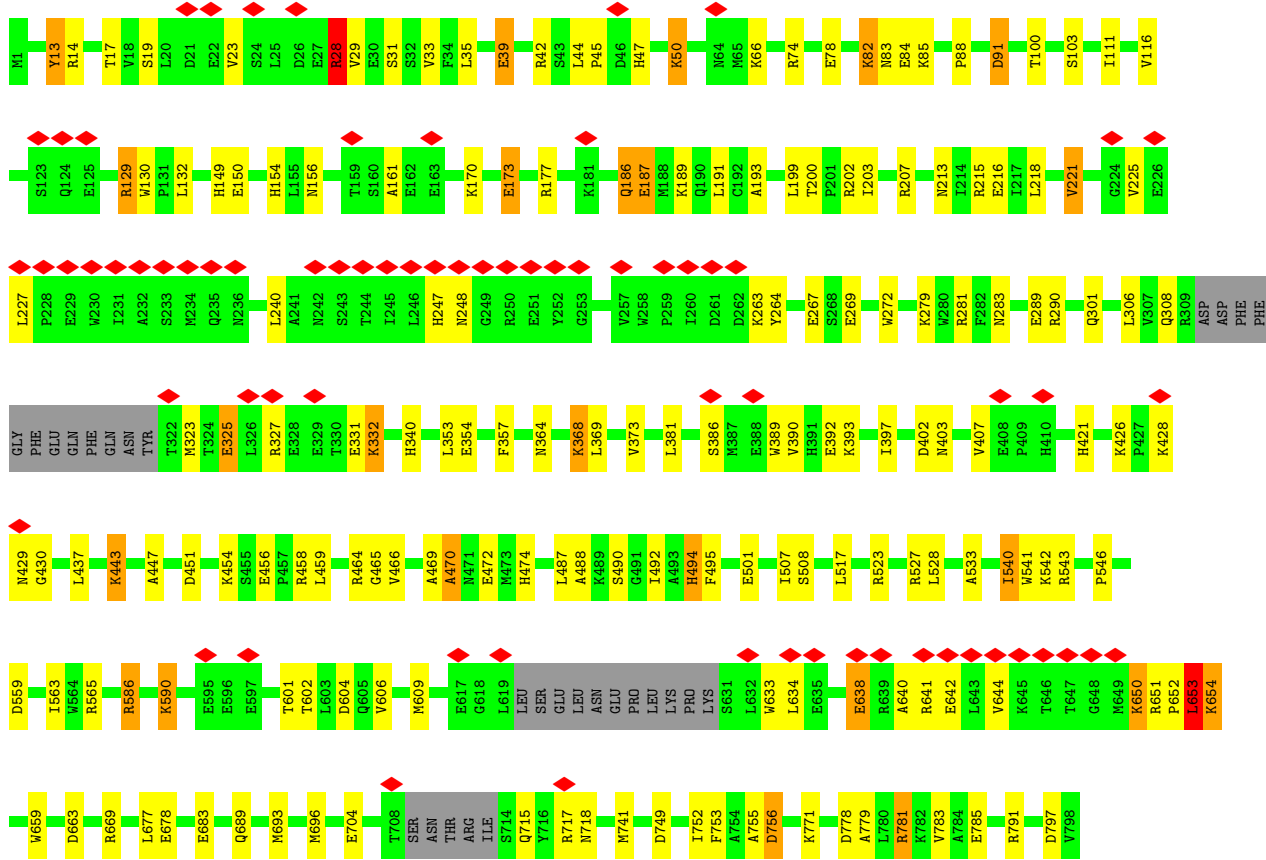


• Molecule 1: Adenosine deaminase



• Molecule 1: Adenosine deaminase





4 Experimental information

| Property | Value | Source |
|--------------------------------------|---------------------|-----------|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, Not provided | |
| Number of particles used | 233454 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | NONE | Depositor |
| Microscope | FEI TITAN KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 48.8 | Depositor |
| Minimum defocus (nm) | 500 | Depositor |
| Maximum defocus (nm) | 2500 | Depositor |
| Magnification | Not provided | |
| Image detector | GATAN K3 (6k x 4k) | Depositor |
| Maximum map value | 5.050 | Depositor |
| Minimum map value | -2.537 | Depositor |
| Average map value | 0.003 | Depositor |
| Map value standard deviation | 0.142 | Depositor |
| Recommended contour level | 0.7 | Depositor |
| Map size (\AA) | 396.0, 396.0, 396.0 | wwPDB |
| Map dimensions | 480, 480, 480 | wwPDB |
| Map angles ($^\circ$) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (\AA) | 0.825, 0.825, 0.825 | Depositor |

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section:
ZN

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|-----------------|-------------|-------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 1 | A | 0.41 | 4/6400 (0.1%) | 0.75 | 25/8672 (0.3%) |
| 1 | B | 0.41 | 4/6400 (0.1%) | 0.75 | 25/8672 (0.3%) |
| 1 | C | 0.41 | 4/6400 (0.1%) | 0.75 | 24/8672 (0.3%) |
| 1 | D | 0.41 | 4/6375 (0.1%) | 0.75 | 25/8637 (0.3%) |
| 1 | E | 0.41 | 4/6400 (0.1%) | 0.75 | 25/8672 (0.3%) |
| 1 | F | 0.41 | 4/6400 (0.1%) | 0.75 | 25/8672 (0.3%) |
| 1 | G | 0.41 | 4/6400 (0.1%) | 0.75 | 25/8672 (0.3%) |
| 1 | H | 0.41 | 4/6400 (0.1%) | 0.75 | 25/8672 (0.3%) |
| 1 | I | 0.41 | 4/6400 (0.1%) | 0.75 | 25/8672 (0.3%) |
| 1 | J | 0.41 | 4/6400 (0.1%) | 0.75 | 25/8672 (0.3%) |
| 1 | K | 0.41 | 4/6400 (0.1%) | 0.75 | 25/8672 (0.3%) |
| 1 | L | 0.41 | 4/6400 (0.1%) | 0.75 | 24/8672 (0.3%) |
| All | All | 0.41 | 48/76775 (0.1%) | 0.75 | 298/104029 (0.3%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | A | 0 | 5 |
| 1 | B | 0 | 5 |
| 1 | C | 0 | 5 |
| 1 | D | 0 | 5 |
| 1 | E | 0 | 5 |
| 1 | F | 0 | 5 |
| 1 | G | 0 | 5 |
| 1 | H | 0 | 5 |
| 1 | I | 0 | 5 |
| 1 | J | 0 | 5 |
| 1 | K | 0 | 5 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | L | 0 | 5 |
| All | All | 0 | 60 |

All (48) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 1 | G | 13 | TYR | CD2-CE2 | 10.63 | 1.55 | 1.39 |
| 1 | I | 13 | TYR | CD2-CE2 | 10.62 | 1.55 | 1.39 |
| 1 | F | 13 | TYR | CD2-CE2 | 10.62 | 1.55 | 1.39 |
| 1 | C | 13 | TYR | CD2-CE2 | 10.61 | 1.55 | 1.39 |
| 1 | J | 13 | TYR | CD2-CE2 | 10.60 | 1.55 | 1.39 |
| 1 | E | 13 | TYR | CD2-CE2 | 10.59 | 1.55 | 1.39 |
| 1 | K | 13 | TYR | CD2-CE2 | 10.59 | 1.55 | 1.39 |
| 1 | B | 13 | TYR | CD2-CE2 | 10.59 | 1.55 | 1.39 |
| 1 | D | 13 | TYR | CD2-CE2 | 10.58 | 1.55 | 1.39 |
| 1 | L | 13 | TYR | CD2-CE2 | 10.58 | 1.55 | 1.39 |
| 1 | H | 13 | TYR | CD2-CE2 | 10.57 | 1.55 | 1.39 |
| 1 | A | 13 | TYR | CD2-CE2 | 10.56 | 1.55 | 1.39 |
| 1 | B | 187 | GLU | CB-CG | 7.36 | 1.66 | 1.52 |
| 1 | D | 187 | GLU | CB-CG | 7.35 | 1.66 | 1.52 |
| 1 | A | 187 | GLU | CB-CG | 7.35 | 1.66 | 1.52 |
| 1 | K | 187 | GLU | CB-CG | 7.34 | 1.66 | 1.52 |
| 1 | F | 187 | GLU | CB-CG | 7.32 | 1.66 | 1.52 |
| 1 | E | 187 | GLU | CB-CG | 7.31 | 1.66 | 1.52 |
| 1 | L | 187 | GLU | CB-CG | 7.31 | 1.66 | 1.52 |
| 1 | G | 187 | GLU | CB-CG | 7.30 | 1.66 | 1.52 |
| 1 | H | 187 | GLU | CB-CG | 7.29 | 1.66 | 1.52 |
| 1 | C | 187 | GLU | CB-CG | 7.29 | 1.66 | 1.52 |
| 1 | J | 187 | GLU | CB-CG | 7.29 | 1.66 | 1.52 |
| 1 | I | 187 | GLU | CB-CG | 7.28 | 1.66 | 1.52 |
| 1 | H | 13 | TYR | CE2-CZ | 6.15 | 1.46 | 1.38 |
| 1 | B | 13 | TYR | CE2-CZ | 6.15 | 1.46 | 1.38 |
| 1 | D | 13 | TYR | CE2-CZ | 6.15 | 1.46 | 1.38 |
| 1 | E | 13 | TYR | CE2-CZ | 6.14 | 1.46 | 1.38 |
| 1 | I | 13 | TYR | CE2-CZ | 6.12 | 1.46 | 1.38 |
| 1 | J | 13 | TYR | CE2-CZ | 6.11 | 1.46 | 1.38 |
| 1 | L | 13 | TYR | CE2-CZ | 6.11 | 1.46 | 1.38 |
| 1 | K | 13 | TYR | CE2-CZ | 6.10 | 1.46 | 1.38 |
| 1 | F | 13 | TYR | CE2-CZ | 6.10 | 1.46 | 1.38 |
| 1 | C | 13 | TYR | CE2-CZ | 6.09 | 1.46 | 1.38 |
| 1 | A | 13 | TYR | CE2-CZ | 6.07 | 1.46 | 1.38 |
| 1 | G | 13 | TYR | CE2-CZ | 6.05 | 1.46 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|-------|-------------|----------|
| 1 | F | 590 | LYS | CB-CG | -5.52 | 1.37 | 1.52 |
| 1 | A | 590 | LYS | CB-CG | -5.50 | 1.37 | 1.52 |
| 1 | H | 590 | LYS | CB-CG | -5.50 | 1.37 | 1.52 |
| 1 | E | 590 | LYS | CB-CG | -5.50 | 1.37 | 1.52 |
| 1 | B | 590 | LYS | CB-CG | -5.50 | 1.37 | 1.52 |
| 1 | D | 590 | LYS | CB-CG | -5.50 | 1.37 | 1.52 |
| 1 | J | 590 | LYS | CB-CG | -5.49 | 1.37 | 1.52 |
| 1 | I | 590 | LYS | CB-CG | -5.49 | 1.37 | 1.52 |
| 1 | C | 590 | LYS | CB-CG | -5.48 | 1.37 | 1.52 |
| 1 | G | 590 | LYS | CB-CG | -5.47 | 1.37 | 1.52 |
| 1 | K | 590 | LYS | CB-CG | -5.47 | 1.37 | 1.52 |
| 1 | L | 590 | LYS | CB-CG | -5.47 | 1.37 | 1.52 |

All (298) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|----------|-------|-------------|----------|
| 1 | A | 590 | LYS | CD-CE-NZ | 14.73 | 145.58 | 111.70 |
| 1 | I | 590 | LYS | CD-CE-NZ | 14.72 | 145.56 | 111.70 |
| 1 | K | 590 | LYS | CD-CE-NZ | 14.72 | 145.55 | 111.70 |
| 1 | G | 590 | LYS | CD-CE-NZ | 14.71 | 145.54 | 111.70 |
| 1 | J | 590 | LYS | CD-CE-NZ | 14.71 | 145.54 | 111.70 |
| 1 | L | 590 | LYS | CD-CE-NZ | 14.71 | 145.54 | 111.70 |
| 1 | D | 590 | LYS | CD-CE-NZ | 14.71 | 145.54 | 111.70 |
| 1 | H | 590 | LYS | CD-CE-NZ | 14.71 | 145.53 | 111.70 |
| 1 | C | 590 | LYS | CD-CE-NZ | 14.71 | 145.53 | 111.70 |
| 1 | E | 590 | LYS | CD-CE-NZ | 14.71 | 145.52 | 111.70 |
| 1 | F | 590 | LYS | CD-CE-NZ | 14.70 | 145.52 | 111.70 |
| 1 | B | 590 | LYS | CD-CE-NZ | 14.69 | 145.49 | 111.70 |
| 1 | F | 129 | ARG | CG-CD-NE | 14.44 | 142.11 | 111.80 |
| 1 | H | 129 | ARG | CG-CD-NE | 14.43 | 142.11 | 111.80 |
| 1 | E | 129 | ARG | CG-CD-NE | 14.43 | 142.10 | 111.80 |
| 1 | D | 129 | ARG | CG-CD-NE | 14.43 | 142.09 | 111.80 |
| 1 | K | 129 | ARG | CG-CD-NE | 14.42 | 142.08 | 111.80 |
| 1 | B | 129 | ARG | CG-CD-NE | 14.42 | 142.07 | 111.80 |
| 1 | G | 129 | ARG | CG-CD-NE | 14.41 | 142.07 | 111.80 |
| 1 | A | 129 | ARG | CG-CD-NE | 14.41 | 142.06 | 111.80 |
| 1 | I | 129 | ARG | CG-CD-NE | 14.41 | 142.06 | 111.80 |
| 1 | L | 129 | ARG | CG-CD-NE | 14.41 | 142.06 | 111.80 |
| 1 | C | 129 | ARG | CG-CD-NE | 14.41 | 142.05 | 111.80 |
| 1 | J | 129 | ARG | CG-CD-NE | 14.40 | 142.03 | 111.80 |
| 1 | C | 654 | LYS | CD-CE-NZ | 11.55 | 138.26 | 111.70 |
| 1 | J | 654 | LYS | CD-CE-NZ | 11.54 | 138.24 | 111.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|----------|-------|-------------|----------|
| 1 | F | 654 | LYS | CD-CE-NZ | 11.53 | 138.23 | 111.70 |
| 1 | K | 654 | LYS | CD-CE-NZ | 11.54 | 138.23 | 111.70 |
| 1 | A | 654 | LYS | CD-CE-NZ | 11.53 | 138.22 | 111.70 |
| 1 | H | 654 | LYS | CD-CE-NZ | 11.53 | 138.22 | 111.70 |
| 1 | B | 654 | LYS | CD-CE-NZ | 11.53 | 138.22 | 111.70 |
| 1 | G | 654 | LYS | CD-CE-NZ | 11.52 | 138.20 | 111.70 |
| 1 | E | 654 | LYS | CD-CE-NZ | 11.52 | 138.19 | 111.70 |
| 1 | L | 654 | LYS | CD-CE-NZ | 11.52 | 138.18 | 111.70 |
| 1 | D | 654 | LYS | CD-CE-NZ | 11.51 | 138.17 | 111.70 |
| 1 | I | 654 | LYS | CD-CE-NZ | 11.51 | 138.17 | 111.70 |
| 1 | L | 650 | LYS | CD-CE-NZ | 11.39 | 137.90 | 111.70 |
| 1 | C | 650 | LYS | CD-CE-NZ | 11.39 | 137.89 | 111.70 |
| 1 | A | 650 | LYS | CD-CE-NZ | 11.38 | 137.88 | 111.70 |
| 1 | I | 650 | LYS | CD-CE-NZ | 11.38 | 137.88 | 111.70 |
| 1 | D | 650 | LYS | CD-CE-NZ | 11.38 | 137.88 | 111.70 |
| 1 | B | 650 | LYS | CD-CE-NZ | 11.38 | 137.87 | 111.70 |
| 1 | F | 650 | LYS | CD-CE-NZ | 11.37 | 137.85 | 111.70 |
| 1 | G | 650 | LYS | CD-CE-NZ | 11.37 | 137.85 | 111.70 |
| 1 | H | 650 | LYS | CD-CE-NZ | 11.36 | 137.83 | 111.70 |
| 1 | J | 650 | LYS | CD-CE-NZ | 11.36 | 137.83 | 111.70 |
| 1 | K | 650 | LYS | CD-CE-NZ | 11.36 | 137.83 | 111.70 |
| 1 | E | 650 | LYS | CD-CE-NZ | 11.34 | 137.78 | 111.70 |
| 1 | I | 771 | LYS | CD-CE-NZ | 10.97 | 136.94 | 111.70 |
| 1 | J | 771 | LYS | CD-CE-NZ | 10.97 | 136.93 | 111.70 |
| 1 | C | 771 | LYS | CD-CE-NZ | 10.97 | 136.92 | 111.70 |
| 1 | H | 771 | LYS | CD-CE-NZ | 10.96 | 136.92 | 111.70 |
| 1 | D | 771 | LYS | CD-CE-NZ | 10.96 | 136.91 | 111.70 |
| 1 | E | 771 | LYS | CD-CE-NZ | 10.96 | 136.91 | 111.70 |
| 1 | G | 771 | LYS | CD-CE-NZ | 10.96 | 136.91 | 111.70 |
| 1 | B | 771 | LYS | CD-CE-NZ | 10.96 | 136.91 | 111.70 |
| 1 | A | 771 | LYS | CD-CE-NZ | 10.96 | 136.90 | 111.70 |
| 1 | F | 771 | LYS | CD-CE-NZ | 10.95 | 136.90 | 111.70 |
| 1 | K | 771 | LYS | CD-CE-NZ | 10.95 | 136.87 | 111.70 |
| 1 | L | 771 | LYS | CD-CE-NZ | 10.95 | 136.88 | 111.70 |
| 1 | D | 28 | ARG | CB-CG-CD | 8.19 | 132.90 | 111.60 |
| 1 | K | 28 | ARG | CB-CG-CD | 8.19 | 132.90 | 111.60 |
| 1 | A | 28 | ARG | CG-CD-NE | 8.18 | 128.98 | 111.80 |
| 1 | G | 28 | ARG | CB-CG-CD | 8.18 | 132.87 | 111.60 |
| 1 | H | 28 | ARG | CG-CD-NE | 8.18 | 128.98 | 111.80 |
| 1 | L | 28 | ARG | CB-CG-CD | 8.18 | 132.87 | 111.60 |
| 1 | C | 28 | ARG | CB-CG-CD | 8.18 | 132.87 | 111.60 |
| 1 | F | 28 | ARG | CB-CG-CD | 8.18 | 132.87 | 111.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|----------|-------|-------------|----------|
| 1 | J | 28 | ARG | CG-CD-NE | 8.18 | 128.98 | 111.80 |
| 1 | I | 28 | ARG | CB-CG-CD | 8.18 | 132.86 | 111.60 |
| 1 | C | 28 | ARG | CG-CD-NE | 8.18 | 128.97 | 111.80 |
| 1 | B | 28 | ARG | CG-CD-NE | 8.17 | 128.97 | 111.80 |
| 1 | A | 28 | ARG | CB-CG-CD | 8.17 | 132.84 | 111.60 |
| 1 | H | 28 | ARG | CB-CG-CD | 8.17 | 132.83 | 111.60 |
| 1 | I | 28 | ARG | CG-CD-NE | 8.17 | 128.95 | 111.80 |
| 1 | D | 28 | ARG | CG-CD-NE | 8.16 | 128.94 | 111.80 |
| 1 | E | 28 | ARG | CG-CD-NE | 8.16 | 128.94 | 111.80 |
| 1 | L | 28 | ARG | CG-CD-NE | 8.16 | 128.94 | 111.80 |
| 1 | E | 28 | ARG | CB-CG-CD | 8.16 | 132.81 | 111.60 |
| 1 | G | 28 | ARG | CG-CD-NE | 8.16 | 128.94 | 111.80 |
| 1 | J | 28 | ARG | CB-CG-CD | 8.16 | 132.82 | 111.60 |
| 1 | B | 28 | ARG | CB-CG-CD | 8.16 | 132.81 | 111.60 |
| 1 | F | 28 | ARG | CG-CD-NE | 8.15 | 128.93 | 111.80 |
| 1 | K | 28 | ARG | CG-CD-NE | 8.15 | 128.92 | 111.80 |
| 1 | J | 393 | LYS | CD-CE-NZ | 6.65 | 126.99 | 111.70 |
| 1 | C | 393 | LYS | CD-CE-NZ | 6.65 | 126.99 | 111.70 |
| 1 | L | 393 | LYS | CD-CE-NZ | 6.65 | 126.99 | 111.70 |
| 1 | G | 393 | LYS | CD-CE-NZ | 6.64 | 126.98 | 111.70 |
| 1 | F | 393 | LYS | CD-CE-NZ | 6.64 | 126.98 | 111.70 |
| 1 | H | 393 | LYS | CD-CE-NZ | 6.64 | 126.97 | 111.70 |
| 1 | E | 393 | LYS | CD-CE-NZ | 6.64 | 126.97 | 111.70 |
| 1 | K | 393 | LYS | CD-CE-NZ | 6.63 | 126.95 | 111.70 |
| 1 | A | 393 | LYS | CD-CE-NZ | 6.63 | 126.95 | 111.70 |
| 1 | B | 393 | LYS | CD-CE-NZ | 6.63 | 126.95 | 111.70 |
| 1 | D | 393 | LYS | CD-CE-NZ | 6.62 | 126.94 | 111.70 |
| 1 | I | 393 | LYS | CD-CE-NZ | 6.62 | 126.92 | 111.70 |
| 1 | G | 129 | ARG | CB-CG-CD | -6.55 | 94.56 | 111.60 |
| 1 | A | 129 | ARG | CB-CG-CD | -6.55 | 94.56 | 111.60 |
| 1 | J | 129 | ARG | CB-CG-CD | -6.55 | 94.56 | 111.60 |
| 1 | C | 129 | ARG | CB-CG-CD | -6.55 | 94.57 | 111.60 |
| 1 | B | 129 | ARG | CB-CG-CD | -6.54 | 94.59 | 111.60 |
| 1 | D | 129 | ARG | CB-CG-CD | -6.54 | 94.59 | 111.60 |
| 1 | I | 129 | ARG | CB-CG-CD | -6.54 | 94.59 | 111.60 |
| 1 | L | 129 | ARG | CB-CG-CD | -6.54 | 94.59 | 111.60 |
| 1 | F | 129 | ARG | CB-CG-CD | -6.53 | 94.61 | 111.60 |
| 1 | H | 129 | ARG | CB-CG-CD | -6.53 | 94.61 | 111.60 |
| 1 | K | 129 | ARG | CB-CG-CD | -6.53 | 94.61 | 111.60 |
| 1 | E | 129 | ARG | CB-CG-CD | -6.53 | 94.62 | 111.60 |
| 1 | H | 443 | LYS | CD-CE-NZ | 6.53 | 126.72 | 111.70 |
| 1 | C | 443 | LYS | CD-CE-NZ | 6.53 | 126.71 | 111.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|----------|------|-------------|----------|
| 1 | E | 443 | LYS | CD-CE-NZ | 6.53 | 126.71 | 111.70 |
| 1 | L | 443 | LYS | CD-CE-NZ | 6.52 | 126.70 | 111.70 |
| 1 | I | 443 | LYS | CD-CE-NZ | 6.52 | 126.69 | 111.70 |
| 1 | J | 443 | LYS | CD-CE-NZ | 6.52 | 126.69 | 111.70 |
| 1 | A | 443 | LYS | CD-CE-NZ | 6.52 | 126.69 | 111.70 |
| 1 | D | 443 | LYS | CD-CE-NZ | 6.51 | 126.68 | 111.70 |
| 1 | F | 443 | LYS | CD-CE-NZ | 6.51 | 126.68 | 111.70 |
| 1 | B | 443 | LYS | CD-CE-NZ | 6.51 | 126.67 | 111.70 |
| 1 | K | 443 | LYS | CD-CE-NZ | 6.51 | 126.67 | 111.70 |
| 1 | G | 443 | LYS | CD-CE-NZ | 6.50 | 126.65 | 111.70 |
| 1 | L | 454 | LYS | CD-CE-NZ | 6.44 | 126.52 | 111.70 |
| 1 | F | 454 | LYS | CD-CE-NZ | 6.43 | 126.50 | 111.70 |
| 1 | K | 454 | LYS | CD-CE-NZ | 6.43 | 126.49 | 111.70 |
| 1 | D | 454 | LYS | CD-CE-NZ | 6.43 | 126.49 | 111.70 |
| 1 | E | 454 | LYS | CD-CE-NZ | 6.43 | 126.49 | 111.70 |
| 1 | A | 454 | LYS | CD-CE-NZ | 6.42 | 126.46 | 111.70 |
| 1 | H | 454 | LYS | CD-CE-NZ | 6.42 | 126.46 | 111.70 |
| 1 | G | 454 | LYS | CD-CE-NZ | 6.41 | 126.45 | 111.70 |
| 1 | I | 454 | LYS | CD-CE-NZ | 6.41 | 126.45 | 111.70 |
| 1 | C | 454 | LYS | CD-CE-NZ | 6.41 | 126.44 | 111.70 |
| 1 | B | 454 | LYS | CD-CE-NZ | 6.41 | 126.44 | 111.70 |
| 1 | J | 454 | LYS | CD-CE-NZ | 6.40 | 126.43 | 111.70 |
| 1 | I | 129 | ARG | CD-NE-CZ | 6.37 | 132.52 | 123.60 |
| 1 | K | 129 | ARG | CD-NE-CZ | 6.37 | 132.52 | 123.60 |
| 1 | J | 129 | ARG | CD-NE-CZ | 6.36 | 132.51 | 123.60 |
| 1 | C | 129 | ARG | CD-NE-CZ | 6.36 | 132.50 | 123.60 |
| 1 | B | 129 | ARG | CD-NE-CZ | 6.36 | 132.50 | 123.60 |
| 1 | L | 129 | ARG | CD-NE-CZ | 6.35 | 132.49 | 123.60 |
| 1 | G | 129 | ARG | CD-NE-CZ | 6.34 | 132.47 | 123.60 |
| 1 | H | 129 | ARG | CD-NE-CZ | 6.34 | 132.47 | 123.60 |
| 1 | A | 129 | ARG | CD-NE-CZ | 6.33 | 132.47 | 123.60 |
| 1 | E | 129 | ARG | CD-NE-CZ | 6.33 | 132.46 | 123.60 |
| 1 | D | 129 | ARG | CD-NE-CZ | 6.32 | 132.44 | 123.60 |
| 1 | F | 129 | ARG | CD-NE-CZ | 6.32 | 132.44 | 123.60 |
| 1 | J | 187 | GLU | CA-CB-CG | 6.29 | 127.23 | 113.40 |
| 1 | A | 187 | GLU | CA-CB-CG | 6.28 | 127.22 | 113.40 |
| 1 | I | 187 | GLU | CA-CB-CG | 6.28 | 127.22 | 113.40 |
| 1 | G | 187 | GLU | CA-CB-CG | 6.27 | 127.20 | 113.40 |
| 1 | K | 187 | GLU | CA-CB-CG | 6.27 | 127.20 | 113.40 |
| 1 | E | 187 | GLU | CA-CB-CG | 6.27 | 127.20 | 113.40 |
| 1 | H | 187 | GLU | CA-CB-CG | 6.27 | 127.20 | 113.40 |
| 1 | F | 187 | GLU | CA-CB-CG | 6.27 | 127.19 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | D | 187 | GLU | CA-CB-CG | 6.26 | 127.17 | 113.40 |
| 1 | B | 187 | GLU | CA-CB-CG | 6.26 | 127.17 | 113.40 |
| 1 | C | 187 | GLU | CA-CB-CG | 6.25 | 127.16 | 113.40 |
| 1 | L | 187 | GLU | CA-CB-CG | 6.25 | 127.16 | 113.40 |
| 1 | K | 653 | LEU | CB-CG-CD2 | 6.06 | 121.30 | 111.00 |
| 1 | B | 653 | LEU | CB-CG-CD2 | 6.05 | 121.29 | 111.00 |
| 1 | F | 653 | LEU | CB-CG-CD2 | 6.05 | 121.29 | 111.00 |
| 1 | J | 653 | LEU | CB-CG-CD2 | 6.04 | 121.28 | 111.00 |
| 1 | D | 653 | LEU | CB-CG-CD2 | 6.04 | 121.27 | 111.00 |
| 1 | L | 653 | LEU | CB-CG-CD2 | 6.04 | 121.26 | 111.00 |
| 1 | I | 653 | LEU | CB-CG-CD2 | 6.04 | 121.26 | 111.00 |
| 1 | A | 653 | LEU | CB-CG-CD2 | 6.03 | 121.25 | 111.00 |
| 1 | G | 653 | LEU | CB-CG-CD2 | 6.03 | 121.25 | 111.00 |
| 1 | E | 653 | LEU | CB-CG-CD2 | 6.02 | 121.24 | 111.00 |
| 1 | C | 653 | LEU | CB-CG-CD2 | 6.02 | 121.23 | 111.00 |
| 1 | H | 653 | LEU | CB-CG-CD2 | 6.02 | 121.23 | 111.00 |
| 1 | F | 13 | TYR | CZ-CE2-CD2 | -5.97 | 114.42 | 119.80 |
| 1 | I | 13 | TYR | CZ-CE2-CD2 | -5.97 | 114.43 | 119.80 |
| 1 | D | 13 | TYR | CZ-CE2-CD2 | -5.96 | 114.43 | 119.80 |
| 1 | J | 13 | TYR | CZ-CE2-CD2 | -5.96 | 114.44 | 119.80 |
| 1 | C | 13 | TYR | CZ-CE2-CD2 | -5.96 | 114.44 | 119.80 |
| 1 | A | 13 | TYR | CZ-CE2-CD2 | -5.95 | 114.45 | 119.80 |
| 1 | B | 13 | TYR | CZ-CE2-CD2 | -5.95 | 114.45 | 119.80 |
| 1 | H | 13 | TYR | CZ-CE2-CD2 | -5.94 | 114.45 | 119.80 |
| 1 | E | 13 | TYR | CZ-CE2-CD2 | -5.94 | 114.45 | 119.80 |
| 1 | G | 13 | TYR | CZ-CE2-CD2 | -5.92 | 114.47 | 119.80 |
| 1 | K | 13 | TYR | CZ-CE2-CD2 | -5.91 | 114.48 | 119.80 |
| 1 | L | 13 | TYR | CZ-CE2-CD2 | -5.88 | 114.50 | 119.80 |
| 1 | B | 187 | GLU | CG-CD-OE2 | -5.84 | 106.61 | 118.30 |
| 1 | D | 187 | GLU | CG-CD-OE2 | -5.84 | 106.61 | 118.30 |
| 1 | H | 187 | GLU | CG-CD-OE2 | -5.84 | 106.62 | 118.30 |
| 1 | A | 187 | GLU | CG-CD-OE2 | -5.84 | 106.62 | 118.30 |
| 1 | F | 187 | GLU | CG-CD-OE2 | -5.84 | 106.63 | 118.30 |
| 1 | I | 187 | GLU | CG-CD-OE2 | -5.83 | 106.64 | 118.30 |
| 1 | L | 187 | GLU | CG-CD-OE2 | -5.83 | 106.64 | 118.30 |
| 1 | C | 187 | GLU | CG-CD-OE2 | -5.83 | 106.64 | 118.30 |
| 1 | E | 187 | GLU | CG-CD-OE2 | -5.83 | 106.64 | 118.30 |
| 1 | G | 156 | ASN | N-CA-CB | 5.83 | 121.09 | 110.60 |
| 1 | I | 156 | ASN | N-CA-CB | 5.83 | 121.09 | 110.60 |
| 1 | K | 187 | GLU | CG-CD-OE2 | -5.83 | 106.65 | 118.30 |
| 1 | C | 156 | ASN | N-CA-CB | 5.83 | 121.09 | 110.60 |
| 1 | K | 156 | ASN | N-CA-CB | 5.82 | 121.08 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 1 | G | 187 | GLU | CG-CD-OE2 | -5.82 | 106.66 | 118.30 |
| 1 | D | 156 | ASN | N-CA-CB | 5.82 | 121.07 | 110.60 |
| 1 | J | 156 | ASN | N-CA-CB | 5.81 | 121.06 | 110.60 |
| 1 | J | 187 | GLU | CG-CD-OE2 | -5.81 | 106.67 | 118.30 |
| 1 | F | 156 | ASN | N-CA-CB | 5.81 | 121.06 | 110.60 |
| 1 | B | 156 | ASN | N-CA-CB | 5.81 | 121.06 | 110.60 |
| 1 | E | 156 | ASN | N-CA-CB | 5.81 | 121.06 | 110.60 |
| 1 | H | 156 | ASN | N-CA-CB | 5.80 | 121.04 | 110.60 |
| 1 | L | 156 | ASN | N-CA-CB | 5.79 | 121.03 | 110.60 |
| 1 | A | 156 | ASN | N-CA-CB | 5.79 | 121.03 | 110.60 |
| 1 | B | 590 | LYS | CB-CG-CD | 5.61 | 126.19 | 111.60 |
| 1 | F | 590 | LYS | CB-CG-CD | 5.61 | 126.19 | 111.60 |
| 1 | I | 590 | LYS | CB-CG-CD | 5.61 | 126.18 | 111.60 |
| 1 | J | 590 | LYS | CB-CG-CD | 5.61 | 126.18 | 111.60 |
| 1 | G | 590 | LYS | CB-CG-CD | 5.60 | 126.17 | 111.60 |
| 1 | K | 590 | LYS | CB-CG-CD | 5.60 | 126.16 | 111.60 |
| 1 | C | 590 | LYS | CB-CG-CD | 5.60 | 126.16 | 111.60 |
| 1 | A | 590 | LYS | CB-CG-CD | 5.60 | 126.15 | 111.60 |
| 1 | D | 590 | LYS | CB-CG-CD | 5.60 | 126.15 | 111.60 |
| 1 | H | 590 | LYS | CB-CG-CD | 5.60 | 126.15 | 111.60 |
| 1 | E | 590 | LYS | CB-CG-CD | 5.59 | 126.14 | 111.60 |
| 1 | L | 590 | LYS | CB-CG-CD | 5.58 | 126.12 | 111.60 |
| 1 | D | 129 | ARG | NE-CZ-NH2 | -5.49 | 117.56 | 120.30 |
| 1 | E | 129 | ARG | NE-CZ-NH2 | -5.48 | 117.56 | 120.30 |
| 1 | A | 129 | ARG | NE-CZ-NH2 | -5.43 | 117.58 | 120.30 |
| 1 | F | 129 | ARG | NE-CZ-NH2 | -5.42 | 117.59 | 120.30 |
| 1 | J | 129 | ARG | NE-CZ-NH2 | -5.42 | 117.59 | 120.30 |
| 1 | H | 129 | ARG | NE-CZ-NH2 | -5.41 | 117.59 | 120.30 |
| 1 | L | 129 | ARG | NE-CZ-NH2 | -5.41 | 117.60 | 120.30 |
| 1 | G | 129 | ARG | NE-CZ-NH2 | -5.40 | 117.60 | 120.30 |
| 1 | C | 129 | ARG | NE-CZ-NH2 | -5.39 | 117.60 | 120.30 |
| 1 | K | 129 | ARG | NE-CZ-NH2 | -5.39 | 117.61 | 120.30 |
| 1 | I | 129 | ARG | NE-CZ-NH2 | -5.35 | 117.63 | 120.30 |
| 1 | B | 129 | ARG | NE-CZ-NH2 | -5.33 | 117.63 | 120.30 |
| 1 | J | 66 | LYS | CD-CE-NZ | 5.25 | 123.77 | 111.70 |
| 1 | A | 156 | ASN | N-CA-C | -5.24 | 96.86 | 111.00 |
| 1 | B | 66 | LYS | CD-CE-NZ | 5.24 | 123.74 | 111.70 |
| 1 | B | 156 | ASN | N-CA-C | -5.24 | 96.86 | 111.00 |
| 1 | F | 156 | ASN | N-CA-C | -5.24 | 96.86 | 111.00 |
| 1 | C | 66 | LYS | CD-CE-NZ | 5.23 | 123.74 | 111.70 |
| 1 | G | 66 | LYS | CD-CE-NZ | 5.23 | 123.74 | 111.70 |
| 1 | J | 156 | ASN | N-CA-C | -5.23 | 96.88 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 1 | K | 156 | ASN | N-CA-C | -5.23 | 96.88 | 111.00 |
| 1 | E | 156 | ASN | N-CA-C | -5.23 | 96.89 | 111.00 |
| 1 | H | 156 | ASN | N-CA-C | -5.23 | 96.89 | 111.00 |
| 1 | K | 66 | LYS | CD-CE-NZ | 5.23 | 123.72 | 111.70 |
| 1 | G | 156 | ASN | N-CA-C | -5.22 | 96.90 | 111.00 |
| 1 | C | 156 | ASN | N-CA-C | -5.22 | 96.90 | 111.00 |
| 1 | F | 66 | LYS | CD-CE-NZ | 5.22 | 123.71 | 111.70 |
| 1 | D | 156 | ASN | N-CA-C | -5.22 | 96.91 | 111.00 |
| 1 | L | 156 | ASN | N-CA-C | -5.22 | 96.91 | 111.00 |
| 1 | A | 66 | LYS | CD-CE-NZ | 5.22 | 123.70 | 111.70 |
| 1 | L | 66 | LYS | CD-CE-NZ | 5.22 | 123.70 | 111.70 |
| 1 | E | 66 | LYS | CD-CE-NZ | 5.21 | 123.69 | 111.70 |
| 1 | I | 156 | ASN | N-CA-C | -5.21 | 96.92 | 111.00 |
| 1 | H | 66 | LYS | CD-CE-NZ | 5.21 | 123.68 | 111.70 |
| 1 | D | 66 | LYS | CD-CE-NZ | 5.21 | 123.68 | 111.70 |
| 1 | I | 66 | LYS | CD-CE-NZ | 5.20 | 123.65 | 111.70 |
| 1 | A | 586 | ARG | CD-NE-CZ | 5.18 | 130.85 | 123.60 |
| 1 | F | 586 | ARG | CD-NE-CZ | 5.16 | 130.83 | 123.60 |
| 1 | D | 586 | ARG | CD-NE-CZ | 5.16 | 130.82 | 123.60 |
| 1 | H | 586 | ARG | CD-NE-CZ | 5.15 | 130.81 | 123.60 |
| 1 | G | 586 | ARG | CD-NE-CZ | 5.15 | 130.80 | 123.60 |
| 1 | E | 586 | ARG | CD-NE-CZ | 5.14 | 130.79 | 123.60 |
| 1 | J | 586 | ARG | CD-NE-CZ | 5.13 | 130.79 | 123.60 |
| 1 | C | 586 | ARG | CD-NE-CZ | 5.13 | 130.78 | 123.60 |
| 1 | B | 586 | ARG | CD-NE-CZ | 5.11 | 130.76 | 123.60 |
| 1 | I | 586 | ARG | CD-NE-CZ | 5.11 | 130.75 | 123.60 |
| 1 | L | 586 | ARG | CD-NE-CZ | 5.11 | 130.75 | 123.60 |
| 1 | K | 586 | ARG | CD-NE-CZ | 5.11 | 130.75 | 123.60 |
| 1 | G | 189 | LYS | CD-CE-NZ | 5.06 | 123.34 | 111.70 |
| 1 | D | 189 | LYS | CD-CE-NZ | 5.06 | 123.34 | 111.70 |
| 1 | F | 189 | LYS | CD-CE-NZ | 5.06 | 123.33 | 111.70 |
| 1 | H | 189 | LYS | CD-CE-NZ | 5.06 | 123.34 | 111.70 |
| 1 | F | 441 | ASP | CB-CG-OD2 | -5.05 | 113.75 | 118.30 |
| 1 | A | 189 | LYS | CD-CE-NZ | 5.05 | 123.32 | 111.70 |
| 1 | I | 189 | LYS | CD-CE-NZ | 5.05 | 123.31 | 111.70 |
| 1 | B | 189 | LYS | CD-CE-NZ | 5.05 | 123.31 | 111.70 |
| 1 | L | 50 | LYS | CD-CE-NZ | 5.05 | 123.31 | 111.70 |
| 1 | E | 189 | LYS | CD-CE-NZ | 5.04 | 123.30 | 111.70 |
| 1 | J | 189 | LYS | CD-CE-NZ | 5.04 | 123.30 | 111.70 |
| 1 | K | 189 | LYS | CD-CE-NZ | 5.04 | 123.30 | 111.70 |
| 1 | L | 189 | LYS | CD-CE-NZ | 5.04 | 123.30 | 111.70 |
| 1 | C | 189 | LYS | CD-CE-NZ | 5.04 | 123.29 | 111.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 1 | H | 50 | LYS | CD-CE-NZ | 5.03 | 123.28 | 111.70 |
| 1 | F | 50 | LYS | CD-CE-NZ | 5.03 | 123.27 | 111.70 |
| 1 | J | 50 | LYS | CD-CE-NZ | 5.03 | 123.27 | 111.70 |
| 1 | K | 50 | LYS | CD-CE-NZ | 5.03 | 123.27 | 111.70 |
| 1 | B | 50 | LYS | CD-CE-NZ | 5.03 | 123.26 | 111.70 |
| 1 | H | 441 | ASP | CB-CG-OD2 | -5.03 | 113.78 | 118.30 |
| 1 | A | 441 | ASP | CB-CG-OD2 | -5.03 | 113.78 | 118.30 |
| 1 | A | 50 | LYS | CD-CE-NZ | 5.02 | 123.25 | 111.70 |
| 1 | G | 25 | LEU | CB-CG-CD2 | 5.02 | 119.54 | 111.00 |
| 1 | C | 50 | LYS | CD-CE-NZ | 5.02 | 123.24 | 111.70 |
| 1 | D | 50 | LYS | CD-CE-NZ | 5.02 | 123.24 | 111.70 |
| 1 | I | 50 | LYS | CD-CE-NZ | 5.02 | 123.24 | 111.70 |
| 1 | E | 50 | LYS | CD-CE-NZ | 5.01 | 123.23 | 111.70 |
| 1 | K | 441 | ASP | CB-CG-OD2 | -5.01 | 113.79 | 118.30 |
| 1 | G | 50 | LYS | CD-CE-NZ | 5.01 | 123.23 | 111.70 |
| 1 | D | 441 | ASP | CB-CG-OD2 | -5.01 | 113.79 | 118.30 |
| 1 | I | 441 | ASP | CB-CG-OD2 | -5.01 | 113.79 | 118.30 |
| 1 | B | 441 | ASP | CB-CG-OD2 | -5.01 | 113.79 | 118.30 |
| 1 | J | 25 | LEU | CB-CG-CD2 | 5.01 | 119.51 | 111.00 |
| 1 | E | 25 | LEU | CB-CG-CD2 | 5.00 | 119.51 | 111.00 |

There are no chirality outliers.

All (60) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | A | 177 | ARG | Sidechain |
| 1 | A | 28 | ARG | Sidechain |
| 1 | A | 540 | ILE | Peptide |
| 1 | A | 586 | ARG | Sidechain |
| 1 | A | 781 | ARG | Sidechain |
| 1 | B | 177 | ARG | Sidechain |
| 1 | B | 28 | ARG | Sidechain |
| 1 | B | 540 | ILE | Peptide |
| 1 | B | 586 | ARG | Sidechain |
| 1 | B | 781 | ARG | Sidechain |
| 1 | C | 177 | ARG | Sidechain |
| 1 | C | 28 | ARG | Sidechain |
| 1 | C | 540 | ILE | Peptide |
| 1 | C | 586 | ARG | Sidechain |
| 1 | C | 781 | ARG | Sidechain |
| 1 | D | 177 | ARG | Sidechain |
| 1 | D | 28 | ARG | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | D | 540 | ILE | Peptide |
| 1 | D | 586 | ARG | Sidechain |
| 1 | D | 781 | ARG | Sidechain |
| 1 | E | 177 | ARG | Sidechain |
| 1 | E | 28 | ARG | Sidechain |
| 1 | E | 540 | ILE | Peptide |
| 1 | E | 586 | ARG | Sidechain |
| 1 | E | 781 | ARG | Sidechain |
| 1 | F | 177 | ARG | Sidechain |
| 1 | F | 28 | ARG | Sidechain |
| 1 | F | 540 | ILE | Peptide |
| 1 | F | 586 | ARG | Sidechain |
| 1 | F | 781 | ARG | Sidechain |
| 1 | G | 177 | ARG | Sidechain |
| 1 | G | 28 | ARG | Sidechain |
| 1 | G | 540 | ILE | Peptide |
| 1 | G | 586 | ARG | Sidechain |
| 1 | G | 781 | ARG | Sidechain |
| 1 | H | 177 | ARG | Sidechain |
| 1 | H | 28 | ARG | Sidechain |
| 1 | H | 540 | ILE | Peptide |
| 1 | H | 586 | ARG | Sidechain |
| 1 | H | 781 | ARG | Sidechain |
| 1 | I | 177 | ARG | Sidechain |
| 1 | I | 28 | ARG | Sidechain |
| 1 | I | 540 | ILE | Peptide |
| 1 | I | 586 | ARG | Sidechain |
| 1 | I | 781 | ARG | Sidechain |
| 1 | J | 177 | ARG | Sidechain |
| 1 | J | 28 | ARG | Sidechain |
| 1 | J | 540 | ILE | Peptide |
| 1 | J | 586 | ARG | Sidechain |
| 1 | J | 781 | ARG | Sidechain |
| 1 | K | 177 | ARG | Sidechain |
| 1 | K | 28 | ARG | Sidechain |
| 1 | K | 540 | ILE | Peptide |
| 1 | K | 586 | ARG | Sidechain |
| 1 | K | 781 | ARG | Sidechain |
| 1 | L | 177 | ARG | Sidechain |
| 1 | L | 28 | ARG | Sidechain |
| 1 | L | 540 | ILE | Peptide |
| 1 | L | 586 | ARG | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | L | 781 | ARG | Sidechain |

5.2 Too-close contacts [i](#)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | A | 6245 | 0 | 6229 | 109 | 0 |
| 1 | B | 6245 | 0 | 6229 | 110 | 0 |
| 1 | C | 6245 | 0 | 6229 | 111 | 0 |
| 1 | D | 6221 | 0 | 6209 | 112 | 0 |
| 1 | E | 6245 | 0 | 6229 | 113 | 0 |
| 1 | F | 6245 | 0 | 6229 | 109 | 0 |
| 1 | G | 6245 | 0 | 6229 | 113 | 0 |
| 1 | H | 6245 | 0 | 6229 | 109 | 0 |
| 1 | I | 6245 | 0 | 6229 | 109 | 0 |
| 1 | J | 6245 | 0 | 6229 | 112 | 0 |
| 1 | K | 6245 | 0 | 6229 | 110 | 0 |
| 1 | L | 6245 | 0 | 6229 | 106 | 0 |
| 2 | A | 1 | 0 | 0 | 0 | 0 |
| 2 | B | 1 | 0 | 0 | 0 | 0 |
| 2 | C | 1 | 0 | 0 | 0 | 0 |
| 2 | D | 1 | 0 | 0 | 0 | 0 |
| 2 | E | 1 | 0 | 0 | 0 | 0 |
| 2 | F | 1 | 0 | 0 | 0 | 0 |
| 2 | G | 1 | 0 | 0 | 0 | 0 |
| 2 | H | 1 | 0 | 0 | 0 | 0 |
| 2 | I | 1 | 0 | 0 | 0 | 0 |
| 2 | J | 1 | 0 | 0 | 0 | 0 |
| 2 | K | 1 | 0 | 0 | 0 | 0 |
| 2 | L | 1 | 0 | 0 | 0 | 0 |
| All | All | 74928 | 0 | 74728 | 1240 | 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 8.

All (1240) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-----------------|--------------------------|-------------------|
| 1:C:472:GLU:OE2 | 1:C:501:GLU:N | 2.02 | 0.93 |
| 1:F:472:GLU:OE2 | 1:F:501:GLU:N | 2.02 | 0.93 |
| 1:H:472:GLU:OE2 | 1:H:501:GLU:N | 2.02 | 0.92 |
| 1:D:472:GLU:OE2 | 1:D:501:GLU:N | 2.02 | 0.92 |
| 1:L:472:GLU:OE2 | 1:L:501:GLU:N | 2.02 | 0.92 |
| 1:C:389:TRP:O | 1:C:403:ASN:ND2 | 2.03 | 0.92 |
| 1:E:472:GLU:OE2 | 1:E:501:GLU:N | 2.02 | 0.92 |
| 1:G:472:GLU:OE2 | 1:G:501:GLU:N | 2.02 | 0.92 |
| 1:A:472:GLU:OE2 | 1:A:501:GLU:N | 2.02 | 0.92 |
| 1:H:389:TRP:O | 1:H:403:ASN:ND2 | 2.03 | 0.92 |
| 1:J:389:TRP:O | 1:J:403:ASN:ND2 | 2.03 | 0.92 |
| 1:L:389:TRP:O | 1:L:403:ASN:ND2 | 2.03 | 0.92 |
| 1:I:389:TRP:O | 1:I:403:ASN:ND2 | 2.03 | 0.92 |
| 1:D:389:TRP:O | 1:D:403:ASN:ND2 | 2.03 | 0.91 |
| 1:I:472:GLU:OE2 | 1:I:501:GLU:N | 2.02 | 0.91 |
| 1:A:389:TRP:O | 1:A:403:ASN:ND2 | 2.03 | 0.91 |
| 1:E:389:TRP:O | 1:E:403:ASN:ND2 | 2.03 | 0.91 |
| 1:K:472:GLU:OE2 | 1:K:501:GLU:N | 2.02 | 0.91 |
| 1:J:472:GLU:OE2 | 1:J:501:GLU:N | 2.02 | 0.91 |
| 1:F:389:TRP:O | 1:F:403:ASN:ND2 | 2.03 | 0.91 |
| 1:G:389:TRP:O | 1:G:403:ASN:ND2 | 2.03 | 0.91 |
| 1:C:42:ARG:NH2 | 1:D:39:GLU:O | 2.04 | 0.91 |
| 1:B:389:TRP:O | 1:B:403:ASN:ND2 | 2.03 | 0.91 |
| 1:B:472:GLU:OE2 | 1:B:501:GLU:N | 2.02 | 0.91 |
| 1:J:42:ARG:NH2 | 1:K:39:GLU:O | 2.03 | 0.91 |
| 1:H:39:GLU:O | 1:I:42:ARG:NH2 | 2.04 | 0.90 |
| 1:J:39:GLU:O | 1:K:42:ARG:NH2 | 2.03 | 0.90 |
| 1:C:39:GLU:O | 1:D:42:ARG:NH2 | 2.04 | 0.90 |
| 1:A:39:GLU:O | 1:L:42:ARG:NH2 | 2.04 | 0.90 |
| 1:A:42:ARG:NH2 | 1:L:39:GLU:O | 2.04 | 0.90 |
| 1:F:39:GLU:O | 1:G:42:ARG:NH2 | 2.04 | 0.90 |
| 1:K:389:TRP:O | 1:K:403:ASN:ND2 | 2.03 | 0.90 |
| 1:B:42:ARG:NH2 | 1:E:39:GLU:O | 2.04 | 0.90 |
| 1:B:39:GLU:O | 1:E:42:ARG:NH2 | 2.04 | 0.89 |
| 1:F:42:ARG:NH2 | 1:G:39:GLU:O | 2.05 | 0.89 |
| 1:H:42:ARG:NH2 | 1:I:39:GLU:O | 2.05 | 0.89 |
| 1:I:778:ASP:OD2 | 1:I:781:ARG:NH2 | 2.07 | 0.88 |
| 1:J:778:ASP:OD2 | 1:J:781:ARG:NH2 | 2.07 | 0.88 |
| 1:D:778:ASP:OD2 | 1:D:781:ARG:NH2 | 2.07 | 0.88 |
| 1:H:778:ASP:OD2 | 1:H:781:ARG:NH2 | 2.07 | 0.87 |
| 1:G:778:ASP:OD2 | 1:G:781:ARG:NH2 | 2.07 | 0.87 |
| 1:K:778:ASP:OD2 | 1:K:781:ARG:NH2 | 2.07 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-----------------|--------------------------|-------------------|
| 1:B:778:ASP:OD2 | 1:B:781:ARG:NH2 | 2.07 | 0.87 |
| 1:L:778:ASP:OD2 | 1:L:781:ARG:NH2 | 2.07 | 0.87 |
| 1:E:778:ASP:OD2 | 1:E:781:ARG:NH2 | 2.07 | 0.87 |
| 1:A:778:ASP:OD2 | 1:A:781:ARG:NH2 | 2.07 | 0.87 |
| 1:C:778:ASP:OD2 | 1:C:781:ARG:NH2 | 2.07 | 0.86 |
| 1:F:778:ASP:OD2 | 1:F:781:ARG:NH2 | 2.07 | 0.86 |
| 1:E:368:LYS:HE3 | 1:E:368:LYS:HA | 1.63 | 0.81 |
| 1:L:368:LYS:HE3 | 1:L:368:LYS:HA | 1.63 | 0.81 |
| 1:H:368:LYS:HE3 | 1:H:368:LYS:HA | 1.63 | 0.81 |
| 1:I:368:LYS:HA | 1:I:368:LYS:HE3 | 1.63 | 0.81 |
| 1:A:368:LYS:HE3 | 1:A:368:LYS:HA | 1.63 | 0.80 |
| 1:J:368:LYS:HE3 | 1:J:368:LYS:HA | 1.63 | 0.80 |
| 1:C:368:LYS:HE3 | 1:C:368:LYS:HA | 1.63 | 0.80 |
| 1:D:368:LYS:HA | 1:D:368:LYS:HE3 | 1.63 | 0.80 |
| 1:D:215:ARG:NH2 | 1:D:263:LYS:O | 2.15 | 0.80 |
| 1:E:215:ARG:NH2 | 1:E:263:LYS:O | 2.15 | 0.80 |
| 1:F:42:ARG:NH2 | 1:G:39:GLU:OE2 | 2.15 | 0.80 |
| 1:B:39:GLU:OE2 | 1:E:42:ARG:NH2 | 2.15 | 0.79 |
| 1:I:215:ARG:NH2 | 1:I:263:LYS:O | 2.15 | 0.79 |
| 1:C:39:GLU:OE2 | 1:D:42:ARG:NH2 | 2.15 | 0.79 |
| 1:J:39:GLU:OE2 | 1:K:42:ARG:NH2 | 2.15 | 0.79 |
| 1:A:215:ARG:NH2 | 1:A:263:LYS:O | 2.15 | 0.79 |
| 1:F:368:LYS:HE3 | 1:F:368:LYS:HA | 1.63 | 0.79 |
| 1:G:215:ARG:NH2 | 1:G:263:LYS:O | 2.15 | 0.79 |
| 1:A:39:GLU:OE2 | 1:L:42:ARG:NH2 | 2.14 | 0.79 |
| 1:F:215:ARG:NH2 | 1:F:263:LYS:O | 2.15 | 0.79 |
| 1:K:368:LYS:HA | 1:K:368:LYS:HE3 | 1.63 | 0.79 |
| 1:L:215:ARG:NH2 | 1:L:263:LYS:O | 2.15 | 0.79 |
| 1:K:215:ARG:NH2 | 1:K:263:LYS:O | 2.15 | 0.79 |
| 1:B:368:LYS:HE3 | 1:B:368:LYS:HA | 1.63 | 0.78 |
| 1:J:215:ARG:NH2 | 1:J:263:LYS:O | 2.15 | 0.78 |
| 1:B:215:ARG:NH2 | 1:B:263:LYS:O | 2.15 | 0.78 |
| 1:G:368:LYS:HE3 | 1:G:368:LYS:HA | 1.63 | 0.78 |
| 1:H:215:ARG:NH2 | 1:H:263:LYS:O | 2.15 | 0.78 |
| 1:A:13:TYR:CE1 | 1:A:17:THR:HG21 | 2.19 | 0.78 |
| 1:A:100:THR:O | 1:A:103:SER:OG | 2.02 | 0.78 |
| 1:J:42:ARG:NH2 | 1:K:39:GLU:OE2 | 2.17 | 0.78 |
| 1:F:13:TYR:CE1 | 1:F:17:THR:HG21 | 2.19 | 0.78 |
| 1:H:42:ARG:NH2 | 1:I:39:GLU:OE2 | 2.15 | 0.78 |
| 1:L:13:TYR:CE1 | 1:L:17:THR:HG21 | 2.19 | 0.78 |
| 1:C:42:ARG:NH2 | 1:D:39:GLU:OE2 | 2.16 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-----------------|--------------------------|-------------------|
| 1:E:13:TYR:CE1 | 1:E:17:THR:HG21 | 2.19 | 0.78 |
| 1:F:100:THR:O | 1:F:103:SER:OG | 2.01 | 0.78 |
| 1:I:100:THR:O | 1:I:103:SER:OG | 2.01 | 0.78 |
| 1:K:13:TYR:CE1 | 1:K:17:THR:HG21 | 2.19 | 0.78 |
| 1:C:215:ARG:NH2 | 1:C:263:LYS:O | 2.15 | 0.78 |
| 1:I:13:TYR:CE1 | 1:I:17:THR:HG21 | 2.19 | 0.77 |
| 1:D:100:THR:O | 1:D:103:SER:OG | 2.02 | 0.77 |
| 1:G:100:THR:O | 1:G:103:SER:OG | 2.02 | 0.77 |
| 1:A:325:GLU:N | 1:A:325:GLU:OE1 | 2.18 | 0.77 |
| 1:B:42:ARG:NH2 | 1:E:39:GLU:OE2 | 2.17 | 0.77 |
| 1:B:100:THR:O | 1:B:103:SER:OG | 2.01 | 0.77 |
| 1:D:13:TYR:CE1 | 1:D:17:THR:HG21 | 2.19 | 0.77 |
| 1:H:39:GLU:OE2 | 1:I:42:ARG:NH2 | 2.18 | 0.77 |
| 1:J:13:TYR:CE1 | 1:J:17:THR:HG21 | 2.19 | 0.77 |
| 1:K:100:THR:O | 1:K:103:SER:OG | 2.02 | 0.77 |
| 1:C:13:TYR:CE1 | 1:C:17:THR:HG21 | 2.19 | 0.77 |
| 1:E:325:GLU:N | 1:E:325:GLU:OE1 | 2.18 | 0.77 |
| 1:G:13:TYR:CE1 | 1:G:17:THR:HG21 | 2.19 | 0.77 |
| 1:H:13:TYR:CE1 | 1:H:17:THR:HG21 | 2.19 | 0.77 |
| 1:L:325:GLU:OE1 | 1:L:325:GLU:N | 2.18 | 0.77 |
| 1:B:325:GLU:OE1 | 1:B:325:GLU:N | 2.18 | 0.77 |
| 1:E:100:THR:O | 1:E:103:SER:OG | 2.02 | 0.77 |
| 1:L:100:THR:O | 1:L:103:SER:OG | 2.02 | 0.77 |
| 1:C:100:THR:O | 1:C:103:SER:OG | 2.01 | 0.77 |
| 1:F:325:GLU:N | 1:F:325:GLU:OE1 | 2.18 | 0.77 |
| 1:H:325:GLU:N | 1:H:325:GLU:OE1 | 2.18 | 0.77 |
| 1:B:13:TYR:CE1 | 1:B:17:THR:HG21 | 2.19 | 0.76 |
| 1:F:39:GLU:OE2 | 1:G:42:ARG:NH2 | 2.18 | 0.76 |
| 1:H:100:THR:O | 1:H:103:SER:OG | 2.02 | 0.76 |
| 1:A:42:ARG:NH2 | 1:L:39:GLU:OE2 | 2.18 | 0.76 |
| 1:I:325:GLU:OE1 | 1:I:325:GLU:N | 2.18 | 0.76 |
| 1:J:100:THR:O | 1:J:103:SER:OG | 2.01 | 0.76 |
| 1:G:325:GLU:OE1 | 1:G:325:GLU:N | 2.18 | 0.76 |
| 1:J:325:GLU:N | 1:J:325:GLU:OE1 | 2.18 | 0.76 |
| 1:K:325:GLU:N | 1:K:325:GLU:OE1 | 2.18 | 0.76 |
| 1:C:325:GLU:N | 1:C:325:GLU:OE1 | 2.18 | 0.76 |
| 1:D:325:GLU:OE1 | 1:D:325:GLU:N | 2.18 | 0.76 |
| 1:J:541:TRP:O | 1:J:715:GLN:NE2 | 2.22 | 0.73 |
| 1:B:541:TRP:O | 1:B:715:GLN:NE2 | 2.22 | 0.73 |
| 1:G:541:TRP:O | 1:G:715:GLN:NE2 | 2.22 | 0.73 |
| 1:E:541:TRP:O | 1:E:715:GLN:NE2 | 2.22 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-----------------|--------------------------|-------------------|
| 1:C:541:TRP:O | 1:C:715:GLN:NE2 | 2.22 | 0.73 |
| 1:H:402:ASP:OD1 | 1:H:458:ARG:NH1 | 2.22 | 0.73 |
| 1:I:541:TRP:O | 1:I:715:GLN:NE2 | 2.22 | 0.73 |
| 1:E:402:ASP:OD1 | 1:E:458:ARG:NH1 | 2.22 | 0.73 |
| 1:D:402:ASP:OD1 | 1:D:458:ARG:NH1 | 2.22 | 0.73 |
| 1:F:541:TRP:O | 1:F:715:GLN:NE2 | 2.22 | 0.72 |
| 1:C:402:ASP:OD1 | 1:C:458:ARG:NH1 | 2.22 | 0.72 |
| 1:L:541:TRP:O | 1:L:715:GLN:NE2 | 2.22 | 0.72 |
| 1:A:541:TRP:O | 1:A:715:GLN:NE2 | 2.22 | 0.72 |
| 1:D:541:TRP:O | 1:D:715:GLN:NE2 | 2.22 | 0.72 |
| 1:H:541:TRP:O | 1:H:715:GLN:NE2 | 2.22 | 0.72 |
| 1:K:402:ASP:OD1 | 1:K:458:ARG:NH1 | 2.22 | 0.72 |
| 1:K:541:TRP:O | 1:K:715:GLN:NE2 | 2.22 | 0.72 |
| 1:B:402:ASP:OD1 | 1:B:458:ARG:NH1 | 2.22 | 0.71 |
| 1:L:402:ASP:OD1 | 1:L:458:ARG:NH1 | 2.22 | 0.71 |
| 1:F:402:ASP:OD1 | 1:F:458:ARG:NH1 | 2.22 | 0.70 |
| 1:G:402:ASP:OD1 | 1:G:458:ARG:NH1 | 2.22 | 0.70 |
| 1:J:402:ASP:OD1 | 1:J:458:ARG:NH1 | 2.22 | 0.70 |
| 1:F:606:VAL:HG22 | 1:F:652:PRO:HA | 1.74 | 0.70 |
| 1:B:606:VAL:HG22 | 1:B:652:PRO:HA | 1.74 | 0.70 |
| 1:E:606:VAL:HG22 | 1:E:652:PRO:HA | 1.74 | 0.70 |
| 1:C:606:VAL:HG22 | 1:C:652:PRO:HA | 1.74 | 0.70 |
| 1:H:606:VAL:HG22 | 1:H:652:PRO:HA | 1.74 | 0.70 |
| 1:J:606:VAL:HG22 | 1:J:652:PRO:HA | 1.74 | 0.70 |
| 1:G:606:VAL:HG22 | 1:G:652:PRO:HA | 1.74 | 0.70 |
| 1:I:606:VAL:HG22 | 1:I:652:PRO:HA | 1.74 | 0.70 |
| 1:I:402:ASP:OD1 | 1:I:458:ARG:NH1 | 2.22 | 0.69 |
| 1:A:606:VAL:HG22 | 1:A:652:PRO:HA | 1.74 | 0.69 |
| 1:D:606:VAL:HG22 | 1:D:652:PRO:HA | 1.74 | 0.69 |
| 1:E:642:GLU:N | 1:E:642:GLU:OE1 | 2.26 | 0.69 |
| 1:K:642:GLU:N | 1:K:642:GLU:OE1 | 2.26 | 0.69 |
| 1:F:14:ARG:NH1 | 1:F:31:SER:OG | 2.26 | 0.69 |
| 1:K:606:VAL:HG22 | 1:K:652:PRO:HA | 1.74 | 0.69 |
| 1:E:14:ARG:NH1 | 1:E:31:SER:OG | 2.26 | 0.69 |
| 1:L:14:ARG:NH1 | 1:L:31:SER:OG | 2.26 | 0.69 |
| 1:A:642:GLU:OE1 | 1:A:642:GLU:N | 2.26 | 0.68 |
| 1:H:642:GLU:OE1 | 1:H:642:GLU:N | 2.26 | 0.68 |
| 1:A:402:ASP:OD1 | 1:A:458:ARG:NH1 | 2.22 | 0.68 |
| 1:I:14:ARG:NH1 | 1:I:31:SER:OG | 2.26 | 0.68 |
| 1:L:606:VAL:HG22 | 1:L:652:PRO:HA | 1.74 | 0.68 |
| 1:C:642:GLU:OE1 | 1:C:642:GLU:N | 2.26 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:14:ARG:NH1 | 1:C:31:SER:OG | 2.26 | 0.68 |
| 1:D:642:GLU:N | 1:D:642:GLU:OE1 | 2.26 | 0.68 |
| 1:L:683:GLU:OE1 | 1:L:683:GLU:N | 2.22 | 0.68 |
| 1:J:642:GLU:N | 1:J:642:GLU:OE1 | 2.26 | 0.68 |
| 1:H:14:ARG:NH1 | 1:H:31:SER:OG | 2.26 | 0.68 |
| 1:D:14:ARG:NH1 | 1:D:31:SER:OG | 2.26 | 0.68 |
| 1:G:642:GLU:N | 1:G:642:GLU:OE1 | 2.26 | 0.68 |
| 1:K:14:ARG:NH1 | 1:K:31:SER:OG | 2.26 | 0.68 |
| 1:A:14:ARG:NH1 | 1:A:31:SER:OG | 2.26 | 0.67 |
| 1:A:683:GLU:OE1 | 1:A:683:GLU:N | 2.21 | 0.67 |
| 1:L:642:GLU:N | 1:L:642:GLU:OE1 | 2.26 | 0.67 |
| 1:G:14:ARG:NH1 | 1:G:31:SER:OG | 2.26 | 0.67 |
| 1:J:14:ARG:NH1 | 1:J:31:SER:OG | 2.26 | 0.67 |
| 1:F:642:GLU:OE1 | 1:F:642:GLU:N | 2.26 | 0.67 |
| 1:K:683:GLU:OE1 | 1:K:683:GLU:N | 2.21 | 0.67 |
| 1:B:14:ARG:NH1 | 1:B:31:SER:OG | 2.26 | 0.67 |
| 1:I:642:GLU:N | 1:I:642:GLU:OE1 | 2.26 | 0.67 |
| 1:B:642:GLU:N | 1:B:642:GLU:OE1 | 2.26 | 0.67 |
| 1:L:225:VAL:HG23 | 1:L:225:VAL:O | 1.95 | 0.67 |
| 1:B:225:VAL:HG23 | 1:B:225:VAL:O | 1.95 | 0.67 |
| 1:E:225:VAL:HG23 | 1:E:225:VAL:O | 1.95 | 0.67 |
| 1:I:225:VAL:HG23 | 1:I:225:VAL:O | 1.95 | 0.67 |
| 1:A:225:VAL:O | 1:A:225:VAL:HG23 | 1.95 | 0.67 |
| 1:D:225:VAL:HG23 | 1:D:225:VAL:O | 1.95 | 0.66 |
| 1:C:225:VAL:O | 1:C:225:VAL:HG23 | 1.95 | 0.66 |
| 1:E:683:GLU:OE1 | 1:E:683:GLU:N | 2.21 | 0.66 |
| 1:H:225:VAL:O | 1:H:225:VAL:HG23 | 1.95 | 0.66 |
| 1:J:225:VAL:HG23 | 1:J:225:VAL:O | 1.95 | 0.66 |
| 1:G:225:VAL:HG23 | 1:G:225:VAL:O | 1.95 | 0.65 |
| 1:D:683:GLU:OE1 | 1:D:683:GLU:N | 2.21 | 0.65 |
| 1:F:225:VAL:HG23 | 1:F:225:VAL:O | 1.95 | 0.65 |
| 1:K:225:VAL:HG23 | 1:K:225:VAL:O | 1.95 | 0.65 |
| 1:J:683:GLU:OE1 | 1:J:683:GLU:N | 2.21 | 0.65 |
| 1:G:368:LYS:HE3 | 1:G:368:LYS:CA | 2.27 | 0.64 |
| 1:B:542:LYS:HB2 | 1:B:677:LEU:HD21 | 1.80 | 0.64 |
| 1:F:683:GLU:OE1 | 1:F:683:GLU:N | 2.21 | 0.64 |
| 1:G:683:GLU:OE1 | 1:G:683:GLU:N | 2.21 | 0.64 |
| 1:B:368:LYS:HE3 | 1:B:368:LYS:CA | 2.27 | 0.64 |
| 1:G:542:LYS:HB2 | 1:G:677:LEU:HD21 | 1.80 | 0.64 |
| 1:L:368:LYS:HE3 | 1:L:368:LYS:CA | 2.27 | 0.64 |
| 1:K:542:LYS:HB2 | 1:K:677:LEU:HD21 | 1.79 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:368:LYS:HE3 | 1:A:368:LYS:CA | 2.27 | 0.64 |
| 1:J:542:LYS:HB2 | 1:J:677:LEU:HD21 | 1.79 | 0.64 |
| 1:A:542:LYS:HB2 | 1:A:677:LEU:HD21 | 1.80 | 0.64 |
| 1:F:368:LYS:HE3 | 1:F:368:LYS:CA | 2.27 | 0.64 |
| 1:C:35:LEU:HD21 | 1:D:193:ALA:HB1 | 1.80 | 0.64 |
| 1:H:456:GLU:HB3 | 1:H:459:LEU:HD12 | 1.80 | 0.64 |
| 1:L:542:LYS:HB2 | 1:L:677:LEU:HD21 | 1.80 | 0.64 |
| 1:B:456:GLU:HB3 | 1:B:459:LEU:HD12 | 1.80 | 0.64 |
| 1:H:683:GLU:OE1 | 1:H:683:GLU:N | 2.22 | 0.64 |
| 1:J:456:GLU:HB3 | 1:J:459:LEU:HD12 | 1.80 | 0.64 |
| 1:K:456:GLU:HB3 | 1:K:459:LEU:HD12 | 1.80 | 0.64 |
| 1:B:227:LEU:HD12 | 1:B:227:LEU:O | 1.98 | 0.63 |
| 1:D:456:GLU:HB3 | 1:D:459:LEU:HD12 | 1.80 | 0.63 |
| 1:E:227:LEU:HD12 | 1:E:227:LEU:O | 1.98 | 0.63 |
| 1:L:227:LEU:HD12 | 1:L:227:LEU:O | 1.98 | 0.63 |
| 1:E:542:LYS:HB2 | 1:E:677:LEU:HD21 | 1.79 | 0.63 |
| 1:F:542:LYS:HB2 | 1:F:677:LEU:HD21 | 1.80 | 0.63 |
| 1:G:227:LEU:HD12 | 1:G:227:LEU:O | 1.98 | 0.63 |
| 1:G:456:GLU:HB3 | 1:G:459:LEU:HD12 | 1.80 | 0.63 |
| 1:I:456:GLU:HB3 | 1:I:459:LEU:HD12 | 1.80 | 0.63 |
| 1:F:456:GLU:HB3 | 1:F:459:LEU:HD12 | 1.80 | 0.63 |
| 1:E:456:GLU:HB3 | 1:E:459:LEU:HD12 | 1.80 | 0.63 |
| 1:H:542:LYS:HB2 | 1:H:677:LEU:HD21 | 1.79 | 0.63 |
| 1:J:227:LEU:HD12 | 1:J:227:LEU:O | 1.98 | 0.63 |
| 1:I:542:LYS:HB2 | 1:I:677:LEU:HD21 | 1.80 | 0.63 |
| 1:C:227:LEU:HD12 | 1:C:227:LEU:O | 1.98 | 0.63 |
| 1:C:542:LYS:HB2 | 1:C:677:LEU:HD21 | 1.80 | 0.63 |
| 1:D:227:LEU:HD12 | 1:D:227:LEU:O | 1.98 | 0.63 |
| 1:K:227:LEU:O | 1:K:227:LEU:HD12 | 1.98 | 0.63 |
| 1:A:456:GLU:HB3 | 1:A:459:LEU:HD12 | 1.80 | 0.63 |
| 1:C:456:GLU:HB3 | 1:C:459:LEU:HD12 | 1.80 | 0.63 |
| 1:F:227:LEU:O | 1:F:227:LEU:HD12 | 1.98 | 0.63 |
| 1:D:207:ARG:NH1 | 1:D:301:GLN:OE1 | 2.32 | 0.62 |
| 1:A:227:LEU:O | 1:A:227:LEU:HD12 | 1.98 | 0.62 |
| 1:F:207:ARG:NH1 | 1:F:301:GLN:OE1 | 2.32 | 0.62 |
| 1:I:227:LEU:HD12 | 1:I:227:LEU:O | 1.98 | 0.62 |
| 1:C:193:ALA:HB1 | 1:D:35:LEU:HD21 | 1.79 | 0.62 |
| 1:D:542:LYS:HB2 | 1:D:677:LEU:HD21 | 1.79 | 0.62 |
| 1:H:207:ARG:NH1 | 1:H:301:GLN:OE1 | 2.32 | 0.62 |
| 1:G:207:ARG:NH1 | 1:G:301:GLN:OE1 | 2.32 | 0.62 |
| 1:L:456:GLU:HB3 | 1:L:459:LEU:HD12 | 1.80 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:368:LYS:HE3 | 1:E:368:LYS:CA | 2.27 | 0.62 |
| 1:A:193:ALA:HB1 | 1:L:35:LEU:HD21 | 1.81 | 0.62 |
| 1:B:35:LEU:HD21 | 1:E:193:ALA:HB1 | 1.82 | 0.62 |
| 1:H:193:ALA:HB1 | 1:I:35:LEU:HD21 | 1.81 | 0.62 |
| 1:H:227:LEU:HD12 | 1:H:227:LEU:O | 1.98 | 0.62 |
| 1:I:368:LYS:HE3 | 1:I:368:LYS:CA | 2.27 | 0.62 |
| 1:L:207:ARG:NH1 | 1:L:301:GLN:OE1 | 2.32 | 0.62 |
| 1:B:207:ARG:NH1 | 1:B:301:GLN:OE1 | 2.32 | 0.62 |
| 1:A:207:ARG:NH1 | 1:A:301:GLN:OE1 | 2.32 | 0.62 |
| 1:B:683:GLU:OE1 | 1:B:683:GLU:N | 2.21 | 0.62 |
| 1:H:35:LEU:HD21 | 1:I:193:ALA:HB1 | 1.80 | 0.62 |
| 1:K:207:ARG:NH1 | 1:K:301:GLN:OE1 | 2.32 | 0.62 |
| 1:E:207:ARG:NH1 | 1:E:301:GLN:OE1 | 2.32 | 0.62 |
| 1:J:207:ARG:NH1 | 1:J:301:GLN:OE1 | 2.32 | 0.62 |
| 1:J:35:LEU:HD21 | 1:K:193:ALA:HB1 | 1.81 | 0.61 |
| 1:C:207:ARG:NH1 | 1:C:301:GLN:OE1 | 2.32 | 0.61 |
| 1:I:207:ARG:NH1 | 1:I:301:GLN:OE1 | 2.32 | 0.61 |
| 1:B:193:ALA:HB1 | 1:E:35:LEU:HD21 | 1.81 | 0.61 |
| 1:C:340:HIS:NE2 | 1:C:756:ASP:OD1 | 2.34 | 0.61 |
| 1:E:340:HIS:NE2 | 1:E:756:ASP:OD1 | 2.34 | 0.61 |
| 1:J:340:HIS:NE2 | 1:J:756:ASP:OD1 | 2.34 | 0.61 |
| 1:B:340:HIS:NE2 | 1:B:756:ASP:OD1 | 2.34 | 0.61 |
| 1:F:193:ALA:HB1 | 1:G:35:LEU:HD21 | 1.83 | 0.61 |
| 1:A:35:LEU:HD21 | 1:L:193:ALA:HB1 | 1.83 | 0.61 |
| 1:F:35:LEU:HD21 | 1:G:193:ALA:HB1 | 1.82 | 0.61 |
| 1:K:340:HIS:NE2 | 1:K:756:ASP:OD1 | 2.34 | 0.60 |
| 1:L:340:HIS:NE2 | 1:L:756:ASP:OD1 | 2.34 | 0.60 |
| 1:A:116:VAL:O | 1:A:281:ARG:NH2 | 2.35 | 0.60 |
| 1:E:749:ASP:HB3 | 1:E:752:ILE:HG22 | 1.83 | 0.60 |
| 1:F:340:HIS:NE2 | 1:F:756:ASP:OD1 | 2.34 | 0.60 |
| 1:H:340:HIS:NE2 | 1:H:756:ASP:OD1 | 2.34 | 0.60 |
| 1:B:749:ASP:HB3 | 1:B:752:ILE:HG22 | 1.83 | 0.60 |
| 1:D:116:VAL:O | 1:D:281:ARG:NH2 | 2.35 | 0.60 |
| 1:G:749:ASP:HB3 | 1:G:752:ILE:HG22 | 1.83 | 0.60 |
| 1:I:340:HIS:NE2 | 1:I:756:ASP:OD1 | 2.34 | 0.60 |
| 1:E:116:VAL:O | 1:E:281:ARG:NH2 | 2.35 | 0.60 |
| 1:B:116:VAL:O | 1:B:281:ARG:NH2 | 2.35 | 0.60 |
| 1:C:683:GLU:OE1 | 1:C:683:GLU:N | 2.21 | 0.60 |
| 1:J:193:ALA:HB1 | 1:K:35:LEU:HD21 | 1.81 | 0.60 |
| 1:A:340:HIS:NE2 | 1:A:756:ASP:OD1 | 2.34 | 0.60 |
| 1:H:749:ASP:HB3 | 1:H:752:ILE:HG22 | 1.83 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 1:K:116:VAL:O | 1:K:281:ARG:NH2 | 2.35 | 0.60 |
| 1:C:749:ASP:HB3 | 1:C:752:ILE:HG22 | 1.83 | 0.60 |
| 1:D:340:HIS:NE2 | 1:D:756:ASP:OD1 | 2.34 | 0.60 |
| 1:I:116:VAL:O | 1:I:281:ARG:NH2 | 2.35 | 0.60 |
| 1:A:749:ASP:HB3 | 1:A:752:ILE:HG22 | 1.83 | 0.60 |
| 1:D:749:ASP:HB3 | 1:D:752:ILE:HG22 | 1.83 | 0.60 |
| 1:J:749:ASP:HB3 | 1:J:752:ILE:HG22 | 1.83 | 0.60 |
| 1:L:116:VAL:O | 1:L:281:ARG:NH2 | 2.35 | 0.59 |
| 1:F:116:VAL:O | 1:F:281:ARG:NH2 | 2.35 | 0.59 |
| 1:H:331:GLU:O | 1:H:332:LYS:HE2 | 2.03 | 0.59 |
| 1:I:683:GLU:OE1 | 1:I:683:GLU:N | 2.21 | 0.59 |
| 1:K:331:GLU:O | 1:K:332:LYS:HE2 | 2.03 | 0.59 |
| 1:G:116:VAL:O | 1:G:281:ARG:NH2 | 2.35 | 0.59 |
| 1:J:116:VAL:O | 1:J:281:ARG:NH2 | 2.35 | 0.59 |
| 1:J:368:LYS:HE3 | 1:J:368:LYS:CA | 2.27 | 0.59 |
| 1:B:331:GLU:O | 1:B:332:LYS:HE2 | 2.03 | 0.59 |
| 1:F:749:ASP:HB3 | 1:F:752:ILE:HG22 | 1.83 | 0.59 |
| 1:H:116:VAL:O | 1:H:281:ARG:NH2 | 2.35 | 0.59 |
| 1:J:331:GLU:O | 1:J:332:LYS:HE2 | 2.03 | 0.59 |
| 1:C:116:VAL:O | 1:C:281:ARG:NH2 | 2.35 | 0.59 |
| 1:G:340:HIS:NE2 | 1:G:756:ASP:OD1 | 2.34 | 0.59 |
| 1:I:749:ASP:HB3 | 1:I:752:ILE:HG22 | 1.83 | 0.59 |
| 1:K:749:ASP:HB3 | 1:K:752:ILE:HG22 | 1.83 | 0.59 |
| 1:G:331:GLU:O | 1:G:332:LYS:HE2 | 2.03 | 0.59 |
| 1:H:368:LYS:HE3 | 1:H:368:LYS:CA | 2.27 | 0.59 |
| 1:C:331:GLU:O | 1:C:332:LYS:HE2 | 2.03 | 0.58 |
| 1:D:331:GLU:O | 1:D:332:LYS:HE2 | 2.03 | 0.58 |
| 1:I:331:GLU:O | 1:I:332:LYS:HE2 | 2.03 | 0.58 |
| 1:L:749:ASP:HB3 | 1:L:752:ILE:HG22 | 1.83 | 0.58 |
| 1:L:331:GLU:O | 1:L:332:LYS:HE2 | 2.03 | 0.58 |
| 1:F:331:GLU:O | 1:F:332:LYS:HE2 | 2.03 | 0.58 |
| 1:A:331:GLU:O | 1:A:332:LYS:HE2 | 2.03 | 0.58 |
| 1:E:331:GLU:O | 1:E:332:LYS:HE2 | 2.03 | 0.58 |
| 1:H:508:SER:OG | 1:H:559:ASP:OD2 | 2.22 | 0.58 |
| 1:A:429:ASN:OD1 | 1:A:430:GLY:N | 2.37 | 0.57 |
| 1:D:429:ASN:OD1 | 1:D:430:GLY:N | 2.37 | 0.57 |
| 1:J:429:ASN:OD1 | 1:J:430:GLY:N | 2.37 | 0.57 |
| 1:E:429:ASN:OD1 | 1:E:430:GLY:N | 2.37 | 0.57 |
| 1:G:429:ASN:OD1 | 1:G:430:GLY:N | 2.37 | 0.57 |
| 1:K:508:SER:OG | 1:K:559:ASP:OD2 | 2.22 | 0.57 |
| 1:K:368:LYS:HE3 | 1:K:368:LYS:CA | 2.27 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:429:ASN:OD1 | 1:B:430:GLY:N | 2.37 | 0.57 |
| 1:C:429:ASN:OD1 | 1:C:430:GLY:N | 2.37 | 0.57 |
| 1:F:508:SER:OG | 1:F:559:ASP:OD2 | 2.22 | 0.57 |
| 1:F:429:ASN:OD1 | 1:F:430:GLY:N | 2.37 | 0.57 |
| 1:L:429:ASN:OD1 | 1:L:430:GLY:N | 2.37 | 0.57 |
| 1:C:86:GLY:HA2 | 1:C:124:GLN:HE22 | 1.70 | 0.57 |
| 1:F:638:GLU:N | 1:F:638:GLU:OE2 | 2.38 | 0.57 |
| 1:J:508:SER:OG | 1:J:559:ASP:OD2 | 2.22 | 0.57 |
| 1:K:429:ASN:OD1 | 1:K:430:GLY:N | 2.37 | 0.57 |
| 1:L:638:GLU:OE2 | 1:L:638:GLU:N | 2.38 | 0.57 |
| 1:A:508:SER:OG | 1:A:559:ASP:OD2 | 2.22 | 0.57 |
| 1:B:508:SER:OG | 1:B:559:ASP:OD2 | 2.22 | 0.57 |
| 1:C:368:LYS:HE3 | 1:C:368:LYS:CA | 2.27 | 0.57 |
| 1:I:429:ASN:OD1 | 1:I:430:GLY:N | 2.37 | 0.57 |
| 1:J:752:ILE:HG21 | 1:J:755:ALA:HB2 | 1.87 | 0.57 |
| 1:G:638:GLU:OE2 | 1:G:638:GLU:N | 2.38 | 0.56 |
| 1:K:638:GLU:N | 1:K:638:GLU:OE2 | 2.38 | 0.56 |
| 1:A:213:ASN:ND2 | 1:A:240:LEU:O | 2.39 | 0.56 |
| 1:D:638:GLU:N | 1:D:638:GLU:OE2 | 2.38 | 0.56 |
| 1:D:752:ILE:HG21 | 1:D:755:ALA:HB2 | 1.87 | 0.56 |
| 1:H:638:GLU:OE2 | 1:H:638:GLU:N | 2.38 | 0.56 |
| 1:K:213:ASN:ND2 | 1:K:240:LEU:O | 2.39 | 0.56 |
| 1:K:752:ILE:HG21 | 1:K:755:ALA:HB2 | 1.87 | 0.56 |
| 1:H:429:ASN:OD1 | 1:H:430:GLY:N | 2.37 | 0.56 |
| 1:F:752:ILE:HG21 | 1:F:755:ALA:HB2 | 1.87 | 0.56 |
| 1:H:752:ILE:HG21 | 1:H:755:ALA:HB2 | 1.87 | 0.56 |
| 1:J:638:GLU:OE2 | 1:J:638:GLU:N | 2.38 | 0.56 |
| 1:B:638:GLU:N | 1:B:638:GLU:OE2 | 2.38 | 0.56 |
| 1:C:638:GLU:OE2 | 1:C:638:GLU:N | 2.38 | 0.56 |
| 1:E:213:ASN:ND2 | 1:E:240:LEU:O | 2.39 | 0.56 |
| 1:B:213:ASN:ND2 | 1:B:240:LEU:O | 2.39 | 0.56 |
| 1:C:213:ASN:ND2 | 1:C:240:LEU:O | 2.39 | 0.56 |
| 1:E:638:GLU:OE2 | 1:E:638:GLU:N | 2.38 | 0.56 |
| 1:L:213:ASN:ND2 | 1:L:240:LEU:O | 2.39 | 0.56 |
| 1:D:634:LEU:CD2 | 1:D:638:GLU:OE1 | 2.54 | 0.56 |
| 1:I:213:ASN:ND2 | 1:I:240:LEU:O | 2.39 | 0.56 |
| 1:I:752:ILE:HG21 | 1:I:755:ALA:HB2 | 1.87 | 0.56 |
| 1:J:213:ASN:ND2 | 1:J:240:LEU:O | 2.39 | 0.56 |
| 1:C:634:LEU:CD2 | 1:C:638:GLU:OE1 | 2.54 | 0.56 |
| 1:E:508:SER:OG | 1:E:559:ASP:OD2 | 2.22 | 0.56 |
| 1:G:634:LEU:CD2 | 1:G:638:GLU:OE1 | 2.54 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:638:GLU:N | 1:A:638:GLU:OE2 | 2.38 | 0.55 |
| 1:F:213:ASN:ND2 | 1:F:240:LEU:O | 2.39 | 0.55 |
| 1:H:634:LEU:CD2 | 1:H:638:GLU:OE1 | 2.54 | 0.55 |
| 1:I:638:GLU:N | 1:I:638:GLU:OE2 | 2.38 | 0.55 |
| 1:K:634:LEU:CD2 | 1:K:638:GLU:OE1 | 2.54 | 0.55 |
| 1:L:508:SER:OG | 1:L:559:ASP:OD2 | 2.22 | 0.55 |
| 1:D:508:SER:OG | 1:D:559:ASP:OD2 | 2.22 | 0.55 |
| 1:G:752:ILE:HG21 | 1:G:755:ALA:HB2 | 1.87 | 0.55 |
| 1:B:111:ILE:HG12 | 1:B:132:LEU:HD11 | 1.88 | 0.55 |
| 1:H:213:ASN:ND2 | 1:H:240:LEU:O | 2.39 | 0.55 |
| 1:I:111:ILE:HG12 | 1:I:132:LEU:HD11 | 1.88 | 0.55 |
| 1:J:111:ILE:HG12 | 1:J:132:LEU:HD11 | 1.88 | 0.55 |
| 1:D:213:ASN:ND2 | 1:D:240:LEU:O | 2.39 | 0.55 |
| 1:E:542:LYS:CB | 1:E:677:LEU:HD21 | 2.37 | 0.55 |
| 1:E:634:LEU:CD2 | 1:E:638:GLU:OE1 | 2.54 | 0.55 |
| 1:E:752:ILE:HG21 | 1:E:755:ALA:HB2 | 1.87 | 0.55 |
| 1:I:634:LEU:CD2 | 1:I:638:GLU:OE1 | 2.54 | 0.55 |
| 1:B:752:ILE:HG21 | 1:B:755:ALA:HB2 | 1.87 | 0.55 |
| 1:C:542:LYS:CB | 1:C:677:LEU:HD21 | 2.37 | 0.55 |
| 1:C:752:ILE:HG21 | 1:C:755:ALA:HB2 | 1.87 | 0.55 |
| 1:D:111:ILE:HG12 | 1:D:132:LEU:HD11 | 1.88 | 0.55 |
| 1:G:111:ILE:HG12 | 1:G:132:LEU:HD11 | 1.88 | 0.55 |
| 1:L:111:ILE:HG12 | 1:L:132:LEU:HD11 | 1.88 | 0.55 |
| 1:C:191:LEU:HD11 | 1:C:308:GLN:HB3 | 1.89 | 0.55 |
| 1:D:82:LYS:NZ | 1:D:91:ASP:OD2 | 2.40 | 0.55 |
| 1:F:634:LEU:CD2 | 1:F:638:GLU:OE1 | 2.54 | 0.55 |
| 1:G:542:LYS:CB | 1:G:677:LEU:HD21 | 2.37 | 0.55 |
| 1:H:191:LEU:HD11 | 1:H:308:GLN:HB3 | 1.89 | 0.55 |
| 1:J:82:LYS:NZ | 1:J:91:ASP:OD2 | 2.40 | 0.55 |
| 1:E:191:LEU:HD11 | 1:E:308:GLN:HB3 | 1.89 | 0.55 |
| 1:G:213:ASN:ND2 | 1:G:240:LEU:O | 2.39 | 0.55 |
| 1:I:466:VAL:HG11 | 1:I:487:LEU:HD13 | 1.89 | 0.55 |
| 1:J:191:LEU:HD11 | 1:J:308:GLN:HB3 | 1.89 | 0.55 |
| 1:L:634:LEU:CD2 | 1:L:638:GLU:OE1 | 2.54 | 0.55 |
| 1:L:752:ILE:HG21 | 1:L:755:ALA:HB2 | 1.87 | 0.55 |
| 1:A:111:ILE:HG12 | 1:A:132:LEU:HD11 | 1.88 | 0.55 |
| 1:D:191:LEU:HD11 | 1:D:308:GLN:HB3 | 1.89 | 0.55 |
| 1:F:82:LYS:NZ | 1:F:91:ASP:OD2 | 2.40 | 0.55 |
| 1:H:542:LYS:CB | 1:H:677:LEU:HD21 | 2.37 | 0.55 |
| 1:I:191:LEU:HD11 | 1:I:308:GLN:HB3 | 1.89 | 0.55 |
| 1:I:508:SER:OG | 1:I:559:ASP:OD2 | 2.22 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:752:ILE:HG21 | 1:A:755:ALA:HB2 | 1.87 | 0.55 |
| 1:H:466:VAL:HG11 | 1:H:487:LEU:HD13 | 1.89 | 0.55 |
| 1:K:111:ILE:HG12 | 1:K:132:LEU:HD11 | 1.88 | 0.55 |
| 1:A:191:LEU:HD11 | 1:A:308:GLN:HB3 | 1.89 | 0.54 |
| 1:B:634:LEU:CD2 | 1:B:638:GLU:OE1 | 2.54 | 0.54 |
| 1:C:111:ILE:HG12 | 1:C:132:LEU:HD11 | 1.88 | 0.54 |
| 1:G:191:LEU:HD11 | 1:G:308:GLN:HB3 | 1.89 | 0.54 |
| 1:H:82:LYS:NZ | 1:H:91:ASP:OD2 | 2.40 | 0.54 |
| 1:I:542:LYS:CB | 1:I:677:LEU:HD21 | 2.37 | 0.54 |
| 1:A:634:LEU:CD2 | 1:A:638:GLU:OE1 | 2.54 | 0.54 |
| 1:E:466:VAL:HG11 | 1:E:487:LEU:HD13 | 1.89 | 0.54 |
| 1:H:546:PRO:HD3 | 1:I:44:LEU:HD21 | 1.89 | 0.54 |
| 1:E:82:LYS:NZ | 1:E:91:ASP:OD2 | 2.40 | 0.54 |
| 1:J:634:LEU:CD2 | 1:J:638:GLU:OE1 | 2.54 | 0.54 |
| 1:A:542:LYS:CB | 1:A:677:LEU:HD21 | 2.37 | 0.54 |
| 1:B:82:LYS:NZ | 1:B:91:ASP:OD2 | 2.40 | 0.54 |
| 1:B:466:VAL:HG11 | 1:B:487:LEU:HD13 | 1.89 | 0.54 |
| 1:C:82:LYS:NZ | 1:C:91:ASP:OD2 | 2.40 | 0.54 |
| 1:C:466:VAL:HG11 | 1:C:487:LEU:HD13 | 1.89 | 0.54 |
| 1:F:111:ILE:HG12 | 1:F:132:LEU:HD11 | 1.88 | 0.54 |
| 1:J:44:LEU:HD21 | 1:K:546:PRO:HD3 | 1.90 | 0.54 |
| 1:K:191:LEU:HD11 | 1:K:308:GLN:HB3 | 1.89 | 0.54 |
| 1:L:191:LEU:HD11 | 1:L:308:GLN:HB3 | 1.89 | 0.54 |
| 1:B:191:LEU:HD11 | 1:B:308:GLN:HB3 | 1.89 | 0.54 |
| 1:B:779:ALA:O | 1:B:783:VAL:HG23 | 2.08 | 0.54 |
| 1:D:779:ALA:O | 1:D:783:VAL:HG23 | 2.08 | 0.54 |
| 1:F:191:LEU:HD11 | 1:F:308:GLN:HB3 | 1.89 | 0.54 |
| 1:I:779:ALA:O | 1:I:783:VAL:HG23 | 2.08 | 0.54 |
| 1:K:542:LYS:CB | 1:K:677:LEU:HD21 | 2.37 | 0.54 |
| 1:A:464:ARG:NH2 | 1:A:797:ASP:OD2 | 2.41 | 0.54 |
| 1:B:542:LYS:CB | 1:B:677:LEU:HD21 | 2.37 | 0.54 |
| 1:D:466:VAL:HG11 | 1:D:487:LEU:HD13 | 1.89 | 0.54 |
| 1:F:542:LYS:CB | 1:F:677:LEU:HD21 | 2.37 | 0.54 |
| 1:F:779:ALA:O | 1:F:783:VAL:HG23 | 2.08 | 0.54 |
| 1:K:82:LYS:NZ | 1:K:91:ASP:OD2 | 2.40 | 0.54 |
| 1:L:542:LYS:CB | 1:L:677:LEU:HD21 | 2.37 | 0.54 |
| 1:B:199:LEU:O | 1:B:203:ILE:HB | 2.08 | 0.54 |
| 1:F:464:ARG:NH2 | 1:F:797:ASP:OD2 | 2.41 | 0.54 |
| 1:J:466:VAL:HG11 | 1:J:487:LEU:HD13 | 1.89 | 0.54 |
| 1:J:542:LYS:CB | 1:J:677:LEU:HD21 | 2.37 | 0.54 |
| 1:L:517:LEU:HD11 | 1:L:696:MET:HG2 | 1.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:82:LYS:NZ | 1:A:91:ASP:OD2 | 2.40 | 0.54 |
| 1:D:542:LYS:CB | 1:D:677:LEU:HD21 | 2.37 | 0.54 |
| 1:H:199:LEU:O | 1:H:203:ILE:HB | 2.08 | 0.54 |
| 1:J:464:ARG:NH2 | 1:J:797:ASP:OD2 | 2.41 | 0.54 |
| 1:C:527:ARG:NH1 | 1:C:704:GLU:OE2 | 2.39 | 0.54 |
| 1:G:82:LYS:NZ | 1:G:91:ASP:OD2 | 2.40 | 0.54 |
| 1:H:111:ILE:HG12 | 1:H:132:LEU:HD11 | 1.88 | 0.54 |
| 1:A:369:LEU:O | 1:A:373:VAL:HG23 | 2.08 | 0.54 |
| 1:C:464:ARG:NH2 | 1:C:797:ASP:OD2 | 2.41 | 0.54 |
| 1:D:369:LEU:O | 1:D:373:VAL:HG23 | 2.08 | 0.54 |
| 1:E:111:ILE:HG12 | 1:E:132:LEU:HD11 | 1.88 | 0.54 |
| 1:E:779:ALA:O | 1:E:783:VAL:HG23 | 2.08 | 0.54 |
| 1:H:779:ALA:O | 1:H:783:VAL:HG23 | 2.08 | 0.54 |
| 1:I:82:LYS:NZ | 1:I:91:ASP:OD2 | 2.40 | 0.54 |
| 1:J:517:LEU:HD11 | 1:J:696:MET:HG2 | 1.90 | 0.54 |
| 1:K:779:ALA:O | 1:K:783:VAL:HG23 | 2.08 | 0.54 |
| 1:L:82:LYS:NZ | 1:L:91:ASP:OD2 | 2.40 | 0.54 |
| 1:L:779:ALA:O | 1:L:783:VAL:HG23 | 2.08 | 0.54 |
| 1:D:199:LEU:O | 1:D:203:ILE:HB | 2.08 | 0.53 |
| 1:E:369:LEU:O | 1:E:373:VAL:HG23 | 2.09 | 0.53 |
| 1:G:369:LEU:O | 1:G:373:VAL:HG23 | 2.09 | 0.53 |
| 1:J:199:LEU:O | 1:J:203:ILE:HB | 2.08 | 0.53 |
| 1:J:546:PRO:HD3 | 1:K:44:LEU:HD21 | 1.90 | 0.53 |
| 1:K:466:VAL:HG11 | 1:K:487:LEU:HD13 | 1.89 | 0.53 |
| 1:K:517:LEU:HD11 | 1:K:696:MET:HG2 | 1.90 | 0.53 |
| 1:C:199:LEU:O | 1:C:203:ILE:HB | 2.08 | 0.53 |
| 1:D:464:ARG:NH2 | 1:D:797:ASP:OD2 | 2.41 | 0.53 |
| 1:J:369:LEU:O | 1:J:373:VAL:HG23 | 2.09 | 0.53 |
| 1:L:199:LEU:O | 1:L:203:ILE:HB | 2.08 | 0.53 |
| 1:A:779:ALA:O | 1:A:783:VAL:HG23 | 2.08 | 0.53 |
| 1:E:199:LEU:O | 1:E:203:ILE:HB | 2.08 | 0.53 |
| 1:E:507:ILE:HG21 | 1:E:563:ILE:HD11 | 1.91 | 0.53 |
| 1:G:466:VAL:HG11 | 1:G:487:LEU:HD13 | 1.89 | 0.53 |
| 1:H:369:LEU:O | 1:H:373:VAL:HG23 | 2.09 | 0.53 |
| 1:I:464:ARG:NH2 | 1:I:797:ASP:OD2 | 2.41 | 0.53 |
| 1:K:369:LEU:O | 1:K:373:VAL:HG23 | 2.08 | 0.53 |
| 1:L:369:LEU:O | 1:L:373:VAL:HG23 | 2.08 | 0.53 |
| 1:L:464:ARG:NH2 | 1:L:797:ASP:OD2 | 2.41 | 0.53 |
| 1:G:199:LEU:O | 1:G:203:ILE:HB | 2.08 | 0.53 |
| 1:G:517:LEU:HD11 | 1:G:696:MET:HG2 | 1.90 | 0.53 |
| 1:G:718:ASN:OD1 | 1:G:718:ASN:N | 2.42 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:779:ALA:O | 1:G:783:VAL:HG23 | 2.08 | 0.53 |
| 1:H:527:ARG:NH1 | 1:H:704:GLU:OE2 | 2.40 | 0.53 |
| 1:I:517:LEU:HD11 | 1:I:696:MET:HG2 | 1.90 | 0.53 |
| 1:B:464:ARG:NH2 | 1:B:797:ASP:OD2 | 2.41 | 0.53 |
| 1:C:517:LEU:HD11 | 1:C:696:MET:HG2 | 1.90 | 0.53 |
| 1:D:368:LYS:HE3 | 1:D:368:LYS:CA | 2.27 | 0.53 |
| 1:F:369:LEU:O | 1:F:373:VAL:HG23 | 2.08 | 0.53 |
| 1:F:546:PRO:HD3 | 1:G:44:LEU:HD21 | 1.89 | 0.53 |
| 1:J:527:ARG:NH1 | 1:J:704:GLU:OE2 | 2.39 | 0.53 |
| 1:A:466:VAL:HG11 | 1:A:487:LEU:HD13 | 1.89 | 0.53 |
| 1:A:527:ARG:NH1 | 1:A:704:GLU:OE2 | 2.39 | 0.53 |
| 1:C:508:SER:OG | 1:C:559:ASP:OD2 | 2.22 | 0.53 |
| 1:C:779:ALA:O | 1:C:783:VAL:HG23 | 2.08 | 0.53 |
| 1:E:464:ARG:NH2 | 1:E:797:ASP:OD2 | 2.41 | 0.53 |
| 1:F:44:LEU:HD21 | 1:G:546:PRO:HD3 | 1.91 | 0.53 |
| 1:F:199:LEU:O | 1:F:203:ILE:HB | 2.08 | 0.53 |
| 1:I:718:ASN:N | 1:I:718:ASN:OD1 | 2.42 | 0.53 |
| 1:K:464:ARG:NH2 | 1:K:797:ASP:OD2 | 2.41 | 0.53 |
| 1:A:199:LEU:O | 1:A:203:ILE:HB | 2.08 | 0.53 |
| 1:A:447:ALA:O | 1:A:451:ASP:OD2 | 2.27 | 0.53 |
| 1:G:447:ALA:O | 1:G:451:ASP:OD2 | 2.27 | 0.53 |
| 1:I:369:LEU:O | 1:I:373:VAL:HG23 | 2.09 | 0.53 |
| 1:B:507:ILE:HG21 | 1:B:563:ILE:HD11 | 1.91 | 0.53 |
| 1:E:718:ASN:OD1 | 1:E:718:ASN:N | 2.42 | 0.53 |
| 1:F:86:GLY:HA2 | 1:F:124:GLN:HE22 | 1.74 | 0.53 |
| 1:G:464:ARG:NH2 | 1:G:797:ASP:OD2 | 2.41 | 0.53 |
| 1:H:718:ASN:OD1 | 1:H:718:ASN:N | 2.42 | 0.53 |
| 1:I:199:LEU:O | 1:I:203:ILE:HB | 2.08 | 0.53 |
| 1:J:779:ALA:O | 1:J:783:VAL:HG23 | 2.08 | 0.53 |
| 1:K:527:ARG:NH1 | 1:K:704:GLU:OE2 | 2.39 | 0.53 |
| 1:L:466:VAL:HG11 | 1:L:487:LEU:HD13 | 1.89 | 0.53 |
| 1:L:527:ARG:NH1 | 1:L:704:GLU:OE2 | 2.40 | 0.53 |
| 1:A:44:LEU:HD21 | 1:L:546:PRO:HD3 | 1.89 | 0.53 |
| 1:D:447:ALA:O | 1:D:451:ASP:OD2 | 2.27 | 0.53 |
| 1:E:517:LEU:HD11 | 1:E:696:MET:HG2 | 1.90 | 0.53 |
| 1:F:466:VAL:HG11 | 1:F:487:LEU:HD13 | 1.89 | 0.53 |
| 1:G:508:SER:OG | 1:G:559:ASP:OD2 | 2.22 | 0.53 |
| 1:H:447:ALA:O | 1:H:451:ASP:OD2 | 2.27 | 0.53 |
| 1:J:507:ILE:HG21 | 1:J:563:ILE:HD11 | 1.91 | 0.53 |
| 1:K:199:LEU:O | 1:K:203:ILE:HB | 2.08 | 0.53 |
| 1:D:718:ASN:OD1 | 1:D:718:ASN:N | 2.42 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:J:447:ALA:O | 1:J:451:ASP:OD2 | 2.27 | 0.53 |
| 1:A:517:LEU:HD11 | 1:A:696:MET:HG2 | 1.90 | 0.52 |
| 1:B:369:LEU:O | 1:B:373:VAL:HG23 | 2.08 | 0.52 |
| 1:D:517:LEU:HD11 | 1:D:696:MET:HG2 | 1.90 | 0.52 |
| 1:H:464:ARG:NH2 | 1:H:797:ASP:OD2 | 2.41 | 0.52 |
| 1:B:527:ARG:NH1 | 1:B:704:GLU:OE2 | 2.39 | 0.52 |
| 1:F:718:ASN:OD1 | 1:F:718:ASN:N | 2.42 | 0.52 |
| 1:G:507:ILE:HG21 | 1:G:563:ILE:HD11 | 1.91 | 0.52 |
| 1:H:507:ILE:HG21 | 1:H:563:ILE:HD11 | 1.91 | 0.52 |
| 1:B:44:LEU:HD21 | 1:E:546:PRO:HD3 | 1.90 | 0.52 |
| 1:B:447:ALA:O | 1:B:451:ASP:OD2 | 2.27 | 0.52 |
| 1:C:507:ILE:HG21 | 1:C:563:ILE:HD11 | 1.91 | 0.52 |
| 1:H:44:LEU:HD21 | 1:I:546:PRO:HD3 | 1.91 | 0.52 |
| 1:C:412:LYS:NZ | 1:F:408:GLU:OE2 | 2.38 | 0.52 |
| 1:F:447:ALA:O | 1:F:451:ASP:OD2 | 2.27 | 0.52 |
| 1:H:517:LEU:HD11 | 1:H:696:MET:HG2 | 1.90 | 0.52 |
| 1:I:447:ALA:O | 1:I:451:ASP:OD2 | 2.27 | 0.52 |
| 1:L:447:ALA:O | 1:L:451:ASP:OD2 | 2.27 | 0.52 |
| 1:L:507:ILE:HG21 | 1:L:563:ILE:HD11 | 1.91 | 0.52 |
| 1:B:517:LEU:HD11 | 1:B:696:MET:HG2 | 1.90 | 0.52 |
| 1:F:517:LEU:HD11 | 1:F:696:MET:HG2 | 1.90 | 0.52 |
| 1:G:527:ARG:NH1 | 1:G:704:GLU:OE2 | 2.39 | 0.52 |
| 1:C:44:LEU:HD21 | 1:D:546:PRO:HD3 | 1.91 | 0.52 |
| 1:K:447:ALA:O | 1:K:451:ASP:OD2 | 2.27 | 0.52 |
| 1:B:718:ASN:OD1 | 1:B:718:ASN:N | 2.42 | 0.52 |
| 1:B:546:PRO:HD3 | 1:E:44:LEU:HD21 | 1.91 | 0.52 |
| 1:I:507:ILE:HG21 | 1:I:563:ILE:HD11 | 1.91 | 0.52 |
| 1:J:718:ASN:OD1 | 1:J:718:ASN:N | 2.42 | 0.52 |
| 1:L:718:ASN:OD1 | 1:L:718:ASN:N | 2.42 | 0.52 |
| 1:A:507:ILE:HG21 | 1:A:563:ILE:HD11 | 1.91 | 0.52 |
| 1:E:447:ALA:O | 1:E:451:ASP:OD2 | 2.27 | 0.52 |
| 1:E:527:ARG:NH1 | 1:E:704:GLU:OE2 | 2.39 | 0.52 |
| 1:F:507:ILE:HG21 | 1:F:563:ILE:HD11 | 1.91 | 0.52 |
| 1:K:507:ILE:HG21 | 1:K:563:ILE:HD11 | 1.91 | 0.51 |
| 1:C:447:ALA:O | 1:C:451:ASP:OD2 | 2.27 | 0.51 |
| 1:D:507:ILE:HG21 | 1:D:563:ILE:HD11 | 1.91 | 0.51 |
| 1:A:357:PHE:CD2 | 1:A:369:LEU:HD21 | 2.46 | 0.51 |
| 1:A:546:PRO:HD3 | 1:L:44:LEU:HD21 | 1.91 | 0.51 |
| 1:C:369:LEU:O | 1:C:373:VAL:HG23 | 2.09 | 0.51 |
| 1:H:357:PHE:CD2 | 1:H:369:LEU:HD21 | 2.46 | 0.51 |
| 1:H:283:ASN:N | 1:H:283:ASN:OD1 | 2.44 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:J:357:PHE:CD2 | 1:J:369:LEU:HD21 | 2.46 | 0.51 |
| 1:L:283:ASN:OD1 | 1:L:283:ASN:N | 2.44 | 0.51 |
| 1:B:283:ASN:OD1 | 1:B:283:ASN:N | 2.44 | 0.51 |
| 1:C:546:PRO:HD3 | 1:D:44:LEU:HD21 | 1.92 | 0.51 |
| 1:K:718:ASN:N | 1:K:718:ASN:OD1 | 2.42 | 0.51 |
| 1:B:609:MET:HE1 | 1:B:653:LEU:HA | 1.93 | 0.51 |
| 1:C:283:ASN:N | 1:C:283:ASN:OD1 | 2.44 | 0.51 |
| 1:D:527:ARG:NH1 | 1:D:704:GLU:OE2 | 2.39 | 0.51 |
| 1:F:527:ARG:NH1 | 1:F:704:GLU:OE2 | 2.39 | 0.51 |
| 1:G:443:LYS:HE3 | 1:G:633:TRP:CE2 | 2.46 | 0.51 |
| 1:H:443:LYS:HE3 | 1:H:633:TRP:CE2 | 2.46 | 0.51 |
| 1:I:283:ASN:OD1 | 1:I:283:ASN:N | 2.44 | 0.51 |
| 1:K:443:LYS:HE3 | 1:K:633:TRP:CE2 | 2.46 | 0.51 |
| 1:A:718:ASN:OD1 | 1:A:718:ASN:N | 2.42 | 0.51 |
| 1:E:45:PRO:O | 1:E:47:HIS:ND1 | 2.44 | 0.51 |
| 1:E:357:PHE:CD2 | 1:E:369:LEU:HD21 | 2.46 | 0.51 |
| 1:G:283:ASN:OD1 | 1:G:283:ASN:N | 2.44 | 0.51 |
| 1:H:45:PRO:O | 1:H:47:HIS:ND1 | 2.44 | 0.51 |
| 1:I:527:ARG:NH1 | 1:I:704:GLU:OE2 | 2.39 | 0.51 |
| 1:L:443:LYS:HE3 | 1:L:633:TRP:CE2 | 2.46 | 0.51 |
| 1:E:283:ASN:N | 1:E:283:ASN:OD1 | 2.44 | 0.51 |
| 1:E:443:LYS:HE3 | 1:E:633:TRP:CE2 | 2.46 | 0.51 |
| 1:K:357:PHE:CD2 | 1:K:369:LEU:HD21 | 2.46 | 0.51 |
| 1:L:357:PHE:CD2 | 1:L:369:LEU:HD21 | 2.46 | 0.51 |
| 1:A:45:PRO:O | 1:A:47:HIS:ND1 | 2.44 | 0.50 |
| 1:C:45:PRO:O | 1:C:47:HIS:ND1 | 2.44 | 0.50 |
| 1:F:357:PHE:CD2 | 1:F:369:LEU:HD21 | 2.46 | 0.50 |
| 1:G:357:PHE:CD2 | 1:G:369:LEU:HD21 | 2.46 | 0.50 |
| 1:I:45:PRO:O | 1:I:47:HIS:ND1 | 2.44 | 0.50 |
| 1:G:45:PRO:O | 1:G:47:HIS:ND1 | 2.44 | 0.50 |
| 1:H:215:ARG:NH1 | 1:H:269:GLU:OE1 | 2.45 | 0.50 |
| 1:C:215:ARG:NH1 | 1:C:269:GLU:OE1 | 2.45 | 0.50 |
| 1:C:408:GLU:OE2 | 1:E:412:LYS:NZ | 2.39 | 0.50 |
| 1:F:283:ASN:OD1 | 1:F:283:ASN:N | 2.44 | 0.50 |
| 1:F:443:LYS:HE3 | 1:F:633:TRP:CE2 | 2.46 | 0.50 |
| 1:G:634:LEU:HD22 | 1:G:638:GLU:OE1 | 2.12 | 0.50 |
| 1:I:357:PHE:CD2 | 1:I:369:LEU:HD21 | 2.46 | 0.50 |
| 1:I:443:LYS:HE3 | 1:I:633:TRP:CE2 | 2.46 | 0.50 |
| 1:K:634:LEU:HD22 | 1:K:638:GLU:OE1 | 2.12 | 0.50 |
| 1:B:215:ARG:NH1 | 1:B:269:GLU:OE1 | 2.45 | 0.50 |
| 1:B:357:PHE:CD2 | 1:B:369:LEU:HD21 | 2.46 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:357:PHE:CD2 | 1:D:369:LEU:HD21 | 2.46 | 0.50 |
| 1:D:443:LYS:HE3 | 1:D:633:TRP:CE2 | 2.46 | 0.50 |
| 1:A:215:ARG:NH1 | 1:A:269:GLU:OE1 | 2.45 | 0.50 |
| 1:F:215:ARG:NH1 | 1:F:269:GLU:OE1 | 2.45 | 0.50 |
| 1:L:466:VAL:HG13 | 1:L:492:ILE:HG21 | 1.94 | 0.50 |
| 1:L:634:LEU:HD22 | 1:L:638:GLU:OE1 | 2.12 | 0.50 |
| 1:A:443:LYS:HE3 | 1:A:633:TRP:CE2 | 2.46 | 0.50 |
| 1:C:443:LYS:HE3 | 1:C:633:TRP:CE2 | 2.46 | 0.50 |
| 1:D:215:ARG:NH1 | 1:D:269:GLU:OE1 | 2.45 | 0.50 |
| 1:E:634:LEU:HD22 | 1:E:638:GLU:OE1 | 2.12 | 0.50 |
| 1:I:634:LEU:HD22 | 1:I:638:GLU:OE1 | 2.12 | 0.50 |
| 1:K:215:ARG:NH1 | 1:K:269:GLU:OE1 | 2.45 | 0.50 |
| 1:A:634:LEU:HD22 | 1:A:638:GLU:OE1 | 2.12 | 0.50 |
| 1:C:357:PHE:CD2 | 1:C:369:LEU:HD21 | 2.46 | 0.50 |
| 1:E:466:VAL:HG13 | 1:E:492:ILE:HG21 | 1.94 | 0.50 |
| 1:F:634:LEU:HD22 | 1:F:638:GLU:OE1 | 2.12 | 0.50 |
| 1:H:466:VAL:HG13 | 1:H:492:ILE:HG21 | 1.94 | 0.50 |
| 1:H:634:LEU:HD22 | 1:H:638:GLU:OE1 | 2.12 | 0.50 |
| 1:I:466:VAL:HG13 | 1:I:492:ILE:HG21 | 1.94 | 0.50 |
| 1:J:45:PRO:O | 1:J:47:HIS:ND1 | 2.44 | 0.50 |
| 1:J:443:LYS:HE3 | 1:J:633:TRP:CE2 | 2.46 | 0.50 |
| 1:K:466:VAL:HG13 | 1:K:492:ILE:HG21 | 1.94 | 0.50 |
| 1:L:45:PRO:O | 1:L:47:HIS:ND1 | 2.44 | 0.50 |
| 1:A:121:PRO:HD2 | 1:A:124:GLN:HE21 | 1.77 | 0.50 |
| 1:D:283:ASN:OD1 | 1:D:283:ASN:N | 2.44 | 0.50 |
| 1:I:215:ARG:NH1 | 1:I:269:GLU:OE1 | 2.45 | 0.50 |
| 1:J:634:LEU:HD22 | 1:J:638:GLU:OE1 | 2.12 | 0.50 |
| 1:K:283:ASN:OD1 | 1:K:283:ASN:N | 2.44 | 0.50 |
| 1:K:327:ARG:HA | 1:K:327:ARG:NE | 2.27 | 0.50 |
| 1:L:327:ARG:HA | 1:L:327:ARG:NE | 2.27 | 0.50 |
| 1:B:443:LYS:HE3 | 1:B:633:TRP:CE2 | 2.46 | 0.50 |
| 1:K:45:PRO:O | 1:K:47:HIS:ND1 | 2.44 | 0.50 |
| 1:G:466:VAL:HG13 | 1:G:492:ILE:HG21 | 1.94 | 0.49 |
| 1:I:327:ARG:HA | 1:I:327:ARG:NE | 2.27 | 0.49 |
| 1:C:327:ARG:NE | 1:C:327:ARG:HA | 2.27 | 0.49 |
| 1:D:634:LEU:HD22 | 1:D:638:GLU:OE1 | 2.12 | 0.49 |
| 1:B:45:PRO:O | 1:B:47:HIS:ND1 | 2.44 | 0.49 |
| 1:D:466:VAL:HG13 | 1:D:492:ILE:HG21 | 1.94 | 0.49 |
| 1:G:215:ARG:NH1 | 1:G:269:GLU:OE1 | 2.45 | 0.49 |
| 1:G:327:ARG:HA | 1:G:327:ARG:NE | 2.27 | 0.49 |
| 1:D:45:PRO:O | 1:D:47:HIS:ND1 | 2.44 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:327:ARG:HA | 1:D:327:ARG:NE | 2.27 | 0.49 |
| 1:F:466:VAL:HG13 | 1:F:492:ILE:HG21 | 1.94 | 0.49 |
| 1:H:602:THR:O | 1:H:606:VAL:HG23 | 2.13 | 0.49 |
| 1:J:283:ASN:N | 1:J:283:ASN:OD1 | 2.44 | 0.49 |
| 1:J:327:ARG:HA | 1:J:327:ARG:NE | 2.27 | 0.49 |
| 1:E:327:ARG:HA | 1:E:327:ARG:NE | 2.27 | 0.49 |
| 1:E:368:LYS:HA | 1:E:368:LYS:CE | 2.37 | 0.49 |
| 1:E:408:GLU:OE2 | 1:F:412:LYS:NZ | 2.36 | 0.49 |
| 1:E:602:THR:O | 1:E:606:VAL:HG23 | 2.13 | 0.49 |
| 1:C:634:LEU:HD22 | 1:C:638:GLU:OE1 | 2.12 | 0.49 |
| 1:E:215:ARG:NH1 | 1:E:269:GLU:OE1 | 2.45 | 0.49 |
| 1:F:609:MET:HE1 | 1:F:653:LEU:HA | 1.95 | 0.49 |
| 1:B:465:GLY:HA2 | 1:B:494:HIS:O | 2.13 | 0.49 |
| 1:C:465:GLY:HA2 | 1:C:494:HIS:O | 2.13 | 0.49 |
| 1:C:466:VAL:HG13 | 1:C:492:ILE:HG21 | 1.94 | 0.49 |
| 1:E:465:GLY:HA2 | 1:E:494:HIS:O | 2.13 | 0.49 |
| 1:I:150:GLU:HB3 | 1:I:353:LEU:HD12 | 1.95 | 0.49 |
| 1:I:602:THR:O | 1:I:606:VAL:HG23 | 2.13 | 0.49 |
| 1:L:602:THR:O | 1:L:606:VAL:HG23 | 2.13 | 0.49 |
| 1:A:283:ASN:OD1 | 1:A:283:ASN:N | 2.44 | 0.49 |
| 1:B:634:LEU:HD22 | 1:B:638:GLU:OE1 | 2.12 | 0.49 |
| 1:D:465:GLY:HA2 | 1:D:494:HIS:O | 2.13 | 0.49 |
| 1:G:609:MET:HE1 | 1:G:653:LEU:HA | 1.93 | 0.49 |
| 1:H:327:ARG:NE | 1:H:327:ARG:HA | 2.27 | 0.49 |
| 1:J:150:GLU:HB3 | 1:J:353:LEU:HD12 | 1.95 | 0.49 |
| 1:K:428:LYS:HD2 | 1:K:437:LEU:HD12 | 1.95 | 0.49 |
| 1:K:602:THR:O | 1:K:606:VAL:HG23 | 2.13 | 0.49 |
| 1:L:216:GLU:OE2 | 1:L:263:LYS:NZ | 2.38 | 0.49 |
| 1:A:465:GLY:HA2 | 1:A:494:HIS:O | 2.13 | 0.49 |
| 1:B:466:VAL:HG13 | 1:B:492:ILE:HG21 | 1.94 | 0.49 |
| 1:D:609:MET:HE1 | 1:D:653:LEU:HA | 1.94 | 0.49 |
| 1:G:150:GLU:HB3 | 1:G:353:LEU:HD12 | 1.95 | 0.49 |
| 1:J:215:ARG:NH1 | 1:J:269:GLU:OE1 | 2.45 | 0.49 |
| 1:C:609:MET:HE1 | 1:C:653:LEU:HA | 1.95 | 0.48 |
| 1:C:718:ASN:OD1 | 1:C:718:ASN:N | 2.42 | 0.48 |
| 1:D:150:GLU:HB3 | 1:D:353:LEU:HD12 | 1.95 | 0.48 |
| 1:H:465:GLY:HA2 | 1:H:494:HIS:O | 2.13 | 0.48 |
| 1:H:609:MET:HE1 | 1:H:653:LEU:HA | 1.95 | 0.48 |
| 1:K:150:GLU:HB3 | 1:K:353:LEU:HD12 | 1.95 | 0.48 |
| 1:A:150:GLU:HB3 | 1:A:353:LEU:HD12 | 1.95 | 0.48 |
| 1:B:602:THR:O | 1:B:606:VAL:HG23 | 2.13 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:428:LYS:HD2 | 1:G:437:LEU:HD12 | 1.95 | 0.48 |
| 1:G:602:THR:O | 1:G:606:VAL:HG23 | 2.13 | 0.48 |
| 1:J:602:THR:O | 1:J:606:VAL:HG23 | 2.13 | 0.48 |
| 1:L:215:ARG:NH1 | 1:L:269:GLU:OE1 | 2.45 | 0.48 |
| 1:A:466:VAL:HG13 | 1:A:492:ILE:HG21 | 1.94 | 0.48 |
| 1:B:428:LYS:HD2 | 1:B:437:LEU:HD12 | 1.95 | 0.48 |
| 1:F:602:THR:O | 1:F:606:VAL:HG23 | 2.13 | 0.48 |
| 1:H:150:GLU:HB3 | 1:H:353:LEU:HD12 | 1.94 | 0.48 |
| 1:I:465:GLY:HA2 | 1:I:494:HIS:O | 2.13 | 0.48 |
| 1:L:428:LYS:HD2 | 1:L:437:LEU:HD12 | 1.95 | 0.48 |
| 1:L:609:MET:HE1 | 1:L:653:LEU:HA | 1.94 | 0.48 |
| 1:A:602:THR:O | 1:A:606:VAL:HG23 | 2.13 | 0.48 |
| 1:E:428:LYS:HD2 | 1:E:437:LEU:HD12 | 1.95 | 0.48 |
| 1:H:428:LYS:HD2 | 1:H:437:LEU:HD12 | 1.95 | 0.48 |
| 1:A:327:ARG:NE | 1:A:327:ARG:HA | 2.27 | 0.48 |
| 1:A:590:LYS:H | 1:A:590:LYS:HG3 | 1.61 | 0.48 |
| 1:B:150:GLU:HB3 | 1:B:353:LEU:HD12 | 1.95 | 0.48 |
| 1:C:428:LYS:HD2 | 1:C:437:LEU:HD12 | 1.95 | 0.48 |
| 1:D:602:THR:O | 1:D:606:VAL:HG23 | 2.13 | 0.48 |
| 1:F:327:ARG:NE | 1:F:327:ARG:HA | 2.27 | 0.48 |
| 1:G:465:GLY:HA2 | 1:G:494:HIS:O | 2.13 | 0.48 |
| 1:J:466:VAL:HG13 | 1:J:492:ILE:HG21 | 1.94 | 0.48 |
| 1:L:465:GLY:HA2 | 1:L:494:HIS:O | 2.13 | 0.48 |
| 1:C:150:GLU:HB3 | 1:C:353:LEU:HD12 | 1.95 | 0.48 |
| 1:H:29:VAL:O | 1:H:33:VAL:HG23 | 2.14 | 0.48 |
| 1:B:327:ARG:HA | 1:B:327:ARG:NE | 2.27 | 0.48 |
| 1:D:29:VAL:O | 1:D:33:VAL:HG23 | 2.14 | 0.48 |
| 1:E:150:GLU:HB3 | 1:E:353:LEU:HD12 | 1.95 | 0.48 |
| 1:F:465:GLY:HA2 | 1:F:494:HIS:O | 2.13 | 0.48 |
| 1:J:29:VAL:O | 1:J:33:VAL:HG23 | 2.14 | 0.48 |
| 1:L:29:VAL:O | 1:L:33:VAL:HG23 | 2.14 | 0.48 |
| 1:I:609:MET:HE1 | 1:I:653:LEU:HA | 1.95 | 0.48 |
| 1:D:327:ARG:HA | 1:D:327:ARG:HE | 1.79 | 0.48 |
| 1:F:150:GLU:HB3 | 1:F:353:LEU:HD12 | 1.95 | 0.48 |
| 1:J:428:LYS:HD2 | 1:J:437:LEU:HD12 | 1.95 | 0.48 |
| 1:L:150:GLU:HB3 | 1:L:353:LEU:HD12 | 1.95 | 0.48 |
| 1:C:29:VAL:O | 1:C:33:VAL:HG23 | 2.14 | 0.48 |
| 1:C:602:THR:O | 1:C:606:VAL:HG23 | 2.13 | 0.48 |
| 1:G:173:GLU:H | 1:G:173:GLU:CD | 2.18 | 0.48 |
| 1:A:428:LYS:HD2 | 1:A:437:LEU:HD12 | 1.95 | 0.47 |
| 1:B:29:VAL:O | 1:B:33:VAL:HG23 | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:29:VAL:O | 1:E:33:VAL:HG23 | 2.14 | 0.47 |
| 1:F:173:GLU:CD | 1:F:173:GLU:H | 2.18 | 0.47 |
| 1:K:29:VAL:O | 1:K:33:VAL:HG23 | 2.14 | 0.47 |
| 1:A:327:ARG:HA | 1:A:327:ARG:HE | 1.79 | 0.47 |
| 1:B:74:ARG:O | 1:B:78:GLU:HG3 | 2.15 | 0.47 |
| 1:C:74:ARG:O | 1:C:78:GLU:HG3 | 2.15 | 0.47 |
| 1:I:173:GLU:CD | 1:I:173:GLU:H | 2.18 | 0.47 |
| 1:C:327:ARG:HA | 1:C:327:ARG:HE | 1.79 | 0.47 |
| 1:E:609:MET:HE1 | 1:E:653:LEU:HA | 1.95 | 0.47 |
| 1:G:29:VAL:O | 1:G:33:VAL:HG23 | 2.14 | 0.47 |
| 1:H:327:ARG:HA | 1:H:327:ARG:HE | 1.79 | 0.47 |
| 1:J:609:MET:HE1 | 1:J:653:LEU:HA | 1.96 | 0.47 |
| 1:K:465:GLY:HA2 | 1:K:494:HIS:O | 2.13 | 0.47 |
| 1:L:173:GLU:H | 1:L:173:GLU:CD | 2.18 | 0.47 |
| 1:A:173:GLU:CD | 1:A:173:GLU:H | 2.18 | 0.47 |
| 1:C:186:GLN:OE1 | 1:C:186:GLN:HA | 2.15 | 0.47 |
| 1:I:428:LYS:HD2 | 1:I:437:LEU:HD12 | 1.95 | 0.47 |
| 1:J:465:GLY:HA2 | 1:J:494:HIS:O | 2.13 | 0.47 |
| 1:L:74:ARG:O | 1:L:78:GLU:HG3 | 2.15 | 0.47 |
| 1:L:186:GLN:HA | 1:L:186:GLN:OE1 | 2.15 | 0.47 |
| 1:E:173:GLU:H | 1:E:173:GLU:CD | 2.18 | 0.47 |
| 1:F:186:GLN:OE1 | 1:F:186:GLN:HA | 2.15 | 0.47 |
| 1:F:428:LYS:HD2 | 1:F:437:LEU:HD12 | 1.95 | 0.47 |
| 1:H:173:GLU:CD | 1:H:173:GLU:H | 2.18 | 0.47 |
| 1:D:428:LYS:HD2 | 1:D:437:LEU:HD12 | 1.95 | 0.47 |
| 1:F:45:PRO:O | 1:F:47:HIS:ND1 | 2.44 | 0.47 |
| 1:I:29:VAL:O | 1:I:33:VAL:HG23 | 2.14 | 0.47 |
| 1:I:327:ARG:HA | 1:I:327:ARG:HE | 1.79 | 0.47 |
| 1:K:173:GLU:CD | 1:K:173:GLU:H | 2.18 | 0.47 |
| 1:C:528:LEU:HD12 | 1:C:696:MET:SD | 2.55 | 0.47 |
| 1:E:218:LEU:HA | 1:E:221:VAL:HG13 | 1.97 | 0.47 |
| 1:E:327:ARG:HA | 1:E:327:ARG:HE | 1.79 | 0.47 |
| 1:E:528:LEU:HD12 | 1:E:696:MET:SD | 2.55 | 0.47 |
| 1:E:590:LYS:H | 1:E:590:LYS:HG3 | 1.61 | 0.47 |
| 1:G:186:GLN:HA | 1:G:186:GLN:OE1 | 2.15 | 0.47 |
| 1:G:327:ARG:HA | 1:G:327:ARG:HE | 1.79 | 0.47 |
| 1:H:218:LEU:HA | 1:H:221:VAL:HG13 | 1.97 | 0.47 |
| 1:H:528:LEU:HD12 | 1:H:696:MET:SD | 2.55 | 0.47 |
| 1:J:528:LEU:HD12 | 1:J:696:MET:SD | 2.55 | 0.47 |
| 1:K:186:GLN:OE1 | 1:K:186:GLN:HA | 2.15 | 0.47 |
| 1:K:528:LEU:HD12 | 1:K:696:MET:SD | 2.55 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:K:609:MET:HE1 | 1:K:653:LEU:HA | 1.96 | 0.47 |
| 1:B:327:ARG:HA | 1:B:327:ARG:HE | 1.79 | 0.47 |
| 1:B:412:LYS:NZ | 1:H:408:GLU:OE2 | 2.39 | 0.47 |
| 1:C:170:LYS:HG3 | 1:C:264:TYR:HD1 | 1.80 | 0.47 |
| 1:K:170:LYS:HG3 | 1:K:264:TYR:HD1 | 1.80 | 0.47 |
| 1:K:218:LEU:HA | 1:K:221:VAL:HG13 | 1.97 | 0.47 |
| 1:L:170:LYS:HG3 | 1:L:264:TYR:HD1 | 1.80 | 0.47 |
| 1:L:368:LYS:HA | 1:L:368:LYS:CE | 2.37 | 0.47 |
| 1:A:528:LEU:HD12 | 1:A:696:MET:SD | 2.55 | 0.47 |
| 1:B:173:GLU:CD | 1:B:173:GLU:H | 2.18 | 0.47 |
| 1:B:218:LEU:HA | 1:B:221:VAL:HG13 | 1.97 | 0.47 |
| 1:D:74:ARG:O | 1:D:78:GLU:HG3 | 2.15 | 0.47 |
| 1:F:170:LYS:HG3 | 1:F:264:TYR:HD1 | 1.80 | 0.47 |
| 1:F:528:LEU:HD12 | 1:F:696:MET:SD | 2.55 | 0.47 |
| 1:J:74:ARG:O | 1:J:78:GLU:HG3 | 2.15 | 0.47 |
| 1:L:752:ILE:CG2 | 1:L:755:ALA:HB2 | 2.45 | 0.47 |
| 1:A:170:LYS:HG3 | 1:A:264:TYR:HD1 | 1.80 | 0.47 |
| 1:B:528:LEU:HD12 | 1:B:696:MET:SD | 2.55 | 0.47 |
| 1:C:173:GLU:CD | 1:C:173:GLU:H | 2.18 | 0.47 |
| 1:F:29:VAL:O | 1:F:33:VAL:HG23 | 2.14 | 0.47 |
| 1:G:74:ARG:O | 1:G:78:GLU:HG3 | 2.15 | 0.47 |
| 1:H:659:TRP:O | 1:H:669:ARG:NH1 | 2.47 | 0.47 |
| 1:I:170:LYS:HG3 | 1:I:264:TYR:HD1 | 1.80 | 0.47 |
| 1:J:659:TRP:O | 1:J:669:ARG:NH1 | 2.47 | 0.47 |
| 1:K:74:ARG:O | 1:K:78:GLU:HG3 | 2.14 | 0.47 |
| 1:C:651:ARG:N | 1:C:652:PRO:CD | 2.79 | 0.46 |
| 1:E:186:GLN:OE1 | 1:E:186:GLN:HA | 2.15 | 0.46 |
| 1:F:590:LYS:H | 1:F:590:LYS:HG3 | 1.61 | 0.46 |
| 1:I:186:GLN:HA | 1:I:186:GLN:OE1 | 2.15 | 0.46 |
| 1:L:528:LEU:HD12 | 1:L:696:MET:SD | 2.55 | 0.46 |
| 1:D:173:GLU:CD | 1:D:173:GLU:H | 2.18 | 0.46 |
| 1:D:659:TRP:O | 1:D:669:ARG:NH1 | 2.47 | 0.46 |
| 1:F:651:ARG:N | 1:F:652:PRO:CD | 2.79 | 0.46 |
| 1:I:218:LEU:HA | 1:I:221:VAL:HG13 | 1.97 | 0.46 |
| 1:J:173:GLU:CD | 1:J:173:GLU:H | 2.18 | 0.46 |
| 1:J:186:GLN:OE1 | 1:J:186:GLN:HA | 2.15 | 0.46 |
| 1:J:218:LEU:HA | 1:J:221:VAL:HG13 | 1.97 | 0.46 |
| 1:A:247:HIS:O | 1:A:248:ASN:OD1 | 2.34 | 0.46 |
| 1:A:641:ARG:HA | 1:A:644:VAL:HG22 | 1.98 | 0.46 |
| 1:A:752:ILE:CG2 | 1:A:755:ALA:HB2 | 2.45 | 0.46 |
| 1:C:752:ILE:CG2 | 1:C:755:ALA:HB2 | 2.45 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:186:GLN:HA | 1:D:186:GLN:OE1 | 2.15 | 0.46 |
| 1:D:247:HIS:O | 1:D:248:ASN:OD1 | 2.34 | 0.46 |
| 1:F:74:ARG:O | 1:F:78:GLU:HG3 | 2.15 | 0.46 |
| 1:H:641:ARG:HA | 1:H:644:VAL:HG22 | 1.98 | 0.46 |
| 1:I:74:ARG:O | 1:I:78:GLU:HG3 | 2.15 | 0.46 |
| 1:I:528:LEU:HD12 | 1:I:696:MET:SD | 2.55 | 0.46 |
| 1:L:354:GLU:OE2 | 1:L:527:ARG:NH2 | 2.48 | 0.46 |
| 1:A:659:TRP:O | 1:A:669:ARG:NH1 | 2.47 | 0.46 |
| 1:E:641:ARG:HA | 1:E:644:VAL:HG22 | 1.98 | 0.46 |
| 1:F:641:ARG:HA | 1:F:644:VAL:HG22 | 1.98 | 0.46 |
| 1:F:659:TRP:O | 1:F:669:ARG:NH1 | 2.47 | 0.46 |
| 1:G:170:LYS:HG3 | 1:G:264:TYR:HD1 | 1.80 | 0.46 |
| 1:G:528:LEU:HD12 | 1:G:696:MET:SD | 2.55 | 0.46 |
| 1:G:651:ARG:N | 1:G:652:PRO:CD | 2.79 | 0.46 |
| 1:G:752:ILE:CG2 | 1:G:755:ALA:HB2 | 2.45 | 0.46 |
| 1:L:218:LEU:HA | 1:L:221:VAL:HG13 | 1.97 | 0.46 |
| 1:L:327:ARG:HA | 1:L:327:ARG:HE | 1.79 | 0.46 |
| 1:L:641:ARG:HA | 1:L:644:VAL:HG22 | 1.98 | 0.46 |
| 1:D:170:LYS:HG3 | 1:D:264:TYR:HD1 | 1.80 | 0.46 |
| 1:I:651:ARG:N | 1:I:652:PRO:CD | 2.79 | 0.46 |
| 1:K:651:ARG:N | 1:K:652:PRO:CD | 2.79 | 0.46 |
| 1:K:752:ILE:CG2 | 1:K:755:ALA:HB2 | 2.45 | 0.46 |
| 1:B:752:ILE:CG2 | 1:B:755:ALA:HB2 | 2.45 | 0.46 |
| 1:E:74:ARG:O | 1:E:78:GLU:HG3 | 2.15 | 0.46 |
| 1:E:170:LYS:HG3 | 1:E:264:TYR:HD1 | 1.80 | 0.46 |
| 1:I:590:LYS:H | 1:I:590:LYS:HG3 | 1.61 | 0.46 |
| 1:J:752:ILE:CG2 | 1:J:755:ALA:HB2 | 2.45 | 0.46 |
| 1:A:29:VAL:O | 1:A:33:VAL:HG23 | 2.14 | 0.46 |
| 1:A:74:ARG:O | 1:A:78:GLU:HG3 | 2.14 | 0.46 |
| 1:A:218:LEU:HA | 1:A:221:VAL:HG13 | 1.97 | 0.46 |
| 1:C:247:HIS:O | 1:C:248:ASN:OD1 | 2.34 | 0.46 |
| 1:C:659:TRP:O | 1:C:669:ARG:NH1 | 2.47 | 0.46 |
| 1:D:528:LEU:HD12 | 1:D:696:MET:SD | 2.55 | 0.46 |
| 1:E:247:HIS:O | 1:E:248:ASN:OD1 | 2.34 | 0.46 |
| 1:E:651:ARG:N | 1:E:652:PRO:CD | 2.79 | 0.46 |
| 1:F:752:ILE:CG2 | 1:F:755:ALA:HB2 | 2.45 | 0.46 |
| 1:G:218:LEU:HA | 1:G:221:VAL:HG13 | 1.97 | 0.46 |
| 1:G:354:GLU:OE2 | 1:G:527:ARG:NH2 | 2.48 | 0.46 |
| 1:G:659:TRP:O | 1:G:669:ARG:NH1 | 2.47 | 0.46 |
| 1:H:170:LYS:HG3 | 1:H:264:TYR:HD1 | 1.80 | 0.46 |
| 1:E:752:ILE:CG2 | 1:E:755:ALA:HB2 | 2.45 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 1:H:186:GLN:OE1 | 1:H:186:GLN:HA | 2.15 | 0.46 |
| 1:H:247:HIS:O | 1:H:248:ASN:OD1 | 2.34 | 0.46 |
| 1:H:651:ARG:N | 1:H:652:PRO:CD | 2.79 | 0.46 |
| 1:I:641:ARG:HA | 1:I:644:VAL:HG22 | 1.98 | 0.46 |
| 1:J:641:ARG:HA | 1:J:644:VAL:HG22 | 1.98 | 0.46 |
| 1:D:218:LEU:HA | 1:D:221:VAL:HG13 | 1.97 | 0.46 |
| 1:E:354:GLU:OE2 | 1:E:527:ARG:NH2 | 2.48 | 0.46 |
| 1:F:327:ARG:HA | 1:F:327:ARG:HE | 1.79 | 0.46 |
| 1:A:186:GLN:OE1 | 1:A:186:GLN:HA | 2.15 | 0.46 |
| 1:B:186:GLN:HA | 1:B:186:GLN:OE1 | 2.15 | 0.46 |
| 1:B:368:LYS:HA | 1:B:368:LYS:CE | 2.37 | 0.46 |
| 1:C:590:LYS:H | 1:C:590:LYS:HG3 | 1.61 | 0.46 |
| 1:F:218:LEU:HA | 1:F:221:VAL:HG13 | 1.97 | 0.46 |
| 1:G:641:ARG:HA | 1:G:644:VAL:HG22 | 1.98 | 0.46 |
| 1:I:752:ILE:CG2 | 1:I:755:ALA:HB2 | 2.45 | 0.46 |
| 1:J:170:LYS:HG3 | 1:J:264:TYR:HD1 | 1.80 | 0.46 |
| 1:J:327:ARG:HA | 1:J:327:ARG:HE | 1.79 | 0.46 |
| 1:L:651:ARG:N | 1:L:652:PRO:CD | 2.79 | 0.46 |
| 1:L:659:TRP:O | 1:L:669:ARG:NH1 | 2.47 | 0.46 |
| 1:B:651:ARG:N | 1:B:652:PRO:CD | 2.79 | 0.45 |
| 1:C:218:LEU:HA | 1:C:221:VAL:HG13 | 1.97 | 0.45 |
| 1:D:651:ARG:N | 1:D:652:PRO:CD | 2.79 | 0.45 |
| 1:K:641:ARG:HA | 1:K:644:VAL:HG22 | 1.98 | 0.45 |
| 1:B:659:TRP:O | 1:B:669:ARG:NH1 | 2.47 | 0.45 |
| 1:G:247:HIS:O | 1:G:248:ASN:OD1 | 2.34 | 0.45 |
| 1:H:74:ARG:O | 1:H:78:GLU:HG3 | 2.15 | 0.45 |
| 1:H:752:ILE:CG2 | 1:H:755:ALA:HB2 | 2.45 | 0.45 |
| 1:K:247:HIS:O | 1:K:248:ASN:OD1 | 2.34 | 0.45 |
| 1:K:327:ARG:HA | 1:K:327:ARG:HE | 1.79 | 0.45 |
| 1:B:247:HIS:O | 1:B:248:ASN:OD1 | 2.34 | 0.45 |
| 1:B:641:ARG:HA | 1:B:644:VAL:HG22 | 1.98 | 0.45 |
| 1:A:651:ARG:N | 1:A:652:PRO:CD | 2.79 | 0.45 |
| 1:B:634:LEU:CD1 | 1:B:638:GLU:OE1 | 2.65 | 0.45 |
| 1:F:247:HIS:O | 1:F:248:ASN:OD1 | 2.34 | 0.45 |
| 1:I:247:HIS:O | 1:I:248:ASN:OD1 | 2.34 | 0.45 |
| 1:A:354:GLU:OE2 | 1:A:527:ARG:NH2 | 2.48 | 0.45 |
| 1:A:634:LEU:CD1 | 1:A:638:GLU:OE1 | 2.65 | 0.45 |
| 1:B:354:GLU:OE2 | 1:B:527:ARG:NH2 | 2.48 | 0.45 |
| 1:C:634:LEU:CD1 | 1:C:638:GLU:OE1 | 2.65 | 0.45 |
| 1:E:634:LEU:CD1 | 1:E:638:GLU:OE1 | 2.65 | 0.45 |
| 1:I:634:LEU:CD1 | 1:I:638:GLU:OE1 | 2.65 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 1:L:247:HIS:O | 1:L:248:ASN:OD1 | 2.34 | 0.45 |
| 1:C:45:PRO:HB2 | 1:C:47:HIS:CE1 | 2.52 | 0.45 |
| 1:D:752:ILE:CG2 | 1:D:755:ALA:HB2 | 2.45 | 0.45 |
| 1:I:45:PRO:HB2 | 1:I:47:HIS:CE1 | 2.52 | 0.45 |
| 1:I:659:TRP:O | 1:I:669:ARG:NH1 | 2.47 | 0.45 |
| 1:J:354:GLU:OE2 | 1:J:527:ARG:NH2 | 2.48 | 0.45 |
| 1:B:170:LYS:HG3 | 1:B:264:TYR:HD1 | 1.80 | 0.45 |
| 1:F:634:LEU:CD1 | 1:F:638:GLU:OE1 | 2.65 | 0.45 |
| 1:G:634:LEU:CD1 | 1:G:638:GLU:OE1 | 2.65 | 0.45 |
| 1:J:651:ARG:N | 1:J:652:PRO:CD | 2.79 | 0.45 |
| 1:L:45:PRO:HB2 | 1:L:47:HIS:CE1 | 2.52 | 0.45 |
| 1:L:634:LEU:CD1 | 1:L:638:GLU:OE1 | 2.65 | 0.45 |
| 1:D:45:PRO:HB2 | 1:D:47:HIS:CE1 | 2.52 | 0.45 |
| 1:D:641:ARG:HA | 1:D:644:VAL:HG22 | 1.98 | 0.45 |
| 1:F:354:GLU:OE2 | 1:F:527:ARG:NH2 | 2.48 | 0.45 |
| 1:G:45:PRO:HB2 | 1:G:47:HIS:CE1 | 2.52 | 0.45 |
| 1:J:247:HIS:O | 1:J:248:ASN:OD1 | 2.34 | 0.45 |
| 1:A:45:PRO:HB2 | 1:A:47:HIS:CE1 | 2.52 | 0.45 |
| 1:D:634:LEU:CD1 | 1:D:638:GLU:OE1 | 2.65 | 0.45 |
| 1:E:45:PRO:HB2 | 1:E:47:HIS:CE1 | 2.52 | 0.45 |
| 1:E:523:ARG:NH1 | 1:F:84:GLU:HA | 2.32 | 0.45 |
| 1:K:634:LEU:CD1 | 1:K:638:GLU:OE1 | 2.65 | 0.45 |
| 1:D:354:GLU:OE2 | 1:D:527:ARG:NH2 | 2.48 | 0.45 |
| 1:J:216:GLU:OE2 | 1:J:263:LYS:NZ | 2.38 | 0.45 |
| 1:B:130:TRP:O | 1:B:340:HIS:HE1 | 2.00 | 0.44 |
| 1:C:641:ARG:HA | 1:C:644:VAL:HG22 | 1.98 | 0.44 |
| 1:E:659:TRP:O | 1:E:669:ARG:NH1 | 2.47 | 0.44 |
| 1:J:45:PRO:HB2 | 1:J:47:HIS:CE1 | 2.52 | 0.44 |
| 1:H:634:LEU:CD1 | 1:H:638:GLU:OE1 | 2.65 | 0.44 |
| 1:J:717:ARG:CZ | 1:K:717:ARG:CZ | 2.95 | 0.44 |
| 1:K:45:PRO:HB2 | 1:K:47:HIS:CE1 | 2.52 | 0.44 |
| 1:F:130:TRP:O | 1:F:340:HIS:HE1 | 2.00 | 0.44 |
| 1:G:523:ARG:NH1 | 1:I:84:GLU:HA | 2.32 | 0.44 |
| 1:C:130:TRP:O | 1:C:340:HIS:HE1 | 2.00 | 0.44 |
| 1:K:659:TRP:O | 1:K:669:ARG:NH1 | 2.47 | 0.44 |
| 1:A:609:MET:HE1 | 1:A:653:LEU:HA | 1.99 | 0.44 |
| 1:B:45:PRO:HB2 | 1:B:47:HIS:CE1 | 2.52 | 0.44 |
| 1:E:225:VAL:O | 1:E:225:VAL:CG2 | 2.66 | 0.44 |
| 1:D:130:TRP:O | 1:D:340:HIS:HE1 | 2.00 | 0.44 |
| 1:D:590:LYS:H | 1:D:590:LYS:HG3 | 1.61 | 0.44 |
| 1:H:130:TRP:O | 1:H:340:HIS:HE1 | 2.00 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:130:TRP:O | 1:I:340:HIS:HE1 | 2.00 | 0.44 |
| 1:J:634:LEU:CD1 | 1:J:638:GLU:OE1 | 2.65 | 0.44 |
| 1:K:590:LYS:H | 1:K:590:LYS:HG3 | 1.61 | 0.44 |
| 1:B:13:TYR:CE1 | 1:B:17:THR:CG2 | 2.98 | 0.44 |
| 1:F:45:PRO:HB2 | 1:F:47:HIS:CE1 | 2.52 | 0.44 |
| 1:G:130:TRP:O | 1:G:340:HIS:HE1 | 2.00 | 0.44 |
| 1:H:45:PRO:HB2 | 1:H:47:HIS:CE1 | 2.52 | 0.44 |
| 1:J:590:LYS:H | 1:J:590:LYS:HG3 | 1.61 | 0.44 |
| 1:L:785:GLU:OE1 | 1:L:785:GLU:HA | 2.18 | 0.44 |
| 1:H:161:ALA:HB1 | 1:H:306:LEU:HD23 | 2.00 | 0.44 |
| 1:L:130:TRP:O | 1:L:340:HIS:HE1 | 2.00 | 0.44 |
| 1:A:785:GLU:HA | 1:A:785:GLU:OE1 | 2.18 | 0.43 |
| 1:B:225:VAL:O | 1:B:225:VAL:CG2 | 2.66 | 0.43 |
| 1:I:565:ARG:HD2 | 1:I:604:ASP:OD1 | 2.18 | 0.43 |
| 1:K:130:TRP:O | 1:K:340:HIS:HE1 | 2.00 | 0.43 |
| 1:A:565:ARG:HD2 | 1:A:604:ASP:OD1 | 2.19 | 0.43 |
| 1:D:225:VAL:O | 1:D:225:VAL:CG2 | 2.65 | 0.43 |
| 1:D:368:LYS:HA | 1:D:368:LYS:CE | 2.37 | 0.43 |
| 1:G:785:GLU:OE1 | 1:G:785:GLU:HA | 2.18 | 0.43 |
| 1:H:354:GLU:OE2 | 1:H:527:ARG:NH2 | 2.48 | 0.43 |
| 1:D:84:GLU:HA | 1:L:523:ARG:NH1 | 2.33 | 0.43 |
| 1:F:785:GLU:HA | 1:F:785:GLU:OE1 | 2.18 | 0.43 |
| 1:G:84:GLU:HA | 1:J:523:ARG:NH1 | 2.33 | 0.43 |
| 1:I:785:GLU:HA | 1:I:785:GLU:OE1 | 2.18 | 0.43 |
| 1:J:565:ARG:HD2 | 1:J:604:ASP:OD1 | 2.19 | 0.43 |
| 1:D:565:ARG:HD2 | 1:D:604:ASP:OD1 | 2.19 | 0.43 |
| 1:E:130:TRP:O | 1:E:340:HIS:HE1 | 2.00 | 0.43 |
| 1:H:540:ILE:HD12 | 1:H:543:ARG:NH1 | 2.34 | 0.43 |
| 1:J:540:ILE:HD12 | 1:J:543:ARG:NH1 | 2.34 | 0.43 |
| 1:L:540:ILE:HD12 | 1:L:543:ARG:NH1 | 2.34 | 0.43 |
| 1:A:161:ALA:HB1 | 1:A:306:LEU:HD23 | 2.00 | 0.43 |
| 1:C:161:ALA:HB1 | 1:C:306:LEU:HD23 | 2.00 | 0.43 |
| 1:C:354:GLU:OE2 | 1:C:527:ARG:NH2 | 2.48 | 0.43 |
| 1:C:540:ILE:HD12 | 1:C:543:ARG:NH1 | 2.34 | 0.43 |
| 1:D:540:ILE:HD12 | 1:D:543:ARG:NH1 | 2.34 | 0.43 |
| 1:E:565:ARG:HD2 | 1:E:604:ASP:OD1 | 2.19 | 0.43 |
| 1:H:565:ARG:HD2 | 1:H:604:ASP:OD1 | 2.19 | 0.43 |
| 1:A:130:TRP:O | 1:A:340:HIS:HE1 | 2.00 | 0.43 |
| 1:B:565:ARG:HD2 | 1:B:604:ASP:OD1 | 2.19 | 0.43 |
| 1:G:565:ARG:HD2 | 1:G:604:ASP:OD1 | 2.19 | 0.43 |
| 1:J:785:GLU:OE1 | 1:J:785:GLU:HA | 2.18 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:K:523:ARG:NH1 | 1:L:84:GLU:HA | 2.33 | 0.43 |
| 1:L:161:ALA:HB1 | 1:L:306:LEU:HD23 | 2.00 | 0.43 |
| 1:K:540:ILE:HD12 | 1:K:543:ARG:NH1 | 2.34 | 0.43 |
| 1:K:785:GLU:HA | 1:K:785:GLU:OE1 | 2.18 | 0.43 |
| 1:A:523:ARG:NH1 | 1:H:84:GLU:HA | 2.34 | 0.43 |
| 1:D:161:ALA:HB1 | 1:D:306:LEU:HD23 | 2.00 | 0.43 |
| 1:D:523:ARG:NH1 | 1:K:84:GLU:HA | 2.34 | 0.43 |
| 1:D:785:GLU:HA | 1:D:785:GLU:OE1 | 2.18 | 0.43 |
| 1:E:13:TYR:CE1 | 1:E:17:THR:CG2 | 2.98 | 0.43 |
| 1:G:540:ILE:HD12 | 1:G:543:ARG:NH1 | 2.34 | 0.43 |
| 1:I:523:ARG:NH1 | 1:J:84:GLU:HA | 2.34 | 0.43 |
| 1:J:533:ALA:O | 1:J:689:GLN:NE2 | 2.50 | 0.43 |
| 1:A:84:GLU:HA | 1:B:523:ARG:NH1 | 2.34 | 0.43 |
| 1:C:523:ARG:NH1 | 1:E:84:GLU:HA | 2.34 | 0.43 |
| 1:C:565:ARG:HD2 | 1:C:604:ASP:OD1 | 2.19 | 0.43 |
| 1:G:590:LYS:H | 1:G:590:LYS:HG3 | 1.61 | 0.43 |
| 1:J:130:TRP:O | 1:J:340:HIS:HE1 | 2.00 | 0.43 |
| 1:L:565:ARG:HD2 | 1:L:604:ASP:OD1 | 2.19 | 0.43 |
| 1:A:149:HIS:CD2 | 1:A:791:ARG:HB2 | 2.54 | 0.43 |
| 1:A:540:ILE:HD12 | 1:A:543:ARG:NH1 | 2.34 | 0.43 |
| 1:A:717:ARG:CZ | 1:L:717:ARG:CZ | 2.97 | 0.43 |
| 1:J:149:HIS:CD2 | 1:J:791:ARG:HB2 | 2.54 | 0.43 |
| 1:J:161:ALA:HB1 | 1:J:306:LEU:HD23 | 2.00 | 0.43 |
| 1:F:149:HIS:CD2 | 1:F:791:ARG:HB2 | 2.54 | 0.42 |
| 1:F:565:ARG:HD2 | 1:F:604:ASP:OD1 | 2.19 | 0.42 |
| 1:G:82:LYS:O | 1:G:88:PRO:HA | 2.19 | 0.42 |
| 1:I:82:LYS:O | 1:I:88:PRO:HA | 2.19 | 0.42 |
| 1:L:82:LYS:O | 1:L:88:PRO:HA | 2.19 | 0.42 |
| 1:B:28:ARG:HH11 | 1:B:28:ARG:HD2 | 1.72 | 0.42 |
| 1:B:469:ALA:O | 1:B:470:ALA:HB3 | 2.20 | 0.42 |
| 1:B:785:GLU:OE1 | 1:B:785:GLU:HA | 2.18 | 0.42 |
| 1:F:469:ALA:O | 1:F:470:ALA:HB3 | 2.19 | 0.42 |
| 1:F:540:ILE:HD12 | 1:F:543:ARG:NH1 | 2.34 | 0.42 |
| 1:G:523:ARG:HH11 | 1:I:84:GLU:HA | 1.84 | 0.42 |
| 1:H:82:LYS:O | 1:H:88:PRO:HA | 2.19 | 0.42 |
| 1:H:717:ARG:CZ | 1:I:717:ARG:CZ | 2.97 | 0.42 |
| 1:H:785:GLU:OE1 | 1:H:785:GLU:HA | 2.18 | 0.42 |
| 1:I:161:ALA:HB1 | 1:I:306:LEU:HD23 | 2.00 | 0.42 |
| 1:J:469:ALA:O | 1:J:470:ALA:HB3 | 2.20 | 0.42 |
| 1:K:161:ALA:HB1 | 1:K:306:LEU:HD23 | 2.00 | 0.42 |
| 1:K:469:ALA:O | 1:K:470:ALA:HB3 | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:785:GLU:OE1 | 1:C:785:GLU:HA | 2.18 | 0.42 |
| 1:E:161:ALA:HB1 | 1:E:306:LEU:HD23 | 2.00 | 0.42 |
| 1:E:149:HIS:CD2 | 1:E:791:ARG:HB2 | 2.54 | 0.42 |
| 1:G:149:HIS:CD2 | 1:G:791:ARG:HB2 | 2.54 | 0.42 |
| 1:I:540:ILE:HD12 | 1:I:543:ARG:NH1 | 2.34 | 0.42 |
| 1:L:149:HIS:CD2 | 1:L:791:ARG:HB2 | 2.54 | 0.42 |
| 1:L:389:TRP:HB2 | 1:L:392:GLU:OE2 | 2.20 | 0.42 |
| 1:A:28:ARG:HH11 | 1:A:28:ARG:HD2 | 1.71 | 0.42 |
| 1:C:82:LYS:O | 1:C:88:PRO:HA | 2.19 | 0.42 |
| 1:E:540:ILE:HD12 | 1:E:543:ARG:NH1 | 2.34 | 0.42 |
| 1:F:161:ALA:HB1 | 1:F:306:LEU:HD23 | 2.00 | 0.42 |
| 1:H:149:HIS:CD2 | 1:H:791:ARG:HB2 | 2.54 | 0.42 |
| 1:K:354:GLU:OE2 | 1:K:527:ARG:NH2 | 2.48 | 0.42 |
| 1:A:368:LYS:HA | 1:A:368:LYS:CE | 2.37 | 0.42 |
| 1:A:389:TRP:HB2 | 1:A:392:GLU:OE2 | 2.20 | 0.42 |
| 1:A:469:ALA:O | 1:A:470:ALA:HB3 | 2.20 | 0.42 |
| 1:C:717:ARG:CZ | 1:D:717:ARG:CZ | 2.98 | 0.42 |
| 1:D:469:ALA:O | 1:D:470:ALA:HB3 | 2.20 | 0.42 |
| 1:E:785:GLU:OE1 | 1:E:785:GLU:HA | 2.18 | 0.42 |
| 1:G:161:ALA:HB1 | 1:G:306:LEU:HD23 | 2.00 | 0.42 |
| 1:G:389:TRP:HB2 | 1:G:392:GLU:OE2 | 2.20 | 0.42 |
| 1:J:389:TRP:HB2 | 1:J:392:GLU:OE2 | 2.20 | 0.42 |
| 1:K:368:LYS:HA | 1:K:368:LYS:CE | 2.37 | 0.42 |
| 1:B:154:HIS:HB2 | 1:B:421:HIS:NE2 | 2.35 | 0.42 |
| 1:B:540:ILE:HD12 | 1:B:543:ARG:NH1 | 2.34 | 0.42 |
| 1:E:469:ALA:O | 1:E:470:ALA:HB3 | 2.19 | 0.42 |
| 1:E:533:ALA:O | 1:E:689:GLN:NE2 | 2.50 | 0.42 |
| 1:F:154:HIS:HB2 | 1:F:421:HIS:NE2 | 2.35 | 0.42 |
| 1:F:397:ILE:HG21 | 1:F:459:LEU:HD11 | 2.02 | 0.42 |
| 1:J:82:LYS:O | 1:J:88:PRO:HA | 2.20 | 0.42 |
| 1:A:13:TYR:CE1 | 1:A:17:THR:CG2 | 2.98 | 0.42 |
| 1:A:82:LYS:O | 1:A:88:PRO:HA | 2.19 | 0.42 |
| 1:B:82:LYS:O | 1:B:88:PRO:HA | 2.19 | 0.42 |
| 1:B:149:HIS:CD2 | 1:B:791:ARG:HB2 | 2.54 | 0.42 |
| 1:B:717:ARG:CZ | 1:E:717:ARG:CZ | 2.97 | 0.42 |
| 1:C:415:GLU:O | 1:C:796:HIS:NE2 | 2.53 | 0.42 |
| 1:D:149:HIS:CD2 | 1:D:791:ARG:HB2 | 2.54 | 0.42 |
| 1:D:154:HIS:HB2 | 1:D:421:HIS:NE2 | 2.35 | 0.42 |
| 1:E:389:TRP:HB2 | 1:E:392:GLU:OE2 | 2.20 | 0.42 |
| 1:I:523:ARG:HH11 | 1:J:84:GLU:HA | 1.85 | 0.42 |
| 1:C:397:ILE:HG21 | 1:C:459:LEU:HD11 | 2.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:82:LYS:O | 1:D:88:PRO:HA | 2.19 | 0.42 |
| 1:G:408:GLU:OE2 | 1:I:412:LYS:NZ | 2.36 | 0.42 |
| 1:H:543:ARG:HD3 | 1:I:717:ARG:NH2 | 2.35 | 0.42 |
| 1:I:397:ILE:HG21 | 1:I:459:LEU:HD11 | 2.02 | 0.42 |
| 1:J:397:ILE:HG21 | 1:J:459:LEU:HD11 | 2.02 | 0.42 |
| 1:J:415:GLU:O | 1:J:796:HIS:NE2 | 2.53 | 0.42 |
| 1:K:149:HIS:CD2 | 1:K:791:ARG:HB2 | 2.54 | 0.42 |
| 1:K:154:HIS:HB2 | 1:K:421:HIS:NE2 | 2.35 | 0.42 |
| 1:K:397:ILE:HG21 | 1:K:459:LEU:HD11 | 2.02 | 0.42 |
| 1:K:565:ARG:HD2 | 1:K:604:ASP:OD1 | 2.19 | 0.42 |
| 1:L:154:HIS:HB2 | 1:L:421:HIS:NE2 | 2.35 | 0.42 |
| 1:B:84:GLU:HA | 1:H:523:ARG:NH1 | 2.35 | 0.42 |
| 1:E:82:LYS:O | 1:E:88:PRO:HA | 2.19 | 0.42 |
| 1:F:389:TRP:HB2 | 1:F:392:GLU:OE2 | 2.20 | 0.42 |
| 1:G:154:HIS:HB2 | 1:G:421:HIS:NE2 | 2.35 | 0.42 |
| 1:H:469:ALA:O | 1:H:470:ALA:HB3 | 2.20 | 0.42 |
| 1:I:149:HIS:CD2 | 1:I:791:ARG:HB2 | 2.54 | 0.42 |
| 1:J:28:ARG:HH11 | 1:J:28:ARG:HD2 | 1.71 | 0.42 |
| 1:K:82:LYS:O | 1:K:88:PRO:HA | 2.19 | 0.42 |
| 1:L:397:ILE:HG21 | 1:L:459:LEU:HD11 | 2.02 | 0.42 |
| 1:A:397:ILE:HG21 | 1:A:459:LEU:HD11 | 2.02 | 0.41 |
| 1:E:154:HIS:HB2 | 1:E:421:HIS:NE2 | 2.35 | 0.41 |
| 1:E:415:GLU:O | 1:E:796:HIS:NE2 | 2.53 | 0.41 |
| 1:G:488:ALA:HB2 | 1:G:495:PHE:CZ | 2.55 | 0.41 |
| 1:H:488:ALA:HB2 | 1:H:495:PHE:CZ | 2.55 | 0.41 |
| 1:H:540:ILE:HD12 | 1:H:543:ARG:CZ | 2.50 | 0.41 |
| 1:I:533:ALA:O | 1:I:689:GLN:NE2 | 2.50 | 0.41 |
| 1:J:488:ALA:HB2 | 1:J:495:PHE:CZ | 2.55 | 0.41 |
| 1:K:28:ARG:HH11 | 1:K:28:ARG:HD2 | 1.71 | 0.41 |
| 1:K:415:GLU:O | 1:K:796:HIS:NE2 | 2.53 | 0.41 |
| 1:A:415:GLU:O | 1:A:796:HIS:NE2 | 2.53 | 0.41 |
| 1:C:84:GLU:HA | 1:F:523:ARG:NH1 | 2.35 | 0.41 |
| 1:C:154:HIS:HB2 | 1:C:421:HIS:NE2 | 2.35 | 0.41 |
| 1:F:82:LYS:O | 1:F:88:PRO:HA | 2.19 | 0.41 |
| 1:K:13:TYR:CE1 | 1:K:17:THR:CG2 | 2.98 | 0.41 |
| 1:L:469:ALA:O | 1:L:470:ALA:HB3 | 2.20 | 0.41 |
| 1:B:161:ALA:HB1 | 1:B:306:LEU:HD23 | 2.00 | 0.41 |
| 1:D:13:TYR:CE1 | 1:D:17:THR:CG2 | 2.98 | 0.41 |
| 1:I:540:ILE:HD12 | 1:I:543:ARG:CZ | 2.51 | 0.41 |
| 1:K:488:ALA:HB2 | 1:K:495:PHE:CZ | 2.55 | 0.41 |
| 1:L:488:ALA:HB2 | 1:L:495:PHE:CZ | 2.55 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:149:HIS:CD2 | 1:C:791:ARG:HB2 | 2.54 | 0.41 |
| 1:C:540:ILE:HD12 | 1:C:543:ARG:CZ | 2.51 | 0.41 |
| 1:D:397:ILE:HG21 | 1:D:459:LEU:HD11 | 2.02 | 0.41 |
| 1:D:540:ILE:HD12 | 1:D:543:ARG:CZ | 2.51 | 0.41 |
| 1:F:543:ARG:HD3 | 1:G:717:ARG:NH2 | 2.36 | 0.41 |
| 1:F:717:ARG:CZ | 1:G:717:ARG:CZ | 2.98 | 0.41 |
| 1:G:84:GLU:HA | 1:J:523:ARG:HH11 | 1.85 | 0.41 |
| 1:G:415:GLU:O | 1:G:796:HIS:NE2 | 2.53 | 0.41 |
| 1:H:225:VAL:O | 1:H:225:VAL:CG2 | 2.66 | 0.41 |
| 1:I:154:HIS:HB2 | 1:I:421:HIS:NE2 | 2.35 | 0.41 |
| 1:J:540:ILE:HD12 | 1:J:543:ARG:CZ | 2.51 | 0.41 |
| 1:B:389:TRP:HB2 | 1:B:392:GLU:OE2 | 2.20 | 0.41 |
| 1:B:397:ILE:HG21 | 1:B:459:LEU:HD11 | 2.02 | 0.41 |
| 1:B:488:ALA:HB2 | 1:B:495:PHE:CZ | 2.55 | 0.41 |
| 1:B:745:LEU:HG | 1:B:786:VAL:HG12 | 2.03 | 0.41 |
| 1:C:523:ARG:HH11 | 1:E:84:GLU:HA | 1.86 | 0.41 |
| 1:D:84:GLU:HA | 1:L:523:ARG:HH11 | 1.85 | 0.41 |
| 1:E:488:ALA:HB2 | 1:E:495:PHE:CZ | 2.56 | 0.41 |
| 1:H:397:ILE:HG21 | 1:H:459:LEU:HD11 | 2.02 | 0.41 |
| 1:I:28:ARG:HH11 | 1:I:28:ARG:HD2 | 1.72 | 0.41 |
| 1:I:354:GLU:OE2 | 1:I:527:ARG:NH2 | 2.48 | 0.41 |
| 1:J:368:LYS:HA | 1:J:368:LYS:CE | 2.37 | 0.41 |
| 1:K:523:ARG:HH11 | 1:L:84:GLU:HA | 1.85 | 0.41 |
| 1:B:381:LEU:HD13 | 1:B:407:VAL:HG21 | 2.03 | 0.41 |
| 1:C:469:ALA:O | 1:C:470:ALA:HB3 | 2.20 | 0.41 |
| 1:C:640:ALA:O | 1:C:644:VAL:HG13 | 2.21 | 0.41 |
| 1:D:415:GLU:O | 1:D:796:HIS:NE2 | 2.53 | 0.41 |
| 1:I:469:ALA:O | 1:I:470:ALA:HB3 | 2.20 | 0.41 |
| 1:C:19:SER:O | 1:C:290:ARG:NH1 | 2.54 | 0.41 |
| 1:C:389:TRP:HB2 | 1:C:392:GLU:OE2 | 2.20 | 0.41 |
| 1:D:640:ALA:O | 1:D:644:VAL:HG13 | 2.21 | 0.41 |
| 1:G:533:ALA:O | 1:G:689:GLN:NE2 | 2.50 | 0.41 |
| 1:I:488:ALA:HB2 | 1:I:495:PHE:CZ | 2.55 | 0.41 |
| 1:J:381:LEU:HD13 | 1:J:407:VAL:HG21 | 2.03 | 0.41 |
| 1:J:640:ALA:O | 1:J:644:VAL:HG13 | 2.21 | 0.41 |
| 1:A:540:ILE:HD12 | 1:A:543:ARG:CZ | 2.51 | 0.41 |
| 1:B:540:ILE:HD12 | 1:B:543:ARG:CZ | 2.51 | 0.41 |
| 1:C:488:ALA:HB2 | 1:C:495:PHE:CZ | 2.56 | 0.41 |
| 1:C:717:ARG:NH2 | 1:D:543:ARG:HD3 | 2.36 | 0.41 |
| 1:D:19:SER:O | 1:D:290:ARG:NH1 | 2.54 | 0.41 |
| 1:E:381:LEU:HD13 | 1:E:407:VAL:HG21 | 2.03 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:19:SER:O | 1:F:290:ARG:NH1 | 2.54 | 0.41 |
| 1:F:640:ALA:O | 1:F:644:VAL:HG13 | 2.21 | 0.41 |
| 1:G:469:ALA:O | 1:G:470:ALA:HB3 | 2.19 | 0.41 |
| 1:H:693:MET:HG2 | 1:H:741:MET:SD | 2.61 | 0.41 |
| 1:I:381:LEU:HD13 | 1:I:407:VAL:HG21 | 2.03 | 0.41 |
| 1:I:389:TRP:HB2 | 1:I:392:GLU:OE2 | 2.20 | 0.41 |
| 1:J:154:HIS:HB2 | 1:J:421:HIS:NE2 | 2.35 | 0.41 |
| 1:A:154:HIS:HB2 | 1:A:421:HIS:NE2 | 2.35 | 0.41 |
| 1:B:82:LYS:HZ1 | 1:B:91:ASP:CG | 2.24 | 0.41 |
| 1:B:634:LEU:HD13 | 1:B:638:GLU:OE1 | 2.21 | 0.41 |
| 1:B:693:MET:HG2 | 1:B:741:MET:SD | 2.61 | 0.41 |
| 1:C:693:MET:HG2 | 1:C:741:MET:SD | 2.61 | 0.41 |
| 1:D:246:LEU:HA | 1:D:250:ARG:O | 2.21 | 0.41 |
| 1:D:389:TRP:HB2 | 1:D:392:GLU:OE2 | 2.20 | 0.41 |
| 1:D:488:ALA:HB2 | 1:D:495:PHE:CZ | 2.55 | 0.41 |
| 1:D:634:LEU:HD13 | 1:D:638:GLU:OE1 | 2.21 | 0.41 |
| 1:E:397:ILE:HG21 | 1:E:459:LEU:HD11 | 2.02 | 0.41 |
| 1:E:540:ILE:HD12 | 1:E:543:ARG:CZ | 2.51 | 0.41 |
| 1:E:745:LEU:HG | 1:E:786:VAL:HG12 | 2.03 | 0.41 |
| 1:F:488:ALA:HB2 | 1:F:495:PHE:CZ | 2.55 | 0.41 |
| 1:G:693:MET:HG2 | 1:G:741:MET:SD | 2.61 | 0.41 |
| 1:H:154:HIS:HB2 | 1:H:421:HIS:NE2 | 2.35 | 0.41 |
| 1:H:368:LYS:HA | 1:H:368:LYS:CE | 2.37 | 0.41 |
| 1:H:381:LEU:HD13 | 1:H:407:VAL:HG21 | 2.03 | 0.41 |
| 1:H:389:TRP:HB2 | 1:H:392:GLU:OE2 | 2.20 | 0.41 |
| 1:H:640:ALA:O | 1:H:644:VAL:HG13 | 2.21 | 0.41 |
| 1:H:745:LEU:HG | 1:H:786:VAL:HG12 | 2.03 | 0.41 |
| 1:H:749:ASP:HB3 | 1:H:752:ILE:CG2 | 2.51 | 0.41 |
| 1:I:415:GLU:O | 1:I:796:HIS:NE2 | 2.53 | 0.41 |
| 1:J:19:SER:O | 1:J:290:ARG:NH1 | 2.54 | 0.41 |
| 1:K:540:ILE:HD12 | 1:K:543:ARG:CZ | 2.51 | 0.41 |
| 1:K:634:LEU:HD13 | 1:K:638:GLU:OE1 | 2.21 | 0.41 |
| 1:L:381:LEU:HD13 | 1:L:407:VAL:HG21 | 2.03 | 0.41 |
| 1:A:44:LEU:HD23 | 1:A:44:LEU:HA | 1.99 | 0.41 |
| 1:C:44:LEU:HD23 | 1:C:44:LEU:HA | 1.99 | 0.41 |
| 1:C:634:LEU:HD13 | 1:C:638:GLU:OE1 | 2.21 | 0.41 |
| 1:D:693:MET:HG2 | 1:D:741:MET:SD | 2.61 | 0.41 |
| 1:E:467:ASP:HA | 1:E:496:THR:O | 2.21 | 0.41 |
| 1:E:523:ARG:HH11 | 1:F:84:GLU:HA | 1.85 | 0.41 |
| 1:E:693:MET:HG2 | 1:E:741:MET:SD | 2.61 | 0.41 |
| 1:F:634:LEU:HD13 | 1:F:638:GLU:OE1 | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:540:ILE:HD12 | 1:G:543:ARG:CZ | 2.51 | 0.41 |
| 1:G:634:LEU:HD13 | 1:G:638:GLU:OE1 | 2.21 | 0.41 |
| 1:K:389:TRP:HB2 | 1:K:392:GLU:OE2 | 2.20 | 0.41 |
| 1:A:19:SER:O | 1:A:290:ARG:NH1 | 2.54 | 0.40 |
| 1:B:749:ASP:HB3 | 1:B:752:ILE:CG2 | 2.51 | 0.40 |
| 1:C:745:LEU:HG | 1:C:786:VAL:HG12 | 2.03 | 0.40 |
| 1:E:19:SER:O | 1:E:290:ARG:NH1 | 2.54 | 0.40 |
| 1:F:225:VAL:O | 1:F:225:VAL:CG2 | 2.66 | 0.40 |
| 1:F:540:ILE:HD12 | 1:F:543:ARG:CZ | 2.51 | 0.40 |
| 1:H:415:GLU:O | 1:H:796:HIS:NE2 | 2.53 | 0.40 |
| 1:I:693:MET:HG2 | 1:I:741:MET:SD | 2.61 | 0.40 |
| 1:J:246:LEU:HA | 1:J:250:ARG:O | 2.21 | 0.40 |
| 1:J:693:MET:HG2 | 1:J:741:MET:SD | 2.61 | 0.40 |
| 1:K:640:ALA:O | 1:K:644:VAL:HG13 | 2.21 | 0.40 |
| 1:L:540:ILE:HD12 | 1:L:543:ARG:CZ | 2.51 | 0.40 |
| 1:A:381:LEU:HD13 | 1:A:407:VAL:HG21 | 2.03 | 0.40 |
| 1:A:693:MET:HG2 | 1:A:741:MET:SD | 2.61 | 0.40 |
| 1:D:523:ARG:HH11 | 1:K:84:GLU:HA | 1.86 | 0.40 |
| 1:G:19:SER:O | 1:G:290:ARG:NH1 | 2.54 | 0.40 |
| 1:G:397:ILE:HG21 | 1:G:459:LEU:HD11 | 2.02 | 0.40 |
| 1:G:467:ASP:HA | 1:G:496:THR:O | 2.21 | 0.40 |
| 1:H:19:SER:O | 1:H:290:ARG:NH1 | 2.54 | 0.40 |
| 1:H:82:LYS:HZ1 | 1:H:91:ASP:CG | 2.25 | 0.40 |
| 1:K:693:MET:HG2 | 1:K:741:MET:SD | 2.61 | 0.40 |
| 1:L:19:SER:O | 1:L:290:ARG:NH1 | 2.54 | 0.40 |
| 1:L:640:ALA:O | 1:L:644:VAL:HG13 | 2.21 | 0.40 |
| 1:C:533:ALA:O | 1:C:689:GLN:NE2 | 2.50 | 0.40 |
| 1:E:640:ALA:O | 1:E:644:VAL:HG13 | 2.21 | 0.40 |
| 1:G:640:ALA:O | 1:G:644:VAL:HG13 | 2.21 | 0.40 |
| 1:L:533:ALA:O | 1:L:689:GLN:NE2 | 2.50 | 0.40 |
| 1:L:693:MET:HG2 | 1:L:741:MET:SD | 2.61 | 0.40 |
| 1:A:84:GLU:HA | 1:B:523:ARG:HH11 | 1.86 | 0.40 |
| 1:B:246:LEU:HA | 1:B:250:ARG:O | 2.21 | 0.40 |
| 1:F:246:LEU:HA | 1:F:250:ARG:O | 2.21 | 0.40 |
| 1:G:44:LEU:HA | 1:G:45:PRO:HD3 | 1.99 | 0.40 |
| 1:G:745:LEU:HG | 1:G:786:VAL:HG12 | 2.03 | 0.40 |
| 1:K:246:LEU:HA | 1:K:250:ARG:O | 2.21 | 0.40 |
| 1:K:381:LEU:HD13 | 1:K:407:VAL:HG21 | 2.03 | 0.40 |
| 1:A:340:HIS:CE1 | 1:A:756:ASP:OD1 | 2.75 | 0.40 |
| 1:A:745:LEU:HG | 1:A:786:VAL:HG12 | 2.03 | 0.40 |
| 1:D:533:ALA:O | 1:D:689:GLN:NE2 | 2.50 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:745:LEU:HG | 1:D:786:VAL:HG12 | 2.03 | 0.40 |
| 1:F:745:LEU:HG | 1:F:786:VAL:HG12 | 2.03 | 0.40 |
| 1:G:246:LEU:HA | 1:G:250:ARG:O | 2.21 | 0.40 |
| 1:G:381:LEU:HD13 | 1:G:407:VAL:HG21 | 2.03 | 0.40 |
| 1:I:246:LEU:HA | 1:I:250:ARG:O | 2.21 | 0.40 |
| 1:I:340:HIS:CE1 | 1:I:756:ASP:OD1 | 2.75 | 0.40 |
| 1:J:467:ASP:HA | 1:J:496:THR:O | 2.21 | 0.40 |
| 1:J:749:ASP:HB3 | 1:J:752:ILE:CG2 | 2.51 | 0.40 |
| 1:K:19:SER:O | 1:K:290:ARG:NH1 | 2.54 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|----------|-------------|----|
| 1 | A | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| 1 | B | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| 1 | C | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| 1 | D | 757/798 (95%) | 710 (94%) | 41 (5%) | 6 (1%) | 19 | 14 |
| 1 | E | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| 1 | F | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| 1 | G | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| 1 | H | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| 1 | I | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| 1 | J | 762/798 (96%) | 713 (94%) | 43 (6%) | 6 (1%) | 19 | 14 |
| 1 | K | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| 1 | L | 762/798 (96%) | 712 (93%) | 44 (6%) | 6 (1%) | 19 | 14 |
| All | All | 9139/9576 (95%) | 8543 (94%) | 524 (6%) | 72 (1%) | 24 | 14 |

All (72) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 23 | VAL |
| 1 | B | 23 | VAL |
| 1 | C | 23 | VAL |
| 1 | D | 23 | VAL |
| 1 | E | 23 | VAL |
| 1 | F | 23 | VAL |
| 1 | G | 23 | VAL |
| 1 | H | 23 | VAL |
| 1 | I | 23 | VAL |
| 1 | J | 23 | VAL |
| 1 | K | 23 | VAL |
| 1 | L | 23 | VAL |
| 1 | A | 390 | VAL |
| 1 | A | 470 | ALA |
| 1 | B | 390 | VAL |
| 1 | B | 470 | ALA |
| 1 | C | 390 | VAL |
| 1 | C | 470 | ALA |
| 1 | D | 390 | VAL |
| 1 | D | 470 | ALA |
| 1 | E | 390 | VAL |
| 1 | E | 470 | ALA |
| 1 | F | 390 | VAL |
| 1 | F | 470 | ALA |
| 1 | G | 390 | VAL |
| 1 | G | 470 | ALA |
| 1 | H | 390 | VAL |
| 1 | H | 470 | ALA |
| 1 | I | 390 | VAL |
| 1 | I | 470 | ALA |
| 1 | J | 390 | VAL |
| 1 | J | 470 | ALA |
| 1 | K | 390 | VAL |
| 1 | K | 470 | ALA |
| 1 | L | 390 | VAL |
| 1 | L | 470 | ALA |
| 1 | A | 85 | LYS |
| 1 | A | 494 | HIS |
| 1 | B | 85 | LYS |
| 1 | B | 494 | HIS |
| 1 | C | 85 | LYS |
| 1 | C | 494 | HIS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | D | 85 | LYS |
| 1 | D | 494 | HIS |
| 1 | E | 85 | LYS |
| 1 | E | 494 | HIS |
| 1 | F | 85 | LYS |
| 1 | F | 494 | HIS |
| 1 | G | 85 | LYS |
| 1 | G | 494 | HIS |
| 1 | H | 85 | LYS |
| 1 | H | 494 | HIS |
| 1 | I | 85 | LYS |
| 1 | I | 494 | HIS |
| 1 | J | 85 | LYS |
| 1 | J | 494 | HIS |
| 1 | K | 85 | LYS |
| 1 | K | 494 | HIS |
| 1 | L | 85 | LYS |
| 1 | L | 494 | HIS |
| 1 | A | 200 | THR |
| 1 | B | 200 | THR |
| 1 | C | 200 | THR |
| 1 | D | 200 | THR |
| 1 | E | 200 | THR |
| 1 | F | 200 | THR |
| 1 | G | 200 | THR |
| 1 | H | 200 | THR |
| 1 | I | 200 | THR |
| 1 | J | 200 | THR |
| 1 | K | 200 | THR |
| 1 | L | 200 | THR |

5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|-----|-------|---------------|-----------|----------|-------------|
| 1 | A | 678/705 (96%) | 643 (95%) | 35 (5%) | 23 20 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|-------------|----|
| 1 | B | 678/705 (96%) | 643 (95%) | 35 (5%) | 23 | 20 |
| 1 | C | 678/705 (96%) | 642 (95%) | 36 (5%) | 22 | 20 |
| 1 | D | 675/705 (96%) | 640 (95%) | 35 (5%) | 23 | 20 |
| 1 | E | 678/705 (96%) | 643 (95%) | 35 (5%) | 23 | 20 |
| 1 | F | 678/705 (96%) | 642 (95%) | 36 (5%) | 22 | 20 |
| 1 | G | 678/705 (96%) | 643 (95%) | 35 (5%) | 23 | 20 |
| 1 | H | 678/705 (96%) | 643 (95%) | 35 (5%) | 23 | 20 |
| 1 | I | 678/705 (96%) | 643 (95%) | 35 (5%) | 23 | 20 |
| 1 | J | 678/705 (96%) | 643 (95%) | 35 (5%) | 23 | 20 |
| 1 | K | 678/705 (96%) | 643 (95%) | 35 (5%) | 23 | 20 |
| 1 | L | 678/705 (96%) | 643 (95%) | 35 (5%) | 23 | 20 |
| All | All | 8133/8460 (96%) | 7711 (95%) | 422 (5%) | 27 | 20 |

All (422) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 28 | ARG |
| 1 | A | 39 | GLU |
| 1 | A | 50 | LYS |
| 1 | A | 82 | LYS |
| 1 | A | 83 | ASN |
| 1 | A | 91 | ASP |
| 1 | A | 129 | ARG |
| 1 | A | 173 | GLU |
| 1 | A | 186 | GLN |
| 1 | A | 187 | GLU |
| 1 | A | 202 | ARG |
| 1 | A | 221 | VAL |
| 1 | A | 267 | GLU |
| 1 | A | 272 | TRP |
| 1 | A | 279 | LYS |
| 1 | A | 289 | GLU |
| 1 | A | 323 | MET |
| 1 | A | 325 | GLU |
| 1 | A | 332 | LYS |
| 1 | A | 364 | ASN |
| 1 | A | 368 | LYS |
| 1 | A | 386 | SER |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 426 | LYS |
| 1 | A | 474 | HIS |
| 1 | A | 490 | SER |
| 1 | A | 590 | LYS |
| 1 | A | 601 | THR |
| 1 | A | 638 | GLU |
| 1 | A | 650 | LYS |
| 1 | A | 653 | LEU |
| 1 | A | 654 | LYS |
| 1 | A | 663 | ASP |
| 1 | A | 678 | GLU |
| 1 | A | 753 | PHE |
| 1 | A | 756 | ASP |
| 1 | B | 28 | ARG |
| 1 | B | 39 | GLU |
| 1 | B | 50 | LYS |
| 1 | B | 82 | LYS |
| 1 | B | 83 | ASN |
| 1 | B | 91 | ASP |
| 1 | B | 129 | ARG |
| 1 | B | 173 | GLU |
| 1 | B | 186 | GLN |
| 1 | B | 187 | GLU |
| 1 | B | 202 | ARG |
| 1 | B | 221 | VAL |
| 1 | B | 267 | GLU |
| 1 | B | 272 | TRP |
| 1 | B | 279 | LYS |
| 1 | B | 289 | GLU |
| 1 | B | 323 | MET |
| 1 | B | 325 | GLU |
| 1 | B | 332 | LYS |
| 1 | B | 364 | ASN |
| 1 | B | 368 | LYS |
| 1 | B | 386 | SER |
| 1 | B | 426 | LYS |
| 1 | B | 474 | HIS |
| 1 | B | 490 | SER |
| 1 | B | 590 | LYS |
| 1 | B | 601 | THR |
| 1 | B | 638 | GLU |
| 1 | B | 650 | LYS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | B | 653 | LEU |
| 1 | B | 654 | LYS |
| 1 | B | 663 | ASP |
| 1 | B | 678 | GLU |
| 1 | B | 753 | PHE |
| 1 | B | 756 | ASP |
| 1 | C | 28 | ARG |
| 1 | C | 39 | GLU |
| 1 | C | 50 | LYS |
| 1 | C | 82 | LYS |
| 1 | C | 83 | ASN |
| 1 | C | 91 | ASP |
| 1 | C | 124 | GLN |
| 1 | C | 129 | ARG |
| 1 | C | 173 | GLU |
| 1 | C | 186 | GLN |
| 1 | C | 187 | GLU |
| 1 | C | 202 | ARG |
| 1 | C | 221 | VAL |
| 1 | C | 267 | GLU |
| 1 | C | 272 | TRP |
| 1 | C | 279 | LYS |
| 1 | C | 289 | GLU |
| 1 | C | 323 | MET |
| 1 | C | 325 | GLU |
| 1 | C | 332 | LYS |
| 1 | C | 364 | ASN |
| 1 | C | 368 | LYS |
| 1 | C | 386 | SER |
| 1 | C | 426 | LYS |
| 1 | C | 474 | HIS |
| 1 | C | 490 | SER |
| 1 | C | 590 | LYS |
| 1 | C | 601 | THR |
| 1 | C | 638 | GLU |
| 1 | C | 650 | LYS |
| 1 | C | 653 | LEU |
| 1 | C | 654 | LYS |
| 1 | C | 663 | ASP |
| 1 | C | 678 | GLU |
| 1 | C | 753 | PHE |
| 1 | C | 756 | ASP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | D | 28 | ARG |
| 1 | D | 39 | GLU |
| 1 | D | 50 | LYS |
| 1 | D | 82 | LYS |
| 1 | D | 83 | ASN |
| 1 | D | 91 | ASP |
| 1 | D | 129 | ARG |
| 1 | D | 173 | GLU |
| 1 | D | 186 | GLN |
| 1 | D | 187 | GLU |
| 1 | D | 202 | ARG |
| 1 | D | 221 | VAL |
| 1 | D | 267 | GLU |
| 1 | D | 272 | TRP |
| 1 | D | 279 | LYS |
| 1 | D | 289 | GLU |
| 1 | D | 323 | MET |
| 1 | D | 325 | GLU |
| 1 | D | 332 | LYS |
| 1 | D | 364 | ASN |
| 1 | D | 368 | LYS |
| 1 | D | 386 | SER |
| 1 | D | 426 | LYS |
| 1 | D | 474 | HIS |
| 1 | D | 490 | SER |
| 1 | D | 590 | LYS |
| 1 | D | 601 | THR |
| 1 | D | 638 | GLU |
| 1 | D | 650 | LYS |
| 1 | D | 653 | LEU |
| 1 | D | 654 | LYS |
| 1 | D | 663 | ASP |
| 1 | D | 678 | GLU |
| 1 | D | 753 | PHE |
| 1 | D | 756 | ASP |
| 1 | E | 28 | ARG |
| 1 | E | 39 | GLU |
| 1 | E | 50 | LYS |
| 1 | E | 82 | LYS |
| 1 | E | 83 | ASN |
| 1 | E | 91 | ASP |
| 1 | E | 129 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | E | 173 | GLU |
| 1 | E | 186 | GLN |
| 1 | E | 187 | GLU |
| 1 | E | 202 | ARG |
| 1 | E | 221 | VAL |
| 1 | E | 267 | GLU |
| 1 | E | 272 | TRP |
| 1 | E | 279 | LYS |
| 1 | E | 289 | GLU |
| 1 | E | 323 | MET |
| 1 | E | 325 | GLU |
| 1 | E | 332 | LYS |
| 1 | E | 364 | ASN |
| 1 | E | 368 | LYS |
| 1 | E | 386 | SER |
| 1 | E | 426 | LYS |
| 1 | E | 474 | HIS |
| 1 | E | 490 | SER |
| 1 | E | 590 | LYS |
| 1 | E | 601 | THR |
| 1 | E | 638 | GLU |
| 1 | E | 650 | LYS |
| 1 | E | 653 | LEU |
| 1 | E | 654 | LYS |
| 1 | E | 663 | ASP |
| 1 | E | 678 | GLU |
| 1 | E | 753 | PHE |
| 1 | E | 756 | ASP |
| 1 | F | 28 | ARG |
| 1 | F | 39 | GLU |
| 1 | F | 50 | LYS |
| 1 | F | 82 | LYS |
| 1 | F | 83 | ASN |
| 1 | F | 91 | ASP |
| 1 | F | 124 | GLN |
| 1 | F | 129 | ARG |
| 1 | F | 173 | GLU |
| 1 | F | 186 | GLN |
| 1 | F | 187 | GLU |
| 1 | F | 202 | ARG |
| 1 | F | 221 | VAL |
| 1 | F | 267 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | F | 272 | TRP |
| 1 | F | 279 | LYS |
| 1 | F | 289 | GLU |
| 1 | F | 323 | MET |
| 1 | F | 325 | GLU |
| 1 | F | 332 | LYS |
| 1 | F | 364 | ASN |
| 1 | F | 368 | LYS |
| 1 | F | 386 | SER |
| 1 | F | 426 | LYS |
| 1 | F | 474 | HIS |
| 1 | F | 490 | SER |
| 1 | F | 590 | LYS |
| 1 | F | 601 | THR |
| 1 | F | 638 | GLU |
| 1 | F | 650 | LYS |
| 1 | F | 653 | LEU |
| 1 | F | 654 | LYS |
| 1 | F | 663 | ASP |
| 1 | F | 678 | GLU |
| 1 | F | 753 | PHE |
| 1 | F | 756 | ASP |
| 1 | G | 28 | ARG |
| 1 | G | 39 | GLU |
| 1 | G | 50 | LYS |
| 1 | G | 82 | LYS |
| 1 | G | 83 | ASN |
| 1 | G | 91 | ASP |
| 1 | G | 129 | ARG |
| 1 | G | 173 | GLU |
| 1 | G | 186 | GLN |
| 1 | G | 187 | GLU |
| 1 | G | 202 | ARG |
| 1 | G | 221 | VAL |
| 1 | G | 267 | GLU |
| 1 | G | 272 | TRP |
| 1 | G | 279 | LYS |
| 1 | G | 289 | GLU |
| 1 | G | 323 | MET |
| 1 | G | 325 | GLU |
| 1 | G | 332 | LYS |
| 1 | G | 364 | ASN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | G | 368 | LYS |
| 1 | G | 386 | SER |
| 1 | G | 426 | LYS |
| 1 | G | 474 | HIS |
| 1 | G | 490 | SER |
| 1 | G | 590 | LYS |
| 1 | G | 601 | THR |
| 1 | G | 638 | GLU |
| 1 | G | 650 | LYS |
| 1 | G | 653 | LEU |
| 1 | G | 654 | LYS |
| 1 | G | 663 | ASP |
| 1 | G | 678 | GLU |
| 1 | G | 753 | PHE |
| 1 | G | 756 | ASP |
| 1 | H | 28 | ARG |
| 1 | H | 39 | GLU |
| 1 | H | 50 | LYS |
| 1 | H | 82 | LYS |
| 1 | H | 83 | ASN |
| 1 | H | 91 | ASP |
| 1 | H | 129 | ARG |
| 1 | H | 173 | GLU |
| 1 | H | 186 | GLN |
| 1 | H | 187 | GLU |
| 1 | H | 202 | ARG |
| 1 | H | 221 | VAL |
| 1 | H | 267 | GLU |
| 1 | H | 272 | TRP |
| 1 | H | 279 | LYS |
| 1 | H | 289 | GLU |
| 1 | H | 323 | MET |
| 1 | H | 325 | GLU |
| 1 | H | 332 | LYS |
| 1 | H | 364 | ASN |
| 1 | H | 368 | LYS |
| 1 | H | 386 | SER |
| 1 | H | 426 | LYS |
| 1 | H | 474 | HIS |
| 1 | H | 490 | SER |
| 1 | H | 590 | LYS |
| 1 | H | 601 | THR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | H | 638 | GLU |
| 1 | H | 650 | LYS |
| 1 | H | 653 | LEU |
| 1 | H | 654 | LYS |
| 1 | H | 663 | ASP |
| 1 | H | 678 | GLU |
| 1 | H | 753 | PHE |
| 1 | H | 756 | ASP |
| 1 | I | 28 | ARG |
| 1 | I | 39 | GLU |
| 1 | I | 50 | LYS |
| 1 | I | 82 | LYS |
| 1 | I | 83 | ASN |
| 1 | I | 91 | ASP |
| 1 | I | 129 | ARG |
| 1 | I | 173 | GLU |
| 1 | I | 186 | GLN |
| 1 | I | 187 | GLU |
| 1 | I | 202 | ARG |
| 1 | I | 221 | VAL |
| 1 | I | 267 | GLU |
| 1 | I | 272 | TRP |
| 1 | I | 279 | LYS |
| 1 | I | 289 | GLU |
| 1 | I | 323 | MET |
| 1 | I | 325 | GLU |
| 1 | I | 332 | LYS |
| 1 | I | 364 | ASN |
| 1 | I | 368 | LYS |
| 1 | I | 386 | SER |
| 1 | I | 426 | LYS |
| 1 | I | 474 | HIS |
| 1 | I | 490 | SER |
| 1 | I | 590 | LYS |
| 1 | I | 601 | THR |
| 1 | I | 638 | GLU |
| 1 | I | 650 | LYS |
| 1 | I | 653 | LEU |
| 1 | I | 654 | LYS |
| 1 | I | 663 | ASP |
| 1 | I | 678 | GLU |
| 1 | I | 753 | PHE |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | I | 756 | ASP |
| 1 | J | 28 | ARG |
| 1 | J | 39 | GLU |
| 1 | J | 50 | LYS |
| 1 | J | 82 | LYS |
| 1 | J | 83 | ASN |
| 1 | J | 91 | ASP |
| 1 | J | 129 | ARG |
| 1 | J | 173 | GLU |
| 1 | J | 186 | GLN |
| 1 | J | 187 | GLU |
| 1 | J | 202 | ARG |
| 1 | J | 221 | VAL |
| 1 | J | 267 | GLU |
| 1 | J | 272 | TRP |
| 1 | J | 279 | LYS |
| 1 | J | 289 | GLU |
| 1 | J | 323 | MET |
| 1 | J | 325 | GLU |
| 1 | J | 332 | LYS |
| 1 | J | 364 | ASN |
| 1 | J | 368 | LYS |
| 1 | J | 386 | SER |
| 1 | J | 426 | LYS |
| 1 | J | 474 | HIS |
| 1 | J | 490 | SER |
| 1 | J | 590 | LYS |
| 1 | J | 601 | THR |
| 1 | J | 638 | GLU |
| 1 | J | 650 | LYS |
| 1 | J | 653 | LEU |
| 1 | J | 654 | LYS |
| 1 | J | 663 | ASP |
| 1 | J | 678 | GLU |
| 1 | J | 753 | PHE |
| 1 | J | 756 | ASP |
| 1 | K | 28 | ARG |
| 1 | K | 39 | GLU |
| 1 | K | 50 | LYS |
| 1 | K | 82 | LYS |
| 1 | K | 83 | ASN |
| 1 | K | 91 | ASP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | K | 129 | ARG |
| 1 | K | 173 | GLU |
| 1 | K | 186 | GLN |
| 1 | K | 187 | GLU |
| 1 | K | 202 | ARG |
| 1 | K | 221 | VAL |
| 1 | K | 267 | GLU |
| 1 | K | 272 | TRP |
| 1 | K | 279 | LYS |
| 1 | K | 289 | GLU |
| 1 | K | 323 | MET |
| 1 | K | 325 | GLU |
| 1 | K | 332 | LYS |
| 1 | K | 364 | ASN |
| 1 | K | 368 | LYS |
| 1 | K | 386 | SER |
| 1 | K | 426 | LYS |
| 1 | K | 474 | HIS |
| 1 | K | 490 | SER |
| 1 | K | 590 | LYS |
| 1 | K | 601 | THR |
| 1 | K | 638 | GLU |
| 1 | K | 650 | LYS |
| 1 | K | 653 | LEU |
| 1 | K | 654 | LYS |
| 1 | K | 663 | ASP |
| 1 | K | 678 | GLU |
| 1 | K | 753 | PHE |
| 1 | K | 756 | ASP |
| 1 | L | 28 | ARG |
| 1 | L | 39 | GLU |
| 1 | L | 50 | LYS |
| 1 | L | 82 | LYS |
| 1 | L | 83 | ASN |
| 1 | L | 91 | ASP |
| 1 | L | 129 | ARG |
| 1 | L | 173 | GLU |
| 1 | L | 186 | GLN |
| 1 | L | 187 | GLU |
| 1 | L | 202 | ARG |
| 1 | L | 221 | VAL |
| 1 | L | 267 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L | 272 | TRP |
| 1 | L | 279 | LYS |
| 1 | L | 289 | GLU |
| 1 | L | 323 | MET |
| 1 | L | 325 | GLU |
| 1 | L | 332 | LYS |
| 1 | L | 364 | ASN |
| 1 | L | 368 | LYS |
| 1 | L | 386 | SER |
| 1 | L | 426 | LYS |
| 1 | L | 474 | HIS |
| 1 | L | 490 | SER |
| 1 | L | 590 | LYS |
| 1 | L | 601 | THR |
| 1 | L | 638 | GLU |
| 1 | L | 650 | LYS |
| 1 | L | 653 | LEU |
| 1 | L | 654 | LYS |
| 1 | L | 663 | ASP |
| 1 | L | 678 | GLU |
| 1 | L | 753 | PHE |
| 1 | L | 756 | ASP |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (44) such sidechains are listed below:

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 149 | HIS |
| 1 | A | 248 | ASN |
| 1 | A | 403 | ASN |
| 1 | A | 715 | GLN |
| 1 | B | 149 | HIS |
| 1 | B | 248 | ASN |
| 1 | B | 403 | ASN |
| 1 | B | 715 | GLN |
| 1 | C | 124 | GLN |
| 1 | C | 149 | HIS |
| 1 | C | 248 | ASN |
| 1 | C | 403 | ASN |
| 1 | D | 149 | HIS |
| 1 | D | 248 | ASN |
| 1 | D | 403 | ASN |
| 1 | E | 149 | HIS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | E | 248 | ASN |
| 1 | E | 403 | ASN |
| 1 | E | 715 | GLN |
| 1 | F | 124 | GLN |
| 1 | F | 149 | HIS |
| 1 | F | 248 | ASN |
| 1 | F | 403 | ASN |
| 1 | G | 149 | HIS |
| 1 | G | 248 | ASN |
| 1 | G | 403 | ASN |
| 1 | G | 715 | GLN |
| 1 | H | 149 | HIS |
| 1 | H | 248 | ASN |
| 1 | H | 403 | ASN |
| 1 | I | 149 | HIS |
| 1 | I | 248 | ASN |
| 1 | I | 403 | ASN |
| 1 | I | 715 | GLN |
| 1 | J | 149 | HIS |
| 1 | J | 248 | ASN |
| 1 | J | 403 | ASN |
| 1 | K | 149 | HIS |
| 1 | K | 248 | ASN |
| 1 | K | 403 | ASN |
| 1 | L | 149 | HIS |
| 1 | L | 248 | ASN |
| 1 | L | 403 | ASN |
| 1 | L | 715 | GLN |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 12 ligands modelled in this entry, 12 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

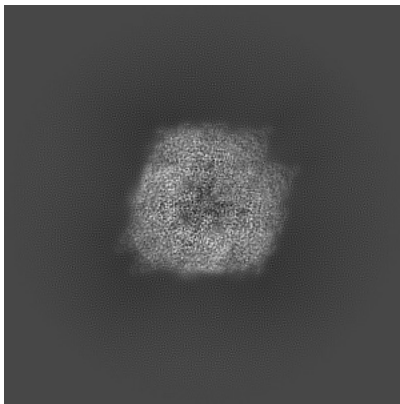
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-29327. These allow visual inspection of the internal detail of the map and identification of artifacts.

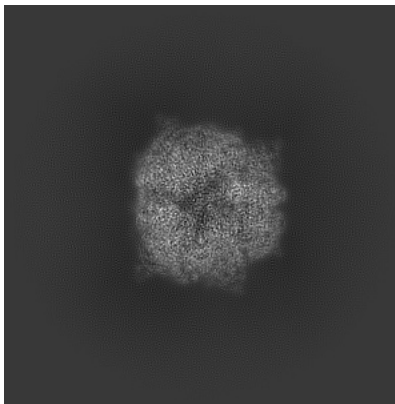
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

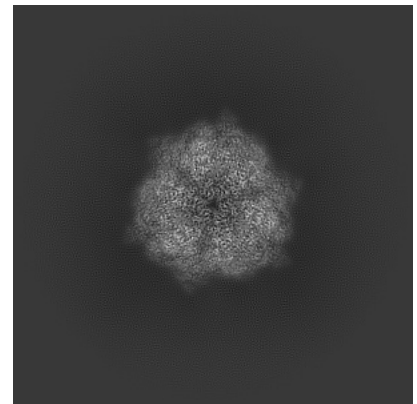
6.1.1 Primary map



X

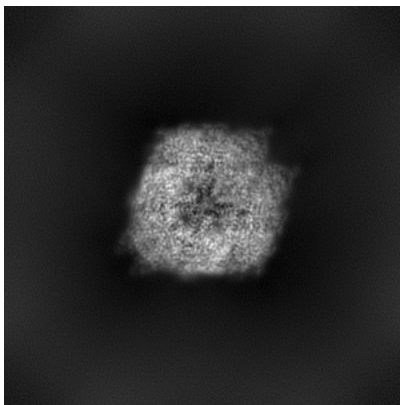


Y

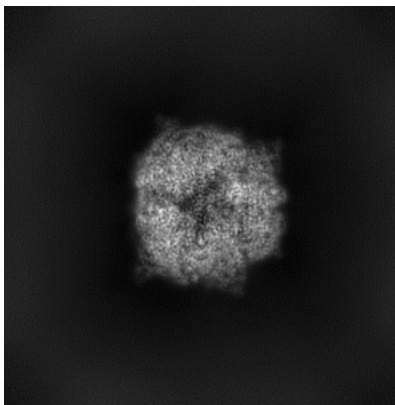


Z

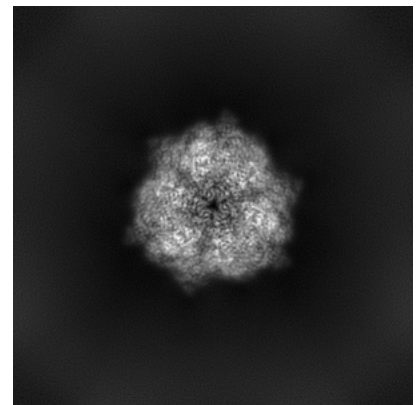
6.1.2 Raw map



X



Y

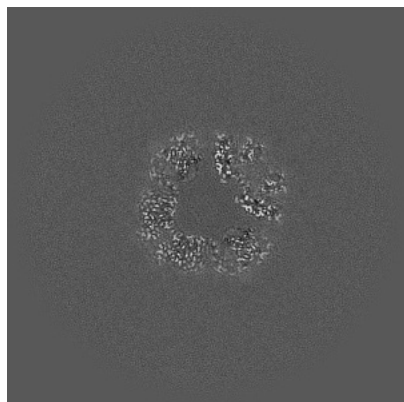


Z

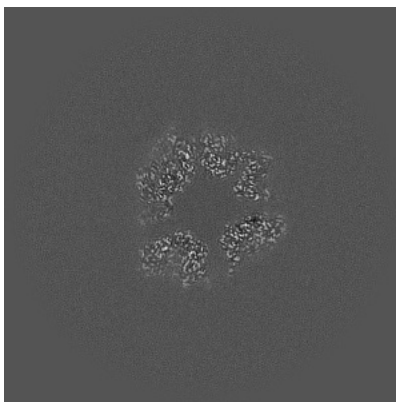
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

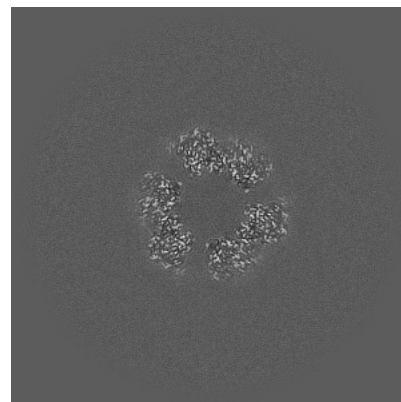
6.2.1 Primary map



X Index: 240

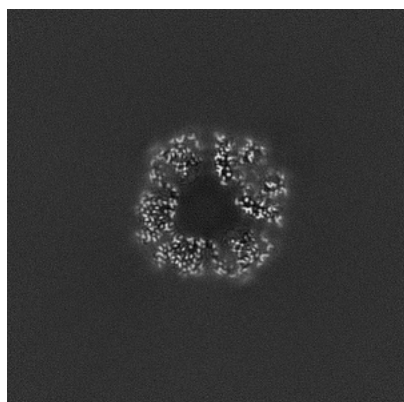


Y Index: 240

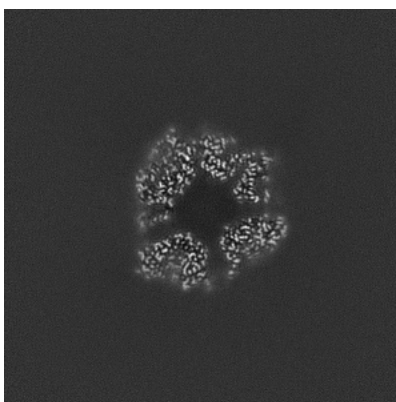


Z Index: 240

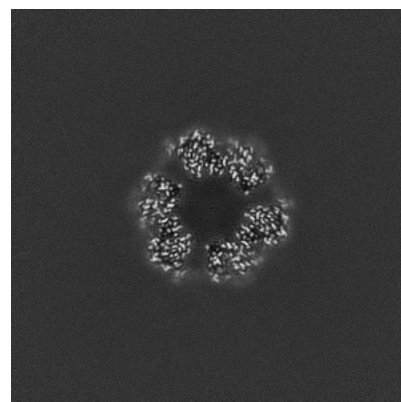
6.2.2 Raw map



X Index: 240



Y Index: 240

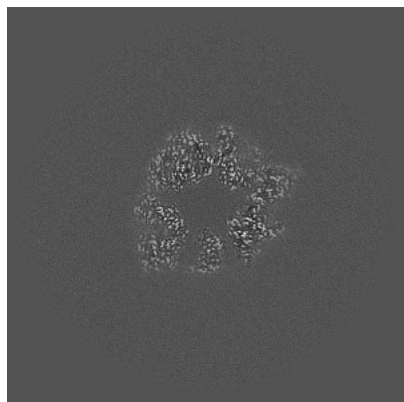


Z Index: 240

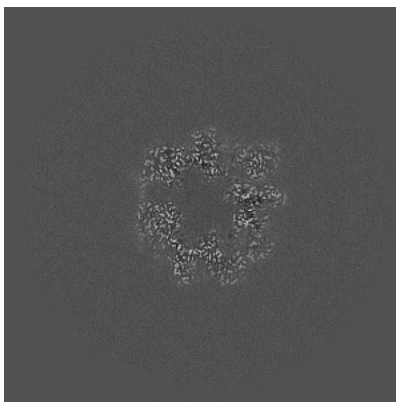
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

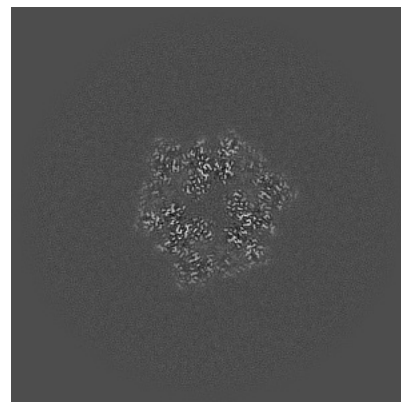
6.3.1 Primary map



X Index: 258

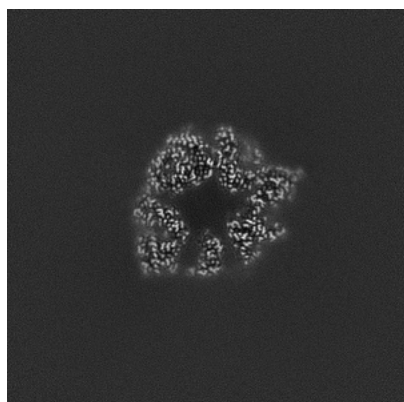


Y Index: 221

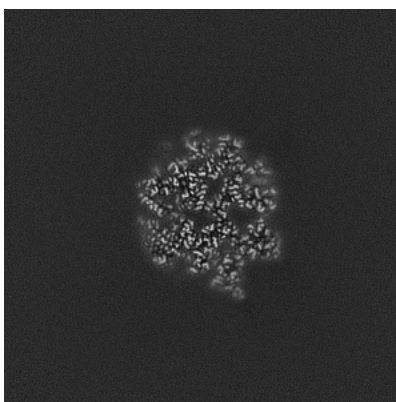


Z Index: 205

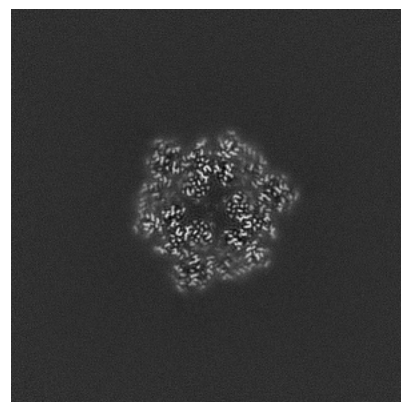
6.3.2 Raw map



X Index: 258



Y Index: 198

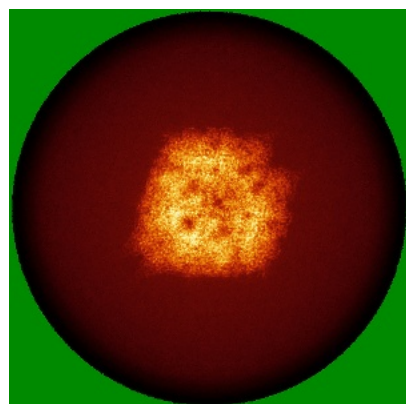


Z Index: 205

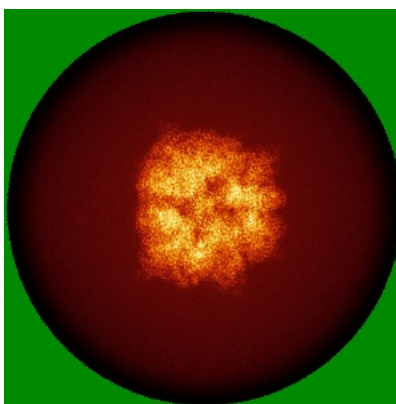
The images above show the largest variance slices of the map in three orthogonal directions.

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

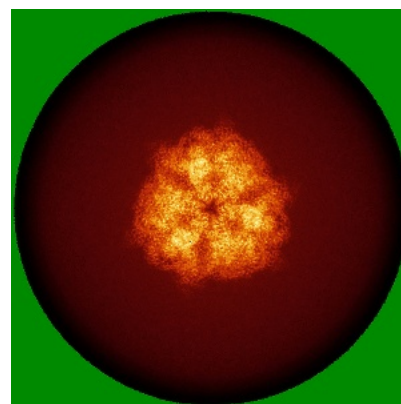
6.4.1 Primary map



X

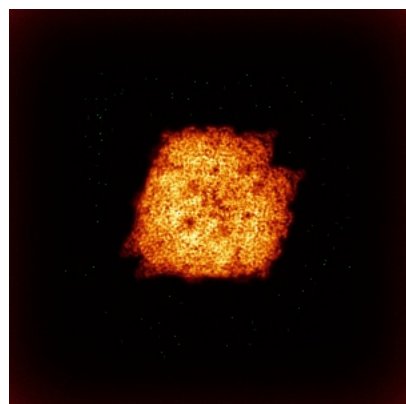


Y

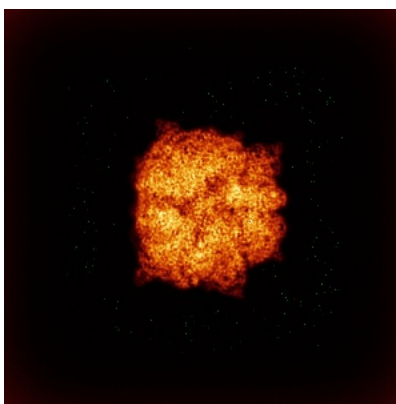


Z

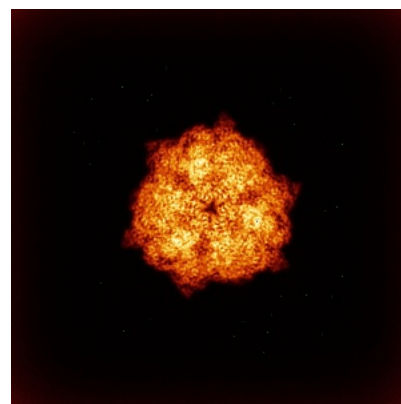
6.4.2 Raw map



X



Y

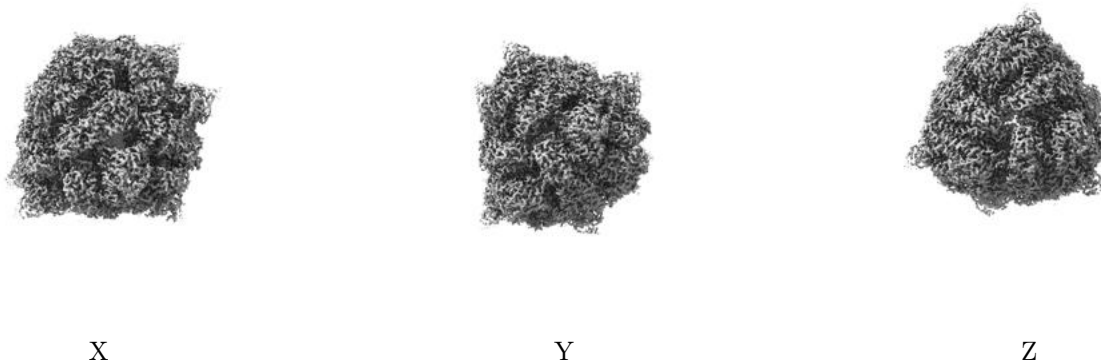


Z

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

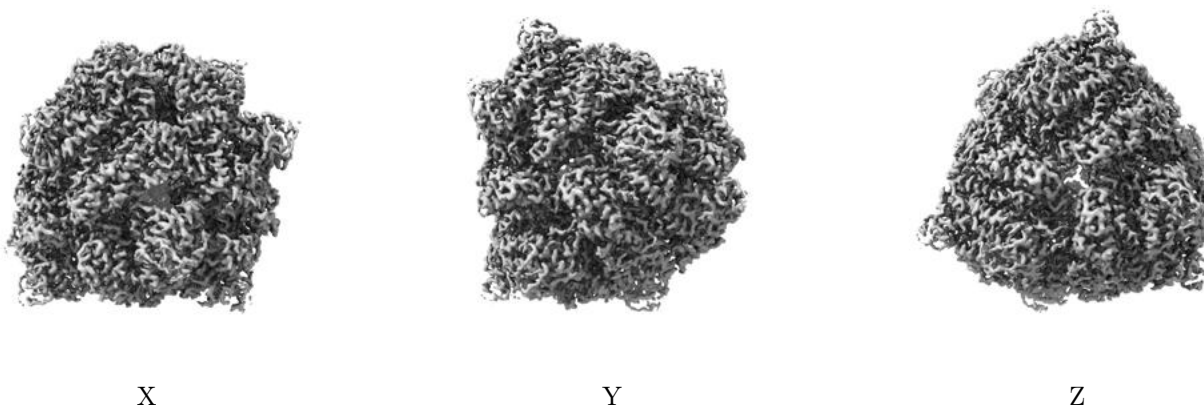
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.7. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

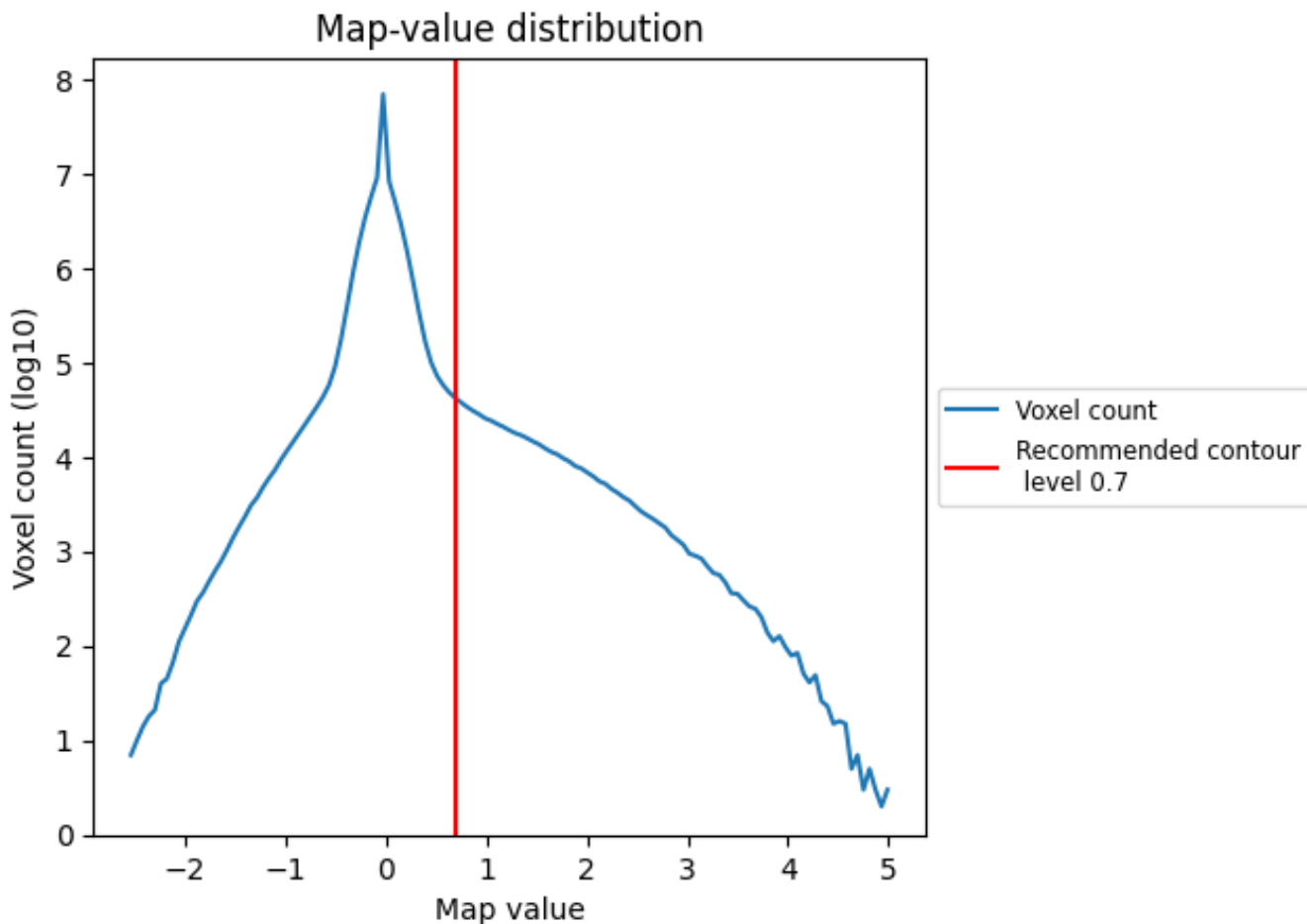
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

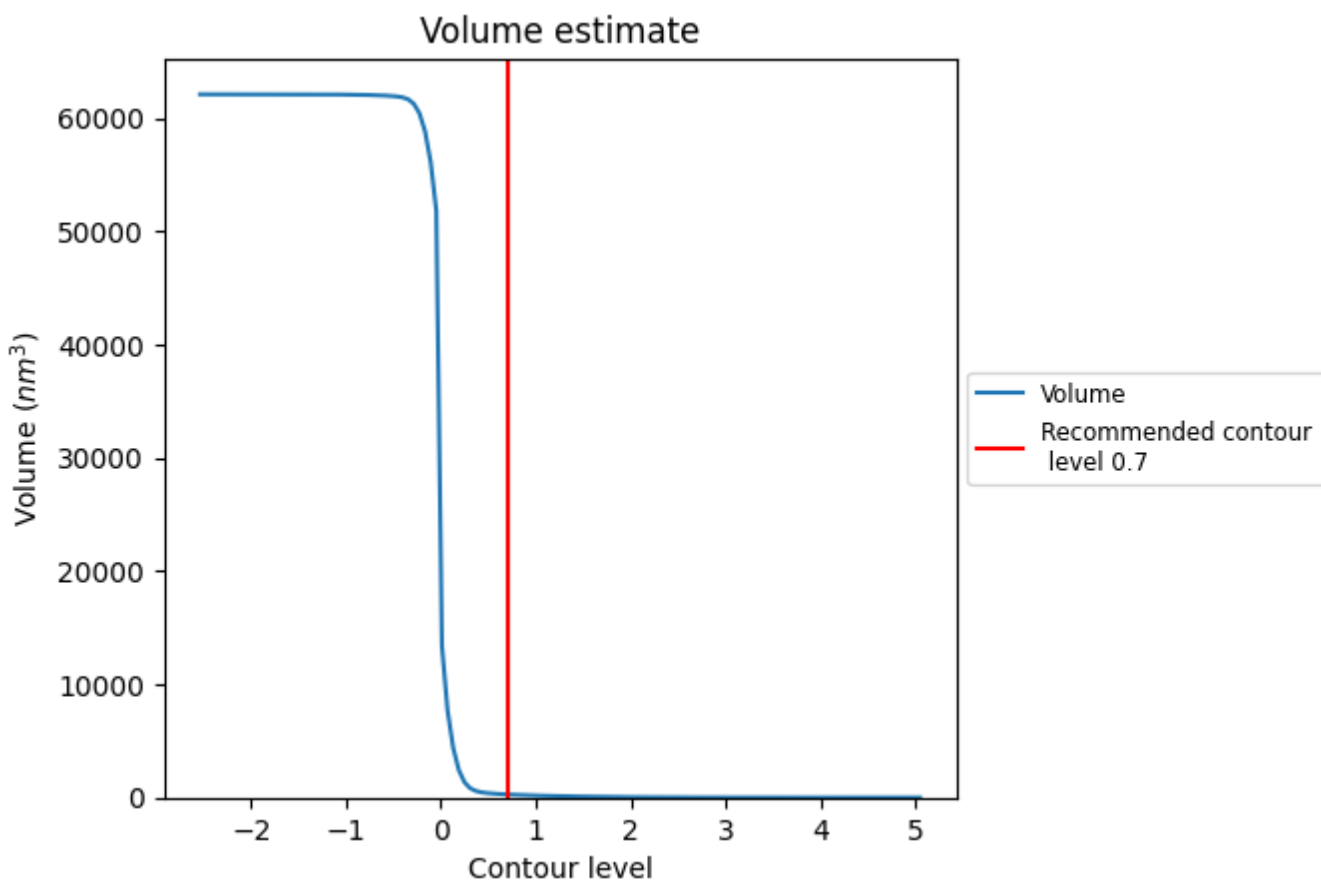
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

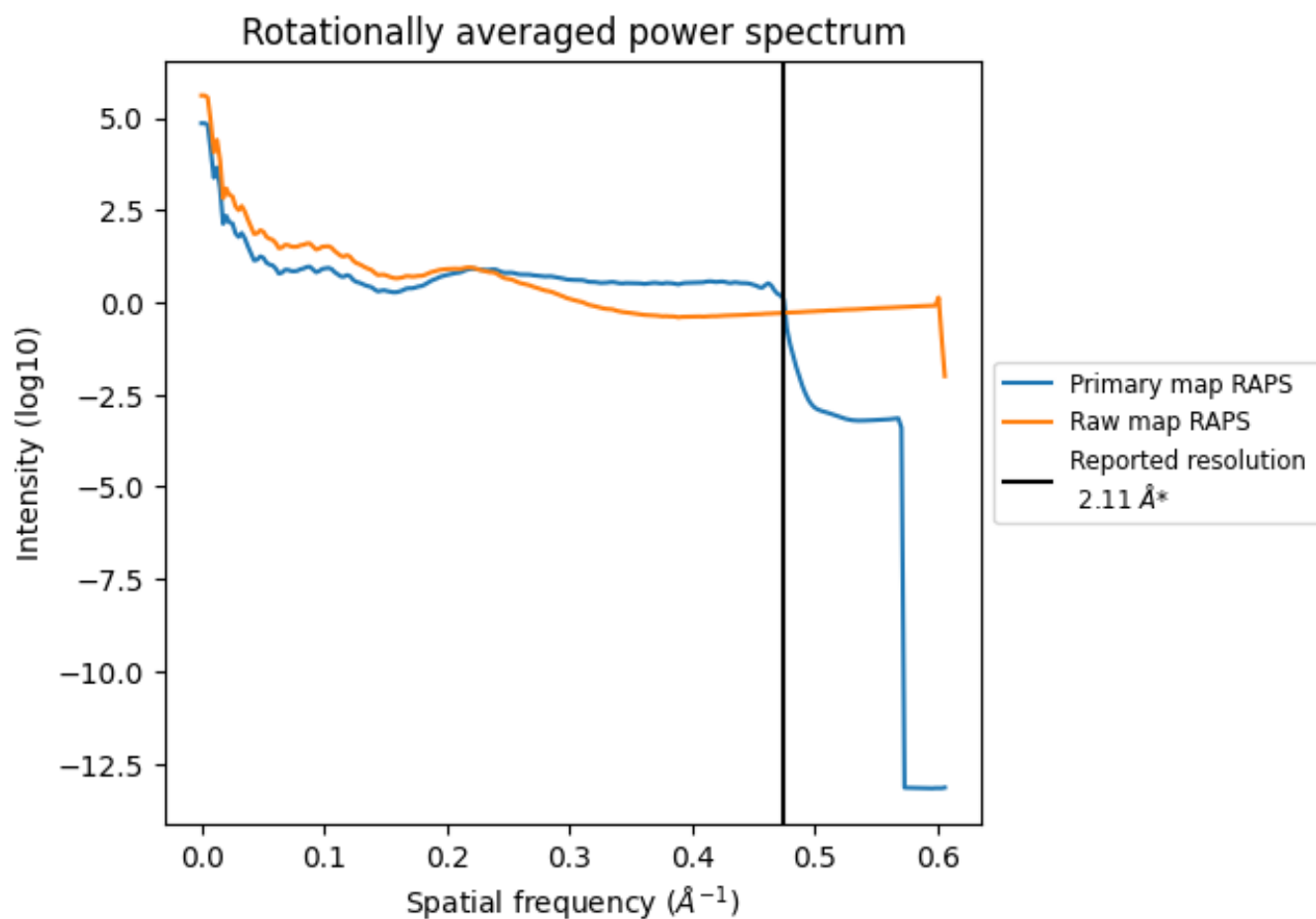
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 275 nm³; this corresponds to an approximate mass of 249 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](#)

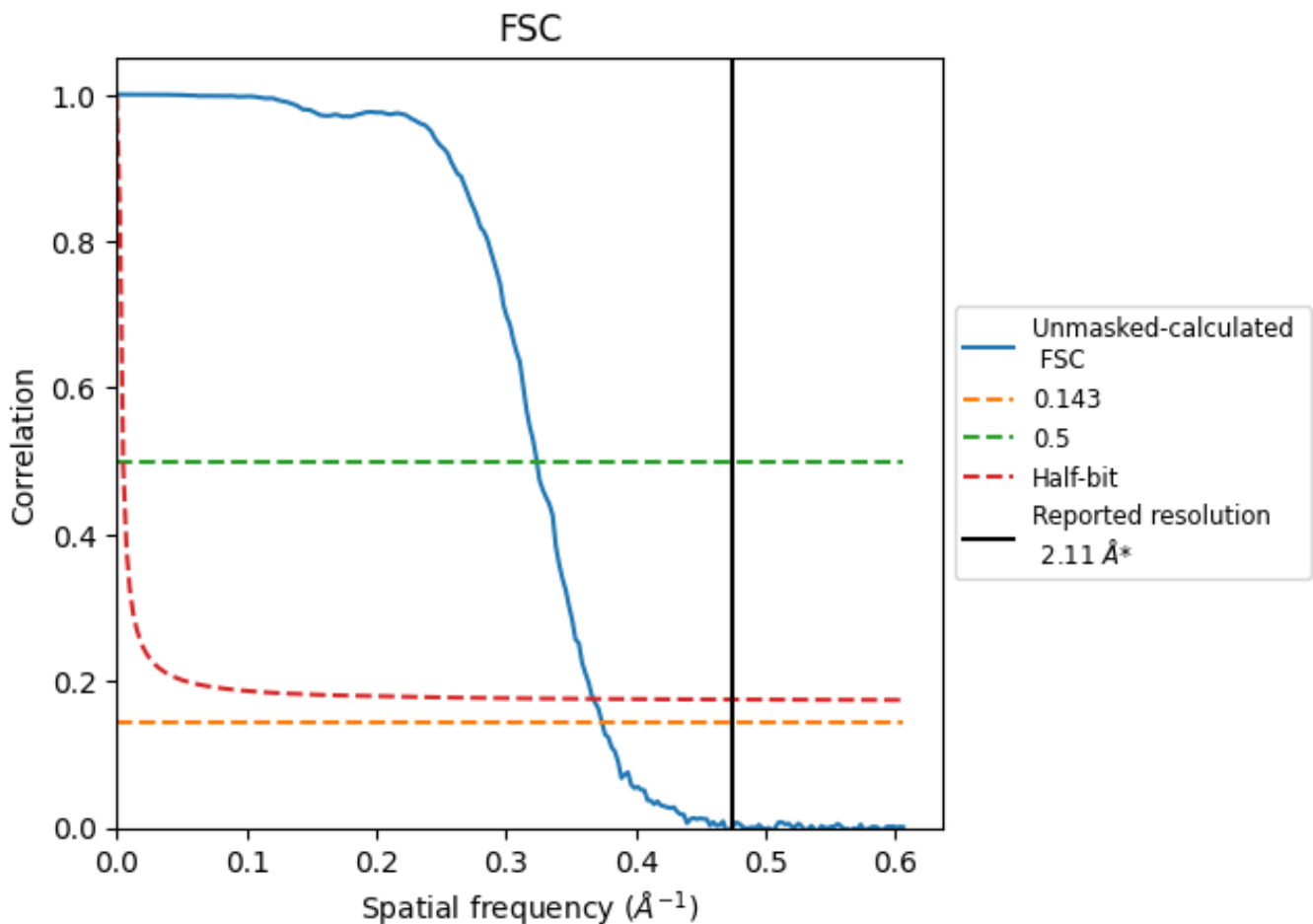


*Reported resolution corresponds to spatial frequency of 0.474 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.474 Å⁻¹

8.2 Resolution estimates [i](#)

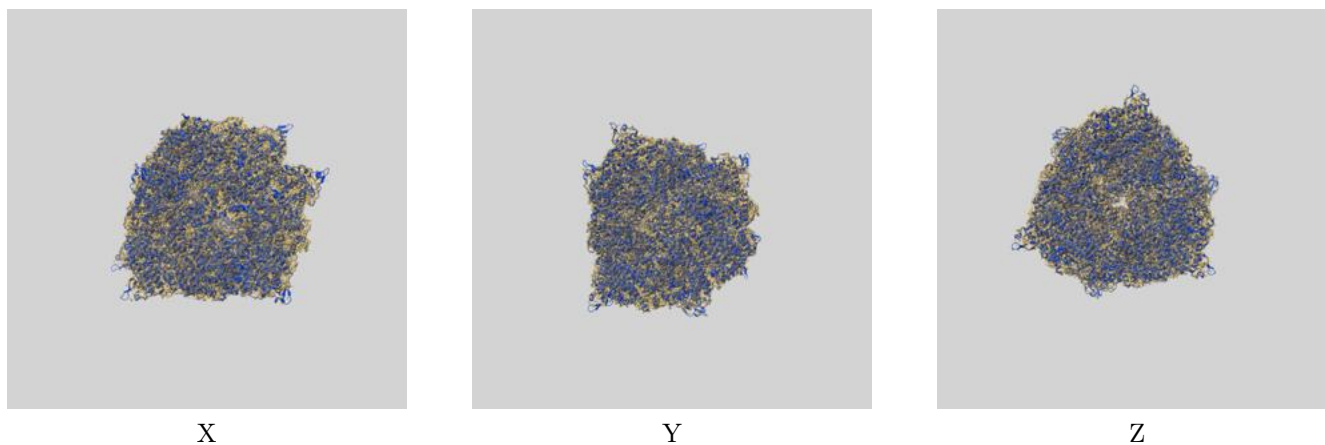
| Resolution estimate (Å) | Estimation criterion (FSC cut-off) | | |
|---------------------------|------------------------------------|------|----------|
| | 0.143 | 0.5 | Half-bit |
| Reported by author | 2.11 | - | - |
| Author-provided FSC curve | - | - | - |
| Unmasked-calculated* | 2.67 | 3.09 | 2.72 |

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 2.67 differs from the reported value 2.11 by more than 10 %

9 Map-model fit [i](#)

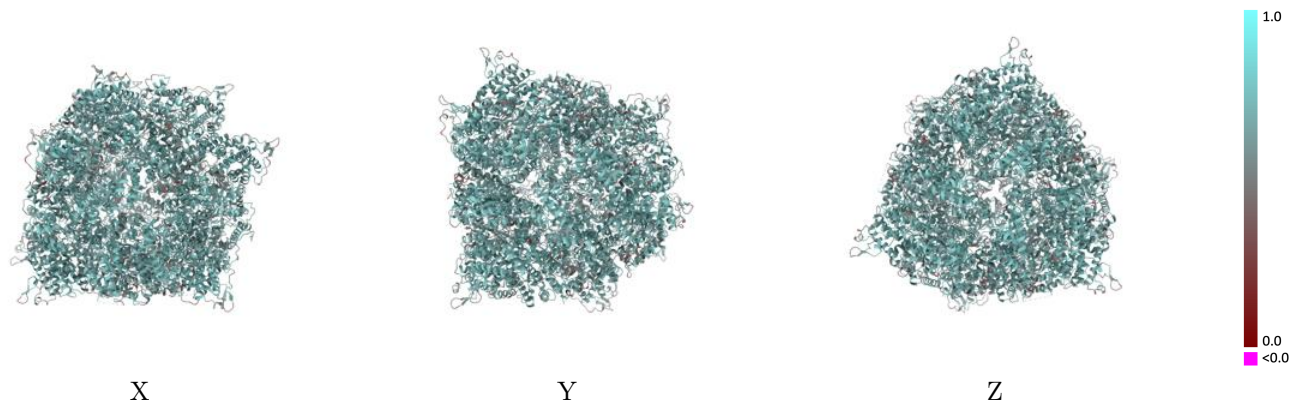
This section contains information regarding the fit between EMDB map EMD-29327 and PDB model 8FNV. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay [i](#)



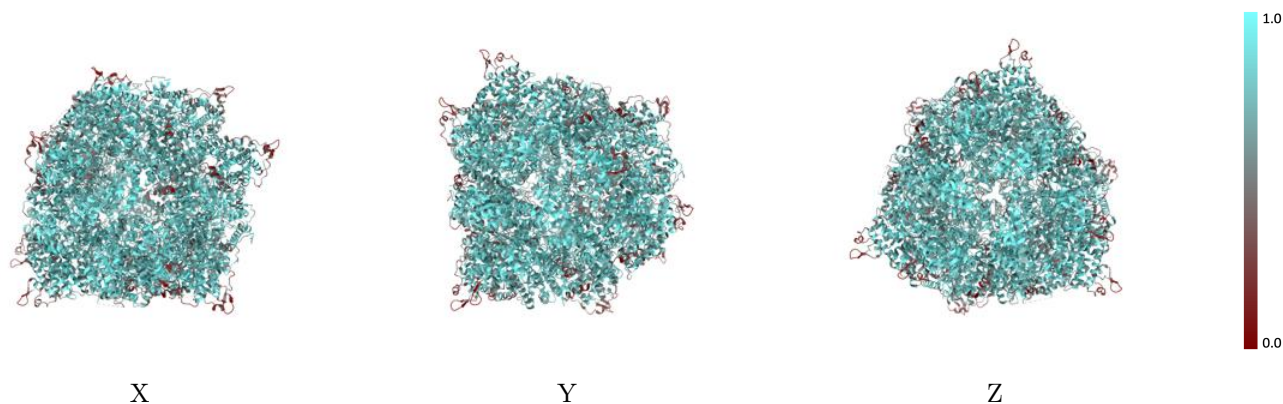
The images above show the 3D surface view of the map at the recommended contour level 0.7 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



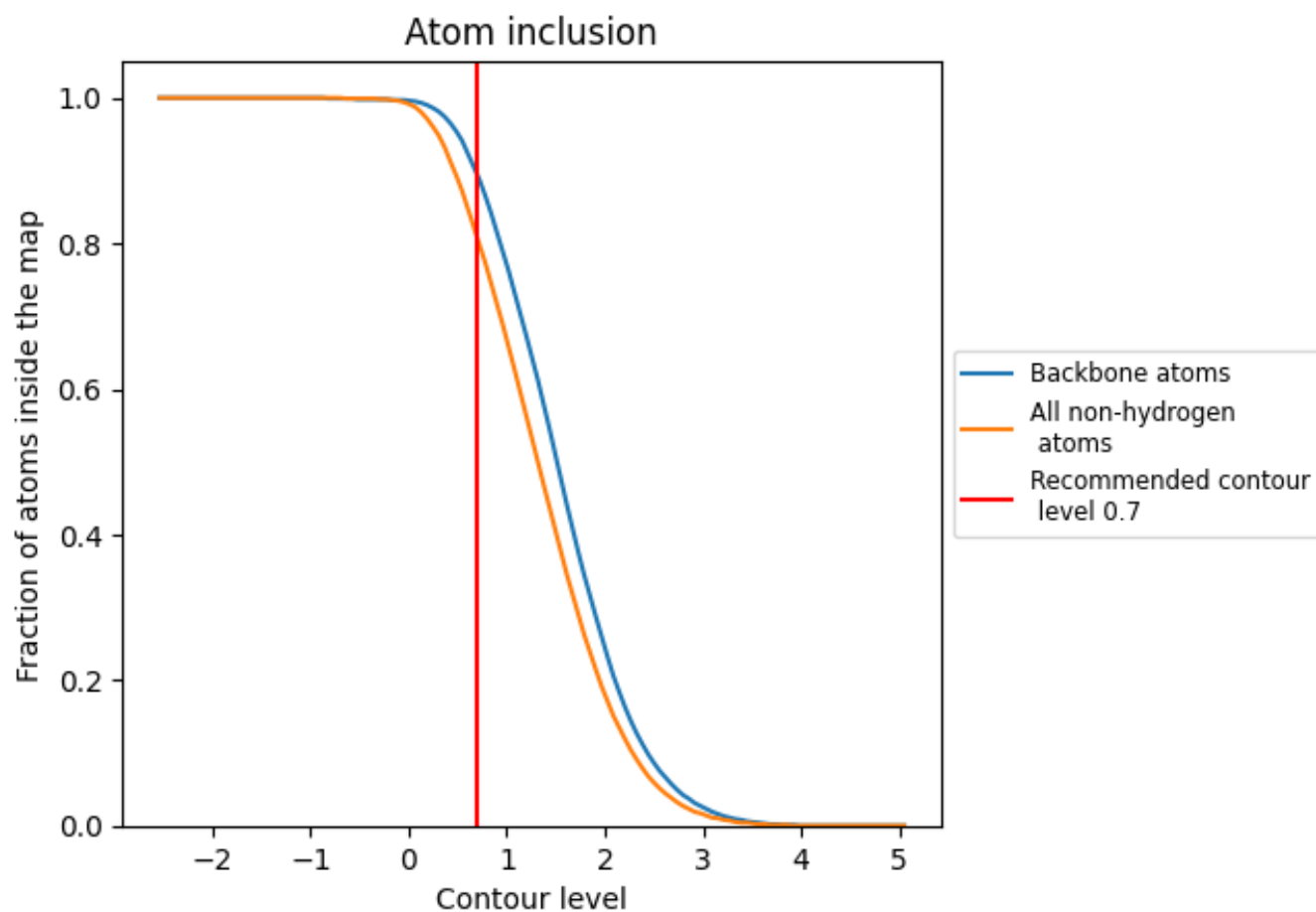
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.7).



























9.4 Atom inclusion [i](#)



At the recommended contour level, 89% of all backbone atoms, 81% 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 (0.7) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|-------|--|--|
| All |  0.8070 |  0.6640 |
| A |  0.8060 |  0.6630 |
| B |  0.8080 |  0.6630 |
| C |  0.8050 |  0.6640 |
| D |  0.8090 |  0.6650 |
| E |  0.8070 |  0.6640 |
| F |  0.8080 |  0.6640 |
| G |  0.8050 |  0.6630 |
| H |  0.8070 |  0.6630 |
| I |  0.8070 |  0.6630 |
| J |  0.8080 |  0.6630 |
| K |  0.8060 |  0.6630 |
| L |  0.8070 |  0.6640 |

