



Full wwPDB X-ray Structure Validation Report ⓘ

May 21, 2020 – 01:21 pm BST

PDB ID : 4ATW
Title : The crystal structure of Arabinofuranosidase
Authors : Dumbrepatil, A.; Song, H.-N.; Jung, T.-Y.; Kim, T.-J.; Woo, E.-J.
Deposited on : 2012-05-10
Resolution : 3.00 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Xtrriage (Phenix) : 1.13
EDS : 2.11
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

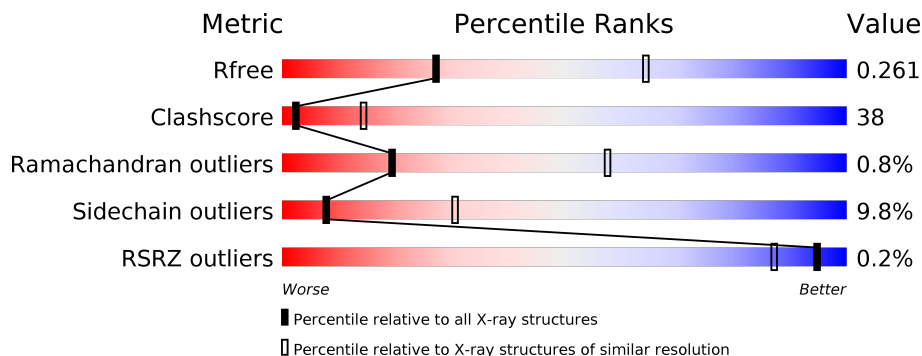
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 Å.

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



| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| R_{free} | 130704 | 2092 (3.00-3.00) |
| Clashscore | 141614 | 2416 (3.00-3.00) |
| Ramachandran outliers | 138981 | 2333 (3.00-3.00) |
| Sidechain outliers | 138945 | 2336 (3.00-3.00) |
| RSRZ outliers | 127900 | 1990 (3.00-3.00) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower 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 electron density. The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 1 | A | 482 | 51% (green), 39% (yellow), 8% (orange), 2% (red) |
| 1 | B | 482 | 51% (green), 39% (yellow), 8% (orange), 2% (red) |
| 1 | C | 482 | 50% (green), 40% (yellow), 9% (orange), 1% (red) |
| 1 | D | 482 | 50% (green), 39% (yellow), 9% (orange), 2% (red) |
| 1 | E | 482 | 50% (green), 42% (yellow), 7% (orange), 1% (red) |
| 1 | F | 482 | 53% (green), 39% (yellow), 7% (orange), 1% (red) |

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 23256 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 ALPHA-L-ARABINOFURANOSIDASE DOMAIN PROTEIN.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 1 | A | 481 | 3876 | 2486 | 646 | 729 | 15 | 0 | 0 | 0 |
| 1 | B | 481 | 3876 | 2486 | 646 | 729 | 15 | 0 | 0 | 0 |
| 1 | C | 481 | 3876 | 2486 | 646 | 729 | 15 | 0 | 0 | 0 |
| 1 | D | 481 | 3876 | 2486 | 646 | 729 | 15 | 0 | 0 | 0 |
| 1 | E | 481 | 3876 | 2486 | 646 | 729 | 15 | 0 | 0 | 0 |
| 1 | F | 481 | 3876 | 2486 | 646 | 729 | 15 | 0 | 0 | 0 |

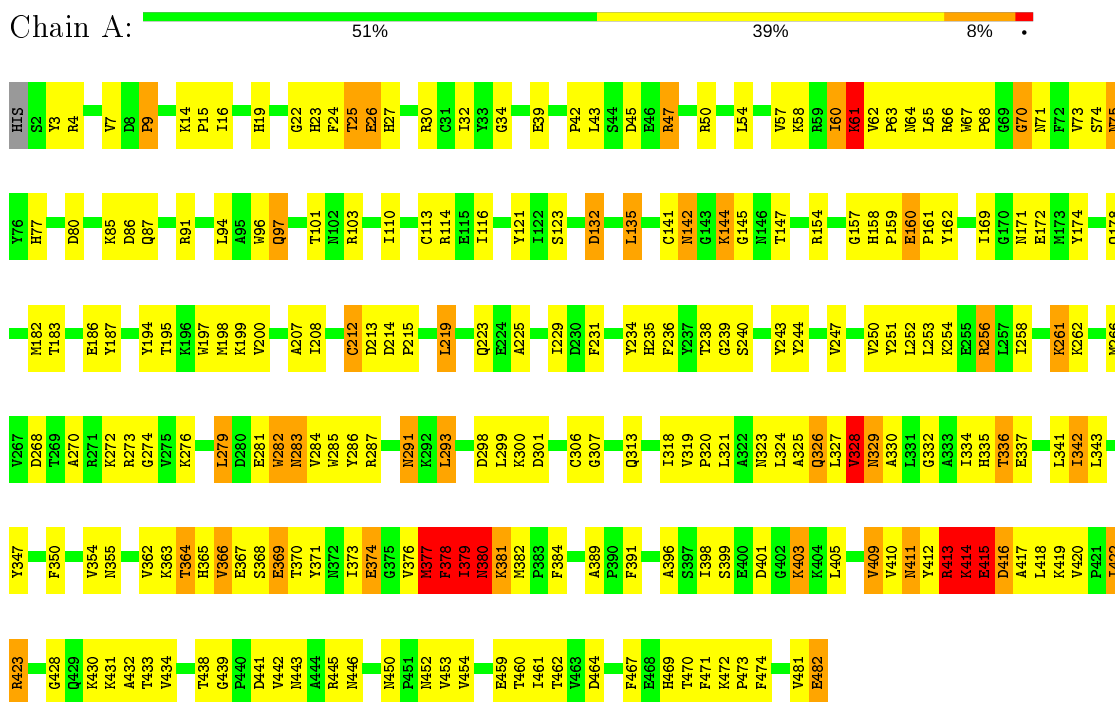
There are 6 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------------|------------|
| A | 1 | HIS | - | expression tag | UNP G4FHJ5 |
| B | 1 | HIS | - | expression tag | UNP G4FHJ5 |
| C | 1 | HIS | - | expression tag | UNP G4FHJ5 |
| D | 1 | HIS | - | expression tag | UNP G4FHJ5 |
| E | 1 | HIS | - | expression tag | UNP G4FHJ5 |
| F | 1 | HIS | - | expression tag | UNP G4FHJ5 |

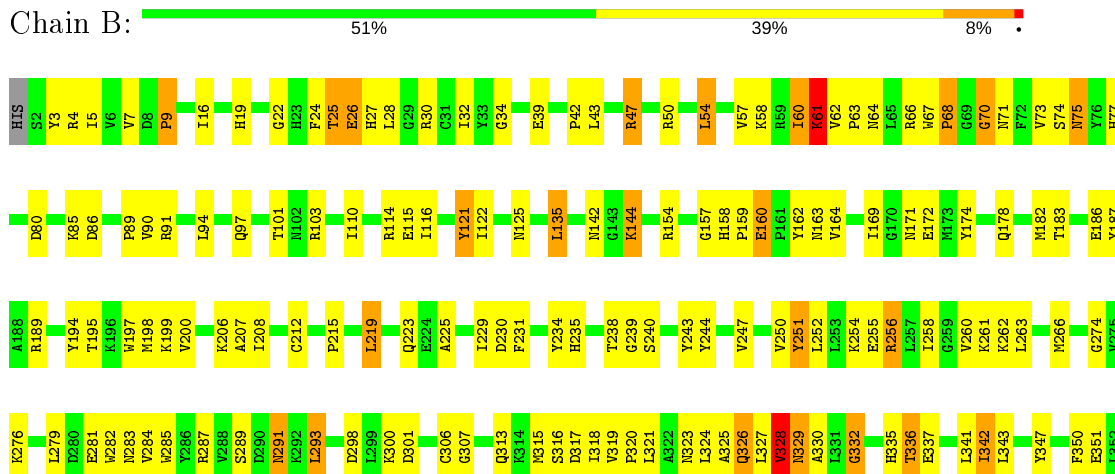
3 Residue-property plots

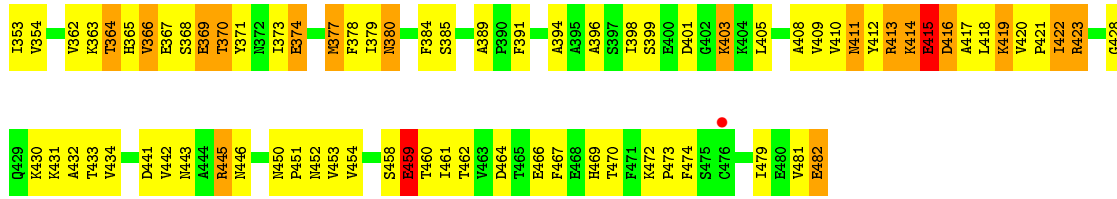
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are 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 dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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: ALPHA-L-ARABINOFURANOSIDASE DOMAIN PROTEIN

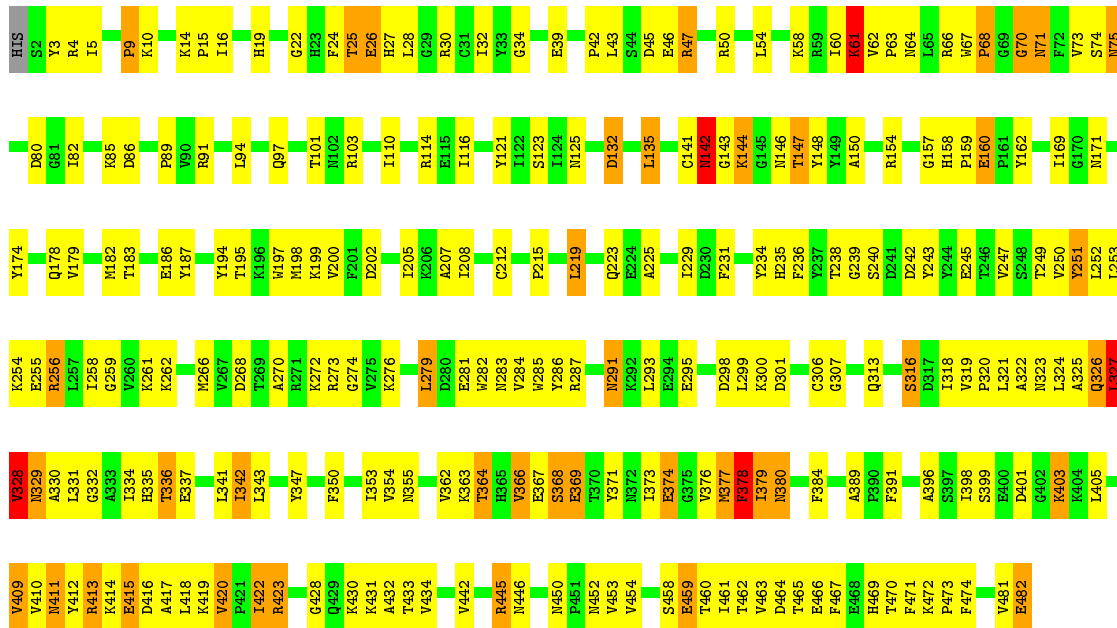


- Molecule 1: ALPHA-L-ARABINOFURANOSIDASE DOMAIN PROTEIN

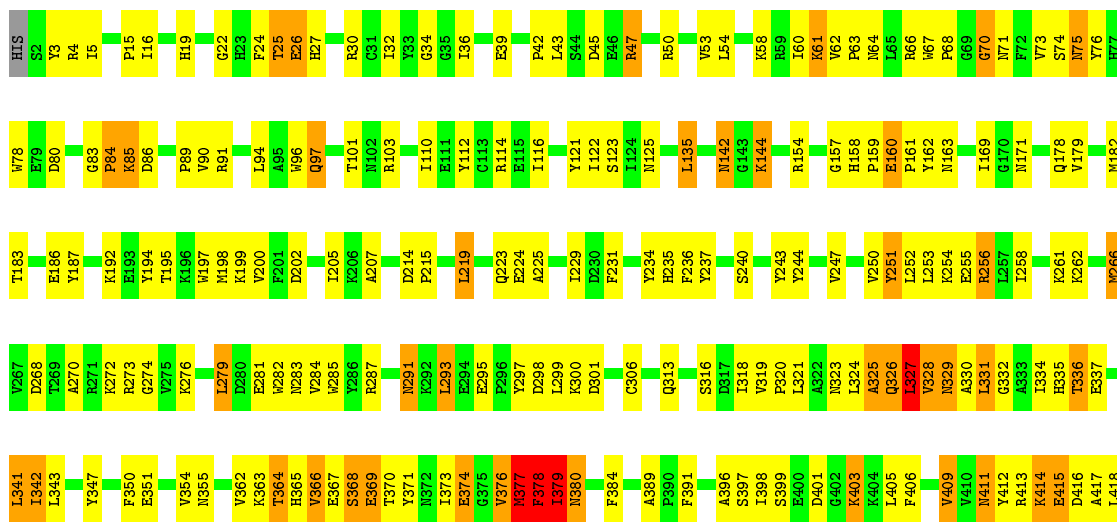




• Molecule 1: ALPHA-L-ARABINOFURANOSIDASE DOMAIN PROTEIN

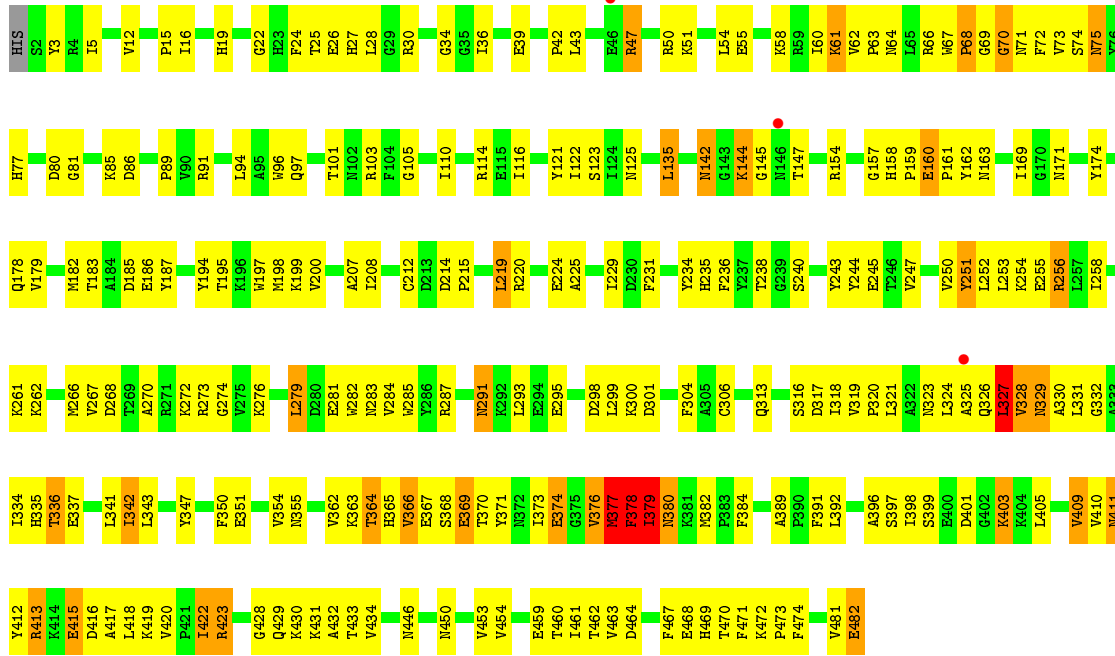


• Molecule 1: ALPHA-L-ARABINOFURANOSIDASE DOMAIN PROTEIN

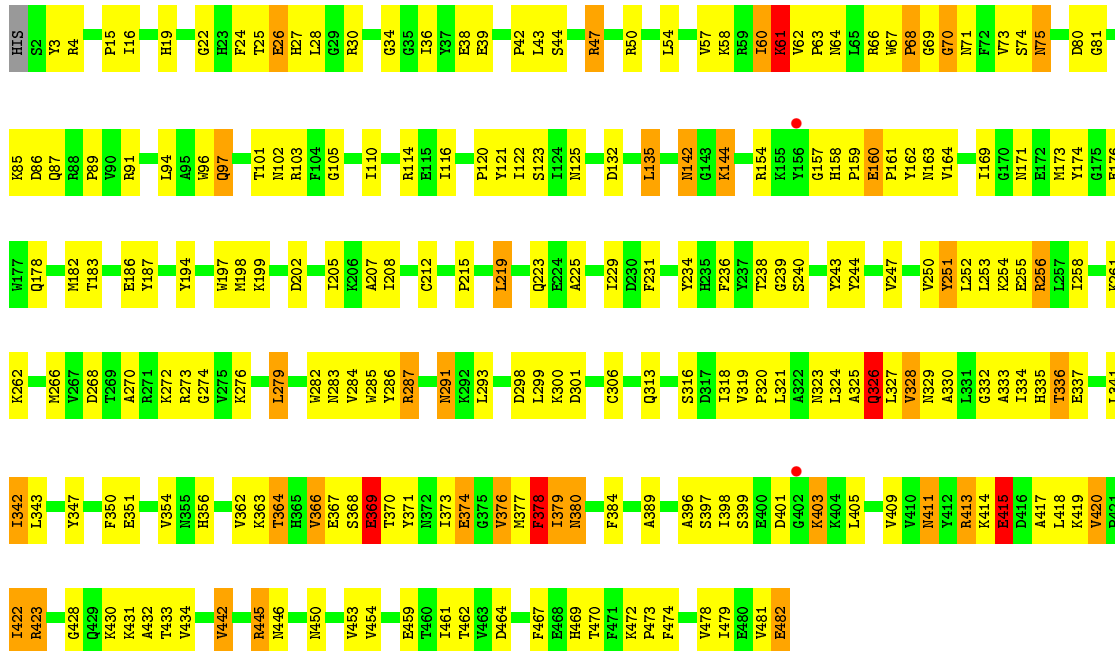




● Molecule 1: ALPHA-L-ARABINOFURANOSIDASE DOMAIN PROTEIN



● Molecule 1: ALPHA-L-ARABINOFURANOSIDASE DOMAIN PROTEIN



4 Data and refinement statistics

| Property | Value | Source |
|---|---|------------------|
| Space group | P 1 21 1 | Depositor |
| Cell constants a, b, c, α , β , γ | 103.71Å 161.54Å 112.60Å 90.00° 106.30° 90.00° | Depositor |
| Resolution (Å) | 29.94 – 3.00 29.94 – 2.99 | Depositor EDS |
| % Data completeness (in resolution range) | 84.5 (29.94-3.00) 84.2 (29.94-2.99) | Depositor EDS |
| R_{merge} | 0.13 | Depositor |
| R_{sym} | (Not available) | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 3.24 (at 3.00Å) | Xtrriage |
| Refinement program | CNS 1.2 | Depositor |
| R, R_{free} | 0.227 , 0.262 0.227 , 0.261 | Depositor DCC |
| R_{free} test set | 4430 reflections (6.60%) | wwPDB-VP |
| Wilson B-factor (Å ²) | 45.1 | Xtrriage |
| Anisotropy | 0.271 | Xtrriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.28 , 40.9 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$ | Xtrriage |
| Estimated twinning fraction | No twinning to report. | Xtrriage |
| F_o, F_c correlation | 0.87 | EDS |
| Total number of atoms | 23256 | wwPDB-VP |
| Average B, all atoms (Å ²) | 54.0 | wwPDB-VP |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.39% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|------------------|-------------|------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 1 | A | 1.04 | 21/3971 (0.5%) | 1.01 | 31/5383 (0.6%) |
| 1 | B | 0.73 | 5/3971 (0.1%) | 0.98 | 22/5383 (0.4%) |
| 1 | C | 0.99 | 24/3971 (0.6%) | 0.96 | 24/5383 (0.4%) |
| 1 | D | 1.10 | 37/3971 (0.9%) | 1.04 | 31/5383 (0.6%) |
| 1 | E | 0.84 | 16/3971 (0.4%) | 0.95 | 17/5383 (0.3%) |
| 1 | F | 0.81 | 11/3971 (0.3%) | 0.91 | 16/5383 (0.3%) |
| All | All | 0.93 | 114/23826 (0.5%) | 0.97 | 141/32298 (0.4%) |

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 | 1 | 1 |
| 1 | B | 0 | 1 |
| 1 | C | 0 | 1 |
| 1 | D | 0 | 2 |
| 1 | E | 0 | 1 |
| 1 | F | 0 | 3 |
| All | All | 1 | 9 |

All (114) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|--------|-------------|----------|
| 1 | A | 328 | VAL | CB-CG1 | -19.15 | 1.12 | 1.52 |
| 1 | A | 328 | VAL | CA-CB | -18.55 | 1.15 | 1.54 |
| 1 | D | 26 | GLU | C-N | -17.58 | 0.93 | 1.34 |
| 1 | A | 378 | PHE | CE2-CZ | -16.47 | 1.06 | 1.37 |
| 1 | D | 328 | VAL | CB-CG2 | -16.30 | 1.18 | 1.52 |
| 1 | D | 328 | VAL | CB-CG1 | -15.48 | 1.20 | 1.52 |
| 1 | E | 376 | VAL | CA-CB | -15.41 | 1.22 | 1.54 |
| 1 | A | 328 | VAL | CB-CG2 | -14.88 | 1.21 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|--------|-------------|----------|
| 1 | B | 328 | VAL | CB-CG2 | -14.40 | 1.22 | 1.52 |
| 1 | E | 378 | PHE | CE2-CZ | -14.12 | 1.10 | 1.37 |
| 1 | F | 376 | VAL | CB-CG2 | -13.75 | 1.24 | 1.52 |
| 1 | D | 376 | VAL | CB-CG2 | -13.41 | 1.24 | 1.52 |
| 1 | C | 328 | VAL | CA-CB | -13.33 | 1.26 | 1.54 |
| 1 | A | 377 | MET | C-O | -13.32 | 0.98 | 1.23 |
| 1 | C | 328 | VAL | CB-CG2 | -13.32 | 1.24 | 1.52 |
| 1 | F | 376 | VAL | CA-CB | -13.27 | 1.26 | 1.54 |
| 1 | A | 378 | PHE | CD1-CE1 | -12.64 | 1.14 | 1.39 |
| 1 | C | 147 | THR | C-O | -12.14 | 1.00 | 1.23 |
| 1 | B | 328 | VAL | CB-CG1 | -12.02 | 1.27 | 1.52 |
| 1 | C | 368 | SER | C-O | -11.99 | 1.00 | 1.23 |
| 1 | C | 26 | GLU | C-N | -11.78 | 1.06 | 1.34 |
| 1 | A | 378 | PHE | CD2-CE2 | -11.68 | 1.15 | 1.39 |
| 1 | F | 369 | GLU | CD-OE1 | -11.34 | 1.13 | 1.25 |
| 1 | F | 376 | VAL | CB-CG1 | -11.18 | 1.29 | 1.52 |
| 1 | D | 377 | MET | C-O | -11.17 | 1.02 | 1.23 |
| 1 | E | 378 | PHE | CG-CD1 | -11.13 | 1.22 | 1.38 |
| 1 | C | 328 | VAL | CB-CG1 | -11.03 | 1.29 | 1.52 |
| 1 | C | 147 | THR | N-CA | -10.90 | 1.24 | 1.46 |
| 1 | D | 378 | PHE | CD2-CE2 | -10.74 | 1.17 | 1.39 |
| 1 | D | 328 | VAL | CA-CB | -10.49 | 1.32 | 1.54 |
| 1 | F | 369 | GLU | CB-CG | -10.18 | 1.32 | 1.52 |
| 1 | D | 377 | MET | N-CA | -10.13 | 1.26 | 1.46 |
| 1 | A | 328 | VAL | C-O | -9.97 | 1.04 | 1.23 |
| 1 | C | 414 | LYS | CB-CG | -9.97 | 1.25 | 1.52 |
| 1 | A | 378 | PHE | CE1-CZ | -9.86 | 1.18 | 1.37 |
| 1 | F | 376 | VAL | C-O | -9.86 | 1.04 | 1.23 |
| 1 | C | 329 | ASN | C-O | -9.85 | 1.04 | 1.23 |
| 1 | A | 378 | PHE | CG-CD1 | -9.80 | 1.24 | 1.38 |
| 1 | D | 370 | THR | CB-CG2 | -9.66 | 1.20 | 1.52 |
| 1 | D | 327 | LEU | C-O | -9.62 | 1.05 | 1.23 |
| 1 | F | 369 | GLU | CG-CD | -9.57 | 1.37 | 1.51 |
| 1 | B | 328 | VAL | C-O | -9.55 | 1.05 | 1.23 |
| 1 | D | 378 | PHE | CE1-CZ | -9.44 | 1.19 | 1.37 |
| 1 | C | 147 | THR | CB-CG2 | -9.38 | 1.21 | 1.52 |
| 1 | E | 378 | PHE | C-O | -9.37 | 1.05 | 1.23 |
| 1 | C | 329 | ASN | CG-OD1 | -9.32 | 1.03 | 1.24 |
| 1 | E | 376 | VAL | CB-CG1 | -9.19 | 1.33 | 1.52 |
| 1 | D | 369 | GLU | CD-OE1 | -9.06 | 1.15 | 1.25 |
| 1 | D | 370 | THR | CA-CB | -8.92 | 1.30 | 1.53 |
| 1 | D | 376 | VAL | CB-CG1 | -8.88 | 1.34 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 1 | C | 414 | LYS | C-O | -8.88 | 1.06 | 1.23 |
| 1 | E | 378 | PHE | CE1-CZ | -8.82 | 1.20 | 1.37 |
| 1 | D | 327 | LEU | CG-CD1 | -8.78 | 1.19 | 1.51 |
| 1 | D | 378 | PHE | CD1-CE1 | -8.76 | 1.21 | 1.39 |
| 1 | B | 328 | VAL | CA-CB | -8.74 | 1.36 | 1.54 |
| 1 | D | 327 | LEU | CG-CD2 | -8.66 | 1.19 | 1.51 |
| 1 | D | 370 | THR | C-O | -8.57 | 1.07 | 1.23 |
| 1 | B | 26 | GLU | C-N | -8.54 | 1.14 | 1.34 |
| 1 | A | 378 | PHE | CG-CD2 | -8.44 | 1.26 | 1.38 |
| 1 | C | 414 | LYS | CD-CE | -8.19 | 1.30 | 1.51 |
| 1 | E | 378 | PHE | CA-C | -8.14 | 1.31 | 1.52 |
| 1 | D | 377 | MET | CG-SD | -8.11 | 1.60 | 1.81 |
| 1 | F | 378 | PHE | CD1-CE1 | -8.10 | 1.23 | 1.39 |
| 1 | D | 378 | PHE | C-O | -8.09 | 1.07 | 1.23 |
| 1 | D | 376 | VAL | CA-CB | -8.01 | 1.38 | 1.54 |
| 1 | C | 414 | LYS | CE-NZ | -8.00 | 1.29 | 1.49 |
| 1 | A | 378 | PHE | C-O | -7.97 | 1.08 | 1.23 |
| 1 | D | 369 | GLU | N-CA | -7.79 | 1.30 | 1.46 |
| 1 | D | 377 | MET | CB-CG | -7.71 | 1.26 | 1.51 |
| 1 | A | 415 | GLU | CG-CD | 7.49 | 1.63 | 1.51 |
| 1 | C | 368 | SER | CB-OG | -7.41 | 1.32 | 1.42 |
| 1 | A | 26 | GLU | C-N | -7.38 | 1.17 | 1.34 |
| 1 | F | 369 | GLU | C-O | -7.37 | 1.09 | 1.23 |
| 1 | E | 377 | MET | C-O | -7.30 | 1.09 | 1.23 |
| 1 | D | 376 | VAL | C-O | -7.14 | 1.09 | 1.23 |
| 1 | E | 378 | PHE | CG-CD2 | -7.05 | 1.28 | 1.38 |
| 1 | D | 328 | VAL | C-O | -6.99 | 1.10 | 1.23 |
| 1 | C | 328 | VAL | N-CA | -6.91 | 1.32 | 1.46 |
| 1 | E | 378 | PHE | CD2-CE2 | -6.83 | 1.25 | 1.39 |
| 1 | A | 377 | MET | CG-SD | -6.80 | 1.63 | 1.81 |
| 1 | D | 377 | MET | CA-CB | -6.79 | 1.39 | 1.53 |
| 1 | E | 378 | PHE | CB-CG | -6.78 | 1.39 | 1.51 |
| 1 | C | 147 | THR | CA-CB | -6.76 | 1.35 | 1.53 |
| 1 | C | 329 | ASN | CA-C | -6.76 | 1.35 | 1.52 |
| 1 | C | 329 | ASN | CG-ND2 | -6.67 | 1.16 | 1.32 |
| 1 | D | 370 | THR | CB-OG1 | -6.57 | 1.30 | 1.43 |
| 1 | E | 378 | PHE | CA-CB | -6.56 | 1.39 | 1.53 |
| 1 | E | 377 | MET | CG-SD | -6.55 | 1.64 | 1.81 |
| 1 | D | 377 | MET | CA-C | -6.54 | 1.35 | 1.52 |
| 1 | C | 368 | SER | CA-CB | -6.52 | 1.43 | 1.52 |
| 1 | F | 378 | PHE | CE1-CZ | -6.52 | 1.25 | 1.37 |
| 1 | D | 369 | GLU | CD-OE2 | -6.42 | 1.18 | 1.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 1 | E | 376 | VAL | CB-CG2 | -6.18 | 1.39 | 1.52 |
| 1 | C | 414 | LYS | CA-CB | -6.17 | 1.40 | 1.53 |
| 1 | D | 329 | ASN | C-O | -6.07 | 1.11 | 1.23 |
| 1 | F | 369 | GLU | CD-OE2 | -6.01 | 1.19 | 1.25 |
| 1 | A | 141 | CYS | CB-SG | -5.81 | 1.72 | 1.81 |
| 1 | D | 370 | THR | CA-C | -5.81 | 1.37 | 1.52 |
| 1 | E | 376 | VAL | C-O | -5.67 | 1.12 | 1.23 |
| 1 | C | 328 | VAL | CA-C | -5.65 | 1.38 | 1.52 |
| 1 | C | 329 | ASN | CB-CG | -5.64 | 1.38 | 1.51 |
| 1 | A | 9 | PRO | N-CD | -5.62 | 1.40 | 1.47 |
| 1 | D | 368 | SER | C-N | -5.50 | 1.21 | 1.34 |
| 1 | C | 414 | LYS | N-CA | -5.47 | 1.35 | 1.46 |
| 1 | A | 212 | CYS | CB-SG | -5.43 | 1.73 | 1.81 |
| 1 | D | 378 | PHE | CG-CD1 | -5.41 | 1.30 | 1.38 |
| 1 | A | 113 | CYS | CB-SG | -5.39 | 1.73 | 1.81 |
| 1 | E | 376 | VAL | N-CA | -5.33 | 1.35 | 1.46 |
| 1 | D | 377 | MET | SD-CE | -5.24 | 1.48 | 1.77 |
| 1 | D | 15 | PRO | N-CD | -5.23 | 1.40 | 1.47 |
| 1 | D | 369 | GLU | CG-CD | -5.22 | 1.44 | 1.51 |
| 1 | D | 376 | VAL | N-CA | -5.09 | 1.36 | 1.46 |
| 1 | A | 377 | MET | N-CA | -5.02 | 1.36 | 1.46 |
| 1 | A | 377 | MET | CB-CG | -5.01 | 1.35 | 1.51 |

All (141) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|---------|--------|-------------|----------|
| 1 | B | 329 | ASN | N-CA-C | 15.22 | 152.09 | 111.00 |
| 1 | D | 25 | THR | O-C-N | -13.37 | 101.31 | 122.70 |
| 1 | A | 379 | ILE | CB-CA-C | -12.96 | 85.69 | 111.60 |
| 1 | D | 325 | ALA | CB-CA-C | 12.94 | 129.50 | 110.10 |
| 1 | E | 376 | VAL | CB-CA-C | -12.41 | 87.82 | 111.40 |
| 1 | E | 378 | PHE | N-CA-CB | -12.31 | 88.44 | 110.60 |
| 1 | B | 329 | ASN | N-CA-CB | -12.17 | 88.70 | 110.60 |
| 1 | E | 377 | MET | N-CA-C | 12.06 | 143.56 | 111.00 |
| 1 | F | 328 | VAL | N-CA-CB | -11.83 | 85.48 | 111.50 |
| 1 | A | 369 | GLU | N-CA-C | -11.48 | 80.01 | 111.00 |
| 1 | B | 419 | LYS | CB-CA-C | -11.37 | 87.66 | 110.40 |
| 1 | D | 25 | THR | C-N-CA | 10.47 | 147.87 | 121.70 |
| 1 | C | 9 | PRO | CA-N-CD | -10.33 | 97.04 | 111.50 |
| 1 | B | 328 | VAL | N-CA-CB | -10.31 | 88.81 | 111.50 |
| 1 | C | 328 | VAL | N-CA-CB | -10.12 | 89.23 | 111.50 |
| 1 | E | 370 | THR | N-CA-CB | -10.04 | 91.23 | 110.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|----------|-------|-------------|----------|
| 1 | B | 370 | THR | N-CA-CB | -9.94 | 91.42 | 110.30 |
| 1 | E | 341 | LEU | CB-CA-C | -9.92 | 91.36 | 110.20 |
| 1 | D | 377 | MET | N-CA-C | 9.88 | 137.69 | 111.00 |
| 1 | B | 60 | ILE | N-CA-C | -9.86 | 84.39 | 111.00 |
| 1 | A | 9 | PRO | CA-N-CD | -9.73 | 97.88 | 111.50 |
| 1 | F | 60 | ILE | N-CA-C | -9.66 | 84.92 | 111.00 |
| 1 | B | 9 | PRO | CA-N-CD | -9.52 | 98.17 | 111.50 |
| 1 | D | 341 | LEU | CB-CA-C | -9.33 | 92.48 | 110.20 |
| 1 | A | 377 | MET | N-CA-C | 9.28 | 136.05 | 111.00 |
| 1 | A | 60 | ILE | N-CA-C | -9.18 | 86.22 | 111.00 |
| 1 | D | 326 | GLN | N-CA-CB | -9.12 | 94.18 | 110.60 |
| 1 | C | 25 | THR | O-C-N | -9.01 | 108.29 | 122.70 |
| 1 | C | 377 | MET | CB-CA-C | 8.93 | 128.27 | 110.40 |
| 1 | D | 370 | THR | N-CA-CB | -8.93 | 93.33 | 110.30 |
| 1 | D | 369 | GLU | N-CA-C | -8.91 | 86.93 | 111.00 |
| 1 | D | 327 | LEU | CA-CB-CG | 8.89 | 135.76 | 115.30 |
| 1 | A | 413 | ARG | CB-CA-C | 8.89 | 128.18 | 110.40 |
| 1 | E | 327 | LEU | N-CA-C | -8.85 | 87.11 | 111.00 |
| 1 | D | 15 | PRO | CA-N-CD | -8.66 | 99.37 | 111.50 |
| 1 | C | 15 | PRO | CA-N-CD | -8.64 | 99.40 | 111.50 |
| 1 | E | 15 | PRO | CA-N-CD | -8.61 | 99.45 | 111.50 |
| 1 | D | 325 | ALA | N-CA-C | -8.50 | 88.04 | 111.00 |
| 1 | A | 15 | PRO | CA-N-CD | -8.49 | 99.61 | 111.50 |
| 1 | B | 142 | ASN | N-CA-C | 8.46 | 133.85 | 111.00 |
| 1 | B | 369 | GLU | CB-CA-C | -8.46 | 93.48 | 110.40 |
| 1 | E | 377 | MET | N-CA-CB | -8.45 | 95.39 | 110.60 |
| 1 | A | 326 | GLN | CB-CA-C | 8.42 | 127.25 | 110.40 |
| 1 | E | 369 | GLU | N-CA-C | -8.37 | 88.41 | 111.00 |
| 1 | E | 369 | GLU | CB-CA-C | -8.37 | 93.66 | 110.40 |
| 1 | D | 25 | THR | CA-C-N | 8.33 | 135.52 | 117.20 |
| 1 | D | 370 | THR | CB-CA-C | -8.31 | 89.17 | 111.60 |
| 1 | D | 327 | LEU | N-CA-C | 8.27 | 133.32 | 111.00 |
| 1 | D | 328 | VAL | CB-CA-C | -8.24 | 95.75 | 111.40 |
| 1 | C | 341 | LEU | CB-CA-C | -8.22 | 94.58 | 110.20 |
| 1 | F | 341 | LEU | CB-CA-C | -8.21 | 94.60 | 110.20 |
| 1 | A | 341 | LEU | CB-CA-C | -8.16 | 94.70 | 110.20 |
| 1 | D | 376 | VAL | CB-CA-C | -8.16 | 95.90 | 111.40 |
| 1 | F | 369 | GLU | C-N-CA | 8.13 | 142.02 | 121.70 |
| 1 | A | 380 | ASN | N-CA-C | -8.12 | 89.07 | 111.00 |
| 1 | B | 415 | GLU | CB-CA-C | -8.04 | 94.32 | 110.40 |
| 1 | C | 25 | THR | C-N-CA | 8.02 | 141.74 | 121.70 |
| 1 | B | 328 | VAL | C-N-CA | -8.01 | 101.68 | 121.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | C | 376 | VAL | CB-CA-C | -7.99 | 96.22 | 111.40 |
| 1 | C | 378 | PHE | N-CA-C | 7.88 | 132.26 | 111.00 |
| 1 | C | 147 | THR | OG1-CB-CG2 | -7.86 | 91.92 | 110.00 |
| 1 | E | 142 | ASN | N-CA-C | 7.86 | 132.21 | 111.00 |
| 1 | F | 15 | PRO | CA-N-CD | -7.85 | 100.50 | 111.50 |
| 1 | E | 329 | ASN | N-CA-C | 7.70 | 131.79 | 111.00 |
| 1 | A | 282 | TRP | CB-CA-C | -7.55 | 95.30 | 110.40 |
| 1 | D | 326 | GLN | CB-CA-C | -7.53 | 95.34 | 110.40 |
| 1 | B | 369 | GLU | N-CA-C | -7.48 | 90.80 | 111.00 |
| 1 | D | 328 | VAL | CG1-CB-CG2 | -7.39 | 99.08 | 110.90 |
| 1 | A | 142 | ASN | N-CA-C | 7.38 | 130.92 | 111.00 |
| 1 | F | 378 | PHE | CB-CA-C | 7.36 | 125.11 | 110.40 |
| 1 | B | 341 | LEU | CB-CA-C | -7.35 | 96.23 | 110.20 |
| 1 | D | 377 | MET | CA-C-N | 7.30 | 133.25 | 117.20 |
| 1 | A | 70 | GLY | N-CA-C | -7.23 | 95.02 | 113.10 |
| 1 | C | 147 | THR | CA-CB-CG2 | -7.18 | 102.35 | 112.40 |
| 1 | E | 70 | GLY | N-CA-C | -7.08 | 95.39 | 113.10 |
| 1 | A | 283 | ASN | N-CA-CB | -6.97 | 98.06 | 110.60 |
| 1 | A | 377 | MET | O-C-N | -6.96 | 111.57 | 122.70 |
| 1 | F | 142 | ASN | N-CA-C | 6.91 | 129.66 | 111.00 |
| 1 | F | 376 | VAL | CB-CA-C | -6.89 | 98.31 | 111.40 |
| 1 | F | 415 | GLU | N-CA-CB | -6.89 | 98.20 | 110.60 |
| 1 | C | 414 | LYS | N-CA-CB | -6.86 | 98.25 | 110.60 |
| 1 | F | 286 | TYR | CB-CA-C | 6.86 | 124.11 | 110.40 |
| 1 | C | 14 | LYS | C-N-CD | -6.77 | 105.70 | 120.60 |
| 1 | A | 25 | THR | O-C-N | -6.77 | 111.87 | 122.70 |
| 1 | D | 142 | ASN | N-CA-C | 6.73 | 129.18 | 111.00 |
| 1 | F | 326 | GLN | N-CA-CB | -6.68 | 98.58 | 110.60 |
| 1 | A | 329 | ASN | N-CA-CB | 6.65 | 122.57 | 110.60 |
| 1 | C | 70 | GLY | N-CA-C | -6.64 | 96.51 | 113.10 |
| 1 | C | 420 | VAL | N-CA-CB | -6.61 | 96.97 | 111.50 |
| 1 | D | 85 | LYS | N-CA-C | -6.60 | 93.19 | 111.00 |
| 1 | E | 420 | VAL | N-CA-CB | -6.59 | 97.00 | 111.50 |
| 1 | A | 420 | VAL | N-CA-CB | -6.59 | 97.00 | 111.50 |
| 1 | D | 84 | PRO | CB-CA-C | 6.58 | 128.44 | 112.00 |
| 1 | C | 377 | MET | N-CA-CB | -6.47 | 98.95 | 110.60 |
| 1 | D | 379 | ILE | CB-CA-C | -6.47 | 98.66 | 111.60 |
| 1 | B | 70 | GLY | N-CA-C | -6.46 | 96.96 | 113.10 |
| 1 | F | 370 | THR | N-CA-CB | -6.42 | 98.10 | 110.30 |
| 1 | A | 379 | ILE | N-CA-C | 6.41 | 128.32 | 111.00 |
| 1 | E | 327 | LEU | N-CA-CB | 6.38 | 123.16 | 110.40 |
| 1 | C | 327 | LEU | N-CA-C | 6.36 | 128.18 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | D | 377 | MET | N-CA-CB | -6.31 | 99.25 | 110.60 |
| 1 | D | 70 | GLY | N-CA-C | -6.25 | 97.47 | 113.10 |
| 1 | D | 326 | GLN | N-CA-C | 6.23 | 127.81 | 111.00 |
| 1 | A | 61 | LYS | N-CA-CB | -6.22 | 99.41 | 110.60 |
| 1 | B | 61 | LYS | N-CA-CB | -6.20 | 99.44 | 110.60 |
| 1 | F | 61 | LYS | N-CA-CB | -6.16 | 99.51 | 110.60 |
| 1 | D | 420 | VAL | N-CA-CB | -6.16 | 97.95 | 111.50 |
| 1 | C | 142 | ASN | CB-CA-C | -6.15 | 98.10 | 110.40 |
| 1 | A | 25 | THR | C-N-CA | 6.05 | 136.82 | 121.70 |
| 1 | A | 370 | THR | N-CA-CB | -5.98 | 98.94 | 110.30 |
| 1 | F | 287 | ARG | N-CA-C | 5.98 | 127.14 | 111.00 |
| 1 | B | 459 | GLU | CB-CA-C | 5.90 | 122.19 | 110.40 |
| 1 | B | 420 | VAL | N-CA-CB | -5.87 | 98.58 | 111.50 |
| 1 | D | 266 | MET | CG-SD-CE | 5.81 | 109.49 | 100.20 |
| 1 | F | 70 | GLY | N-CA-C | -5.80 | 98.60 | 113.10 |
| 1 | D | 379 | ILE | N-CA-C | 5.80 | 126.65 | 111.00 |
| 1 | C | 25 | THR | CA-C-N | 5.79 | 129.93 | 117.20 |
| 1 | B | 25 | THR | C-N-CA | 5.74 | 136.05 | 121.70 |
| 1 | A | 377 | MET | CG-SD-CE | 5.71 | 109.34 | 100.20 |
| 1 | A | 377 | MET | CA-CB-CG | 5.66 | 122.92 | 113.30 |
| 1 | C | 142 | ASN | N-CA-C | 5.53 | 125.93 | 111.00 |
| 1 | A | 14 | LYS | C-N-CD | -5.44 | 108.64 | 120.60 |
| 1 | F | 379 | ILE | N-CA-CB | -5.40 | 98.37 | 110.80 |
| 1 | C | 328 | VAL | N-CA-C | 5.40 | 125.58 | 111.00 |
| 1 | A | 415 | GLU | OE1-CD-OE2 | -5.38 | 116.84 | 123.30 |
| 1 | A | 413 | ARG | N-CA-C | -5.33 | 96.61 | 111.00 |
| 1 | B | 332 | GLY | N-CA-C | 5.32 | 126.40 | 113.10 |
| 1 | A | 326 | GLN | N-CA-CB | -5.31 | 101.05 | 110.60 |
| 1 | D | 331 | LEU | N-CA-C | -5.30 | 96.68 | 111.00 |
| 1 | A | 378 | PHE | CB-CG-CD1 | 5.26 | 124.48 | 120.80 |
| 1 | A | 414 | LYS | CB-CA-C | -5.25 | 99.90 | 110.40 |
| 1 | C | 378 | PHE | N-CA-CB | -5.23 | 101.18 | 110.60 |
| 1 | A | 282 | TRP | N-CA-C | 5.21 | 125.06 | 111.00 |
| 1 | B | 459 | GLU | N-CA-C | -5.21 | 96.95 | 111.00 |
| 1 | E | 379 | ILE | N-CA-C | 5.20 | 125.05 | 111.00 |
| 1 | B | 25 | THR | O-C-N | -5.16 | 114.44 | 122.70 |
| 1 | D | 369 | GLU | OE1-CD-OE2 | -5.14 | 117.13 | 123.30 |
| 1 | E | 329 | ASN | N-CA-CB | -5.11 | 101.40 | 110.60 |
| 1 | B | 328 | VAL | CB-CA-C | 5.06 | 121.01 | 111.40 |
| 1 | C | 68 | PRO | C-N-CA | -5.04 | 111.70 | 122.30 |
| 1 | C | 146 | ASN | N-CA-CB | -5.01 | 101.59 | 110.60 |

All (1) chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 1 | A | 377 | MET | CA |

All (9) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-------------------|
| 1 | A | 377 | MET | Mainchain |
| 1 | B | 251 | TYR | Sidechain |
| 1 | C | 251 | TYR | Sidechain |
| 1 | D | 251 | TYR | Sidechain |
| 1 | D | 327 | LEU | Mainchain |
| 1 | E | 251 | TYR | Sidechain |
| 1 | F | 251 | TYR | Sidechain |
| 1 | F | 369 | GLU | Mainchain,Peptide |

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 | 3876 | 0 | 3788 | 292 | 0 |
| 1 | B | 3876 | 0 | 3788 | 290 | 0 |
| 1 | C | 3876 | 0 | 3788 | 276 | 2 |
| 1 | D | 3876 | 0 | 3787 | 308 | 0 |
| 1 | E | 3876 | 0 | 3789 | 300 | 2 |
| 1 | F | 3876 | 0 | 3788 | 302 | 0 |
| All | All | 23256 | 0 | 22728 | 1727 | 2 |

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 38.

All (1727) 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:E:24:PHE:CD2 | 1:E:325:ALA:HB1 | 1.34 | 1.62 |
| 1:E:419:LYS:CG | 1:E:470:THR:CG2 | 1.80 | 1.58 |
| 1:B:410:VAL:HG11 | 1:B:412:TYR:CZ | 1.23 | 1.57 |
| 1:F:419:LYS:CG | 1:F:470:THR:CG2 | 1.77 | 1.57 |
| 1:E:24:PHE:HD2 | 1:E:325:ALA:CB | 1.17 | 1.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:419:LYS:CG | 1:C:470:THR:CG2 | 1.83 | 1.53 |
| 1:F:24:PHE:HD2 | 1:F:325:ALA:CB | 1.17 | 1.52 |
| 1:D:419:LYS:HG2 | 1:D:470:THR:CG2 | 1.40 | 1.51 |
| 1:E:24:PHE:CD2 | 1:E:325:ALA:CB | 1.90 | 1.51 |
| 1:F:419:LYS:HG3 | 1:F:470:THR:CG2 | 1.37 | 1.51 |
| 1:D:419:LYS:CG | 1:D:470:THR:CG2 | 1.89 | 1.50 |
| 1:A:419:LYS:CG | 1:A:470:THR:CG2 | 1.92 | 1.47 |
| 1:F:24:PHE:CD2 | 1:F:325:ALA:CB | 1.98 | 1.47 |
| 1:F:24:PHE:CD2 | 1:F:325:ALA:HB1 | 1.49 | 1.46 |
| 1:A:410:VAL:HG11 | 1:A:412:TYR:CZ | 1.49 | 1.45 |
| 1:B:410:VAL:CG1 | 1:B:412:TYR:CZ | 2.00 | 1.44 |
| 1:E:24:PHE:CB | 1:E:325:ALA:HB2 | 1.49 | 1.40 |
| 1:B:410:VAL:HG11 | 1:B:412:TYR:CE2 | 1.55 | 1.40 |
| 1:E:419:LYS:HG2 | 1:E:470:THR:CG2 | 1.39 | 1.39 |
| 1:A:419:LYS:HG2 | 1:A:470:THR:CG2 | 1.47 | 1.39 |
| 1:C:419:LYS:HG3 | 1:C:470:THR:CG2 | 1.46 | 1.36 |
| 1:D:411:ASN:HD21 | 1:D:413:ARG:CB | 1.39 | 1.35 |
| 1:C:419:LYS:HG2 | 1:C:470:THR:CG2 | 1.50 | 1.32 |
| 1:D:411:ASN:ND2 | 1:D:413:ARG:HB2 | 1.44 | 1.32 |
| 1:F:419:LYS:HG2 | 1:F:470:THR:CG2 | 1.48 | 1.29 |
| 1:E:24:PHE:HB3 | 1:E:325:ALA:CB | 1.62 | 1.28 |
| 1:D:419:LYS:CG | 1:D:470:THR:HG22 | 1.57 | 1.23 |
| 1:E:419:LYS:CG | 1:E:470:THR:HG22 | 1.52 | 1.22 |
| 1:A:379:ILE:O | 1:A:379:ILE:HG22 | 1.41 | 1.19 |
| 1:A:419:LYS:CG | 1:A:470:THR:HG22 | 1.61 | 1.18 |
| 1:E:419:LYS:HG3 | 1:E:470:THR:CG2 | 1.51 | 1.17 |
| 1:A:410:VAL:CG1 | 1:A:412:TYR:CZ | 2.26 | 1.17 |
| 1:A:419:LYS:HG3 | 1:A:470:THR:CG2 | 1.65 | 1.16 |
| 1:D:419:LYS:HG3 | 1:D:470:THR:CG2 | 1.65 | 1.16 |
| 1:F:481:VAL:HG22 | 1:F:482:GLU:H | 1.12 | 1.15 |
| 1:B:285:TRP:CE2 | 1:B:379:ILE:HD11 | 1.81 | 1.14 |
| 1:F:326:GLN:NE2 | 1:F:330:ALA:HB3 | 1.59 | 1.14 |
| 1:B:410:VAL:CG1 | 1:B:412:TYR:CE1 | 2.30 | 1.14 |
| 1:F:419:LYS:CG | 1:F:470:THR:HG22 | 1.49 | 1.14 |
| 1:A:410:VAL:HG11 | 1:A:412:TYR:CE1 | 1.82 | 1.13 |
| 1:A:239:GLY:O | 1:A:377:MET:O | 1.67 | 1.12 |
| 1:B:415:GLU:H | 1:B:473:PRO:HB2 | 1.12 | 1.12 |
| 1:F:411:ASN:HD21 | 1:F:413:ARG:HB2 | 1.06 | 1.11 |
| 1:B:481:VAL:HG22 | 1:B:482:GLU:H | 1.13 | 1.11 |
| 1:C:411:ASN:HD21 | 1:C:413:ARG:HB2 | 1.03 | 1.11 |
| 1:E:378:PHE:CD1 | 1:E:379:ILE:N | 2.18 | 1.10 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:419:LYS:HG3 | 1:F:470:THR:HG21 | 1.29 | 1.10 |
| 1:C:481:VAL:HG22 | 1:C:482:GLU:H | 1.14 | 1.10 |
| 1:F:24:PHE:CD2 | 1:F:325:ALA:HB2 | 1.85 | 1.10 |
| 1:E:24:PHE:CG | 1:E:325:ALA:HB2 | 1.85 | 1.09 |
| 1:F:327:LEU:O | 1:F:333:ALA:N | 1.85 | 1.09 |
| 1:C:286:TYR:CB | 1:C:378:PHE:O | 2.00 | 1.09 |
| 1:F:326:GLN:HE22 | 1:F:330:ALA:HB3 | 0.98 | 1.08 |
| 1:C:419:LYS:HG3 | 1:C:470:THR:HG21 | 1.28 | 1.08 |
| 1:E:481:VAL:HG22 | 1:E:482:GLU:H | 1.11 | 1.08 |
| 1:D:481:VAL:HG22 | 1:D:482:GLU:H | 1.09 | 1.07 |
| 1:C:419:LYS:CG | 1:C:470:THR:HG22 | 1.62 | 1.06 |
| 1:E:24:PHE:HB3 | 1:E:325:ALA:HB2 | 1.10 | 1.06 |
| 1:C:141:CYS:O | 1:C:142:ASN:OD1 | 1.74 | 1.05 |
| 1:A:282:TRP:CD2 | 1:A:282:TRP:O | 2.09 | 1.05 |
| 1:E:24:PHE:CG | 1:E:325:ALA:CB | 2.39 | 1.05 |
| 1:F:26:GLU:HB2 | 1:F:69:GLY:HA2 | 1.36 | 1.05 |
| 1:A:481:VAL:HG22 | 1:A:482:GLU:H | 1.14 | 1.04 |
| 1:A:419:LYS:HG2 | 1:A:470:THR:HG23 | 1.11 | 1.04 |
| 1:D:135:LEU:HD21 | 1:F:94:LEU:HD21 | 1.38 | 1.04 |
| 1:D:414:LYS:O | 1:D:473:PRO:HB2 | 1.57 | 1.03 |
| 1:E:419:LYS:HG3 | 1:E:470:THR:HG21 | 1.36 | 1.03 |
| 1:F:24:PHE:HB3 | 1:F:325:ALA:CA | 1.88 | 1.03 |
| 1:D:419:LYS:HG2 | 1:D:470:THR:HG23 | 1.08 | 1.03 |
| 1:C:9:PRO:HD2 | 1:C:10:LYS:H | 1.24 | 1.02 |
| 1:B:369:GLU:O | 1:B:391:PHE:HD2 | 1.43 | 1.02 |
| 1:D:376:VAL:O | 1:D:376:VAL:HG23 | 1.27 | 1.01 |
| 1:C:286:TYR:HB2 | 1:C:378:PHE:O | 1.60 | 1.00 |
| 1:E:376:VAL:O | 1:E:376:VAL:CG2 | 1.91 | 1.00 |
| 1:C:26:GLU:HB3 | 1:C:326:GLN:HE22 | 1.22 | 1.00 |
| 1:E:19:HIS:HD2 | 1:E:64:ASN:HD22 | 1.04 | 1.00 |
| 1:F:26:GLU:HB2 | 1:F:69:GLY:CA | 1.90 | 1.00 |
| 1:A:419:LYS:HG3 | 1:A:470:THR:HG21 | 1.44 | 0.99 |
| 1:F:419:LYS:HG2 | 1:F:470:THR:HG23 | 1.01 | 0.99 |
| 1:F:362:VAL:O | 1:F:364:THR:HG22 | 1.62 | 0.99 |
| 1:D:419:LYS:HG3 | 1:D:470:THR:HG21 | 1.43 | 0.98 |
| 1:E:24:PHE:HB3 | 1:E:325:ALA:CA | 1.92 | 0.98 |
| 1:A:413:ARG:HD3 | 1:A:415:GLU:OE1 | 1.62 | 0.98 |
| 1:F:34:GLY:O | 1:F:336:THR:HG21 | 1.63 | 0.98 |
| 1:E:328:VAL:HG12 | 1:E:329:ASN:H | 1.28 | 0.98 |
| 1:C:328:VAL:HG12 | 1:C:329:ASN:N | 1.77 | 0.98 |
| 1:C:411:ASN:ND2 | 1:C:413:ARG:HB2 | 1.77 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:24:PHE:O | 1:D:326:GLN:HA | 1.64 | 0.97 |
| 1:C:419:LYS:HG2 | 1:C:470:THR:HG23 | 0.98 | 0.97 |
| 1:C:327:LEU:O | 1:C:327:LEU:HG | 1.62 | 0.96 |
| 1:E:369:GLU:O | 1:E:391:PHE:HD2 | 1.45 | 0.96 |
| 1:B:7:VAL:HG12 | 1:B:9:PRO:CD | 1.94 | 0.96 |
| 1:A:410:VAL:CG1 | 1:A:412:TYR:CE2 | 2.48 | 0.96 |
| 1:F:239:GLY:O | 1:F:377:MET:O | 1.84 | 0.96 |
| 1:A:413:ARG:HD2 | 1:A:416:ASP:HB2 | 1.47 | 0.95 |
| 1:F:327:LEU:HG | 1:F:328:VAL:HG23 | 1.45 | 0.95 |
| 1:C:26:GLU:HB3 | 1:C:326:GLN:NE2 | 1.81 | 0.95 |
| 1:F:71:ASN:HA | 1:F:178:GLN:HE22 | 1.28 | 0.95 |
| 1:E:419:LYS:HG2 | 1:E:470:THR:HG23 | 0.97 | 0.95 |
| 1:A:380:ASN:HD22 | 1:A:380:ASN:N | 1.60 | 0.95 |
| 1:B:391:PHE:CD1 | 1:B:413:ARG:HG3 | 2.02 | 0.95 |
| 1:B:410:VAL:CG1 | 1:B:412:TYR:CE2 | 2.37 | 0.95 |
| 1:B:7:VAL:HG12 | 1:B:9:PRO:HD3 | 1.45 | 0.95 |
| 1:E:19:HIS:CD2 | 1:E:64:ASN:HD22 | 1.83 | 0.95 |
| 1:C:247:VAL:O | 1:C:250:VAL:HG12 | 1.66 | 0.95 |
| 1:C:19:HIS:HD2 | 1:C:64:ASN:HD22 | 1.11 | 0.94 |
| 1:C:446:ASN:HD21 | 1:C:454:VAL:H | 1.13 | 0.94 |
| 1:C:286:TYR:HA | 1:C:378:PHE:O | 1.68 | 0.94 |
| 1:E:378:PHE:HD1 | 1:E:379:ILE:H | 1.16 | 0.94 |
| 1:A:7:VAL:HG12 | 1:A:9:PRO:HD3 | 1.50 | 0.93 |
| 1:B:446:ASN:HD21 | 1:B:454:VAL:H | 1.10 | 0.93 |
| 1:C:411:ASN:HD21 | 1:C:413:ARG:CB | 1.81 | 0.93 |
| 1:A:380:ASN:ND2 | 1:A:380:ASN:H | 1.67 | 0.93 |
| 1:F:326:GLN:HE22 | 1:F:330:ALA:CB | 1.81 | 0.93 |
| 1:C:419:LYS:CG | 1:C:470:THR:HG23 | 1.72 | 0.93 |
| 1:C:19:HIS:CD2 | 1:C:64:ASN:HD22 | 1.86 | 0.92 |
| 1:D:330:ALA:C | 1:D:332:GLY:H | 1.69 | 0.92 |
| 1:A:19:HIS:HD2 | 1:A:64:ASN:HD22 | 1.07 | 0.92 |
| 1:A:7:VAL:HG12 | 1:A:9:PRO:CD | 1.99 | 0.92 |
| 1:C:24:PHE:HD2 | 1:C:325:ALA:O | 1.50 | 0.92 |
| 1:E:446:ASN:HD21 | 1:E:454:VAL:H | 1.13 | 0.92 |
| 1:C:60:ILE:O | 1:C:60:ILE:HG13 | 1.68 | 0.92 |
| 1:D:376:VAL:O | 1:D:376:VAL:CG2 | 2.05 | 0.92 |
| 1:B:378:PHE:HB3 | 1:B:380:ASN:ND2 | 1.84 | 0.92 |
| 1:D:411:ASN:ND2 | 1:D:413:ARG:H | 1.68 | 0.92 |
| 1:C:369:GLU:O | 1:C:391:PHE:HD2 | 1.51 | 0.92 |
| 1:D:19:HIS:HD2 | 1:D:64:ASN:HD22 | 1.12 | 0.92 |
| 1:B:34:GLY:O | 1:B:336:THR:HG21 | 1.70 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:34:GLY:O | 1:C:336:THR:HG21 | 1.70 | 0.91 |
| 1:C:286:TYR:CA | 1:C:378:PHE:O | 2.19 | 0.91 |
| 1:D:419:LYS:CG | 1:D:470:THR:HG21 | 1.98 | 0.91 |
| 1:A:282:TRP:CE3 | 1:A:282:TRP:O | 2.23 | 0.91 |
| 1:A:415:GLU:O | 1:A:416:ASP:OD1 | 1.86 | 0.91 |
| 1:A:379:ILE:O | 1:A:379:ILE:CG2 | 2.15 | 0.91 |
| 1:E:34:GLY:O | 1:E:336:THR:HG21 | 1.71 | 0.91 |
| 1:E:376:VAL:O | 1:E:376:VAL:HG23 | 1.10 | 0.91 |
| 1:F:411:ASN:ND2 | 1:F:413:ARG:HB2 | 1.86 | 0.91 |
| 1:E:411:ASN:HD21 | 1:E:413:ARG:HB2 | 1.34 | 0.91 |
| 1:F:481:VAL:HG22 | 1:F:482:GLU:N | 1.85 | 0.90 |
| 1:B:410:VAL:HG12 | 1:B:412:TYR:CE1 | 2.06 | 0.90 |
| 1:D:326:GLN:NE2 | 1:D:330:ALA:HB3 | 1.86 | 0.90 |
| 1:E:328:VAL:HG12 | 1:E:329:ASN:N | 1.86 | 0.90 |
| 1:F:282:TRP:CD1 | 1:F:323:ASN:O | 2.25 | 0.90 |
| 1:F:19:HIS:HD2 | 1:F:64:ASN:HD22 | 1.17 | 0.90 |
| 1:D:411:ASN:ND2 | 1:D:413:ARG:N | 2.19 | 0.90 |
| 1:F:327:LEU:HD23 | 1:F:327:LEU:H | 1.36 | 0.90 |
| 1:D:411:ASN:HD21 | 1:D:413:ARG:HB2 | 0.75 | 0.90 |
| 1:F:24:PHE:HB3 | 1:F:325:ALA:HA | 1.52 | 0.89 |
| 1:F:446:ASN:HD21 | 1:F:454:VAL:H | 1.17 | 0.89 |
| 1:B:19:HIS:HD2 | 1:B:64:ASN:HD22 | 1.20 | 0.89 |
| 1:A:94:LEU:HD21 | 1:C:135:LEU:HD21 | 1.55 | 0.89 |
| 1:B:71:ASN:HA | 1:B:178:GLN:HE22 | 1.38 | 0.89 |
| 1:C:141:CYS:C | 1:C:142:ASN:OD1 | 2.11 | 0.89 |
| 1:A:328:VAL:HG12 | 1:A:329:ASN:N | 1.84 | 0.89 |
| 1:C:411:ASN:ND2 | 1:C:413:ARG:H | 1.70 | 0.88 |
| 1:A:19:HIS:CD2 | 1:A:64:ASN:HD22 | 1.91 | 0.88 |
| 1:E:324:LEU:HD22 | 1:E:350:PHE:CE1 | 2.08 | 0.88 |
| 1:E:419:LYS:CG | 1:E:470:THR:HG23 | 1.72 | 0.88 |
| 1:D:34:GLY:O | 1:D:336:THR:HG21 | 1.72 | 0.87 |
| 1:F:419:LYS:CG | 1:F:470:THR:HG23 | 1.69 | 0.87 |
| 1:B:415:GLU:N | 1:B:473:PRO:HB2 | 1.90 | 0.87 |
| 1:E:94:LEU:HD21 | 1:F:135:LEU:HD21 | 1.56 | 0.87 |
| 1:A:378:PHE:CG | 1:A:378:PHE:O | 2.25 | 0.87 |
| 1:D:446:ASN:HD21 | 1:D:454:VAL:H | 1.18 | 0.87 |
| 1:C:401:ASP:OD2 | 1:C:403:LYS:HG2 | 1.73 | 0.87 |
| 1:E:419:LYS:HG3 | 1:E:470:THR:HG22 | 1.24 | 0.87 |
| 1:D:325:ALA:HB1 | 1:D:331:LEU:HD13 | 1.56 | 0.86 |
| 1:A:30:ARG:HH12 | 1:A:336:THR:HG22 | 1.40 | 0.86 |
| 1:F:285:TRP:CE2 | 1:F:379:ILE:HD11 | 2.10 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:419:LYS:HG3 | 1:D:470:THR:HG22 | 1.35 | 0.86 |
| 1:B:378:PHE:HB3 | 1:B:380:ASN:HD21 | 1.38 | 0.86 |
| 1:D:401:ASP:OD2 | 1:D:403:LYS:HG2 | 1.75 | 0.86 |
| 1:A:135:LEU:HD21 | 1:B:94:LEU:HD21 | 1.58 | 0.86 |
| 1:D:47:ARG:HG3 | 1:D:47:ARG:HH11 | 1.40 | 0.86 |
| 1:E:481:VAL:HG22 | 1:E:482:GLU:N | 1.90 | 0.86 |
| 1:F:419:LYS:HG3 | 1:F:470:THR:HG22 | 1.10 | 0.86 |
| 1:C:47:ARG:HH11 | 1:C:47:ARG:HG3 | 1.41 | 0.86 |
| 1:C:71:ASN:HA | 1:C:178:GLN:HE22 | 1.39 | 0.86 |
| 1:B:62:VAL:HG11 | 1:B:116:ILE:HD12 | 1.58 | 0.86 |
| 1:D:481:VAL:HG22 | 1:D:482:GLU:N | 1.87 | 0.86 |
| 1:E:54:LEU:O | 1:E:58:LYS:HG3 | 1.76 | 0.86 |
| 1:A:380:ASN:HD22 | 1:A:380:ASN:H | 0.86 | 0.85 |
| 1:E:247:VAL:O | 1:E:250:VAL:HG12 | 1.76 | 0.85 |
| 1:A:446:ASN:HD21 | 1:A:454:VAL:H | 1.21 | 0.85 |
| 1:A:481:VAL:HG22 | 1:A:482:GLU:N | 1.91 | 0.85 |
| 1:B:410:VAL:HB | 1:B:412:TYR:CE1 | 2.12 | 0.85 |
| 1:A:282:TRP:O | 1:A:282:TRP:CG | 2.26 | 0.85 |
| 1:B:362:VAL:O | 1:B:364:THR:HG22 | 1.76 | 0.85 |
| 1:A:34:GLY:O | 1:A:336:THR:HG21 | 1.75 | 0.85 |
| 1:B:481:VAL:HG22 | 1:B:482:GLU:N | 1.92 | 0.85 |
| 1:A:401:ASP:OD2 | 1:A:403:LYS:HG2 | 1.76 | 0.85 |
| 1:C:9:PRO:HD2 | 1:C:10:LYS:N | 1.91 | 0.85 |
| 1:E:401:ASP:OD2 | 1:E:403:LYS:HG2 | 1.75 | 0.85 |
| 1:D:19:HIS:CD2 | 1:D:64:ASN:HD22 | 1.95 | 0.85 |
| 1:D:326:GLN:HE21 | 1:D:330:ALA:HB3 | 1.42 | 0.85 |
| 1:E:71:ASN:HA | 1:E:178:GLN:HE22 | 1.42 | 0.85 |
| 1:B:19:HIS:CD2 | 1:B:64:ASN:HD22 | 1.94 | 0.84 |
| 1:F:350:PHE:O | 1:F:354:VAL:HG22 | 1.77 | 0.84 |
| 1:F:19:HIS:CD2 | 1:F:64:ASN:HD22 | 1.96 | 0.84 |
| 1:F:415:GLU:H | 1:F:415:GLU:CD | 1.81 | 0.84 |
| 1:B:401:ASP:OD2 | 1:B:403:LYS:HG2 | 1.77 | 0.84 |
| 1:C:419:LYS:HG3 | 1:C:470:THR:HG22 | 1.27 | 0.84 |
| 1:D:26:GLU:HB3 | 1:D:326:GLN:OE1 | 1.75 | 0.84 |
| 1:D:42:PRO:HG2 | 1:D:43:LEU:HD12 | 1.60 | 0.83 |
| 1:F:401:ASP:OD2 | 1:F:403:LYS:HG2 | 1.77 | 0.83 |
| 1:D:334:ILE:HD11 | 1:D:347:TYR:CE2 | 2.12 | 0.83 |
| 1:E:328:VAL:O | 1:E:332:GLY:HA3 | 1.77 | 0.83 |
| 1:F:24:PHE:HD2 | 1:F:325:ALA:HB1 | 0.68 | 0.83 |
| 1:A:368:SER:OG | 1:A:369:GLU:O | 1.95 | 0.83 |
| 1:D:71:ASN:HA | 1:D:178:GLN:HE22 | 1.43 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:481:VAL:CG2 | 1:D:482:GLU:H | 1.91 | 0.83 |
| 1:E:481:VAL:CG2 | 1:E:482:GLU:H | 1.92 | 0.83 |
| 1:C:481:VAL:HG22 | 1:C:482:GLU:N | 1.92 | 0.83 |
| 1:E:183:THR:OG1 | 1:E:186:GLU:HG3 | 1.78 | 0.83 |
| 1:E:324:LEU:HG | 1:E:324:LEU:O | 1.79 | 0.83 |
| 1:D:247:VAL:O | 1:D:250:VAL:HG12 | 1.79 | 0.82 |
| 1:A:419:LYS:HG3 | 1:A:470:THR:HG22 | 1.35 | 0.82 |
| 1:E:362:VAL:O | 1:E:364:THR:HG22 | 1.79 | 0.82 |
| 1:B:415:GLU:H | 1:B:473:PRO:CB | 1.91 | 0.82 |
| 1:B:481:VAL:CG2 | 1:B:482:GLU:H | 1.92 | 0.82 |
| 1:F:62:VAL:HG11 | 1:F:116:ILE:HD12 | 1.61 | 0.82 |
| 1:A:71:ASN:HA | 1:A:178:GLN:HE22 | 1.42 | 0.82 |
| 1:A:183:THR:OG1 | 1:A:186:GLU:HG3 | 1.80 | 0.81 |
| 1:E:419:LYS:CG | 1:E:470:THR:HG21 | 1.96 | 0.81 |
| 1:A:481:VAL:CG2 | 1:A:482:GLU:H | 1.93 | 0.81 |
| 1:B:247:VAL:O | 1:B:250:VAL:HG12 | 1.80 | 0.81 |
| 1:E:378:PHE:CE1 | 1:E:379:ILE:HG13 | 2.15 | 0.81 |
| 1:F:481:VAL:CG2 | 1:F:482:GLU:H | 1.91 | 0.81 |
| 1:D:325:ALA:CB | 1:D:331:LEU:HD13 | 2.11 | 0.81 |
| 1:F:247:VAL:O | 1:F:250:VAL:HG12 | 1.81 | 0.81 |
| 1:A:413:ARG:CD | 1:A:415:GLU:OE1 | 2.28 | 0.81 |
| 1:A:419:LYS:CG | 1:A:470:THR:HG21 | 2.02 | 0.81 |
| 1:D:411:ASN:HD22 | 1:D:413:ARG:H | 1.27 | 0.81 |
| 1:F:24:PHE:CG | 1:F:325:ALA:HB2 | 2.15 | 0.81 |
| 1:A:362:VAL:O | 1:A:364:THR:HG22 | 1.82 | 0.80 |
| 1:A:50:ARG:NH2 | 1:A:337:GLU:O | 2.15 | 0.80 |
| 1:C:326:GLN:HB3 | 1:C:330:ALA:O | 1.81 | 0.80 |
| 1:B:410:VAL:CB | 1:B:412:TYR:CE1 | 2.63 | 0.80 |
| 1:F:335:HIS:HB3 | 1:F:342:ILE:HG23 | 1.62 | 0.80 |
| 1:C:30:ARG:HH12 | 1:C:336:THR:HG22 | 1.46 | 0.80 |
| 1:B:369:GLU:O | 1:B:391:PHE:CD2 | 2.34 | 0.80 |
| 1:B:410:VAL:HG12 | 1:B:412:TYR:CD1 | 2.16 | 0.80 |
| 1:D:362:VAL:O | 1:D:364:THR:HG22 | 1.82 | 0.80 |
| 1:C:362:VAL:O | 1:C:364:THR:HG22 | 1.81 | 0.79 |
| 1:F:24:PHE:CB | 1:F:325:ALA:HB2 | 2.12 | 0.79 |
| 1:A:335:HIS:HB3 | 1:A:342:ILE:HG23 | 1.64 | 0.79 |
| 1:D:330:ALA:C | 1:D:332:GLY:N | 2.25 | 0.79 |
| 1:A:327:LEU:O | 1:A:328:VAL:HG23 | 1.83 | 0.79 |
| 1:B:417:ALA:O | 1:B:418:LEU:HD12 | 1.81 | 0.79 |
| 1:D:413:ARG:HG3 | 1:D:418:LEU:CD1 | 2.13 | 0.79 |
| 1:F:376:VAL:HG23 | 1:F:376:VAL:O | 1.78 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:335:HIS:HB3 | 1:E:342:ILE:CG2 | 2.13 | 0.79 |
| 1:E:50:ARG:NH2 | 1:E:337:GLU:O | 2.16 | 0.79 |
| 1:C:24:PHE:CD2 | 1:C:325:ALA:O | 2.37 | 0.78 |
| 1:B:350:PHE:O | 1:B:354:VAL:HG22 | 1.84 | 0.78 |
| 1:B:410:VAL:CB | 1:B:412:TYR:CZ | 2.65 | 0.78 |
| 1:F:47:ARG:HH11 | 1:F:47:ARG:HG3 | 1.49 | 0.78 |
| 1:A:378:PHE:C | 1:A:379:ILE:HG13 | 2.04 | 0.78 |
| 1:E:42:PRO:HG2 | 1:E:43:LEU:HD12 | 1.66 | 0.78 |
| 1:F:411:ASN:ND2 | 1:F:413:ARG:H | 1.81 | 0.78 |
| 1:B:415:GLU:HG2 | 1:B:416:ASP:N | 1.98 | 0.78 |
| 1:F:4:ARG:HA | 1:F:420:VAL:HG23 | 1.66 | 0.78 |
| 1:B:422:ILE:HD12 | 1:B:423:ARG:N | 1.99 | 0.77 |
| 1:C:183:THR:OG1 | 1:C:186:GLU:HG3 | 1.83 | 0.77 |
| 1:D:413:ARG:O | 1:D:473:PRO:HA | 1.84 | 0.77 |
| 1:E:335:HIS:HB3 | 1:E:342:ILE:HG23 | 1.66 | 0.77 |
| 1:B:135:LEU:HD21 | 1:C:94:LEU:HD21 | 1.66 | 0.77 |
| 1:D:335:HIS:HB3 | 1:D:342:ILE:HG23 | 1.66 | 0.77 |
| 1:B:154:ARG:HG2 | 1:B:159:PRO:HA | 1.66 | 0.77 |
| 1:C:350:PHE:O | 1:C:354:VAL:HG22 | 1.85 | 0.77 |
| 1:C:239:GLY:O | 1:C:377:MET:HA | 1.84 | 0.77 |
| 1:A:378:PHE:O | 1:A:379:ILE:HG13 | 1.83 | 0.77 |
| 1:A:42:PRO:HG2 | 1:A:43:LEU:HD12 | 1.67 | 0.77 |
| 1:F:369:GLU:HG2 | 1:F:369:GLU:O | 1.84 | 0.77 |
| 1:A:247:VAL:O | 1:A:250:VAL:HG12 | 1.84 | 0.77 |
| 1:A:350:PHE:O | 1:A:354:VAL:HG22 | 1.84 | 0.77 |
| 1:D:50:ARG:NH2 | 1:D:337:GLU:O | 2.18 | 0.77 |
| 1:A:47:ARG:HG3 | 1:A:47:ARG:HH11 | 1.49 | 0.77 |
| 1:B:239:GLY:O | 1:B:377:MET:O | 2.02 | 0.77 |
| 1:D:326:GLN:NE2 | 1:D:330:ALA:CB | 2.48 | 0.77 |
| 1:D:285:TRP:CE2 | 1:D:379:ILE:HD11 | 2.20 | 0.77 |
| 1:E:47:ARG:HG3 | 1:E:47:ARG:HH11 | 1.50 | 0.77 |
| 1:D:144:LYS:HD3 | 1:D:144:LYS:H | 1.49 | 0.77 |
| 1:D:62:VAL:HG11 | 1:D:116:ILE:HD12 | 1.67 | 0.77 |
| 1:B:285:TRP:NE1 | 1:B:379:ILE:HD11 | 1.99 | 0.76 |
| 1:A:378:PHE:O | 1:A:379:ILE:CG1 | 2.33 | 0.76 |
| 1:E:369:GLU:O | 1:E:391:PHE:CD2 | 2.34 | 0.76 |
| 1:A:335:HIS:HB3 | 1:A:342:ILE:CG2 | 2.15 | 0.76 |
| 1:D:417:ALA:O | 1:D:418:LEU:HD12 | 1.85 | 0.76 |
| 1:F:25:THR:HG23 | 1:F:25:THR:O | 1.85 | 0.76 |
| 1:A:318:ILE:HG13 | 1:A:319:VAL:HG23 | 1.68 | 0.76 |
| 1:A:62:VAL:HG11 | 1:A:116:ILE:HD12 | 1.67 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:101:THR:OG1 | 1:C:103:ARG:HG3 | 1.86 | 0.76 |
| 1:D:413:ARG:HG3 | 1:D:418:LEU:HD11 | 1.66 | 0.76 |
| 1:E:254:LYS:O | 1:E:258:ILE:HG23 | 1.85 | 0.76 |
| 1:E:62:VAL:HG11 | 1:E:116:ILE:HD12 | 1.68 | 0.76 |
| 1:C:422:ILE:HD12 | 1:C:423:ARG:N | 2.01 | 0.76 |
| 1:B:183:THR:OG1 | 1:B:186:GLU:HG3 | 1.85 | 0.75 |
| 1:D:335:HIS:HB3 | 1:D:342:ILE:CG2 | 2.16 | 0.75 |
| 1:F:16:ILE:HD13 | 1:F:313:GLN:HG3 | 1.67 | 0.75 |
| 1:A:410:VAL:HG12 | 1:A:412:TYR:CE2 | 2.20 | 0.75 |
| 1:E:24:PHE:CB | 1:E:325:ALA:CB | 2.28 | 0.75 |
| 1:B:285:TRP:CZ2 | 1:B:379:ILE:HD11 | 2.21 | 0.75 |
| 1:F:335:HIS:HB3 | 1:F:342:ILE:CG2 | 2.17 | 0.75 |
| 1:D:61:LYS:HE2 | 1:D:355:ASN:OD1 | 1.85 | 0.75 |
| 1:E:30:ARG:HH12 | 1:E:336:THR:HG22 | 1.50 | 0.75 |
| 1:A:415:GLU:O | 1:A:416:ASP:CG | 2.25 | 0.75 |
| 1:A:417:ALA:O | 1:A:418:LEU:HD12 | 1.86 | 0.75 |
| 1:A:154:ARG:HG2 | 1:A:159:PRO:HA | 1.67 | 0.75 |
| 1:B:318:ILE:HG13 | 1:B:319:VAL:HG23 | 1.67 | 0.74 |
| 1:D:411:ASN:CG | 1:D:413:ARG:HB2 | 2.06 | 0.74 |
| 1:A:157:GLY:C | 1:A:158:HIS:HB2 | 2.08 | 0.74 |
| 1:D:157:GLY:C | 1:D:158:HIS:HB2 | 2.07 | 0.74 |
| 1:B:7:VAL:HG12 | 1:B:9:PRO:HD2 | 1.69 | 0.74 |
| 1:D:318:ILE:HG13 | 1:D:319:VAL:HG23 | 1.69 | 0.74 |
| 1:F:42:PRO:HG2 | 1:F:43:LEU:HD12 | 1.69 | 0.74 |
| 1:D:54:LEU:O | 1:D:58:LYS:HG3 | 1.87 | 0.74 |
| 1:E:411:ASN:HD21 | 1:E:413:ARG:CB | 1.99 | 0.74 |
| 1:F:154:ARG:HG2 | 1:F:159:PRO:HA | 1.69 | 0.74 |
| 1:A:24:PHE:HD2 | 1:A:325:ALA:O | 1.70 | 0.74 |
| 1:E:422:ILE:HD12 | 1:E:423:ARG:N | 2.02 | 0.74 |
| 1:B:329:ASN:HD21 | 1:B:336:THR:HB | 1.53 | 0.74 |
| 1:E:157:GLY:C | 1:E:158:HIS:HB2 | 2.09 | 0.74 |
| 1:B:446:ASN:ND2 | 1:B:454:VAL:H | 1.85 | 0.73 |
| 1:A:328:VAL:CG1 | 1:A:329:ASN:N | 2.43 | 0.73 |
| 1:C:318:ILE:HG13 | 1:C:319:VAL:HG23 | 1.70 | 0.73 |
| 1:D:101:THR:OG1 | 1:D:103:ARG:HG3 | 1.88 | 0.73 |
| 1:E:154:ARG:HG2 | 1:E:159:PRO:HA | 1.69 | 0.73 |
| 1:E:24:PHE:HD2 | 1:E:325:ALA:HB1 | 0.64 | 0.73 |
| 1:E:61:LYS:HE2 | 1:E:355:ASN:OD1 | 1.88 | 0.73 |
| 1:F:417:ALA:O | 1:F:418:LEU:HD12 | 1.88 | 0.73 |
| 1:F:422:ILE:HD11 | 1:F:467:PHE:CE1 | 2.23 | 0.73 |
| 1:B:47:ARG:HG3 | 1:B:47:ARG:HH11 | 1.54 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:50:ARG:NH2 | 1:B:337:GLU:O | 2.21 | 0.73 |
| 1:D:325:ALA:HB1 | 1:D:331:LEU:CD1 | 2.16 | 0.73 |
| 1:A:23:HIS:HB3 | 1:A:327:LEU:HD22 | 1.69 | 0.73 |
| 1:F:30:ARG:HH12 | 1:F:336:THR:HG22 | 1.52 | 0.73 |
| 1:B:197:TRP:HB3 | 1:C:94:LEU:HD23 | 1.70 | 0.73 |
| 1:A:410:VAL:CG1 | 1:A:412:TYR:CE1 | 2.62 | 0.73 |
| 1:D:350:PHE:O | 1:D:354:VAL:HG22 | 1.88 | 0.73 |
| 1:F:24:PHE:HD2 | 1:F:325:ALA:CA | 2.01 | 0.73 |
| 1:A:26:GLU:HB3 | 1:A:326:GLN:NE2 | 2.03 | 0.73 |
| 1:B:419:LYS:HA | 1:B:470:THR:HG22 | 1.71 | 0.73 |
| 1:E:350:PHE:O | 1:E:354:VAL:HG22 | 1.89 | 0.72 |
| 1:C:16:ILE:HD13 | 1:C:313:GLN:HG3 | 1.71 | 0.72 |
| 1:E:318:ILE:HG13 | 1:E:319:VAL:HG23 | 1.71 | 0.72 |
| 1:D:282:TRP:O | 1:D:324:LEU:HD12 | 1.89 | 0.72 |
| 1:E:417:ALA:O | 1:E:418:LEU:HD12 | 1.89 | 0.72 |
| 1:F:24:PHE:CG | 1:F:325:ALA:CB | 2.72 | 0.72 |
| 1:F:50:ARG:NH2 | 1:F:337:GLU:O | 2.22 | 0.72 |
| 1:C:335:HIS:HB3 | 1:C:342:ILE:CG2 | 2.19 | 0.72 |
| 1:F:26:GLU:CB | 1:F:69:GLY:HA2 | 2.18 | 0.72 |
| 1:F:157:GLY:C | 1:F:158:HIS:HB2 | 2.10 | 0.72 |
| 1:F:328:VAL:HG12 | 1:F:329:ASN:N | 2.05 | 0.72 |
| 1:B:291:ASN:HD22 | 1:B:291:ASN:H | 1.34 | 0.71 |
| 1:C:422:ILE:HD11 | 1:C:467:PHE:CE2 | 2.25 | 0.71 |
| 1:C:481:VAL:CG2 | 1:C:482:GLU:H | 1.96 | 0.71 |
| 1:F:413:ARG:O | 1:F:474:PHE:N | 2.23 | 0.71 |
| 1:D:422:ILE:HD12 | 1:D:423:ARG:N | 2.03 | 0.71 |
| 1:E:94:LEU:HD23 | 1:F:197:TRP:HB3 | 1.71 | 0.71 |
| 1:A:422:ILE:HD12 | 1:A:423:ARG:N | 2.04 | 0.71 |
| 1:B:7:VAL:CG1 | 1:B:9:PRO:HD3 | 2.20 | 0.71 |
| 1:D:16:ILE:HD13 | 1:D:313:GLN:HG3 | 1.73 | 0.71 |
| 1:D:411:ASN:HD21 | 1:D:413:ARG:CA | 2.03 | 0.71 |
| 1:C:283:ASN:HB2 | 1:C:325:ALA:HB2 | 1.73 | 0.71 |
| 1:D:144:LYS:HD3 | 1:D:144:LYS:N | 2.05 | 0.71 |
| 1:F:24:PHE:HB3 | 1:F:325:ALA:CB | 2.21 | 0.71 |
| 1:F:24:PHE:O | 1:F:326:GLN:HB3 | 1.90 | 0.71 |
| 1:A:61:LYS:HE2 | 1:A:355:ASN:OD1 | 1.90 | 0.71 |
| 1:C:291:ASN:HD22 | 1:C:291:ASN:H | 1.36 | 0.71 |
| 1:E:378:PHE:CG | 1:E:379:ILE:N | 2.54 | 0.71 |
| 1:B:157:GLY:C | 1:B:158:HIS:HB2 | 2.11 | 0.71 |
| 1:B:254:LYS:O | 1:B:258:ILE:HG23 | 1.91 | 0.71 |
| 1:A:24:PHE:O | 1:A:326:GLN:HA | 1.89 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:25:THR:HG23 | 1:B:25:THR:O | 1.90 | 0.70 |
| 1:C:42:PRO:HG2 | 1:C:43:LEU:HD12 | 1.73 | 0.70 |
| 1:A:7:VAL:HG12 | 1:A:9:PRO:HD2 | 1.74 | 0.70 |
| 1:C:335:HIS:HB3 | 1:C:342:ILE:HG23 | 1.74 | 0.70 |
| 1:C:62:VAL:HG11 | 1:C:116:ILE:HD12 | 1.73 | 0.70 |
| 1:A:101:THR:OG1 | 1:A:103:ARG:HG3 | 1.91 | 0.70 |
| 1:B:414:LYS:HG2 | 1:B:414:LYS:O | 1.91 | 0.70 |
| 1:F:419:LYS:CG | 1:F:470:THR:HG21 | 1.96 | 0.70 |
| 1:C:417:ALA:O | 1:C:418:LEU:HD12 | 1.91 | 0.70 |
| 1:C:328:VAL:CG1 | 1:C:329:ASN:N | 2.47 | 0.70 |
| 1:D:291:ASN:H | 1:D:291:ASN:HD22 | 1.37 | 0.70 |
| 1:B:327:LEU:C | 1:B:328:VAL:HG23 | 2.12 | 0.70 |
| 1:B:415:GLU:N | 1:B:473:PRO:CB | 2.52 | 0.70 |
| 1:B:410:VAL:HG11 | 1:B:412:TYR:OH | 1.87 | 0.70 |
| 1:C:328:VAL:HG12 | 1:C:329:ASN:H | 1.57 | 0.70 |
| 1:E:24:PHE:CG | 1:E:325:ALA:HB1 | 2.14 | 0.70 |
| 1:F:369:GLU:CG | 1:F:369:GLU:O | 2.33 | 0.70 |
| 1:D:36:ILE:HG23 | 1:D:328:VAL:HG21 | 1.73 | 0.69 |
| 1:E:197:TRP:O | 1:E:199:LYS:N | 2.24 | 0.69 |
| 1:E:24:PHE:HB3 | 1:E:325:ALA:HA | 1.72 | 0.69 |
| 1:A:197:TRP:HB3 | 1:B:94:LEU:HD23 | 1.72 | 0.69 |
| 1:E:285:TRP:CE2 | 1:E:379:ILE:HD11 | 2.27 | 0.69 |
| 1:F:422:ILE:HD12 | 1:F:423:ARG:N | 2.07 | 0.69 |
| 1:A:410:VAL:HG12 | 1:A:412:TYR:CD2 | 2.27 | 0.69 |
| 1:E:144:LYS:HD3 | 1:E:144:LYS:N | 2.07 | 0.69 |
| 1:B:419:LYS:HG2 | 1:B:470:THR:CG2 | 2.22 | 0.69 |
| 1:E:25:THR:HG23 | 1:E:25:THR:O | 1.91 | 0.69 |
| 1:A:234:TYR:OH | 1:A:256:ARG:HG2 | 1.91 | 0.69 |
| 1:E:24:PHE:CD2 | 1:E:325:ALA:HB2 | 1.92 | 0.69 |
| 1:A:378:PHE:O | 1:A:379:ILE:CB | 2.39 | 0.69 |
| 1:B:54:LEU:O | 1:B:58:LYS:HG3 | 1.92 | 0.69 |
| 1:C:50:ARG:NH2 | 1:C:337:GLU:O | 2.24 | 0.69 |
| 1:F:70:GLY:O | 1:F:73:VAL:HG12 | 1.93 | 0.69 |
| 1:A:414:LYS:O | 1:A:473:PRO:CB | 2.41 | 0.69 |
| 1:A:7:VAL:CG1 | 1:A:9:PRO:HD3 | 2.23 | 0.69 |
| 1:B:410:VAL:HG21 | 1:B:412:TYR:OH | 1.92 | 0.69 |
| 1:D:379:ILE:O | 1:D:379:ILE:HG22 | 1.92 | 0.69 |
| 1:A:422:ILE:HD11 | 1:A:467:PHE:CE2 | 2.28 | 0.69 |
| 1:B:42:PRO:HG2 | 1:B:43:LEU:HD12 | 1.74 | 0.69 |
| 1:C:197:TRP:O | 1:C:199:LYS:N | 2.24 | 0.68 |
| 1:E:422:ILE:HD11 | 1:E:467:PHE:CE1 | 2.28 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:329:ASN:HD21 | 1:F:336:THR:HB | 1.58 | 0.68 |
| 1:C:432:ALA:HB2 | 1:C:481:VAL:HG23 | 1.76 | 0.68 |
| 1:D:234:TYR:OH | 1:D:256:ARG:HG2 | 1.94 | 0.68 |
| 1:E:329:ASN:HD21 | 1:E:336:THR:HB | 1.58 | 0.68 |
| 1:F:24:PHE:HB3 | 1:F:325:ALA:N | 2.09 | 0.68 |
| 1:B:328:VAL:HG12 | 1:B:329:ASN:N | 2.09 | 0.68 |
| 1:D:414:LYS:O | 1:D:473:PRO:CB | 2.36 | 0.68 |
| 1:A:24:PHE:CD2 | 1:A:325:ALA:O | 2.47 | 0.68 |
| 1:F:110:ILE:HG13 | 1:F:162:TYR:CD2 | 2.29 | 0.68 |
| 1:A:291:ASN:HD22 | 1:A:291:ASN:H | 1.41 | 0.68 |
| 1:B:422:ILE:HD11 | 1:B:467:PHE:CE2 | 2.28 | 0.68 |
| 1:C:411:ASN:HD22 | 1:C:413:ARG:H | 1.38 | 0.68 |
| 1:D:328:VAL:O | 1:D:329:ASN:HB2 | 1.92 | 0.68 |
| 1:B:16:ILE:HD13 | 1:B:313:GLN:HG3 | 1.76 | 0.68 |
| 1:B:335:HIS:HB3 | 1:B:342:ILE:HG23 | 1.76 | 0.68 |
| 1:F:327:LEU:CD2 | 1:F:327:LEU:H | 2.05 | 0.68 |
| 1:E:245:GLU:OE1 | 1:E:376:VAL:HG22 | 1.95 | 0.67 |
| 1:D:154:ARG:HG2 | 1:D:159:PRO:HA | 1.75 | 0.67 |
| 1:F:291:ASN:HD22 | 1:F:291:ASN:H | 1.41 | 0.67 |
| 1:E:428:GLY:O | 1:E:464:ASP:HA | 1.95 | 0.67 |
| 1:F:54:LEU:O | 1:F:58:LYS:HG3 | 1.93 | 0.67 |
| 1:B:194:TYR:O | 1:B:198:MET:HB2 | 1.95 | 0.67 |
| 1:E:291:ASN:H | 1:E:291:ASN:HD22 | 1.40 | 0.67 |
| 1:E:446:ASN:ND2 | 1:E:454:VAL:H | 1.88 | 0.67 |
| 1:A:158:HIS:O | 1:A:159:PRO:N | 2.26 | 0.67 |
| 1:D:254:LYS:O | 1:D:258:ILE:HG23 | 1.94 | 0.67 |
| 1:D:422:ILE:HD11 | 1:D:467:PHE:CE2 | 2.30 | 0.67 |
| 1:E:183:THR:HG1 | 1:E:186:GLU:HG3 | 1.59 | 0.67 |
| 1:A:325:ALA:O | 1:A:326:GLN:HG3 | 1.95 | 0.66 |
| 1:B:414:LYS:O | 1:B:415:GLU:CD | 2.33 | 0.66 |
| 1:D:30:ARG:HH12 | 1:D:336:THR:HG22 | 1.60 | 0.66 |
| 1:E:24:PHE:HD2 | 1:E:325:ALA:HB3 | 1.46 | 0.66 |
| 1:B:335:HIS:HB3 | 1:B:342:ILE:CG2 | 2.25 | 0.66 |
| 1:B:26:GLU:HB3 | 1:B:326:GLN:NE2 | 2.10 | 0.66 |
| 1:E:250:VAL:HG13 | 1:E:251:TYR:CD2 | 2.30 | 0.66 |
| 1:B:62:VAL:CG1 | 1:B:116:ILE:HD12 | 2.25 | 0.66 |
| 1:F:183:THR:OG1 | 1:F:186:GLU:HG3 | 1.94 | 0.66 |
| 1:B:450:ASN:HB3 | 1:B:453:VAL:HG23 | 1.77 | 0.66 |
| 1:C:446:ASN:ND2 | 1:C:454:VAL:H | 1.91 | 0.66 |
| 1:D:47:ARG:HG3 | 1:D:47:ARG:NH1 | 2.09 | 0.66 |
| 1:E:415:GLU:O | 1:E:416:ASP:OD1 | 2.14 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:327:LEU:O | 1:C:328:VAL:HG23 | 1.95 | 0.66 |
| 1:E:16:ILE:HD13 | 1:E:313:GLN:HG3 | 1.77 | 0.66 |
| 1:D:110:ILE:HG13 | 1:D:162:TYR:CD2 | 2.30 | 0.66 |
| 1:A:67:TRP:CD1 | 1:A:68:PRO:HA | 2.31 | 0.66 |
| 1:F:101:THR:OG1 | 1:F:103:ARG:HG3 | 1.96 | 0.66 |
| 1:F:318:ILE:HG13 | 1:F:319:VAL:HG23 | 1.78 | 0.66 |
| 1:C:422:ILE:HD12 | 1:C:422:ILE:C | 2.17 | 0.66 |
| 1:D:94:LEU:HD21 | 1:E:135:LEU:HD21 | 1.78 | 0.66 |
| 1:B:158:HIS:C | 1:B:159:PRO:N | 2.49 | 0.65 |
| 1:B:30:ARG:HH12 | 1:B:336:THR:HG22 | 1.61 | 0.65 |
| 1:E:36:ILE:HG23 | 1:E:328:VAL:HG21 | 1.78 | 0.65 |
| 1:B:197:TRP:O | 1:B:199:LYS:N | 2.28 | 0.65 |
| 1:B:391:PHE:CD1 | 1:B:413:ARG:CG | 2.78 | 0.65 |
| 1:B:67:TRP:CD1 | 1:B:68:PRO:HA | 2.32 | 0.65 |
| 1:A:158:HIS:C | 1:A:159:PRO:N | 2.50 | 0.65 |
| 1:E:287:ARG:NH2 | 1:E:301:ASP:OD2 | 2.26 | 0.65 |
| 1:E:450:ASN:HB3 | 1:E:453:VAL:HG23 | 1.78 | 0.65 |
| 1:A:362:VAL:HG22 | 1:A:396:ALA:O | 1.96 | 0.65 |
| 1:D:194:TYR:O | 1:D:198:MET:HB2 | 1.96 | 0.65 |
| 1:E:24:PHE:HB2 | 1:E:325:ALA:HB2 | 1.72 | 0.65 |
| 1:B:283:ASN:ND2 | 1:B:325:ALA:O | 2.26 | 0.65 |
| 1:B:380:ASN:H | 1:B:380:ASN:HD22 | 1.42 | 0.65 |
| 1:C:54:LEU:O | 1:C:58:LYS:HG3 | 1.96 | 0.65 |
| 1:A:24:PHE:O | 1:A:327:LEU:HD23 | 1.97 | 0.65 |
| 1:B:160:GLU:OE1 | 1:B:160:GLU:HA | 1.95 | 0.65 |
| 1:C:282:TRP:O | 1:C:324:LEU:HD12 | 1.96 | 0.65 |
| 1:C:39:GLU:OE2 | 1:C:103:ARG:HD3 | 1.96 | 0.65 |
| 1:C:369:GLU:O | 1:C:391:PHE:CD2 | 2.43 | 0.65 |
| 1:F:419:LYS:CB | 1:F:470:THR:HG22 | 2.26 | 0.65 |
| 1:A:182:MET:CE | 1:A:187:TYR:HD1 | 2.10 | 0.65 |
| 1:D:368:SER:OG | 1:D:369:GLU:N | 2.26 | 0.65 |
| 1:F:234:TYR:OH | 1:F:256:ARG:HG2 | 1.97 | 0.65 |
| 1:A:414:LYS:O | 1:A:473:PRO:HB2 | 1.97 | 0.64 |
| 1:C:60:ILE:O | 1:C:60:ILE:CG1 | 2.44 | 0.64 |
| 1:B:158:HIS:O | 1:B:159:PRO:N | 2.30 | 0.64 |
| 1:B:250:VAL:HG13 | 1:B:251:TYR:CD2 | 2.32 | 0.64 |
| 1:E:26:GLU:HB2 | 1:E:69:GLY:HA2 | 1.78 | 0.64 |
| 1:F:24:PHE:CD2 | 1:F:325:ALA:CA | 2.78 | 0.64 |
| 1:A:197:TRP:O | 1:A:199:LYS:N | 2.29 | 0.64 |
| 1:E:160:GLU:OE1 | 1:E:160:GLU:HA | 1.95 | 0.64 |
| 1:C:450:ASN:HB3 | 1:C:453:VAL:HG23 | 1.79 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:450:ASN:HB3 | 1:D:453:VAL:HG23 | 1.79 | 0.64 |
| 1:E:431:LYS:NZ | 1:E:462:THR:HG22 | 2.13 | 0.64 |
| 1:A:286:TYR:HA | 1:A:379:ILE:HG13 | 1.79 | 0.64 |
| 1:C:410:VAL:CG1 | 1:C:412:TYR:CE1 | 2.80 | 0.64 |
| 1:F:26:GLU:HB2 | 1:F:69:GLY:HA3 | 1.77 | 0.64 |
| 1:A:380:ASN:ND2 | 1:A:380:ASN:N | 2.31 | 0.64 |
| 1:A:54:LEU:O | 1:A:58:LYS:HG3 | 1.98 | 0.64 |
| 1:E:110:ILE:HG13 | 1:E:162:TYR:CD2 | 2.32 | 0.64 |
| 1:C:194:TYR:O | 1:C:198:MET:HB2 | 1.97 | 0.64 |
| 1:C:287:ARG:NH2 | 1:C:301:ASP:OD2 | 2.28 | 0.64 |
| 1:C:411:ASN:C | 1:C:411:ASN:HD22 | 2.01 | 0.64 |
| 1:E:432:ALA:HB2 | 1:E:481:VAL:HG23 | 1.80 | 0.64 |
| 1:F:24:PHE:CE2 | 1:F:325:ALA:HB1 | 2.28 | 0.64 |
| 1:F:325:ALA:C | 1:F:326:GLN:HG3 | 2.18 | 0.64 |
| 1:C:182:MET:CE | 1:C:187:TYR:HD1 | 2.11 | 0.63 |
| 1:A:16:ILE:HD13 | 1:A:313:GLN:HG3 | 1.80 | 0.63 |
| 1:F:285:TRP:CZ2 | 1:F:379:ILE:HD11 | 2.34 | 0.63 |
| 1:A:144:LYS:HD3 | 1:A:144:LYS:N | 2.13 | 0.63 |
| 1:B:283:ASN:OD1 | 1:B:284:VAL:N | 2.30 | 0.63 |
| 1:D:411:ASN:HD22 | 1:D:411:ASN:C | 2.02 | 0.63 |
| 1:A:450:ASN:HB3 | 1:A:453:VAL:HG23 | 1.79 | 0.63 |
| 1:A:60:ILE:HG13 | 1:A:60:ILE:O | 1.98 | 0.63 |
| 1:C:160:GLU:HA | 1:C:160:GLU:OE1 | 1.98 | 0.63 |
| 1:D:183:THR:OG1 | 1:D:186:GLU:HG3 | 1.99 | 0.63 |
| 1:D:336:THR:CG2 | 1:D:337:GLU:N | 2.62 | 0.63 |
| 1:E:274:GLY:O | 1:E:276:LYS:HG3 | 1.99 | 0.63 |
| 1:E:70:GLY:O | 1:E:73:VAL:HG12 | 1.98 | 0.63 |
| 1:C:254:LYS:O | 1:C:258:ILE:HG23 | 1.98 | 0.63 |
| 1:A:160:GLU:OE1 | 1:A:160:GLU:HA | 1.98 | 0.63 |
| 1:C:307:GLY:HA3 | 1:C:412:TYR:OH | 1.99 | 0.63 |
| 1:A:446:ASN:ND2 | 1:A:454:VAL:H | 1.94 | 0.63 |
| 1:B:234:TYR:OH | 1:B:256:ARG:HG2 | 1.99 | 0.63 |
| 1:A:328:VAL:O | 1:A:334:ILE:O | 2.17 | 0.63 |
| 1:C:243:TYR:HA | 1:C:300:LYS:HD2 | 1.81 | 0.63 |
| 1:F:160:GLU:HA | 1:F:160:GLU:OE1 | 1.99 | 0.63 |
| 1:F:24:PHE:HB3 | 1:F:325:ALA:HB2 | 1.81 | 0.63 |
| 1:A:243:TYR:HA | 1:A:300:LYS:HD2 | 1.81 | 0.62 |
| 1:E:101:THR:OG1 | 1:E:103:ARG:HG3 | 1.99 | 0.62 |
| 1:B:215:PRO:O | 1:B:219:LEU:HB2 | 1.98 | 0.62 |
| 1:D:415:GLU:CD | 1:D:415:GLU:H | 2.02 | 0.62 |
| 1:B:328:VAL:HG12 | 1:B:329:ASN:H | 1.64 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:334:ILE:HG12 | 1:D:343:LEU:HD22 | 1.79 | 0.62 |
| 1:B:39:GLU:OE2 | 1:B:103:ARG:HD3 | 1.99 | 0.62 |
| 1:E:144:LYS:H | 1:E:144:LYS:HD3 | 1.63 | 0.62 |
| 1:F:450:ASN:HB3 | 1:F:453:VAL:HG23 | 1.81 | 0.62 |
| 1:A:286:TYR:HA | 1:A:379:ILE:CG1 | 2.30 | 0.62 |
| 1:B:3:TYR:HA | 1:B:367:GLU:O | 2.00 | 0.62 |
| 1:D:282:TRP:O | 1:D:282:TRP:CG | 2.53 | 0.62 |
| 1:E:336:THR:CG2 | 1:E:337:GLU:N | 2.62 | 0.62 |
| 1:A:419:LYS:CG | 1:A:470:THR:HG23 | 1.91 | 0.62 |
| 1:D:419:LYS:HG2 | 1:D:470:THR:HG22 | 1.33 | 0.62 |
| 1:E:182:MET:CE | 1:E:187:TYR:HD1 | 2.13 | 0.62 |
| 1:E:342:ILE:C | 1:E:342:ILE:HD13 | 2.20 | 0.62 |
| 1:C:419:LYS:CB | 1:C:470:THR:HG22 | 2.29 | 0.62 |
| 1:C:67:TRP:CD1 | 1:C:68:PRO:HA | 2.35 | 0.62 |
| 1:D:432:ALA:HB2 | 1:D:481:VAL:HG23 | 1.81 | 0.62 |
| 1:E:285:TRP:O | 1:E:378:PHE:CD1 | 2.53 | 0.62 |
| 1:A:328:VAL:HG12 | 1:A:329:ASN:H | 1.60 | 0.62 |
| 1:D:160:GLU:HA | 1:D:160:GLU:OE1 | 2.00 | 0.62 |
| 1:F:287:ARG:NH2 | 1:F:301:ASP:OD2 | 2.32 | 0.62 |
| 1:A:410:VAL:HB | 1:A:412:TYR:CE2 | 2.35 | 0.61 |
| 1:B:144:LYS:N | 1:B:144:LYS:HD3 | 2.14 | 0.61 |
| 1:B:364:THR:HG21 | 1:B:396:ALA:H | 1.65 | 0.61 |
| 1:B:377:MET:HG2 | 1:B:384:PHE:HD2 | 1.65 | 0.61 |
| 1:C:9:PRO:CD | 1:C:10:LYS:H | 2.07 | 0.61 |
| 1:E:22:GLY:O | 1:E:323:ASN:HA | 2.00 | 0.61 |
| 1:E:243:TYR:HA | 1:E:300:LYS:HD2 | 1.82 | 0.61 |
| 1:D:297:TYR:OH | 1:D:331:LEU:HD23 | 2.01 | 0.61 |
| 1:E:194:TYR:O | 1:E:198:MET:HB2 | 2.00 | 0.61 |
| 1:B:422:ILE:C | 1:B:422:ILE:HD12 | 2.20 | 0.61 |
| 1:D:169:ILE:CD1 | 1:D:207:ALA:HB1 | 2.30 | 0.61 |
| 1:D:414:LYS:C | 1:D:473:PRO:HB2 | 2.20 | 0.61 |
| 1:A:39:GLU:OE2 | 1:A:103:ARG:HD3 | 1.99 | 0.61 |
| 1:C:9:PRO:CD | 1:C:10:LYS:N | 2.63 | 0.61 |
| 1:D:342:ILE:C | 1:D:342:ILE:HD13 | 2.21 | 0.61 |
| 1:B:101:THR:OG1 | 1:B:103:ARG:HG3 | 1.99 | 0.61 |
| 1:B:22:GLY:O | 1:B:323:ASN:HA | 2.00 | 0.61 |
| 1:B:414:LYS:O | 1:B:415:GLU:CB | 2.49 | 0.61 |
| 1:C:298:ASP:OD1 | 1:C:300:LYS:HB3 | 2.01 | 0.61 |
| 1:E:24:PHE:HD1 | 1:E:66:ARG:HB3 | 1.66 | 0.61 |
| 1:A:428:GLY:O | 1:A:464:ASP:HA | 2.00 | 0.61 |
| 1:B:328:VAL:O | 1:B:332:GLY:HA3 | 2.00 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:250:VAL:HG13 | 1:D:251:TYR:CD2 | 2.36 | 0.61 |
| 1:D:411:ASN:ND2 | 1:D:413:ARG:CA | 2.63 | 0.61 |
| 1:A:368:SER:OG | 1:A:369:GLU:N | 2.32 | 0.60 |
| 1:A:47:ARG:NH1 | 1:A:47:ARG:HG3 | 2.15 | 0.60 |
| 1:B:182:MET:CE | 1:B:187:TYR:HD1 | 2.14 | 0.60 |
| 1:D:157:GLY:CA | 1:D:158:HIS:HB2 | 2.31 | 0.60 |
| 1:B:197:TRP:HB3 | 1:C:94:LEU:CD2 | 2.31 | 0.60 |
| 1:F:328:VAL:O | 1:F:334:ILE:O | 2.19 | 0.60 |
| 1:C:274:GLY:O | 1:C:276:LYS:HG3 | 2.02 | 0.60 |
| 1:B:428:GLY:O | 1:B:464:ASP:HA | 2.02 | 0.60 |
| 1:D:67:TRP:CD1 | 1:D:68:PRO:HA | 2.36 | 0.60 |
| 1:F:231:PHE:HE2 | 1:F:320:PRO:HG2 | 1.67 | 0.60 |
| 1:A:194:TYR:O | 1:A:198:MET:HB2 | 2.02 | 0.60 |
| 1:E:327:LEU:HG | 1:E:328:VAL:HG23 | 1.84 | 0.60 |
| 1:B:419:LYS:HG2 | 1:B:470:THR:HG22 | 1.82 | 0.60 |
| 1:F:144:LYS:N | 1:F:144:LYS:HD3 | 2.17 | 0.60 |
| 1:E:415:GLU:CD | 1:E:415:GLU:H | 2.05 | 0.60 |
| 1:F:254:LYS:O | 1:F:258:ILE:HG23 | 2.00 | 0.60 |
| 1:A:70:GLY:O | 1:A:73:VAL:HG12 | 2.00 | 0.60 |
| 1:B:231:PHE:HE2 | 1:B:320:PRO:HG2 | 1.66 | 0.60 |
| 1:D:411:ASN:HD22 | 1:D:413:ARG:N | 1.91 | 0.60 |
| 1:F:67:TRP:CD1 | 1:F:68:PRO:HA | 2.37 | 0.60 |
| 1:B:414:LYS:O | 1:B:415:GLU:CG | 2.49 | 0.59 |
| 1:E:24:PHE:CD2 | 1:E:325:ALA:HB3 | 2.26 | 0.59 |
| 1:E:47:ARG:HG3 | 1:E:47:ARG:NH1 | 2.14 | 0.59 |
| 1:C:336:THR:CG2 | 1:C:337:GLU:N | 2.65 | 0.59 |
| 1:D:25:THR:O | 1:D:25:THR:HG23 | 2.02 | 0.59 |
| 1:E:411:ASN:HD22 | 1:E:411:ASN:C | 2.05 | 0.59 |
| 1:A:413:ARG:O | 1:A:474:PHE:N | 2.23 | 0.59 |
| 1:C:371:TYR:CD1 | 1:C:389:ALA:O | 2.56 | 0.59 |
| 1:D:411:ASN:ND2 | 1:D:413:ARG:CB | 2.22 | 0.59 |
| 1:F:26:GLU:HG3 | 1:F:27:HIS:N | 2.17 | 0.59 |
| 1:C:157:GLY:C | 1:C:158:HIS:HB2 | 2.21 | 0.59 |
| 1:D:158:HIS:C | 1:D:159:PRO:N | 2.56 | 0.59 |
| 1:E:234:TYR:OH | 1:E:256:ARG:HG2 | 2.00 | 0.59 |
| 1:D:298:ASP:OD1 | 1:D:300:LYS:HB3 | 2.02 | 0.59 |
| 1:B:380:ASN:ND2 | 1:B:380:ASN:H | 2.00 | 0.59 |
| 1:D:297:TYR:OH | 1:D:331:LEU:CD2 | 2.51 | 0.59 |
| 1:E:283:ASN:OD1 | 1:E:284:VAL:N | 2.34 | 0.59 |
| 1:A:250:VAL:HG13 | 1:A:251:TYR:CD2 | 2.38 | 0.59 |
| 1:D:414:LYS:HG2 | 1:D:415:GLU:N | 2.16 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:169:ILE:CD1 | 1:F:207:ALA:HB1 | 2.33 | 0.59 |
| 1:A:197:TRP:HB3 | 1:B:94:LEU:CD2 | 2.33 | 0.59 |
| 1:C:410:VAL:HG11 | 1:C:412:TYR:CE1 | 2.38 | 0.59 |
| 1:D:231:PHE:HE2 | 1:D:320:PRO:HG2 | 1.68 | 0.59 |
| 1:D:378:PHE:CG | 1:D:379:ILE:N | 2.71 | 0.59 |
| 1:E:36:ILE:CG2 | 1:E:328:VAL:HG21 | 2.32 | 0.59 |
| 1:B:287:ARG:NH2 | 1:B:301:ASP:OD2 | 2.35 | 0.59 |
| 1:D:158:HIS:O | 1:D:159:PRO:N | 2.36 | 0.59 |
| 1:F:24:PHE:CB | 1:F:325:ALA:CB | 2.78 | 0.59 |
| 1:C:231:PHE:HE2 | 1:C:320:PRO:HG2 | 1.68 | 0.58 |
| 1:D:334:ILE:HD11 | 1:D:347:TYR:CD2 | 2.37 | 0.58 |
| 1:E:169:ILE:CD1 | 1:E:207:ALA:HB1 | 2.33 | 0.58 |
| 1:E:362:VAL:HG22 | 1:E:396:ALA:O | 2.02 | 0.58 |
| 1:F:411:ASN:HD22 | 1:F:413:ARG:H | 1.50 | 0.58 |
| 1:C:74:SER:CB | 1:C:178:GLN:HE21 | 2.15 | 0.58 |
| 1:E:378:PHE:O | 1:E:379:ILE:C | 2.30 | 0.58 |
| 1:F:327:LEU:N | 1:F:327:LEU:HD23 | 2.12 | 0.58 |
| 1:E:158:HIS:C | 1:E:159:PRO:N | 2.57 | 0.58 |
| 1:E:231:PHE:HE2 | 1:E:320:PRO:HG2 | 1.67 | 0.58 |
| 1:E:91:ARG:HG3 | 1:E:91:ARG:HH11 | 1.68 | 0.58 |
| 1:A:80:ASP:OD2 | 1:A:91:ARG:NH1 | 2.36 | 0.58 |
| 1:C:67:TRP:CG | 1:C:68:PRO:HA | 2.39 | 0.58 |
| 1:E:380:ASN:HD22 | 1:E:380:ASN:N | 2.00 | 0.58 |
| 1:E:24:PHE:CD1 | 1:E:66:ARG:HB3 | 2.38 | 0.58 |
| 1:E:70:GLY:HA2 | 1:E:171:ASN:OD1 | 2.04 | 0.58 |
| 1:C:154:ARG:HG2 | 1:C:159:PRO:HA | 1.85 | 0.58 |
| 1:C:26:GLU:CB | 1:C:326:GLN:HE22 | 2.08 | 0.58 |
| 1:D:169:ILE:HD11 | 1:D:207:ALA:HB1 | 1.86 | 0.58 |
| 1:D:197:TRP:O | 1:D:199:LYS:N | 2.34 | 0.58 |
| 1:D:282:TRP:CD2 | 1:D:282:TRP:O | 2.57 | 0.58 |
| 1:D:419:LYS:CB | 1:D:470:THR:HG22 | 2.32 | 0.58 |
| 1:D:419:LYS:CG | 1:D:470:THR:HG23 | 1.90 | 0.58 |
| 1:E:67:TRP:CD1 | 1:E:68:PRO:HA | 2.39 | 0.58 |
| 1:F:282:TRP:O | 1:F:324:LEU:HD12 | 2.03 | 0.58 |
| 1:B:398:ILE:HG22 | 1:B:399:SER:O | 2.03 | 0.58 |
| 1:D:24:PHE:O | 1:D:326:GLN:CA | 2.47 | 0.58 |
| 1:E:26:GLU:HG2 | 1:E:27:HIS:N | 2.17 | 0.58 |
| 1:E:285:TRP:O | 1:E:378:PHE:HD1 | 1.85 | 0.58 |
| 1:F:158:HIS:C | 1:F:159:PRO:N | 2.57 | 0.58 |
| 1:F:158:HIS:O | 1:F:159:PRO:N | 2.37 | 0.58 |
| 1:A:25:THR:HG23 | 1:A:25:THR:O | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:398:ILE:HG22 | 1:A:399:SER:O | 2.03 | 0.58 |
| 1:B:243:TYR:HA | 1:B:300:LYS:HD2 | 1.84 | 0.58 |
| 1:B:57:VAL:O | 1:B:60:ILE:O | 2.21 | 0.58 |
| 1:D:413:ARG:O | 1:D:473:PRO:CA | 2.51 | 0.58 |
| 1:E:364:THR:HG21 | 1:E:396:ALA:H | 1.69 | 0.58 |
| 1:A:391:PHE:CD1 | 1:A:413:ARG:HG3 | 2.38 | 0.58 |
| 1:B:169:ILE:O | 1:B:169:ILE:HG22 | 2.03 | 0.58 |
| 1:D:26:GLU:HA | 1:D:68:PRO:O | 2.04 | 0.58 |
| 1:F:243:TYR:HA | 1:F:300:LYS:HD2 | 1.85 | 0.58 |
| 1:A:410:VAL:CB | 1:A:412:TYR:CE2 | 2.87 | 0.57 |
| 1:D:431:LYS:NZ | 1:D:462:THR:HG22 | 2.19 | 0.57 |
| 1:A:169:ILE:HG22 | 1:A:169:ILE:O | 2.04 | 0.57 |
| 1:A:91:ARG:HH11 | 1:A:91:ARG:HG3 | 1.68 | 0.57 |
| 1:B:182:MET:HB3 | 1:B:186:GLU:HB2 | 1.86 | 0.57 |
| 1:D:80:ASP:OD2 | 1:D:91:ARG:NH1 | 2.37 | 0.57 |
| 1:A:3:TYR:HA | 1:A:367:GLU:O | 2.05 | 0.57 |
| 1:B:417:ALA:C | 1:B:418:LEU:HD12 | 2.24 | 0.57 |
| 1:C:47:ARG:NH1 | 1:C:47:ARG:HG3 | 2.10 | 0.57 |
| 1:C:91:ARG:HG3 | 1:C:91:ARG:HH11 | 1.69 | 0.57 |
| 1:D:274:GLY:O | 1:D:276:LYS:HG3 | 2.04 | 0.57 |
| 1:D:285:TRP:CZ2 | 1:D:379:ILE:HD11 | 2.40 | 0.57 |
| 1:F:398:ILE:HG22 | 1:F:399:SER:O | 2.04 | 0.57 |
| 1:A:70:GLY:HA2 | 1:A:171:ASN:OD1 | 2.04 | 0.57 |
| 1:B:336:THR:CG2 | 1:B:337:GLU:N | 2.66 | 0.57 |
| 1:D:270:ALA:O | 1:D:273:ARG:O | 2.23 | 0.57 |
| 1:D:285:TRP:HB2 | 1:D:331:LEU:HD21 | 1.86 | 0.57 |
| 1:F:274:GLY:O | 1:F:276:LYS:HG3 | 2.04 | 0.57 |
| 1:D:19:HIS:HD2 | 1:D:64:ASN:ND2 | 1.94 | 0.57 |
| 1:D:3:TYR:HA | 1:D:367:GLU:O | 2.05 | 0.57 |
| 1:E:19:HIS:CD2 | 1:E:64:ASN:ND2 | 2.65 | 0.57 |
| 1:A:342:ILE:HD13 | 1:A:342:ILE:C | 2.25 | 0.57 |
| 1:B:377:MET:HG2 | 1:B:384:PHE:CD2 | 2.40 | 0.57 |
| 1:D:380:ASN:ND2 | 1:D:380:ASN:H | 2.03 | 0.57 |
| 1:F:22:GLY:O | 1:F:323:ASN:HA | 2.04 | 0.57 |
| 1:F:328:VAL:HA | 1:F:334:ILE:O | 2.04 | 0.57 |
| 1:D:252:LEU:HD21 | 1:D:256:ARG:CZ | 2.35 | 0.57 |
| 1:E:157:GLY:CA | 1:E:158:HIS:HB2 | 2.34 | 0.57 |
| 1:E:80:ASP:OD2 | 1:E:91:ARG:NH1 | 2.38 | 0.57 |
| 1:A:231:PHE:HE2 | 1:A:320:PRO:HG2 | 1.69 | 0.57 |
| 1:C:380:ASN:N | 1:C:380:ASN:HD22 | 2.02 | 0.57 |
| 1:F:50:ARG:O | 1:F:54:LEU:HB2 | 2.05 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:157:GLY:O | 1:B:158:HIS:HB2 | 2.03 | 0.57 |
| 1:B:298:ASP:OD1 | 1:B:300:LYS:HB3 | 2.05 | 0.57 |
| 1:B:472:LYS:HB3 | 1:B:473:PRO:HD2 | 1.87 | 0.57 |
| 1:C:328:VAL:O | 1:C:334:ILE:O | 2.22 | 0.57 |
| 1:C:415:GLU:OE1 | 1:C:415:GLU:N | 2.35 | 0.57 |
| 1:F:194:TYR:O | 1:F:198:MET:HB2 | 2.04 | 0.57 |
| 1:C:169:ILE:O | 1:C:169:ILE:HG22 | 2.05 | 0.56 |
| 1:D:243:TYR:HA | 1:D:300:LYS:HD2 | 1.87 | 0.56 |
| 1:A:336:THR:CG2 | 1:A:337:GLU:N | 2.69 | 0.56 |
| 1:C:411:ASN:ND2 | 1:C:413:ARG:N | 2.50 | 0.56 |
| 1:D:287:ARG:NH2 | 1:D:301:ASP:OD2 | 2.35 | 0.56 |
| 1:F:157:GLY:CA | 1:F:158:HIS:HB2 | 2.35 | 0.56 |
| 1:A:411:ASN:HD22 | 1:A:411:ASN:C | 2.09 | 0.56 |
| 1:C:431:LYS:HD3 | 1:C:462:THR:HG22 | 1.86 | 0.56 |
| 1:D:422:ILE:C | 1:D:422:ILE:HD12 | 2.26 | 0.56 |
| 1:E:154:ARG:HA | 1:E:158:HIS:O | 2.05 | 0.56 |
| 1:A:376:VAL:HG12 | 1:A:381:LYS:O | 2.05 | 0.56 |
| 1:C:25:THR:O | 1:C:25:THR:HG23 | 2.04 | 0.56 |
| 1:C:378:PHE:CE1 | 1:C:379:ILE:HG12 | 2.40 | 0.56 |
| 1:F:446:ASN:ND2 | 1:F:454:VAL:H | 1.96 | 0.56 |
| 1:A:62:VAL:CG1 | 1:A:116:ILE:HD12 | 2.35 | 0.56 |
| 1:C:169:ILE:CD1 | 1:C:207:ALA:HB1 | 2.35 | 0.56 |
| 1:C:24:PHE:CD1 | 1:C:66:ARG:HB3 | 2.40 | 0.56 |
| 1:D:70:GLY:O | 1:D:73:VAL:HG12 | 2.05 | 0.56 |
| 1:E:39:GLU:OE2 | 1:E:103:ARG:HD3 | 2.05 | 0.56 |
| 1:E:174:TYR:CE2 | 1:E:212:CYS:HB3 | 2.41 | 0.56 |
| 1:C:380:ASN:H | 1:C:380:ASN:ND2 | 2.04 | 0.56 |
| 1:D:157:GLY:HA3 | 1:D:158:HIS:ND1 | 2.20 | 0.56 |
| 1:F:24:PHE:HD1 | 1:F:66:ARG:HB3 | 1.70 | 0.56 |
| 1:B:285:TRP:CZ2 | 1:B:379:ILE:CD1 | 2.89 | 0.56 |
| 1:C:342:ILE:HD13 | 1:C:342:ILE:C | 2.26 | 0.56 |
| 1:C:362:VAL:HG11 | 1:C:398:ILE:CD1 | 2.36 | 0.56 |
| 1:A:274:GLY:O | 1:A:276:LYS:HG3 | 2.06 | 0.56 |
| 1:B:158:HIS:CD2 | 1:B:158:HIS:N | 2.73 | 0.56 |
| 1:B:378:PHE:CE1 | 1:B:379:ILE:HG13 | 2.40 | 0.56 |
| 1:B:70:GLY:O | 1:B:73:VAL:HG12 | 2.06 | 0.56 |
| 1:C:283:ASN:CB | 1:C:325:ALA:HB2 | 2.35 | 0.56 |
| 1:C:291:ASN:ND2 | 1:C:291:ASN:H | 2.04 | 0.56 |
| 1:E:158:HIS:O | 1:E:159:PRO:N | 2.39 | 0.56 |
| 1:E:377:MET:O | 1:E:378:PHE:HB2 | 2.06 | 0.56 |
| 1:E:422:ILE:HD12 | 1:E:422:ILE:C | 2.25 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:414:LYS:HG3 | 1:F:442:VAL:HG11 | 1.87 | 0.56 |
| 1:D:24:PHE:CD1 | 1:D:66:ARG:HB3 | 2.41 | 0.56 |
| 1:D:428:GLY:O | 1:D:464:ASP:HA | 2.05 | 0.56 |
| 1:D:179:VAL:HA | 1:E:197:TRP:CZ2 | 2.41 | 0.55 |
| 1:D:39:GLU:OE2 | 1:D:103:ARG:HD3 | 2.06 | 0.55 |
| 1:E:328:VAL:HA | 1:E:334:ILE:O | 2.06 | 0.55 |
| 1:E:415:GLU:N | 1:E:415:GLU:CD | 2.60 | 0.55 |
| 1:E:419:LYS:CB | 1:E:470:THR:HG22 | 2.30 | 0.55 |
| 1:F:47:ARG:NH1 | 1:F:47:ARG:HG3 | 2.16 | 0.55 |
| 1:F:71:ASN:HA | 1:F:178:GLN:NE2 | 2.11 | 0.55 |
| 1:A:461:ILE:CG2 | 1:A:462:THR:N | 2.69 | 0.55 |
| 1:B:60:ILE:HG13 | 1:B:60:ILE:O | 2.07 | 0.55 |
| 1:C:419:LYS:CG | 1:C:470:THR:HG21 | 1.96 | 0.55 |
| 1:C:431:LYS:NZ | 1:C:462:THR:HG22 | 2.21 | 0.55 |
| 1:E:378:PHE:CD1 | 1:E:379:ILE:HG13 | 2.42 | 0.55 |
| 1:F:36:ILE:HG23 | 1:F:328:VAL:HG21 | 1.88 | 0.55 |
| 1:A:22:GLY:O | 1:A:323:ASN:HA | 2.06 | 0.55 |
| 1:B:291:ASN:ND2 | 1:B:291:ASN:H | 2.03 | 0.55 |
| 1:C:3:TYR:HA | 1:C:367:GLU:O | 2.06 | 0.55 |
| 1:C:413:ARG:O | 1:C:474:PHE:N | 2.37 | 0.55 |
| 1:D:446:ASN:ND2 | 1:D:454:VAL:H | 1.96 | 0.55 |
| 1:F:327:LEU:HG | 1:F:328:VAL:CG2 | 2.28 | 0.55 |
| 1:F:366:VAL:CG2 | 1:F:367:GLU:N | 2.69 | 0.55 |
| 1:D:22:GLY:O | 1:D:323:ASN:HA | 2.06 | 0.55 |
| 1:D:197:TRP:O | 1:D:198:MET:HB2 | 2.07 | 0.55 |
| 1:F:283:ASN:OD1 | 1:F:284:VAL:N | 2.37 | 0.55 |
| 1:F:422:ILE:C | 1:F:422:ILE:HD12 | 2.27 | 0.55 |
| 1:A:24:PHE:HD1 | 1:A:66:ARG:HB3 | 1.72 | 0.55 |
| 1:A:30:ARG:CB | 1:A:329:ASN:HD22 | 2.19 | 0.55 |
| 1:C:85:LYS:O | 1:C:86:ASP:HB2 | 2.07 | 0.55 |
| 1:D:252:LEU:HD21 | 1:D:256:ARG:NH1 | 2.22 | 0.55 |
| 1:F:262:LYS:O | 1:F:266:MET:HG3 | 2.06 | 0.55 |
| 1:F:34:GLY:O | 1:F:336:THR:CG2 | 2.45 | 0.55 |
| 1:A:30:ARG:HB2 | 1:A:329:ASN:HD22 | 1.70 | 0.55 |
| 1:A:422:ILE:C | 1:A:422:ILE:HD12 | 2.26 | 0.55 |
| 1:D:182:MET:HB3 | 1:D:186:GLU:HB2 | 1.88 | 0.55 |
| 1:D:75:ASN:C | 1:D:75:ASN:HD22 | 2.08 | 0.55 |
| 1:D:91:ARG:HH11 | 1:D:91:ARG:HG3 | 1.70 | 0.55 |
| 1:E:336:THR:HG23 | 1:E:337:GLU:N | 2.21 | 0.55 |
| 1:E:398:ILE:HG22 | 1:E:399:SER:O | 2.06 | 0.55 |
| 1:A:67:TRP:CG | 1:A:68:PRO:HA | 2.41 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:157:GLY:O | 1:D:158:HIS:HB2 | 2.07 | 0.55 |
| 1:D:90:VAL:O | 1:E:147:THR:HA | 2.07 | 0.55 |
| 1:E:3:TYR:HA | 1:E:367:GLU:O | 2.07 | 0.55 |
| 1:F:67:TRP:CG | 1:F:68:PRO:HA | 2.42 | 0.55 |
| 1:A:157:GLY:HA3 | 1:A:158:HIS:ND1 | 2.21 | 0.55 |
| 1:A:215:PRO:O | 1:A:219:LEU:HB2 | 2.07 | 0.55 |
| 1:C:398:ILE:HG22 | 1:C:399:SER:O | 2.07 | 0.55 |
| 1:D:24:PHE:HD1 | 1:D:66:ARG:HB3 | 1.71 | 0.55 |
| 1:A:24:PHE:CD1 | 1:A:66:ARG:HB3 | 2.41 | 0.54 |
| 1:A:3:TYR:OH | 1:A:413:ARG:NH2 | 2.40 | 0.54 |
| 1:B:47:ARG:NH1 | 1:B:47:ARG:HG3 | 2.19 | 0.54 |
| 1:C:287:ARG:HB2 | 1:C:295:GLU:OE2 | 2.07 | 0.54 |
| 1:D:50:ARG:O | 1:D:54:LEU:HB2 | 2.07 | 0.54 |
| 1:F:285:TRP:O | 1:F:378:PHE:HB2 | 2.07 | 0.54 |
| 1:A:254:LYS:O | 1:A:258:ILE:HG23 | 2.08 | 0.54 |
| 1:B:342:ILE:C | 1:B:342:ILE:HD13 | 2.26 | 0.54 |
| 1:A:94:LEU:HD23 | 1:C:197:TRP:HB3 | 1.88 | 0.54 |
| 1:C:371:TYR:CE1 | 1:C:389:ALA:O | 2.61 | 0.54 |
| 1:F:24:PHE:O | 1:F:326:GLN:CB | 2.56 | 0.54 |
| 1:F:182:MET:CE | 1:F:187:TYR:HD1 | 2.20 | 0.54 |
| 1:F:197:TRP:O | 1:F:198:MET:HB2 | 2.06 | 0.54 |
| 1:F:255:GLU:OE1 | 1:F:258:ILE:HD11 | 2.06 | 0.54 |
| 1:F:368:SER:OG | 1:F:369:GLU:N | 2.38 | 0.54 |
| 1:A:283:ASN:OD1 | 1:A:284:VAL:N | 2.35 | 0.54 |
| 1:A:378:PHE:O | 1:A:379:ILE:HB | 2.07 | 0.54 |
| 1:B:431:LYS:NZ | 1:B:462:THR:HG22 | 2.22 | 0.54 |
| 1:C:242:ASP:OD2 | 1:C:245:GLU:HG3 | 2.07 | 0.54 |
| 1:D:417:ALA:C | 1:D:418:LEU:HD12 | 2.27 | 0.54 |
| 1:D:67:TRP:CG | 1:D:68:PRO:HA | 2.43 | 0.54 |
| 1:E:362:VAL:O | 1:E:363:LYS:C | 2.45 | 0.54 |
| 1:F:208:ILE:HD12 | 1:F:208:ILE:N | 2.22 | 0.54 |
| 1:A:157:GLY:CA | 1:A:158:HIS:HB2 | 2.36 | 0.54 |
| 1:B:373:ILE:HG12 | 1:B:374:GLU:N | 2.22 | 0.54 |
| 1:C:195:THR:O | 1:C:199:LYS:HB2 | 2.07 | 0.54 |
| 1:D:283:ASN:OD1 | 1:D:284:VAL:N | 2.36 | 0.54 |
| 1:A:431:LYS:NZ | 1:A:462:THR:HG22 | 2.23 | 0.54 |
| 1:B:158:HIS:C | 1:B:159:PRO:CA | 2.76 | 0.54 |
| 1:C:419:LYS:CA | 1:C:470:THR:HG22 | 2.38 | 0.54 |
| 1:D:262:LYS:O | 1:D:266:MET:HG3 | 2.07 | 0.54 |
| 1:D:413:ARG:O | 1:D:474:PHE:N | 2.37 | 0.54 |
| 1:E:73:VAL:HG21 | 1:E:123:SER:O | 2.08 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:431:LYS:HD3 | 1:E:462:THR:HG22 | 1.89 | 0.54 |
| 1:F:380:ASN:HD22 | 1:F:380:ASN:N | 2.04 | 0.54 |
| 1:A:19:HIS:HD2 | 1:A:64:ASN:ND2 | 1.91 | 0.54 |
| 1:B:289:SER:HB3 | 1:B:379:ILE:HG21 | 1.90 | 0.54 |
| 1:D:80:ASP:HB3 | 1:D:89:PRO:HG2 | 1.90 | 0.54 |
| 1:F:411:ASN:C | 1:F:411:ASN:HD22 | 2.10 | 0.54 |
| 1:F:24:PHE:CD1 | 1:F:66:ARG:HB3 | 2.43 | 0.54 |
| 1:A:110:ILE:HG13 | 1:A:162:TYR:CD2 | 2.42 | 0.54 |
| 1:A:26:GLU:HB3 | 1:A:326:GLN:HE22 | 1.72 | 0.54 |
| 1:C:182:MET:HE1 | 1:C:187:TYR:HD1 | 1.73 | 0.54 |
| 1:E:291:ASN:H | 1:E:291:ASN:ND2 | 2.05 | 0.54 |
| 1:F:364:THR:HG21 | 1:F:396:ALA:H | 1.72 | 0.54 |
| 1:B:26:GLU:HG2 | 1:B:27:HIS:N | 2.23 | 0.54 |
| 1:C:336:THR:HG23 | 1:C:337:GLU:N | 2.23 | 0.54 |
| 1:D:297:TYR:OH | 1:D:331:LEU:HA | 2.08 | 0.54 |
| 1:C:259:GLY:HA2 | 1:F:262:LYS:HD3 | 1.90 | 0.54 |
| 1:F:36:ILE:CG2 | 1:F:328:VAL:HG21 | 2.38 | 0.54 |
| 1:A:262:LYS:O | 1:A:266:MET:HG3 | 2.08 | 0.54 |
| 1:D:380:ASN:N | 1:D:380:ASN:HD22 | 2.04 | 0.54 |
| 1:E:343:LEU:HD13 | 1:E:347:TYR:CE1 | 2.43 | 0.54 |
| 1:B:28:LEU:HD22 | 1:B:330:ALA:CB | 2.38 | 0.53 |
| 1:F:144:LYS:H | 1:F:144:LYS:HD3 | 1.73 | 0.53 |
| 1:F:219:LEU:O | 1:F:223:GLN:HB2 | 2.08 | 0.53 |
| 1:F:327:LEU:O | 1:F:334:ILE:N | 2.36 | 0.53 |
| 1:A:391:PHE:CE1 | 1:A:413:ARG:HG3 | 2.43 | 0.53 |
| 1:F:26:GLU:CG | 1:F:27:HIS:N | 2.72 | 0.53 |
| 1:A:373:ILE:HG12 | 1:A:374:GLU:N | 2.23 | 0.53 |
| 1:A:71:ASN:HA | 1:A:178:GLN:NE2 | 2.20 | 0.53 |
| 1:C:431:LYS:CD | 1:C:462:THR:HG22 | 2.37 | 0.53 |
| 1:D:215:PRO:O | 1:D:219:LEU:HB2 | 2.09 | 0.53 |
| 1:E:328:VAL:CG1 | 1:E:329:ASN:N | 2.60 | 0.53 |
| 1:E:431:LYS:CD | 1:E:462:THR:HG22 | 2.38 | 0.53 |
| 1:D:197:TRP:HB3 | 1:F:94:LEU:HD23 | 1.89 | 0.53 |
| 1:D:336:THR:HG23 | 1:D:337:GLU:N | 2.23 | 0.53 |
| 1:A:144:LYS:H | 1:A:144:LYS:HD3 | 1.73 | 0.53 |
| 1:A:142:ASN:O | 1:A:161:PRO:HB2 | 2.09 | 0.53 |
| 1:B:144:LYS:HD3 | 1:B:144:LYS:H | 1.73 | 0.53 |
| 1:B:410:VAL:CG1 | 1:B:412:TYR:CD2 | 2.91 | 0.53 |
| 1:E:26:GLU:CG | 1:E:27:HIS:N | 2.71 | 0.53 |
| 1:A:182:MET:HB3 | 1:A:186:GLU:HB2 | 1.91 | 0.53 |
| 1:E:50:ARG:O | 1:E:54:LEU:HB2 | 2.08 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:431:LYS:HD3 | 1:A:462:THR:HG22 | 1.91 | 0.53 |
| 1:B:362:VAL:HG11 | 1:B:398:ILE:CD1 | 2.38 | 0.53 |
| 1:F:154:ARG:HA | 1:F:158:HIS:O | 2.08 | 0.53 |
| 1:A:225:ALA:HB1 | 1:A:229:ILE:HG23 | 1.90 | 0.53 |
| 1:B:208:ILE:HD12 | 1:B:208:ILE:N | 2.24 | 0.53 |
| 1:D:334:ILE:HG23 | 1:D:343:LEU:HD23 | 1.91 | 0.53 |
| 1:E:28:LEU:HD22 | 1:E:330:ALA:CB | 2.39 | 0.53 |
| 1:F:431:LYS:NZ | 1:F:462:THR:HG22 | 2.23 | 0.53 |
| 1:B:431:LYS:HD3 | 1:B:462:THR:HG22 | 1.91 | 0.53 |
| 1:C:158:HIS:C | 1:C:159:PRO:N | 2.62 | 0.53 |
| 1:C:362:VAL:HG11 | 1:C:398:ILE:HD12 | 1.90 | 0.53 |
| 1:C:371:TYR:CZ | 1:C:389:ALA:HB3 | 2.43 | 0.53 |
| 1:C:428:GLY:O | 1:C:464:ASP:HA | 2.09 | 0.53 |
| 1:E:67:TRP:CG | 1:E:68:PRO:HA | 2.43 | 0.53 |
| 1:F:291:ASN:HD22 | 1:F:291:ASN:N | 2.03 | 0.53 |
| 1:A:287:ARG:NH2 | 1:A:301:ASP:OD2 | 2.36 | 0.53 |
| 1:A:283:ASN:HB2 | 1:A:325:ALA:HB2 | 1.91 | 0.53 |
| 1:A:405:LEU:HB3 | 1:A:481:VAL:CG1 | 2.39 | 0.53 |
| 1:C:413:ARG:HD2 | 1:C:416:ASP:HB2 | 1.90 | 0.53 |
| 1:D:368:SER:OG | 1:D:369:GLU:O | 2.26 | 0.53 |
| 1:D:75:ASN:ND2 | 1:D:75:ASN:C | 2.60 | 0.53 |
| 1:E:252:LEU:HD21 | 1:E:256:ARG:CZ | 2.38 | 0.53 |
| 1:F:282:TRP:O | 1:F:282:TRP:CG | 2.62 | 0.53 |
| 1:F:356:HIS:HB3 | 1:F:478:VAL:HG11 | 1.91 | 0.53 |
| 1:F:80:ASP:OD2 | 1:F:91:ARG:NH1 | 2.42 | 0.53 |
| 1:A:307:GLY:HA2 | 1:A:412:TYR:OH | 2.09 | 0.52 |
| 1:E:244:TYR:HA | 1:E:247:VAL:HG22 | 1.90 | 0.52 |
| 1:F:157:GLY:HA3 | 1:F:158:HIS:ND1 | 2.24 | 0.52 |
| 1:F:91:ARG:HG3 | 1:F:91:ARG:HH11 | 1.74 | 0.52 |
| 1:A:423:ARG:O | 1:A:423:ARG:HG3 | 2.09 | 0.52 |
| 1:C:291:ASN:HD22 | 1:C:291:ASN:N | 1.99 | 0.52 |
| 1:D:373:ILE:HG12 | 1:D:374:GLU:N | 2.25 | 0.52 |
| 1:F:250:VAL:HG13 | 1:F:251:TYR:CD2 | 2.44 | 0.52 |
| 1:F:39:GLU:OE2 | 1:F:103:ARG:HD3 | 2.09 | 0.52 |
| 1:A:158:HIS:N | 1:A:158:HIS:CD2 | 2.77 | 0.52 |
| 1:A:19:HIS:CD2 | 1:A:64:ASN:ND2 | 2.69 | 0.52 |
| 1:B:411:ASN:C | 1:B:411:ASN:HD22 | 2.11 | 0.52 |
| 1:B:67:TRP:CG | 1:B:68:PRO:HA | 2.45 | 0.52 |
| 1:C:410:VAL:HG12 | 1:C:412:TYR:CD1 | 2.44 | 0.52 |
| 1:D:182:MET:CE | 1:D:187:TYR:HD1 | 2.22 | 0.52 |
| 1:E:19:HIS:HD2 | 1:E:64:ASN:ND2 | 1.89 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:380:ASN:ND2 | 1:E:380:ASN:H | 2.07 | 0.52 |
| 1:A:157:GLY:O | 1:A:158:HIS:HB2 | 2.09 | 0.52 |
| 1:B:74:SER:CB | 1:B:178:GLN:HE21 | 2.22 | 0.52 |
| 1:B:419:LYS:CA | 1:B:470:THR:HG22 | 2.38 | 0.52 |
| 1:C:262:LYS:O | 1:C:266:MET:HG3 | 2.10 | 0.52 |
| 1:C:474:PHE:CD1 | 1:C:474:PHE:O | 2.63 | 0.52 |
| 1:E:240:SER:O | 1:E:300:LYS:HE3 | 2.09 | 0.52 |
| 1:A:298:ASP:OD1 | 1:A:300:LYS:HB3 | 2.09 | 0.52 |
| 1:D:142:ASN:O | 1:D:161:PRO:CB | 2.58 | 0.52 |
| 1:E:371:TYR:CD1 | 1:E:389:ALA:O | 2.63 | 0.52 |
| 1:C:80:ASP:HB3 | 1:C:89:PRO:HG2 | 1.92 | 0.52 |
| 1:D:364:THR:HG21 | 1:D:396:ALA:H | 1.75 | 0.52 |
| 1:D:398:ILE:HG22 | 1:D:399:SER:O | 2.10 | 0.52 |
| 1:A:336:THR:HG23 | 1:A:337:GLU:N | 2.24 | 0.52 |
| 1:B:110:ILE:HG13 | 1:B:162:TYR:CD2 | 2.45 | 0.52 |
| 1:C:371:TYR:CE1 | 1:C:389:ALA:HB3 | 2.44 | 0.52 |
| 1:B:431:LYS:CD | 1:B:462:THR:HG22 | 2.39 | 0.52 |
| 1:C:24:PHE:HD1 | 1:C:66:ARG:HB3 | 1.74 | 0.52 |
| 1:D:235:HIS:CD2 | 1:D:281:GLU:HB2 | 2.45 | 0.52 |
| 1:E:157:GLY:O | 1:E:158:HIS:HB2 | 2.10 | 0.52 |
| 1:F:415:GLU:N | 1:F:415:GLU:CD | 2.56 | 0.52 |
| 1:A:376:VAL:HG11 | 1:A:381:LYS:HB3 | 1.92 | 0.52 |
| 1:B:307:GLY:HA2 | 1:B:412:TYR:OH | 2.09 | 0.52 |
| 1:D:380:ASN:HD22 | 1:D:380:ASN:H | 1.57 | 0.52 |
| 1:E:197:TRP:HA | 1:E:200:VAL:HG13 | 1.92 | 0.52 |
| 1:E:380:ASN:ND2 | 1:E:380:ASN:N | 2.58 | 0.52 |
| 1:C:283:ASN:HB2 | 1:C:325:ALA:CB | 2.39 | 0.52 |
| 1:C:474:PHE:O | 1:C:474:PHE:HD1 | 1.93 | 0.52 |
| 1:D:368:SER:HG | 1:D:369:GLU:H | 1.53 | 0.52 |
| 1:D:461:ILE:CG2 | 1:D:462:THR:N | 2.72 | 0.52 |
| 1:A:461:ILE:HG22 | 1:A:462:THR:N | 2.25 | 0.51 |
| 1:C:110:ILE:HG13 | 1:C:162:TYR:CD2 | 2.45 | 0.51 |
| 1:C:225:ALA:HB1 | 1:C:229:ILE:HG23 | 1.92 | 0.51 |
| 1:F:3:TYR:HA | 1:F:367:GLU:O | 2.11 | 0.51 |
| 1:F:472:LYS:HB3 | 1:F:473:PRO:HD2 | 1.91 | 0.51 |
| 1:F:432:ALA:HB2 | 1:F:481:VAL:HG23 | 1.92 | 0.51 |
| 1:F:85:LYS:O | 1:F:86:ASP:HB2 | 2.10 | 0.51 |
| 1:B:80:ASP:HB3 | 1:B:89:PRO:HG2 | 1.92 | 0.51 |
| 1:C:26:GLU:CB | 1:C:326:GLN:NE2 | 2.66 | 0.51 |
| 1:F:380:ASN:ND2 | 1:F:380:ASN:N | 2.58 | 0.51 |
| 1:B:225:ALA:HB1 | 1:B:229:ILE:HG23 | 1.92 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:158:HIS:C | 1:C:159:PRO:CA | 2.79 | 0.51 |
| 1:C:197:TRP:HA | 1:C:200:VAL:HG13 | 1.91 | 0.51 |
| 1:C:174:TYR:CE2 | 1:C:212:CYS:HB3 | 2.46 | 0.51 |
| 1:C:262:LYS:HD2 | 1:F:258:ILE:HG13 | 1.92 | 0.51 |
| 1:E:291:ASN:HD22 | 1:E:291:ASN:N | 2.04 | 0.51 |
| 1:E:373:ILE:HG12 | 1:E:374:GLU:N | 2.26 | 0.51 |
| 1:B:80:ASP:OD2 | 1:B:91:ARG:NH1 | 2.43 | 0.51 |
| 1:E:298:ASP:OD1 | 1:E:300:LYS:HB3 | 2.10 | 0.51 |
| 1:E:299:LEU:HD21 | 1:E:474:PHE:CD1 | 2.45 | 0.51 |
| 1:F:285:TRP:NE1 | 1:F:379:ILE:HD11 | 2.25 | 0.51 |
| 1:A:219:LEU:O | 1:A:223:GLN:HB2 | 2.10 | 0.51 |
| 1:B:197:TRP:O | 1:B:198:MET:HB2 | 2.10 | 0.51 |
| 1:B:380:ASN:N | 1:B:380:ASN:HD22 | 2.01 | 0.51 |
| 1:C:252:LEU:HD21 | 1:C:256:ARG:CZ | 2.40 | 0.51 |
| 1:C:330:ALA:C | 1:C:332:GLY:N | 2.62 | 0.51 |
| 1:D:74:SER:CB | 1:D:178:GLN:HE21 | 2.22 | 0.51 |
| 1:D:419:LYS:CA | 1:D:470:THR:HG22 | 2.41 | 0.51 |
| 1:E:157:GLY:HA3 | 1:E:158:HIS:ND1 | 2.25 | 0.51 |
| 1:E:366:VAL:CG2 | 1:E:367:GLU:N | 2.73 | 0.51 |
| 1:F:282:TRP:HD1 | 1:F:323:ASN:O | 1.87 | 0.51 |
| 1:B:423:ARG:HG3 | 1:B:423:ARG:O | 2.10 | 0.51 |
| 1:D:326:GLN:HE22 | 1:D:330:ALA:CB | 2.22 | 0.51 |
| 1:E:431:LYS:HZ3 | 1:E:462:THR:HG22 | 1.74 | 0.51 |
| 1:F:240:SER:O | 1:F:300:LYS:HE3 | 2.11 | 0.51 |
| 1:F:327:LEU:CG | 1:F:328:VAL:HG23 | 2.28 | 0.51 |
| 1:F:342:ILE:HD13 | 1:F:342:ILE:C | 2.30 | 0.51 |
| 1:C:70:GLY:O | 1:C:73:VAL:HG12 | 2.11 | 0.51 |
| 1:D:362:VAL:O | 1:D:363:LYS:C | 2.49 | 0.51 |
| 1:B:262:LYS:O | 1:B:266:MET:HG3 | 2.10 | 0.51 |
| 1:B:362:VAL:O | 1:B:363:LYS:C | 2.48 | 0.51 |
| 1:C:26:GLU:HA | 1:C:68:PRO:O | 2.10 | 0.51 |
| 1:D:142:ASN:O | 1:D:161:PRO:HB2 | 2.10 | 0.51 |
| 1:E:461:ILE:CG2 | 1:E:462:THR:N | 2.74 | 0.51 |
| 1:F:291:ASN:ND2 | 1:F:291:ASN:H | 2.08 | 0.51 |
| 1:F:373:ILE:HG12 | 1:F:374:GLU:N | 2.26 | 0.51 |
| 1:A:182:MET:HE1 | 1:A:187:TYR:HD1 | 1.76 | 0.51 |
| 1:C:182:MET:HB3 | 1:C:186:GLU:HB2 | 1.92 | 0.51 |
| 1:E:182:MET:HB3 | 1:E:186:GLU:HB2 | 1.91 | 0.51 |
| 1:F:182:MET:HB3 | 1:F:186:GLU:HB2 | 1.93 | 0.51 |
| 1:A:330:ALA:C | 1:A:332:GLY:N | 2.61 | 0.51 |
| 1:A:410:VAL:HG11 | 1:A:412:TYR:OH | 2.05 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:85:LYS:O | 1:A:86:ASP:HB2 | 2.11 | 0.51 |
| 1:B:410:VAL:HG12 | 1:B:412:TYR:CG | 2.45 | 0.51 |
| 1:B:474:PHE:CD1 | 1:B:474:PHE:O | 2.64 | 0.51 |
| 1:B:85:LYS:O | 1:B:86:ASP:HB2 | 2.10 | 0.51 |
| 1:C:250:VAL:HG13 | 1:C:251:TYR:CD2 | 2.46 | 0.51 |
| 1:C:417:ALA:C | 1:C:418:LEU:HD12 | 2.31 | 0.51 |
| 1:D:19:HIS:CD2 | 1:D:64:ASN:ND2 | 2.73 | 0.51 |
| 1:E:74:SER:CB | 1:E:178:GLN:HE21 | 2.24 | 0.51 |
| 1:E:287:ARG:HB2 | 1:E:295:GLU:OE2 | 2.11 | 0.51 |
| 1:E:169:ILE:HD11 | 1:E:207:ALA:HB1 | 1.93 | 0.50 |
| 1:F:244:TYR:HA | 1:F:247:VAL:HG22 | 1.93 | 0.50 |
| 1:F:336:THR:CG2 | 1:F:337:GLU:N | 2.74 | 0.50 |
| 1:F:414:LYS:O | 1:F:473:PRO:HB2 | 2.11 | 0.50 |
| 1:F:57:VAL:O | 1:F:60:ILE:O | 2.29 | 0.50 |
| 1:A:235:HIS:CD2 | 1:A:281:GLU:HB2 | 2.46 | 0.50 |
| 1:C:70:GLY:HA2 | 1:C:171:ASN:OD1 | 2.11 | 0.50 |
| 1:D:342:ILE:HD13 | 1:D:343:LEU:N | 2.27 | 0.50 |
| 1:E:179:VAL:HG22 | 1:F:197:TRP:CZ2 | 2.47 | 0.50 |
| 1:A:362:VAL:O | 1:A:363:LYS:C | 2.47 | 0.50 |
| 1:A:57:VAL:O | 1:A:60:ILE:O | 2.29 | 0.50 |
| 1:C:368:SER:OG | 1:C:369:GLU:N | 2.44 | 0.50 |
| 1:A:30:ARG:HB2 | 1:A:329:ASN:ND2 | 2.26 | 0.50 |
| 1:B:174:TYR:CE2 | 1:B:212:CYS:HB3 | 2.46 | 0.50 |
| 1:D:299:LEU:HD21 | 1:D:474:PHE:CD1 | 2.47 | 0.50 |
| 1:E:236:PHE:CG | 1:E:253:LEU:HD13 | 2.46 | 0.50 |
| 1:B:291:ASN:N | 1:B:291:ASN:HD22 | 1.98 | 0.50 |
| 1:B:330:ALA:C | 1:B:332:GLY:N | 2.63 | 0.50 |
| 1:B:75:ASN:C | 1:B:75:ASN:ND2 | 2.65 | 0.50 |
| 1:C:22:GLY:O | 1:C:323:ASN:HA | 2.11 | 0.50 |
| 1:D:362:VAL:HG22 | 1:D:396:ALA:O | 2.12 | 0.50 |
| 1:D:421:PRO:O | 1:D:421:PRO:HG2 | 2.12 | 0.50 |
| 1:F:62:VAL:CG1 | 1:F:116:ILE:HD12 | 2.37 | 0.50 |
| 1:F:298:ASP:OD1 | 1:F:300:LYS:HB3 | 2.11 | 0.50 |
| 1:F:461:ILE:CG2 | 1:F:462:THR:N | 2.73 | 0.50 |
| 1:D:158:HIS:C | 1:D:159:PRO:CA | 2.80 | 0.50 |
| 1:D:158:HIS:N | 1:D:158:HIS:CD2 | 2.80 | 0.50 |
| 1:D:434:VAL:HG23 | 1:D:434:VAL:O | 2.11 | 0.50 |
| 1:B:342:ILE:HD13 | 1:B:343:LEU:N | 2.27 | 0.50 |
| 1:D:169:ILE:CD1 | 1:D:195:THR:OG1 | 2.60 | 0.50 |
| 1:E:342:ILE:HD13 | 1:E:343:LEU:N | 2.27 | 0.50 |
| 1:A:50:ARG:O | 1:A:54:LEU:HB2 | 2.12 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:343:LEU:HD13 | 1:B:347:TYR:CE1 | 2.47 | 0.50 |
| 1:C:158:HIS:N | 1:C:158:HIS:CD2 | 2.80 | 0.50 |
| 1:D:154:ARG:HA | 1:D:158:HIS:O | 2.11 | 0.50 |
| 1:D:318:ILE:CG1 | 1:D:319:VAL:HG23 | 2.41 | 0.50 |
| 1:E:85:LYS:O | 1:E:86:ASP:HB2 | 2.12 | 0.50 |
| 1:F:415:GLU:N | 1:F:415:GLU:OE1 | 2.39 | 0.50 |
| 1:B:432:ALA:HB2 | 1:B:481:VAL:HG23 | 1.94 | 0.50 |
| 1:C:283:ASN:OD1 | 1:C:284:VAL:N | 2.41 | 0.50 |
| 1:C:380:ASN:H | 1:C:380:ASN:HD22 | 1.57 | 0.50 |
| 1:D:482:GLU:OE1 | 1:D:482:GLU:O | 2.30 | 0.50 |
| 1:E:279:LEU:HD22 | 1:E:282:TRP:HB3 | 1.94 | 0.50 |
| 1:F:239:GLY:N | 1:F:377:MET:O | 2.44 | 0.50 |
| 1:B:474:PHE:HD1 | 1:B:474:PHE:O | 1.95 | 0.49 |
| 1:E:70:GLY:HA2 | 1:E:171:ASN:CG | 2.33 | 0.49 |
| 1:E:417:ALA:C | 1:E:418:LEU:HD12 | 2.32 | 0.49 |
| 1:E:94:LEU:CD2 | 1:F:197:TRP:HB3 | 2.39 | 0.49 |
| 1:B:446:ASN:HD21 | 1:B:454:VAL:N | 1.93 | 0.49 |
| 1:C:411:ASN:ND2 | 1:C:411:ASN:C | 2.66 | 0.49 |
| 1:C:423:ARG:HG3 | 1:C:423:ARG:O | 2.11 | 0.49 |
| 1:E:324:LEU:HD22 | 1:E:350:PHE:HE1 | 1.72 | 0.49 |
| 1:F:74:SER:CB | 1:F:178:GLN:HE21 | 2.25 | 0.49 |
| 1:A:132:ASP:OD2 | 1:B:77:HIS:CE1 | 2.65 | 0.49 |
| 1:C:236:PHE:CG | 1:C:253:LEU:HD13 | 2.47 | 0.49 |
| 1:F:158:HIS:C | 1:F:159:PRO:CA | 2.80 | 0.49 |
| 1:F:169:ILE:HD11 | 1:F:207:ALA:HB1 | 1.94 | 0.49 |
| 1:F:28:LEU:HD22 | 1:F:330:ALA:CB | 2.43 | 0.49 |
| 1:F:417:ALA:C | 1:F:418:LEU:HD12 | 2.32 | 0.49 |
| 1:A:158:HIS:C | 1:A:159:PRO:CA | 2.81 | 0.49 |
| 1:C:73:VAL:O | 1:C:125:ASN:HB2 | 2.11 | 0.49 |
| 1:C:270:ALA:O | 1:C:273:ARG:O | 2.30 | 0.49 |
| 1:A:432:ALA:HB2 | 1:A:481:VAL:HG23 | 1.93 | 0.49 |
| 1:D:334:ILE:HD11 | 1:D:347:TYR:HE2 | 1.69 | 0.49 |
| 1:F:428:GLY:O | 1:F:464:ASP:HA | 2.12 | 0.49 |
| 1:C:238:THR:O | 1:C:284:VAL:HA | 2.12 | 0.49 |
| 1:C:366:VAL:CG2 | 1:C:367:GLU:N | 2.76 | 0.49 |
| 1:D:328:VAL:HG12 | 1:D:328:VAL:O | 1.96 | 0.49 |
| 1:D:70:GLY:HA2 | 1:D:171:ASN:OD1 | 2.12 | 0.49 |
| 1:E:169:ILE:HG22 | 1:E:169:ILE:O | 2.11 | 0.49 |
| 1:A:376:VAL:CG1 | 1:A:381:LYS:O | 2.60 | 0.49 |
| 1:E:423:ARG:HG3 | 1:E:423:ARG:O | 2.11 | 0.49 |
| 1:F:252:LEU:HD12 | 1:F:384:PHE:CD1 | 2.48 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:169:ILE:CD1 | 1:B:207:ALA:HB1 | 2.43 | 0.49 |
| 1:B:328:VAL:O | 1:B:332:GLY:CA | 2.61 | 0.49 |
| 1:B:75:ASN:C | 1:B:75:ASN:HD22 | 2.16 | 0.49 |
| 1:B:91:ARG:HG3 | 1:B:91:ARG:HH11 | 1.78 | 0.49 |
| 1:C:154:ARG:HA | 1:C:158:HIS:O | 2.12 | 0.49 |
| 1:D:327:LEU:HG | 1:D:328:VAL:HG23 | 1.94 | 0.49 |
| 1:D:472:LYS:HB3 | 1:D:473:PRO:HD2 | 1.95 | 0.49 |
| 1:A:431:LYS:HZ3 | 1:A:462:THR:HG22 | 1.78 | 0.49 |
| 1:B:252:LEU:HD13 | 1:B:377:MET:HE1 | 1.95 | 0.49 |
| 1:C:157:GLY:HA3 | 1:C:158:HIS:ND1 | 2.28 | 0.49 |
| 1:D:219:LEU:O | 1:D:223:GLN:HB2 | 2.13 | 0.49 |
| 1:F:255:GLU:O | 1:F:258:ILE:HG12 | 2.12 | 0.49 |
| 1:A:142:ASN:O | 1:A:161:PRO:CB | 2.61 | 0.49 |
| 1:C:169:ILE:CD1 | 1:C:195:THR:OG1 | 2.61 | 0.49 |
| 1:C:28:LEU:HD22 | 1:C:330:ALA:CB | 2.42 | 0.49 |
| 1:E:158:HIS:C | 1:E:159:PRO:CA | 2.81 | 0.49 |
| 1:E:225:ALA:HB1 | 1:E:229:ILE:HG23 | 1.95 | 0.49 |
| 1:F:376:VAL:HG22 | 1:F:376:VAL:H | 1.29 | 0.49 |
| 1:B:379:ILE:HG22 | 1:B:379:ILE:O | 2.13 | 0.48 |
| 1:C:26:GLU:HG2 | 1:C:27:HIS:N | 2.27 | 0.48 |
| 1:D:225:ALA:HB1 | 1:D:229:ILE:HG23 | 1.95 | 0.48 |
| 1:E:330:ALA:C | 1:E:332:GLY:N | 2.66 | 0.48 |
| 1:F:343:LEU:HD13 | 1:F:347:TYR:CE1 | 2.47 | 0.48 |
| 1:F:70:GLY:HA2 | 1:F:171:ASN:OD1 | 2.12 | 0.48 |
| 1:A:364:THR:HG21 | 1:A:396:ALA:H | 1.78 | 0.48 |
| 1:B:26:GLU:CG | 1:B:27:HIS:N | 2.75 | 0.48 |
| 1:E:411:ASN:C | 1:E:411:ASN:ND2 | 2.67 | 0.48 |
| 1:C:327:LEU:CG | 1:C:327:LEU:O | 2.45 | 0.48 |
| 1:D:297:TYR:HH | 1:D:331:LEU:CD2 | 2.26 | 0.48 |
| 1:D:411:ASN:ND2 | 1:D:411:ASN:C | 2.66 | 0.48 |
| 1:C:258:ILE:HG13 | 1:F:262:LYS:HD2 | 1.95 | 0.48 |
| 1:F:419:LYS:CA | 1:F:470:THR:HG22 | 2.43 | 0.48 |
| 1:F:75:ASN:C | 1:F:75:ASN:ND2 | 2.66 | 0.48 |
| 1:A:366:VAL:CG2 | 1:A:367:GLU:N | 2.76 | 0.48 |
| 1:B:461:ILE:CG2 | 1:B:462:THR:N | 2.75 | 0.48 |
| 1:C:343:LEU:HD13 | 1:C:347:TYR:CE1 | 2.49 | 0.48 |
| 1:D:291:ASN:ND2 | 1:D:291:ASN:N | 2.61 | 0.48 |
| 1:E:335:HIS:O | 1:E:342:ILE:HG22 | 2.13 | 0.48 |
| 1:F:380:ASN:ND2 | 1:F:380:ASN:H | 2.11 | 0.48 |
| 1:E:419:LYS:CA | 1:E:470:THR:HG22 | 2.44 | 0.48 |
| 1:A:431:LYS:CD | 1:A:462:THR:HG22 | 2.43 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:434:VAL:HG23 | 1:A:434:VAL:O | 2.14 | 0.48 |
| 1:A:472:LYS:HB3 | 1:A:473:PRO:HD2 | 1.96 | 0.48 |
| 1:A:60:ILE:O | 1:A:60:ILE:CG1 | 2.61 | 0.48 |
| 1:B:318:ILE:CG1 | 1:B:319:VAL:HG23 | 2.39 | 0.48 |
| 1:D:287:ARG:HB2 | 1:D:295:GLU:OE2 | 2.13 | 0.48 |
| 1:D:379:ILE:O | 1:D:379:ILE:CG2 | 2.61 | 0.48 |
| 1:E:235:HIS:CD2 | 1:E:281:GLU:HB2 | 2.49 | 0.48 |
| 1:F:157:GLY:O | 1:F:158:HIS:HB2 | 2.13 | 0.48 |
| 1:F:431:LYS:HD3 | 1:F:462:THR:HG22 | 1.94 | 0.48 |
| 1:B:481:VAL:CG2 | 1:B:482:GLU:N | 2.63 | 0.48 |
| 1:D:73:VAL:HG21 | 1:D:123:SER:O | 2.14 | 0.48 |
| 1:D:22:GLY:HA2 | 1:D:63:PRO:HD2 | 1.96 | 0.48 |
| 1:E:197:TRP:C | 1:E:199:LYS:N | 2.66 | 0.48 |
| 1:F:197:TRP:O | 1:F:199:LYS:N | 2.41 | 0.48 |
| 1:F:24:PHE:CB | 1:F:325:ALA:HA | 2.35 | 0.48 |
| 1:A:197:TRP:O | 1:A:198:MET:HB2 | 2.12 | 0.48 |
| 1:A:419:LYS:CB | 1:A:470:THR:HG22 | 2.36 | 0.48 |
| 1:C:169:ILE:HD12 | 1:C:207:ALA:HB1 | 1.95 | 0.48 |
| 1:D:291:ASN:H | 1:D:291:ASN:ND2 | 2.06 | 0.48 |
| 1:F:461:ILE:HD11 | 1:F:469:HIS:CE1 | 2.48 | 0.48 |
| 1:A:238:THR:O | 1:A:284:VAL:HA | 2.13 | 0.48 |
| 1:B:4:ARG:HG3 | 1:B:4:ARG:HH11 | 1.79 | 0.48 |
| 1:E:73:VAL:O | 1:E:125:ASN:HB2 | 2.13 | 0.48 |
| 1:F:158:HIS:N | 1:F:158:HIS:CD2 | 2.82 | 0.48 |
| 1:F:60:ILE:HG13 | 1:F:60:ILE:O | 2.13 | 0.48 |
| 1:A:236:PHE:CG | 1:A:253:LEU:HD13 | 2.49 | 0.47 |
| 1:B:377:MET:SD | 1:B:384:PHE:HB3 | 2.53 | 0.47 |
| 1:B:434:VAL:CG1 | 1:B:479:ILE:HG12 | 2.44 | 0.47 |
| 1:D:431:LYS:HD3 | 1:D:462:THR:HG22 | 1.96 | 0.47 |
| 1:F:279:LEU:HD22 | 1:F:282:TRP:HB3 | 1.95 | 0.47 |
| 1:B:410:VAL:HB | 1:B:412:TYR:HE1 | 1.76 | 0.47 |
| 1:D:144:LYS:CD | 1:D:144:LYS:N | 2.71 | 0.47 |
| 1:D:380:ASN:N | 1:D:380:ASN:ND2 | 2.62 | 0.47 |
| 1:E:279:LEU:CD2 | 1:E:282:TRP:HB3 | 2.43 | 0.47 |
| 1:C:262:LYS:CD | 1:F:258:ILE:HG13 | 2.44 | 0.47 |
| 1:B:378:PHE:CG | 1:B:379:ILE:N | 2.81 | 0.47 |
| 1:F:431:LYS:CD | 1:F:462:THR:HG22 | 2.44 | 0.47 |
| 1:A:419:LYS:CA | 1:A:470:THR:HG22 | 2.44 | 0.47 |
| 1:C:373:ILE:HG12 | 1:C:374:GLU:N | 2.29 | 0.47 |
| 1:C:415:GLU:CD | 1:C:415:GLU:N | 2.67 | 0.47 |
| 1:D:285:TRP:NE1 | 1:D:379:ILE:HD11 | 2.29 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:343:LEU:HD13 | 1:D:347:TYR:CE1 | 2.50 | 0.47 |
| 1:D:71:ASN:OD1 | 1:D:71:ASN:N | 2.43 | 0.47 |
| 1:E:255:GLU:O | 1:E:258:ILE:HG12 | 2.14 | 0.47 |
| 1:F:434:VAL:HG12 | 1:F:479:ILE:HG12 | 1.96 | 0.47 |
| 1:A:26:GLU:HG2 | 1:A:27:HIS:N | 2.27 | 0.47 |
| 1:B:274:GLY:O | 1:B:276:LYS:HG3 | 2.14 | 0.47 |
| 1:C:291:ASN:ND2 | 1:C:291:ASN:N | 2.61 | 0.47 |
| 1:C:70:GLY:HA2 | 1:C:171:ASN:CG | 2.34 | 0.47 |
| 1:E:197:TRP:O | 1:E:198:MET:HB2 | 2.14 | 0.47 |
| 1:E:25:THR:CG2 | 1:E:25:THR:O | 2.61 | 0.47 |
| 1:B:244:TYR:HA | 1:B:247:VAL:HG22 | 1.95 | 0.47 |
| 1:B:24:PHE:CD1 | 1:B:66:ARG:HB3 | 2.50 | 0.47 |
| 1:B:336:THR:HG23 | 1:B:337:GLU:N | 2.29 | 0.47 |
| 1:C:197:TRP:O | 1:C:198:MET:HB2 | 2.14 | 0.47 |
| 1:C:364:THR:HG21 | 1:C:396:ALA:H | 1.80 | 0.47 |
| 1:E:158:HIS:CD2 | 1:E:158:HIS:N | 2.83 | 0.47 |
| 1:F:252:LEU:HD21 | 1:F:256:ARG:CZ | 2.45 | 0.47 |
| 1:E:75:ASN:C | 1:E:75:ASN:ND2 | 2.68 | 0.47 |
| 1:B:197:TRP:HA | 1:B:200:VAL:HG13 | 1.96 | 0.47 |
| 1:B:235:HIS:CD2 | 1:B:281:GLU:HB2 | 2.49 | 0.47 |
| 1:C:472:LYS:HB3 | 1:C:473:PRO:HD2 | 1.97 | 0.47 |
| 1:D:419:LYS:HB3 | 1:D:419:LYS:HE2 | 1.68 | 0.47 |
| 1:F:120:PRO:HG2 | 1:F:164:VAL:HG13 | 1.97 | 0.47 |
| 1:A:214:ASP:C | 1:A:214:ASP:OD1 | 2.53 | 0.47 |
| 1:C:464:ASP:O | 1:C:466:GLU:N | 2.47 | 0.47 |
| 1:D:268:ASP:O | 1:D:272:LYS:HD3 | 2.15 | 0.47 |
| 1:E:285:TRP:CZ2 | 1:E:379:ILE:HD11 | 2.49 | 0.47 |
| 1:E:419:LYS:HB3 | 1:E:419:LYS:HE2 | 1.59 | 0.47 |
| 1:E:75:ASN:HD22 | 1:E:75:ASN:C | 2.18 | 0.47 |
| 1:F:225:ALA:HB1 | 1:F:229:ILE:HG23 | 1.96 | 0.47 |
| 1:A:328:VAL:O | 1:A:328:VAL:HG13 | 1.95 | 0.47 |
| 1:B:240:SER:O | 1:B:300:LYS:HE3 | 2.14 | 0.47 |
| 1:C:27:HIS:CD2 | 1:C:32:ILE:HG13 | 2.50 | 0.47 |
| 1:E:142:ASN:O | 1:E:161:PRO:HB2 | 2.15 | 0.47 |
| 1:E:182:MET:HE1 | 1:E:187:TYR:HD1 | 1.79 | 0.47 |
| 1:F:252:LEU:HD21 | 1:F:256:ARG:NH1 | 2.30 | 0.47 |
| 1:F:268:ASP:O | 1:F:272:LYS:HD3 | 2.15 | 0.47 |
| 1:F:330:ALA:C | 1:F:332:GLY:N | 2.67 | 0.47 |
| 1:A:85:LYS:O | 1:A:87:GLN:N | 2.43 | 0.47 |
| 1:B:378:PHE:CD1 | 1:B:379:ILE:N | 2.80 | 0.47 |
| 1:C:50:ARG:O | 1:C:54:LEU:HB2 | 2.15 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:169:ILE:HD13 | 1:D:195:THR:OG1 | 2.14 | 0.47 |
| 1:E:362:VAL:HG11 | 1:E:398:ILE:CD1 | 2.45 | 0.47 |
| 1:F:142:ASN:O | 1:F:161:PRO:HB2 | 2.15 | 0.47 |
| 1:C:147:THR:O | 1:C:148:TYR:C | 2.48 | 0.46 |
| 1:C:235:HIS:CD2 | 1:C:281:GLU:HB2 | 2.50 | 0.46 |
| 1:C:419:LYS:HE2 | 1:C:419:LYS:HB3 | 1.70 | 0.46 |
| 1:D:244:TYR:HA | 1:D:247:VAL:HG22 | 1.97 | 0.46 |
| 1:D:279:LEU:CD2 | 1:D:282:TRP:HB3 | 2.45 | 0.46 |
| 1:D:419:LYS:HA | 1:D:470:THR:HG22 | 1.97 | 0.46 |
| 1:E:215:PRO:O | 1:E:219:LEU:HB2 | 2.15 | 0.46 |
| 1:A:25:THR:HG22 | 1:A:66:ARG:O | 2.15 | 0.46 |
| 1:C:268:ASP:O | 1:C:272:LYS:HD3 | 2.16 | 0.46 |
| 1:C:419:LYS:HA | 1:C:470:THR:HG22 | 1.98 | 0.46 |
| 1:D:94:LEU:HD23 | 1:E:197:TRP:HB3 | 1.97 | 0.46 |
| 1:F:445:ARG:HG3 | 1:F:445:ARG:HH11 | 1.79 | 0.46 |
| 1:F:461:ILE:HG22 | 1:F:462:THR:N | 2.30 | 0.46 |
| 1:A:147:THR:HA | 1:B:90:VAL:HG12 | 1.97 | 0.46 |
| 1:A:169:ILE:HD13 | 1:A:195:THR:OG1 | 2.15 | 0.46 |
| 1:A:252:LEU:HD21 | 1:A:256:ARG:CZ | 2.45 | 0.46 |
| 1:C:215:PRO:HG3 | 1:F:266:MET:HB3 | 1.96 | 0.46 |
| 1:D:255:GLU:OE1 | 1:D:258:ILE:HD11 | 2.15 | 0.46 |
| 1:D:423:ARG:HG3 | 1:D:423:ARG:O | 2.15 | 0.46 |
| 1:E:77:HIS:CE1 | 1:F:132:ASP:OD2 | 2.68 | 0.46 |
| 1:F:142:ASN:O | 1:F:161:PRO:CB | 2.64 | 0.46 |
| 1:F:75:ASN:C | 1:F:75:ASN:HD22 | 2.18 | 0.46 |
| 1:A:174:TYR:CE2 | 1:A:212:CYS:HB3 | 2.50 | 0.46 |
| 1:A:25:THR:HB | 1:A:65:LEU:HD11 | 1.98 | 0.46 |
| 1:B:328:VAL:CG1 | 1:B:329:ASN:N | 2.77 | 0.46 |
| 1:B:414:LYS:O | 1:B:415:GLU:HB3 | 2.15 | 0.46 |
| 1:C:45:ASP:OD2 | 1:C:47:ARG:NH1 | 2.49 | 0.46 |
| 1:D:251:TYR:HE2 | 1:D:412:TYR:HH | 1.61 | 0.46 |
| 1:E:125:ASN:C | 1:E:125:ASN:OD1 | 2.54 | 0.46 |
| 1:E:214:ASP:C | 1:E:214:ASP:OD1 | 2.54 | 0.46 |
| 1:A:24:PHE:HB3 | 1:A:325:ALA:O | 2.15 | 0.46 |
| 1:A:417:ALA:C | 1:A:418:LEU:HD12 | 2.35 | 0.46 |
| 1:A:445:ARG:HH11 | 1:A:445:ARG:HG3 | 1.80 | 0.46 |
| 1:B:50:ARG:O | 1:B:54:LEU:HB2 | 2.15 | 0.46 |
| 1:C:158:HIS:O | 1:C:159:PRO:N | 2.48 | 0.46 |
| 1:E:185:ASP:OD1 | 1:E:220:ARG:HD3 | 2.15 | 0.46 |
| 1:E:285:TRP:NE1 | 1:E:379:ILE:HD11 | 2.31 | 0.46 |
| 1:A:43:LEU:N | 1:A:43:LEU:HD12 | 2.31 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:239:GLY:O | 1:B:377:MET:HA | 2.15 | 0.46 |
| 1:B:366:VAL:CG2 | 1:B:367:GLU:N | 2.78 | 0.46 |
| 1:C:143:GLY:O | 1:C:150:ALA:HB1 | 2.15 | 0.46 |
| 1:D:27:HIS:CD2 | 1:D:32:ILE:HG13 | 2.50 | 0.46 |
| 1:D:405:LEU:HG | 1:D:406:PHE:N | 2.29 | 0.46 |
| 1:D:461:ILE:HG22 | 1:D:462:THR:N | 2.30 | 0.46 |
| 1:D:409:VAL:HG21 | 1:D:471:PHE:CE2 | 2.50 | 0.46 |
| 1:E:51:LYS:O | 1:E:55:GLU:HG3 | 2.16 | 0.46 |
| 1:F:326:GLN:NE2 | 1:F:330:ALA:CB | 2.52 | 0.46 |
| 1:A:239:GLY:O | 1:A:377:MET:HA | 2.15 | 0.46 |
| 1:B:154:ARG:HA | 1:B:158:HIS:O | 2.15 | 0.46 |
| 1:B:24:PHE:HD1 | 1:B:66:ARG:HB3 | 1.80 | 0.46 |
| 1:C:169:ILE:HD13 | 1:C:195:THR:OG1 | 2.15 | 0.46 |
| 1:C:4:ARG:HG3 | 1:C:4:ARG:HH11 | 1.80 | 0.46 |
| 1:D:291:ASN:HD22 | 1:D:291:ASN:N | 1.98 | 0.46 |
| 1:D:83:GLY:C | 1:D:84:PRO:O | 2.52 | 0.46 |
| 1:B:5:ILE:HG22 | 1:B:366:VAL:HG23 | 1.97 | 0.46 |
| 1:C:285:TRP:C | 1:C:285:TRP:CD1 | 2.88 | 0.46 |
| 1:C:410:VAL:HG11 | 1:C:412:TYR:CZ | 2.50 | 0.46 |
| 1:D:283:ASN:HB2 | 1:D:325:ALA:HB3 | 1.98 | 0.46 |
| 1:F:327:LEU:HG | 1:F:328:VAL:N | 2.31 | 0.46 |
| 1:F:60:ILE:HG22 | 1:F:351:GLU:HA | 1.97 | 0.46 |
| 1:A:343:LEU:HD13 | 1:A:347:TYR:CE1 | 2.51 | 0.46 |
| 1:A:450:ASN:C | 1:A:452:ASN:H | 2.20 | 0.46 |
| 1:B:144:LYS:N | 1:B:144:LYS:CD | 2.78 | 0.46 |
| 1:D:157:GLY:HA3 | 1:D:158:HIS:HB2 | 1.97 | 0.46 |
| 1:D:330:ALA:O | 1:D:332:GLY:N | 2.49 | 0.46 |
| 1:F:362:VAL:HG22 | 1:F:396:ALA:O | 2.16 | 0.46 |
| 1:F:434:VAL:CG1 | 1:F:479:ILE:HG12 | 2.46 | 0.46 |
| 1:F:80:ASP:HB3 | 1:F:89:PRO:HG2 | 1.98 | 0.46 |
| 1:A:410:VAL:CB | 1:A:412:TYR:CZ | 2.95 | 0.46 |
| 1:B:169:ILE:CD1 | 1:B:195:THR:OG1 | 2.64 | 0.46 |
| 1:D:255:GLU:O | 1:D:258:ILE:HG12 | 2.15 | 0.46 |
| 1:D:434:VAL:O | 1:D:434:VAL:CG2 | 2.63 | 0.46 |
| 1:A:307:GLY:CA | 1:A:412:TYR:OH | 2.63 | 0.45 |
| 1:B:329:ASN:ND2 | 1:B:336:THR:HB | 2.27 | 0.45 |
| 1:B:368:SER:OG | 1:B:369:GLU:N | 2.50 | 0.45 |
| 1:C:279:LEU:HD22 | 1:C:282:TRP:HB3 | 1.99 | 0.45 |
| 1:C:330:ALA:O | 1:C:331:LEU:C | 2.55 | 0.45 |
| 1:C:445:ARG:HG3 | 1:C:445:ARG:HH11 | 1.81 | 0.45 |
| 1:D:73:VAL:O | 1:D:125:ASN:HB2 | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:240:SER:HB2 | 1:E:376:VAL:CG2 | 2.46 | 0.45 |
| 1:E:27:HIS:HB2 | 1:E:72:PHE:CD2 | 2.50 | 0.45 |
| 1:F:169:ILE:HG22 | 1:F:169:ILE:O | 2.16 | 0.45 |
| 1:F:384:PHE:C | 1:F:384:PHE:CD1 | 2.90 | 0.45 |
| 1:A:169:ILE:CD1 | 1:A:207:ALA:HB1 | 2.47 | 0.45 |
| 1:A:419:LYS:HE2 | 1:A:419:LYS:HB3 | 1.72 | 0.45 |
| 1:A:416:ASP:H | 1:A:473:PRO:HB3 | 1.81 | 0.45 |
| 1:A:474:PHE:CD1 | 1:A:474:PHE:O | 2.69 | 0.45 |
| 1:A:77:HIS:CE1 | 1:C:132:ASP:OD2 | 2.68 | 0.45 |
| 1:C:378:PHE:CG | 1:C:379:ILE:N | 2.84 | 0.45 |
| 1:D:36:ILE:CG2 | 1:D:328:VAL:HG21 | 2.43 | 0.45 |
| 1:D:411:ASN:HD22 | 1:D:412:TYR:N | 2.14 | 0.45 |
| 1:A:270:ALA:O | 1:A:273:ARG:O | 2.34 | 0.45 |
| 1:A:384:PHE:CD1 | 1:A:384:PHE:C | 2.89 | 0.45 |
| 1:B:182:MET:HE3 | 1:B:187:TYR:HD1 | 1.81 | 0.45 |
| 1:B:252:LEU:C | 1:B:252:LEU:HD23 | 2.37 | 0.45 |
| 1:B:62:VAL:HA | 1:B:63:PRO:HD3 | 1.75 | 0.45 |
| 1:D:368:SER:HG | 1:D:391:PHE:H | 1.64 | 0.45 |
| 1:E:94:LEU:HD23 | 1:F:197:TRP:CB | 2.45 | 0.45 |
| 1:F:169:ILE:HD12 | 1:F:207:ALA:HB1 | 1.98 | 0.45 |
| 1:A:291:ASN:H | 1:A:291:ASN:ND2 | 2.12 | 0.45 |
| 1:A:27:HIS:CD2 | 1:A:32:ILE:HG13 | 2.51 | 0.45 |
| 1:C:157:GLY:CA | 1:C:158:HIS:HB2 | 2.47 | 0.45 |
| 1:C:75:ASN:C | 1:C:75:ASN:HD22 | 2.19 | 0.45 |
| 1:C:75:ASN:ND2 | 1:C:75:ASN:C | 2.68 | 0.45 |
| 1:F:60:ILE:HA | 1:F:354:VAL:HG21 | 1.97 | 0.45 |
| 1:B:282:TRP:CG | 1:B:282:TRP:O | 2.70 | 0.45 |
| 1:B:47:ARG:NH2 | 1:B:115:GLU:OE1 | 2.49 | 0.45 |
| 1:C:182:MET:HE1 | 1:C:187:TYR:HA | 1.99 | 0.45 |
| 1:C:318:ILE:CG1 | 1:C:319:VAL:HG23 | 2.43 | 0.45 |
| 1:C:326:GLN:HG2 | 1:C:330:ALA:HB3 | 1.99 | 0.45 |
| 1:D:26:GLU:CB | 1:D:326:GLN:OE1 | 2.56 | 0.45 |
| 1:D:169:ILE:O | 1:D:169:ILE:HG22 | 2.17 | 0.45 |
| 1:D:214:ASP:C | 1:D:214:ASP:OD1 | 2.55 | 0.45 |
| 1:E:262:LYS:O | 1:E:266:MET:HG3 | 2.16 | 0.45 |
| 1:F:25:THR:O | 1:F:25:THR:CG2 | 2.56 | 0.45 |
| 1:F:243:TYR:CG | 1:F:414:LYS:HD2 | 2.52 | 0.45 |
| 1:A:47:ARG:CG | 1:A:47:ARG:HH11 | 2.26 | 0.45 |
| 1:B:24:PHE:O | 1:B:327:LEU:HB2 | 2.16 | 0.45 |
| 1:C:197:TRP:C | 1:C:199:LYS:N | 2.69 | 0.45 |
| 1:D:378:PHE:O | 1:D:379:ILE:C | 2.52 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:231:PHE:HA | 1:E:276:LYS:O | 2.17 | 0.45 |
| 1:F:329:ASN:ND2 | 1:F:336:THR:HB | 2.30 | 0.45 |
| 1:A:291:ASN:HD22 | 1:A:291:ASN:N | 2.03 | 0.45 |
| 1:E:460:THR:HG22 | 1:E:461:ILE:N | 2.32 | 0.45 |
| 1:F:376:VAL:O | 1:F:376:VAL:CG2 | 2.44 | 0.45 |
| 1:F:4:ARG:HH11 | 1:F:4:ARG:HG3 | 1.82 | 0.45 |
| 1:A:244:TYR:HA | 1:A:247:VAL:HG22 | 1.98 | 0.45 |
| 1:A:30:ARG:NH1 | 1:A:336:THR:HG22 | 2.21 | 0.45 |
| 1:C:26:GLU:CG | 1:C:27:HIS:N | 2.79 | 0.45 |
| 1:C:461:ILE:CG2 | 1:C:462:THR:N | 2.80 | 0.45 |
| 1:C:62:VAL:HA | 1:C:63:PRO:HD3 | 1.71 | 0.45 |
| 1:E:25:THR:HA | 1:E:326:GLN:HG2 | 1.98 | 0.45 |
| 1:F:282:TRP:O | 1:F:282:TRP:CD2 | 2.70 | 0.45 |
| 1:A:318:ILE:CG1 | 1:A:319:VAL:HG23 | 2.43 | 0.45 |
| 1:B:219:LEU:O | 1:B:223:GLN:HB2 | 2.16 | 0.45 |
| 1:B:260:VAL:HA | 1:B:263:LEU:HD12 | 1.97 | 0.45 |
| 1:B:416:ASP:N | 1:B:473:PRO:HB3 | 2.32 | 0.45 |
| 1:C:73:VAL:HG21 | 1:C:123:SER:O | 2.17 | 0.45 |
| 1:D:431:LYS:CD | 1:D:462:THR:HG22 | 2.47 | 0.45 |
| 1:E:318:ILE:CG1 | 1:E:319:VAL:HG23 | 2.43 | 0.45 |
| 1:A:75:ASN:ND2 | 1:A:75:ASN:C | 2.71 | 0.44 |
| 1:B:252:LEU:HD21 | 1:B:256:ARG:CZ | 2.47 | 0.44 |
| 1:B:60:ILE:CG1 | 1:B:60:ILE:O | 2.64 | 0.44 |
| 1:B:60:ILE:HG22 | 1:B:351:GLU:HA | 1.98 | 0.44 |
| 1:C:19:HIS:CD2 | 1:C:64:ASN:ND2 | 2.70 | 0.44 |
| 1:D:334:ILE:CG1 | 1:D:347:TYR:CD2 | 3.00 | 0.44 |
| 1:D:96:TRP:C | 1:D:97:GLN:HG3 | 2.37 | 0.44 |
| 1:E:5:ILE:HG22 | 1:E:366:VAL:HG23 | 2.00 | 0.44 |
| 1:F:197:TRP:O | 1:F:198:MET:CB | 2.64 | 0.44 |
| 1:A:261:LYS:CD | 1:A:261:LYS:C | 2.86 | 0.44 |
| 1:A:362:VAL:HG11 | 1:A:398:ILE:HG13 | 1.98 | 0.44 |
| 1:B:27:HIS:CD2 | 1:B:32:ILE:HG13 | 2.52 | 0.44 |
| 1:B:66:ARG:HA | 1:B:121:TYR:O | 2.17 | 0.44 |
| 1:D:179:VAL:HG22 | 1:E:197:TRP:CZ2 | 2.52 | 0.44 |
| 1:D:45:ASP:OD2 | 1:D:47:ARG:NH1 | 2.49 | 0.44 |
| 1:E:81:GLY:O | 1:E:105:GLY:HA3 | 2.18 | 0.44 |
| 1:E:28:LEU:HD22 | 1:E:330:ALA:HB2 | 1.99 | 0.44 |
| 1:E:28:LEU:HD22 | 1:E:330:ALA:HB1 | 2.00 | 0.44 |
| 1:F:174:TYR:CE2 | 1:F:212:CYS:HB3 | 2.53 | 0.44 |
| 1:F:327:LEU:C | 1:F:333:ALA:H | 2.12 | 0.44 |
| 1:A:335:HIS:O | 1:A:342:ILE:HG22 | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:28:LEU:C | 1:B:28:LEU:HD23 | 2.37 | 0.44 |
| 1:B:431:LYS:HZ3 | 1:B:462:THR:HG22 | 1.80 | 0.44 |
| 1:C:158:HIS:C | 1:C:159:PRO:HA | 2.37 | 0.44 |
| 1:D:474:PHE:O | 1:D:474:PHE:CD1 | 2.70 | 0.44 |
| 1:E:250:VAL:HG13 | 1:E:251:TYR:CE2 | 2.53 | 0.44 |
| 1:E:391:PHE:CD1 | 1:E:413:ARG:HD3 | 2.52 | 0.44 |
| 1:F:270:ALA:O | 1:F:273:ARG:O | 2.35 | 0.44 |
| 1:F:411:ASN:C | 1:F:411:ASN:ND2 | 2.71 | 0.44 |
| 1:A:169:ILE:HD12 | 1:A:207:ALA:HB1 | 1.99 | 0.44 |
| 1:B:362:VAL:HG11 | 1:B:398:ILE:HD12 | 1.97 | 0.44 |
| 1:B:362:VAL:HG22 | 1:B:396:ALA:O | 2.16 | 0.44 |
| 1:C:463:VAL:HB | 1:C:467:PHE:CE2 | 2.53 | 0.44 |
| 1:D:157:GLY:O | 1:D:158:HIS:CB | 2.66 | 0.44 |
| 1:D:197:TRP:HA | 1:D:200:VAL:HG13 | 1.99 | 0.44 |
| 1:D:4:ARG:HA | 1:D:420:VAL:HG23 | 1.99 | 0.44 |
| 1:E:392:LEU:HD12 | 1:E:410:VAL:O | 2.18 | 0.44 |
| 1:E:60:ILE:HG22 | 1:E:351:GLU:HA | 2.00 | 0.44 |
| 1:F:202:ASP:O | 1:F:205:ILE:HG12 | 2.16 | 0.44 |
| 1:F:403:LYS:HG3 | 1:F:403:LYS:O | 2.17 | 0.44 |
| 1:B:325:ALA:HA | 1:B:326:GLN:HA | 1.75 | 0.44 |
| 1:B:446:ASN:N | 1:B:446:ASN:HD22 | 2.15 | 0.44 |
| 1:B:450:ASN:C | 1:B:452:ASN:H | 2.20 | 0.44 |
| 1:B:70:GLY:HA2 | 1:B:171:ASN:OD1 | 2.18 | 0.44 |
| 1:C:327:LEU:C | 1:C:328:VAL:HG23 | 2.38 | 0.44 |
| 1:D:318:ILE:HG13 | 1:D:319:VAL:CG2 | 2.44 | 0.44 |
| 1:E:291:ASN:N | 1:E:291:ASN:ND2 | 2.64 | 0.44 |
| 1:E:24:PHE:O | 1:E:326:GLN:HA | 2.17 | 0.44 |
| 1:E:377:MET:O | 1:E:377:MET:HG3 | 2.17 | 0.44 |
| 1:B:162:TYR:O | 1:B:163:ASN:HB3 | 2.18 | 0.44 |
| 1:B:347:TYR:CD1 | 1:B:347:TYR:C | 2.90 | 0.44 |
| 1:C:208:ILE:N | 1:C:208:ILE:HD12 | 2.33 | 0.44 |
| 1:D:162:TYR:O | 1:D:163:ASN:HB3 | 2.18 | 0.44 |
| 1:E:208:ILE:N | 1:E:208:ILE:HD12 | 2.33 | 0.44 |
| 1:E:384:PHE:C | 1:E:384:PHE:CD1 | 2.91 | 0.44 |
| 1:F:125:ASN:OD1 | 1:F:125:ASN:C | 2.56 | 0.44 |
| 1:D:192:LYS:HE2 | 1:F:176:GLU:OE2 | 2.17 | 0.44 |
| 1:F:243:TYR:CB | 1:F:414:LYS:HD2 | 2.48 | 0.44 |
| 1:A:145:GLY:O | 1:A:154:ARG:NH2 | 2.50 | 0.44 |
| 1:A:240:SER:O | 1:A:300:LYS:HE3 | 2.18 | 0.44 |
| 1:B:182:MET:HE1 | 1:B:187:TYR:HD1 | 1.82 | 0.44 |
| 1:B:418:LEU:O | 1:B:470:THR:HA | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:60:ILE:HA | 1:B:354:VAL:HG21 | 2.00 | 0.44 |
| 1:D:463:VAL:HB | 1:D:467:PHE:CE2 | 2.53 | 0.44 |
| 1:D:70:GLY:HA2 | 1:D:171:ASN:CG | 2.37 | 0.44 |
| 1:E:434:VAL:HG23 | 1:E:434:VAL:O | 2.18 | 0.44 |
| 1:F:215:PRO:O | 1:F:219:LEU:HB2 | 2.17 | 0.44 |
| 1:F:371:TYR:CD1 | 1:F:389:ALA:O | 2.71 | 0.44 |
| 1:F:423:ARG:O | 1:F:423:ARG:HG3 | 2.16 | 0.44 |
| 1:F:60:ILE:CG1 | 1:F:60:ILE:O | 2.66 | 0.44 |
| 1:A:74:SER:CB | 1:A:178:GLN:HE21 | 2.30 | 0.44 |
| 1:C:22:GLY:HA2 | 1:C:63:PRO:HD2 | 1.99 | 0.44 |
| 1:E:282:TRP:O | 1:E:324:LEU:HD12 | 2.18 | 0.44 |
| 1:E:397:SER:O | 1:E:405:LEU:HD12 | 2.17 | 0.44 |
| 1:E:472:LYS:HB3 | 1:E:473:PRO:HD2 | 1.99 | 0.44 |
| 1:F:24:PHE:CB | 1:F:325:ALA:CA | 2.78 | 0.44 |
| 1:F:342:ILE:HD13 | 1:F:343:LEU:N | 2.33 | 0.44 |
| 1:B:197:TRP:O | 1:B:198:MET:CB | 2.65 | 0.44 |
| 1:B:255:GLU:O | 1:B:258:ILE:HG12 | 2.18 | 0.44 |
| 1:B:410:VAL:CG2 | 1:B:412:TYR:OH | 2.64 | 0.44 |
| 1:C:28:LEU:HD22 | 1:C:330:ALA:HB1 | 2.00 | 0.44 |
| 1:E:377:MET:N | 1:E:382:MET:O | 2.47 | 0.44 |
| 1:F:70:GLY:HA2 | 1:F:171:ASN:CG | 2.38 | 0.44 |
| 1:B:250:VAL:HG13 | 1:B:251:TYR:CE2 | 2.53 | 0.43 |
| 1:B:405:LEU:HB3 | 1:B:481:VAL:CG1 | 2.48 | 0.43 |
| 1:C:74:SER:HB2 | 1:C:178:GLN:HE21 | 1.83 | 0.43 |
| 1:C:219:LEU:O | 1:C:223:GLN:HB2 | 2.17 | 0.43 |
| 1:E:330:ALA:O | 1:E:331:LEU:C | 2.57 | 0.43 |
| 1:E:409:VAL:HG21 | 1:E:471:PHE:CE2 | 2.53 | 0.43 |
| 1:A:291:ASN:ND2 | 1:A:291:ASN:N | 2.66 | 0.43 |
| 1:A:299:LEU:HD21 | 1:A:474:PHE:CD1 | 2.53 | 0.43 |
| 1:A:419:LYS:HG2 | 1:A:470:THR:HG22 | 1.38 | 0.43 |
| 1:B:318:ILE:HG13 | 1:B:319:VAL:CG2 | 2.43 | 0.43 |
| 1:C:282:TRP:O | 1:C:282:TRP:CG | 2.71 | 0.43 |
| 1:D:197:TRP:C | 1:D:199:LYS:N | 2.72 | 0.43 |
| 1:D:250:VAL:HG13 | 1:D:251:TYR:CE2 | 2.54 | 0.43 |
| 1:D:371:TYR:CD1 | 1:D:389:ALA:O | 2.72 | 0.43 |
| 1:B:373:ILE:CG1 | 1:B:374:GLU:N | 2.80 | 0.43 |
| 1:D:458:SER:O | 1:D:459:GLU:HB2 | 2.18 | 0.43 |
| 1:E:415:GLU:OE1 | 1:E:415:GLU:N | 2.43 | 0.43 |
| 1:F:328:VAL:HA | 1:F:334:ILE:HB | 2.00 | 0.43 |
| 1:F:22:GLY:HA2 | 1:F:63:PRO:HD2 | 2.00 | 0.43 |
| 1:A:208:ILE:HD12 | 1:A:208:ILE:N | 2.32 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:441:ASP:C | 1:A:443:ASN:H | 2.20 | 0.43 |
| 1:A:474:PHE:HD1 | 1:A:474:PHE:O | 2.01 | 0.43 |
| 1:E:91:ARG:CG | 1:E:91:ARG:HH11 | 2.31 | 0.43 |
| 1:F:85:LYS:O | 1:F:87:GLN:N | 2.49 | 0.43 |
| 1:A:380:ASN:HD22 | 1:A:381:LYS:N | 2.16 | 0.43 |
| 1:A:409:VAL:HG21 | 1:A:471:PHE:CE1 | 2.54 | 0.43 |
| 1:B:122:ILE:HD12 | 1:B:164:VAL:HG21 | 2.01 | 0.43 |
| 1:B:28:LEU:HD22 | 1:B:330:ALA:HB2 | 1.98 | 0.43 |
| 1:C:16:ILE:HA | 1:C:316:SER:OG | 2.18 | 0.43 |
| 1:C:30:ARG:NH1 | 1:C:336:THR:HG22 | 2.24 | 0.43 |
| 1:C:405:LEU:HB3 | 1:C:481:VAL:CG1 | 2.48 | 0.43 |
| 1:D:377:MET:O | 1:D:378:PHE:CB | 2.54 | 0.43 |
| 1:E:251:TYR:HE2 | 1:E:412:TYR:CZ | 2.37 | 0.43 |
| 1:F:434:VAL:O | 1:F:434:VAL:HG23 | 2.19 | 0.43 |
| 1:B:411:ASN:C | 1:B:411:ASN:ND2 | 2.72 | 0.43 |
| 1:D:62:VAL:CG1 | 1:D:116:ILE:HD12 | 2.44 | 0.43 |
| 1:D:446:ASN:HD22 | 1:D:446:ASN:N | 2.16 | 0.43 |
| 1:E:62:VAL:HA | 1:E:63:PRO:HD3 | 1.74 | 0.43 |
| 1:A:73:VAL:HG21 | 1:A:123:SER:O | 2.18 | 0.43 |
| 1:A:411:ASN:ND2 | 1:A:411:ASN:C | 2.72 | 0.43 |
| 1:A:460:THR:HG22 | 1:A:461:ILE:N | 2.33 | 0.43 |
| 1:B:157:GLY:O | 1:B:158:HIS:CB | 2.65 | 0.43 |
| 1:B:197:TRP:C | 1:B:199:LYS:N | 2.72 | 0.43 |
| 1:B:326:GLN:HB2 | 1:B:330:ALA:O | 2.19 | 0.43 |
| 1:B:378:PHE:C | 1:B:380:ASN:N | 2.71 | 0.43 |
| 1:B:458:SER:O | 1:B:459:GLU:HB2 | 2.18 | 0.43 |
| 1:C:255:GLU:O | 1:C:258:ILE:HG12 | 2.18 | 0.43 |
| 1:D:125:ASN:C | 1:D:125:ASN:OD1 | 2.57 | 0.43 |
| 1:E:411:ASN:HD22 | 1:E:412:TYR:N | 2.16 | 0.43 |
| 1:F:157:GLY:HA3 | 1:F:158:HIS:HB2 | 2.01 | 0.43 |
| 1:F:291:ASN:ND2 | 1:F:291:ASN:N | 2.64 | 0.43 |
| 1:F:96:TRP:C | 1:F:97:GLN:HG3 | 2.38 | 0.43 |
| 1:B:70:GLY:HA2 | 1:B:171:ASN:CG | 2.39 | 0.43 |
| 1:B:206:LYS:HA | 1:B:230:ASP:OD2 | 2.18 | 0.43 |
| 1:B:215:PRO:HG3 | 1:E:266:MET:HB3 | 2.01 | 0.43 |
| 1:B:434:VAL:HG12 | 1:B:479:ILE:HG12 | 2.01 | 0.43 |
| 1:C:5:ILE:HG22 | 1:C:366:VAL:HG23 | 2.01 | 0.43 |
| 1:D:279:LEU:HD22 | 1:D:282:TRP:HB3 | 1.99 | 0.43 |
| 1:F:73:VAL:O | 1:F:125:ASN:HB2 | 2.18 | 0.43 |
| 1:F:238:THR:O | 1:F:284:VAL:HA | 2.19 | 0.43 |
| 1:F:279:LEU:CD2 | 1:F:282:TRP:HB3 | 2.49 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:283:ASN:HD22 | 1:A:325:ALA:HB3 | 1.83 | 0.43 |
| 1:B:125:ASN:C | 1:B:125:ASN:OD1 | 2.57 | 0.43 |
| 1:C:464:ASP:C | 1:C:466:GLU:N | 2.71 | 0.43 |
| 1:D:285:TRP:CD1 | 1:D:285:TRP:C | 2.90 | 0.43 |
| 1:D:53:VAL:HG22 | 1:D:341:LEU:HD11 | 2.01 | 0.43 |
| 1:D:365:HIS:ND1 | 1:D:365:HIS:C | 2.71 | 0.43 |
| 1:E:142:ASN:O | 1:E:161:PRO:CB | 2.67 | 0.43 |
| 1:F:62:VAL:HA | 1:F:63:PRO:HD3 | 1.77 | 0.43 |
| 1:A:26:GLU:CG | 1:A:27:HIS:N | 2.81 | 0.43 |
| 1:B:74:SER:HB2 | 1:B:178:GLN:HE21 | 1.84 | 0.43 |
| 1:D:384:PHE:C | 1:D:384:PHE:CD1 | 2.92 | 0.43 |
| 1:D:411:ASN:OD1 | 1:D:413:ARG:HB2 | 2.19 | 0.43 |
| 1:E:67:TRP:O | 1:E:122:ILE:HA | 2.18 | 0.43 |
| 1:F:199:LYS:HE2 | 1:F:205:ILE:O | 2.18 | 0.43 |
| 1:F:362:VAL:HG11 | 1:F:398:ILE:HD12 | 2.00 | 0.43 |
| 1:F:461:ILE:HD11 | 1:F:469:HIS:ND1 | 2.34 | 0.43 |
| 1:F:70:GLY:O | 1:F:71:ASN:C | 2.57 | 0.43 |
| 1:A:371:TYR:CD1 | 1:A:389:ALA:O | 2.72 | 0.42 |
| 1:B:285:TRP:C | 1:B:285:TRP:CD1 | 2.90 | 0.42 |
| 1:B:335:HIS:O | 1:B:342:ILE:HG22 | 2.19 | 0.42 |
| 1:B:394:ALA:HB1 | 1:B:408:ALA:O | 2.19 | 0.42 |
| 1:F:411:ASN:ND2 | 1:F:413:ARG:N | 2.60 | 0.42 |
| 1:A:197:TRP:HA | 1:A:200:VAL:HG13 | 2.00 | 0.42 |
| 1:A:30:ARG:CB | 1:A:329:ASN:ND2 | 2.83 | 0.42 |
| 1:B:460:THR:HG22 | 1:B:461:ILE:N | 2.34 | 0.42 |
| 1:B:197:TRP:CZ2 | 1:C:179:VAL:HG22 | 2.53 | 0.42 |
| 1:C:202:ASP:O | 1:C:205:ILE:HG12 | 2.18 | 0.42 |
| 1:C:234:TYR:OH | 1:C:256:ARG:HG2 | 2.19 | 0.42 |
| 1:C:299:LEU:HD21 | 1:C:474:PHE:CD1 | 2.54 | 0.42 |
| 1:D:67:TRP:O | 1:D:122:ILE:HA | 2.19 | 0.42 |
| 1:E:461:ILE:HD11 | 1:E:469:HIS:CE1 | 2.54 | 0.42 |
| 1:F:418:LEU:O | 1:F:470:THR:HA | 2.18 | 0.42 |
| 1:A:197:TRP:O | 1:A:198:MET:CB | 2.66 | 0.42 |
| 1:B:157:GLY:CA | 1:B:158:HIS:HB2 | 2.49 | 0.42 |
| 1:C:34:GLY:O | 1:C:336:THR:CG2 | 2.56 | 0.42 |
| 1:D:362:VAL:HG11 | 1:D:398:ILE:CD1 | 2.50 | 0.42 |
| 1:E:214:ASP:HA | 1:E:215:PRO:HD3 | 1.92 | 0.42 |
| 1:E:362:VAL:HG11 | 1:E:398:ILE:HD12 | 2.01 | 0.42 |
| 1:E:368:SER:OG | 1:E:369:GLU:N | 2.52 | 0.42 |
| 1:A:67:TRP:CE2 | 1:A:68:PRO:HB3 | 2.55 | 0.42 |
| 1:B:157:GLY:HA3 | 1:B:158:HIS:ND1 | 2.34 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:411:ASN:ND2 | 1:B:413:ARG:H | 2.16 | 0.42 |
| 1:B:445:ARG:HH11 | 1:B:445:ARG:HG3 | 1.85 | 0.42 |
| 1:A:94:LEU:CD2 | 1:C:197:TRP:HB3 | 2.49 | 0.42 |
| 1:C:215:PRO:O | 1:C:219:LEU:HB2 | 2.18 | 0.42 |
| 1:C:330:ALA:O | 1:C:332:GLY:N | 2.52 | 0.42 |
| 1:C:450:ASN:C | 1:C:452:ASN:H | 2.22 | 0.42 |
| 1:C:71:ASN:N | 1:C:71:ASN:OD1 | 2.42 | 0.42 |
| 1:D:94:LEU:CD2 | 1:E:197:TRP:HB3 | 2.49 | 0.42 |
| 1:E:461:ILE:HG22 | 1:E:462:THR:N | 2.34 | 0.42 |
| 1:F:236:PHE:CG | 1:F:253:LEU:HD13 | 2.54 | 0.42 |
| 1:A:154:ARG:HA | 1:A:158:HIS:O | 2.19 | 0.42 |
| 1:A:434:VAL:CG2 | 1:A:434:VAL:O | 2.67 | 0.42 |
| 1:B:28:LEU:HD22 | 1:B:330:ALA:HB1 | 2.00 | 0.42 |
| 1:B:371:TYR:CD1 | 1:B:389:ALA:O | 2.72 | 0.42 |
| 1:B:461:ILE:HD11 | 1:B:469:HIS:ND1 | 2.34 | 0.42 |
| 1:C:61:LYS:HE2 | 1:C:355:ASN:OD1 | 2.19 | 0.42 |
| 1:C:45:ASP:CG | 1:C:46:GLU:N | 2.71 | 0.42 |
| 1:D:240:SER:O | 1:D:300:LYS:HE3 | 2.19 | 0.42 |
| 1:D:324:LEU:O | 1:D:325:ALA:C | 2.58 | 0.42 |
| 1:D:347:TYR:C | 1:D:347:TYR:CD1 | 2.93 | 0.42 |
| 1:E:169:ILE:CD1 | 1:E:195:THR:OG1 | 2.68 | 0.42 |
| 1:C:245:GLU:O | 1:C:249:THR:HG23 | 2.18 | 0.42 |
| 1:D:158:HIS:O | 1:D:159:PRO:CA | 2.68 | 0.42 |
| 1:E:365:HIS:C | 1:E:365:HIS:ND1 | 2.71 | 0.42 |
| 1:A:158:HIS:O | 1:A:159:PRO:CA | 2.68 | 0.42 |
| 1:A:45:ASP:OD2 | 1:A:47:ARG:NH1 | 2.52 | 0.42 |
| 1:B:362:VAL:HG11 | 1:B:398:ILE:HG13 | 2.02 | 0.42 |
| 1:E:179:VAL:HG22 | 1:F:197:TRP:CE2 | 2.54 | 0.42 |
| 1:E:299:LEU:HD21 | 1:E:474:PHE:HD1 | 1.84 | 0.42 |
| 1:E:378:PHE:HD1 | 1:E:379:ILE:N | 1.84 | 0.42 |
| 1:F:158:HIS:O | 1:F:159:PRO:CA | 2.68 | 0.42 |
| 1:A:324:LEU:HD12 | 1:A:324:LEU:HA | 1.91 | 0.42 |
| 1:D:202:ASP:O | 1:D:205:ILE:HG12 | 2.20 | 0.42 |
| 1:D:405:LEU:HB3 | 1:D:481:VAL:CG1 | 2.50 | 0.42 |
| 1:D:62:VAL:HA | 1:D:63:PRO:HD3 | 1.73 | 0.42 |
| 1:E:268:ASP:O | 1:E:272:LYS:HD3 | 2.20 | 0.42 |
| 1:E:329:ASN:ND2 | 1:E:336:THR:HB | 2.31 | 0.42 |
| 1:A:268:ASP:O | 1:A:272:LYS:HD3 | 2.19 | 0.42 |
| 1:A:438:THR:HG23 | 1:A:439:GLY:N | 2.35 | 0.42 |
| 1:B:384:PHE:C | 1:B:384:PHE:CD1 | 2.93 | 0.42 |
| 1:E:250:VAL:HG11 | 1:E:412:TYR:OH | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:413:ARG:HG2 | 1:E:416:ASP:HB2 | 2.02 | 0.42 |
| 1:B:169:ILE:HD13 | 1:B:195:THR:OG1 | 2.19 | 0.42 |
| 1:B:231:PHE:HA | 1:B:276:LYS:O | 2.19 | 0.42 |
| 1:D:75:ASN:OD1 | 1:D:94:LEU:HD13 | 2.20 | 0.42 |
| 1:E:224:GLU:HA | 1:E:224:GLU:OE1 | 2.19 | 0.42 |
| 1:F:81:GLY:O | 1:F:105:GLY:HA3 | 2.19 | 0.42 |
| 1:A:197:TRP:C | 1:A:199:LYS:N | 2.73 | 0.41 |
| 1:B:238:THR:O | 1:B:284:VAL:HA | 2.20 | 0.41 |
| 1:C:409:VAL:HG21 | 1:C:471:PHE:CE2 | 2.54 | 0.41 |
| 1:C:410:VAL:HG12 | 1:C:412:TYR:CE1 | 2.53 | 0.41 |
| 1:D:112:TYR:O | 1:D:116:ILE:HG12 | 2.20 | 0.41 |
| 1:A:70:GLY:HA2 | 1:A:171:ASN:CG | 2.40 | 0.41 |
| 1:B:293:LEU:HD12 | 1:B:293:LEU:HA | 1.82 | 0.41 |
| 1:B:370:THR:HG23 | 1:B:370:THR:H | 1.38 | 0.41 |
| 1:B:378:PHE:C | 1:B:380:ASN:H | 2.21 | 0.41 |
| 1:B:441:ASP:C | 1:B:443:ASN:H | 2.22 | 0.41 |
| 1:B:464:ASP:C | 1:B:466:GLU:N | 2.74 | 0.41 |
| 1:B:197:TRP:CB | 1:C:94:LEU:HD23 | 2.43 | 0.41 |
| 1:A:286:TYR:HA | 1:A:379:ILE:HG12 | 1.99 | 0.41 |
| 1:A:342:ILE:HD13 | 1:A:343:LEU:N | 2.36 | 0.41 |
| 1:A:365:HIS:ND1 | 1:A:365:HIS:C | 2.73 | 0.41 |
| 1:A:285:TRP:O | 1:A:378:PHE:HB2 | 2.19 | 0.41 |
| 1:B:365:HIS:C | 1:B:365:HIS:ND1 | 2.73 | 0.41 |
| 1:B:410:VAL:CB | 1:B:412:TYR:OH | 2.68 | 0.41 |
| 1:B:434:VAL:O | 1:B:434:VAL:HG23 | 2.19 | 0.41 |
| 1:B:461:ILE:HG22 | 1:B:462:THR:N | 2.35 | 0.41 |
| 1:C:125:ASN:C | 1:C:125:ASN:OD1 | 2.58 | 0.41 |
| 1:D:224:GLU:HA | 1:D:224:GLU:OE1 | 2.20 | 0.41 |
| 1:D:283:ASN:CB | 1:D:325:ALA:HB3 | 2.50 | 0.41 |
| 1:E:157:GLY:HA3 | 1:E:158:HIS:HB2 | 2.02 | 0.41 |
| 1:E:238:THR:HG21 | 1:E:304:PHE:CE1 | 2.55 | 0.41 |
| 1:E:446:ASN:HD21 | 1:E:454:VAL:N | 1.96 | 0.41 |
| 1:E:463:VAL:HB | 1:E:467:PHE:CE1 | 2.55 | 0.41 |
| 1:E:405:LEU:HB3 | 1:E:481:VAL:CG1 | 2.50 | 0.41 |
| 1:E:481:VAL:CG2 | 1:E:482:GLU:N | 2.62 | 0.41 |
| 1:F:110:ILE:HG13 | 1:F:162:TYR:CE2 | 2.55 | 0.41 |
| 1:F:28:LEU:HD22 | 1:F:330:ALA:HB2 | 2.01 | 0.41 |
| 1:F:411:ASN:ND2 | 1:F:413:ARG:CB | 2.71 | 0.41 |
| 1:F:431:LYS:HZ3 | 1:F:462:THR:HG22 | 1.85 | 0.41 |
| 1:A:373:ILE:CG1 | 1:A:374:GLU:N | 2.82 | 0.41 |
| 1:A:419:LYS:HA | 1:A:470:THR:HG22 | 2.00 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:458:SER:O | 1:C:459:GLU:HB2 | 2.20 | 0.41 |
| 1:C:460:THR:HG22 | 1:C:461:ILE:N | 2.34 | 0.41 |
| 1:E:144:LYS:CD | 1:E:144:LYS:N | 2.74 | 0.41 |
| 1:E:182:MET:HE3 | 1:E:187:TYR:HD1 | 1.84 | 0.41 |
| 1:F:378:PHE:O | 1:F:379:ILE:C | 2.59 | 0.41 |
| 1:A:4:ARG:HG3 | 1:A:4:ARG:HH11 | 1.85 | 0.41 |
| 1:B:197:TRP:CE2 | 1:C:179:VAL:HG22 | 2.55 | 0.41 |
| 1:C:157:GLY:O | 1:C:158:HIS:HB2 | 2.19 | 0.41 |
| 1:C:4:ARG:HA | 1:C:420:VAL:HG23 | 2.02 | 0.41 |
| 1:E:22:GLY:HA2 | 1:E:63:PRO:HD2 | 2.02 | 0.41 |
| 1:F:397:SER:O | 1:F:405:LEU:HD12 | 2.21 | 0.41 |
| 1:F:38:GLU:HB3 | 1:F:44:SER:HG | 1.86 | 0.41 |
| 1:A:22:GLY:HA2 | 1:A:63:PRO:HD2 | 2.03 | 0.41 |
| 1:C:182:MET:HE3 | 1:C:187:TYR:HD1 | 1.85 | 0.41 |
| 1:D:237:TYR:HE1 | 1:D:325:ALA:HB2 | 1.84 | 0.41 |
| 1:D:441:ASP:C | 1:D:443:ASN:H | 2.24 | 0.41 |
| 1:D:85:LYS:O | 1:D:86:ASP:HB2 | 2.21 | 0.41 |
| 1:F:73:VAL:HG21 | 1:F:123:SER:O | 2.20 | 0.41 |
| 1:F:446:ASN:HD22 | 1:F:446:ASN:N | 2.18 | 0.41 |
| 1:A:250:VAL:HG13 | 1:A:251:TYR:CE2 | 2.56 | 0.41 |
| 1:C:434:VAL:HG23 | 1:C:434:VAL:O | 2.20 | 0.41 |
| 1:C:431:LYS:HZ3 | 1:C:462:THR:HG22 | 1.83 | 0.41 |
| 1:D:110:ILE:HG13 | 1:D:162:TYR:CE2 | 2.56 | 0.41 |
| 1:D:461:ILE:HD11 | 1:D:469:HIS:CE1 | 2.56 | 0.41 |
| 1:D:474:PHE:O | 1:D:474:PHE:HD1 | 2.03 | 0.41 |
| 1:D:91:ARG:HH11 | 1:D:91:ARG:CG | 2.32 | 0.41 |
| 1:F:419:LYS:HE2 | 1:F:419:LYS:HB3 | 1.65 | 0.41 |
| 1:A:60:ILE:HA | 1:A:354:VAL:HG21 | 2.03 | 0.41 |
| 1:B:158:HIS:O | 1:B:159:PRO:CA | 2.67 | 0.41 |
| 1:B:353:ILE:HG22 | 1:B:353:ILE:O | 2.21 | 0.41 |
| 1:C:353:ILE:HG22 | 1:C:353:ILE:O | 2.20 | 0.41 |
| 1:D:285:TRP:HB2 | 1:D:331:LEU:CD2 | 2.48 | 0.41 |
| 1:D:60:ILE:HG22 | 1:D:351:GLU:HA | 2.01 | 0.41 |
| 1:E:197:TRP:C | 1:E:199:LYS:H | 2.16 | 0.41 |
| 1:E:461:ILE:HD11 | 1:E:469:HIS:ND1 | 2.36 | 0.41 |
| 1:F:231:PHE:HA | 1:F:276:LYS:O | 2.20 | 0.41 |
| 1:F:61:LYS:H | 1:F:61:LYS:HG2 | 1.01 | 0.41 |
| 1:B:25:THR:CG2 | 1:B:25:THR:O | 2.61 | 0.41 |
| 1:C:71:ASN:HA | 1:C:178:GLN:NE2 | 2.21 | 0.41 |
| 1:D:158:HIS:C | 1:D:159:PRO:HA | 2.40 | 0.41 |
| 1:D:362:VAL:HG11 | 1:D:398:ILE:HD12 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:413:ARG:HG3 | 1:D:418:LEU:HD13 | 1.96 | 0.41 |
| 1:D:423:ARG:NH1 | 1:D:425:GLU:OE1 | 2.54 | 0.41 |
| 1:D:464:ASP:C | 1:D:466:GLU:N | 2.74 | 0.41 |
| 1:E:197:TRP:O | 1:E:198:MET:CB | 2.69 | 0.41 |
| 1:F:336:THR:HG23 | 1:F:337:GLU:N | 2.36 | 0.41 |
| 1:A:279:LEU:HD22 | 1:A:282:TRP:HB3 | 2.03 | 0.41 |
| 1:A:380:ASN:O | 1:A:381:LYS:HB2 | 2.21 | 0.41 |
| 1:A:446:ASN:N | 1:A:446:ASN:HD22 | 2.18 | 0.41 |
| 1:B:25:THR:HG22 | 1:B:66:ARG:O | 2.21 | 0.41 |
| 1:C:240:SER:O | 1:C:300:LYS:HE3 | 2.21 | 0.41 |
| 1:C:279:LEU:O | 1:C:322:ALA:HA | 2.21 | 0.41 |
| 1:C:362:VAL:O | 1:C:363:LYS:C | 2.59 | 0.41 |
| 1:D:231:PHE:HA | 1:D:276:LYS:O | 2.20 | 0.41 |
| 1:D:76:TYR:CE2 | 1:D:78:TRP:HA | 2.55 | 0.41 |
| 1:E:267:VAL:O | 1:E:268:ASP:C | 2.60 | 0.41 |
| 1:E:28:LEU:HD23 | 1:E:28:LEU:C | 2.41 | 0.41 |
| 1:E:317:ASP:OD1 | 1:E:317:ASP:N | 2.53 | 0.41 |
| 1:A:252:LEU:HD23 | 1:A:252:LEU:C | 2.41 | 0.41 |
| 1:A:293:LEU:HD12 | 1:A:293:LEU:HA | 1.88 | 0.41 |
| 1:A:461:ILE:HD11 | 1:A:469:HIS:ND1 | 2.36 | 0.41 |
| 1:C:258:ILE:HG13 | 1:F:262:LYS:CD | 2.50 | 0.41 |
| 1:D:158:HIS:O | 1:D:159:PRO:HA | 2.21 | 0.41 |
| 1:D:378:PHE:HD2 | 1:D:380:ASN:ND2 | 2.19 | 0.41 |
| 1:D:377:MET:HB3 | 1:D:384:PHE:CD2 | 2.56 | 0.41 |
| 1:D:43:LEU:N | 1:D:43:LEU:HD12 | 2.35 | 0.41 |
| 1:D:179:VAL:HG22 | 1:E:197:TRP:CE2 | 2.56 | 0.41 |
| 1:E:429:GLN:HA | 1:E:463:VAL:O | 2.21 | 0.41 |
| 1:F:80:ASP:O | 1:F:102:ASN:HB3 | 2.21 | 0.41 |
| 1:A:381:LYS:O | 1:A:382:MET:C | 2.60 | 0.40 |
| 1:B:282:TRP:O | 1:B:324:LEU:HD12 | 2.21 | 0.40 |
| 1:B:482:GLU:OE1 | 1:B:482:GLU:O | 2.40 | 0.40 |
| 1:C:384:PHE:C | 1:C:384:PHE:CD1 | 2.94 | 0.40 |
| 1:D:297:TYR:HH | 1:D:331:LEU:HD22 | 1.84 | 0.40 |
| 1:D:411:ASN:HD21 | 1:D:413:ARG:CG | 2.19 | 0.40 |
| 1:E:434:VAL:CG2 | 1:E:434:VAL:O | 2.69 | 0.40 |
| 1:E:94:LEU:HD23 | 1:F:197:TRP:CG | 2.56 | 0.40 |
| 1:E:28:LEU:HD12 | 1:E:96:TRP:CZ2 | 2.56 | 0.40 |
| 1:F:162:TYR:O | 1:F:163:ASN:HB3 | 2.21 | 0.40 |
| 1:A:376:VAL:HB | 1:A:381:LYS:CA | 2.51 | 0.40 |
| 1:A:96:TRP:C | 1:A:97:GLN:HG3 | 2.41 | 0.40 |
| 1:B:315:MET:O | 1:B:317:ASP:N | 2.54 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:318:ILE:HG13 | 1:C:319:VAL:CG2 | 2.48 | 0.40 |
| 1:C:73:VAL:O | 1:C:73:VAL:HG22 | 2.21 | 0.40 |
| 1:D:197:TRP:O | 1:D:198:MET:CB | 2.66 | 0.40 |
| 1:D:366:VAL:CG2 | 1:D:367:GLU:N | 2.83 | 0.40 |
| 1:E:252:LEU:HD12 | 1:E:384:PHE:CD1 | 2.57 | 0.40 |
| 1:F:253:LEU:HG | 1:F:253:LEU:O | 2.20 | 0.40 |
| 1:F:461:ILE:CD1 | 1:F:469:HIS:ND1 | 2.84 | 0.40 |
| 1:F:299:LEU:HD21 | 1:F:474:PHE:CD1 | 2.56 | 0.40 |
| 1:A:212:CYS:SG | 1:A:213:ASP:N | 2.94 | 0.40 |
| 1:C:158:HIS:O | 1:C:159:PRO:HA | 2.21 | 0.40 |
| 1:D:236:PHE:CG | 1:D:253:LEU:HD13 | 2.57 | 0.40 |
| 1:D:293:LEU:HA | 1:D:293:LEU:HD12 | 1.87 | 0.40 |
| 1:E:145:GLY:O | 1:E:154:ARG:NH2 | 2.54 | 0.40 |
| 1:E:162:TYR:O | 1:E:163:ASN:HB3 | 2.19 | 0.40 |
| 1:E:169:ILE:HD12 | 1:E:207:ALA:HB1 | 2.01 | 0.40 |
| 1:E:270:ALA:O | 1:E:273:ARG:O | 2.39 | 0.40 |
| 1:E:467:PHE:HD2 | 1:E:468:GLU:O | 2.04 | 0.40 |
| 1:F:325:ALA:HA | 1:F:326:GLN:HA | 1.77 | 0.40 |
| 1:F:362:VAL:O | 1:F:363:LYS:C | 2.59 | 0.40 |
| 1:F:405:LEU:HB3 | 1:F:481:VAL:CG1 | 2.52 | 0.40 |
| 1:A:215:PRO:HB2 | 1:D:219:LEU:HD21 | 2.03 | 0.40 |
| 1:A:231:PHE:HA | 1:A:276:LYS:O | 2.20 | 0.40 |
| 1:A:283:ASN:CB | 1:A:325:ALA:HB2 | 2.51 | 0.40 |
| 1:A:75:ASN:C | 1:A:75:ASN:HD22 | 2.25 | 0.40 |
| 1:B:384:PHE:CD1 | 1:B:385:SER:N | 2.90 | 0.40 |
| 1:B:421:PRO:O | 1:B:421:PRO:HG2 | 2.21 | 0.40 |
| 1:C:461:ILE:HD11 | 1:C:469:HIS:ND1 | 2.36 | 0.40 |
| 1:E:62:VAL:CG1 | 1:E:116:ILE:HD12 | 2.46 | 0.40 |
| 1:E:240:SER:HB2 | 1:E:376:VAL:HG23 | 2.03 | 0.40 |
| 1:E:80:ASP:HB3 | 1:E:89:PRO:HG2 | 2.04 | 0.40 |
| 1:F:411:ASN:HD21 | 1:F:413:ARG:CB | 1.99 | 0.40 |
| 1:A:414:LYS:O | 1:A:473:PRO:HB3 | 2.20 | 0.40 |
| 1:B:158:HIS:C | 1:B:159:PRO:HA | 2.41 | 0.40 |
| 1:B:373:ILE:HG12 | 1:B:374:GLU:H | 1.87 | 0.40 |
| 1:C:82:ILE:HG21 | 1:C:82:ILE:HD13 | 1.87 | 0.40 |
| 1:D:26:GLU:HG2 | 1:D:27:HIS:N | 2.36 | 0.40 |
| 1:D:4:ARG:HH11 | 1:D:4:ARG:HG3 | 1.86 | 0.40 |
| 1:E:195:THR:O | 1:E:199:LYS:HB2 | 2.22 | 0.40 |
| 1:E:467:PHE:CD2 | 1:E:468:GLU:N | 2.90 | 0.40 |
| 1:F:67:TRP:O | 1:F:122:ILE:HA | 2.21 | 0.40 |
| 1:F:171:ASN:H | 1:F:173:MET:HE3 | 1.86 | 0.40 |

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|----------------|-----------------------|--------------------------|-------------------|
| 1:C:144:LYS:CE | 1:E:431:LYS:CE[1_556] | 1.60 | 0.60 |
| 1:C:144:LYS:CE | 1:E:431:LYS:NZ[1_556] | 1.90 | 0.30 |

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 X-ray entries followed by that with respect to entries of similar resolution.

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 | 476/482 (99%) | 409 (86%) | 62 (13%) | 5 (1%) | 14 | 50 |
| 1 | B | 476/482 (99%) | 409 (86%) | 61 (13%) | 6 (1%) | 12 | 45 |
| 1 | C | 476/482 (99%) | 410 (86%) | 61 (13%) | 5 (1%) | 14 | 50 |
| 1 | D | 476/482 (99%) | 403 (85%) | 70 (15%) | 3 (1%) | 25 | 64 |
| 1 | E | 476/482 (99%) | 407 (86%) | 66 (14%) | 3 (1%) | 25 | 64 |
| 1 | F | 476/482 (99%) | 406 (85%) | 68 (14%) | 2 (0%) | 34 | 72 |
| All | All | 2856/2892 (99%) | 2444 (86%) | 388 (14%) | 24 (1%) | 19 | 57 |

All (24) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 328 | VAL |
| 1 | A | 379 | ILE |
| 1 | B | 172 | GLU |
| 1 | C | 465 | THR |
| 1 | E | 328 | VAL |
| 1 | A | 172 | GLU |
| 1 | B | 61 | LYS |
| 1 | B | 316 | SER |
| 1 | C | 61 | LYS |
| 1 | D | 316 | SER |
| 1 | A | 61 | LYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | C | 71 | ASN |
| 1 | C | 316 | SER |
| 1 | E | 316 | SER |
| 1 | F | 316 | SER |
| 1 | B | 328 | VAL |
| 1 | E | 379 | ILE |
| 1 | F | 442 | VAL |
| 1 | C | 442 | VAL |
| 1 | D | 442 | VAL |
| 1 | A | 442 | VAL |
| 1 | B | 442 | VAL |
| 1 | B | 451 | PRO |
| 1 | D | 379 | ILE |

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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 | 417/418 (100%) | 376 (90%) | 41 (10%) | 8 | 30 |
| 1 | B | 417/418 (100%) | 375 (90%) | 42 (10%) | 7 | 29 |
| 1 | C | 417/418 (100%) | 374 (90%) | 43 (10%) | 7 | 28 |
| 1 | D | 417/418 (100%) | 376 (90%) | 41 (10%) | 8 | 30 |
| 1 | E | 417/418 (100%) | 378 (91%) | 39 (9%) | 8 | 32 |
| 1 | F | 417/418 (100%) | 377 (90%) | 40 (10%) | 8 | 32 |
| All | All | 2502/2508 (100%) | 2256 (90%) | 246 (10%) | 8 | 30 |

All (246) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 47 | ARG |
| 1 | A | 61 | LYS |
| 1 | A | 75 | ASN |
| 1 | A | 97 | GLN |
| 1 | A | 114 | ARG |

Continued on next page...

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 121 | TYR |
| 1 | A | 132 | ASP |
| 1 | A | 135 | LEU |
| 1 | A | 144 | LYS |
| 1 | A | 160 | GLU |
| 1 | A | 219 | LEU |
| 1 | A | 256 | ARG |
| 1 | A | 261 | LYS |
| 1 | A | 279 | LEU |
| 1 | A | 291 | ASN |
| 1 | A | 293 | LEU |
| 1 | A | 306 | CYS |
| 1 | A | 321 | LEU |
| 1 | A | 328 | VAL |
| 1 | A | 336 | THR |
| 1 | A | 342 | ILE |
| 1 | A | 364 | THR |
| 1 | A | 366 | VAL |
| 1 | A | 374 | GLU |
| 1 | A | 377 | MET |
| 1 | A | 378 | PHE |
| 1 | A | 380 | ASN |
| 1 | A | 381 | LYS |
| 1 | A | 403 | LYS |
| 1 | A | 409 | VAL |
| 1 | A | 411 | ASN |
| 1 | A | 413 | ARG |
| 1 | A | 414 | LYS |
| 1 | A | 415 | GLU |
| 1 | A | 416 | ASP |
| 1 | A | 422 | ILE |
| 1 | A | 423 | ARG |
| 1 | A | 430 | LYS |
| 1 | A | 433 | THR |
| 1 | A | 459 | GLU |
| 1 | A | 482 | GLU |
| 1 | B | 47 | ARG |
| 1 | B | 54 | LEU |
| 1 | B | 61 | LYS |
| 1 | B | 68 | PRO |
| 1 | B | 75 | ASN |
| 1 | B | 97 | GLN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | B | 114 | ARG |
| 1 | B | 121 | TYR |
| 1 | B | 135 | LEU |
| 1 | B | 144 | LYS |
| 1 | B | 160 | GLU |
| 1 | B | 189 | ARG |
| 1 | B | 219 | LEU |
| 1 | B | 256 | ARG |
| 1 | B | 261 | LYS |
| 1 | B | 279 | LEU |
| 1 | B | 291 | ASN |
| 1 | B | 293 | LEU |
| 1 | B | 306 | CYS |
| 1 | B | 321 | LEU |
| 1 | B | 326 | GLN |
| 1 | B | 336 | THR |
| 1 | B | 342 | ILE |
| 1 | B | 364 | THR |
| 1 | B | 366 | VAL |
| 1 | B | 374 | GLU |
| 1 | B | 377 | MET |
| 1 | B | 380 | ASN |
| 1 | B | 403 | LYS |
| 1 | B | 409 | VAL |
| 1 | B | 411 | ASN |
| 1 | B | 413 | ARG |
| 1 | B | 414 | LYS |
| 1 | B | 415 | GLU |
| 1 | B | 416 | ASP |
| 1 | B | 422 | ILE |
| 1 | B | 423 | ARG |
| 1 | B | 430 | LYS |
| 1 | B | 433 | THR |
| 1 | B | 445 | ARG |
| 1 | B | 459 | GLU |
| 1 | B | 482 | GLU |
| 1 | C | 47 | ARG |
| 1 | C | 61 | LYS |
| 1 | C | 75 | ASN |
| 1 | C | 97 | GLN |
| 1 | C | 114 | ARG |
| 1 | C | 121 | TYR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | C | 132 | ASP |
| 1 | C | 135 | LEU |
| 1 | C | 142 | ASN |
| 1 | C | 144 | LYS |
| 1 | C | 160 | GLU |
| 1 | C | 219 | LEU |
| 1 | C | 256 | ARG |
| 1 | C | 261 | LYS |
| 1 | C | 279 | LEU |
| 1 | C | 291 | ASN |
| 1 | C | 293 | LEU |
| 1 | C | 306 | CYS |
| 1 | C | 321 | LEU |
| 1 | C | 326 | GLN |
| 1 | C | 327 | LEU |
| 1 | C | 328 | VAL |
| 1 | C | 336 | THR |
| 1 | C | 342 | ILE |
| 1 | C | 364 | THR |
| 1 | C | 366 | VAL |
| 1 | C | 369 | GLU |
| 1 | C | 374 | GLU |
| 1 | C | 378 | PHE |
| 1 | C | 379 | ILE |
| 1 | C | 380 | ASN |
| 1 | C | 403 | LYS |
| 1 | C | 409 | VAL |
| 1 | C | 411 | ASN |
| 1 | C | 413 | ARG |
| 1 | C | 415 | GLU |
| 1 | C | 422 | ILE |
| 1 | C | 423 | ARG |
| 1 | C | 430 | LYS |
| 1 | C | 433 | THR |
| 1 | C | 445 | ARG |
| 1 | C | 459 | GLU |
| 1 | C | 482 | GLU |
| 1 | D | 5 | ILE |
| 1 | D | 47 | ARG |
| 1 | D | 61 | LYS |
| 1 | D | 75 | ASN |
| 1 | D | 97 | GLN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | D | 114 | ARG |
| 1 | D | 121 | TYR |
| 1 | D | 135 | LEU |
| 1 | D | 144 | LYS |
| 1 | D | 160 | GLU |
| 1 | D | 219 | LEU |
| 1 | D | 256 | ARG |
| 1 | D | 261 | LYS |
| 1 | D | 279 | LEU |
| 1 | D | 291 | ASN |
| 1 | D | 293 | LEU |
| 1 | D | 306 | CYS |
| 1 | D | 321 | LEU |
| 1 | D | 327 | LEU |
| 1 | D | 336 | THR |
| 1 | D | 342 | ILE |
| 1 | D | 364 | THR |
| 1 | D | 366 | VAL |
| 1 | D | 374 | GLU |
| 1 | D | 377 | MET |
| 1 | D | 378 | PHE |
| 1 | D | 380 | ASN |
| 1 | D | 397 | SER |
| 1 | D | 403 | LYS |
| 1 | D | 409 | VAL |
| 1 | D | 411 | ASN |
| 1 | D | 414 | LYS |
| 1 | D | 415 | GLU |
| 1 | D | 416 | ASP |
| 1 | D | 422 | ILE |
| 1 | D | 423 | ARG |
| 1 | D | 430 | LYS |
| 1 | D | 433 | THR |
| 1 | D | 436 | THR |
| 1 | D | 459 | GLU |
| 1 | D | 482 | GLU |
| 1 | E | 12 | VAL |
| 1 | E | 47 | ARG |
| 1 | E | 61 | LYS |
| 1 | E | 68 | PRO |
| 1 | E | 75 | ASN |
| 1 | E | 97 | GLN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | E | 114 | ARG |
| 1 | E | 121 | TYR |
| 1 | E | 135 | LEU |
| 1 | E | 144 | LYS |
| 1 | E | 160 | GLU |
| 1 | E | 219 | LEU |
| 1 | E | 256 | ARG |
| 1 | E | 261 | LYS |
| 1 | E | 279 | LEU |
| 1 | E | 291 | ASN |
| 1 | E | 293 | LEU |
| 1 | E | 306 | CYS |
| 1 | E | 321 | LEU |
| 1 | E | 327 | LEU |
| 1 | E | 336 | THR |
| 1 | E | 342 | ILE |
| 1 | E | 364 | THR |
| 1 | E | 366 | VAL |
| 1 | E | 374 | GLU |
| 1 | E | 377 | MET |
| 1 | E | 378 | PHE |
| 1 | E | 380 | ASN |
| 1 | E | 403 | LYS |
| 1 | E | 409 | VAL |
| 1 | E | 411 | ASN |
| 1 | E | 413 | ARG |
| 1 | E | 415 | GLU |
| 1 | E | 422 | ILE |
| 1 | E | 423 | ARG |
| 1 | E | 430 | LYS |
| 1 | E | 433 | THR |
| 1 | E | 459 | GLU |
| 1 | E | 482 | GLU |
| 1 | F | 26 | GLU |
| 1 | F | 47 | ARG |
| 1 | F | 61 | LYS |
| 1 | F | 68 | PRO |
| 1 | F | 75 | ASN |
| 1 | F | 97 | GLN |
| 1 | F | 114 | ARG |
| 1 | F | 121 | TYR |
| 1 | F | 135 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | F | 144 | LYS |
| 1 | F | 160 | GLU |
| 1 | F | 219 | LEU |
| 1 | F | 256 | ARG |
| 1 | F | 261 | LYS |
| 1 | F | 279 | LEU |
| 1 | F | 291 | ASN |
| 1 | F | 293 | LEU |
| 1 | F | 306 | CYS |
| 1 | F | 321 | LEU |
| 1 | F | 326 | GLN |
| 1 | F | 336 | THR |
| 1 | F | 342 | ILE |
| 1 | F | 364 | THR |
| 1 | F | 366 | VAL |
| 1 | F | 374 | GLU |
| 1 | F | 378 | PHE |
| 1 | F | 380 | ASN |
| 1 | F | 403 | LYS |
| 1 | F | 409 | VAL |
| 1 | F | 411 | ASN |
| 1 | F | 413 | ARG |
| 1 | F | 415 | GLU |
| 1 | F | 420 | VAL |
| 1 | F | 422 | ILE |
| 1 | F | 423 | ARG |
| 1 | F | 430 | LYS |
| 1 | F | 433 | THR |
| 1 | F | 445 | ARG |
| 1 | F | 459 | GLU |
| 1 | F | 482 | GLU |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (77) such sidechains are listed below:

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 19 | HIS |
| 1 | A | 77 | HIS |
| 1 | A | 87 | GLN |
| 1 | A | 97 | GLN |
| 1 | A | 178 | GLN |
| 1 | A | 291 | ASN |
| 1 | A | 326 | GLN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 380 | ASN |
| 1 | A | 388 | ASN |
| 1 | A | 411 | ASN |
| 1 | A | 429 | GLN |
| 1 | A | 446 | ASN |
| 1 | A | 452 | ASN |
| 1 | B | 19 | HIS |
| 1 | B | 77 | HIS |
| 1 | B | 87 | GLN |
| 1 | B | 97 | GLN |
| 1 | B | 178 | GLN |
| 1 | B | 291 | ASN |
| 1 | B | 326 | GLN |
| 1 | B | 380 | ASN |
| 1 | B | 388 | ASN |
| 1 | B | 411 | ASN |
| 1 | B | 429 | GLN |
| 1 | B | 446 | ASN |
| 1 | B | 452 | ASN |
| 1 | C | 19 | HIS |
| 1 | C | 77 | HIS |
| 1 | C | 87 | GLN |
| 1 | C | 97 | GLN |
| 1 | C | 178 | GLN |
| 1 | C | 291 | ASN |
| 1 | C | 326 | GLN |
| 1 | C | 380 | ASN |
| 1 | C | 388 | ASN |
| 1 | C | 411 | ASN |
| 1 | C | 429 | GLN |
| 1 | C | 446 | ASN |
| 1 | C | 452 | ASN |
| 1 | D | 19 | HIS |
| 1 | D | 77 | HIS |
| 1 | D | 87 | GLN |
| 1 | D | 97 | GLN |
| 1 | D | 178 | GLN |
| 1 | D | 291 | ASN |
| 1 | D | 380 | ASN |
| 1 | D | 388 | ASN |
| 1 | D | 411 | ASN |
| 1 | D | 429 | GLN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | D | 446 | ASN |
| 1 | D | 452 | ASN |
| 1 | E | 19 | HIS |
| 1 | E | 77 | HIS |
| 1 | E | 87 | GLN |
| 1 | E | 97 | GLN |
| 1 | E | 178 | GLN |
| 1 | E | 291 | ASN |
| 1 | E | 326 | GLN |
| 1 | E | 380 | ASN |
| 1 | E | 388 | ASN |
| 1 | E | 411 | ASN |
| 1 | E | 429 | GLN |
| 1 | E | 446 | ASN |
| 1 | E | 452 | ASN |
| 1 | F | 19 | HIS |
| 1 | F | 77 | HIS |
| 1 | F | 87 | GLN |
| 1 | F | 97 | GLN |
| 1 | F | 178 | GLN |
| 1 | F | 291 | ASN |
| 1 | F | 326 | GLN |
| 1 | F | 380 | ASN |
| 1 | F | 388 | ASN |
| 1 | F | 411 | ASN |
| 1 | F | 429 | GLN |
| 1 | F | 446 | ASN |
| 1 | F | 452 | ASN |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 1 | D | 3 |
| 1 | B | 3 |
| 1 | C | 3 |
| 1 | A | 3 |
| 1 | E | 2 |
| 1 | F | 2 |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1 | C | 157:GLY | C | 158:HIS | N | 3.85 |
| 1 | F | 157:GLY | C | 158:HIS | N | 3.82 |
| 1 | A | 157:GLY | C | 158:HIS | N | 3.80 |
| 1 | B | 157:GLY | C | 158:HIS | N | 3.80 |
| 1 | E | 157:GLY | C | 158:HIS | N | 3.79 |
| 1 | D | 157:GLY | C | 158:HIS | N | 3.76 |
| 1 | C | 158:HIS | C | 159:PRO | N | 2.62 |
| 1 | E | 158:HIS | C | 159:PRO | N | 2.57 |
| 1 | F | 158:HIS | C | 159:PRO | N | 2.57 |
| 1 | D | 158:HIS | C | 159:PRO | N | 2.56 |
| 1 | A | 158:HIS | C | 159:PRO | N | 2.50 |
| 1 | B | 158:HIS | C | 159:PRO | N | 2.49 |
| 1 | A | 26:GLU | C | 27:HIS | N | 1.17 |
| 1 | B | 26:GLU | C | 27:HIS | N | 1.14 |
| 1 | C | 26:GLU | C | 27:HIS | N | 1.07 |
| 1 | D | 26:GLU | C | 27:HIS | N | 0.93 |

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|-----------------|--------|--|-----------------------|-------|
| 1 | A | 481/482 (99%) | -0.71 | 0 100 100 | 14, 42, 75, 115 | 0 |
| 1 | B | 481/482 (99%) | -0.55 | 1 (0%) 95 87 | 15, 47, 92, 117 | 0 |
| 1 | C | 481/482 (99%) | -0.69 | 0 100 100 | 17, 40, 66, 88 | 0 |
| 1 | D | 481/482 (99%) | -0.59 | 0 100 100 | 17, 54, 85, 110 | 0 |
| 1 | E | 481/482 (99%) | -0.33 | 3 (0%) 89 72 | 31, 67, 93, 115 | 0 |
| 1 | F | 481/482 (99%) | -0.33 | 2 (0%) 92 79 | 33, 64, 91, 129 | 0 |
| All | All | 2886/2892 (99%) | -0.53 | 6 (0%) 95 87 | 14, 52, 88, 129 | 0 |

All (6) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 1 | E | 146 | ASN | 3.2 |
| 1 | F | 402 | GLY | 3.1 |
| 1 | E | 325 | ALA | 2.3 |
| 1 | F | 156 | TYR | 2.2 |
| 1 | B | 476 | CYS | 2.1 |
| 1 | E | 46 | GLU | 2.1 |

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

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

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands

There are no ligands in this entry.

6.5 Other polymers

There are no such residues in this entry.