



Full wwPDB X-ray Structure Validation Report ⓘ

May 22, 2020 – 07:15 pm BST

PDB ID : 3HIF
Title : The crystal structure of apo wild type CAP at 3.6 Å resolution.
Authors : Steitz, T.A.; Sharma, H.; Wang, J.; Kong, J.; Yu, S.
Deposited on : 2009-05-19
Resolution : 3.59 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
Xtriage (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

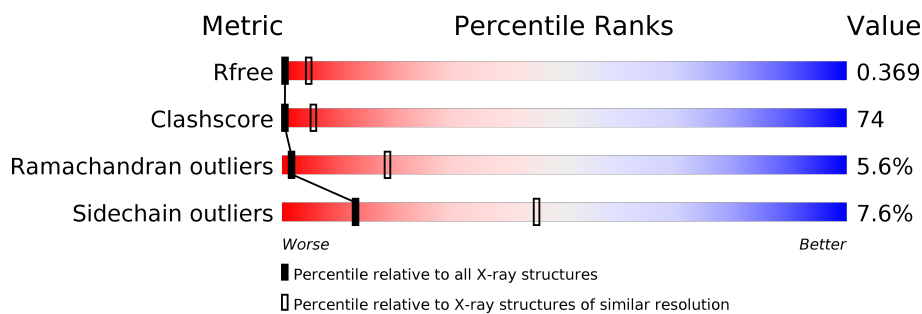
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.59 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 | 1257 (3.70-3.50) |
| Clashscore | 141614 | 1353 (3.70-3.50) |
| Ramachandran outliers | 138981 | 1307 (3.70-3.50) |
| Sidechain outliers | 138945 | 1307 (3.70-3.50) |

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 $\leq 5\%$

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|-------------------|
| 1 | A | 210 | 43% 39% 9% • 5% |
| 1 | B | 210 | 45% 35% 12% • 5% |
| 1 | C | 210 | 40% 40% 11% • 5% |
| 1 | D | 210 | 53% 33% 8% • 5% |
| 1 | E | 210 | 38% 44% 10% • 5% |
| 1 | F | 210 | 36% 41% 12% 5% 5% |

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 9456 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 Catabolite gene activator.

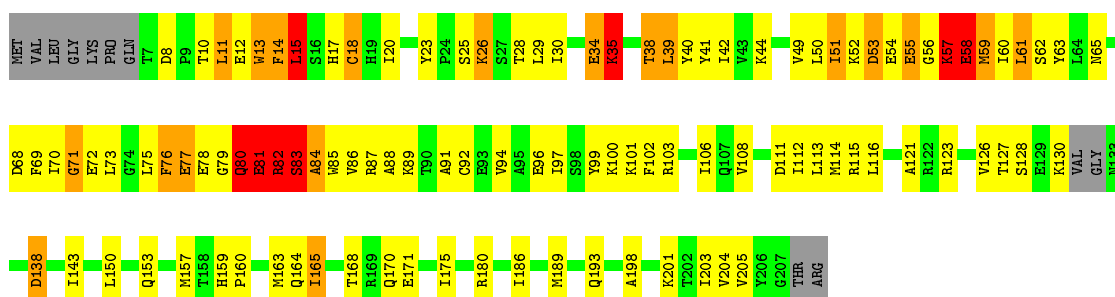
| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 1 | A | 199 | 1576 | 998 | 275 | 294 | 9 | 0 | 0 | 0 |
| 1 | B | 199 | 1576 | 998 | 275 | 294 | 9 | 0 | 0 | 0 |
| 1 | C | 199 | 1576 | 998 | 275 | 294 | 9 | 0 | 0 | 0 |
| 1 | D | 199 | 1576 | 998 | 275 | 294 | 9 | 0 | 0 | 0 |
| 1 | E | 199 | 1576 | 998 | 275 | 294 | 9 | 0 | 0 | 0 |
| 1 | F | 199 | 1576 | 998 | 275 | 294 | 9 | 0 | 0 | 0 |

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. 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. 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.

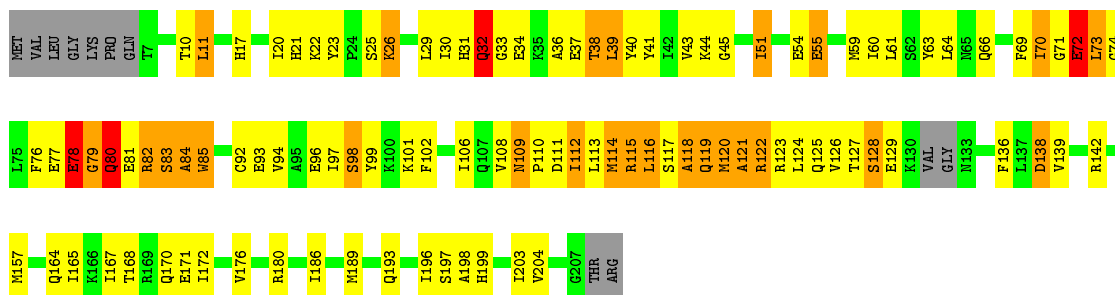
- Molecule 1: Catabolite gene activator

Chain A: 



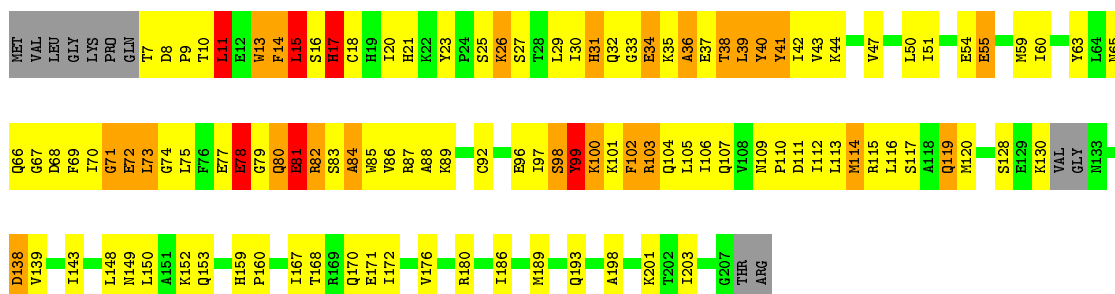
- Molecule 1: Catabolite gene activator

Chain B: 



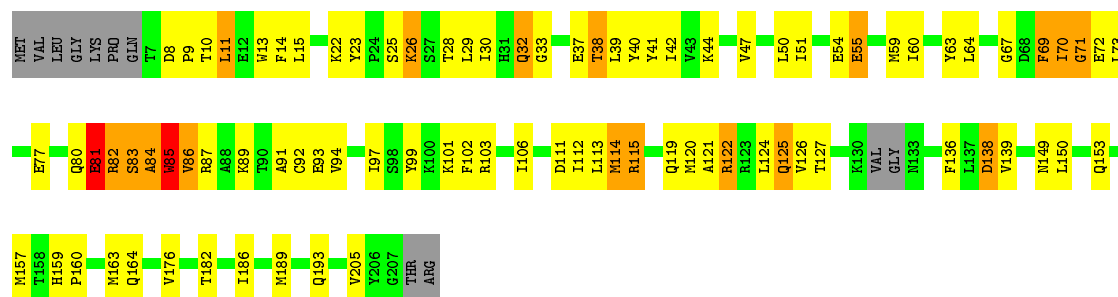
- Molecule 1: Catabolite gene activator

Chain C: 



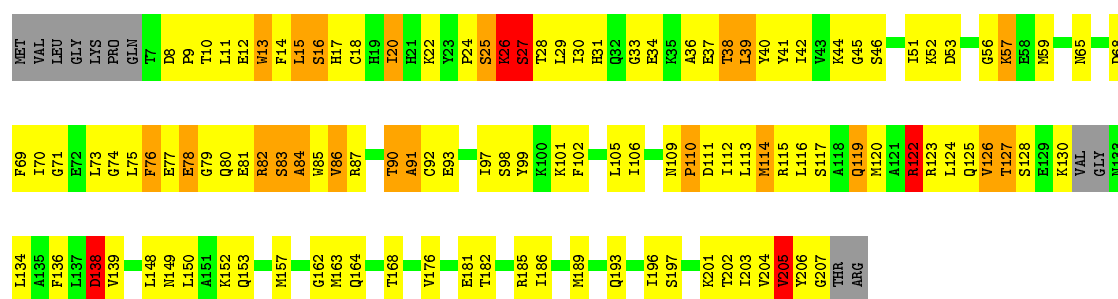
- Molecule 1: Catabolite gene activator

Chain D:  53% 33% 8% • 5%

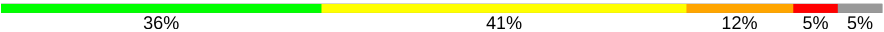


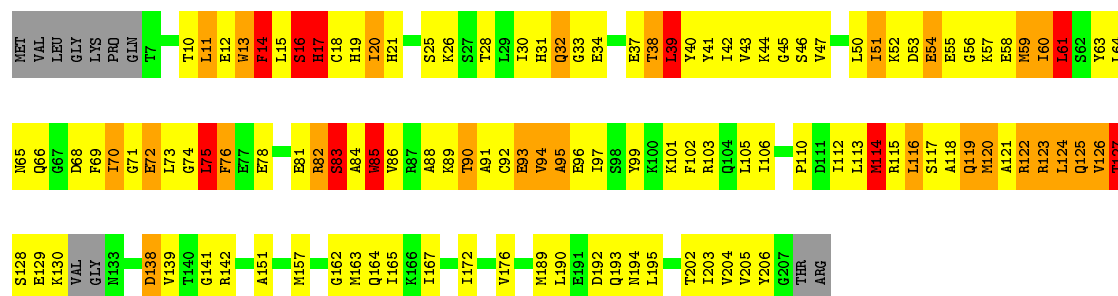
- Molecule 1: Catabolite gene activator

Chain E:  38% 44% 10% • 5%



- Molecule 1: Catabolite gene activator

Chain F:  36% 41% 12% 5% 5%



4 Data and refinement statistics

| Property | Value | Source |
|-------------------------------------------------------------------------|-------------------------------------------------------------|------------------|
| Space group | P 31 2 1 | Depositor |
| Cell constants a, b, c, α , β , γ | 125.29Å 125.29Å 224.68Å 90.00° 90.00° 120.00° | Depositor |
| Resolution (Å) | 48.06 – 3.59 48.05 – 3.59 | Depositor EDS |
| % Data completeness (in resolution range) | 98.9 (48.06-3.59) 98.9 (48.05-3.59) | Depositor EDS |
| R_{merge} | 0.46 | Depositor |
| R_{sym} | 0.53 | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 1.27 (at 3.57Å) | Xtrriage |
| Refinement program | REFMAC 5.4.0077 | Depositor |
| R, R_{free} | 0.295 , 0.318 0.359 , 0.369 | Depositor DCC |
| R_{free} test set | 1232 reflections (5.10%) | wwPDB-VP |
| Wilson B-factor (Å ²) | 100.5 | Xtrriage |
| Anisotropy | 0.139 | Xtrriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.28 , -10.0 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.31$ | Xtrriage |
| Estimated twinning fraction | 0.043 for -h,-k,l | Xtrriage |
| F_o, F_c correlation | 0.83 | EDS |
| Total number of atoms | 9456 | wwPDB-VP |
| Average B, all atoms (Å ²) | 29.0 | wwPDB-VP |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.02% 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 [i](#)

5.1 Standard geometry [i](#)

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|----------------|-------------|------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 1 | A | 0.54 | 3/1600 (0.2%) | 1.07 | 19/2154 (0.9%) |
| 1 | B | 0.71 | 3/1600 (0.2%) | 0.82 | 11/2154 (0.5%) |
| 1 | C | 0.65 | 3/1600 (0.2%) | 1.72 | 23/2154 (1.1%) |
| 1 | D | 0.54 | 3/1600 (0.2%) | 0.81 | 13/2154 (0.6%) |
| 1 | E | 0.51 | 2/1600 (0.1%) | 1.05 | 16/2154 (0.7%) |
| 1 | F | 0.54 | 3/1600 (0.2%) | 1.12 | 28/2154 (1.3%) |
| All | All | 0.59 | 17/9600 (0.2%) | 1.14 | 110/12924 (0.9%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | A | 0 | 2 |
| 1 | B | 0 | 1 |
| 1 | C | 1 | 3 |
| 1 | D | 0 | 2 |
| 1 | E | 0 | 1 |
| 1 | F | 0 | 2 |
| All | All | 1 | 11 |

All (17) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|--------|-------------|----------|
| 1 | B | 112 | ILE | CG1-CD1 | 20.25 | 2.90 | 1.50 |
| 1 | C | 78 | GLU | C-N | -14.81 | 1.06 | 1.33 |
| 1 | C | 138 | ASP | CG-OD1 | 11.91 | 1.52 | 1.25 |
| 1 | A | 138 | ASP | CG-OD1 | 11.88 | 1.52 | 1.25 |
| 1 | F | 138 | ASP | CG-OD1 | 11.88 | 1.52 | 1.25 |
| 1 | D | 138 | ASP | CG-OD1 | 11.86 | 1.52 | 1.25 |
| 1 | B | 138 | ASP | CG-OD1 | 11.83 | 1.52 | 1.25 |
| 1 | E | 138 | ASP | CG-OD1 | 11.83 | 1.52 | 1.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 1 | C | 138 | ASP | CG-OD2 | 11.81 | 1.52 | 1.25 |
| 1 | F | 138 | ASP | CG-OD2 | 11.79 | 1.52 | 1.25 |
| 1 | A | 138 | ASP | CG-OD2 | 11.77 | 1.52 | 1.25 |
| 1 | D | 138 | ASP | CG-OD2 | 11.75 | 1.52 | 1.25 |
| 1 | E | 138 | ASP | CG-OD2 | 11.72 | 1.52 | 1.25 |
| 1 | B | 138 | ASP | CG-OD2 | 11.72 | 1.52 | 1.25 |
| 1 | D | 85 | TRP | C-N | -9.72 | 1.11 | 1.34 |
| 1 | A | 58 | GLU | C-N | -8.85 | 1.13 | 1.34 |
| 1 | F | 76 | PHE | C-N | -5.30 | 1.21 | 1.34 |

All (110) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|---------|--------|-------------|----------|
| 1 | C | 82 | ARG | N-CA-CB | -40.78 | 37.20 | 110.60 |
| 1 | C | 81 | GLU | CB-CA-C | -29.48 | 51.45 | 110.40 |
| 1 | C | 78 | GLU | C-N-CA | 26.64 | 178.25 | 122.30 |
| 1 | C | 102 | PHE | CB-CA-C | -19.82 | 70.76 | 110.40 |
| 1 | E | 82 | ARG | CB-CA-C | -19.36 | 71.67 | 110.40 |
| 1 | C | 81 | GLU | N-CA-C | 18.05 | 159.73 | 111.00 |
| 1 | C | 78 | GLU | O-C-N | -17.33 | 93.75 | 123.20 |
| 1 | A | 35 | LYS | N-CA-CB | 16.43 | 140.17 | 110.60 |
| 1 | C | 13 | TRP | CB-CA-C | -16.13 | 78.13 | 110.40 |
| 1 | E | 83 | SER | N-CA-CB | -16.10 | 86.36 | 110.50 |
| 1 | A | 80 | GLN | CB-CA-C | -16.08 | 78.25 | 110.40 |
| 1 | A | 59 | MET | N-CA-CB | -15.65 | 82.42 | 110.60 |
| 1 | F | 12 | GLU | CB-CA-C | -15.31 | 79.78 | 110.40 |
| 1 | C | 99 | TYR | CB-CA-C | -15.23 | 79.93 | 110.40 |
| 1 | F | 127 | THR | CB-CA-C | -14.78 | 71.69 | 111.60 |
| 1 | B | 32 | GLN | N-CA-C | 14.12 | 149.13 | 111.00 |
| 1 | A | 58 | GLU | O-C-N | -13.77 | 100.67 | 122.70 |
| 1 | F | 120 | MET | N-CA-CB | -12.77 | 87.61 | 110.60 |
| 1 | E | 122 | ARG | CB-CA-C | -12.73 | 84.94 | 110.40 |
| 1 | A | 34 | GLU | N-CA-C | 12.40 | 144.48 | 111.00 |
| 1 | E | 26 | LYS | CB-CA-C | -12.26 | 85.88 | 110.40 |
| 1 | E | 13 | TRP | CB-CA-C | -12.22 | 85.95 | 110.40 |
| 1 | A | 80 | GLN | N-CA-C | 12.19 | 143.91 | 111.00 |
| 1 | D | 85 | TRP | N-CA-C | -12.09 | 78.35 | 111.00 |
| 1 | D | 85 | TRP | O-C-N | -11.55 | 104.21 | 122.70 |
| 1 | C | 78 | GLU | CA-C-N | 11.45 | 139.10 | 116.20 |
| 1 | E | 27 | SER | N-CA-C | -11.31 | 80.47 | 111.00 |
| 1 | C | 78 | GLU | CB-CA-C | -11.07 | 88.25 | 110.40 |
| 1 | F | 59 | MET | CB-CA-C | 10.42 | 131.25 | 110.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | F | 16 | SER | CB-CA-C | 10.41 | 129.89 | 110.10 |
| 1 | F | 32 | GLN | N-CA-C | 10.22 | 138.59 | 111.00 |
| 1 | B | 32 | GLN | CB-CA-C | -9.88 | 90.64 | 110.40 |
| 1 | F | 17 | HIS | N-CA-CB | -9.71 | 93.11 | 110.60 |
| 1 | B | 55 | GLU | CB-CA-C | -9.54 | 91.31 | 110.40 |
| 1 | E | 126 | VAL | CB-CA-C | -9.53 | 93.30 | 111.40 |
| 1 | C | 79 | GLY | N-CA-C | 9.50 | 136.86 | 113.10 |
| 1 | C | 11 | LEU | CB-CA-C | -9.47 | 92.20 | 110.20 |
| 1 | D | 69 | PHE | CB-CA-C | -9.28 | 91.84 | 110.40 |
| 1 | A | 58 | GLU | CB-CA-C | -9.12 | 92.17 | 110.40 |
| 1 | D | 138 | ASP | CB-CG-OD1 | -9.02 | 110.18 | 118.30 |
| 1 | E | 138 | ASP | CB-CG-OD1 | -8.80 | 110.38 | 118.30 |
| 1 | F | 138 | ASP | CB-CG-OD1 | -8.80 | 110.38 | 118.30 |
| 1 | E | 127 | THR | N-CA-CB | -8.71 | 93.75 | 110.30 |
| 1 | F | 34 | GLU | CB-CA-C | -8.66 | 93.08 | 110.40 |
| 1 | C | 138 | ASP | CB-CG-OD1 | -8.61 | 110.55 | 118.30 |
| 1 | D | 55 | GLU | CB-CA-C | -8.59 | 93.23 | 110.40 |
| 1 | A | 138 | ASP | CB-CG-OD1 | -8.58 | 110.58 | 118.30 |
| 1 | B | 138 | ASP | CB-CG-OD1 | -8.55 | 110.60 | 118.30 |
| 1 | D | 85 | TRP | CB-CA-C | 8.45 | 127.30 | 110.40 |
| 1 | F | 94 | VAL | CB-CA-C | -8.38 | 95.47 | 111.40 |
| 1 | A | 81 | GLU | N-CA-CB | -8.36 | 95.56 | 110.60 |
| 1 | B | 138 | ASP | CB-CG-OD2 | -8.18 | 110.94 | 118.30 |
| 1 | F | 73 | LEU | CB-CA-C | -8.17 | 94.68 | 110.20 |
| 1 | E | 126 | VAL | N-CA-C | 8.04 | 132.71 | 111.00 |
| 1 | B | 98 | SER | CB-CA-C | 7.94 | 125.19 | 110.10 |
| 1 | A | 138 | ASP | CB-CG-OD2 | -7.91 | 111.18 | 118.30 |
| 1 | D | 138 | ASP | CB-CG-OD2 | -7.86 | 111.23 | 118.30 |
| 1 | C | 138 | ASP | CB-CG-OD2 | -7.84 | 111.24 | 118.30 |
| 1 | F | 119 | GLN | CB-CA-C | -7.80 | 94.80 | 110.40 |
| 1 | B | 112 | ILE | CB-CG1-CD1 | -7.74 | 92.24 | 113.90 |
| 1 | E | 138 | ASP | CB-CG-OD2 | -7.67 | 111.40 | 118.30 |
| 1 | D | 82 | ARG | N-CA-CB | -7.59 | 96.94 | 110.60 |
| 1 | A | 13 | TRP | N-CA-CB | -7.57 | 96.98 | 110.60 |
| 1 | A | 52 | LYS | CB-CA-C | -7.45 | 95.51 | 110.40 |
| 1 | F | 138 | ASP | CB-CG-OD2 | -7.43 | 111.61 | 118.30 |
| 1 | F | 76 | PHE | CB-CA-C | -7.21 | 95.97 | 110.40 |
| 1 | F | 13 | TRP | N-CA-C | -7.14 | 91.72 | 111.00 |
| 1 | D | 85 | TRP | CA-C-N | 7.14 | 132.91 | 117.20 |
| 1 | C | 14 | PHE | N-CA-CB | -7.08 | 97.86 | 110.60 |
| 1 | C | 11 | LEU | N-CA-C | 7.06 | 130.06 | 111.00 |
| 1 | C | 100 | LYS | CB-CA-C | -6.95 | 96.51 | 110.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | F | 59 | MET | N-CA-C | -6.79 | 92.66 | 111.00 |
| 1 | A | 58 | GLU | CA-C-N | 6.79 | 132.13 | 117.20 |
| 1 | C | 99 | TYR | N-CA-C | -6.76 | 92.75 | 111.00 |
| 1 | F | 95 | ALA | N-CA-CB | -6.69 | 100.73 | 110.10 |
| 1 | F | 138 | ASP | OD1-CG-OD2 | -6.66 | 110.65 | 123.30 |
| 1 | F | 119 | GLN | N-CA-C | 6.66 | 128.97 | 111.00 |
| 1 | A | 138 | ASP | OD1-CG-OD2 | -6.61 | 110.73 | 123.30 |
| 1 | B | 138 | ASP | OD1-CG-OD2 | -6.60 | 110.77 | 123.30 |
| 1 | D | 70 | ILE | N-CA-CB | -6.59 | 95.65 | 110.80 |
| 1 | E | 138 | ASP | OD1-CG-OD2 | -6.58 | 110.79 | 123.30 |
| 1 | C | 138 | ASP | OD1-CG-OD2 | -6.58 | 110.80 | 123.30 |
| 1 | D | 138 | ASP | OD1-CG-OD2 | -6.53 | 110.90 | 123.30 |
| 1 | E | 27 | SER | N-CA-CB | 6.24 | 119.86 | 110.50 |
| 1 | D | 86 | VAL | N-CA-C | -6.13 | 94.44 | 111.00 |
| 1 | E | 205 | VAL | CB-CA-C | -6.09 | 99.84 | 111.40 |
| 1 | B | 109 | ASN | C-N-CD | -6.08 | 107.21 | 120.60 |
| 1 | B | 72 | GLU | N-CA-C | -6.08 | 94.60 | 111.00 |
| 1 | F | 127 | THR | C-N-CA | 6.04 | 136.80 | 121.70 |
| 1 | C | 31 | HIS | CB-CA-C | 6.02 | 122.44 | 110.40 |
| 1 | F | 60 | ILE | N-CA-C | -5.97 | 94.88 | 111.00 |
| 1 | E | 13 | TRP | N-CA-C | 5.94 | 127.03 | 111.00 |
| 1 | B | 121 | ALA | CB-CA-C | -5.75 | 101.47 | 110.10 |
| 1 | F | 73 | LEU | N-CA-C | 5.72 | 126.45 | 111.00 |
| 1 | F | 76 | PHE | O-C-N | -5.65 | 113.65 | 122.70 |
| 1 | C | 39 | LEU | CA-CB-CG | -5.52 | 102.60 | 115.30 |
| 1 | A | 51 | ILE | CB-CA-C | 5.49 | 122.57 | 111.60 |
| 1 | C | 119 | GLN | CB-CA-C | -5.47 | 99.46 | 110.40 |
| 1 | D | 81 | GLU | N-CA-C | -5.39 | 96.43 | 111.00 |
| 1 | F | 114 | MET | CB-CA-C | -5.36 | 99.69 | 110.40 |
| 1 | A | 53 | ASP | N-CA-CB | -5.32 | 101.02 | 110.60 |
| 1 | E | 25 | SER | CB-CA-C | -5.25 | 100.12 | 110.10 |
| 1 | F | 12 | GLU | N-CA-C | 5.25 | 125.17 | 111.00 |
| 1 | A | 51 | ILE | N-CA-C | -5.24 | 96.84 | 111.00 |
| 1 | A | 81 | GLU | N-CA-C | -5.23 | 96.87 | 111.00 |
| 1 | F | 32 | GLN | CB-CA-C | -5.23 | 99.94 | 110.40 |
| 1 | F | 82 | ARG | N-CA-C | 5.14 | 124.89 | 111.00 |
| 1 | F | 39 | LEU | CA-CB-CG | -5.04 | 103.70 | 115.30 |
| 1 | C | 31 | HIS | N-CA-C | -5.04 | 97.40 | 111.00 |
| 1 | A | 13 | TRP | N-CA-C | -5.01 | 97.47 | 111.00 |

All (1) chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 1 | C | 81 | GLU | CA |

All (11) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | A | 138 | ASP | Sidechain |
| 1 | A | 58 | GLU | Mainchain |
| 1 | B | 138 | ASP | Sidechain |
| 1 | C | 138 | ASP | Sidechain |
| 1 | C | 78 | GLU | Mainchain |
| 1 | C | 99 | TYR | Peptide |
| 1 | D | 138 | ASP | Sidechain |
| 1 | D | 85 | TRP | Mainchain |
| 1 | E | 138 | ASP | Sidechain |
| 1 | F | 127 | THR | Peptide |
| 1 | F | 138 | ASP | Sidechain |

5.2 Too-close contacts [i](#)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | A | 1576 | 0 | 1608 | 196 | 0 |
| 1 | B | 1576 | 0 | 1609 | 221 | 0 |
| 1 | C | 1576 | 0 | 1608 | 229 | 0 |
| 1 | D | 1576 | 0 | 1608 | 131 | 0 |
| 1 | E | 1576 | 0 | 1608 | 315 | 0 |
| 1 | F | 1576 | 0 | 1608 | 366 | 0 |
| All | All | 9456 | 0 | 9649 | 1412 | 0 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 74.

All (1412) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|----------------|----------------|--------------------------|-------------------|
| 1:C:41:TYR:HD1 | 1:C:69:PHE:CE1 | 0.96 | 1.65 |
| 1:C:41:TYR:CD1 | 1:C:69:PHE:CE1 | 1.86 | 1.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:51:ILE:HD12 | 1:F:61:LEU:CG | 1.29 | 1.62 |
| 1:E:134:LEU:HG | 1:F:195:LEU:CD1 | 1.21 | 1.57 |
| 1:F:68:ASP:CA | 1:F:119:GLN:HE22 | 1.16 | 1.56 |
| 1:E:134:LEU:CD2 | 1:F:190:LEU:HD22 | 1.33 | 1.55 |
| 1:F:51:ILE:CD1 | 1:F:61:LEU:CG | 1.89 | 1.50 |
| 1:D:114:MET:CE | 1:D:114:MET:HA | 1.42 | 1.48 |
| 1:F:68:ASP:HA | 1:F:119:GLN:NE2 | 1.29 | 1.47 |
| 1:F:51:ILE:CD1 | 1:F:61:LEU:HD12 | 1.46 | 1.45 |
| 1:E:117:SER:HA | 1:E:120:MET:CE | 1.47 | 1.44 |
| 1:E:25:SER:O | 1:E:26:LYS:CG | 1.65 | 1.44 |
| 1:F:32:GLN:NE2 | 1:F:85:TRP:CZ3 | 1.86 | 1.44 |
| 1:F:32:GLN:NE2 | 1:F:85:TRP:HZ3 | 1.13 | 1.44 |
| 1:E:39:LEU:HB2 | 1:E:99:TYR:CE2 | 1.53 | 1.43 |
| 1:E:84:ALA:CB | 1:E:85:TRP:HA | 1.31 | 1.43 |
| 1:F:51:ILE:CD1 | 1:F:61:LEU:CD1 | 1.96 | 1.43 |
| 1:F:84:ALA:CA | 1:F:85:TRP:HB2 | 1.40 | 1.42 |
| 1:A:81:GLU:HA | 1:A:82:ARG:CB | 1.18 | 1.37 |
| 1:B:36:ALA:CA | 1:B:82:ARG:HH22 | 1.36 | 1.36 |
| 1:C:80:GLN:O | 1:C:81:GLU:HG3 | 1.21 | 1.32 |
| 1:A:56:GLY:O | 1:A:57:LYS:CD | 1.77 | 1.32 |
| 1:E:134:LEU:CG | 1:F:195:LEU:HD13 | 1.57 | 1.31 |
| 1:A:81:GLU:CA | 1:A:82:ARG:CB | 2.08 | 1.31 |
| 1:A:81:GLU:CA | 1:A:82:ARG:HB3 | 1.61 | 1.30 |
| 1:F:121:ALA:O | 1:F:124:LEU:HB2 | 1.29 | 1.29 |
| 1:B:40:TYR:HB2 | 1:B:70:ILE:CG2 | 1.63 | 1.28 |
| 1:E:197:SER:OG | 1:E:204:VAL:CG1 | 1.83 | 1.27 |
| 1:E:134:LEU:CG | 1:F:195:LEU:CD1 | 2.14 | 1.25 |
| 1:F:53:ASP:OD2 | 1:F:54:GLU:HG3 | 1.31 | 1.25 |
| 1:C:17:HIS:CD2 | 1:C:105:LEU:HD21 | 1.71 | 1.24 |
| 1:E:182:THR:O | 1:E:186:ILE:HD13 | 1.36 | 1.24 |
| 1:F:84:ALA:CB | 1:F:85:TRP:HB2 | 1.66 | 1.23 |
| 1:F:116:LEU:O | 1:F:116:LEU:HD23 | 1.33 | 1.23 |
| 1:C:41:TYR:CD1 | 1:C:69:PHE:HE1 | 1.36 | 1.22 |
| 1:F:130:LYS:HG2 | 1:F:189:MET:SD | 1.80 | 1.22 |
| 1:A:56:GLY:O | 1:A:57:LYS:HD3 | 1.05 | 1.22 |
| 1:E:197:SER:OG | 1:E:204:VAL:HG12 | 1.33 | 1.22 |
| 1:E:205:VAL:HG12 | 1:E:206:TYR:N | 1.38 | 1.22 |
| 1:C:15:LEU:HD23 | 1:C:15:LEU:N | 1.41 | 1.21 |
| 1:F:51:ILE:CD1 | 1:F:61:LEU:CB | 2.21 | 1.19 |
| 1:C:13:TRP:CG | 1:C:13:TRP:O | 1.86 | 1.19 |
| 1:F:68:ASP:CA | 1:F:119:GLN:NE2 | 1.86 | 1.17 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:46:SER:H | 1:E:90:THR:CG2 | 1.57 | 1.17 |
| 1:E:205:VAL:CG1 | 1:E:206:TYR:H | 1.44 | 1.17 |
| 1:F:127:THR:HG22 | 1:F:127:THR:O | 1.39 | 1.17 |
| 1:F:51:ILE:HD11 | 1:F:61:LEU:CB | 1.74 | 1.16 |
| 1:E:84:ALA:CB | 1:E:85:TRP:CA | 2.22 | 1.16 |
| 1:F:116:LEU:C | 1:F:116:LEU:HD23 | 1.59 | 1.16 |
| 1:E:84:ALA:HB3 | 1:E:85:TRP:HA | 1.22 | 1.16 |
| 1:E:134:LEU:CD2 | 1:F:190:LEU:CD2 | 2.23 | 1.16 |
| 1:F:50:LEU:O | 1:F:51:ILE:HG12 | 1.45 | 1.15 |
| 1:B:36:ALA:HA | 1:B:82:ARG:NH2 | 1.58 | 1.15 |
| 1:C:35:LYS:O | 1:C:36:ALA:O | 1.65 | 1.15 |
| 1:E:127:THR:CG2 | 1:E:128:SER:H | 1.60 | 1.15 |
| 1:E:127:THR:CG2 | 1:E:128:SER:N | 2.06 | 1.14 |
| 1:F:123:ARG:CG | 1:F:123:ARG:HH11 | 1.57 | 1.14 |
| 1:A:81:GLU:HA | 1:A:82:ARG:HB2 | 1.14 | 1.13 |
| 1:F:84:ALA:HB1 | 1:F:85:TRP:CB | 1.78 | 1.13 |
| 1:F:30:ILE:HG12 | 1:F:86:VAL:HB | 1.31 | 1.13 |
| 1:D:149:ASN:O | 1:D:153:GLN:HG2 | 1.44 | 1.12 |
| 1:D:114:MET:CA | 1:D:114:MET:CE | 2.27 | 1.12 |
| 1:F:11:LEU:HD21 | 1:F:41:TYR:HE1 | 1.05 | 1.12 |
| 1:D:182:THR:O | 1:D:186:ILE:HD13 | 1.45 | 1.12 |
| 1:E:25:SER:O | 1:E:26:LYS:HG2 | 0.96 | 1.12 |
| 1:C:15:LEU:CD2 | 1:C:15:LEU:H | 1.56 | 1.11 |
| 1:D:114:MET:CA | 1:D:114:MET:HE2 | 1.81 | 1.11 |
| 1:B:40:TYR:HD2 | 1:B:70:ILE:CG2 | 1.63 | 1.11 |
| 1:B:40:TYR:CD2 | 1:B:70:ILE:CG2 | 2.34 | 1.11 |
| 1:E:123:ARG:O | 1:E:126:VAL:HG12 | 1.46 | 1.11 |
| 1:A:55:GLU:HG3 | 1:A:56:GLY:N | 1.49 | 1.10 |
| 1:E:116:LEU:O | 1:E:120:MET:HE2 | 1.51 | 1.10 |
| 1:D:122:ARG:CB | 1:D:122:ARG:HH21 | 1.63 | 1.10 |
| 1:D:83:SER:O | 1:D:84:ALA:O | 1.70 | 1.10 |
| 1:E:71:GLY:O | 1:E:99:TYR:OH | 1.67 | 1.10 |
| 1:C:41:TYR:HD1 | 1:C:69:PHE:CD1 | 1.69 | 1.10 |
| 1:E:126:VAL:HG13 | 1:E:127:THR:N | 1.62 | 1.10 |
| 1:E:134:LEU:HD22 | 1:F:190:LEU:HD22 | 1.13 | 1.09 |
| 1:A:54:GLU:O | 1:A:55:GLU:HG2 | 1.51 | 1.09 |
| 1:E:46:SER:H | 1:E:90:THR:HG23 | 1.04 | 1.09 |
| 1:C:14:PHE:HB3 | 1:C:15:LEU:CD2 | 1.83 | 1.09 |
| 1:F:30:ILE:HD11 | 1:F:86:VAL:CG2 | 1.82 | 1.09 |
| 1:A:55:GLU:CG | 1:A:56:GLY:H | 1.59 | 1.08 |
| 1:C:54:GLU:O | 1:C:55:GLU:HB2 | 1.43 | 1.08 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:25:SER:HB3 | 1:E:26:LYS:HD3 | 1.35 | 1.08 |
| 1:A:50:LEU:O | 1:A:51:ILE:HG23 | 1.50 | 1.08 |
| 1:F:51:ILE:CD1 | 1:F:61:LEU:HB2 | 1.84 | 1.08 |
| 1:E:29:LEU:HB2 | 1:E:86:VAL:HG12 | 1.35 | 1.08 |
| 1:F:84:ALA:CB | 1:F:85:TRP:CB | 2.30 | 1.08 |
| 1:E:134:LEU:HD21 | 1:F:190:LEU:HD22 | 1.27 | 1.08 |
| 1:F:51:ILE:HD13 | 1:F:61:LEU:HD12 | 1.21 | 1.08 |
| 1:E:37:GLU:O | 1:E:38:THR:HG23 | 1.54 | 1.08 |
| 1:E:127:THR:HG23 | 1:E:128:SER:N | 1.62 | 1.08 |
| 1:E:38:THR:HA | 1:E:39:LEU:CB | 1.83 | 1.08 |
| 1:F:127:THR:CG2 | 1:F:127:THR:O | 1.75 | 1.08 |
| 1:F:51:ILE:HD11 | 1:F:61:LEU:HD12 | 1.28 | 1.08 |
| 1:E:117:SER:CA | 1:E:120:MET:HE3 | 1.81 | 1.07 |
| 1:F:60:ILE:HG22 | 1:F:61:LEU:H | 0.95 | 1.07 |
| 1:F:60:ILE:HG22 | 1:F:61:LEU:N | 1.68 | 1.07 |
| 1:F:84:ALA:HB1 | 1:F:85:TRP:HB3 | 1.34 | 1.07 |
| 1:B:116:LEU:HD23 | 1:B:116:LEU:C | 1.74 | 1.07 |
| 1:F:124:LEU:O | 1:F:126:VAL:N | 1.88 | 1.07 |
| 1:C:40:TYR:HB3 | 1:C:70:ILE:HD12 | 1.33 | 1.06 |
| 1:D:122:ARG:CG | 1:D:122:ARG:HH21 | 1.68 | 1.06 |
| 1:F:84:ALA:CA | 1:F:85:TRP:CB | 2.30 | 1.06 |
| 1:E:134:LEU:HG | 1:F:195:LEU:HD12 | 1.31 | 1.06 |
| 1:B:30:ILE:HG21 | 1:B:82:ARG:HD2 | 1.31 | 1.06 |
| 1:E:17:HIS:CD2 | 1:E:105:LEU:HD21 | 1.90 | 1.06 |
| 1:C:14:PHE:HB3 | 1:C:15:LEU:HD23 | 1.09 | 1.06 |
| 1:E:25:SER:C | 1:E:26:LYS:CD | 2.23 | 1.06 |
| 1:E:38:THR:HA | 1:E:39:LEU:HB3 | 1.36 | 1.05 |
| 1:A:35:LYS:N | 1:A:81:GLU:HB2 | 1.72 | 1.05 |
| 1:C:15:LEU:N | 1:C:15:LEU:CD2 | 2.16 | 1.05 |
| 1:B:119:GLN:HG3 | 1:B:120:MET:H | 1.19 | 1.05 |
| 1:B:64:LEU:HD12 | 1:B:70:ILE:HD11 | 1.38 | 1.05 |
| 1:C:23:TYR:CG | 1:C:29:LEU:HD21 | 1.91 | 1.04 |
| 1:F:84:ALA:HA | 1:F:85:TRP:CB | 1.85 | 1.04 |
| 1:E:127:THR:HG22 | 1:E:128:SER:H | 1.16 | 1.04 |
| 1:F:122:ARG:HH21 | 1:F:122:ARG:CG | 1.70 | 1.04 |
| 1:A:56:GLY:C | 1:A:57:LYS:HD3 | 1.76 | 1.04 |
| 1:C:68:ASP:HA | 1:C:119:GLN:OE1 | 1.57 | 1.04 |
| 1:B:54:GLU:O | 1:B:55:GLU:HB2 | 1.58 | 1.04 |
| 1:E:117:SER:CA | 1:E:120:MET:CE | 2.36 | 1.04 |
| 1:F:123:ARG:HG3 | 1:F:123:ARG:HH11 | 1.17 | 1.04 |
| 1:B:30:ILE:HG21 | 1:B:82:ARG:CD | 1.88 | 1.03 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:84:ALA:HB1 | 1:E:85:TRP:HA | 1.04 | 1.03 |
| 1:D:54:GLU:O | 1:D:55:GLU:HB2 | 1.58 | 1.03 |
| 1:F:30:ILE:CD1 | 1:F:86:VAL:HG23 | 1.88 | 1.03 |
| 1:E:25:SER:O | 1:E:26:LYS:CD | 2.06 | 1.02 |
| 1:C:41:TYR:HD2 | 1:C:41:TYR:C | 1.61 | 1.02 |
| 1:F:60:ILE:CG2 | 1:F:61:LEU:H | 1.71 | 1.02 |
| 1:F:41:TYR:CG | 1:F:69:PHE:CE1 | 2.48 | 1.02 |
| 1:F:116:LEU:C | 1:F:116:LEU:CD2 | 2.27 | 1.02 |
| 1:D:82:ARG:O | 1:D:82:ARG:HG3 | 1.55 | 1.02 |
| 1:F:41:TYR:CG | 1:F:69:PHE:HE1 | 1.76 | 1.02 |
| 1:F:122:ARG:HG3 | 1:F:122:ARG:NH2 | 1.56 | 1.02 |
| 1:B:170:GLN:HB3 | 1:B:180:ARG:HD3 | 1.41 | 1.01 |
| 1:F:194:ASN:C | 1:F:206:TYR:HE1 | 1.64 | 1.01 |
| 1:D:122:ARG:HB3 | 1:D:122:ARG:NH2 | 1.76 | 1.01 |
| 1:E:130:LYS:O | 1:E:185:ARG:NE | 1.56 | 1.01 |
| 1:F:68:ASP:CB | 1:F:119:GLN:NE2 | 2.23 | 1.01 |
| 1:F:11:LEU:HD21 | 1:F:41:TYR:CE1 | 1.96 | 1.00 |
| 1:B:72:GLU:O | 1:B:73:LEU:HB2 | 1.56 | 1.00 |
| 1:B:36:ALA:CA | 1:B:82:ARG:NH2 | 2.18 | 1.00 |
| 1:F:70:ILE:O | 1:F:70:ILE:HG22 | 1.62 | 1.00 |
| 1:F:51:ILE:CD1 | 1:F:61:LEU:HG | 1.66 | 1.00 |
| 1:C:17:HIS:HD2 | 1:C:105:LEU:HD21 | 0.86 | 0.99 |
| 1:C:23:TYR:CD1 | 1:C:29:LEU:CD2 | 2.45 | 0.99 |
| 1:E:84:ALA:HB1 | 1:E:85:TRP:CA | 1.91 | 0.99 |
| 1:C:30:ILE:CG2 | 1:C:31:HIS:H | 1.74 | 0.99 |
| 1:F:51:ILE:HD11 | 1:F:61:LEU:CD1 | 1.74 | 0.99 |
| 1:A:50:LEU:CD2 | 1:A:60:ILE:HG13 | 1.92 | 0.99 |
| 1:B:51:ILE:HD13 | 1:B:51:ILE:H | 1.28 | 0.99 |
| 1:C:80:GLN:C | 1:C:81:GLU:HG3 | 1.79 | 0.99 |
| 1:B:77:GLU:O | 1:B:80:GLN:HB2 | 1.62 | 0.99 |
| 1:E:56:GLY:O | 1:E:57:LYS:HB2 | 1.58 | 0.99 |
| 1:C:41:TYR:C | 1:C:41:TYR:CD2 | 2.29 | 0.99 |
| 1:D:114:MET:HA | 1:D:114:MET:HE3 | 1.44 | 0.99 |
| 1:B:40:TYR:HB2 | 1:B:70:ILE:HG22 | 1.45 | 0.98 |
| 1:E:75:LEU:N | 1:E:99:TYR:HE1 | 1.59 | 0.98 |
| 1:F:30:ILE:HD11 | 1:F:86:VAL:HG23 | 0.99 | 0.98 |
| 1:C:41:TYR:HB2 | 1:C:69:PHE:HD1 | 1.25 | 0.98 |
| 1:D:122:ARG:NH2 | 1:D:122:ARG:CB | 2.27 | 0.98 |
| 1:C:30:ILE:HD12 | 1:C:86:VAL:HG23 | 1.46 | 0.97 |
| 1:D:86:VAL:O | 1:D:87:ARG:HG3 | 1.63 | 0.97 |
| 1:F:122:ARG:HH11 | 1:F:123:ARG:HH21 | 1.12 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:194:ASN:O | 1:F:206:TYR:CE1 | 2.18 | 0.97 |
| 1:C:102:PHE:O | 1:C:102:PHE:CD2 | 2.17 | 0.97 |
| 1:C:30:ILE:HD12 | 1:C:86:VAL:CG2 | 1.93 | 0.97 |
| 1:C:40:TYR:HB3 | 1:C:70:ILE:CD1 | 1.92 | 0.97 |
| 1:E:39:LEU:CB | 1:E:99:TYR:CE2 | 2.47 | 0.97 |
| 1:F:84:ALA:HA | 1:F:85:TRP:HB2 | 0.99 | 0.96 |
| 1:B:36:ALA:CB | 1:B:82:ARG:NH2 | 2.28 | 0.96 |
| 1:F:41:TYR:HD2 | 1:F:42:ILE:H | 1.09 | 0.96 |
| 1:B:40:TYR:CB | 1:B:70:ILE:CG2 | 2.44 | 0.96 |
| 1:C:41:TYR:CD1 | 1:C:69:PHE:CD1 | 2.49 | 0.95 |
| 1:F:189:MET:O | 1:F:193:GLN:HG2 | 1.65 | 0.95 |
| 1:F:123:ARG:N | 1:F:123:ARG:CD | 2.30 | 0.95 |
| 1:E:14:PHE:O | 1:E:17:HIS:HB2 | 1.67 | 0.94 |
| 1:E:25:SER:C | 1:E:26:LYS:HD2 | 1.86 | 0.94 |
| 1:B:30:ILE:HD11 | 1:B:40:TYR:CE2 | 2.01 | 0.94 |
| 1:B:74:GLY:O | 1:B:99:TYR:HE1 | 1.49 | 0.94 |
| 1:A:56:GLY:O | 1:A:57:LYS:CG | 2.13 | 0.94 |
| 1:C:30:ILE:HG22 | 1:C:31:HIS:N | 1.79 | 0.94 |
| 1:F:53:ASP:CG | 1:F:54:GLU:H | 1.67 | 0.94 |
| 1:A:50:LEU:O | 1:A:51:ILE:CG2 | 2.16 | 0.94 |
| 1:E:46:SER:N | 1:E:90:THR:CG2 | 2.31 | 0.94 |
| 1:D:32:GLN:OE1 | 1:D:85:TRP:CE3 | 2.21 | 0.94 |
| 1:A:171:GLU:O | 1:A:175:ILE:HD13 | 1.67 | 0.93 |
| 1:C:15:LEU:HD23 | 1:C:15:LEU:H | 0.78 | 0.93 |
| 1:F:121:ALA:O | 1:F:124:LEU:CB | 2.16 | 0.93 |
| 1:B:36:ALA:CB | 1:B:82:ARG:HH22 | 1.80 | 0.93 |
| 1:E:25:SER:OG | 1:E:26:LYS:HD2 | 1.68 | 0.93 |
| 1:E:39:LEU:HB2 | 1:E:99:TYR:HE2 | 1.11 | 0.93 |
| 1:B:30:ILE:CG2 | 1:B:82:ARG:HD2 | 1.98 | 0.93 |
| 1:D:39:LEU:HB2 | 1:D:99:TYR:CE2 | 2.03 | 0.93 |
| 1:E:116:LEU:HD23 | 1:E:120:MET:HE2 | 1.50 | 0.93 |
| 1:F:32:GLN:HG3 | 1:F:83:SER:HA | 1.50 | 0.93 |
| 1:A:14:PHE:CD2 | 1:A:112:ILE:HG21 | 2.03 | 0.93 |
| 1:B:36:ALA:HA | 1:B:82:ARG:HH22 | 0.78 | 0.93 |
| 1:C:30:ILE:CG2 | 1:C:31:HIS:N | 2.28 | 0.93 |
| 1:E:38:THR:N | 1:E:99:TYR:CD2 | 2.37 | 0.93 |
| 1:C:14:PHE:CB | 1:C:15:LEU:HD23 | 1.98 | 0.92 |
| 1:C:38:THR:O | 1:C:99:TYR:CE2 | 2.22 | 0.92 |
| 1:E:126:VAL:HG13 | 1:E:127:THR:H | 1.22 | 0.92 |
| 1:E:25:SER:C | 1:E:26:LYS:CG | 2.37 | 0.92 |
| 1:A:81:GLU:HA | 1:A:82:ARG:HB3 | 0.94 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:32:GLN:HE22 | 1:F:85:TRP:HZ3 | 1.15 | 0.92 |
| 1:F:30:ILE:HG13 | 1:F:86:VAL:H | 1.33 | 0.92 |
| 1:B:30:ILE:O | 1:B:85:TRP:HB2 | 1.70 | 0.91 |
| 1:F:41:TYR:CD2 | 1:F:42:ILE:N | 2.38 | 0.91 |
| 1:C:17:HIS:HD2 | 1:C:105:LEU:CD2 | 1.80 | 0.91 |
| 1:A:35:LYS:HA | 1:A:81:GLU:CB | 1.99 | 0.91 |
| 1:C:80:GLN:HE21 | 1:C:80:GLN:N | 1.69 | 0.91 |
| 1:E:164:GLN:HB2 | 1:E:204:VAL:HG23 | 1.52 | 0.91 |
| 1:E:30:ILE:HG21 | 1:E:82:ARG:CD | 2.00 | 0.91 |
| 1:F:122:ARG:NH1 | 1:F:123:ARG:HH21 | 1.56 | 0.91 |
| 1:A:80:GLN:HE21 | 1:A:80:GLN:N | 1.69 | 0.91 |
| 1:E:116:LEU:HD23 | 1:E:120:MET:CE | 2.01 | 0.91 |
| 1:E:120:MET:SD | 1:F:120:MET:HE3 | 2.10 | 0.90 |
| 1:E:84:ALA:HB3 | 1:E:85:TRP:CA | 1.94 | 0.90 |
| 1:F:164:GLN:HA | 1:F:204:VAL:HA | 1.53 | 0.90 |
| 1:B:40:TYR:HB2 | 1:B:70:ILE:HG21 | 1.50 | 0.90 |
| 1:F:126:VAL:HG12 | 1:F:193:GLN:NE2 | 1.85 | 0.90 |
| 1:D:114:MET:HE2 | 1:D:114:MET:HA | 0.91 | 0.90 |
| 1:E:15:LEU:C | 1:E:17:HIS:H | 1.74 | 0.90 |
| 1:E:30:ILE:HG21 | 1:E:82:ARG:NE | 1.87 | 0.90 |
| 1:F:123:ARG:N | 1:F:123:ARG:HD2 | 1.85 | 0.90 |
| 1:A:58:GLU:O | 1:A:59:MET:C | 2.00 | 0.90 |
| 1:B:40:TYR:CD2 | 1:B:70:ILE:HG21 | 2.04 | 0.90 |
| 1:E:30:ILE:HG21 | 1:E:82:ARG:HD2 | 1.52 | 0.90 |
| 1:A:81:GLU:HG3 | 1:A:81:GLU:O | 1.71 | 0.89 |
| 1:F:194:ASN:C | 1:F:206:TYR:CE1 | 2.45 | 0.89 |
| 1:A:100:LYS:HD2 | 1:E:34:GLU:HG2 | 1.51 | 0.89 |
| 1:E:20:ILE:HD12 | 1:E:20:ILE:H | 1.37 | 0.89 |
| 1:E:29:LEU:HB2 | 1:E:86:VAL:CG1 | 2.01 | 0.89 |
| 1:A:80:GLN:CA | 1:A:80:GLN:HE21 | 1.84 | 0.89 |
| 1:C:80:GLN:O | 1:C:81:GLU:CG | 2.16 | 0.89 |
| 1:E:116:LEU:C | 1:E:120:MET:HE2 | 1.93 | 0.89 |
| 1:E:117:SER:HA | 1:E:120:MET:HE3 | 0.89 | 0.89 |
| 1:F:122:ARG:HH21 | 1:F:122:ARG:HG3 | 0.76 | 0.89 |
| 1:C:98:SER:C | 1:C:100:LYS:H | 1.76 | 0.89 |
| 1:F:53:ASP:CG | 1:F:54:GLU:N | 2.24 | 0.89 |
| 1:C:43:VAL:O | 1:C:44:LYS:HG3 | 1.73 | 0.89 |
| 1:E:37:GLU:C | 1:E:38:THR:HG23 | 1.91 | 0.88 |
| 1:E:46:SER:OG | 1:E:90:THR:CG2 | 2.21 | 0.88 |
| 1:E:15:LEU:O | 1:E:17:HIS:N | 2.07 | 0.88 |
| 1:E:46:SER:OG | 1:E:90:THR:HG22 | 1.74 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:35:LYS:CA | 1:A:81:GLU:HB3 | 2.03 | 0.88 |
| 1:A:60:ILE:HG22 | 1:A:61:LEU:N | 1.88 | 0.88 |
| 1:E:25:SER:CB | 1:E:26:LYS:CD | 2.52 | 0.88 |
| 1:F:122:ARG:NH1 | 1:F:123:ARG:NH2 | 2.22 | 0.88 |
| 1:A:82:ARG:HG3 | 1:A:82:ARG:O | 1.73 | 0.88 |
| 1:C:41:TYR:CD2 | 1:C:42:ILE:N | 2.41 | 0.87 |
| 1:E:25:SER:CB | 1:E:26:LYS:HD3 | 2.05 | 0.87 |
| 1:F:32:GLN:CA | 1:F:83:SER:O | 2.21 | 0.87 |
| 1:B:64:LEU:HD12 | 1:B:70:ILE:CD1 | 2.05 | 0.87 |
| 1:F:122:ARG:HH11 | 1:F:123:ARG:NH2 | 1.71 | 0.87 |
| 1:E:162:GLY:HA3 | 1:E:207:GLY:N | 1.89 | 0.87 |
| 1:E:75:LEU:HA | 1:E:99:TYR:CD1 | 2.09 | 0.87 |
| 1:A:35:LYS:N | 1:A:81:GLU:CB | 2.38 | 0.87 |
| 1:A:35:LYS:HA | 1:A:81:GLU:HB3 | 1.55 | 0.87 |
| 1:F:123:ARG:NH1 | 1:F:123:ARG:HG3 | 1.82 | 0.86 |
| 1:C:14:PHE:CE2 | 1:C:112:ILE:HG21 | 2.10 | 0.86 |
| 1:E:30:ILE:CG2 | 1:E:82:ARG:HD2 | 2.06 | 0.86 |
| 1:E:134:LEU:H | 1:F:195:LEU:CD1 | 1.87 | 0.86 |
| 1:E:204:VAL:HG13 | 1:E:204:VAL:O | 1.75 | 0.86 |
| 1:C:41:TYR:HB2 | 1:C:69:PHE:CD1 | 2.10 | 0.86 |
| 1:A:14:PHE:CE2 | 1:A:112:ILE:HG21 | 2.11 | 0.86 |
| 1:A:80:GLN:CA | 1:A:80:GLN:NE2 | 2.35 | 0.86 |
| 1:E:134:LEU:CD1 | 1:F:195:LEU:HB3 | 2.06 | 0.86 |
| 1:D:122:ARG:HG3 | 1:D:122:ARG:HH21 | 1.39 | 0.86 |
| 1:F:41:TYR:CD2 | 1:F:69:PHE:HE1 | 1.94 | 0.85 |
| 1:B:51:ILE:HD13 | 1:B:51:ILE:N | 1.91 | 0.85 |
| 1:A:35:LYS:H | 1:A:81:GLU:HB2 | 1.39 | 0.85 |
| 1:A:60:ILE:CG2 | 1:A:61:LEU:H | 1.90 | 0.85 |
| 1:C:23:TYR:CG | 1:C:29:LEU:CD2 | 2.57 | 0.85 |
| 1:E:39:LEU:HB2 | 1:E:99:TYR:CD2 | 2.11 | 0.85 |
| 1:C:30:ILE:HG23 | 1:C:31:HIS:H | 1.41 | 0.85 |
| 1:F:123:ARG:O | 1:F:124:LEU:HD23 | 1.77 | 0.85 |
| 1:F:51:ILE:O | 1:F:59:MET:HB2 | 1.76 | 0.85 |
| 1:C:30:ILE:O | 1:C:31:HIS:CG | 2.30 | 0.85 |
| 1:E:134:LEU:CB | 1:F:195:LEU:HD13 | 2.07 | 0.85 |
| 1:F:69:PHE:O | 1:F:70:ILE:HB | 1.74 | 0.84 |
| 1:F:41:TYR:O | 1:F:94:VAL:HG13 | 1.76 | 0.84 |
| 1:E:30:ILE:CG2 | 1:E:82:ARG:HE | 1.89 | 0.84 |
| 1:E:14:PHE:CD2 | 1:E:105:LEU:CD1 | 2.60 | 0.84 |
| 1:A:50:LEU:HD21 | 1:A:60:ILE:HG13 | 1.57 | 0.84 |
| 1:E:205:VAL:HG12 | 1:E:206:TYR:H | 0.67 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:194:ASN:O | 1:F:206:TYR:CD1 | 2.31 | 0.84 |
| 1:F:164:GLN:HB2 | 1:F:204:VAL:HG22 | 1.57 | 0.84 |
| 1:A:53:ASP:OD1 | 1:A:54:GLU:N | 2.11 | 0.83 |
| 1:A:10:THR:HG23 | 1:A:112:ILE:CD1 | 2.07 | 0.83 |
| 1:C:10:THR:O | 1:C:13:TRP:HB3 | 1.78 | 0.83 |
| 1:F:50:LEU:O | 1:F:84:ALA:CB | 2.27 | 0.83 |
| 1:F:69:PHE:N | 1:F:119:GLN:NE2 | 2.26 | 0.83 |
| 1:E:39:LEU:CB | 1:E:99:TYR:HE2 | 1.84 | 0.83 |
| 1:B:44:LYS:O | 1:B:92:CYS:HB2 | 1.78 | 0.83 |
| 1:F:123:ARG:HG2 | 1:F:123:ARG:HH11 | 1.44 | 0.83 |
| 1:B:36:ALA:HB2 | 1:B:82:ARG:NH2 | 1.92 | 0.82 |
| 1:E:164:GLN:HA | 1:E:204:VAL:HA | 1.61 | 0.82 |
| 1:A:10:THR:HG23 | 1:A:112:ILE:HD11 | 1.60 | 0.82 |
| 1:A:165:ILE:HD13 | 1:A:203:ILE:O | 1.80 | 0.82 |
| 1:B:116:LEU:CD2 | 1:B:116:LEU:C | 2.47 | 0.82 |
| 1:E:126:VAL:CG1 | 1:E:127:THR:H | 1.91 | 0.82 |
| 1:E:46:SER:N | 1:E:90:THR:HG23 | 1.89 | 0.82 |
| 1:F:69:PHE:H | 1:F:119:GLN:NE2 | 1.77 | 0.82 |
| 1:C:17:HIS:CD2 | 1:C:105:LEU:CD2 | 2.58 | 0.82 |
| 1:E:204:VAL:HG22 | 1:E:205:VAL:O | 1.80 | 0.82 |
| 1:F:14:PHE:CD1 | 1:F:14:PHE:C | 2.53 | 0.82 |
| 1:A:189:MET:O | 1:A:193:GLN:HG2 | 1.80 | 0.81 |
| 1:D:80:GLN:HG2 | 1:D:81:GLU:O | 1.80 | 0.81 |
| 1:B:127:THR:O | 1:B:127:THR:HG23 | 1.80 | 0.81 |
| 1:B:40:TYR:CB | 1:B:70:ILE:HG22 | 2.06 | 0.81 |
| 1:E:20:ILE:HD12 | 1:E:20:ILE:N | 1.95 | 0.81 |
| 1:A:38:THR:HG22 | 1:A:39:LEU:O | 1.80 | 0.81 |
| 1:C:54:GLU:O | 1:C:55:GLU:CB | 2.28 | 0.81 |
| 1:E:14:PHE:HD2 | 1:E:105:LEU:HD13 | 1.44 | 0.81 |
| 1:E:13:TRP:CD1 | 1:E:13:TRP:O | 2.33 | 0.81 |
| 1:E:14:PHE:CE2 | 1:E:105:LEU:HD12 | 2.14 | 0.81 |
| 1:E:40:TYR:CD2 | 1:E:70:ILE:HB | 2.16 | 0.81 |
| 1:E:75:LEU:HA | 1:E:99:TYR:CE1 | 2.15 | 0.81 |
| 1:B:30:ILE:HD11 | 1:B:40:TYR:CD2 | 2.14 | 0.81 |
| 1:F:51:ILE:CG1 | 1:F:61:LEU:HB2 | 2.09 | 0.81 |
| 1:A:82:ARG:O | 1:A:82:ARG:CG | 2.29 | 0.81 |
| 1:B:21:HIS:ND1 | 1:B:23:TYR:CE2 | 2.48 | 0.81 |
| 1:B:38:THR:HG22 | 1:B:39:LEU:O | 1.80 | 0.81 |
| 1:E:42:ILE:HD12 | 1:E:68:ASP:HB2 | 1.63 | 0.81 |
| 1:A:35:LYS:H | 1:A:81:GLU:CB | 1.94 | 0.80 |
| 1:A:35:LYS:CA | 1:A:81:GLU:CB | 2.60 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:134:LEU:HG | 1:F:195:LEU:HD13 | 0.81 | 0.80 |
| 1:E:25:SER:HB3 | 1:E:26:LYS:CD | 2.10 | 0.80 |
| 1:B:119:GLN:O | 1:B:120:MET:C | 2.19 | 0.80 |
| 1:B:127:THR:O | 1:B:128:SER:HB2 | 1.81 | 0.80 |
| 1:C:40:TYR:CE1 | 1:C:96:GLU:OE1 | 2.35 | 0.80 |
| 1:E:30:ILE:CG2 | 1:E:82:ARG:NE | 2.43 | 0.80 |
| 1:B:40:TYR:CD2 | 1:B:70:ILE:HG22 | 2.15 | 0.80 |
| 1:E:37:GLU:O | 1:E:38:THR:CG2 | 2.29 | 0.80 |
| 1:A:55:GLU:HG3 | 1:A:56:GLY:H | 0.70 | 0.80 |
| 1:E:30:ILE:O | 1:E:85:TRP:HB2 | 1.82 | 0.80 |
| 1:E:150:LEU:HA | 1:E:153:GLN:CG | 2.12 | 0.80 |
| 1:F:46:SER:H | 1:F:90:THR:CG2 | 1.95 | 0.80 |
| 1:B:51:ILE:HD12 | 1:B:61:LEU:HG | 1.63 | 0.79 |
| 1:F:195:LEU:HA | 1:F:206:TYR:HD1 | 1.47 | 0.79 |
| 1:F:41:TYR:HD2 | 1:F:42:ILE:N | 1.78 | 0.79 |
| 1:F:69:PHE:O | 1:F:70:ILE:CB | 2.30 | 0.79 |
| 1:E:75:LEU:CA | 1:E:99:TYR:CE1 | 2.66 | 0.79 |
| 1:F:114:MET:CE | 1:F:114:MET:HA | 2.12 | 0.79 |
| 1:E:75:LEU:N | 1:E:99:TYR:CE1 | 2.49 | 0.79 |
| 1:C:80:GLN:NE2 | 1:C:80:GLN:N | 2.31 | 0.79 |
| 1:E:138:ASP:HA | 1:F:141:GLY:HA2 | 1.65 | 0.79 |
| 1:E:196:ILE:HG22 | 1:E:205:VAL:HA | 1.63 | 0.79 |
| 1:F:123:ARG:O | 1:F:124:LEU:CD2 | 2.30 | 0.79 |
| 1:A:10:THR:CG2 | 1:A:112:ILE:CD1 | 2.60 | 0.79 |
| 1:E:162:GLY:HA3 | 1:E:207:GLY:H | 1.47 | 0.79 |
| 1:B:74:GLY:O | 1:B:99:TYR:CE1 | 2.36 | 0.79 |
| 1:B:77:GLU:HB3 | 1:B:80:GLN:HG3 | 1.65 | 0.79 |
| 1:F:52:LYS:HB3 | 1:F:57:LYS:O | 1.82 | 0.79 |
| 1:F:124:LEU:O | 1:F:125:GLN:C | 2.22 | 0.79 |
| 1:E:17:HIS:HD2 | 1:E:105:LEU:HD21 | 1.46 | 0.78 |
| 1:A:62:SER:OG | 1:A:63:TYR:N | 2.16 | 0.78 |
| 1:B:119:GLN:HG3 | 1:B:120:MET:N | 1.98 | 0.78 |
| 1:D:38:THR:HG22 | 1:D:39:LEU:O | 1.83 | 0.78 |
| 1:F:162:GLY:HA3 | 1:F:205:VAL:O | 1.83 | 0.78 |
| 1:F:20:ILE:N | 1:F:20:ILE:HD12 | 1.98 | 0.78 |
| 1:F:32:GLN:HA | 1:F:83:SER:O | 1.82 | 0.78 |
| 1:F:41:TYR:CD2 | 1:F:69:PHE:CE1 | 2.71 | 0.78 |
| 1:A:54:GLU:O | 1:A:55:GLU:CG | 2.32 | 0.78 |
| 1:F:125:GLN:O | 1:F:129:GLU:HG3 | 1.83 | 0.78 |
| 1:E:164:GLN:CB | 1:E:204:VAL:HG23 | 2.14 | 0.78 |
| 1:F:68:ASP:HB3 | 1:F:119:GLN:HE21 | 1.49 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:197:SER:OG | 1:E:204:VAL:HG11 | 1.81 | 0.78 |
| 1:B:21:HIS:CE1 | 1:B:23:TYR:OH | 2.36 | 0.78 |
| 1:B:51:ILE:HD13 | 1:B:59:MET:O | 1.83 | 0.78 |
| 1:C:13:TRP:O | 1:C:13:TRP:CD1 | 2.37 | 0.77 |
| 1:E:40:TYR:HB2 | 1:E:70:ILE:HG12 | 1.67 | 0.77 |
| 1:E:134:LEU:CD2 | 1:F:195:LEU:HD12 | 2.14 | 0.77 |
| 1:A:10:THR:CG2 | 1:A:112:ILE:HD12 | 2.14 | 0.77 |
| 1:A:60:ILE:HG22 | 1:A:61:LEU:H | 1.44 | 0.77 |
| 1:B:128:SER:O | 1:B:129:GLU:C | 2.19 | 0.77 |
| 1:B:85:TRP:H | 1:B:85:TRP:HE3 | 1.32 | 0.77 |
| 1:F:19:HIS:O | 1:F:95:ALA:HA | 1.83 | 0.77 |
| 1:E:51:ILE:HD12 | 1:E:59:MET:HB3 | 1.65 | 0.77 |
| 1:F:126:VAL:HG12 | 1:F:193:GLN:HE22 | 1.48 | 0.77 |
| 1:B:115:ARG:O | 1:B:118:ALA:HB3 | 1.85 | 0.77 |
| 1:F:50:LEU:O | 1:F:51:ILE:CG1 | 2.30 | 0.77 |
| 1:C:80:GLN:CA | 1:C:80:GLN:HE21 | 1.97 | 0.76 |
| 1:B:39:LEU:HB2 | 1:B:99:TYR:CE2 | 2.19 | 0.76 |
| 1:E:134:LEU:CG | 1:F:195:LEU:HD12 | 1.99 | 0.76 |
| 1:B:30:ILE:CD1 | 1:B:40:TYR:CE2 | 2.67 | 0.76 |
| 1:A:80:GLN:HA | 1:A:80:GLN:NE2 | 2.01 | 0.76 |
| 1:F:30:ILE:HG12 | 1:F:86:VAL:CB | 2.13 | 0.76 |
| 1:E:40:TYR:O | 1:E:69:PHE:HA | 1.86 | 0.76 |
| 1:F:53:ASP:OD2 | 1:F:54:GLU:CG | 2.25 | 0.76 |
| 1:F:32:GLN:HG3 | 1:F:83:SER:CA | 2.15 | 0.76 |
| 1:A:11:LEU:HD22 | 1:A:11:LEU:O | 1.85 | 0.76 |
| 1:E:69:PHE:HD2 | 1:E:119:GLN:HE21 | 1.34 | 0.76 |
| 1:E:30:ILE:CG2 | 1:E:82:ARG:CD | 2.63 | 0.76 |
| 1:B:115:ARG:O | 1:B:118:ALA:N | 2.19 | 0.76 |
| 1:B:40:TYR:CB | 1:B:70:ILE:HG21 | 2.13 | 0.76 |
| 1:E:134:LEU:HD22 | 1:F:190:LEU:CD2 | 2.00 | 0.76 |
| 1:D:39:LEU:HB2 | 1:D:99:TYR:HE2 | 1.49 | 0.76 |
| 1:F:195:LEU:HA | 1:F:206:TYR:CD1 | 2.21 | 0.76 |
| 1:F:30:ILE:CG1 | 1:F:86:VAL:H | 1.99 | 0.76 |
| 1:B:40:TYR:HB2 | 1:B:70:ILE:CB | 2.15 | 0.76 |
| 1:E:14:PHE:HE2 | 1:E:105:LEU:HD12 | 1.51 | 0.75 |
| 1:C:83:SER:O | 1:C:84:ALA:CB | 2.33 | 0.75 |
| 1:E:150:LEU:HA | 1:E:153:GLN:HG2 | 1.68 | 0.75 |
| 1:D:37:GLU:HA | 1:D:99:TYR:CD1 | 2.20 | 0.75 |
| 1:F:70:ILE:CG2 | 1:F:70:ILE:O | 2.34 | 0.75 |
| 1:A:56:GLY:O | 1:A:57:LYS:CB | 2.34 | 0.75 |
| 1:E:38:THR:CA | 1:E:39:LEU:CB | 2.63 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:130:LYS:CG | 1:F:189:MET:SD | 2.69 | 0.75 |
| 1:E:30:ILE:HG23 | 1:E:82:ARG:HE | 1.49 | 0.75 |
| 1:F:51:ILE:HG13 | 1:F:61:LEU:HB2 | 1.67 | 0.75 |
| 1:F:69:PHE:H | 1:F:119:GLN:HE21 | 1.34 | 0.75 |
| 1:F:30:ILE:CD1 | 1:F:86:VAL:CG2 | 2.56 | 0.75 |
| 1:B:74:GLY:C | 1:B:99:TYR:HE1 | 1.90 | 0.74 |
| 1:F:204:VAL:HG12 | 1:F:205:VAL:N | 2.01 | 0.74 |
| 1:F:151:ALA:HA | 1:F:165:ILE:CG2 | 2.18 | 0.74 |
| 1:B:64:LEU:CD1 | 1:B:70:ILE:CD1 | 2.65 | 0.74 |
| 1:C:38:THR:O | 1:C:99:TYR:HE2 | 1.68 | 0.74 |
| 1:C:8:ASP:CG | 1:C:115:ARG:HH12 | 1.91 | 0.74 |
| 1:E:25:SER:CB | 1:E:26:LYS:HD2 | 2.14 | 0.74 |
| 1:F:163:MET:O | 1:F:205:VAL:N | 2.20 | 0.74 |
| 1:C:26:LYS:N | 1:C:88:ALA:O | 2.20 | 0.74 |
| 1:E:134:LEU:N | 1:F:195:LEU:CD1 | 2.51 | 0.74 |
| 1:E:164:GLN:HG3 | 1:E:204:VAL:HB | 1.69 | 0.74 |
| 1:B:21:HIS:HD1 | 1:B:23:TYR:HE2 | 1.31 | 0.74 |
| 1:C:80:GLN:NE2 | 1:C:80:GLN:H | 1.85 | 0.74 |
| 1:E:134:LEU:H | 1:F:195:LEU:HD13 | 1.51 | 0.74 |
| 1:E:51:ILE:CD1 | 1:E:59:MET:HB3 | 2.16 | 0.74 |
| 1:E:53:ASP:OD2 | 1:E:59:MET:CE | 2.36 | 0.74 |
| 1:E:134:LEU:HD21 | 1:F:190:LEU:CD2 | 2.04 | 0.74 |
| 1:F:38:THR:HG22 | 1:F:39:LEU:O | 1.87 | 0.73 |
| 1:B:83:SER:O | 1:B:84:ALA:HB3 | 1.86 | 0.73 |
| 1:F:13:TRP:CE3 | 1:F:14:PHE:N | 2.56 | 0.73 |
| 1:B:40:TYR:CG | 1:B:70:ILE:CG2 | 2.71 | 0.73 |
| 1:F:41:TYR:O | 1:F:94:VAL:CG1 | 2.36 | 0.73 |
| 1:B:198:ALA:HA | 1:B:203:ILE:HD13 | 1.69 | 0.73 |
| 1:D:63:TYR:HE1 | 1:D:89:LYS:HD2 | 1.53 | 0.73 |
| 1:C:150:LEU:HA | 1:C:153:GLN:HG2 | 1.69 | 0.73 |
| 1:E:134:LEU:HG | 1:F:195:LEU:CG | 2.16 | 0.73 |
| 1:D:111:ASP:O | 1:D:114:MET:HB2 | 1.88 | 0.73 |
| 1:D:41:TYR:HD1 | 1:D:69:PHE:CE1 | 2.06 | 0.73 |
| 1:F:68:ASP:C | 1:F:119:GLN:NE2 | 2.42 | 0.73 |
| 1:B:116:LEU:HD23 | 1:B:117:SER:N | 2.03 | 0.72 |
| 1:B:40:TYR:CG | 1:B:70:ILE:HG21 | 2.22 | 0.72 |
| 1:C:69:PHE:H | 1:C:119:GLN:HE22 | 1.35 | 0.72 |
| 1:E:41:TYR:HA | 1:E:68:ASP:O | 1.88 | 0.72 |
| 1:E:38:THR:CA | 1:E:99:TYR:CE2 | 2.72 | 0.72 |
| 1:F:17:HIS:CD2 | 1:F:105:LEU:HD21 | 2.24 | 0.72 |
| 1:C:101:LYS:O | 1:C:104:GLN:N | 2.20 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:122:ARG:O | 1:B:126:VAL:HG23 | 1.89 | 0.72 |
| 1:D:86:VAL:O | 1:D:87:ARG:CG | 2.36 | 0.72 |
| 1:F:123:ARG:CD | 1:F:123:ARG:H | 2.02 | 0.72 |
| 1:E:13:TRP:O | 1:E:13:TRP:CG | 2.39 | 0.72 |
| 1:F:122:ARG:HG2 | 1:F:123:ARG:N | 2.02 | 0.71 |
| 1:F:58:GLU:C | 1:F:59:MET:O | 2.22 | 0.71 |
| 1:A:112:ILE:HD12 | 1:A:112:ILE:N | 2.03 | 0.71 |
| 1:C:13:TRP:O | 1:C:13:TRP:CD2 | 2.43 | 0.71 |
| 1:F:51:ILE:HD12 | 1:F:61:LEU:HG | 0.72 | 0.71 |
| 1:D:106:ILE:HD12 | 1:D:113:LEU:HB2 | 1.71 | 0.71 |
| 1:C:8:ASP:OD1 | 1:C:115:ARG:NH1 | 2.24 | 0.71 |
| 1:D:70:ILE:HG22 | 1:D:71:GLY:N | 2.02 | 0.71 |
| 1:D:102:PHE:CE2 | 1:D:106:ILE:HD11 | 2.25 | 0.71 |
| 1:A:83:SER:O | 1:A:84:ALA:HB2 | 1.89 | 0.71 |
| 1:B:54:GLU:O | 1:B:55:GLU:CB | 2.35 | 0.71 |
| 1:C:102:PHE:O | 1:C:102:PHE:HD2 | 1.68 | 0.71 |
| 1:E:134:LEU:H | 1:F:195:LEU:HD11 | 1.55 | 0.71 |
| 1:C:98:SER:O | 1:C:100:LYS:N | 2.20 | 0.71 |
| 1:F:51:ILE:HD11 | 1:F:61:LEU:CG | 1.84 | 0.71 |
| 1:A:76:PHE:O | 1:A:77:GLU:HB3 | 1.89 | 0.70 |
| 1:E:40:TYR:HB2 | 1:E:70:ILE:CG1 | 2.20 | 0.70 |
| 1:A:60:ILE:CG2 | 1:A:61:LEU:N | 2.47 | 0.70 |
| 1:B:165:ILE:HD11 | 1:B:203:ILE:HB | 1.72 | 0.70 |
| 1:B:72:GLU:O | 1:B:73:LEU:CB | 2.38 | 0.70 |
| 1:A:83:SER:O | 1:A:84:ALA:CB | 2.39 | 0.70 |
| 1:E:28:THR:HA | 1:E:87:ARG:HG3 | 1.73 | 0.70 |
| 1:F:94:VAL:HG12 | 1:F:95:ALA:N | 2.05 | 0.70 |
| 1:C:149:ASN:O | 1:C:153:GLN:HG2 | 1.91 | 0.70 |
| 1:E:116:LEU:O | 1:E:120:MET:CE | 2.37 | 0.70 |
| 1:F:51:ILE:HD12 | 1:F:61:LEU:CB | 2.02 | 0.70 |
| 1:A:50:LEU:C | 1:A:51:ILE:HG23 | 2.10 | 0.70 |
| 1:E:189:MET:O | 1:E:193:GLN:HG2 | 1.92 | 0.70 |
| 1:F:68:ASP:HB3 | 1:F:119:GLN:NE2 | 1.99 | 0.70 |
| 1:C:30:ILE:HD12 | 1:C:86:VAL:HG21 | 1.72 | 0.70 |
| 1:D:112:ILE:HD12 | 1:D:112:ILE:N | 2.06 | 0.70 |
| 1:F:123:ARG:HD3 | 1:F:123:ARG:H | 1.55 | 0.70 |
| 1:E:14:PHE:CE2 | 1:E:105:LEU:CD1 | 2.75 | 0.70 |
| 1:F:123:ARG:C | 1:F:124:LEU:HD23 | 2.12 | 0.70 |
| 1:E:134:LEU:CD1 | 1:F:195:LEU:CB | 2.70 | 0.70 |
| 1:A:164:GLN:HB2 | 1:A:204:VAL:HG22 | 1.74 | 0.70 |
| 1:D:114:MET:CA | 1:D:114:MET:HE3 | 2.09 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:122:ARG:C | 1:F:124:LEU:H | 1.95 | 0.70 |
| 1:A:49:VAL:O | 1:A:61:LEU:HB2 | 1.92 | 0.69 |
| 1:D:70:ILE:O | 1:D:72:GLU:N | 2.25 | 0.69 |
| 1:A:97:ILE:HD11 | 1:A:101:LYS:HE3 | 1.74 | 0.69 |
| 1:F:63:TYR:HE1 | 1:F:89:LYS:HD2 | 1.57 | 0.69 |
| 1:A:72:GLU:CD | 1:A:123:ARG:HH22 | 1.95 | 0.69 |
| 1:B:38:THR:O | 1:B:82:ARG:NH1 | 2.26 | 0.69 |
| 1:E:25:SER:OG | 1:E:26:LYS:CD | 2.39 | 0.69 |
| 1:F:41:TYR:CD1 | 1:F:69:PHE:HE1 | 2.11 | 0.69 |
| 1:B:38:THR:CA | 1:B:99:TYR:CE2 | 2.76 | 0.69 |
| 1:E:134:LEU:HD12 | 1:F:195:LEU:HB3 | 1.72 | 0.69 |
| 1:F:164:GLN:OE1 | 1:F:202:THR:HG21 | 1.92 | 0.69 |
| 1:F:54:GLU:O | 1:F:56:GLY:N | 2.20 | 0.69 |
| 1:C:104:GLN:O | 1:C:107:GLN:N | 2.26 | 0.69 |
| 1:C:150:LEU:HA | 1:C:153:GLN:CG | 2.23 | 0.69 |
| 1:C:39:LEU:O | 1:C:40:TYR:HB2 | 1.91 | 0.69 |
| 1:E:17:HIS:O | 1:E:97:ILE:HD12 | 1.93 | 0.69 |
| 1:A:8:ASP:OD1 | 1:A:115:ARG:NH2 | 2.22 | 0.69 |
| 1:F:63:TYR:CE1 | 1:F:89:LYS:HD2 | 2.28 | 0.69 |
| 1:C:23:TYR:CB | 1:C:29:LEU:HD21 | 2.23 | 0.68 |
| 1:C:80:GLN:C | 1:C:81:GLU:CG | 2.58 | 0.68 |
| 1:C:33:GLY:O | 1:C:34:GLU:O | 2.12 | 0.68 |
| 1:F:50:LEU:O | 1:F:84:ALA:HB2 | 1.92 | 0.68 |
| 1:C:38:THR:O | 1:C:99:TYR:CD2 | 2.47 | 0.68 |
| 1:F:39:LEU:HD12 | 1:F:71:GLY:HA3 | 1.75 | 0.68 |
| 1:B:118:ALA:O | 1:B:119:GLN:C | 2.32 | 0.68 |
| 1:C:14:PHE:O | 1:C:16:SER:C | 2.31 | 0.68 |
| 1:C:69:PHE:HD2 | 1:C:116:LEU:HA | 1.59 | 0.68 |
| 1:E:65:ASN:N | 1:E:68:ASP:OD2 | 2.27 | 0.68 |
| 1:C:103:ARG:HG3 | 1:C:103:ARG:HH21 | 1.58 | 0.68 |
| 1:C:69:PHE:CD2 | 1:C:116:LEU:HA | 2.28 | 0.68 |
| 1:E:124:LEU:O | 1:E:127:THR:HG22 | 1.93 | 0.68 |
| 1:E:15:LEU:C | 1:E:17:HIS:N | 2.44 | 0.68 |
| 1:E:80:GLN:HG2 | 1:E:81:GLU:H | 1.59 | 0.68 |
| 1:F:43:VAL:HB | 1:F:93:GLU:OE2 | 1.94 | 0.68 |
| 1:E:53:ASP:OD2 | 1:E:59:MET:HE1 | 1.93 | 0.68 |
| 1:F:114:MET:HE2 | 1:F:114:MET:HA | 1.76 | 0.68 |
| 1:F:164:GLN:CB | 1:F:204:VAL:HG22 | 2.24 | 0.68 |
| 1:F:58:GLU:O | 1:F:59:MET:C | 2.31 | 0.68 |
| 1:E:46:SER:N | 1:E:90:THR:HG21 | 2.06 | 0.68 |
| 1:B:32:GLN:NE2 | 1:B:85:TRP:CZ3 | 2.62 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:38:THR:CA | 1:E:99:TYR:CD2 | 2.77 | 0.67 |
| 1:F:32:GLN:HG3 | 1:F:83:SER:O | 1.93 | 0.67 |
| 1:B:120:MET:O | 1:B:123:ARG:HB2 | 1.95 | 0.67 |
| 1:B:83:SER:O | 1:B:84:ALA:CB | 2.40 | 0.67 |
| 1:B:74:GLY:C | 1:B:99:TYR:CE1 | 2.68 | 0.67 |
| 1:E:15:LEU:HD23 | 1:E:15:LEU:H | 1.59 | 0.67 |
| 1:A:56:GLY:C | 1:A:57:LYS:CD | 2.48 | 0.67 |
| 1:B:51:ILE:N | 1:B:51:ILE:CD1 | 2.58 | 0.67 |
| 1:C:40:TYR:CB | 1:C:70:ILE:HD12 | 2.18 | 0.67 |
| 1:E:120:MET:O | 1:E:123:ARG:HB3 | 1.93 | 0.67 |
| 1:E:46:SER:OG | 1:E:90:THR:HG21 | 1.93 | 0.67 |
| 1:B:116:LEU:O | 1:B:116:LEU:HD23 | 1.94 | 0.67 |
| 1:D:41:TYR:HD1 | 1:D:69:PHE:CD1 | 2.13 | 0.67 |
| 1:B:189:MET:O | 1:B:193:GLN:HG2 | 1.95 | 0.67 |
| 1:B:45:GLY:HA3 | 1:B:92:CYS:HB3 | 1.76 | 0.67 |
| 1:C:20:ILE:HD12 | 1:C:20:ILE:N | 2.09 | 0.67 |
| 1:C:17:HIS:O | 1:C:97:ILE:HD12 | 1.94 | 0.67 |
| 1:F:20:ILE:HD12 | 1:F:20:ILE:H | 1.60 | 0.67 |
| 1:F:51:ILE:HD13 | 1:F:61:LEU:CD1 | 1.92 | 0.67 |
| 1:A:30:ILE:HD11 | 1:A:40:TYR:CZ | 2.30 | 0.67 |
| 1:D:44:LYS:O | 1:D:92:CYS:HB2 | 1.95 | 0.67 |
| 1:B:32:GLN:NE2 | 1:B:85:TRP:CE3 | 2.63 | 0.66 |
| 1:B:40:TYR:HD2 | 1:B:70:ILE:HG23 | 1.57 | 0.66 |
| 1:C:23:TYR:CD1 | 1:C:29:LEU:HD23 | 2.28 | 0.66 |
| 1:F:28:THR:HG21 | 1:F:31:HIS:ND1 | 2.09 | 0.66 |
| 1:C:20:ILE:H | 1:C:20:ILE:HD12 | 1.59 | 0.66 |
| 1:E:31:HIS:HD2 | 1:E:34:GLU:OE1 | 1.79 | 0.66 |
| 1:A:111:ASP:O | 1:A:114:MET:HB2 | 1.95 | 0.66 |
| 1:A:70:ILE:O | 1:A:71:GLY:C | 2.34 | 0.66 |
| 1:B:119:GLN:O | 1:B:122:ARG:N | 2.28 | 0.66 |
| 1:B:51:ILE:CG2 | 1:B:84:ALA:HB2 | 2.25 | 0.66 |
| 1:D:189:MET:O | 1:D:193:GLN:HG2 | 1.95 | 0.66 |
| 1:F:74:GLY:O | 1:F:75:LEU:C | 2.32 | 0.66 |
| 1:C:50:LEU:HD23 | 1:C:87:ARG:HD3 | 1.77 | 0.66 |
| 1:E:26:LYS:HD2 | 1:E:26:LYS:N | 2.10 | 0.66 |
| 1:F:102:PHE:CE2 | 1:F:106:ILE:HD11 | 2.30 | 0.66 |
| 1:A:38:THR:HA | 1:A:39:LEU:HB3 | 1.78 | 0.66 |
| 1:C:11:LEU:O | 1:C:15:LEU:HG | 1.95 | 0.66 |
| 1:A:80:GLN:HA | 1:A:80:GLN:HE21 | 1.61 | 0.66 |
| 1:C:16:SER:O | 1:C:17:HIS:HB2 | 1.96 | 0.66 |
| 1:D:112:ILE:HD12 | 1:D:112:ILE:H | 1.60 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:205:VAL:HG12 | 1:E:206:TYR:CA | 2.24 | 0.66 |
| 1:F:50:LEU:C | 1:F:51:ILE:CG1 | 2.64 | 0.66 |
| 1:F:50:LEU:C | 1:F:51:ILE:HG12 | 2.14 | 0.65 |
| 1:E:10:THR:O | 1:E:13:TRP:HB3 | 1.97 | 0.65 |
| 1:C:114:MET:CE | 1:C:114:MET:HA | 2.25 | 0.65 |
| 1:E:90:THR:O | 1:E:91:ALA:C | 2.33 | 0.65 |
| 1:B:119:GLN:O | 1:B:123:ARG:N | 2.24 | 0.65 |
| 1:B:32:GLN:CG | 1:B:32:GLN:O | 2.44 | 0.65 |
| 1:A:29:LEU:C | 1:A:30:ILE:HD13 | 2.16 | 0.65 |
| 1:A:72:GLU:H | 1:A:72:GLU:CD | 2.00 | 0.65 |
| 1:B:116:LEU:CD2 | 1:B:117:SER:N | 2.59 | 0.65 |
| 1:B:77:GLU:CB | 1:B:80:GLN:HG3 | 2.25 | 0.65 |
| 1:F:114:MET:HA | 1:F:114:MET:HE3 | 1.78 | 0.65 |
| 1:F:117:SER:HB3 | 1:F:120:MET:CE | 2.27 | 0.65 |
| 1:B:41:TYR:CD1 | 1:B:69:PHE:CE2 | 2.84 | 0.65 |
| 1:E:134:LEU:HD11 | 1:F:195:LEU:CB | 2.27 | 0.65 |
| 1:B:111:ASP:O | 1:B:114:MET:HB2 | 1.96 | 0.65 |
| 1:C:10:THR:HG21 | 1:C:111:ASP:HB3 | 1.77 | 0.65 |
| 1:E:150:LEU:O | 1:E:153:GLN:HB2 | 1.97 | 0.65 |
| 1:E:164:GLN:CA | 1:E:204:VAL:HG23 | 2.27 | 0.65 |
| 1:D:63:TYR:CE1 | 1:D:89:LYS:HD2 | 2.32 | 0.65 |
| 1:E:8:ASP:OD2 | 1:E:115:ARG:NH1 | 2.30 | 0.65 |
| 1:A:55:GLU:CG | 1:A:56:GLY:N | 2.30 | 0.65 |
| 1:E:75:LEU:CA | 1:E:99:TYR:HE1 | 2.08 | 0.65 |
| 1:B:115:ARG:O | 1:B:118:ALA:CB | 2.45 | 0.64 |
| 1:A:165:ILE:HD13 | 1:A:165:ILE:H | 1.62 | 0.64 |
| 1:D:82:ARG:O | 1:D:82:ARG:CG | 2.38 | 0.64 |
| 1:C:41:TYR:HD2 | 1:C:41:TYR:O | 1.80 | 0.64 |
| 1:C:14:PHE:HD1 | 1:C:15:LEU:CD2 | 2.10 | 0.64 |
| 1:C:40:TYR:HE1 | 1:C:96:GLU:OE1 | 1.79 | 0.64 |
| 1:E:204:VAL:CG1 | 1:E:204:VAL:O | 2.45 | 0.64 |
| 1:F:124:LEU:O | 1:F:127:THR:N | 2.30 | 0.64 |
| 1:F:41:TYR:CD1 | 1:F:69:PHE:CE1 | 2.86 | 0.64 |
| 1:F:53:ASP:OD2 | 1:F:54:GLU:N | 2.29 | 0.64 |
| 1:F:53:ASP:CG | 1:F:54:GLU:HG3 | 2.15 | 0.64 |
| 1:E:84:ALA:HB3 | 1:E:85:TRP:CB | 2.27 | 0.64 |
| 1:F:97:ILE:HD11 | 1:F:101:LYS:HE3 | 1.80 | 0.64 |
| 1:A:75:LEU:HD13 | 1:A:99:TYR:CD2 | 2.33 | 0.64 |
| 1:A:50:LEU:HD22 | 1:A:60:ILE:HG13 | 1.79 | 0.63 |
| 1:B:120:MET:O | 1:B:123:ARG:N | 2.31 | 0.63 |
| 1:C:83:SER:O | 1:C:84:ALA:HB3 | 1.98 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:167:ILE:HD13 | 1:F:172:ILE:CD1 | 2.28 | 0.63 |
| 1:D:41:TYR:CD1 | 1:D:69:PHE:CE1 | 2.87 | 0.63 |
| 1:D:70:ILE:CG2 | 1:D:71:GLY:N | 2.60 | 0.63 |
| 1:E:134:LEU:N | 1:F:195:LEU:HD11 | 2.11 | 0.63 |
| 1:A:198:ALA:HA | 1:A:203:ILE:HD13 | 1.79 | 0.63 |
| 1:E:124:LEU:O | 1:E:125:GLN:C | 2.36 | 0.63 |
| 1:F:32:GLN:HG3 | 1:F:83:SER:C | 2.19 | 0.63 |
| 1:C:41:TYR:CE1 | 1:C:69:PHE:CE1 | 2.75 | 0.63 |
| 1:C:112:ILE:HD12 | 1:C:112:ILE:H | 1.62 | 0.63 |
| 1:F:13:TRP:HE3 | 1:F:14:PHE:H | 1.46 | 0.63 |
| 1:E:164:GLN:HB2 | 1:E:204:VAL:CG2 | 2.26 | 0.63 |
| 1:F:69:PHE:N | 1:F:119:GLN:HE21 | 1.93 | 0.63 |
| 1:B:21:HIS:ND1 | 1:B:23:TYR:HE2 | 1.90 | 0.62 |
| 1:E:150:LEU:HA | 1:E:153:GLN:HG3 | 1.79 | 0.62 |
| 1:C:69:PHE:N | 1:C:119:GLN:HE22 | 1.96 | 0.62 |
| 1:F:195:LEU:CA | 1:F:206:TYR:CD1 | 2.82 | 0.62 |
| 1:D:150:LEU:HA | 1:D:153:GLN:CG | 2.29 | 0.62 |
| 1:F:11:LEU:CD2 | 1:F:41:TYR:HE1 | 1.98 | 0.62 |
| 1:A:164:GLN:CB | 1:A:204:VAL:HG22 | 2.30 | 0.62 |
| 1:A:38:THR:HA | 1:A:39:LEU:CB | 2.29 | 0.62 |
| 1:D:39:LEU:HB2 | 1:D:99:TYR:CD2 | 2.34 | 0.62 |
| 1:E:74:GLY:HA2 | 1:E:77:GLU:HB2 | 1.80 | 0.62 |
| 1:B:32:GLN:N | 1:B:85:TRP:HB3 | 2.13 | 0.62 |
| 1:C:36:ALA:O | 1:C:37:GLU:HB3 | 1.99 | 0.62 |
| 1:E:182:THR:O | 1:E:186:ILE:CD1 | 2.31 | 0.62 |
| 1:E:24:PRO:O | 1:E:27:SER:HB3 | 2.00 | 0.62 |
| 1:B:38:THR:N | 1:B:99:TYR:CE2 | 2.68 | 0.62 |
| 1:D:102:PHE:CZ | 1:D:106:ILE:HD11 | 2.34 | 0.62 |
| 1:A:39:LEU:HB2 | 1:A:99:TYR:CE2 | 2.35 | 0.62 |
| 1:B:127:THR:CG2 | 1:B:127:THR:O | 2.47 | 0.62 |
| 1:E:40:TYR:HD2 | 1:E:70:ILE:HB | 1.65 | 0.62 |
| 1:A:14:PHE:O | 1:A:15:LEU:HB2 | 1.98 | 0.62 |
| 1:E:150:LEU:CA | 1:E:153:GLN:HG2 | 2.30 | 0.62 |
| 1:F:54:GLU:C | 1:F:56:GLY:H | 2.01 | 0.62 |
| 1:A:10:THR:CG2 | 1:A:112:ILE:HD11 | 2.26 | 0.62 |
| 1:C:14:PHE:CD1 | 1:C:15:LEU:CD2 | 2.83 | 0.62 |
| 1:E:8:ASP:OD1 | 1:E:115:ARG:NH2 | 2.25 | 0.62 |
| 1:B:40:TYR:HB2 | 1:B:70:ILE:HB | 1.82 | 0.62 |
| 1:E:56:GLY:O | 1:E:57:LYS:CB | 2.41 | 0.62 |
| 1:F:82:ARG:O | 1:F:84:ALA:O | 2.18 | 0.62 |
| 1:A:79:GLY:O | 1:A:80:GLN:HB2 | 2.00 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 1:B:70:ILE:O | 1:B:70:ILE:HG22 | 1.99 | 0.61 |
| 1:F:114:MET:CE | 1:F:114:MET:CA | 2.75 | 0.61 |
| 1:F:43:VAL:O | 1:F:44:LYS:CG | 2.48 | 0.61 |
| 1:D:111:ASP:OD2 | 1:D:115:ARG:NH1 | 2.34 | 0.61 |
| 1:F:43:VAL:HG12 | 1:F:44:LYS:HG3 | 1.82 | 0.61 |
| 1:C:63:TYR:HE1 | 1:C:89:LYS:HD2 | 1.65 | 0.61 |
| 1:F:117:SER:HB3 | 1:F:120:MET:HE1 | 1.81 | 0.61 |
| 1:A:28:THR:HG23 | 1:A:86:VAL:O | 2.00 | 0.61 |
| 1:D:119:GLN:O | 1:D:120:MET:C | 2.37 | 0.61 |
| 1:E:123:ARG:O | 1:E:126:VAL:CG1 | 2.36 | 0.61 |
| 1:F:21:HIS:O | 1:F:93:GLU:HA | 2.00 | 0.61 |
| 1:A:53:ASP:CG | 1:A:54:GLU:H | 2.01 | 0.61 |
| 1:F:114:MET:C | 1:F:116:LEU:H | 2.04 | 0.61 |
| 1:B:20:ILE:HD12 | 1:B:20:ILE:H | 1.66 | 0.61 |
| 1:C:189:MET:O | 1:C:193:GLN:HG2 | 2.00 | 0.61 |
| 1:E:37:GLU:C | 1:E:38:THR:CG2 | 2.65 | 0.61 |
| 1:B:196:ILE:C | 1:B:196:ILE:HD12 | 2.21 | 0.61 |
| 1:B:38:THR:C | 1:B:99:TYR:HE2 | 2.05 | 0.61 |
| 1:D:122:ARG:CZ | 1:D:122:ARG:HB3 | 2.31 | 0.61 |
| 1:B:51:ILE:CD1 | 1:B:59:MET:O | 2.48 | 0.61 |
| 1:A:50:LEU:CD2 | 1:A:60:ILE:HA | 2.30 | 0.60 |
| 1:B:31:HIS:HA | 1:B:85:TRP:CD1 | 2.35 | 0.60 |
| 1:E:77:GLU:O | 1:E:78:GLU:C | 2.37 | 0.60 |
| 1:F:32:GLN:CB | 1:F:83:SER:O | 2.49 | 0.60 |
| 1:A:65:ASN:N | 1:A:68:ASP:OD2 | 2.32 | 0.60 |
| 1:C:104:GLN:O | 1:C:105:LEU:C | 2.39 | 0.60 |
| 1:A:112:ILE:CD1 | 1:A:112:ILE:N | 2.64 | 0.60 |
| 1:A:81:GLU:CG | 1:A:81:GLU:O | 2.49 | 0.60 |
| 1:C:14:PHE:O | 1:C:17:HIS:HB2 | 2.01 | 0.60 |
| 1:F:121:ALA:O | 1:F:124:LEU:N | 2.34 | 0.60 |
| 1:B:170:GLN:CB | 1:B:180:ARG:HD3 | 2.25 | 0.60 |
| 1:B:51:ILE:HD12 | 1:B:61:LEU:CG | 2.29 | 0.60 |
| 1:F:124:LEU:C | 1:F:126:VAL:N | 2.52 | 0.60 |
| 1:F:102:PHE:CZ | 1:F:106:ILE:HD11 | 2.37 | 0.60 |
| 1:A:14:PHE:HE2 | 1:A:102:PHE:CE1 | 2.19 | 0.60 |
| 1:A:81:GLU:CA | 1:A:82:ARG:HB2 | 2.03 | 0.60 |
| 1:F:68:ASP:HA | 1:F:119:GLN:HE22 | 0.44 | 0.60 |
| 1:F:122:ARG:O | 1:F:124:LEU:N | 2.30 | 0.60 |
| 1:B:113:LEU:O | 1:B:117:SER:HB2 | 2.02 | 0.60 |
| 1:B:70:ILE:O | 1:B:70:ILE:CG2 | 2.49 | 0.60 |
| 1:A:11:LEU:HB2 | 1:A:115:ARG:HH22 | 1.67 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:37:GLU:HG3 | 1:C:38:THR:H | 1.65 | 0.60 |
| 1:E:28:THR:CA | 1:E:87:ARG:HG3 | 2.31 | 0.60 |
| 1:A:77:GLU:O | 1:A:77:GLU:HG2 | 2.00 | 0.60 |
| 1:B:165:ILE:CD1 | 1:B:203:ILE:HB | 2.32 | 0.60 |
| 1:C:68:ASP:CA | 1:C:119:GLN:OE1 | 2.41 | 0.60 |
| 1:F:204:VAL:CG1 | 1:F:205:VAL:N | 2.65 | 0.60 |
| 1:C:65:ASN:O | 1:C:66:GLN:C | 2.40 | 0.59 |
| 1:F:40:TYR:HB3 | 1:F:94:VAL:HG11 | 1.82 | 0.59 |
| 1:F:51:ILE:O | 1:F:59:MET:CB | 2.47 | 0.59 |
| 1:B:118:ALA:O | 1:B:120:MET:N | 2.35 | 0.59 |
| 1:A:126:VAL:CG1 | 1:A:193:GLN:HE22 | 2.16 | 0.59 |
| 1:E:119:GLN:OE1 | 1:E:119:GLN:O | 2.21 | 0.59 |
| 1:F:164:GLN:CD | 1:F:202:THR:CG2 | 2.71 | 0.59 |
| 1:D:86:VAL:C | 1:D:87:ARG:HG3 | 2.21 | 0.59 |
| 1:E:13:TRP:CZ3 | 1:E:109:ASN:HB3 | 2.36 | 0.59 |
| 1:F:39:LEU:HB2 | 1:F:99:TYR:CE2 | 2.37 | 0.59 |
| 1:D:70:ILE:CG2 | 1:D:71:GLY:H | 2.16 | 0.59 |
| 1:D:51:ILE:CD1 | 1:D:59:MET:HB3 | 2.32 | 0.59 |
| 1:E:11:LEU:O | 1:E:15:LEU:HD23 | 2.03 | 0.59 |
| 1:B:108:VAL:O | 1:B:109:ASN:OD1 | 2.21 | 0.59 |
| 1:C:14:PHE:HD1 | 1:C:15:LEU:HD21 | 1.66 | 0.59 |
| 1:C:63:TYR:CE1 | 1:C:89:LYS:HD2 | 2.37 | 0.59 |
| 1:D:33:GLY:O | 1:D:81:GLU:HG3 | 2.03 | 0.59 |
| 1:F:204:VAL:HG12 | 1:F:205:VAL:H | 1.66 | 0.59 |
| 1:C:37:GLU:HA | 1:C:99:TYR:HB2 | 1.85 | 0.59 |
| 1:D:124:LEU:O | 1:D:127:THR:N | 2.29 | 0.59 |
| 1:D:83:SER:C | 1:D:84:ALA:O | 2.38 | 0.59 |
| 1:E:65:ASN:O | 1:E:68:ASP:OD2 | 2.20 | 0.59 |
| 1:F:14:PHE:CD1 | 1:F:14:PHE:O | 2.56 | 0.59 |
| 1:B:38:THR:HG21 | 1:B:96:GLU:HB2 | 1.84 | 0.58 |
| 1:C:14:PHE:CZ | 1:C:112:ILE:HG21 | 2.38 | 0.58 |
| 1:C:14:PHE:O | 1:C:16:SER:N | 2.36 | 0.58 |
| 1:E:33:GLY:HA2 | 1:E:81:GLU:HG3 | 1.84 | 0.58 |
| 1:E:38:THR:HA | 1:E:99:TYR:CD2 | 2.38 | 0.58 |
| 1:A:106:ILE:CG2 | 1:A:113:LEU:HD22 | 2.33 | 0.58 |
| 1:C:198:ALA:HA | 1:C:203:ILE:HD13 | 1.84 | 0.58 |
| 1:D:13:TRP:CZ3 | 1:D:112:ILE:CD1 | 2.86 | 0.58 |
| 1:E:162:GLY:CA | 1:E:207:GLY:H | 2.14 | 0.58 |
| 1:F:69:PHE:O | 1:F:70:ILE:CG1 | 2.52 | 0.58 |
| 1:A:17:HIS:O | 1:A:18:CYS:HB3 | 2.03 | 0.58 |
| 1:B:120:MET:O | 1:B:124:LEU:N | 2.37 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:41:TYR:HD1 | 1:B:69:PHE:CE2 | 2.22 | 0.58 |
| 1:D:51:ILE:HD12 | 1:D:59:MET:HB3 | 1.84 | 0.58 |
| 1:E:120:MET:SD | 1:F:120:MET:CE | 2.90 | 0.58 |
| 1:E:134:LEU:N | 1:F:195:LEU:HD13 | 2.16 | 0.58 |
| 1:A:51:ILE:HG21 | 1:A:61:LEU:HD12 | 1.86 | 0.58 |
| 1:C:148:LEU:HD23 | 1:C:152:LYS:HE2 | 1.83 | 0.58 |
| 1:E:134:LEU:HD23 | 1:F:190:LEU:CD2 | 2.31 | 0.58 |
| 1:F:30:ILE:CG1 | 1:F:86:VAL:HB | 2.21 | 0.58 |
| 1:A:80:GLN:H | 1:A:80:GLN:HE21 | 1.51 | 0.58 |
| 1:C:32:GLN:HG3 | 1:C:84:ALA:H | 1.67 | 0.58 |
| 1:D:42:ILE:HD11 | 1:D:70:ILE:HD11 | 1.85 | 0.58 |
| 1:F:123:ARG:HD3 | 1:F:123:ARG:N | 2.13 | 0.58 |
| 1:F:157:MET:HB2 | 1:F:164:GLN:HB3 | 1.84 | 0.58 |
| 1:F:164:GLN:CG | 1:F:202:THR:CG2 | 2.82 | 0.58 |
| 1:C:14:PHE:CD2 | 1:C:112:ILE:HG12 | 2.39 | 0.58 |
| 1:C:50:LEU:HD13 | 1:C:60:ILE:HD13 | 1.86 | 0.58 |
| 1:F:51:ILE:HD11 | 1:F:61:LEU:HB2 | 1.55 | 0.58 |
| 1:B:197:SER:OG | 1:B:204:VAL:HB | 2.03 | 0.58 |
| 1:A:75:LEU:O | 1:A:103:ARG:NH1 | 2.36 | 0.58 |
| 1:A:11:LEU:CD2 | 1:A:11:LEU:O | 2.51 | 0.58 |
| 1:A:57:LYS:O | 1:A:58:GLU:C | 2.42 | 0.58 |
| 1:B:33:GLY:O | 1:B:81:GLU:HG2 | 2.04 | 0.58 |
| 1:B:167:ILE:HD13 | 1:B:172:ILE:CD1 | 2.34 | 0.57 |
| 1:B:79:GLY:O | 1:B:80:GLN:C | 2.41 | 0.57 |
| 1:C:112:ILE:N | 1:C:112:ILE:HD12 | 2.18 | 0.57 |
| 1:D:122:ARG:HG3 | 1:D:122:ARG:NH2 | 2.09 | 0.57 |
| 1:F:10:THR:HG22 | 1:F:112:ILE:HD13 | 1.86 | 0.57 |
| 1:F:122:ARG:C | 1:F:124:LEU:N | 2.55 | 0.57 |
| 1:F:58:GLU:O | 1:F:59:MET:O | 2.22 | 0.57 |
| 1:E:25:SER:O | 1:E:26:LYS:HD3 | 1.99 | 0.57 |
| 1:F:117:SER:CA | 1:F:120:MET:HE2 | 2.34 | 0.57 |
| 1:F:164:GLN:CD | 1:F:202:THR:HG21 | 2.25 | 0.57 |
| 1:F:51:ILE:HD11 | 1:F:61:LEU:HB3 | 1.79 | 0.57 |
| 1:C:103:ARG:HG3 | 1:C:103:ARG:NH2 | 2.16 | 0.57 |
| 1:F:167:ILE:HD13 | 1:F:172:ILE:HD11 | 1.86 | 0.57 |
| 1:F:90:THR:OG1 | 1:F:91:ALA:N | 2.37 | 0.57 |
| 1:A:102:PHE:CE2 | 1:A:106:ILE:HD11 | 2.40 | 0.57 |
| 1:B:127:THR:O | 1:B:128:SER:CB | 2.52 | 0.57 |
| 1:B:64:LEU:CD1 | 1:B:70:ILE:HD12 | 2.34 | 0.57 |
| 1:C:167:ILE:HD13 | 1:C:172:ILE:CD1 | 2.35 | 0.57 |
| 1:C:40:TYR:HB3 | 1:C:70:ILE:HD13 | 1.85 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:186:ILE:N | 1:D:186:ILE:HD12 | 2.19 | 0.57 |
| 1:F:14:PHE:CD2 | 1:F:112:ILE:HG12 | 2.40 | 0.57 |
| 1:F:47:VAL:HG12 | 1:F:88:ALA:HA | 1.87 | 0.57 |
| 1:A:11:LEU:HB2 | 1:A:115:ARG:NH2 | 2.20 | 0.57 |
| 1:D:102:PHE:O | 1:D:106:ILE:HG12 | 2.05 | 0.57 |
| 1:C:114:MET:HE3 | 1:C:114:MET:HA | 1.85 | 0.57 |
| 1:E:204:VAL:C | 1:E:205:VAL:O | 2.39 | 0.57 |
| 1:B:39:LEU:HD21 | 1:B:102:PHE:CD1 | 2.40 | 0.57 |
| 1:E:157:MET:HB2 | 1:E:164:GLN:HB3 | 1.87 | 0.57 |
| 1:E:202:THR:C | 1:E:203:ILE:HD12 | 2.24 | 0.57 |
| 1:A:164:GLN:HA | 1:A:204:VAL:HA | 1.86 | 0.56 |
| 1:C:10:THR:O | 1:C:13:TRP:CB | 2.51 | 0.56 |
| 1:C:16:SER:O | 1:C:17:HIS:CB | 2.53 | 0.56 |
| 1:E:15:LEU:CD2 | 1:E:15:LEU:N | 2.68 | 0.56 |
| 1:E:73:LEU:H | 1:E:73:LEU:HD12 | 1.70 | 0.56 |
| 1:A:164:GLN:CG | 1:A:204:VAL:HG22 | 2.34 | 0.56 |
| 1:B:20:ILE:HD12 | 1:B:20:ILE:N | 2.20 | 0.56 |
| 1:D:28:THR:HA | 1:D:87:ARG:HG2 | 1.88 | 0.56 |
| 1:E:134:LEU:HD11 | 1:F:195:LEU:HB2 | 1.85 | 0.56 |
| 1:E:86:VAL:HG12 | 1:E:86:VAL:O | 2.06 | 0.56 |
| 1:F:122:ARG:CG | 1:F:122:ARG:NH2 | 2.41 | 0.56 |
| 1:B:31:HIS:HA | 1:B:85:TRP:HD1 | 1.69 | 0.56 |
| 1:B:167:ILE:HD13 | 1:B:172:ILE:HD13 | 1.87 | 0.56 |
| 1:E:38:THR:HA | 1:E:39:LEU:HB2 | 1.77 | 0.56 |
| 1:D:112:ILE:CD1 | 1:D:112:ILE:H | 2.19 | 0.56 |
| 1:D:54:GLU:O | 1:D:55:GLU:CB | 2.39 | 0.56 |
| 1:E:20:ILE:CD1 | 1:E:20:ILE:H | 2.13 | 0.56 |
| 1:E:53:ASP:OD2 | 1:E:59:MET:HE3 | 2.04 | 0.56 |
| 1:F:165:ILE:N | 1:F:203:ILE:O | 2.38 | 0.56 |
| 1:F:32:GLN:NE2 | 1:F:85:TRP:CH2 | 2.63 | 0.56 |
| 1:C:21:HIS:HB2 | 1:C:23:TYR:CE2 | 2.41 | 0.56 |
| 1:A:163:MET:O | 1:A:205:VAL:N | 2.34 | 0.56 |
| 1:B:112:ILE:HG23 | 1:B:113:LEU:H | 1.70 | 0.56 |
| 1:C:78:GLU:HG2 | 1:C:103:ARG:HH12 | 1.71 | 0.56 |
| 1:E:197:SER:HG | 1:E:204:VAL:CG1 | 2.13 | 0.56 |
| 1:E:22:LYS:HG2 | 1:E:93:GLU:HG2 | 1.86 | 0.56 |
| 1:E:38:THR:HA | 1:E:99:TYR:CE2 | 2.41 | 0.56 |
| 1:F:123:ARG:NH1 | 1:F:123:ARG:CG | 2.30 | 0.56 |
| 1:E:14:PHE:CE1 | 1:E:18:CYS:SG | 2.99 | 0.56 |
| 1:F:165:ILE:HD11 | 1:F:203:ILE:HB | 1.87 | 0.56 |
| 1:F:39:LEU:HD12 | 1:F:71:GLY:CA | 2.36 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:124:LEU:CD2 | 1:E:127:THR:HG21 | 2.36 | 0.56 |
| 1:E:15:LEU:HD23 | 1:E:15:LEU:N | 2.20 | 0.56 |
| 1:B:36:ALA:CB | 1:B:82:ARG:CZ | 2.84 | 0.55 |
| 1:C:41:TYR:CE2 | 1:C:42:ILE:O | 2.60 | 0.55 |
| 1:A:8:ASP:OD1 | 1:A:11:LEU:HB2 | 2.05 | 0.55 |
| 1:E:15:LEU:O | 1:E:18:CYS:N | 2.36 | 0.55 |
| 1:F:110:PRO:O | 1:F:113:LEU:N | 2.38 | 0.55 |
| 1:C:35:LYS:C | 1:C:36:ALA:O | 2.44 | 0.55 |
| 1:C:170:GLN:NE2 | 1:C:171:GLU:HG3 | 2.22 | 0.55 |
| 1:F:39:LEU:HB2 | 1:F:99:TYR:CD2 | 2.42 | 0.55 |
| 1:A:168:THR:HG22 | 1:A:201:LYS:HG3 | 1.88 | 0.55 |
| 1:B:120:MET:O | 1:B:123:ARG:CA | 2.54 | 0.55 |
| 1:D:114:MET:HE3 | 1:D:114:MET:N | 2.22 | 0.55 |
| 1:F:42:ILE:HG22 | 1:F:66:GLN:HA | 1.88 | 0.55 |
| 1:E:205:VAL:HG12 | 1:E:206:TYR:O | 2.07 | 0.55 |
| 1:A:13:TRP:HZ2 | 1:A:108:VAL:HG11 | 1.71 | 0.55 |
| 1:A:49:VAL:O | 1:A:61:LEU:CB | 2.55 | 0.55 |
| 1:C:30:ILE:CD1 | 1:C:86:VAL:CG2 | 2.78 | 0.55 |
| 1:D:38:THR:HG23 | 1:D:97:ILE:O | 2.07 | 0.55 |
| 1:A:30:ILE:CD1 | 1:A:40:TYR:CZ | 2.90 | 0.55 |
| 1:B:37:GLU:C | 1:B:99:TYR:CD2 | 2.80 | 0.55 |
| 1:B:38:THR:C | 1:B:99:TYR:CE2 | 2.80 | 0.55 |
| 1:E:37:GLU:O | 1:E:38:THR:CB | 2.54 | 0.55 |
| 1:F:204:VAL:CG1 | 1:F:205:VAL:H | 2.20 | 0.55 |
| 1:B:40:TYR:CG | 1:B:70:ILE:HG22 | 2.39 | 0.55 |
| 1:E:186:ILE:HD12 | 1:E:186:ILE:N | 2.22 | 0.55 |
| 1:E:18:CYS:SG | 1:E:97:ILE:HB | 2.47 | 0.55 |
| 1:A:72:GLU:HG2 | 1:A:73:LEU:HD12 | 1.87 | 0.54 |
| 1:A:55:GLU:OE1 | 1:A:57:LYS:HE3 | 2.06 | 0.54 |
| 1:B:82:ARG:O | 1:B:84:ALA:N | 2.40 | 0.54 |
| 1:C:44:LYS:O | 1:C:92:CYS:HB2 | 2.06 | 0.54 |
| 1:A:97:ILE:HD11 | 1:A:101:LYS:CE | 2.37 | 0.54 |
| 1:A:157:MET:HB2 | 1:A:164:GLN:HB3 | 1.89 | 0.54 |
| 1:A:51:ILE:CG2 | 1:A:61:LEU:HD12 | 2.37 | 0.54 |
| 1:C:69:PHE:H | 1:C:119:GLN:NE2 | 2.05 | 0.54 |
| 1:C:17:HIS:O | 1:C:97:ILE:CD1 | 2.55 | 0.54 |
| 1:D:30:ILE:HD12 | 1:D:86:VAL:HG21 | 1.89 | 0.54 |
| 1:B:41:TYR:CE1 | 1:B:69:PHE:CE2 | 2.96 | 0.54 |
| 1:D:77:GLU:OE1 | 1:D:80:GLN:OE1 | 2.26 | 0.54 |
| 1:E:69:PHE:H | 1:E:119:GLN:NE2 | 2.05 | 0.54 |
| 1:E:39:LEU:N | 1:E:99:TYR:HE2 | 2.06 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:117:SER:HA | 1:E:120:MET:HE1 | 1.72 | 0.54 |
| 1:E:138:ASP:HA | 1:F:141:GLY:CA | 2.37 | 0.54 |
| 1:F:46:SER:N | 1:F:90:THR:CG2 | 2.68 | 0.54 |
| 1:C:167:ILE:HD13 | 1:C:172:ILE:HD13 | 1.90 | 0.54 |
| 1:D:22:LYS:HG2 | 1:D:93:GLU:HG2 | 1.90 | 0.54 |
| 1:F:33:GLY:O | 1:F:81:GLU:HG3 | 2.07 | 0.54 |
| 1:A:18:CYS:HB2 | 1:A:96:GLU:O | 2.08 | 0.54 |
| 1:A:70:ILE:HG22 | 1:A:71:GLY:N | 2.23 | 0.54 |
| 1:B:170:GLN:HA | 1:B:180:ARG:HG2 | 1.89 | 0.54 |
| 1:B:85:TRP:HE3 | 1:B:85:TRP:N | 2.02 | 0.54 |
| 1:D:149:ASN:O | 1:D:153:GLN:CG | 2.36 | 0.54 |
| 1:E:16:SER:O | 1:E:17:HIS:ND1 | 2.41 | 0.54 |
| 1:A:25:SER:O | 1:A:26:LYS:HB2 | 2.07 | 0.53 |
| 1:D:13:TRP:CZ3 | 1:D:112:ILE:HD13 | 2.43 | 0.53 |
| 1:D:30:ILE:HG21 | 1:D:82:ARG:HD2 | 1.90 | 0.53 |
| 1:E:77:GLU:OE1 | 1:E:80:GLN:CD | 2.46 | 0.53 |
| 1:F:43:VAL:CG1 | 1:F:93:GLU:OE2 | 2.56 | 0.53 |
| 1:C:21:HIS:HB2 | 1:C:23:TYR:OH | 2.08 | 0.53 |
| 1:A:50:LEU:HD23 | 1:A:60:ILE:HA | 1.91 | 0.53 |
| 1:B:38:THR:HA | 1:B:39:LEU:HB3 | 1.89 | 0.53 |
| 1:F:20:ILE:N | 1:F:20:ILE:CD1 | 2.69 | 0.53 |
| 1:F:37:GLU:HA | 1:F:99:TYR:CD1 | 2.44 | 0.53 |
| 1:A:10:THR:HG21 | 1:A:111:ASP:OD2 | 2.09 | 0.53 |
| 1:A:53:ASP:CG | 1:A:54:GLU:N | 2.58 | 0.53 |
| 1:C:32:GLN:HE21 | 1:C:84:ALA:HA | 1.73 | 0.53 |
| 1:D:38:THR:HA | 1:D:39:LEU:HB3 | 1.91 | 0.53 |
| 1:E:114:MET:CE | 1:E:114:MET:HA | 2.38 | 0.53 |
| 1:A:106:ILE:HD12 | 1:A:113:LEU:HB2 | 1.90 | 0.53 |
| 1:A:82:ARG:O | 1:A:82:ARG:CD | 2.57 | 0.53 |
| 1:F:32:GLN:CG | 1:F:83:SER:O | 2.57 | 0.53 |
| 1:C:41:TYR:CB | 1:C:69:PHE:CD1 | 2.86 | 0.53 |
| 1:F:46:SER:H | 1:F:90:THR:HG23 | 1.71 | 0.53 |
| 1:D:83:SER:O | 1:D:84:ALA:C | 2.41 | 0.53 |
| 1:E:44:LYS:O | 1:E:92:CYS:HB2 | 2.09 | 0.53 |
| 1:E:38:THR:C | 1:E:99:TYR:CE2 | 2.83 | 0.53 |
| 1:C:30:ILE:O | 1:C:31:HIS:ND1 | 2.42 | 0.52 |
| 1:D:182:THR:O | 1:D:186:ILE:CD1 | 2.38 | 0.52 |
| 1:F:75:LEU:HD13 | 1:F:103:ARG:CZ | 2.39 | 0.52 |
| 1:B:114:MET:HA | 1:B:114:MET:CE | 2.40 | 0.52 |
| 1:D:32:GLN:OE1 | 1:D:85:TRP:HE3 | 1.90 | 0.52 |
| 1:E:14:PHE:CD2 | 1:E:112:ILE:HD13 | 2.44 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:17:HIS:O | 1:A:18:CYS:CB | 2.57 | 0.52 |
| 1:A:75:LEU:N | 1:A:99:TYR:CZ | 2.77 | 0.52 |
| 1:F:13:TRP:CE3 | 1:F:14:PHE:CA | 2.93 | 0.52 |
| 1:B:22:LYS:HG2 | 1:B:93:GLU:HG2 | 1.90 | 0.52 |
| 1:F:25:SER:O | 1:F:26:LYS:HB2 | 2.10 | 0.52 |
| 1:F:71:GLY:O | 1:F:72:GLU:HB3 | 2.09 | 0.52 |
| 1:A:150:LEU:HA | 1:A:153:GLN:HG2 | 1.92 | 0.52 |
| 1:C:50:LEU:CD1 | 1:C:60:ILE:HD13 | 2.40 | 0.52 |
| 1:C:70:ILE:O | 1:C:71:GLY:C | 2.48 | 0.52 |
| 1:E:111:ASP:O | 1:E:114:MET:HB2 | 2.09 | 0.52 |
| 1:F:41:TYR:CD2 | 1:F:41:TYR:C | 2.82 | 0.52 |
| 1:B:30:ILE:CD1 | 1:B:40:TYR:HE2 | 2.20 | 0.52 |
| 1:D:13:TRP:CE3 | 1:D:112:ILE:HD11 | 2.45 | 0.52 |
| 1:D:14:PHE:HB2 | 1:D:112:ILE:HG12 | 1.91 | 0.52 |
| 1:E:83:SER:O | 1:E:84:ALA:O | 2.26 | 0.52 |
| 1:E:39:LEU:CA | 1:E:99:TYR:HE2 | 2.23 | 0.52 |
| 1:C:80:GLN:HE21 | 1:C:81:GLU:N | 2.08 | 0.52 |
| 1:E:134:LEU:HG | 1:F:195:LEU:CB | 2.40 | 0.52 |
| 1:E:30:ILE:HG22 | 1:E:82:ARG:HD2 | 1.90 | 0.52 |
| 1:F:114:MET:C | 1:F:116:LEU:N | 2.63 | 0.52 |
| 1:A:42:ILE:HD12 | 1:A:68:ASP:HB2 | 1.92 | 0.52 |
| 1:C:30:ILE:O | 1:C:31:HIS:CD2 | 2.63 | 0.52 |
| 1:E:38:THR:N | 1:E:99:TYR:CE2 | 2.75 | 0.52 |
| 1:A:106:ILE:HG21 | 1:A:113:LEU:HD22 | 1.92 | 0.51 |
| 1:B:120:MET:CA | 1:B:123:ARG:HB2 | 2.39 | 0.51 |
| 1:E:181:GLU:HG2 | 1:F:53:ASP:OD1 | 2.11 | 0.51 |
| 1:A:114:MET:HE2 | 1:B:76:PHE:HE1 | 1.75 | 0.51 |
| 1:B:38:THR:HA | 1:B:39:LEU:CB | 2.40 | 0.51 |
| 1:D:29:LEU:HD21 | 1:D:94:VAL:HG21 | 1.91 | 0.51 |
| 1:E:8:ASP:HB3 | 1:E:11:LEU:HB2 | 1.92 | 0.51 |
| 1:F:38:THR:HG23 | 1:F:97:ILE:O | 2.10 | 0.51 |
| 1:F:65:ASN:CG | 1:F:66:GLN:H | 2.13 | 0.51 |
| 1:A:15:LEU:CD1 | 1:A:20:ILE:HD11 | 2.40 | 0.51 |
| 1:F:117:SER:HA | 1:F:120:MET:HE2 | 1.92 | 0.51 |
| 1:B:73:LEU:O | 1:B:80:GLN:NE2 | 2.43 | 0.51 |
| 1:D:97:ILE:HD11 | 1:D:101:LYS:HG2 | 1.92 | 0.51 |
| 1:E:38:THR:CA | 1:E:99:TYR:HE2 | 2.23 | 0.51 |
| 1:B:125:GLN:O | 1:B:129:GLU:OE2 | 2.29 | 0.51 |
| 1:B:30:ILE:HG21 | 1:B:82:ARG:HD3 | 1.87 | 0.51 |
| 1:F:75:LEU:CD1 | 1:F:103:ARG:NE | 2.74 | 0.51 |
| 1:C:37:GLU:O | 1:C:38:THR:O | 2.29 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:121:ALA:O | 1:F:122:ARG:C | 2.49 | 0.51 |
| 1:A:112:ILE:CD1 | 1:A:112:ILE:H | 2.24 | 0.51 |
| 1:B:39:LEU:HB2 | 1:B:99:TYR:HE2 | 1.75 | 0.51 |
| 1:C:98:SER:C | 1:C:100:LYS:N | 2.42 | 0.51 |
| 1:E:205:VAL:CG1 | 1:E:206:TYR:N | 2.14 | 0.51 |
| 1:A:10:THR:HG21 | 1:A:111:ASP:HB3 | 1.93 | 0.51 |
| 1:A:62:SER:HG | 1:A:63:TYR:H | 1.57 | 0.51 |
| 1:D:136:PHE:CE1 | 1:D:186:ILE:HD11 | 2.46 | 0.51 |
| 1:E:150:LEU:O | 1:E:153:GLN:CB | 2.59 | 0.51 |
| 1:E:8:ASP:CG | 1:E:115:ARG:HH12 | 2.14 | 0.51 |
| 1:E:38:THR:HG22 | 1:E:98:SER:HA | 1.93 | 0.51 |
| 1:F:167:ILE:HD13 | 1:F:172:ILE:HD13 | 1.93 | 0.51 |
| 1:F:15:LEU:C | 1:F:17:HIS:N | 2.62 | 0.51 |
| 1:B:36:ALA:HB1 | 1:B:82:ARG:NH1 | 2.26 | 0.51 |
| 1:E:168:THR:HG22 | 1:E:201:LYS:HG3 | 1.93 | 0.51 |
| 1:F:122:ARG:CG | 1:F:123:ARG:N | 2.72 | 0.51 |
| 1:C:30:ILE:CD1 | 1:C:86:VAL:HG21 | 2.39 | 0.50 |
| 1:C:75:LEU:HA | 1:C:99:TYR:CE1 | 2.45 | 0.50 |
| 1:D:50:LEU:CD1 | 1:D:60:ILE:HG12 | 2.41 | 0.50 |
| 1:B:116:LEU:O | 1:B:117:SER:C | 2.48 | 0.50 |
| 1:C:14:PHE:C | 1:C:16:SER:N | 2.64 | 0.50 |
| 1:E:52:LYS:HA | 1:E:57:LYS:O | 2.11 | 0.50 |
| 1:C:21:HIS:HB2 | 1:C:23:TYR:CZ | 2.46 | 0.50 |
| 1:F:41:TYR:C | 1:F:94:VAL:HG13 | 2.31 | 0.50 |
| 1:B:112:ILE:CD1 | 1:B:112:ILE:CG1 | 2.90 | 0.50 |
| 1:B:40:TYR:HD2 | 1:B:70:ILE:HG22 | 1.54 | 0.50 |
| 1:C:39:LEU:O | 1:C:40:TYR:O | 2.30 | 0.50 |
| 1:B:39:LEU:HB2 | 1:B:99:TYR:CD2 | 2.46 | 0.50 |
| 1:C:14:PHE:CE2 | 1:C:112:ILE:HG12 | 2.47 | 0.50 |
| 1:C:25:SER:C | 1:C:27:SER:H | 2.14 | 0.50 |
| 1:C:50:LEU:CD2 | 1:C:87:ARG:HD3 | 2.39 | 0.50 |
| 1:E:204:VAL:O | 1:E:205:VAL:O | 2.30 | 0.50 |
| 1:C:114:MET:HE3 | 1:D:113:LEU:HD21 | 1.92 | 0.50 |
| 1:F:68:ASP:CA | 1:F:119:GLN:HE21 | 2.09 | 0.50 |
| 1:C:72:GLU:O | 1:C:74:GLY:N | 2.43 | 0.50 |
| 1:D:69:PHE:HD2 | 1:D:119:GLN:OE1 | 1.95 | 0.50 |
| 1:E:148:LEU:HD23 | 1:E:152:LYS:HE2 | 1.94 | 0.50 |
| 1:E:203:ILE:HD12 | 1:E:203:ILE:N | 2.27 | 0.50 |
| 1:E:30:ILE:HD11 | 1:E:40:TYR:CE2 | 2.47 | 0.50 |
| 1:A:164:GLN:HG3 | 1:A:204:VAL:HG22 | 1.93 | 0.50 |
| 1:B:109:ASN:C | 1:B:111:ASP:H | 2.16 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:76:PHE:HE1 | 1:B:114:MET:CE | 2.24 | 0.50 |
| 1:B:116:LEU:HD21 | 1:B:120:MET:CE | 2.41 | 0.50 |
| 1:B:79:GLY:O | 1:B:80:GLN:O | 2.30 | 0.50 |
| 1:D:32:GLN:OE1 | 1:D:85:TRP:CZ3 | 2.62 | 0.50 |
| 1:F:126:VAL:C | 1:F:128:SER:H | 2.15 | 0.50 |
| 1:F:74:GLY:O | 1:F:75:LEU:O | 2.29 | 0.50 |
| 1:A:29:LEU:HD21 | 1:A:94:VAL:HG21 | 1.94 | 0.50 |
| 1:E:65:ASN:O | 1:E:68:ASP:CG | 2.49 | 0.50 |
| 1:E:42:ILE:N | 1:E:68:ASP:O | 2.39 | 0.50 |
| 1:E:38:THR:C | 1:E:99:TYR:HE2 | 2.14 | 0.50 |
| 1:F:45:GLY:HA3 | 1:F:92:CYS:HB3 | 1.94 | 0.50 |
| 1:B:21:HIS:CE1 | 1:B:23:TYR:CE2 | 3.00 | 0.49 |
| 1:C:101:LYS:O | 1:C:104:GLN:HB2 | 2.12 | 0.49 |
| 1:D:139:VAL:HG13 | 1:D:176:VAL:HG11 | 1.93 | 0.49 |
| 1:F:60:ILE:CG2 | 1:F:61:LEU:N | 2.40 | 0.49 |
| 1:F:75:LEU:HD13 | 1:F:103:ARG:NH1 | 2.27 | 0.49 |
| 1:D:124:LEU:O | 1:D:125:GLN:C | 2.49 | 0.49 |
| 1:E:46:SER:CA | 1:E:90:THR:CG2 | 2.90 | 0.49 |
| 1:F:13:TRP:O | 1:F:15:LEU:N | 2.45 | 0.49 |
| 1:F:54:GLU:C | 1:F:56:GLY:N | 2.62 | 0.49 |
| 1:B:168:THR:OG1 | 1:B:170:GLN:HG3 | 2.12 | 0.49 |
| 1:B:78:GLU:O | 1:B:80:GLN:N | 2.36 | 0.49 |
| 1:C:40:TYR:HB2 | 1:C:70:ILE:HB | 1.93 | 0.49 |
| 1:C:33:GLY:O | 1:C:81:GLU:O | 2.29 | 0.49 |
| 1:D:14:PHE:CD2 | 1:D:112:ILE:HG21 | 2.48 | 0.49 |
| 1:F:43:VAL:CB | 1:F:93:GLU:OE2 | 2.58 | 0.49 |
| 1:A:25:SER:HB2 | 1:A:89:LYS:O | 2.13 | 0.49 |
| 1:A:82:ARG:O | 1:A:83:SER:O | 2.30 | 0.49 |
| 1:C:30:ILE:HB | 1:C:86:VAL:HB | 1.94 | 0.49 |
| 1:D:150:LEU:HA | 1:D:153:GLN:HG3 | 1.94 | 0.49 |
| 1:A:41:TYR:HD1 | 1:A:69:PHE:CE1 | 2.30 | 0.49 |
| 1:D:70:ILE:HG22 | 1:D:71:GLY:H | 1.75 | 0.49 |
| 1:F:117:SER:CB | 1:F:120:MET:CE | 2.90 | 0.49 |
| 1:F:47:VAL:HA | 1:F:89:LYS:H | 1.78 | 0.49 |
| 1:B:39:LEU:N | 1:B:99:TYR:HE2 | 2.11 | 0.49 |
| 1:B:43:VAL:O | 1:B:66:GLN:HG3 | 2.12 | 0.49 |
| 1:E:127:THR:HG22 | 1:E:128:SER:N | 1.94 | 0.49 |
| 1:E:163:MET:O | 1:E:205:VAL:N | 2.46 | 0.49 |
| 1:F:32:GLN:HB2 | 1:F:85:TRP:CE3 | 2.48 | 0.49 |
| 1:C:112:ILE:H | 1:C:112:ILE:CD1 | 2.25 | 0.49 |
| 1:D:112:ILE:CD1 | 1:D:112:ILE:N | 2.74 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:149:ASN:O | 1:E:153:GLN:HG2 | 2.13 | 0.49 |
| 1:B:120:MET:O | 1:B:123:ARG:CB | 2.58 | 0.49 |
| 1:C:10:THR:HG21 | 1:C:111:ASP:CB | 2.43 | 0.49 |
| 1:E:76:PHE:HE2 | 1:F:114:MET:HE2 | 1.78 | 0.49 |
| 1:C:8:ASP:OD1 | 1:C:115:ARG:NH2 | 2.46 | 0.49 |
| 1:A:14:PHE:HE2 | 1:A:102:PHE:HE1 | 1.59 | 0.48 |
| 1:D:150:LEU:HA | 1:D:153:GLN:HG2 | 1.95 | 0.48 |
| 1:A:60:ILE:HG23 | 1:A:61:LEU:H | 1.75 | 0.48 |
| 1:B:124:LEU:C | 1:B:126:VAL:H | 2.17 | 0.48 |
| 1:D:10:THR:HG23 | 1:D:112:ILE:CD1 | 2.44 | 0.48 |
| 1:F:126:VAL:HG13 | 1:F:192:ASP:HB3 | 1.95 | 0.48 |
| 1:F:38:THR:HG21 | 1:F:96:GLU:HB2 | 1.94 | 0.48 |
| 1:B:82:ARG:O | 1:B:83:SER:C | 2.51 | 0.48 |
| 1:E:139:VAL:HG13 | 1:E:176:VAL:HG11 | 1.96 | 0.48 |
| 1:F:19:HIS:O | 1:F:96:GLU:N | 2.45 | 0.48 |
| 1:A:8:ASP:OD2 | 1:A:115:ARG:NH1 | 2.41 | 0.48 |
| 1:C:37:GLU:HA | 1:C:99:TYR:CG | 2.47 | 0.48 |
| 1:D:51:ILE:C | 1:D:51:ILE:HD12 | 2.33 | 0.48 |
| 1:F:114:MET:HE3 | 1:F:114:MET:CA | 2.40 | 0.48 |
| 1:F:151:ALA:HA | 1:F:165:ILE:HG23 | 1.95 | 0.48 |
| 1:B:51:ILE:HG22 | 1:B:84:ALA:HB2 | 1.95 | 0.48 |
| 1:D:86:VAL:HG12 | 1:D:87:ARG:N | 2.27 | 0.48 |
| 1:F:38:THR:HA | 1:F:39:LEU:CB | 2.43 | 0.48 |
| 1:F:44:LYS:O | 1:F:92:CYS:HB2 | 2.13 | 0.48 |
| 1:B:120:MET:HA | 1:B:123:ARG:HB2 | 1.95 | 0.48 |
| 1:E:136:PHE:CE1 | 1:E:186:ILE:HD11 | 2.48 | 0.48 |
| 1:F:43:VAL:O | 1:F:44:LYS:HG3 | 2.13 | 0.48 |
| 1:A:121:ALA:HB1 | 1:B:73:LEU:HG | 1.95 | 0.48 |
| 1:F:114:MET:HE2 | 1:F:114:MET:CA | 2.43 | 0.48 |
| 1:F:28:THR:CG2 | 1:F:31:HIS:CE1 | 2.96 | 0.48 |
| 1:A:76:PHE:N | 1:A:76:PHE:CD2 | 2.80 | 0.48 |
| 1:C:75:LEU:O | 1:C:103:ARG:NH1 | 2.47 | 0.48 |
| 1:D:119:GLN:O | 1:D:121:ALA:N | 2.47 | 0.48 |
| 1:F:94:VAL:HG12 | 1:F:95:ALA:H | 1.74 | 0.48 |
| 1:A:75:LEU:CD1 | 1:A:99:TYR:CD2 | 2.96 | 0.48 |
| 1:C:80:GLN:HE21 | 1:C:81:GLU:H | 1.61 | 0.48 |
| 1:E:197:SER:HG | 1:E:204:VAL:HG11 | 1.76 | 0.48 |
| 1:F:15:LEU:O | 1:F:16:SER:C | 2.51 | 0.48 |
| 1:C:150:LEU:HD23 | 1:C:153:GLN:HG3 | 1.96 | 0.47 |
| 1:E:38:THR:CA | 1:E:39:LEU:HB3 | 2.26 | 0.47 |
| 1:A:97:ILE:CD1 | 1:A:101:LYS:HE3 | 2.42 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:29:LEU:O | 1:A:30:ILE:HD13 | 2.14 | 0.47 |
| 1:A:40:TYR:HB2 | 1:A:70:ILE:CG1 | 2.44 | 0.47 |
| 1:C:106:ILE:HD13 | 1:C:113:LEU:HD22 | 1.94 | 0.47 |
| 1:A:50:LEU:HD22 | 1:A:60:ILE:HA | 1.95 | 0.47 |
| 1:A:39:LEU:HB2 | 1:A:99:TYR:HE2 | 1.79 | 0.47 |
| 1:B:29:LEU:HD21 | 1:B:94:VAL:HG21 | 1.94 | 0.47 |
| 1:E:53:ASP:CG | 1:E:59:MET:CE | 2.83 | 0.47 |
| 1:F:13:TRP:CZ3 | 1:F:14:PHE:HB2 | 2.49 | 0.47 |
| 1:F:43:VAL:O | 1:F:44:LYS:HG2 | 2.12 | 0.47 |
| 1:A:23:TYR:O | 1:A:91:ALA:HA | 2.13 | 0.47 |
| 1:C:69:PHE:CE2 | 1:C:116:LEU:HB2 | 2.49 | 0.47 |
| 1:C:23:TYR:CD1 | 1:C:29:LEU:HD22 | 2.42 | 0.47 |
| 1:D:136:PHE:HE1 | 1:D:186:ILE:HD11 | 1.78 | 0.47 |
| 1:A:106:ILE:HG23 | 1:A:113:LEU:HD22 | 1.96 | 0.47 |
| 1:B:117:SER:O | 1:B:118:ALA:O | 2.33 | 0.47 |
| 1:C:102:PHE:O | 1:C:102:PHE:CG | 2.21 | 0.47 |
| 1:D:70:ILE:O | 1:D:71:GLY:C | 2.53 | 0.47 |
| 1:D:73:LEU:HD12 | 1:D:73:LEU:H | 1.78 | 0.47 |
| 1:F:15:LEU:O | 1:F:17:HIS:N | 2.47 | 0.47 |
| 1:F:30:ILE:CG1 | 1:F:86:VAL:CB | 2.88 | 0.47 |
| 1:A:55:GLU:HG3 | 1:A:56:GLY:O | 2.14 | 0.47 |
| 1:B:112:ILE:HG23 | 1:B:113:LEU:N | 2.29 | 0.47 |
| 1:B:82:ARG:CG | 1:B:82:ARG:HH21 | 2.28 | 0.47 |
| 1:C:72:GLU:C | 1:C:74:GLY:N | 2.67 | 0.47 |
| 1:D:38:THR:HA | 1:D:39:LEU:CB | 2.44 | 0.47 |
| 1:F:94:VAL:CG1 | 1:F:95:ALA:N | 2.76 | 0.47 |
| 1:A:81:GLU:CB | 1:A:82:ARG:HB3 | 2.41 | 0.47 |
| 1:D:11:LEU:O | 1:D:15:LEU:HG | 2.15 | 0.47 |
| 1:F:32:GLN:HB2 | 1:F:85:TRP:CZ3 | 2.49 | 0.47 |
| 1:A:78:GLU:OE2 | 1:A:78:GLU:HA | 2.15 | 0.47 |
| 1:F:39:LEU:HA | 1:F:39:LEU:HD12 | 1.46 | 0.47 |
| 1:E:117:SER:N | 1:E:120:MET:CE | 2.78 | 0.47 |
| 1:E:205:VAL:O | 1:E:206:TYR:CD2 | 2.67 | 0.47 |
| 1:F:43:VAL:HG12 | 1:F:93:GLU:OE2 | 2.15 | 0.47 |
| 1:A:102:PHE:CZ | 1:A:106:ILE:HD11 | 2.50 | 0.47 |
| 1:C:168:THR:HG22 | 1:C:201:LYS:HG3 | 1.96 | 0.47 |
| 1:D:23:TYR:O | 1:D:91:ALA:HA | 2.15 | 0.47 |
| 1:E:45:GLY:HA3 | 1:E:92:CYS:HB3 | 1.97 | 0.47 |
| 1:C:30:ILE:HB | 1:C:86:VAL:N | 2.30 | 0.47 |
| 1:D:25:SER:O | 1:D:26:LYS:HB2 | 2.15 | 0.47 |
| 1:E:136:PHE:HE1 | 1:E:186:ILE:HD11 | 1.80 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:189:MET:HG3 | 1:F:193:GLN:HE21 | 1.80 | 0.47 |
| 1:A:97:ILE:HD11 | 1:A:101:LYS:HG2 | 1.97 | 0.46 |
| 1:D:13:TRP:HZ3 | 1:D:112:ILE:HD13 | 1.81 | 0.46 |
| 1:F:28:THR:HG21 | 1:F:31:HIS:CE1 | 2.50 | 0.46 |
| 1:A:30:ILE:HD12 | 1:A:40:TYR:OH | 2.15 | 0.46 |
| 1:B:69:PHE:CD2 | 1:B:69:PHE:N | 2.83 | 0.46 |
| 1:B:36:ALA:HB1 | 1:B:82:ARG:HH12 | 1.80 | 0.46 |
| 1:C:37:GLU:CG | 1:C:38:THR:N | 2.78 | 0.46 |
| 1:C:37:GLU:O | 1:C:38:THR:OG1 | 2.29 | 0.46 |
| 1:F:117:SER:HB3 | 1:F:120:MET:HE2 | 1.98 | 0.46 |
| 1:F:124:LEU:O | 1:F:126:VAL:CA | 2.60 | 0.46 |
| 1:C:111:ASP:O | 1:C:114:MET:HB2 | 2.16 | 0.46 |
| 1:E:114:MET:HE3 | 1:E:114:MET:HA | 1.97 | 0.46 |
| 1:E:124:LEU:HD22 | 1:E:127:THR:HG21 | 1.97 | 0.46 |
| 1:B:122:ARG:O | 1:B:126:VAL:CG2 | 2.59 | 0.46 |
| 1:C:40:TYR:C | 1:C:70:ILE:HD12 | 2.36 | 0.46 |
| 1:D:99:TYR:O | 1:D:103:ARG:HG3 | 2.16 | 0.46 |
| 1:A:13:TRP:O | 1:A:15:LEU:N | 2.48 | 0.46 |
| 1:A:170:GLN:HB3 | 1:A:180:ARG:HH21 | 1.79 | 0.46 |
| 1:C:20:ILE:H | 1:C:20:ILE:CD1 | 2.28 | 0.46 |
| 1:E:162:GLY:CA | 1:E:207:GLY:N | 2.69 | 0.46 |
| 1:E:36:ALA:C | 1:E:37:GLU:HG3 | 2.36 | 0.46 |
| 1:B:119:GLN:CG | 1:B:120:MET:H | 2.06 | 0.46 |
| 1:B:64:LEU:HD13 | 1:B:70:ILE:CD1 | 2.45 | 0.46 |
| 1:E:126:VAL:CG1 | 1:E:127:THR:N | 2.37 | 0.46 |
| 1:E:122:ARG:HA | 1:E:125:GLN:HB2 | 1.97 | 0.46 |
| 1:A:76:PHE:HE1 | 1:B:114:MET:HE1 | 1.80 | 0.46 |
| 1:B:165:ILE:HD12 | 1:B:165:ILE:C | 2.36 | 0.46 |
| 1:C:67:GLY:O | 1:C:119:GLN:OE1 | 2.34 | 0.46 |
| 1:F:70:ILE:HA | 1:F:71:GLY:O | 2.15 | 0.46 |
| 1:A:102:PHE:O | 1:A:106:ILE:HG12 | 2.16 | 0.46 |
| 1:E:150:LEU:C | 1:E:153:GLN:HG2 | 2.35 | 0.46 |
| 1:E:42:ILE:CD1 | 1:E:68:ASP:HB2 | 2.38 | 0.46 |
| 1:F:97:ILE:CD1 | 1:F:101:LYS:HE3 | 2.44 | 0.46 |
| 1:A:175:ILE:N | 1:A:175:ILE:HD12 | 2.31 | 0.45 |
| 1:A:76:PHE:CE1 | 1:B:114:MET:HE1 | 2.51 | 0.45 |
| 1:B:142:ARG:HD2 | 1:B:176:VAL:HG13 | 1.98 | 0.45 |
| 1:C:7:THR:O | 1:C:9:PRO:HD3 | 2.16 | 0.45 |
| 1:D:64:LEU:HD13 | 1:D:70:ILE:HG12 | 1.98 | 0.45 |
| 1:D:30:ILE:CG2 | 1:D:82:ARG:HD2 | 2.46 | 0.45 |
| 1:B:106:ILE:HD13 | 1:B:113:LEU:HD22 | 1.98 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:39:LEU:HD21 | 1:B:102:PHE:CG | 2.51 | 0.45 |
| 1:B:82:ARG:HH21 | 1:B:82:ARG:HG3 | 1.81 | 0.45 |
| 1:E:38:THR:N | 1:E:99:TYR:HD2 | 2.04 | 0.45 |
| 1:F:126:VAL:CG1 | 1:F:193:GLN:NE2 | 2.69 | 0.45 |
| 1:F:195:LEU:N | 1:F:206:TYR:CE1 | 2.84 | 0.45 |
| 1:A:80:GLN:O | 1:A:82:ARG:HA | 2.17 | 0.45 |
| 1:C:14:PHE:CD1 | 1:C:15:LEU:HD21 | 2.47 | 0.45 |
| 1:C:39:LEU:HD13 | 1:C:99:TYR:CE2 | 2.51 | 0.45 |
| 1:A:44:LYS:O | 1:A:92:CYS:HB2 | 2.16 | 0.45 |
| 1:B:196:ILE:HD12 | 1:B:197:SER:N | 2.31 | 0.45 |
| 1:B:40:TYR:O | 1:B:70:ILE:N | 2.49 | 0.45 |
| 1:F:164:GLN:CG | 1:F:202:THR:HG23 | 2.46 | 0.45 |
| 1:A:8:ASP:CG | 1:A:11:LEU:HB2 | 2.37 | 0.45 |
| 1:C:39:LEU:HA | 1:C:39:LEU:HD12 | 1.30 | 0.45 |
| 1:D:122:ARG:NH2 | 1:D:122:ARG:CG | 2.40 | 0.45 |
| 1:D:82:ARG:O | 1:D:83:SER:C | 2.55 | 0.45 |
| 1:E:12:GLU:OE1 | 1:E:12:GLU:HA | 2.17 | 0.45 |
| 1:E:73:LEU:HD23 | 1:F:125:GLN:HG3 | 1.98 | 0.45 |
| 1:C:16:SER:OG | 1:C:16:SER:O | 2.28 | 0.45 |
| 1:C:170:GLN:HB3 | 1:C:180:ARG:HH21 | 1.81 | 0.45 |
| 1:C:139:VAL:HG13 | 1:C:176:VAL:HG11 | 1.99 | 0.45 |
| 1:C:18:CYS:HB3 | 1:C:97:ILE:HB | 1.98 | 0.45 |
| 1:E:51:ILE:HD11 | 1:E:59:MET:HB3 | 1.93 | 0.45 |
| 1:B:10:THR:HG21 | 1:B:111:ASP:HB3 | 1.98 | 0.45 |
| 1:A:128:SER:O | 1:B:61:LEU:HD22 | 2.17 | 0.45 |
| 1:B:64:LEU:CD1 | 1:B:70:ILE:HD11 | 2.22 | 0.45 |
| 1:C:69:PHE:CD2 | 1:C:116:LEU:CB | 3.00 | 0.45 |
| 1:D:50:LEU:HD11 | 1:D:60:ILE:HG12 | 1.99 | 0.45 |
| 1:E:38:THR:O | 1:E:82:ARG:NH1 | 2.48 | 0.45 |
| 1:F:97:ILE:HD11 | 1:F:101:LYS:CE | 2.44 | 0.45 |
| 1:F:117:SER:CB | 1:F:120:MET:HE1 | 2.46 | 0.45 |
| 1:F:18:CYS:HB3 | 1:F:97:ILE:HB | 1.99 | 0.45 |
| 1:A:143:ILE:HD12 | 1:A:186:ILE:HD12 | 1.99 | 0.45 |
| 1:B:25:SER:O | 1:B:26:LYS:HB2 | 2.17 | 0.45 |
| 1:E:181:GLU:HG2 | 1:F:54:GLU:OE1 | 2.17 | 0.45 |
| 1:B:97:ILE:O | 1:B:98:SER:C | 2.54 | 0.45 |
| 1:E:10:THR:HG22 | 1:E:112:ILE:HG12 | 1.98 | 0.45 |
| 1:D:70:ILE:C | 1:D:72:GLU:N | 2.70 | 0.45 |
| 1:F:139:VAL:HG13 | 1:F:176:VAL:HG11 | 1.98 | 0.45 |
| 1:A:15:LEU:HD11 | 1:A:20:ILE:CD1 | 2.46 | 0.44 |
| 1:C:69:PHE:O | 1:C:72:GLU:OE1 | 2.35 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:127:THR:HG23 | 1:E:128:SER:CA | 2.40 | 0.44 |
| 1:E:14:PHE:CZ | 1:E:97:ILE:HG21 | 2.52 | 0.44 |
| 1:E:31:HIS:CD2 | 1:E:34:GLU:OE1 | 2.65 | 0.44 |
| 1:F:123:ARG:O | 1:F:124:LEU:HD22 | 2.14 | 0.44 |
| 1:B:78:GLU:C | 1:B:80:GLN:H | 2.19 | 0.44 |
| 1:C:69:PHE:HB2 | 1:C:119:GLN:HE22 | 1.82 | 0.44 |
| 1:E:123:ARG:O | 1:E:126:VAL:N | 2.49 | 0.44 |
| 1:A:35:LYS:CA | 1:A:81:GLU:HB2 | 2.34 | 0.44 |
| 1:C:51:ILE:C | 1:C:51:ILE:HD12 | 2.37 | 0.44 |
| 1:D:119:GLN:O | 1:D:122:ARG:N | 2.50 | 0.44 |
| 1:F:164:GLN:OE1 | 1:F:202:THR:CG2 | 2.61 | 0.44 |
| 1:A:126:VAL:HG13 | 1:A:193:GLN:HE22 | 1.81 | 0.44 |
| 1:F:165:ILE:HD12 | 1:F:165:ILE:C | 2.38 | 0.44 |
| 1:F:21:HIS:O | 1:F:93:GLU:CA | 2.64 | 0.44 |
| 1:E:36:ALA:O | 1:E:37:GLU:HG3 | 2.16 | 0.44 |
| 1:F:164:GLN:HG2 | 1:F:202:THR:HG23 | 1.99 | 0.44 |
| 1:A:8:ASP:OD1 | 1:A:11:LEU:CB | 2.65 | 0.44 |
| 1:B:10:THR:O | 1:B:11:LEU:C | 2.56 | 0.44 |
| 1:E:117:SER:N | 1:E:120:MET:HE2 | 2.32 | 0.44 |
| 1:A:39:LEU:HA | 1:A:39:LEU:HD12 | 1.71 | 0.44 |
| 1:C:41:TYR:CG | 1:C:69:PHE:CE1 | 2.82 | 0.44 |
| 1:E:124:LEU:HD23 | 1:E:127:THR:HG21 | 1.99 | 0.44 |
| 1:E:164:GLN:HG3 | 1:E:204:VAL:CB | 2.43 | 0.44 |
| 1:F:13:TRP:CE3 | 1:F:14:PHE:HB2 | 2.52 | 0.44 |
| 1:F:19:HIS:O | 1:F:95:ALA:CA | 2.60 | 0.44 |
| 1:A:15:LEU:HD11 | 1:A:20:ILE:HD11 | 2.00 | 0.43 |
| 1:B:51:ILE:CG2 | 1:B:84:ALA:CB | 2.95 | 0.43 |
| 1:D:38:THR:HB | 1:D:40:TYR:CE2 | 2.53 | 0.43 |
| 1:E:186:ILE:N | 1:E:186:ILE:CD1 | 2.81 | 0.43 |
| 1:F:53:ASP:C | 1:F:53:ASP:OD2 | 2.56 | 0.43 |
| 1:A:40:TYR:HB3 | 1:A:94:VAL:CG1 | 2.48 | 0.43 |
| 1:C:14:PHE:HE2 | 1:C:112:ILE:HG21 | 1.77 | 0.43 |
| 1:C:37:GLU:HG3 | 1:C:38:THR:N | 2.30 | 0.43 |
| 1:A:34:GLU:HB2 | 1:A:82:ARG:HG2 | 1.99 | 0.43 |
| 1:B:32:GLN:HG3 | 1:B:32:GLN:O | 2.15 | 0.43 |
| 1:B:64:LEU:HD13 | 1:B:70:ILE:HD12 | 1.99 | 0.43 |
| 1:C:117:SER:HA | 1:C:120:MET:HE2 | 1.99 | 0.43 |
| 1:C:69:PHE:CD2 | 1:C:116:LEU:CA | 3.00 | 0.43 |
| 1:C:72:GLU:O | 1:C:73:LEU:C | 2.56 | 0.43 |
| 1:C:85:TRP:H | 1:C:85:TRP:HE3 | 1.67 | 0.43 |
| 1:E:127:THR:HA | 1:E:130:LYS:HE2 | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:150:LEU:O | 1:E:153:GLN:CG | 2.66 | 0.43 |
| 1:F:124:LEU:O | 1:F:126:VAL:C | 2.56 | 0.43 |
| 1:F:195:LEU:C | 1:F:206:TYR:CD1 | 2.91 | 0.43 |
| 1:C:14:PHE:CB | 1:C:15:LEU:CD2 | 2.73 | 0.43 |
| 1:C:8:ASP:HA | 1:C:9:PRO:HD3 | 1.77 | 0.43 |
| 1:E:14:PHE:HB2 | 1:E:112:ILE:CD1 | 2.48 | 0.43 |
| 1:F:41:TYR:CD2 | 1:F:69:PHE:CD1 | 3.06 | 0.43 |
| 1:A:50:LEU:HD21 | 1:A:60:ILE:CG1 | 2.40 | 0.43 |
| 1:C:18:CYS:SG | 1:C:97:ILE:HB | 2.59 | 0.43 |
| 1:C:23:TYR:CE1 | 1:C:29:LEU:HD22 | 2.53 | 0.43 |
| 1:C:80:GLN:NE2 | 1:C:81:GLU:H | 2.15 | 0.43 |
| 1:B:21:HIS:ND1 | 1:B:23:TYR:CZ | 2.85 | 0.43 |
| 1:E:75:LEU:HA | 1:E:99:TYR:HD1 | 1.74 | 0.43 |
| 1:A:30:ILE:HD13 | 1:A:30:ILE:N | 2.34 | 0.43 |
| 1:C:83:SER:O | 1:C:84:ALA:HB2 | 2.14 | 0.43 |
| 1:F:39:LEU:HA | 1:F:71:GLY:HA2 | 2.01 | 0.43 |
| 1:F:82:ARG:O | 1:F:83:SER:C | 2.57 | 0.43 |
| 1:D:163:MET:O | 1:D:205:VAL:N | 2.47 | 0.43 |
| 1:F:118:ALA:O | 1:F:122:ARG:HB3 | 2.18 | 0.43 |
| 1:A:14:PHE:HB2 | 1:A:112:ILE:HG12 | 1.99 | 0.43 |
| 1:B:136:PHE:CE1 | 1:B:186:ILE:HD11 | 2.54 | 0.43 |
| 1:C:42:ILE:HD12 | 1:C:68:ASP:O | 2.18 | 0.43 |
| 1:E:106:ILE:HD13 | 1:E:113:LEU:HD22 | 1.99 | 0.43 |
| 1:E:97:ILE:HD11 | 1:E:101:LYS:HG2 | 2.01 | 0.43 |
| 1:F:117:SER:CB | 1:F:120:MET:HE2 | 2.49 | 0.43 |
| 1:F:165:ILE:CD1 | 1:F:203:ILE:HB | 2.49 | 0.43 |
| 1:A:80:GLN:OE1 | 1:B:125:GLN:NE2 | 2.46 | 0.43 |
| 1:D:39:LEU:HD12 | 1:D:39:LEU:HA | 1.74 | 0.43 |
| 1:D:69:PHE:HB2 | 1:D:119:GLN:OE1 | 2.19 | 0.43 |
| 1:D:33:GLY:C | 1:D:81:GLU:HG3 | 2.39 | 0.43 |
| 1:E:10:THR:CG2 | 1:E:112:ILE:HG12 | 2.48 | 0.43 |
| 1:E:37:GLU:O | 1:E:38:THR:OG1 | 2.29 | 0.43 |
| 1:F:11:LEU:O | 1:F:15:LEU:HG | 2.19 | 0.43 |
| 1:F:43:VAL:O | 1:F:43:VAL:HG12 | 2.18 | 0.43 |
| 1:A:165:ILE:HD12 | 1:A:205:VAL:HG23 | 2.00 | 0.42 |
| 1:B:38:THR:CA | 1:B:99:TYR:HE2 | 2.26 | 0.42 |
| 1:D:47:VAL:HG22 | 1:D:64:LEU:HB2 | 2.01 | 0.42 |
| 1:E:123:ARG:HB3 | 1:E:124:LEU:H | 1.67 | 0.42 |
| 1:E:28:THR:HA | 1:E:87:ARG:HA | 2.01 | 0.42 |
| 1:E:44:LYS:HG2 | 1:E:45:GLY:N | 2.34 | 0.42 |
| 1:A:143:ILE:HD12 | 1:A:186:ILE:CD1 | 2.50 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:35:LYS:HA | 1:A:81:GLU:HB2 | 1.91 | 0.42 |
| 1:B:69:PHE:HD2 | 1:B:69:PHE:N | 2.17 | 0.42 |
| 1:B:77:GLU:O | 1:B:78:GLU:C | 2.58 | 0.42 |
| 1:D:186:ILE:N | 1:D:186:ILE:CD1 | 2.81 | 0.42 |
| 1:E:109:ASN:HA | 1:E:110:PRO:HD2 | 1.92 | 0.42 |
| 1:E:14:PHE:HB2 | 1:E:112:ILE:HD13 | 2.01 | 0.42 |
| 1:F:14:PHE:HD1 | 1:F:14:PHE:C | 2.12 | 0.42 |
| 1:A:127:THR:HA | 1:A:130:LYS:HE2 | 2.02 | 0.42 |
| 1:A:56:GLY:O | 1:A:57:LYS:HB2 | 2.15 | 0.42 |
| 1:B:51:ILE:CD1 | 1:B:61:LEU:HD21 | 2.50 | 0.42 |
| 1:C:159:HIS:CG | 1:C:160:PRO:HD2 | 2.54 | 0.42 |
| 1:C:51:ILE:HD12 | 1:C:59:MET:HB3 | 2.00 | 0.42 |
| 1:E:39:LEU:HD12 | 1:E:39:LEU:HA | 1.74 | 0.42 |
| 1:B:85:TRP:CE3 | 1:B:85:TRP:N | 2.80 | 0.42 |
| 1:C:36:ALA:O | 1:C:37:GLU:CB | 2.66 | 0.42 |
| 1:C:78:GLU:HG3 | 1:C:78:GLU:H | 1.56 | 0.42 |
| 1:F:40:TYR:CD2 | 1:F:40:TYR:N | 2.87 | 0.42 |
| 1:F:39:LEU:HA | 1:F:71:GLY:CA | 2.49 | 0.42 |
| 1:A:10:THR:CG2 | 1:A:111:ASP:HB3 | 2.49 | 0.42 |
| 1:B:124:LEU:C | 1:B:126:VAL:N | 2.71 | 0.42 |
| 1:D:13:TRP:HZ3 | 1:D:112:ILE:CD1 | 2.30 | 0.42 |
| 1:D:124:LEU:O | 1:D:126:VAL:N | 2.52 | 0.42 |
| 1:F:42:ILE:CG2 | 1:F:66:GLN:HA | 2.49 | 0.42 |
| 1:B:17:HIS:O | 1:B:101:LYS:NZ | 2.52 | 0.42 |
| 1:B:38:THR:N | 1:B:99:TYR:CD2 | 2.87 | 0.42 |
| 1:C:143:ILE:HD12 | 1:C:186:ILE:CD1 | 2.50 | 0.42 |
| 1:D:69:PHE:CD2 | 1:D:119:GLN:OE1 | 2.72 | 0.42 |
| 1:F:116:LEU:CD2 | 1:F:117:SER:N | 2.79 | 0.42 |
| 1:F:50:LEU:HB2 | 1:F:85:TRP:CD1 | 2.55 | 0.42 |
| 1:F:83:SER:HB2 | 1:F:84:ALA:H | 1.62 | 0.42 |
| 1:C:109:ASN:O | 1:C:111:ASP:N | 2.52 | 0.42 |
| 1:C:128:SER:C | 1:C:130:LYS:H | 2.22 | 0.42 |
| 1:C:14:PHE:CE2 | 1:C:112:ILE:CG2 | 2.95 | 0.42 |
| 1:E:39:LEU:HD21 | 1:E:102:PHE:CD1 | 2.55 | 0.42 |
| 1:E:14:PHE:CD2 | 1:E:105:LEU:HD13 | 2.25 | 0.42 |
| 1:B:119:GLN:O | 1:B:121:ALA:N | 2.52 | 0.42 |
| 1:B:36:ALA:HB2 | 1:B:82:ARG:CZ | 2.47 | 0.42 |
| 1:E:76:PHE:CD1 | 1:E:76:PHE:N | 2.87 | 0.42 |
| 1:A:14:PHE:CE2 | 1:A:102:PHE:HE1 | 2.37 | 0.42 |
| 1:A:159:HIS:CG | 1:A:160:PRO:HD2 | 2.55 | 0.42 |
| 1:B:69:PHE:CE1 | 1:B:116:LEU:HB2 | 2.54 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:36:ALA:O | 1:B:37:GLU:HG3 | 2.20 | 0.42 |
| 1:C:18:CYS:CB | 1:C:97:ILE:HB | 2.50 | 0.42 |
| 1:D:37:GLU:CA | 1:D:99:TYR:CD1 | 2.99 | 0.42 |
| 1:E:38:THR:CA | 1:E:99:TYR:HD2 | 2.31 | 0.42 |
| 1:E:14:PHE:HZ | 1:E:97:ILE:HG21 | 1.85 | 0.42 |
| 1:F:70:ILE:HA | 1:F:71:GLY:C | 2.39 | 0.42 |
| 1:A:14:PHE:HD1 | 1:A:14:PHE:O | 2.02 | 0.42 |
| 1:A:69:PHE:CE2 | 1:A:116:LEU:HA | 2.54 | 0.42 |
| 1:B:168:THR:OG1 | 1:B:171:GLU:HG3 | 2.20 | 0.42 |
| 1:C:23:TYR:CE1 | 1:C:29:LEU:CD2 | 3.00 | 0.42 |
| 1:D:159:HIS:CG | 1:D:160:PRO:HD2 | 2.55 | 0.42 |
| 1:F:50:LEU:O | 1:F:84:ALA:HB1 | 2.15 | 0.42 |
| 1:B:120:MET:C | 1:B:123:ARG:HB2 | 2.41 | 0.41 |
| 1:B:157:MET:HB2 | 1:B:164:GLN:HB3 | 2.02 | 0.41 |
| 1:B:21:HIS:CE1 | 1:B:23:TYR:CZ | 3.07 | 0.41 |
| 1:C:101:LYS:C | 1:C:103:ARG:H | 2.19 | 0.41 |
| 1:C:150:LEU:CA | 1:C:153:GLN:HG2 | 2.44 | 0.41 |
| 1:E:51:ILE:CG2 | 1:E:84:ALA:O | 2.68 | 0.41 |
| 1:E:134:LEU:CG | 1:F:195:LEU:CB | 2.98 | 0.41 |
| 1:A:76:PHE:O | 1:A:77:GLU:CB | 2.62 | 0.41 |
| 1:E:17:HIS:CD2 | 1:E:105:LEU:CD2 | 2.82 | 0.41 |
| 1:A:165:ILE:N | 1:A:165:ILE:HD13 | 2.33 | 0.41 |
| 1:B:36:ALA:C | 1:B:37:GLU:HG3 | 2.40 | 0.41 |
| 1:C:41:TYR:CG | 1:C:69:PHE:CD1 | 3.04 | 0.41 |
| 1:D:157:MET:HB2 | 1:D:164:GLN:HB3 | 2.01 | 0.41 |
| 1:E:31:HIS:HB2 | 1:E:34:GLU:HG3 | 2.02 | 0.41 |
| 1:E:53:ASP:CG | 1:E:59:MET:HE1 | 2.40 | 0.41 |
| 1:F:15:LEU:HD23 | 1:F:15:LEU:HA | 1.91 | 0.41 |
| 1:F:26:LYS:N | 1:F:88:ALA:O | 2.30 | 0.41 |
| 1:C:102:PHE:CE2 | 1:C:106:ILE:HD11 | 2.55 | 0.41 |
| 1:C:14:PHE:O | 1:C:17:HIS:N | 2.54 | 0.41 |
| 1:D:86:VAL:CG1 | 1:D:87:ARG:N | 2.84 | 0.41 |
| 1:F:106:ILE:O | 1:F:110:PRO:HG3 | 2.20 | 0.41 |
| 1:F:195:LEU:N | 1:F:206:TYR:HE1 | 2.12 | 0.41 |
| 1:F:54:GLU:O | 1:F:55:GLU:HB3 | 2.20 | 0.41 |
| 1:A:23:TYR:CE1 | 1:A:29:LEU:HG | 2.56 | 0.41 |
| 1:B:51:ILE:CD1 | 1:B:61:LEU:CD2 | 2.98 | 0.41 |
| 1:C:167:ILE:HD13 | 1:C:172:ILE:HD11 | 2.03 | 0.41 |
| 1:F:124:LEU:HD23 | 1:F:124:LEU:N | 2.31 | 0.41 |
| 1:F:46:SER:HB3 | 1:F:65:ASN:HA | 2.03 | 0.41 |
| 1:B:71:GLY:C | 1:B:72:GLU:O | 2.54 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:109:ASN:C | 1:C:111:ASP:H | 2.24 | 0.41 |
| 1:C:37:GLU:C | 1:C:38:THR:O | 2.58 | 0.41 |
| 1:C:43:VAL:C | 1:C:44:LYS:HG3 | 2.39 | 0.41 |
| 1:E:8:ASP:HA | 1:E:9:PRO:HD2 | 1.89 | 0.41 |
| 1:F:32:GLN:CG | 1:F:83:SER:HA | 2.36 | 0.41 |
| 1:E:28:THR:HG22 | 1:E:29:LEU:N | 2.36 | 0.41 |
| 1:F:13:TRP:O | 1:F:14:PHE:C | 2.58 | 0.41 |
| 1:B:114:MET:HE3 | 1:B:114:MET:HA | 2.03 | 0.41 |
| 1:B:139:VAL:HG13 | 1:B:176:VAL:HG11 | 2.03 | 0.41 |
| 1:B:167:ILE:HD13 | 1:B:172:ILE:HD11 | 2.03 | 0.41 |
| 1:B:32:GLN:HG2 | 1:B:32:GLN:O | 2.20 | 0.41 |
| 1:B:70:ILE:HD12 | 1:B:70:ILE:HA | 1.75 | 0.41 |
| 1:C:167:ILE:CD1 | 1:C:172:ILE:HD13 | 2.51 | 0.41 |
| 1:C:74:GLY:C | 1:C:99:TYR:HE1 | 2.24 | 0.41 |
| 1:E:77:GLU:OE1 | 1:E:80:GLN:OE1 | 2.39 | 0.41 |
| 1:B:38:THR:HA | 1:B:99:TYR:CD2 | 2.55 | 0.41 |
| 1:D:10:THR:HG23 | 1:D:112:ILE:HD12 | 2.03 | 0.41 |
| 1:D:33:GLY:HA2 | 1:D:81:GLU:CG | 2.50 | 0.41 |
| 1:E:164:GLN:HA | 1:E:204:VAL:HG23 | 1.99 | 0.41 |
| 1:B:82:ARG:CG | 1:B:82:ARG:NH2 | 2.82 | 0.41 |
| 1:C:30:ILE:HG22 | 1:C:31:HIS:H | 1.49 | 0.41 |
| 1:D:8:ASP:HA | 1:D:9:PRO:HD2 | 1.73 | 0.41 |
| 1:E:38:THR:HG22 | 1:E:97:ILE:O | 2.20 | 0.41 |
| 1:F:115:ARG:O | 1:F:115:ARG:HG2 | 2.20 | 0.41 |
| 1:A:40:TYR:CD2 | 1:A:40:TYR:N | 2.89 | 0.41 |
| 1:B:168:THR:HG1 | 1:B:170:GLN:HG3 | 1.85 | 0.41 |
| 1:B:31:HIS:CD2 | 1:B:34:GLU:OE1 | 2.74 | 0.41 |
| 1:C:35:LYS:O | 1:C:36:ALA:C | 2.45 | 0.41 |
| 1:D:11:LEU:HD23 | 1:D:11:LEU:HA | 1.83 | 0.41 |
| 1:D:30:ILE:HD12 | 1:D:86:VAL:CG2 | 2.51 | 0.41 |
| 1:F:38:THR:HA | 1:F:39:LEU:HB3 | 2.02 | 0.41 |
| 1:F:65:ASN:CG | 1:F:66:GLN:N | 2.75 | 0.41 |
| 1:F:41:TYR:CB | 1:F:69:PHE:CE1 | 3.03 | 0.41 |
| 1:C:47:VAL:HG12 | 1:C:88:ALA:HA | 2.03 | 0.40 |
| 1:D:82:ARG:O | 1:D:84:ALA:N | 2.53 | 0.40 |
| 1:E:14:PHE:O | 1:E:17:HIS:CB | 2.53 | 0.40 |
| 1:E:46:SER:CB | 1:E:90:THR:CG2 | 2.99 | 0.40 |
| 1:F:11:LEU:HD22 | 1:F:15:LEU:HG | 2.03 | 0.40 |
| 1:F:127:THR:HA | 1:F:130:LYS:HE2 | 2.03 | 0.40 |
| 1:F:38:THR:O | 1:F:82:ARG:NH1 | 2.33 | 0.40 |
| 1:C:143:ILE:HD12 | 1:C:186:ILE:HD12 | 2.03 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:32:GLN:C | 1:C:34:GLU:H | 2.24 | 0.40 |
| 1:E:205:VAL:HG12 | 1:E:206:TYR:C | 2.41 | 0.40 |
| 1:F:46:SER:HB2 | 1:F:64:LEU:O | 2.21 | 0.40 |
| 1:A:87:ARG:HG2 | 1:A:88:ALA:N | 2.36 | 0.40 |
| 1:F:119:GLN:O | 1:F:123:ARG:HD3 | 2.21 | 0.40 |
| 1:F:195:LEU:CA | 1:F:206:TYR:CE1 | 3.05 | 0.40 |
| 1:B:60:ILE:HD13 | 1:B:63:TYR:OH | 2.21 | 0.40 |
| 1:C:112:ILE:N | 1:C:112:ILE:CD1 | 2.85 | 0.40 |
| 1:C:21:HIS:CB | 1:C:23:TYR:CZ | 3.05 | 0.40 |
| 1:D:10:THR:CG2 | 1:D:112:ILE:HD12 | 2.51 | 0.40 |
| 1:D:41:TYR:OH | 1:D:67:GLY:HA2 | 2.21 | 0.40 |
| 1:F:13:TRP:CD2 | 1:F:14:PHE:N | 2.88 | 0.40 |
| 1:F:47:VAL:CG2 | 1:F:64:LEU:HB2 | 2.52 | 0.40 |
| 1:F:74:GLY:HA3 | 1:F:99:TYR:CE1 | 2.57 | 0.40 |
| 1:C:51:ILE:HD11 | 1:C:59:MET:SD | 2.62 | 0.40 |
| 1:F:142:ARG:HD2 | 1:F:176:VAL:HG13 | 2.04 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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 | 195/210 (93%) | 163 (84%) | 21 (11%) | 11 (6%) | 2 | 19 |
| 1 | B | 195/210 (93%) | 164 (84%) | 18 (9%) | 13 (7%) | 1 | 15 |
| 1 | C | 195/210 (93%) | 154 (79%) | 29 (15%) | 12 (6%) | 1 | 17 |
| 1 | D | 195/210 (93%) | 173 (89%) | 18 (9%) | 4 (2%) | 7 | 40 |
| 1 | E | 195/210 (93%) | 159 (82%) | 25 (13%) | 11 (6%) | 2 | 19 |
| 1 | F | 195/210 (93%) | 149 (76%) | 32 (16%) | 14 (7%) | 1 | 13 |
| All | All | 1170/1260 (93%) | 962 (82%) | 143 (12%) | 65 (6%) | 2 | 19 |

All (65) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 14 | PHE |
| 1 | A | 15 | LEU |
| 1 | A | 35 | LYS |
| 1 | A | 57 | LYS |
| 1 | A | 82 | ARG |
| 1 | A | 83 | SER |
| 1 | A | 84 | ALA |
| 1 | B | 110 | PRO |
| 1 | B | 118 | ALA |
| 1 | B | 119 | GLN |
| 1 | B | 128 | SER |
| 1 | C | 17 | HIS |
| 1 | C | 34 | GLU |
| 1 | C | 36 | ALA |
| 1 | C | 38 | THR |
| 1 | C | 84 | ALA |
| 1 | D | 84 | ALA |
| 1 | E | 16 | SER |
| 1 | E | 84 | ALA |
| 1 | E | 205 | VAL |
| 1 | F | 70 | ILE |
| 1 | F | 75 | LEU |
| 1 | F | 83 | SER |
| 1 | F | 85 | TRP |
| 1 | F | 125 | GLN |
| 1 | A | 18 | CYS |
| 1 | A | 71 | GLY |
| 1 | B | 78 | GLU |
| 1 | B | 80 | GLN |
| 1 | B | 83 | SER |
| 1 | B | 84 | ALA |
| 1 | B | 120 | MET |
| 1 | C | 11 | LEU |
| 1 | C | 15 | LEU |
| 1 | C | 55 | GLU |
| 1 | C | 71 | GLY |
| 1 | C | 73 | LEU |
| 1 | D | 71 | GLY |
| 1 | E | 39 | LEU |
| 1 | E | 57 | LYS |
| 1 | E | 79 | GLY |
| 1 | F | 76 | PHE |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 39 | LEU |
| 1 | E | 78 | GLU |
| 1 | E | 91 | ALA |
| 1 | E | 122 | ARG |
| 1 | F | 14 | PHE |
| 1 | F | 16 | SER |
| 1 | F | 39 | LEU |
| 1 | F | 61 | LEU |
| 1 | C | 40 | TYR |
| 1 | C | 110 | PRO |
| 1 | D | 83 | SER |
| 1 | F | 72 | GLU |
| 1 | F | 78 | GLU |
| 1 | F | 126 | VAL |
| 1 | A | 55 | GLU |
| 1 | B | 115 | ARG |
| 1 | D | 125 | GLN |
| 1 | E | 38 | THR |
| 1 | F | 51 | ILE |
| 1 | B | 32 | GLN |
| 1 | B | 39 | LEU |
| 1 | B | 79 | GLY |
| 1 | E | 110 | PRO |

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 | 172/181 (95%) | 157 (91%) | 15 (9%) | 10 41 |
| 1 | B | 172/181 (95%) | 156 (91%) | 16 (9%) | 9 38 |
| 1 | C | 172/181 (95%) | 159 (92%) | 13 (8%) | 13 45 |
| 1 | D | 172/181 (95%) | 164 (95%) | 8 (5%) | 26 61 |
| 1 | E | 172/181 (95%) | 163 (95%) | 9 (5%) | 23 58 |
| 1 | F | 172/181 (95%) | 155 (90%) | 17 (10%) | 8 35 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|-----|-------|-----------------|-----------|----------|-------------|
| All | All | 1032/1086 (95%) | 954 (92%) | 78 (8%) | 13 45 |

All (78) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 11 | LEU |
| 1 | A | 12 | GLU |
| 1 | A | 15 | LEU |
| 1 | A | 26 | LYS |
| 1 | A | 38 | THR |
| 1 | A | 57 | LYS |
| 1 | A | 61 | LEU |
| 1 | A | 76 | PHE |
| 1 | A | 77 | GLU |
| 1 | A | 80 | GLN |
| 1 | A | 81 | GLU |
| 1 | A | 82 | ARG |
| 1 | A | 83 | SER |
| 1 | A | 85 | TRP |
| 1 | A | 165 | ILE |
| 1 | B | 11 | LEU |
| 1 | B | 26 | LYS |
| 1 | B | 32 | GLN |
| 1 | B | 38 | THR |
| 1 | B | 51 | ILE |
| 1 | B | 70 | ILE |
| 1 | B | 72 | GLU |
| 1 | B | 73 | LEU |
| 1 | B | 78 | GLU |
| 1 | B | 80 | GLN |
| 1 | B | 82 | ARG |
| 1 | B | 85 | TRP |
| 1 | B | 114 | MET |
| 1 | B | 116 | LEU |
| 1 | B | 122 | ARG |
| 1 | B | 199 | HIS |
| 1 | C | 11 | LEU |
| 1 | C | 15 | LEU |
| 1 | C | 17 | HIS |
| 1 | C | 26 | LYS |
| 1 | C | 41 | TYR |
| 1 | C | 72 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | C | 77 | GLU |
| 1 | C | 80 | GLN |
| 1 | C | 81 | GLU |
| 1 | C | 82 | ARG |
| 1 | C | 98 | SER |
| 1 | C | 103 | ARG |
| 1 | C | 114 | MET |
| 1 | D | 11 | LEU |
| 1 | D | 26 | LYS |
| 1 | D | 32 | GLN |
| 1 | D | 38 | THR |
| 1 | D | 81 | GLU |
| 1 | D | 114 | MET |
| 1 | D | 115 | ARG |
| 1 | D | 122 | ARG |
| 1 | E | 15 | LEU |
| 1 | E | 20 | ILE |
| 1 | E | 26 | LYS |
| 1 | E | 27 | SER |
| 1 | E | 76 | PHE |
| 1 | E | 86 | VAL |
| 1 | E | 90 | THR |
| 1 | E | 114 | MET |
| 1 | E | 119 | GLN |
| 1 | F | 11 | LEU |
| 1 | F | 14 | PHE |
| 1 | F | 17 | HIS |
| 1 | F | 20 | ILE |
| 1 | F | 38 | THR |
| 1 | F | 54 | GLU |
| 1 | F | 61 | LEU |
| 1 | F | 75 | LEU |
| 1 | F | 83 | SER |
| 1 | F | 85 | TRP |
| 1 | F | 90 | THR |
| 1 | F | 93 | GLU |
| 1 | F | 114 | MET |
| 1 | F | 116 | LEU |
| 1 | F | 122 | ARG |
| 1 | F | 123 | ARG |
| 1 | F | 124 | LEU |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (49) such

sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 31 | HIS |
| 1 | A | 66 | GLN |
| 1 | A | 80 | GLN |
| 1 | A | 149 | ASN |
| 1 | A | 164 | GLN |
| 1 | A | 174 | GLN |
| 1 | A | 193 | GLN |
| 1 | B | 32 | GLN |
| 1 | B | 66 | GLN |
| 1 | B | 80 | GLN |
| 1 | B | 125 | GLN |
| 1 | B | 149 | ASN |
| 1 | B | 153 | GLN |
| 1 | B | 174 | GLN |
| 1 | C | 17 | HIS |
| 1 | C | 32 | GLN |
| 1 | C | 66 | GLN |
| 1 | C | 80 | GLN |
| 1 | C | 104 | GLN |
| 1 | C | 119 | GLN |
| 1 | C | 149 | ASN |
| 1 | C | 153 | GLN |
| 1 | C | 174 | GLN |
| 1 | D | 31 | HIS |
| 1 | D | 66 | GLN |
| 1 | D | 104 | GLN |
| 1 | D | 149 | ASN |
| 1 | D | 153 | GLN |
| 1 | D | 164 | GLN |
| 1 | D | 174 | GLN |
| 1 | E | 31 | HIS |
| 1 | E | 32 | GLN |
| 1 | E | 66 | GLN |
| 1 | E | 80 | GLN |
| 1 | E | 104 | GLN |
| 1 | E | 119 | GLN |
| 1 | E | 149 | ASN |
| 1 | E | 153 | GLN |
| 1 | E | 174 | GLN |
| 1 | F | 17 | HIS |
| 1 | F | 21 | HIS |
| 1 | F | 32 | GLN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | F | 104 | GLN |
| 1 | F | 119 | GLN |
| 1 | F | 125 | GLN |
| 1 | F | 149 | ASN |
| 1 | F | 153 | GLN |
| 1 | F | 174 | GLN |
| 1 | F | 193 | GLN |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no 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 | A | 1 |
| 1 | D | 1 |
| 1 | C | 1 |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1 | A | 58:GLU | C | 59:MET | N | 1.13 |
| 1 | D | 85:TRP | C | 86:VAL | N | 1.11 |
| 1 | C | 78:GLU | C | 79:GLY | N | 1.06 |

6 Fit of model and data

6.1 Protein, DNA and RNA chains

Unable to reproduce the depositors R factor - this section is therefore empty.

6.2 Non-standard residues in protein, DNA, RNA chains

Unable to reproduce the depositors R factor - this section is therefore empty.

6.3 Carbohydrates

Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands

Unable to reproduce the depositors R factor - this section is therefore empty.

6.5 Other polymers

Unable to reproduce the depositors R factor - this section is therefore empty.