



Full wwPDB X-ray Structure Validation Report ⓘ

May 22, 2020 – 10:00 pm BST

PDB ID : 1R24
Title : FAB FROM MURINE IGG3 KAPPA
Authors : Evans, S.V.
Deposited on : 1998-11-05
Resolution : 3.10 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

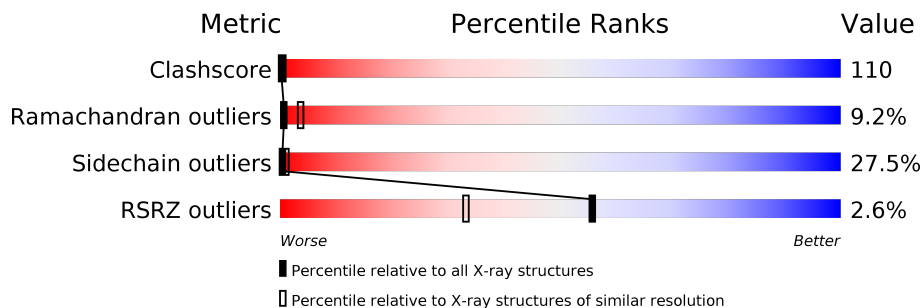
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 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)) |
|-----------------------|-----------------------------|---|
| Clashscore | 141614 | 1184 (3.10-3.10) |
| Ramachandran outliers | 138981 | 1141 (3.10-3.10) |
| Sidechain outliers | 138945 | 1141 (3.10-3.10) |
| RSRZ outliers | 127900 | 1067 (3.10-3.10) |

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

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 206 | |
| 1 | C | 206 | |
| 2 | B | 217 | |
| 2 | D | 217 | |

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 6458 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 PROTEIN (IGG3-KAPPA ANTIBODY (LIGHT CHAIN)).

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 1 | A | 206 | 1605 | 1004 | 266 | 329 | 6 | 0 | 0 | 0 |
| 1 | C | 206 | 1605 | 1004 | 266 | 329 | 6 | 0 | 0 | 0 |

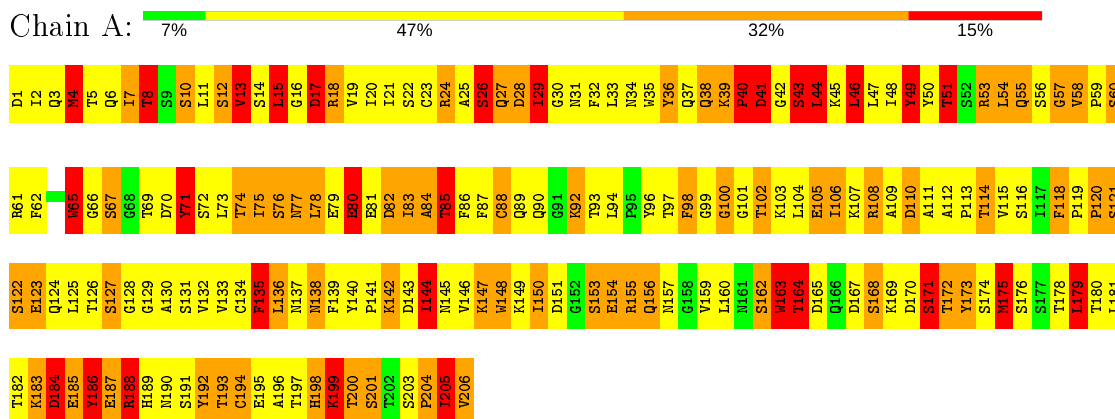
- Molecule 2 is a protein called PROTEIN (IGG3-KAPPA ANTIBODY (HEAVY CHAIN)).

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 2 | B | 217 | 1624 | 1029 | 271 | 317 | 7 | 0 | 0 | 0 |
| 2 | D | 217 | 1624 | 1029 | 271 | 317 | 7 | 0 | 0 | 0 |

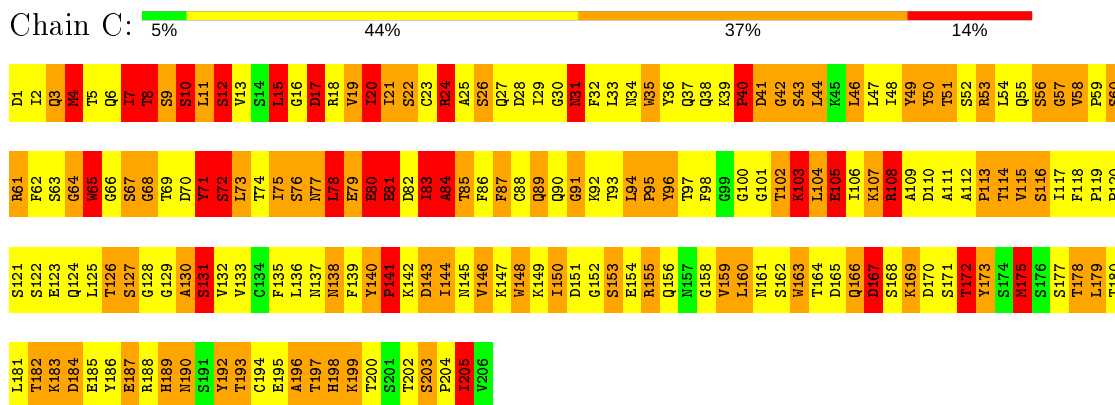
3 Residue-property plots

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 and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

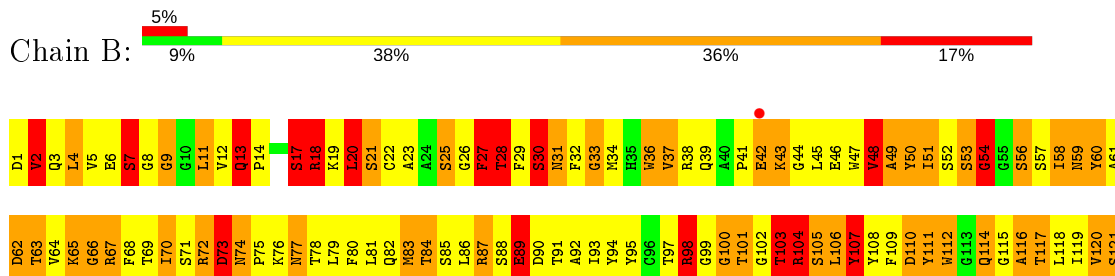
- Molecule 1: PROTEIN (IGG3-KAPPA ANTIBODY (LIGHT CHAIN))

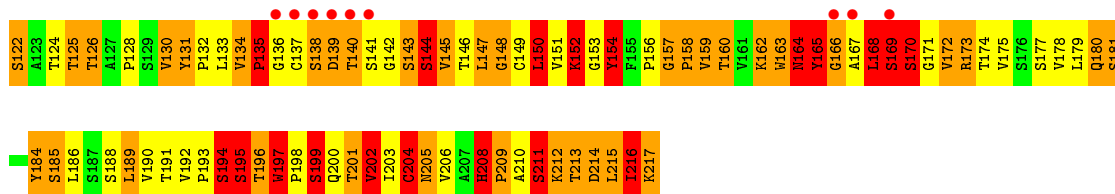


- Molecule 1: PROTEIN (IGG3-KAPPA ANTIBODY (LIGHT CHAIN))

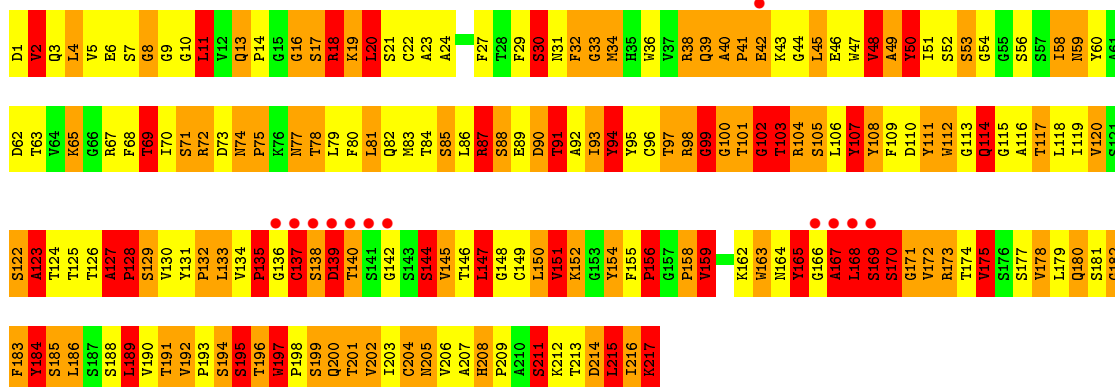


- Molecule 2: PROTEIN (IGG3-KAPPA ANTIBODY (HEAVY CHAIN))





● Molecule 2: PROTEIN (IGG3-KAPPA ANTIBODY (HEAVY CHAIN))



4 Data and refinement statistics

| Property | Value | Source |
|---|---|------------------|
| Space group | P 1 21 1 | Depositor |
| Cell constants a, b, c, α , β , γ | 139.24Å 82.07Å 73.58Å 90.00° 94.13° 90.00° | Depositor |
| Resolution (Å) | 6.00 – 3.10 20.72 – 3.11 | Depositor EDS |
| % Data completeness (in resolution range) | 92.0 (6.00-3.10) 88.5 (20.72-3.11) | Depositor EDS |
| R_{merge} | (Not available) | Depositor |
| R_{sym} | 0.07 | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 1.17 (at 3.10Å) | Xtrriage |
| Refinement program | X-PLOR 3.1 | Depositor |
| R, R_{free} | 0.245 , (Not available) 0.246 , (Not available) | Depositor DCC |
| R_{free} test set | No test flags present. | wwPDB-VP |
| Wilson B-factor (Å ²) | 52.1 | Xtrriage |
| Anisotropy | 0.232 | Xtrriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.33 , 127.4 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.28$ | Xtrriage |
| Estimated twinning fraction | No twinning to report. | Xtrriage |
| F_o, F_c correlation | 0.75 | EDS |
| Total number of atoms | 6458 | wwPDB-VP |
| Average B, all atoms (Å ²) | 28.0 | wwPDB-VP |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.65% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|----------------|-------------|-----------------|
| | | RMSZ | # $ Z > 5$ | RMSZ | # $ Z > 5$ |
| 1 | A | 1.36 | 9/1639 (0.5%) | 2.74 | 152/2223 (6.8%) |
| 1 | C | 1.36 | 7/1639 (0.4%) | 2.81 | 168/2223 (7.6%) |
| 2 | B | 1.43 | 10/1665 (0.6%) | 2.69 | 161/2269 (7.1%) |
| 2 | D | 1.37 | 6/1665 (0.4%) | 2.89 | 185/2269 (8.2%) |
| All | All | 1.38 | 32/6608 (0.5%) | 2.78 | 666/8984 (7.4%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | A | 0 | 2 |
| 1 | C | 0 | 4 |
| 2 | B | 0 | 5 |
| 2 | D | 0 | 8 |
| All | All | 0 | 19 |

All (32) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|-------|-------------|----------|
| 2 | B | 5 | VAL | CA-CB | -7.57 | 1.38 | 1.54 |
| 1 | A | 12 | SER | CA-CB | 7.49 | 1.64 | 1.52 |
| 1 | C | 153 | SER | CA-CB | -6.70 | 1.42 | 1.52 |
| 1 | C | 72 | SER | CA-CB | -6.67 | 1.43 | 1.52 |
| 2 | D | 140 | THR | CA-CB | 6.47 | 1.70 | 1.53 |
| 1 | A | 206 | VAL | CA-CB | -6.43 | 1.41 | 1.54 |
| 2 | B | 202 | VAL | CA-CB | 6.43 | 1.68 | 1.54 |
| 2 | B | 54 | GLY | CA-C | 6.24 | 1.61 | 1.51 |
| 2 | D | 114 | GLN | CA-CB | -6.19 | 1.40 | 1.53 |
| 1 | A | 12 | SER | CB-OG | 6.13 | 1.50 | 1.42 |
| 1 | C | 18 | ARG | NE-CZ | 6.08 | 1.41 | 1.33 |
| 2 | B | 138 | SER | CA-CB | 5.93 | 1.61 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 1 | C | 56 | SER | CA-CB | -5.80 | 1.44 | 1.52 |
| 2 | B | 157 | GLY | CA-C | 5.61 | 1.60 | 1.51 |
| 2 | B | 199 | SER | CB-OG | 5.54 | 1.49 | 1.42 |
| 1 | C | 53 | ARG | CZ-NH2 | 5.50 | 1.40 | 1.33 |
| 2 | D | 169 | SER | CB-OG | 5.45 | 1.49 | 1.42 |
| 1 | A | 148 | TRP | CG-CD2 | -5.42 | 1.34 | 1.43 |
| 1 | A | 153 | SER | CA-CB | 5.38 | 1.61 | 1.52 |
| 2 | B | 56 | SER | CB-OG | 5.38 | 1.49 | 1.42 |
| 2 | B | 163 | TRP | CD1-NE1 | -5.38 | 1.28 | 1.38 |
| 1 | C | 35 | TRP | CA-CB | 5.37 | 1.65 | 1.53 |
| 2 | D | 78 | THR | CA-CB | -5.32 | 1.39 | 1.53 |
| 2 | B | 197 | TRP | CD1-NE1 | -5.26 | 1.29 | 1.38 |
| 2 | D | 137 | CYS | CA-CB | 5.22 | 1.65 | 1.53 |
| 1 | A | 65 | TRP | CG-CD2 | -5.20 | 1.34 | 1.43 |
| 1 | A | 114 | THR | CA-CB | -5.15 | 1.40 | 1.53 |
| 2 | B | 195 | SER | CA-CB | -5.13 | 1.45 | 1.52 |
| 1 | C | 163 | TRP | CD1-NE1 | -5.09 | 1.29 | 1.38 |
| 1 | A | 76 | SER | CA-CB | 5.09 | 1.60 | 1.52 |
| 1 | A | 185 | GLU | CG-CD | 5.05 | 1.59 | 1.51 |
| 2 | D | 156 | PRO | CA-CB | -5.01 | 1.43 | 1.53 |

All (666) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|--------|-------------|----------|
| 1 | C | 18 | ARG | NE-CZ-NH2 | 20.01 | 130.31 | 120.30 |
| 1 | C | 53 | ARG | NE-CZ-NH1 | -18.47 | 111.07 | 120.30 |
| 1 | A | 114 | THR | N-CA-CB | -17.90 | 76.30 | 110.30 |
| 1 | C | 1 | ASP | N-CA-C | -16.77 | 65.71 | 111.00 |
| 1 | A | 13 | VAL | N-CA-C | -16.39 | 66.74 | 111.00 |
| 2 | D | 116 | ALA | N-CA-C | -16.36 | 66.84 | 111.00 |
| 2 | D | 169 | SER | CA-C-N | -16.18 | 81.61 | 117.20 |
| 2 | D | 98 | ARG | NE-CZ-NH1 | -14.26 | 113.17 | 120.30 |
| 1 | C | 24 | ARG | NE-CZ-NH2 | 13.37 | 126.98 | 120.30 |
| 2 | B | 87 | ARG | NE-CZ-NH2 | 13.32 | 126.96 | 120.30 |
| 2 | D | 169 | SER | N-CA-C | -13.29 | 75.13 | 111.00 |
| 1 | C | 53 | ARG | NE-CZ-NH2 | 13.23 | 126.91 | 120.30 |
| 1 | C | 192 | TYR | CB-CG-CD1 | -12.93 | 113.24 | 121.00 |
| 1 | C | 65 | TRP | N-CA-C | -12.62 | 76.92 | 111.00 |
| 2 | B | 54 | GLY | O-C-N | -11.73 | 103.26 | 123.20 |
| 1 | A | 206 | VAL | N-CA-C | -11.39 | 80.24 | 111.00 |
| 2 | D | 38 | ARG | NE-CZ-NH2 | -11.36 | 114.62 | 120.30 |
| 2 | D | 107 | TYR | CA-CB-CG | -11.17 | 92.17 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|--------|-------------|----------|
| 2 | D | 18 | ARG | N-CA-C | -11.09 | 81.06 | 111.00 |
| 1 | A | 13 | VAL | O-C-N | 11.08 | 140.42 | 122.70 |
| 1 | A | 145 | ASN | CA-C-N | 10.97 | 141.34 | 117.20 |
| 1 | A | 88 | CYS | N-CA-C | -10.80 | 81.83 | 111.00 |
| 2 | B | 199 | SER | O-C-N | -10.73 | 105.53 | 122.70 |
| 1 | A | 190 | ASN | O-C-N | -10.64 | 105.67 | 122.70 |
| 1 | A | 12 | SER | N-CA-C | -10.64 | 82.28 | 111.00 |
| 2 | D | 173 | ARG | NE-CZ-NH2 | 10.35 | 125.47 | 120.30 |
| 1 | C | 84 | ALA | N-CA-C | -10.34 | 83.09 | 111.00 |
| 1 | C | 150 | ILE | N-CA-C | -10.28 | 83.23 | 111.00 |
| 1 | C | 198 | HIS | CA-CB-CG | -10.20 | 96.27 | 113.60 |
| 1 | C | 24 | ARG | NE-CZ-NH1 | -10.02 | 115.29 | 120.30 |
| 2 | D | 122 | SER | N-CA-CB | -9.99 | 95.52 | 110.50 |
| 1 | C | 167 | ASP | CA-C-N | -9.96 | 95.28 | 117.20 |
| 1 | A | 145 | ASN | O-C-N | -9.93 | 106.82 | 122.70 |
| 1 | A | 43 | SER | CA-C-N | 9.84 | 138.85 | 117.20 |
| 2 | D | 94 | TYR | CB-CG-CD2 | -9.75 | 115.15 | 121.00 |
| 2 | D | 163 | TRP | CD1-CG-CD2 | 9.74 | 114.10 | 106.30 |
| 1 | A | 43 | SER | O-C-N | -9.73 | 107.13 | 122.70 |
| 1 | A | 100 | GLY | CA-C-N | 9.68 | 135.56 | 116.20 |
| 1 | A | 36 | TYR | CB-CG-CD1 | -9.62 | 115.23 | 121.00 |
| 2 | D | 50 | TYR | CB-CG-CD1 | -9.51 | 115.30 | 121.00 |
| 2 | D | 197 | TRP | CD1-CG-CD2 | 9.50 | 113.90 | 106.30 |
| 2 | D | 98 | ARG | NE-CZ-NH2 | 9.49 | 125.05 | 120.30 |
| 2 | B | 163 | TRP | CD1-CG-CD2 | 9.47 | 113.88 | 106.30 |
| 1 | C | 1 | ASP | CA-C-O | -9.38 | 100.40 | 120.10 |
| 2 | B | 150 | LEU | CA-CB-CG | 9.30 | 136.69 | 115.30 |
| 1 | C | 61 | ARG | CA-C-N | -9.28 | 96.79 | 117.20 |
| 2 | B | 195 | SER | N-CA-CB | -9.26 | 96.61 | 110.50 |
| 2 | B | 197 | TRP | CG-CD2-CE3 | 9.24 | 142.22 | 133.90 |
| 1 | A | 144 | ILE | N-CA-C | -9.16 | 86.26 | 111.00 |
| 1 | A | 65 | TRP | CD1-CG-CD2 | 9.13 | 113.60 | 106.30 |
| 2 | D | 33 | GLY | O-C-N | -9.08 | 108.17 | 122.70 |
| 2 | D | 144 | SER | N-CA-C | -9.06 | 86.52 | 111.00 |
| 2 | D | 122 | SER | C-N-CA | -9.05 | 99.07 | 121.70 |
| 1 | C | 163 | TRP | CD1-CG-CD2 | 9.05 | 113.54 | 106.30 |
| 1 | A | 74 | THR | O-C-N | -9.04 | 108.23 | 122.70 |
| 2 | D | 112 | TRP | CD1-CG-CD2 | 8.98 | 113.49 | 106.30 |
| 1 | A | 13 | VAL | CA-C-O | -8.98 | 101.24 | 120.10 |
| 2 | D | 8 | GLY | O-C-N | -8.96 | 107.97 | 123.20 |
| 1 | C | 148 | TRP | CD1-CG-CD2 | 8.95 | 113.46 | 106.30 |
| 2 | D | 122 | SER | O-C-N | -8.93 | 108.42 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 2 | B | 54 | GLY | CA-C-N | 8.90 | 133.99 | 116.20 |
| 1 | C | 155 | ARG | NE-CZ-NH2 | 8.88 | 124.74 | 120.30 |
| 2 | D | 173 | ARG | NE-CZ-NH1 | -8.84 | 115.88 | 120.30 |
| 1 | A | 153 | SER | CA-C-N | -8.75 | 97.94 | 117.20 |
| 2 | D | 36 | TRP | CD1-CG-CD2 | 8.74 | 113.30 | 106.30 |
| 1 | A | 4 | MET | CA-CB-CG | 8.74 | 128.16 | 113.30 |
| 1 | C | 173 | TYR | CB-CG-CD1 | -8.73 | 115.76 | 121.00 |
| 2 | B | 159 | VAL | CG1-CB-CG2 | -8.67 | 97.03 | 110.90 |
| 2 | D | 19 | LYS | N-CA-C | -8.60 | 87.79 | 111.00 |
| 1 | A | 201 | SER | CA-C-N | -8.59 | 98.31 | 117.20 |
| 2 | B | 160 | THR | O-C-N | -8.57 | 108.98 | 122.70 |
| 1 | A | 29 | ILE | CA-C-N | 8.57 | 133.34 | 116.20 |
| 1 | C | 1 | ASP | CA-CB-CG | -8.53 | 94.64 | 113.40 |
| 2 | D | 72 | ARG | O-C-N | -8.53 | 109.06 | 122.70 |
| 2 | B | 131 | TYR | CB-CG-CD1 | -8.51 | 115.89 | 121.00 |
| 1 | C | 44 | LEU | O-C-N | -8.51 | 109.09 | 122.70 |
| 2 | B | 160 | THR | CA-C-N | 8.50 | 135.90 | 117.20 |
| 2 | D | 30 | SER | C-N-CA | -8.45 | 100.57 | 121.70 |
| 2 | D | 184 | TYR | CB-CG-CD1 | -8.42 | 115.95 | 121.00 |
| 2 | D | 112 | TRP | CG-CD2-CE3 | 8.39 | 141.45 | 133.90 |
| 2 | B | 163 | TRP | CE2-CD2-CG | -8.39 | 100.59 | 107.30 |
| 1 | C | 72 | SER | CA-CB-OG | -8.38 | 88.57 | 111.20 |
| 1 | A | 38 | GLN | O-C-N | -8.38 | 109.30 | 122.70 |
| 1 | A | 17 | ASP | O-C-N | 8.34 | 136.05 | 122.70 |
| 2 | D | 137 | CYS | CA-CB-SG | 8.34 | 129.01 | 114.00 |
| 2 | B | 58 | ILE | N-CA-C | -8.34 | 88.48 | 111.00 |
| 1 | A | 179 | LEU | N-CA-C | -8.33 | 88.50 | 111.00 |
| 1 | A | 190 | ASN | C-N-CA | -8.33 | 100.88 | 121.70 |
| 2 | D | 144 | SER | CA-C-N | -8.32 | 98.89 | 117.20 |
| 1 | C | 192 | TYR | CA-CB-CG | -8.31 | 97.62 | 113.40 |
| 1 | C | 8 | THR | CA-CB-CG2 | -8.30 | 100.77 | 112.40 |
| 1 | A | 80 | GLU | O-C-N | -8.28 | 109.46 | 122.70 |
| 2 | B | 168 | LEU | N-CA-C | -8.26 | 88.69 | 111.00 |
| 1 | A | 29 | ILE | O-C-N | -8.24 | 109.19 | 123.20 |
| 2 | B | 197 | TRP | CE2-CD2-CG | -8.23 | 100.71 | 107.30 |
| 1 | C | 163 | TRP | CE2-CD2-CG | -8.18 | 100.76 | 107.30 |
| 2 | B | 11 | LEU | N-CA-C | -8.14 | 89.01 | 111.00 |
| 2 | D | 123 | ALA | CA-C-N | -8.14 | 99.28 | 117.20 |
| 1 | A | 46 | LEU | CA-CB-CG | 8.13 | 134.00 | 115.30 |
| 2 | B | 48 | VAL | O-C-N | -8.12 | 109.71 | 122.70 |
| 1 | C | 153 | SER | C-N-CA | -8.11 | 101.43 | 121.70 |
| 2 | B | 197 | TRP | CD1-CG-CD2 | 8.10 | 112.78 | 106.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 2 | D | 173 | ARG | CB-CA-C | -8.10 | 94.20 | 110.40 |
| 1 | C | 102 | THR | CA-CB-CG2 | 8.08 | 123.72 | 112.40 |
| 2 | D | 47 | TRP | CD1-CG-CD2 | 8.05 | 112.74 | 106.30 |
| 2 | B | 106 | LEU | CA-CB-CG | -8.02 | 96.85 | 115.30 |
| 2 | D | 112 | TRP | CE2-CD2-CG | -8.02 | 100.89 | 107.30 |
| 2 | B | 47 | TRP | CD1-CG-CD2 | 8.00 | 112.70 | 106.30 |
| 2 | D | 81 | LEU | N-CA-C | -8.00 | 89.41 | 111.00 |
| 2 | D | 171 | GLY | N-CA-C | -7.99 | 93.12 | 113.10 |
| 2 | B | 115 | GLY | N-CA-C | -7.97 | 93.16 | 113.10 |
| 2 | D | 62 | ASP | CB-CG-OD1 | 7.97 | 125.47 | 118.30 |
| 1 | C | 91 | GLY | CA-C-N | -7.93 | 99.74 | 117.20 |
| 2 | D | 140 | THR | N-CA-C | -7.93 | 89.60 | 111.00 |
| 2 | B | 165 | TYR | CB-CG-CD2 | -7.91 | 116.25 | 121.00 |
| 2 | B | 199 | SER | CA-C-N | 7.88 | 134.53 | 117.20 |
| 1 | C | 83 | ILE | O-C-N | -7.86 | 110.13 | 122.70 |
| 2 | D | 163 | TRP | CE2-CD2-CG | -7.84 | 101.03 | 107.30 |
| 1 | C | 161 | ASN | O-C-N | -7.83 | 110.17 | 122.70 |
| 1 | A | 153 | SER | N-CA-CB | 7.82 | 122.24 | 110.50 |
| 1 | A | 8 | THR | CA-CB-CG2 | -7.81 | 101.47 | 112.40 |
| 1 | C | 127 | SER | O-C-N | -7.80 | 109.94 | 123.20 |
| 1 | C | 18 | ARG | NE-CZ-NH1 | -7.76 | 116.42 | 120.30 |
| 2 | D | 197 | TRP | CE2-CD2-CG | -7.75 | 101.10 | 107.30 |
| 2 | D | 165 | TYR | CB-CG-CD1 | -7.72 | 116.36 | 121.00 |
| 2 | D | 112 | TRP | CB-CG-CD1 | -7.72 | 116.97 | 127.00 |
| 1 | C | 138 | ASN | CA-C-N | 7.72 | 134.18 | 117.20 |
| 1 | C | 91 | GLY | O-C-N | 7.70 | 135.01 | 122.70 |
| 2 | B | 60 | TYR | CB-CG-CD1 | -7.68 | 116.39 | 121.00 |
| 2 | D | 95 | TYR | CB-CG-CD2 | -7.67 | 116.40 | 121.00 |
| 1 | A | 96 | TYR | N-CA-C | -7.66 | 90.31 | 111.00 |
| 2 | B | 168 | LEU | CA-C-N | -7.66 | 100.34 | 117.20 |
| 1 | C | 56 | SER | CA-CB-OG | -7.66 | 90.53 | 111.20 |
| 1 | A | 201 | SER | C-N-CA | -7.63 | 102.62 | 121.70 |
| 2 | B | 216 | ILE | CA-C-N | -7.62 | 100.42 | 117.20 |
| 2 | B | 116 | ALA | N-CA-C | -7.61 | 90.47 | 111.00 |
| 1 | A | 15 | LEU | CA-C-N | 7.60 | 131.40 | 116.20 |
| 1 | A | 24 | ARG | CA-C-N | -7.59 | 100.50 | 117.20 |
| 1 | A | 10 | SER | N-CA-C | -7.56 | 90.58 | 111.00 |
| 2 | D | 116 | ALA | CA-C-O | -7.56 | 104.22 | 120.10 |
| 1 | A | 44 | LEU | CA-CB-CG | -7.54 | 97.95 | 115.30 |
| 2 | B | 50 | TYR | CA-C-N | 7.54 | 133.80 | 117.20 |
| 1 | A | 188 | ARG | CA-CB-CG | -7.51 | 96.88 | 113.40 |
| 1 | A | 87 | PHE | O-C-N | -7.50 | 110.70 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | A | 169 | LYS | CA-CB-CG | -7.48 | 96.94 | 113.40 |
| 1 | C | 1 | ASP | O-C-N | 7.47 | 134.66 | 122.70 |
| 2 | B | 95 | TYR | CB-CG-CD1 | -7.47 | 116.52 | 121.00 |
| 2 | B | 70 | ILE | CG1-CB-CG2 | -7.47 | 94.96 | 111.40 |
| 2 | D | 49 | ALA | O-C-N | -7.47 | 110.75 | 122.70 |
| 1 | A | 186 | TYR | N-CA-C | -7.46 | 90.85 | 111.00 |
| 1 | A | 184 | ASP | O-C-N | -7.46 | 110.77 | 122.70 |
| 2 | B | 199 | SER | N-CA-CB | -7.45 | 99.32 | 110.50 |
| 1 | A | 65 | TRP | CE2-CD2-CG | -7.41 | 101.37 | 107.30 |
| 2 | B | 17 | SER | CA-C-N | -7.40 | 100.92 | 117.20 |
| 1 | C | 100 | GLY | CA-C-N | 7.40 | 131.00 | 116.20 |
| 1 | C | 153 | SER | CA-C-N | 7.40 | 133.47 | 117.20 |
| 2 | D | 171 | GLY | CA-C-N | 7.38 | 133.44 | 117.20 |
| 1 | A | 190 | ASN | CA-C-N | 7.37 | 133.42 | 117.20 |
| 2 | B | 153 | GLY | O-C-N | -7.37 | 110.91 | 122.70 |
| 1 | A | 188 | ARG | O-C-N | -7.36 | 110.92 | 122.70 |
| 2 | D | 47 | TRP | CE2-CD2-CG | -7.36 | 101.41 | 107.30 |
| 2 | B | 21 | SER | O-C-N | -7.36 | 110.93 | 122.70 |
| 2 | D | 22 | CYS | CA-C-N | 7.35 | 133.37 | 117.20 |
| 1 | C | 141 | PRO | N-CA-C | 7.35 | 131.21 | 112.10 |
| 1 | C | 83 | ILE | CA-C-N | 7.34 | 133.35 | 117.20 |
| 2 | D | 165 | TYR | N-CA-C | -7.33 | 91.20 | 111.00 |
| 2 | D | 171 | GLY | O-C-N | -7.32 | 110.98 | 122.70 |
| 2 | B | 197 | TRP | CB-CG-CD1 | -7.31 | 117.49 | 127.00 |
| 2 | D | 129 | SER | CB-CA-C | -7.31 | 96.21 | 110.10 |
| 2 | D | 77 | ASN | N-CA-C | 7.28 | 130.66 | 111.00 |
| 2 | B | 159 | VAL | N-CA-C | -7.27 | 91.36 | 111.00 |
| 1 | C | 194 | CYS | O-C-N | -7.25 | 111.09 | 122.70 |
| 1 | A | 148 | TRP | CE2-CD2-CG | -7.23 | 101.51 | 107.30 |
| 2 | D | 102 | GLY | CA-C-N | -7.23 | 101.28 | 117.20 |
| 2 | D | 32 | PHE | CA-C-N | 7.23 | 130.66 | 116.20 |
| 1 | C | 15 | LEU | N-CA-C | -7.23 | 91.48 | 111.00 |
| 1 | C | 11 | LEU | N-CA-C | -7.21 | 91.53 | 111.00 |
| 2 | B | 112 | TRP | CE2-CD2-CG | -7.21 | 101.53 | 107.30 |
| 1 | C | 115 | VAL | O-C-N | -7.21 | 111.17 | 122.70 |
| 1 | A | 135 | PHE | CB-CG-CD2 | 7.21 | 125.84 | 120.80 |
| 2 | B | 107 | TYR | CB-CG-CD1 | -7.21 | 116.68 | 121.00 |
| 2 | B | 162 | LYS | CB-CG-CD | -7.20 | 92.87 | 111.60 |
| 2 | D | 173 | ARG | N-CA-CB | 7.20 | 123.56 | 110.60 |
| 1 | A | 105 | GLU | CA-C-N | -7.20 | 101.37 | 117.20 |
| 1 | A | 179 | LEU | CA-CB-CG | 7.19 | 131.83 | 115.30 |
| 2 | B | 137 | CYS | N-CA-C | -7.18 | 91.60 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 2 | D | 172 | VAL | N-CA-C | -7.18 | 91.61 | 111.00 |
| 2 | B | 47 | TRP | CE2-CD2-CG | -7.15 | 101.58 | 107.30 |
| 1 | C | 26 | SER | O-C-N | -7.15 | 111.25 | 122.70 |
| 2 | D | 36 | TRP | CE2-CD2-CG | -7.15 | 101.58 | 107.30 |
| 1 | C | 104 | LEU | CA-CB-CG | 7.13 | 131.71 | 115.30 |
| 1 | C | 172 | THR | N-CA-CB | -7.13 | 96.75 | 110.30 |
| 1 | A | 10 | SER | N-CA-CB | -7.13 | 99.80 | 110.50 |
| 2 | B | 72 | ARG | N-CA-C | -7.13 | 91.75 | 111.00 |
| 2 | D | 197 | TRP | CG-CD2-CE3 | 7.10 | 140.29 | 133.90 |
| 1 | A | 14 | SER | CA-C-N | 7.09 | 132.80 | 117.20 |
| 2 | D | 54 | GLY | CA-C-N | 7.08 | 130.36 | 116.20 |
| 1 | A | 148 | TRP | CD1-CG-CD2 | 7.07 | 111.95 | 106.30 |
| 1 | C | 4 | MET | C-N-CA | -7.07 | 104.03 | 121.70 |
| 1 | C | 177 | SER | N-CA-C | -7.06 | 91.93 | 111.00 |
| 2 | D | 2 | VAL | CA-CB-CG1 | -7.05 | 100.33 | 110.90 |
| 1 | C | 105 | GLU | CA-C-N | -7.05 | 101.70 | 117.20 |
| 1 | C | 21 | ILE | O-C-N | -7.04 | 111.44 | 122.70 |
| 1 | C | 94 | LEU | CA-CB-CG | -7.04 | 99.11 | 115.30 |
| 2 | D | 150 | LEU | CA-CB-CG | 7.04 | 131.49 | 115.30 |
| 2 | B | 152 | LYS | CB-CG-CD | -7.03 | 93.32 | 111.60 |
| 1 | A | 114 | THR | CA-CB-OG1 | -7.03 | 94.25 | 109.00 |
| 2 | D | 211 | SER | CA-C-N | 7.02 | 132.65 | 117.20 |
| 2 | D | 101 | THR | C-N-CA | -7.01 | 107.57 | 122.30 |
| 1 | C | 19 | VAL | C-N-CA | -7.00 | 104.19 | 121.70 |
| 1 | C | 10 | SER | N-CA-C | -7.00 | 92.09 | 111.00 |
| 2 | D | 8 | GLY | C-N-CA | -7.00 | 107.60 | 122.30 |
| 1 | C | 188 | ARG | O-C-N | -6.99 | 111.51 | 122.70 |
| 1 | A | 20 | ILE | N-CA-C | -6.97 | 92.19 | 111.00 |
| 1 | A | 127 | SER | CA-CB-OG | -6.96 | 92.41 | 111.20 |
| 2 | B | 216 | ILE | O-C-N | 6.95 | 133.81 | 122.70 |
| 2 | D | 122 | SER | CA-CB-OG | -6.93 | 92.47 | 111.20 |
| 1 | A | 156 | GLN | N-CA-C | -6.91 | 92.36 | 111.00 |
| 1 | C | 3 | GLN | CA-CB-CG | -6.89 | 98.24 | 113.40 |
| 1 | C | 145 | ASN | CA-C-N | 6.89 | 132.36 | 117.20 |
| 1 | C | 141 | PRO | CA-C-N | -6.88 | 102.05 | 117.20 |
| 1 | A | 49 | TYR | CB-CG-CD1 | -6.88 | 116.87 | 121.00 |
| 1 | A | 1 | ASP | CA-C-N | 6.87 | 132.31 | 117.20 |
| 2 | B | 65 | LYS | C-N-CA | -6.87 | 107.88 | 122.30 |
| 2 | B | 204 | CYS | O-C-N | -6.87 | 111.72 | 122.70 |
| 2 | D | 18 | ARG | NE-CZ-NH2 | 6.86 | 123.73 | 120.30 |
| 1 | C | 78 | LEU | O-C-N | -6.85 | 111.74 | 122.70 |
| 1 | A | 187 | GLU | O-C-N | -6.85 | 111.74 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | C | 148 | TRP | CE2-CD2-CG | -6.84 | 101.83 | 107.30 |
| 2 | B | 83 | MET | CA-CB-CG | 6.83 | 124.91 | 113.30 |
| 2 | B | 36 | TRP | CD1-CG-CD2 | 6.83 | 111.76 | 106.30 |
| 1 | C | 163 | TRP | CG-CD2-CE3 | 6.83 | 140.05 | 133.90 |
| 1 | A | 200 | THR | O-C-N | -6.83 | 111.78 | 122.70 |
| 2 | D | 169 | SER | O-C-N | 6.83 | 133.62 | 122.70 |
| 2 | D | 147 | LEU | CA-C-N | 6.82 | 129.84 | 116.20 |
| 2 | D | 53 | SER | O-C-N | -6.80 | 111.65 | 123.20 |
| 1 | A | 153 | SER | O-C-N | 6.78 | 133.55 | 122.70 |
| 1 | C | 64 | GLY | O-C-N | -6.77 | 111.86 | 122.70 |
| 1 | C | 148 | TRP | CG-CD1-NE1 | -6.77 | 103.33 | 110.10 |
| 2 | D | 45 | LEU | CB-CG-CD2 | -6.77 | 99.49 | 111.00 |
| 1 | A | 163 | TRP | CE2-CD2-CG | -6.77 | 101.89 | 107.30 |
| 2 | B | 17 | SER | O-C-N | 6.75 | 133.50 | 122.70 |
| 2 | D | 158 | PRO | CA-C-N | -6.75 | 102.36 | 117.20 |
| 2 | B | 143 | SER | CA-C-N | -6.74 | 102.37 | 117.20 |
| 1 | C | 73 | LEU | CA-C-N | -6.69 | 102.48 | 117.20 |
| 1 | C | 153 | SER | O-C-N | -6.69 | 112.00 | 122.70 |
| 2 | B | 44 | GLY | CA-C-O | 6.69 | 132.63 | 120.60 |
| 1 | A | 176 | SER | CB-CA-C | -6.67 | 97.42 | 110.10 |
| 1 | A | 153 | SER | CB-CA-C | -6.67 | 97.44 | 110.10 |
| 1 | C | 35 | TRP | CE2-CD2-CG | -6.67 | 101.97 | 107.30 |
| 2 | D | 168 | LEU | CA-C-O | 6.67 | 134.10 | 120.10 |
| 2 | D | 211 | SER | N-CA-C | 6.66 | 128.99 | 111.00 |
| 1 | C | 46 | LEU | O-C-N | -6.65 | 112.06 | 122.70 |
| 2 | D | 69 | THR | O-C-N | -6.65 | 112.06 | 122.70 |
| 2 | B | 43 | LYS | O-C-N | -6.63 | 111.92 | 123.20 |
| 2 | D | 207 | ALA | CB-CA-C | -6.61 | 100.19 | 110.10 |
| 2 | B | 140 | THR | CA-C-N | -6.59 | 102.70 | 117.20 |
| 1 | A | 26 | SER | O-C-N | -6.58 | 112.17 | 122.70 |
| 2 | D | 197 | TRP | CG-CD1-NE1 | -6.57 | 103.53 | 110.10 |
| 1 | C | 85 | THR | N-CA-C | -6.57 | 93.26 | 111.00 |
| 2 | B | 184 | TYR | O-C-N | 6.57 | 133.21 | 122.70 |
| 2 | D | 204 | CYS | CA-C-N | -6.56 | 102.77 | 117.20 |
| 2 | B | 48 | VAL | N-CA-CB | -6.54 | 97.11 | 111.50 |
| 2 | B | 165 | TYR | N-CA-C | -6.53 | 93.36 | 111.00 |
| 2 | B | 65 | LYS | CA-CB-CG | -6.53 | 99.03 | 113.40 |
| 1 | C | 161 | ASN | CA-C-N | 6.52 | 131.54 | 117.20 |
| 2 | B | 181 | SER | CA-C-N | 6.51 | 129.22 | 116.20 |
| 1 | C | 75 | ILE | N-CA-C | -6.51 | 93.42 | 111.00 |
| 2 | D | 117 | THR | N-CA-C | -6.51 | 93.43 | 111.00 |
| 2 | B | 110 | ASP | N-CA-CB | -6.51 | 98.89 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | A | 85 | THR | CA-CB-OG1 | -6.50 | 95.36 | 109.00 |
| 2 | B | 53 | SER | CA-C-N | 6.48 | 129.16 | 116.20 |
| 1 | C | 64 | GLY | CA-C-N | 6.48 | 131.45 | 117.20 |
| 2 | B | 211 | SER | N-CA-C | 6.47 | 128.47 | 111.00 |
| 1 | C | 189 | HIS | O-C-N | -6.47 | 112.35 | 122.70 |
| 1 | C | 166 | GLN | O-C-N | -6.47 | 112.36 | 122.70 |
| 2 | D | 113 | GLY | CA-C-N | 6.45 | 131.40 | 117.20 |
| 1 | A | 114 | THR | CB-CA-C | 6.45 | 129.00 | 111.60 |
| 2 | B | 112 | TRP | CD1-CG-CD2 | 6.44 | 111.45 | 106.30 |
| 1 | C | 7 | ILE | N-CA-C | -6.44 | 93.62 | 111.00 |
| 1 | C | 51 | THR | O-C-N | -6.43 | 112.41 | 122.70 |
| 1 | A | 176 | SER | N-CA-CB | 6.43 | 120.14 | 110.50 |
| 1 | C | 9 | SER | CA-CB-OG | -6.42 | 93.86 | 111.20 |
| 2 | B | 98 | ARG | CB-CG-CD | -6.42 | 94.91 | 111.60 |
| 1 | C | 167 | ASP | O-C-N | 6.42 | 132.97 | 122.70 |
| 2 | B | 140 | THR | O-C-N | 6.41 | 132.96 | 122.70 |
| 1 | C | 153 | SER | CA-CB-OG | -6.41 | 93.90 | 111.20 |
| 1 | A | 84 | ALA | N-CA-C | -6.41 | 93.70 | 111.00 |
| 1 | A | 45 | LYS | O-C-N | -6.38 | 112.49 | 122.70 |
| 1 | A | 57 | GLY | O-C-N | -6.37 | 112.50 | 122.70 |
| 2 | D | 168 | LEU | CA-C-N | -6.37 | 103.18 | 117.20 |
| 1 | C | 122 | SER | CA-C-N | -6.35 | 103.23 | 117.20 |
| 2 | D | 139 | ASP | N-CA-C | 6.35 | 128.15 | 111.00 |
| 1 | C | 161 | ASN | CB-CA-C | -6.35 | 97.70 | 110.40 |
| 2 | B | 181 | SER | O-C-N | -6.35 | 112.41 | 123.20 |
| 1 | C | 194 | CYS | CA-C-N | 6.34 | 131.15 | 117.20 |
| 1 | A | 35 | TRP | CD1-CG-CD2 | 6.33 | 111.36 | 106.30 |
| 1 | A | 8 | THR | N-CA-CB | 6.32 | 122.31 | 110.30 |
| 2 | B | 159 | VAL | CB-CA-C | -6.32 | 99.39 | 111.40 |
| 1 | C | 146 | VAL | O-C-N | -6.32 | 112.59 | 122.70 |
| 1 | C | 87 | PHE | N-CA-C | -6.31 | 93.97 | 111.00 |
| 2 | B | 49 | ALA | CA-C-N | 6.30 | 131.06 | 117.20 |
| 2 | D | 185 | SER | O-C-N | 6.30 | 132.78 | 122.70 |
| 2 | B | 169 | SER | CA-C-N | -6.29 | 103.36 | 117.20 |
| 2 | B | 130 | VAL | CG1-CB-CG2 | -6.28 | 100.84 | 110.90 |
| 2 | D | 18 | ARG | CA-CB-CG | 6.28 | 127.22 | 113.40 |
| 2 | D | 175 | VAL | CA-CB-CG2 | -6.27 | 101.49 | 110.90 |
| 1 | A | 85 | THR | CA-CB-CG2 | 6.27 | 121.18 | 112.40 |
| 2 | D | 11 | LEU | N-CA-C | -6.27 | 94.07 | 111.00 |
| 2 | B | 126 | THR | N-CA-CB | -6.27 | 98.39 | 110.30 |
| 2 | D | 178 | VAL | CA-CB-CG2 | -6.26 | 101.50 | 110.90 |
| 2 | D | 138 | SER | N-CA-C | 6.26 | 127.90 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 2 | D | 173 | ARG | CA-CB-CG | 6.26 | 127.17 | 113.40 |
| 1 | A | 163 | TRP | CD1-CG-CD2 | 6.25 | 111.30 | 106.30 |
| 1 | C | 1 | ASP | CB-CG-OD1 | -6.25 | 112.67 | 118.30 |
| 2 | D | 107 | TYR | CB-CG-CD1 | -6.24 | 117.26 | 121.00 |
| 1 | A | 76 | SER | CA-CB-OG | 6.24 | 128.03 | 111.20 |
| 2 | D | 4 | LEU | O-C-N | -6.23 | 112.73 | 122.70 |
| 2 | D | 120 | VAL | CA-CB-CG2 | -6.23 | 101.55 | 110.90 |
| 1 | A | 1 | ASP | N-CA-C | -6.22 | 94.21 | 111.00 |
| 2 | B | 142 | GLY | CA-C-N | -6.22 | 103.52 | 117.20 |
| 2 | D | 127 | ALA | CA-C-N | 6.21 | 134.50 | 117.10 |
| 2 | B | 121 | SER | CA-C-N | -6.20 | 103.56 | 117.20 |
| 1 | C | 197 | THR | N-CA-C | -6.20 | 94.27 | 111.00 |
| 2 | D | 31 | ASN | O-C-N | -6.19 | 112.79 | 122.70 |
| 2 | B | 36 | TRP | CE2-CD2-CG | -6.19 | 102.35 | 107.30 |
| 1 | C | 61 | ARG | O-C-N | 6.18 | 132.59 | 122.70 |
| 1 | A | 87 | PHE | CA-C-N | 6.18 | 130.80 | 117.20 |
| 1 | C | 192 | TYR | CA-C-N | 6.18 | 130.79 | 117.20 |
| 1 | A | 88 | CYS | O-C-N | 6.17 | 132.58 | 122.70 |
| 2 | D | 102 | GLY | N-CA-C | -6.17 | 97.69 | 113.10 |
| 1 | C | 189 | HIS | CA-C-N | 6.16 | 130.75 | 117.20 |
| 2 | D | 164 | ASN | N-CA-CB | 6.16 | 121.68 | 110.60 |
| 2 | B | 21 | SER | C-N-CA | -6.15 | 106.32 | 121.70 |
| 1 | C | 165 | ASP | N-CA-C | -6.14 | 94.42 | 111.00 |
| 1 | C | 41 | ASP | N-CA-C | -6.14 | 94.43 | 111.00 |
| 1 | C | 105 | GLU | O-C-N | 6.13 | 132.50 | 122.70 |
| 1 | C | 145 | ASN | CB-CG-ND2 | 6.13 | 131.41 | 116.70 |
| 1 | C | 175 | MET | CB-CG-SD | -6.12 | 94.03 | 112.40 |
| 2 | D | 33 | GLY | CA-C-N | 6.12 | 130.66 | 117.20 |
| 2 | B | 43 | LYS | CA-C-N | 6.12 | 128.43 | 116.20 |
| 2 | B | 30 | SER | C-N-CA | -6.11 | 106.42 | 121.70 |
| 2 | B | 134 | VAL | CA-CB-CG2 | -6.11 | 101.73 | 110.90 |
| 2 | B | 17 | SER | CA-CB-OG | -6.10 | 94.72 | 111.20 |
| 2 | D | 197 | TRP | CB-CG-CD1 | -6.10 | 119.07 | 127.00 |
| 2 | D | 167 | ALA | O-C-N | -6.10 | 112.94 | 122.70 |
| 2 | B | 49 | ALA | O-C-N | -6.09 | 112.95 | 122.70 |
| 2 | B | 163 | TRP | CG-CD1-NE1 | -6.08 | 104.02 | 110.10 |
| 1 | C | 65 | TRP | CE2-CD2-CG | -6.08 | 102.43 | 107.30 |
| 2 | D | 58 | ILE | O-C-N | -6.08 | 112.97 | 122.70 |
| 2 | D | 211 | SER | O-C-N | -6.08 | 112.97 | 122.70 |
| 2 | B | 126 | THR | CA-CB-OG1 | -6.08 | 96.24 | 109.00 |
| 1 | A | 100 | GLY | O-C-N | -6.06 | 112.90 | 123.20 |
| 2 | B | 215 | LEU | N-CA-C | -6.06 | 94.64 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | A | 76 | SER | N-CA-CB | 6.06 | 119.58 | 110.50 |
| 2 | B | 132 | PRO | CA-C-N | 6.05 | 130.52 | 117.20 |
| 1 | C | 167 | ASP | N-CA-CB | 6.05 | 121.48 | 110.60 |
| 2 | D | 103 | THR | N-CA-C | 6.04 | 127.32 | 111.00 |
| 2 | D | 129 | SER | N-CA-CB | 6.04 | 119.56 | 110.50 |
| 2 | D | 158 | PRO | O-C-N | 6.03 | 132.35 | 122.70 |
| 1 | C | 31 | ASN | CA-CB-CG | -6.03 | 100.14 | 113.40 |
| 1 | A | 205 | ILE | N-CA-C | -6.03 | 94.73 | 111.00 |
| 2 | B | 153 | GLY | CA-C-N | 6.01 | 130.43 | 117.20 |
| 2 | D | 30 | SER | O-C-N | -6.01 | 113.08 | 122.70 |
| 1 | C | 100 | GLY | O-C-N | -6.00 | 112.99 | 123.20 |
| 2 | D | 124 | THR | N-CA-C | -6.00 | 94.79 | 111.00 |
| 1 | C | 112 | ALA | N-CA-C | -6.00 | 94.80 | 111.00 |
| 1 | C | 145 | ASN | CB-CG-OD1 | -6.00 | 109.60 | 121.60 |
| 2 | B | 106 | LEU | O-C-N | -6.00 | 113.10 | 122.70 |
| 2 | D | 114 | GLN | O-C-N | -6.00 | 113.00 | 123.20 |
| 2 | B | 47 | TRP | CG-CD1-NE1 | -6.00 | 104.10 | 110.10 |
| 2 | D | 172 | VAL | CG1-CB-CG2 | -5.99 | 101.31 | 110.90 |
| 1 | A | 53 | ARG | NE-CZ-NH2 | -5.98 | 117.31 | 120.30 |
| 2 | D | 112 | TRP | CG-CD1-NE1 | -5.98 | 104.12 | 110.10 |
| 1 | C | 116 | SER | N-CA-C | -5.97 | 94.89 | 111.00 |
| 1 | C | 53 | ARG | CA-CB-CG | -5.96 | 100.29 | 113.40 |
| 2 | D | 32 | PHE | O-C-N | -5.96 | 113.06 | 123.20 |
| 1 | C | 76 | SER | CA-CB-OG | -5.95 | 95.14 | 111.20 |
| 2 | D | 214 | ASP | CB-CG-OD2 | 5.95 | 123.65 | 118.30 |
| 2 | B | 131 | TYR | CG-CD2-CE2 | -5.95 | 116.54 | 121.30 |
| 1 | C | 60 | SER | O-C-N | -5.95 | 113.19 | 122.70 |
| 1 | A | 35 | TRP | CE2-CD2-CG | -5.94 | 102.55 | 107.30 |
| 2 | D | 78 | THR | OG1-CB-CG2 | 5.93 | 123.64 | 110.00 |
| 2 | B | 195 | SER | CA-C-N | -5.93 | 104.16 | 117.20 |
| 1 | C | 196 | ALA | CB-CA-C | -5.93 | 101.21 | 110.10 |
| 1 | A | 199 | LYS | O-C-N | -5.93 | 113.22 | 122.70 |
| 1 | A | 67 | SER | N-CA-C | -5.91 | 95.04 | 111.00 |
| 2 | B | 28 | THR | OG1-CB-CG2 | 5.90 | 123.58 | 110.00 |
| 1 | A | 183 | LYS | O-C-N | -5.89 | 113.27 | 122.70 |
| 2 | D | 20 | LEU | CA-CB-CG | 5.89 | 128.85 | 115.30 |
| 1 | C | 138 | ASN | O-C-N | -5.89 | 113.28 | 122.70 |
| 1 | A | 206 | VAL | CG1-CB-CG2 | 5.88 | 120.31 | 110.90 |
| 2 | B | 214 | ASP | O-C-N | -5.88 | 113.30 | 122.70 |
| 2 | D | 63 | THR | N-CA-CB | -5.88 | 99.14 | 110.30 |
| 2 | B | 138 | SER | CA-C-N | -5.87 | 104.28 | 117.20 |
| 1 | C | 163 | TRP | CB-CG-CD1 | -5.87 | 119.36 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | A | 145 | ASN | C-N-CA | -5.87 | 107.02 | 121.70 |
| 1 | A | 55 | GLN | O-C-N | -5.87 | 113.31 | 122.70 |
| 2 | B | 103 | THR | CA-C-N | -5.86 | 104.31 | 117.20 |
| 2 | D | 49 | ALA | CA-C-N | 5.85 | 130.07 | 117.20 |
| 2 | D | 7 | SER | CA-C-N | 5.85 | 127.90 | 116.20 |
| 1 | A | 102 | THR | CA-C-N | 5.85 | 130.06 | 117.20 |
| 2 | D | 20 | LEU | N-CA-C | -5.85 | 95.22 | 111.00 |
| 1 | A | 114 | THR | CA-CB-CG2 | 5.84 | 120.58 | 112.40 |
| 2 | B | 189 | LEU | O-C-N | -5.84 | 113.35 | 122.70 |
| 2 | D | 182 | GLY | CA-C-N | -5.84 | 104.34 | 117.20 |
| 1 | A | 71 | TYR | CB-CG-CD1 | 5.83 | 124.50 | 121.00 |
| 1 | A | 105 | GLU | O-C-N | 5.83 | 132.03 | 122.70 |
| 1 | C | 112 | ALA | N-CA-CB | -5.83 | 101.94 | 110.10 |
| 1 | C | 192 | TYR | N-CA-CB | -5.83 | 100.12 | 110.60 |
| 1 | A | 184 | ASP | N-CA-C | 5.81 | 126.68 | 111.00 |
| 2 | D | 159 | VAL | N-CA-C | -5.80 | 95.33 | 111.00 |
| 1 | A | 14 | SER | O-C-N | -5.80 | 113.42 | 122.70 |
| 2 | B | 36 | TRP | CG-CD1-NE1 | -5.80 | 104.30 | 110.10 |
| 2 | D | 103 | THR | CA-CB-CG2 | -5.79 | 104.29 | 112.40 |
| 2 | B | 73 | ASP | CA-CB-CG | -5.79 | 100.66 | 113.40 |
| 2 | B | 119 | ILE | O-C-N | -5.79 | 113.44 | 122.70 |
| 1 | A | 75 | ILE | O-C-N | -5.79 | 113.44 | 122.70 |
| 2 | D | 154 | TYR | CB-CG-CD2 | -5.78 | 117.53 | 121.00 |
| 2 | D | 94 | TYR | CA-C-N | 5.78 | 129.92 | 117.20 |
| 1 | C | 20 | ILE | N-CA-C | -5.77 | 95.42 | 111.00 |
| 1 | C | 167 | ASP | CB-CA-C | -5.77 | 98.86 | 110.40 |
| 2 | D | 7 | SER | O-C-N | -5.77 | 113.39 | 123.20 |
| 1 | C | 138 | ASN | C-N-CA | -5.77 | 107.28 | 121.70 |
| 2 | D | 62 | ASP | CB-CG-OD2 | -5.77 | 113.11 | 118.30 |
| 1 | C | 162 | SER | CA-C-N | -5.76 | 104.52 | 117.20 |
| 2 | D | 74 | ASN | N-CA-C | 5.76 | 126.57 | 111.00 |
| 1 | C | 73 | LEU | O-C-N | 5.76 | 131.92 | 122.70 |
| 2 | D | 133 | LEU | CA-CB-CG | 5.75 | 128.53 | 115.30 |
| 1 | A | 206 | VAL | CA-C-O | -5.75 | 108.02 | 120.10 |
| 1 | C | 163 | TRP | CG-CD1-NE1 | -5.75 | 104.35 | 110.10 |
| 2 | D | 78 | THR | N-CA-C | 5.75 | 126.53 | 111.00 |
| 2 | D | 138 | SER | N-CA-CB | -5.75 | 101.88 | 110.50 |
| 1 | A | 108 | ARG | N-CA-CB | -5.74 | 100.26 | 110.60 |
| 2 | D | 5 | VAL | CA-CB-CG1 | -5.73 | 102.30 | 110.90 |
| 1 | A | 175 | MET | CG-SD-CE | -5.73 | 91.03 | 100.20 |
| 1 | C | 63 | SER | CA-C-N | 5.72 | 127.65 | 116.20 |
| 2 | D | 128 | PRO | CA-N-CD | -5.72 | 103.49 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | C | 114 | THR | N-CA-CB | -5.72 | 99.44 | 110.30 |
| 1 | C | 20 | ILE | CB-CG1-CD1 | 5.71 | 129.90 | 113.90 |
| 2 | D | 94 | TYR | CB-CG-CD1 | 5.70 | 124.42 | 121.00 |
| 1 | A | 128 | GLY | C-N-CA | -5.70 | 110.34 | 122.30 |
| 2 | D | 104 | ARG | CG-CD-NE | 5.69 | 123.74 | 111.80 |
| 2 | D | 196 | THR | CA-C-N | -5.69 | 104.69 | 117.20 |
| 2 | D | 207 | ALA | N-CA-CB | 5.69 | 118.06 | 110.10 |
| 1 | A | 201 | SER | CB-CA-C | -5.67 | 99.32 | 110.10 |
| 2 | B | 165 | TYR | CB-CG-CD1 | 5.67 | 124.40 | 121.00 |
| 1 | A | 172 | THR | O-C-N | -5.67 | 113.63 | 122.70 |
| 1 | C | 183 | LYS | CA-CB-CG | -5.65 | 100.97 | 113.40 |
| 2 | B | 7 | SER | CA-C-N | 5.65 | 127.50 | 116.20 |
| 2 | D | 217 | LYS | N-CA-C | -5.65 | 95.75 | 111.00 |
| 2 | B | 13 | GLN | CA-CB-CG | 5.64 | 125.82 | 113.40 |
| 2 | B | 196 | THR | N-CA-C | -5.64 | 95.78 | 111.00 |
| 1 | C | 19 | VAL | O-C-N | -5.64 | 113.68 | 122.70 |
| 1 | C | 88 | CYS | CA-CB-SG | -5.63 | 103.87 | 114.00 |
| 2 | D | 101 | THR | CA-CB-OG1 | -5.63 | 97.18 | 109.00 |
| 2 | B | 110 | ASP | O-C-N | -5.63 | 113.70 | 122.70 |
| 1 | C | 44 | LEU | N-CA-C | 5.62 | 126.19 | 111.00 |
| 2 | B | 18 | ARG | CA-C-N | -5.62 | 104.83 | 117.20 |
| 2 | D | 144 | SER | N-CA-CB | 5.62 | 118.93 | 110.50 |
| 1 | A | 150 | ILE | CA-C-N | -5.62 | 104.84 | 117.20 |
| 1 | A | 71 | TYR | CA-C-N | -5.62 | 104.85 | 117.20 |
| 1 | A | 193 | THR | N-CA-C | -5.61 | 95.84 | 111.00 |
| 2 | B | 202 | VAL | N-CA-CB | 5.60 | 123.82 | 111.50 |
| 2 | D | 31 | ASN | CA-C-N | 5.59 | 129.50 | 117.20 |
| 2 | B | 60 | TYR | N-CA-C | 5.59 | 126.09 | 111.00 |
| 2 | D | 8 | GLY | CA-C-N | 5.59 | 127.38 | 116.20 |
| 2 | D | 178 | VAL | CA-CB-CG1 | 5.59 | 119.28 | 110.90 |
| 1 | A | 204 | PRO | N-CA-C | -5.58 | 97.58 | 112.10 |
| 1 | A | 201 | SER | O-C-N | 5.58 | 131.62 | 122.70 |
| 1 | C | 18 | ARG | NH1-CZ-NH2 | -5.58 | 113.27 | 119.40 |
| 2 | B | 9 | GLY | C-N-CA | -5.57 | 110.61 | 122.30 |
| 2 | B | 201 | THR | CA-C-O | -5.57 | 108.41 | 120.10 |
| 1 | A | 76 | SER | CB-CA-C | -5.56 | 99.53 | 110.10 |
| 1 | C | 131 | SER | N-CA-CB | -5.56 | 102.16 | 110.50 |
| 2 | D | 54 | GLY | O-C-N | -5.56 | 113.75 | 123.20 |
| 1 | A | 18 | ARG | CA-CB-CG | 5.55 | 125.62 | 113.40 |
| 1 | A | 51 | THR | C-N-CA | -5.55 | 107.81 | 121.70 |
| 2 | B | 48 | VAL | CA-C-N | 5.55 | 129.42 | 117.20 |
| 1 | A | 12 | SER | C-N-CA | -5.54 | 107.84 | 121.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | A | 51 | THR | O-C-N | -5.54 | 113.83 | 122.70 |
| 2 | D | 183 | PHE | N-CA-CB | -5.54 | 100.62 | 110.60 |
| 2 | B | 164 | ASN | CB-CA-C | -5.54 | 99.33 | 110.40 |
| 1 | C | 12 | SER | O-C-N | 5.53 | 131.54 | 122.70 |
| 1 | A | 41 | ASP | N-CA-C | -5.53 | 96.08 | 111.00 |
| 2 | B | 168 | LEU | CA-C-O | 5.53 | 131.71 | 120.10 |
| 2 | B | 54 | GLY | N-CA-C | 5.52 | 126.91 | 113.10 |
| 2 | D | 204 | CYS | N-CA-C | -5.52 | 96.10 | 111.00 |
| 1 | A | 98 | PHE | N-CA-C | 5.51 | 125.88 | 111.00 |
| 2 | B | 25 | SER | O-C-N | -5.51 | 113.83 | 123.20 |
| 2 | B | 66 | GLY | CA-C-N | 5.50 | 129.30 | 117.20 |
| 2 | B | 204 | CYS | CA-C-N | 5.50 | 129.30 | 117.20 |
| 2 | D | 206 | VAL | CA-C-N | 5.50 | 129.30 | 117.20 |
| 2 | D | 99 | GLY | O-C-N | -5.50 | 113.86 | 123.20 |
| 2 | B | 189 | LEU | CA-CB-CG | 5.47 | 127.89 | 115.30 |
| 2 | B | 122 | SER | CA-C-N | -5.47 | 105.17 | 117.20 |
| 1 | A | 24 | ARG | O-C-N | 5.47 | 131.45 | 122.70 |
| 1 | C | 192 | TYR | O-C-N | -5.47 | 113.95 | 122.70 |
| 1 | C | 111 | ALA | CA-C-N | -5.46 | 105.18 | 117.20 |
| 1 | C | 102 | THR | CA-CB-OG1 | -5.46 | 97.53 | 109.00 |
| 2 | B | 27 | PHE | O-C-N | -5.45 | 113.97 | 122.70 |
| 1 | A | 29 | ILE | CA-CB-CG1 | -5.45 | 100.65 | 111.00 |
| 1 | A | 88 | CYS | CA-C-O | -5.45 | 108.66 | 120.10 |
| 1 | A | 121 | SER | CA-C-N | -5.45 | 105.21 | 117.20 |
| 1 | C | 73 | LEU | CB-CG-CD2 | -5.45 | 101.74 | 111.00 |
| 1 | A | 58 | VAL | N-CA-C | -5.45 | 96.29 | 111.00 |
| 1 | A | 60 | SER | N-CA-C | 5.44 | 125.70 | 111.00 |
| 1 | A | 71 | TYR | CB-CG-CD2 | -5.44 | 117.73 | 121.00 |
| 2 | D | 111 | TYR | CB-CG-CD1 | -5.44 | 117.73 | 121.00 |
| 2 | B | 2 | VAL | O-C-N | -5.44 | 114.00 | 122.70 |
| 2 | D | 18 | ARG | NE-CZ-NH1 | -5.44 | 117.58 | 120.30 |
| 2 | B | 181 | SER | C-N-CA | -5.44 | 110.89 | 122.30 |
| 2 | D | 16 | GLY | O-C-N | -5.43 | 114.01 | 122.70 |
| 2 | D | 213 | THR | CA-C-N | 5.43 | 129.14 | 117.20 |
| 1 | C | 65 | TRP | CD1-CG-CD2 | 5.42 | 110.64 | 106.30 |
| 1 | C | 205 | ILE | O-C-N | -5.42 | 114.03 | 122.70 |
| 2 | B | 169 | SER | N-CA-C | -5.42 | 96.38 | 111.00 |
| 1 | C | 50 | TYR | CG-CD1-CE1 | 5.42 | 125.63 | 121.30 |
| 2 | B | 7 | SER | O-C-N | -5.41 | 114.00 | 123.20 |
| 2 | B | 104 | ARG | CB-CG-CD | -5.41 | 97.53 | 111.60 |
| 1 | C | 3 | GLN | CA-C-N | -5.41 | 105.29 | 117.20 |
| 1 | A | 82 | ASP | CB-CG-OD2 | -5.41 | 113.43 | 118.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 1 | A | 201 | SER | N-CA-CB | 5.41 | 118.61 | 110.50 |
| 1 | C | 187 | GLU | N-CA-CB | -5.41 | 100.86 | 110.60 |
| 2 | D | 98 | ARG | CB-CG-CD | -5.41 | 97.53 | 111.60 |
| 2 | D | 50 | TYR | CB-CG-CD2 | 5.41 | 124.25 | 121.00 |
| 1 | C | 17 | ASP | N-CA-C | 5.41 | 125.60 | 111.00 |
| 2 | D | 101 | THR | CA-C-N | -5.40 | 105.40 | 116.20 |
| 1 | C | 95 | PRO | CA-C-N | 5.40 | 129.08 | 117.20 |
| 2 | D | 215 | LEU | CA-C-N | 5.40 | 129.07 | 117.20 |
| 2 | B | 165 | TYR | N-CA-CB | 5.39 | 120.30 | 110.60 |
| 2 | B | 184 | TYR | CB-CG-CD1 | -5.39 | 117.77 | 121.00 |
| 1 | A | 74 | THR | CA-C-N | 5.39 | 129.05 | 117.20 |
| 1 | A | 168 | SER | N-CA-CB | -5.38 | 102.42 | 110.50 |
| 2 | D | 90 | ASP | CB-CG-OD2 | 5.38 | 123.15 | 118.30 |
| 2 | D | 198 | PRO | N-CA-CB | 5.38 | 109.76 | 103.30 |
| 1 | A | 172 | THR | CA-C-N | 5.38 | 129.04 | 117.20 |
| 2 | B | 4 | LEU | CA-CB-CG | -5.38 | 102.93 | 115.30 |
| 1 | C | 56 | SER | C-N-CA | -5.38 | 111.01 | 122.30 |
| 1 | A | 43 | SER | N-CA-CB | -5.37 | 102.44 | 110.50 |
| 2 | B | 159 | VAL | CA-C-O | -5.37 | 108.82 | 120.10 |
| 2 | B | 138 | SER | N-CA-C | 5.37 | 125.49 | 111.00 |
| 1 | C | 71 | TYR | CB-CG-CD2 | -5.37 | 117.78 | 121.00 |
| 2 | B | 111 | TYR | CB-CG-CD1 | -5.37 | 117.78 | 121.00 |
| 1 | C | 84 | ALA | O-C-N | 5.37 | 131.29 | 122.70 |
| 2 | B | 28 | THR | N-CA-CB | -5.36 | 100.11 | 110.30 |
| 1 | A | 165 | ASP | N-CA-C | -5.36 | 96.53 | 111.00 |
| 1 | C | 28 | ASP | N-CA-C | -5.35 | 96.54 | 111.00 |
| 1 | C | 58 | VAL | CG1-CB-CG2 | -5.35 | 102.34 | 110.90 |
| 2 | D | 123 | ALA | CA-C-O | 5.35 | 131.33 | 120.10 |
| 2 | D | 186 | LEU | O-C-N | -5.35 | 114.14 | 122.70 |
| 1 | A | 43 | SER | N-CA-C | 5.35 | 125.44 | 111.00 |
| 1 | C | 165 | ASP | CB-CG-OD1 | 5.34 | 123.11 | 118.30 |
| 2 | B | 204 | CYS | C-N-CA | -5.34 | 108.36 | 121.70 |
| 2 | D | 164 | ASN | CB-CA-C | -5.34 | 99.73 | 110.40 |
| 1 | A | 184 | ASP | CA-CB-CG | -5.33 | 101.66 | 113.40 |
| 1 | A | 104 | LEU | CB-CA-C | 5.33 | 120.33 | 110.20 |
| 1 | C | 182 | THR | OG1-CB-CG2 | 5.33 | 122.27 | 110.00 |
| 1 | C | 77 | ASN | N-CA-C | -5.33 | 96.60 | 111.00 |
| 1 | A | 15 | LEU | CB-CG-CD2 | 5.33 | 120.05 | 111.00 |
| 2 | D | 36 | TRP | CD2-CE2-CZ2 | -5.32 | 115.92 | 122.30 |
| 1 | C | 155 | ARG | O-C-N | -5.32 | 114.19 | 122.70 |
| 1 | A | 45 | LYS | CA-C-N | 5.31 | 128.88 | 117.20 |
| 2 | B | 107 | TYR | CA-CB-CG | -5.31 | 103.32 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 1 | C | 35 | TRP | CD1-CG-CD2 | 5.30 | 110.54 | 106.30 |
| 2 | D | 113 | GLY | O-C-N | -5.30 | 114.22 | 122.70 |
| 2 | B | 51 | ILE | CB-CA-C | -5.30 | 101.01 | 111.60 |
| 1 | C | 91 | GLY | C-N-CA | 5.30 | 134.94 | 121.70 |
| 1 | A | 118 | PHE | CA-C-N | 5.29 | 131.93 | 117.10 |
| 1 | C | 40 | PRO | CA-CB-CG | -5.29 | 93.94 | 104.00 |
| 2 | D | 21 | SER | N-CA-C | -5.29 | 96.71 | 111.00 |
| 1 | A | 110 | ASP | CA-C-N | -5.29 | 105.56 | 117.20 |
| 1 | C | 25 | ALA | CB-CA-C | -5.29 | 102.17 | 110.10 |
| 1 | C | 105 | GLU | CB-CA-C | -5.29 | 99.83 | 110.40 |
| 2 | D | 192 | VAL | CA-CB-CG2 | -5.29 | 102.97 | 110.90 |
| 2 | B | 197 | TRP | NE1-CE2-CZ2 | -5.28 | 124.59 | 130.40 |
| 2 | D | 72 | ARG | CG-CD-NE | -5.27 | 100.72 | 111.80 |
| 2 | D | 156 | PRO | CA-CB-CG | -5.27 | 93.98 | 104.00 |
| 2 | B | 163 | TRP | CG-CD2-CE3 | 5.27 | 138.64 | 133.90 |
| 1 | C | 192 | TYR | CB-CG-CD2 | 5.26 | 124.15 | 121.00 |
| 1 | C | 121 | SER | CA-C-N | -5.25 | 105.64 | 117.20 |
| 2 | D | 23 | ALA | CB-CA-C | -5.25 | 102.22 | 110.10 |
| 2 | D | 120 | VAL | N-CA-CB | -5.25 | 99.95 | 111.50 |
| 2 | B | 197 | TRP | CB-CA-C | -5.25 | 99.91 | 110.40 |
| 1 | C | 49 | TYR | CB-CG-CD1 | -5.25 | 117.85 | 121.00 |
| 1 | A | 206 | VAL | CA-CB-CG1 | -5.24 | 103.03 | 110.90 |
| 2 | B | 208 | HIS | CA-CB-CG | 5.24 | 122.51 | 113.60 |
| 1 | A | 109 | ALA | O-C-N | 5.24 | 131.08 | 122.70 |
| 2 | B | 202 | VAL | CB-CA-C | -5.24 | 101.45 | 111.40 |
| 2 | B | 148 | GLY | CA-C-N | -5.24 | 105.68 | 117.20 |
| 2 | D | 97 | THR | CA-CB-CG2 | -5.23 | 105.08 | 112.40 |
| 1 | C | 127 | SER | CA-C-N | 5.23 | 126.66 | 116.20 |
| 2 | B | 194 | SER | N-CA-C | 5.22 | 125.11 | 111.00 |
| 2 | B | 194 | SER | O-C-N | -5.22 | 114.34 | 122.70 |
| 2 | D | 167 | ALA | C-N-CA | -5.22 | 108.65 | 121.70 |
| 2 | B | 23 | ALA | N-CA-C | 5.21 | 125.07 | 111.00 |
| 2 | D | 201 | THR | CA-CB-CG2 | -5.21 | 105.10 | 112.40 |
| 2 | B | 196 | THR | O-C-N | 5.21 | 131.03 | 122.70 |
| 1 | C | 184 | ASP | O-C-N | -5.21 | 114.37 | 122.70 |
| 2 | D | 189 | LEU | CA-CB-CG | 5.20 | 127.27 | 115.30 |
| 2 | B | 4 | LEU | O-C-N | -5.20 | 114.38 | 122.70 |
| 1 | A | 175 | MET | CB-CG-SD | -5.20 | 96.81 | 112.40 |
| 2 | B | 152 | LYS | N-CA-CB | -5.19 | 101.25 | 110.60 |
| 1 | C | 160 | LEU | CA-C-N | 5.19 | 128.62 | 117.20 |
| 1 | A | 44 | LEU | CB-CG-CD2 | -5.18 | 102.19 | 111.00 |
| 2 | B | 20 | LEU | CA-CB-CG | 5.18 | 127.22 | 115.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2 | B | 201 | THR | O-C-N | 5.18 | 130.99 | 122.70 |
| 2 | B | 147 | LEU | CA-CB-CG | 5.17 | 127.20 | 115.30 |
| 1 | A | 135 | PHE | CA-CB-CG | 5.16 | 126.29 | 113.90 |
| 2 | D | 144 | SER | O-C-N | 5.16 | 130.96 | 122.70 |
| 1 | C | 12 | SER | CA-C-N | -5.15 | 105.86 | 117.20 |
| 2 | D | 151 | VAL | O-C-N | -5.15 | 114.45 | 122.70 |
| 2 | D | 77 | ASN | N-CA-CB | -5.15 | 101.33 | 110.60 |
| 2 | D | 87 | ARG | O-C-N | -5.14 | 114.47 | 122.70 |
| 2 | B | 120 | VAL | N-CA-C | -5.14 | 97.12 | 111.00 |
| 2 | B | 173 | ARG | CB-CA-C | -5.13 | 100.13 | 110.40 |
| 2 | B | 173 | ARG | N-CA-CB | 5.13 | 119.84 | 110.60 |
| 2 | D | 36 | TRP | CG-CD1-NE1 | -5.13 | 104.97 | 110.10 |
| 2 | D | 91 | THR | CA-C-N | 5.13 | 128.49 | 117.20 |
| 2 | D | 135 | PRO | CA-N-CD | -5.13 | 104.32 | 111.50 |
| 2 | B | 53 | SER | O-C-N | -5.13 | 114.48 | 123.20 |
| 1 | C | 192 | TYR | CG-CD2-CE2 | -5.13 | 117.20 | 121.30 |
| 2 | B | 33 | GLY | N-CA-C | -5.12 | 100.29 | 113.10 |
| 1 | A | 28 | ASP | CB-CG-OD2 | 5.12 | 122.91 | 118.30 |
| 2 | D | 120 | VAL | CA-C-N | 5.12 | 128.46 | 117.20 |
| 2 | B | 163 | TRP | CB-CG-CD1 | -5.12 | 120.35 | 127.00 |
| 1 | C | 103 | LYS | N-CA-C | -5.11 | 97.19 | 111.00 |
| 1 | C | 51 | THR | C-N-CA | -5.11 | 108.92 | 121.70 |
| 1 | C | 131 | SER | N-CA-C | -5.11 | 97.22 | 111.00 |
| 2 | D | 114 | GLN | CA-C-N | 5.10 | 126.40 | 116.20 |
| 1 | A | 155 | ARG | CB-CG-CD | -5.09 | 98.36 | 111.60 |
| 2 | D | 16 | GLY | N-CA-C | 5.09 | 125.83 | 113.10 |
| 1 | A | 65 | TRP | CG-CD1-NE1 | -5.09 | 105.01 | 110.10 |
| 2 | D | 18 | ARG | N-CA-CB | 5.08 | 119.75 | 110.60 |
| 2 | D | 195 | SER | N-CA-CB | -5.08 | 102.88 | 110.50 |
| 1 | C | 198 | HIS | CB-CG-ND1 | 5.08 | 135.89 | 123.20 |
| 2 | D | 4 | LEU | CA-C-N | 5.07 | 128.36 | 117.20 |
| 1 | C | 65 | TRP | NE1-CE2-CD2 | 5.07 | 112.37 | 107.30 |
| 1 | A | 205 | ILE | CB-CG1-CD1 | -5.07 | 99.71 | 113.90 |
| 2 | D | 87 | ARG | CA-C-N | 5.07 | 128.35 | 117.20 |
| 1 | A | 98 | PHE | O-C-N | -5.07 | 114.59 | 123.20 |
| 1 | A | 164 | THR | C-N-CA | -5.07 | 109.04 | 121.70 |
| 2 | B | 106 | LEU | CA-C-N | 5.06 | 128.33 | 117.20 |
| 2 | B | 143 | SER | N-CA-CB | -5.06 | 102.91 | 110.50 |
| 1 | C | 146 | VAL | CG1-CB-CG2 | -5.05 | 102.81 | 110.90 |
| 1 | C | 108 | ARG | NE-CZ-NH1 | -5.05 | 117.78 | 120.30 |
| 1 | A | 100 | GLY | CA-C-O | -5.04 | 111.52 | 120.60 |
| 2 | D | 65 | LYS | CA-CB-CG | 5.04 | 124.50 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | A | 192 | TYR | O-C-N | -5.04 | 114.63 | 122.70 |
| 2 | B | 137 | CYS | CA-CB-SG | 5.04 | 123.07 | 114.00 |
| 1 | C | 148 | TRP | N-CA-C | -5.04 | 97.39 | 111.00 |
| 2 | B | 136 | GLY | O-C-N | -5.03 | 114.65 | 122.70 |
| 1 | A | 150 | ILE | CB-CA-C | -5.03 | 101.54 | 111.60 |
| 2 | B | 121 | SER | O-C-N | 5.03 | 130.75 | 122.70 |
| 1 | C | 159 | VAL | CA-C-N | 5.03 | 128.26 | 117.20 |
| 2 | B | 72 | ARG | O-C-N | 5.03 | 130.75 | 122.70 |
| 2 | B | 98 | ARG | NE-CZ-NH2 | -5.02 | 117.79 | 120.30 |
| 1 | C | 56 | SER | N-CA-CB | -5.02 | 102.96 | 110.50 |
| 2 | D | 114 | GLN | CA-CB-CG | -5.02 | 102.35 | 113.40 |
| 1 | C | 85 | THR | OG1-CB-CG2 | -5.02 | 98.45 | 110.00 |
| 1 | A | 38 | GLN | CA-C-N | 5.01 | 128.23 | 117.20 |
| 2 | B | 196 | THR | CA-C-N | -5.01 | 106.17 | 117.20 |
| 1 | C | 130 | ALA | O-C-N | -5.01 | 114.69 | 122.70 |
| 1 | A | 159 | VAL | N-CA-CB | -5.00 | 100.49 | 111.50 |
| 1 | A | 44 | LEU | O-C-N | -5.00 | 114.70 | 122.70 |
| 2 | D | 127 | ALA | CA-C-O | -5.00 | 109.60 | 120.10 |

There are no chirality outliers.

All (19) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | A | 186 | TYR | Sidechain |
| 1 | A | 94 | LEU | Peptide |
| 2 | B | 107 | TYR | Sidechain |
| 2 | B | 154 | TYR | Sidechain |
| 2 | B | 157 | GLY | Peptide |
| 2 | B | 195 | SER | Mainchain |
| 2 | B | 208 | HIS | Peptide |
| 1 | C | 140 | TYR | Peptide |
| 1 | C | 167 | ASP | Mainchain |
| 1 | C | 203 | SER | Peptide |
| 1 | C | 96 | TYR | Sidechain |
| 2 | D | 102 | GLY | Mainchain |
| 2 | D | 107 | TYR | Sidechain |
| 2 | D | 123 | ALA | Mainchain |
| 2 | D | 169 | SER | Mainchain |
| 2 | D | 184 | TYR | Sidechain |
| 2 | D | 208 | HIS | Peptide |
| 2 | D | 40 | ALA | Peptide |
| 2 | D | 94 | TYR | 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 | 1605 | 0 | 1540 | 373 | 0 |
| 1 | C | 1605 | 0 | 1538 | 372 | 2 |
| 2 | B | 1624 | 0 | 1583 | 364 | 2 |
| 2 | D | 1624 | 0 | 1586 | 353 | 0 |
| All | All | 6458 | 0 | 6247 | 1397 | 2 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 110.

All (1397) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:120:PRO:CB | 1:A:125:LEU:HD21 | 1.39 | 1.51 |
| 2:B:133:LEU:CD1 | 2:B:189:LEU:HD11 | 1.48 | 1.41 |
| 1:C:78:LEU:HD12 | 1:C:78:LEU:C | 1.30 | 1.38 |
| 2:D:163:TRP:CD1 | 2:D:172:VAL:HG21 | 1.63 | 1.34 |
| 2:D:11:LEU:CD2 | 2:D:119:ILE:CG2 | 2.09 | 1.31 |
| 1:C:78:LEU:CD1 | 1:C:78:LEU:C | 1.99 | 1.30 |
| 2:B:158:PRO:O | 2:B:209:PRO:HG2 | 1.22 | 1.29 |
| 2:D:38:ARG:NE | 2:D:46:GLU:OE2 | 1.65 | 1.29 |
| 2:D:11:LEU:HD23 | 2:D:119:ILE:CG2 | 1.63 | 1.27 |
| 2:D:75:PRO:HG2 | 2:D:77:ASN:OD1 | 1.09 | 1.26 |
| 1:A:79:GLU:HB3 | 1:A:81:GLU:OE2 | 1.31 | 1.25 |
| 2:B:133:LEU:HB2 | 2:B:148:GLY:CA | 1.66 | 1.24 |
| 2:B:204:CYS:N | 2:B:216:ILE:O | 1.67 | 1.24 |
| 1:A:205:ILE:HD13 | 1:A:206:VAL:N | 1.51 | 1.24 |
| 2:B:106:LEU:HD23 | 2:B:108:TYR:CD1 | 1.72 | 1.23 |
| 2:D:147:LEU:HD12 | 2:D:217:LYS:NZ | 1.51 | 1.22 |
| 2:B:166:GLY:O | 2:B:168:LEU:CD1 | 1.88 | 1.21 |
| 2:B:133:LEU:HD12 | 2:B:189:LEU:CD1 | 1.69 | 1.21 |
| 1:A:12:SER:OG | 1:A:107:LYS:HG3 | 1.33 | 1.20 |
| 1:A:205:ILE:HD13 | 1:A:205:ILE:C | 1.44 | 1.20 |
| 2:D:163:TRP:CD1 | 2:D:172:VAL:CG2 | 2.23 | 1.20 |
| 2:B:13:GLN:HA | 2:B:121:SER:O | 1.39 | 1.19 |
| 2:B:195:SER:O | 2:B:199:SER:OG | 1.58 | 1.19 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:124:GLN:HG2 | 1:C:129:GLY:O | 1.39 | 1.18 |
| 1:C:15:LEU:HD21 | 1:C:80:GLU:OE1 | 1.44 | 1.18 |
| 1:C:92:LYS:HG3 | 1:C:93:THR:OG1 | 1.42 | 1.18 |
| 1:C:78:LEU:O | 1:C:78:LEU:HD12 | 1.40 | 1.17 |
| 1:A:18:ARG:HA | 1:A:75:ILE:O | 1.43 | 1.17 |
| 2:B:152:LYS:HG2 | 2:B:185:SER:OG | 1.43 | 1.17 |
| 2:B:167:ALA:HA | 2:B:170:SER:OG | 1.40 | 1.16 |
| 1:A:56:SER:HB2 | 2:D:212:LYS:HD2 | 1.18 | 1.16 |
| 1:A:150:ILE:HG21 | 1:A:189:HIS:CD2 | 1.79 | 1.16 |
| 1:A:147:LYS:NZ | 1:A:154:GLU:OE2 | 1.78 | 1.16 |
| 2:B:133:LEU:CD1 | 2:B:189:LEU:CD1 | 2.23 | 1.16 |
| 1:A:120:PRO:HB3 | 1:A:125:LEU:CD2 | 1.77 | 1.15 |
| 2:D:60:TYR:OH | 2:D:69:THR:HA | 1.47 | 1.14 |
| 2:D:34:MET:CE | 2:D:34:MET:HA | 1.77 | 1.14 |
| 2:B:41:PRO:O | 2:B:43:LYS:N | 1.79 | 1.13 |
| 1:C:108:ARG:HH21 | 1:C:108:ARG:HG3 | 1.06 | 1.13 |
| 1:A:17:ASP:O | 1:A:78:LEU:N | 1.81 | 1.12 |
| 2:B:88:SER:O | 2:B:91:THR:HG22 | 1.45 | 1.12 |
| 1:C:7:ILE:O | 1:C:7:ILE:HD13 | 1.45 | 1.12 |
| 2:D:216:ILE:HG12 | 2:D:217:LYS:N | 1.57 | 1.12 |
| 2:D:75:PRO:CG | 2:D:77:ASN:OD1 | 1.96 | 1.12 |
| 2:B:168:LEU:HD13 | 2:B:168:LEU:N | 1.65 | 1.12 |
| 2:D:137:CYS:O | 2:D:139:ASP:OD2 | 1.65 | 1.11 |
| 2:D:168:LEU:O | 2:D:193:PRO:HG2 | 1.49 | 1.11 |
| 1:A:106:ILE:HD13 | 1:A:106:ILE:N | 1.63 | 1.11 |
| 2:B:133:LEU:HD12 | 2:B:148:GLY:HA3 | 1.25 | 1.11 |
| 1:C:106:ILE:HG21 | 1:C:171:SER:OG | 1.51 | 1.10 |
| 1:C:20:ILE:HG13 | 1:C:74:THR:OG1 | 1.46 | 1.10 |
| 2:D:19:LYS:CD | 2:D:82:GLN:OE1 | 1.99 | 1.10 |
| 2:B:133:LEU:HD13 | 2:B:189:LEU:HD11 | 1.21 | 1.10 |
| 2:D:11:LEU:CD2 | 2:D:119:ILE:HG22 | 1.72 | 1.09 |
| 1:C:144:ILE:HG23 | 1:C:144:ILE:O | 1.49 | 1.09 |
| 2:B:103:THR:HG22 | 2:B:104:ARG:HG3 | 1.11 | 1.09 |
| 2:B:166:GLY:O | 2:B:168:LEU:HD11 | 1.49 | 1.09 |
| 1:C:166:GLN:HG2 | 1:C:171:SER:HA | 1.24 | 1.09 |
| 1:C:38:GLN:HB3 | 1:C:85:THR:HG22 | 1.11 | 1.08 |
| 1:C:49:TYR:CD2 | 1:C:53:ARG:HB2 | 1.87 | 1.08 |
| 1:C:86:PHE:HE2 | 1:C:104:LEU:HD13 | 1.16 | 1.08 |
| 2:D:74:ASN:O | 2:D:77:ASN:HB2 | 1.54 | 1.08 |
| 2:B:60:TYR:OH | 2:B:69:THR:HA | 1.54 | 1.07 |
| 1:A:83:ILE:HD12 | 1:A:106:ILE:HD11 | 1.36 | 1.07 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:131:TYR:HD2 | 2:B:150:LEU:HD12 | 1.11 | 1.07 |
| 2:B:60:TYR:CD2 | 2:B:65:LYS:HD3 | 1.89 | 1.07 |
| 2:B:106:LEU:HD23 | 2:B:108:TYR:HD1 | 0.94 | 1.07 |
| 1:A:205:ILE:CD1 | 1:A:205:ILE:C | 2.23 | 1.07 |
| 2:B:140:THR:HG22 | 2:B:141:SER:N | 1.67 | 1.06 |
| 1:A:130:ALA:N | 1:A:181:LEU:O | 1.87 | 1.06 |
| 2:B:217:LYS:HE2 | 2:B:217:LYS:HA | 1.37 | 1.05 |
| 2:D:147:LEU:HD12 | 2:D:217:LYS:HZ2 | 0.92 | 1.05 |
| 1:A:130:ALA:O | 1:A:181:LEU:N | 1.89 | 1.05 |
| 2:D:38:ARG:CZ | 2:D:46:GLU:OE2 | 2.02 | 1.05 |
| 1:C:124:GLN:O | 1:C:127:SER:HB2 | 1.55 | 1.05 |
| 1:C:4:MET:CE | 1:C:90:GLN:HG3 | 1.86 | 1.05 |
| 2:B:203:ILE:HA | 2:B:217:LYS:HB2 | 1.35 | 1.05 |
| 1:C:144:ILE:O | 1:C:144:ILE:CG2 | 1.99 | 1.05 |
| 2:B:68:PHE:CE2 | 2:B:83:MET:HG2 | 1.91 | 1.04 |
| 1:C:12:SER:OG | 1:C:105:GLU:HB3 | 1.54 | 1.04 |
| 2:D:19:LYS:HD3 | 2:D:82:GLN:OE1 | 1.57 | 1.04 |
| 2:D:88:SER:HA | 2:D:120:VAL:CG1 | 1.87 | 1.04 |
| 2:D:11:LEU:HD23 | 2:D:119:ILE:CB | 1.86 | 1.04 |
| 2:D:99:GLY:O | 2:D:110:ASP:HB2 | 1.56 | 1.04 |
| 2:D:169:SER:HB3 | 2:D:193:PRO:HD3 | 1.39 | 1.04 |
| 2:B:17:SER:CB | 2:B:83:MET:O | 2.05 | 1.04 |
| 2:D:131:TYR:N | 2:D:150:LEU:O | 1.90 | 1.03 |
| 1:A:155:ARG:HG2 | 1:A:179:LEU:HD21 | 1.41 | 1.03 |
| 2:D:179:LEU:HD23 | 2:D:179:LEU:C | 1.79 | 1.03 |
| 1:A:120:PRO:CB | 1:A:125:LEU:CD2 | 2.34 | 1.03 |
| 1:A:15:LEU:HD21 | 1:A:80:GLU:HB3 | 1.40 | 1.02 |
| 1:C:15:LEU:CD2 | 1:C:80:GLU:OE1 | 2.07 | 1.02 |
| 1:C:108:ARG:HG2 | 1:C:140:TYR:CD1 | 1.94 | 1.02 |
| 2:D:11:LEU:HD23 | 2:D:119:ILE:HB | 1.42 | 1.02 |
| 2:D:10:GLY:HA3 | 2:D:18:ARG:HH12 | 1.24 | 1.02 |
| 1:A:105:GLU:O | 1:A:105:GLU:HG3 | 1.60 | 1.02 |
| 1:A:120:PRO:HB3 | 1:A:125:LEU:HD21 | 1.02 | 1.02 |
| 1:A:108:ARG:CD | 1:A:171:SER:HB2 | 1.90 | 1.01 |
| 2:B:140:THR:OG1 | 2:B:145:VAL:HA | 1.61 | 1.01 |
| 1:C:113:PRO:HB3 | 1:C:139:PHE:HB3 | 1.42 | 1.01 |
| 1:A:80:GLU:HG2 | 1:A:81:GLU:OE1 | 1.59 | 1.01 |
| 2:B:144:SER:HA | 2:B:193:PRO:HA | 1.03 | 1.01 |
| 1:C:166:GLN:HE21 | 1:C:171:SER:HB3 | 1.25 | 1.00 |
| 1:A:12:SER:HA | 1:A:105:GLU:O | 1.59 | 1.00 |
| 1:C:160:LEU:HD22 | 2:D:178:VAL:HG21 | 1.42 | 1.00 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:11:LEU:HD21 | 2:D:119:ILE:HG21 | 1.40 | 1.00 |
| 1:A:24:ARG:HG3 | 1:A:70:ASP:OD2 | 1.59 | 1.00 |
| 1:C:133:VAL:HG21 | 2:D:133:LEU:HD21 | 1.38 | 0.99 |
| 1:A:108:ARG:HD2 | 1:A:171:SER:HB2 | 1.00 | 0.99 |
| 2:B:131:TYR:CD2 | 2:B:150:LEU:HD12 | 1.98 | 0.99 |
| 2:D:2:VAL:HG12 | 2:D:2:VAL:O | 1.60 | 0.99 |
| 1:A:148:TRP:O | 1:A:155:ARG:N | 1.94 | 0.99 |
| 1:A:8:THR:HG21 | 1:A:11:LEU:HD13 | 1.42 | 0.98 |
| 2:B:131:TYR:HD2 | 2:B:150:LEU:CD1 | 1.76 | 0.98 |
| 1:C:21:ILE:HB | 1:C:73:LEU:HB3 | 1.44 | 0.98 |
| 1:A:33:LEU:HD13 | 1:A:71:TYR:CG | 1.97 | 0.98 |
| 1:A:19:VAL:CG2 | 1:A:78:LEU:HD12 | 1.92 | 0.98 |
| 2:B:144:SER:CA | 2:B:193:PRO:HA | 1.93 | 0.98 |
| 1:A:12:SER:OG | 1:A:107:LYS:CG | 2.12 | 0.98 |
| 2:B:133:LEU:HB2 | 2:B:148:GLY:HA3 | 1.46 | 0.98 |
| 2:B:171:GLY:O | 2:B:190:VAL:HA | 1.62 | 0.98 |
| 2:B:133:LEU:HD12 | 2:B:189:LEU:HD13 | 1.43 | 0.97 |
| 1:C:2:ILE:O | 1:C:3:GLN:HG3 | 1.64 | 0.97 |
| 2:B:158:PRO:O | 2:B:209:PRO:CG | 2.11 | 0.97 |
| 1:A:18:ARG:HH21 | 1:A:74:THR:HG21 | 1.27 | 0.97 |
| 1:C:49:TYR:N | 1:C:53:ARG:O | 1.97 | 0.97 |
| 2:D:73:ASP:O | 2:D:77:ASN:HB3 | 1.63 | 0.97 |
| 2:D:125:THR:HG22 | 2:D:126:THR:N | 1.75 | 0.97 |
| 1:A:136:LEU:HD13 | 1:A:144:ILE:HD12 | 1.47 | 0.97 |
| 2:D:216:ILE:CG1 | 2:D:217:LYS:H | 1.77 | 0.97 |
| 2:D:11:LEU:CD2 | 2:D:119:ILE:HG21 | 1.86 | 0.96 |
| 2:D:104:ARG:O | 2:D:105:SER:CB | 2.10 | 0.96 |
| 2:B:168:LEU:CD1 | 2:B:168:LEU:N | 2.29 | 0.96 |
| 2:B:154:TYR:OH | 2:B:186:LEU:HD23 | 1.65 | 0.96 |
| 1:A:6:GLN:OE1 | 1:A:101:GLY:N | 1.96 | 0.96 |
| 1:A:108:ARG:HD2 | 1:A:171:SER:CB | 1.95 | 0.96 |
| 1:A:13:VAL:CG2 | 1:A:78:LEU:HD13 | 1.96 | 0.96 |
| 2:D:216:ILE:HG12 | 2:D:217:LYS:H | 1.19 | 0.96 |
| 2:D:10:GLY:HA3 | 2:D:18:ARG:NH1 | 1.80 | 0.96 |
| 1:A:135:PHE:CE2 | 1:A:174:SER:HB3 | 2.01 | 0.95 |
| 2:D:147:LEU:CD1 | 2:D:217:LYS:NZ | 2.28 | 0.95 |
| 2:B:121:SER:OG | 2:B:122:SER:N | 1.97 | 0.95 |
| 1:C:196:ALA:HB3 | 1:C:205:ILE:CG2 | 1.96 | 0.95 |
| 2:B:130:VAL:HG22 | 2:B:206:VAL:HG21 | 1.47 | 0.95 |
| 2:D:163:TRP:HD1 | 2:D:172:VAL:HG21 | 1.04 | 0.95 |
| 1:C:50:TYR:O | 1:C:52:SER:N | 1.99 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:11:LEU:HD21 | 2:D:119:ILE:CG2 | 1.88 | 0.95 |
| 1:A:198:HIS:O | 1:A:200:THR:N | 2.00 | 0.94 |
| 1:C:108:ARG:NH2 | 1:C:109:ALA:O | 2.00 | 0.94 |
| 2:D:34:MET:HE2 | 2:D:34:MET:HA | 1.44 | 0.94 |
| 1:A:41:ASP:N | 1:A:41:ASP:OD1 | 1.96 | 0.94 |
| 2:B:6:GLU:CB | 2:B:116:ALA:HB2 | 1.98 | 0.94 |
| 1:A:149:LYS:HA | 1:A:153:SER:O | 1.66 | 0.94 |
| 1:C:108:ARG:HG3 | 1:C:109:ALA:N | 1.81 | 0.94 |
| 1:A:27:GLN:O | 1:A:29:ILE:HD13 | 1.65 | 0.94 |
| 1:C:23:CYS:HB2 | 1:C:35:TRP:HH2 | 1.32 | 0.94 |
| 1:C:86:PHE:CE2 | 1:C:104:LEU:HD13 | 2.02 | 0.94 |
| 2:D:216:ILE:O | 2:D:217:LYS:HB2 | 1.68 | 0.94 |
| 2:D:27:PHE:CD2 | 2:D:32:PHE:HE1 | 1.84 | 0.94 |
| 1:A:12:SER:HB3 | 1:A:107:LYS:NZ | 1.82 | 0.94 |
| 2:B:156:PRO:O | 2:B:208:HIS:HE1 | 1.48 | 0.94 |
| 1:A:135:PHE:HE2 | 1:A:174:SER:HB3 | 1.32 | 0.93 |
| 2:D:133:LEU:HD12 | 2:D:148:GLY:HA3 | 1.50 | 0.93 |
| 1:A:51:THR:OG1 | 1:A:71:TYR:HE2 | 1.51 | 0.93 |
| 1:A:122:SER:O | 1:A:123:GLU:C | 2.03 | 0.93 |
| 2:B:19:LYS:HA | 2:B:82:GLN:HA | 1.51 | 0.93 |
| 1:A:29:ILE:HG23 | 1:A:32:PHE:HB2 | 1.50 | 0.93 |
| 1:C:150:ILE:O | 1:C:152:GLY:N | 2.01 | 0.93 |
| 1:C:91:GLY:O | 2:D:107:TYR:N | 2.00 | 0.93 |
| 2:B:125:THR:HG22 | 2:B:125:THR:O | 1.68 | 0.92 |
| 2:D:216:ILE:CG1 | 2:D:217:LYS:N | 2.25 | 0.92 |
| 1:A:12:SER:CB | 1:A:107:LYS:HG3 | 1.97 | 0.92 |
| 1:A:135:PHE:CE1 | 2:B:189:LEU:HD23 | 2.04 | 0.92 |
| 2:B:133:LEU:CD1 | 2:B:148:GLY:HA3 | 1.98 | 0.92 |
| 2:D:19:LYS:HD2 | 2:D:82:GLN:OE1 | 1.66 | 0.92 |
| 1:C:108:ARG:NH2 | 1:C:108:ARG:HG3 | 1.79 | 0.91 |
| 2:D:67:ARG:HD2 | 2:D:85:SER:O | 1.70 | 0.91 |
| 2:D:71:SER:O | 2:D:79:LEU:HD12 | 1.70 | 0.91 |
| 2:B:144:SER:HA | 2:B:193:PRO:CA | 1.98 | 0.90 |
| 2:D:67:ARG:O | 2:D:84:THR:HG22 | 1.70 | 0.90 |
| 2:D:34:MET:HE3 | 2:D:34:MET:HA | 1.51 | 0.90 |
| 2:B:103:THR:HG22 | 2:B:104:ARG:CG | 2.00 | 0.90 |
| 2:B:133:LEU:HB2 | 2:B:148:GLY:N | 1.86 | 0.90 |
| 1:C:2:ILE:HD13 | 1:C:90:GLN:NE2 | 1.86 | 0.90 |
| 1:C:61:ARG:NH2 | 1:C:82:ASP:OD1 | 2.05 | 0.90 |
| 1:A:12:SER:OG | 1:A:140:TYR:OH | 1.90 | 0.90 |
| 2:B:87:ARG:NH1 | 2:B:89:GLU:HB2 | 1.86 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:100:GLY:O | 2:B:101:THR:HB | 1.70 | 0.90 |
| 2:B:98:ARG:N | 2:B:111:TYR:O | 2.05 | 0.89 |
| 2:B:140:THR:CG2 | 2:B:141:SER:N | 2.27 | 0.89 |
| 2:D:1:ASP:O | 2:D:2:VAL:HB | 1.72 | 0.89 |
| 1:A:31:ASN:HA | 1:A:71:TYR:OH | 1.72 | 0.89 |
| 2:B:6:GLU:HB3 | 2:B:116:ALA:HB2 | 1.52 | 0.89 |
| 1:C:108:ARG:NH2 | 1:C:109:ALA:HB3 | 1.86 | 0.89 |
| 2:B:101:THR:O | 2:B:101:THR:CG2 | 2.21 | 0.89 |
| 1:C:108:ARG:CG | 1:C:109:ALA:N | 2.27 | 0.89 |
| 2:B:104:ARG:O | 2:B:106:LEU:N | 2.05 | 0.89 |
| 2:B:204:CYS:SG | 2:B:216:ILE:HG22 | 2.12 | 0.89 |
| 2:D:34:MET:HE1 | 2:D:98:ARG:HA | 1.53 | 0.89 |
| 2:D:104:ARG:O | 2:D:105:SER:HB2 | 1.72 | 0.89 |
| 2:B:110:ASP:OD2 | 2:B:111:TYR:CE2 | 2.26 | 0.88 |
| 1:C:56:SER:O | 1:C:58:VAL:N | 2.06 | 0.88 |
| 2:D:6:GLU:OE2 | 2:D:6:GLU:N | 2.04 | 0.88 |
| 1:C:80:GLU:O | 1:C:83:ILE:HG22 | 1.73 | 0.88 |
| 1:C:12:SER:OG | 1:C:105:GLU:CB | 2.21 | 0.88 |
| 2:D:217:LYS:O | 2:D:217:LYS:HE2 | 1.74 | 0.88 |
| 1:C:190:ASN:HD22 | 1:C:190:ASN:N | 1.69 | 0.87 |
| 1:A:31:ASN:HD21 | 1:A:67:SER:HA | 1.40 | 0.87 |
| 1:A:19:VAL:CG2 | 1:A:78:LEU:CD1 | 2.53 | 0.87 |
| 2:B:106:LEU:CD2 | 2:B:108:TYR:HD1 | 1.85 | 0.87 |
| 1:C:78:LEU:HD12 | 1:C:79:GLU:N | 1.88 | 0.87 |
| 2:B:97:THR:HG21 | 2:B:109:PHE:HB3 | 1.57 | 0.87 |
| 1:C:55:GLN:HG3 | 1:C:56:SER:N | 1.90 | 0.87 |
| 2:B:67:ARG:HG2 | 2:B:67:ARG:HH21 | 1.38 | 0.86 |
| 2:B:8:GLY:O | 2:B:18:ARG:NH1 | 2.08 | 0.86 |
| 1:C:23:CYS:HB2 | 1:C:35:TRP:CH2 | 2.09 | 0.86 |
| 1:A:120:PRO:HB2 | 1:A:125:LEU:HD21 | 1.54 | 0.86 |
| 1:A:4:MET:HA | 1:A:4:MET:HE2 | 1.55 | 0.86 |
| 1:A:162:SER:HB2 | 2:B:175:VAL:CG1 | 2.05 | 0.86 |
| 2:B:87:ARG:HB3 | 2:B:89:GLU:OE1 | 1.76 | 0.86 |
| 1:C:169:LYS:O | 1:C:169:LYS:HG2 | 1.74 | 0.86 |
| 1:C:49:TYR:O | 1:C:53:ARG:N | 2.09 | 0.86 |
| 2:D:128:PRO:O | 2:D:128:PRO:HD2 | 1.75 | 0.86 |
| 2:D:196:THR:OG1 | 2:D:197:TRP:N | 2.06 | 0.86 |
| 2:B:167:ALA:CA | 2:B:170:SER:OG | 2.23 | 0.85 |
| 2:B:87:ARG:NH1 | 2:B:89:GLU:CB | 2.39 | 0.85 |
| 1:A:131:SER:OG | 1:A:180:THR:HG23 | 1.76 | 0.85 |
| 1:A:189:HIS:HB2 | 1:A:192:TYR:OH | 1.74 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:19:LYS:HA | 2:D:82:GLN:HA | 1.58 | 0.85 |
| 1:A:65:TRP:CD1 | 1:A:65:TRP:N | 2.43 | 0.85 |
| 1:C:4:MET:HE1 | 1:C:90:GLN:HG3 | 1.56 | 0.85 |
| 1:A:185:GLU:HA | 1:A:188:ARG:HG3 | 1.57 | 0.85 |
| 2:D:34:MET:CE | 2:D:98:ARG:HA | 2.05 | 0.85 |
| 1:A:8:THR:HG21 | 1:A:11:LEU:CD1 | 2.06 | 0.85 |
| 2:D:97:THR:HG22 | 2:D:112:TRP:HA | 1.57 | 0.85 |
| 1:A:7:ILE:N | 1:A:7:ILE:HD13 | 1.91 | 0.84 |
| 1:A:135:PHE:CD1 | 2:B:189:LEU:HD23 | 2.12 | 0.84 |
| 1:A:79:GLU:CB | 1:A:81:GLU:OE2 | 2.23 | 0.84 |
| 2:B:106:LEU:CD2 | 2:B:108:TYR:CD1 | 2.58 | 0.84 |
| 1:C:20:ILE:HA | 1:C:74:THR:HA | 1.60 | 0.84 |
| 1:A:120:PRO:CG | 1:A:125:LEU:HD21 | 2.05 | 0.84 |
| 1:A:41:ASP:OD2 | 1:A:43:SER:OG | 1.96 | 0.84 |
| 1:A:60:SER:O | 1:C:126:THR:HG23 | 1.78 | 0.84 |
| 1:C:133:VAL:HG21 | 2:D:133:LEU:CD2 | 2.06 | 0.84 |
| 2:B:140:THR:CG2 | 2:B:141:SER:H | 1.78 | 0.84 |
| 2:B:51:ILE:HG13 | 2:B:58:ILE:HG12 | 1.59 | 0.84 |
| 1:C:38:GLN:HB3 | 1:C:85:THR:CG2 | 2.04 | 0.84 |
| 1:C:89:GLN:HG2 | 1:C:98:PHE:CE2 | 2.12 | 0.84 |
| 1:A:49:TYR:CZ | 1:A:53:ARG:HB3 | 2.13 | 0.84 |
| 1:A:83:ILE:HD12 | 1:A:106:ILE:CD1 | 2.08 | 0.84 |
| 1:C:83:ILE:HA | 1:C:104:LEU:HD22 | 1.58 | 0.83 |
| 1:C:183:LYS:HE2 | 1:C:187:GLU:OE2 | 1.78 | 0.83 |
| 1:C:39:LYS:HB2 | 1:C:43:SER:HB2 | 1.60 | 0.83 |
| 2:D:125:THR:CG2 | 2:D:126:THR:N | 2.41 | 0.83 |
| 2:D:88:SER:HA | 2:D:120:VAL:HG12 | 1.58 | 0.83 |
| 2:D:11:LEU:HD11 | 2:D:155:PHE:HE2 | 1.43 | 0.83 |
| 2:B:102:GLY:HA3 | 2:B:108:TYR:OH | 1.79 | 0.83 |
| 1:C:83:ILE:HA | 1:C:104:LEU:CD2 | 2.08 | 0.83 |
| 1:C:166:GLN:HG2 | 1:C:171:SER:CA | 2.07 | 0.83 |
| 1:C:36:TYR:CE2 | 1:C:46:LEU:HD23 | 2.14 | 0.83 |
| 2:B:134:VAL:HG23 | 2:B:135:PRO:HD2 | 1.61 | 0.83 |
| 1:C:4:MET:HE1 | 1:C:90:GLN:CG | 2.09 | 0.83 |
| 2:B:91:THR:HB | 2:B:120:VAL:H | 1.43 | 0.83 |
| 1:A:142:LYS:HG3 | 1:A:173:TYR:CE1 | 2.14 | 0.82 |
| 1:A:19:VAL:HG23 | 1:A:78:LEU:HD12 | 1.58 | 0.82 |
| 1:C:49:TYR:CD2 | 1:C:53:ARG:CB | 2.62 | 0.82 |
| 1:C:196:ALA:HB3 | 1:C:205:ILE:HG22 | 1.59 | 0.82 |
| 2:B:133:LEU:HB2 | 2:B:148:GLY:C | 1.99 | 0.82 |
| 1:A:39:LYS:HB2 | 1:A:40:PRO:HD2 | 1.61 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:4:MET:CE | 1:C:90:GLN:CG | 2.58 | 0.82 |
| 1:A:2:ILE:CD1 | 1:A:29:ILE:HD11 | 2.09 | 0.82 |
| 2:D:19:LYS:HD2 | 2:D:82:GLN:HB2 | 1.60 | 0.81 |
| 2:D:88:SER:HA | 2:D:120:VAL:HG11 | 1.62 | 0.81 |
| 2:B:144:SER:OG | 2:B:193:PRO:HB3 | 1.78 | 0.81 |
| 2:B:217:LYS:CE | 2:B:217:LYS:HA | 2.09 | 0.81 |
| 1:C:108:ARG:CG | 1:C:108:ARG:HH21 | 1.88 | 0.81 |
| 1:C:108:ARG:HH22 | 1:C:109:ALA:HB3 | 1.42 | 0.81 |
| 1:C:4:MET:HE3 | 1:C:90:GLN:H | 1.45 | 0.81 |
| 1:C:9:SER:HA | 1:C:102:THR:HA | 1.61 | 0.81 |
| 1:A:36:TYR:HE1 | 1:A:89:GLN:HG2 | 1.42 | 0.81 |
| 2:B:107:TYR:HD1 | 2:B:107:TYR:N | 1.73 | 0.81 |
| 1:A:85:THR:HB | 1:A:103:LYS:HA | 1.61 | 0.81 |
| 2:D:38:ARG:NH1 | 2:D:46:GLU:OE2 | 2.12 | 0.81 |
| 2:D:204:CYS:O | 2:D:216:ILE:N | 2.12 | 0.81 |
| 2:D:140:THR:OG1 | 2:D:144:SER:HB3 | 1.81 | 0.81 |
| 2:D:159:VAL:CG2 | 2:D:208:HIS:HB2 | 2.11 | 0.80 |
| 2:D:78:THR:HG22 | 2:D:79:LEU:N | 1.93 | 0.80 |
| 2:D:33:GLY:O | 2:D:34:MET:HE3 | 1.81 | 0.80 |
| 2:B:103:THR:CG2 | 2:B:104:ARG:HG3 | 2.03 | 0.80 |
| 1:C:2:ILE:HG12 | 1:C:29:ILE:CD1 | 2.12 | 0.80 |
| 1:A:66:GLY:HA3 | 1:A:71:TYR:CD2 | 2.16 | 0.80 |
| 1:A:13:VAL:HG21 | 1:A:78:LEU:HD13 | 1.62 | 0.80 |
| 2:D:179:LEU:HB2 | 2:D:184:TYR:CD1 | 2.17 | 0.80 |
| 1:C:20:ILE:HD11 | 1:C:65:TRP:HE1 | 1.47 | 0.80 |
| 2:D:75:PRO:HG2 | 2:D:77:ASN:CG | 2.02 | 0.80 |
| 1:A:170:ASP:O | 1:A:172:THR:N | 2.15 | 0.80 |
| 2:D:100:GLY:O | 2:D:101:THR:HB | 1.80 | 0.80 |
| 1:C:78:LEU:HD11 | 1:C:79:GLU:O | 1.80 | 0.79 |
| 1:A:79:GLU:O | 1:A:81:GLU:N | 2.15 | 0.79 |
| 2:B:139:ASP:C | 2:B:145:VAL:HG13 | 2.03 | 0.79 |
| 2:B:64:VAL:HB | 2:B:68:PHE:CD1 | 2.17 | 0.79 |
| 2:D:78:THR:CG2 | 2:D:79:LEU:N | 2.45 | 0.79 |
| 2:D:128:PRO:CD | 2:D:128:PRO:O | 2.28 | 0.79 |
| 2:D:27:PHE:CD2 | 2:D:32:PHE:CE1 | 2.71 | 0.79 |
| 2:D:89:GLU:N | 2:D:89:GLU:OE2 | 2.16 | 0.79 |
| 2:B:139:ASP:O | 2:B:145:VAL:HG13 | 1.82 | 0.79 |
| 1:C:143:ASP:OD1 | 1:C:143:ASP:N | 2.07 | 0.79 |
| 1:C:49:TYR:CG | 1:C:53:ARG:HB2 | 2.17 | 0.79 |
| 1:A:136:LEU:HD22 | 1:A:144:ILE:HD11 | 1.63 | 0.79 |
| 1:A:13:VAL:HG22 | 1:A:78:LEU:HD13 | 1.62 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:71:TYR:N | 1:C:71:TYR:CD1 | 2.51 | 0.79 |
| 1:C:135:PHE:CD2 | 2:D:189:LEU:HG | 2.17 | 0.79 |
| 1:A:15:LEU:HD21 | 1:A:80:GLU:CB | 2.12 | 0.78 |
| 2:B:147:LEU:O | 2:B:189:LEU:HD12 | 1.83 | 0.78 |
| 2:D:128:PRO:HB3 | 2:D:154:TYR:HB3 | 1.65 | 0.78 |
| 1:A:106:ILE:HD13 | 1:A:106:ILE:H | 1.47 | 0.78 |
| 2:B:138:SER:O | 2:B:145:VAL:HG22 | 1.83 | 0.78 |
| 2:B:139:ASP:O | 2:B:145:VAL:CG1 | 2.31 | 0.78 |
| 2:B:203:ILE:CA | 2:B:217:LYS:HB2 | 2.12 | 0.78 |
| 2:D:34:MET:CE | 2:D:34:MET:CA | 2.62 | 0.78 |
| 2:D:204:CYS:SG | 2:D:216:ILE:HG23 | 2.24 | 0.78 |
| 2:D:49:ALA:C | 2:D:70:ILE:HD11 | 2.04 | 0.78 |
| 1:C:94:LEU:HD11 | 1:C:96:TYR:OH | 1.83 | 0.78 |
| 2:D:87:ARG:O | 2:D:89:GLU:N | 2.16 | 0.78 |
| 1:A:135:PHE:CD1 | 2:B:189:LEU:CD2 | 2.67 | 0.78 |
| 2:D:179:LEU:CD2 | 2:D:179:LEU:C | 2.50 | 0.78 |
| 2:D:179:LEU:HD23 | 2:D:180:GLN:N | 1.97 | 0.78 |
| 1:C:203:SER:HB2 | 1:C:204:PRO:HD3 | 1.64 | 0.78 |
| 2:D:156:PRO:O | 2:D:208:HIS:HE1 | 1.66 | 0.77 |
| 2:B:98:ARG:HG2 | 2:B:99:GLY:N | 1.99 | 0.77 |
| 1:C:4:MET:HE3 | 1:C:90:GLN:HG3 | 1.66 | 0.77 |
| 2:B:151:VAL:O | 2:B:151:VAL:HG22 | 1.84 | 0.77 |
| 2:D:145:VAL:O | 2:D:191:THR:HA | 1.84 | 0.77 |
| 2:D:146:THR:OG1 | 2:D:191:THR:HG23 | 1.84 | 0.77 |
| 1:A:48:ILE:HA | 1:A:53:ARG:O | 1.84 | 0.77 |
| 2:B:34:MET:O | 2:B:50:TYR:CD2 | 2.37 | 0.77 |
| 2:B:22:CYS:O | 2:B:79:LEU:N | 2.15 | 0.77 |
| 2:B:146:THR:HA | 2:B:191:THR:HG22 | 1.67 | 0.77 |
| 1:C:29:ILE:HG12 | 1:C:90:GLN:CB | 2.14 | 0.77 |
| 1:A:106:ILE:N | 1:A:106:ILE:CD1 | 2.41 | 0.77 |
| 2:D:204:CYS:N | 2:D:216:ILE:O | 2.16 | 0.77 |
| 2:D:30:SER:O | 2:D:53:SER:HB2 | 1.84 | 0.77 |
| 1:A:108:ARG:CZ | 1:A:172:THR:HG23 | 2.14 | 0.77 |
| 2:B:97:THR:CG2 | 2:B:109:PHE:HB3 | 2.14 | 0.77 |
| 2:B:13:GLN:CA | 2:B:121:SER:O | 2.29 | 0.77 |
| 2:B:156:PRO:O | 2:B:208:HIS:CE1 | 2.36 | 0.77 |
| 1:C:117:ILE:HG23 | 1:C:117:ILE:O | 1.85 | 0.77 |
| 2:D:151:VAL:CG1 | 2:D:186:LEU:HD12 | 2.14 | 0.77 |
| 1:A:31:ASN:OD1 | 1:A:51:THR:HG21 | 1.84 | 0.77 |
| 1:C:36:TYR:HE1 | 1:C:89:GLN:CG | 1.98 | 0.77 |
| 1:C:7:ILE:O | 1:C:7:ILE:CD1 | 2.29 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:83:MET:SD | 2:B:86:LEU:HD21 | 2.25 | 0.77 |
| 2:B:33:GLY:HA2 | 2:B:72:ARG:HH22 | 1.50 | 0.76 |
| 1:C:29:ILE:HG12 | 1:C:90:GLN:HB3 | 1.66 | 0.76 |
| 1:A:121:SER:O | 1:A:125:LEU:HG | 1.84 | 0.76 |
| 2:B:101:THR:HG22 | 2:B:101:THR:O | 1.83 | 0.76 |
| 2:B:200:GLN:OE1 | 2:B:200:GLN:N | 2.18 | 0.76 |
| 1:C:108:ARG:HG3 | 1:C:109:ALA:O | 1.85 | 0.76 |
| 2:D:163:TRP:CD1 | 2:D:172:VAL:HG23 | 2.20 | 0.76 |
| 1:A:149:LYS:CA | 1:A:153:SER:O | 2.33 | 0.76 |
| 1:A:18:ARG:HH21 | 1:A:74:THR:CG2 | 1.97 | 0.76 |
| 1:A:51:THR:HG1 | 1:A:71:TYR:HE2 | 0.80 | 0.76 |
| 1:A:140:TYR:CD2 | 1:A:141:PRO:HA | 2.21 | 0.76 |
| 2:B:87:ARG:HH11 | 2:B:89:GLU:HG2 | 1.50 | 0.76 |
| 2:B:159:VAL:O | 2:B:159:VAL:HG12 | 1.86 | 0.76 |
| 2:D:11:LEU:HD11 | 2:D:155:PHE:CE2 | 2.20 | 0.76 |
| 2:B:34:MET:O | 2:B:50:TYR:HD2 | 1.68 | 0.76 |
| 1:C:65:TRP:HZ2 | 1:C:74:THR:HG1 | 1.34 | 0.76 |
| 1:A:32:PHE:HD2 | 2:B:106:LEU:HD12 | 1.50 | 0.75 |
| 2:D:179:LEU:O | 2:D:179:LEU:HD23 | 1.86 | 0.75 |
| 1:A:23:CYS:O | 1:A:71:TYR:N | 2.17 | 0.75 |
| 1:A:18:ARG:NH2 | 1:A:74:THR:HG21 | 2.00 | 0.75 |
| 1:A:50:TYR:OH | 2:B:104:ARG:HD2 | 1.86 | 0.75 |
| 1:C:190:ASN:O | 1:C:192:TYR:CD2 | 2.39 | 0.75 |
| 2:D:18:ARG:HG3 | 2:D:118:LEU:HD11 | 1.67 | 0.75 |
| 1:A:102:THR:HG22 | 1:A:102:THR:O | 1.85 | 0.75 |
| 1:C:2:ILE:HD13 | 1:C:90:GLN:CD | 2.07 | 0.75 |
| 2:B:17:SER:HB3 | 2:B:83:MET:O | 1.85 | 0.75 |
| 1:C:106:ILE:CG2 | 1:C:171:SER:OG | 2.34 | 0.75 |
| 2:D:39:GLN:HA | 2:D:44:GLY:O | 1.86 | 0.75 |
| 2:D:193:PRO:O | 2:D:196:THR:HG22 | 1.86 | 0.74 |
| 1:A:164:THR:OG1 | 1:A:174:SER:N | 2.20 | 0.74 |
| 1:A:33:LEU:HD13 | 1:A:71:TYR:CB | 2.17 | 0.74 |
| 2:D:73:ASP:O | 2:D:77:ASN:CB | 2.36 | 0.74 |
| 2:B:60:TYR:CG | 2:B:65:LYS:HD3 | 2.23 | 0.74 |
| 1:C:6:GLN:OE1 | 1:C:101:GLY:N | 2.21 | 0.74 |
| 1:C:70:ASP:C | 1:C:71:TYR:CD1 | 2.61 | 0.74 |
| 1:C:78:LEU:CD1 | 1:C:79:GLU:O | 2.35 | 0.74 |
| 1:A:39:LYS:O | 1:A:41:ASP:N | 2.21 | 0.74 |
| 2:B:98:ARG:NH1 | 2:B:110:ASP:OD1 | 2.19 | 0.74 |
| 2:D:179:LEU:HG | 2:D:183:PHE:O | 1.87 | 0.74 |
| 1:A:155:ARG:HG2 | 1:A:179:LEU:CD2 | 2.16 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:203:SER:CB | 1:C:204:PRO:HD3 | 2.17 | 0.74 |
| 2:D:150:LEU:HD13 | 2:D:152:LYS:HB2 | 1.69 | 0.74 |
| 1:A:56:SER:CB | 2:D:212:LYS:HD2 | 2.10 | 0.74 |
| 2:B:168:LEU:HD13 | 2:B:168:LEU:H | 1.47 | 0.73 |
| 2:D:107:TYR:N | 2:D:107:TYR:CD1 | 2.54 | 0.73 |
| 1:A:13:VAL:HG21 | 1:A:78:LEU:CD1 | 2.18 | 0.73 |
| 1:A:12:SER:CA | 1:A:105:GLU:O | 2.35 | 0.73 |
| 1:A:136:LEU:HD11 | 1:A:146:VAL:HG21 | 1.71 | 0.73 |
| 2:B:133:LEU:CB | 2:B:148:GLY:HA3 | 2.17 | 0.73 |
| 1:A:29:ILE:N | 1:A:29:ILE:CD1 | 2.51 | 0.73 |
| 1:A:136:LEU:HD22 | 1:A:144:ILE:CD1 | 2.17 | 0.73 |
| 1:C:81:GLU:OE2 | 1:C:81:GLU:N | 2.21 | 0.73 |
| 1:A:135:PHE:CD1 | 2:B:189:LEU:HG | 2.23 | 0.73 |
| 2:B:151:VAL:O | 2:B:151:VAL:CG2 | 2.36 | 0.73 |
| 2:B:107:TYR:N | 2:B:107:TYR:CD1 | 2.50 | 0.73 |
| 2:B:168:LEU:O | 2:B:169:SER:HB3 | 1.86 | 0.73 |
| 1:C:79:GLU:O | 1:C:82:ASP:HB2 | 1.88 | 0.73 |
| 1:C:166:GLN:NE2 | 1:C:171:SER:HB3 | 2.00 | 0.73 |
| 2:B:146:THR:CA | 2:B:191:THR:HG22 | 2.19 | 0.73 |
| 1:C:166:GLN:CG | 1:C:171:SER:HA | 2.14 | 0.73 |
| 1:A:196:ALA:O | 1:A:205:ILE:HG22 | 1.89 | 0.72 |
| 1:A:56:SER:HB2 | 2:D:212:LYS:CD | 2.10 | 0.72 |
| 2:B:61:ALA:O | 2:B:63:THR:N | 2.20 | 0.72 |
| 1:C:12:SER:HB3 | 1:C:107:LYS:HB2 | 1.71 | 0.72 |
| 1:A:150:ILE:N | 1:A:153:SER:O | 2.22 | 0.72 |
| 1:A:21:ILE:O | 1:A:72:SER:HA | 1.88 | 0.72 |
| 2:B:172:VAL:HA | 2:B:189:LEU:O | 1.88 | 0.72 |
| 2:B:87:ARG:HH11 | 2:B:89:GLU:CG | 2.02 | 0.72 |
| 1:A:88:CYS:O | 1:A:99:GLY:N | 2.16 | 0.72 |
| 2:D:93:ILE:HA | 2:D:117:THR:HA | 1.69 | 0.72 |
| 2:D:147:LEU:CD1 | 2:D:217:LYS:HZ3 | 2.02 | 0.72 |
| 2:B:68:PHE:CZ | 2:B:83:MET:HG2 | 2.23 | 0.72 |
| 1:C:124:GLN:HG2 | 1:C:129:GLY:C | 2.09 | 0.72 |
| 1:A:135:PHE:HD1 | 2:B:189:LEU:CD2 | 2.02 | 0.72 |
| 2:D:112:TRP:N | 2:D:112:TRP:CD1 | 2.57 | 0.72 |
| 2:D:159:VAL:HG23 | 2:D:208:HIS:HB2 | 1.71 | 0.72 |
| 2:D:216:ILE:O | 2:D:217:LYS:CB | 2.38 | 0.72 |
| 1:A:37:GLN:HB2 | 1:A:47:LEU:CD1 | 2.19 | 0.72 |
| 1:C:127:SER:OG | 2:D:131:TYR:OH | 1.60 | 0.72 |
| 2:D:17:SER:HB3 | 2:D:84:THR:HA | 1.70 | 0.72 |
| 1:A:12:SER:HB3 | 1:A:107:LYS:HZ2 | 1.54 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:7:ILE:HD13 | 1:A:7:ILE:H | 1.52 | 0.72 |
| 2:B:167:ALA:C | 2:B:168:LEU:CD1 | 2.58 | 0.72 |
| 2:B:17:SER:HB3 | 2:B:84:THR:HA | 1.72 | 0.71 |
| 1:C:75:ILE:HG22 | 1:C:76:SER:N | 2.03 | 0.71 |
| 1:A:162:SER:HB2 | 2:B:175:VAL:HG12 | 1.71 | 0.71 |
| 2:B:148:GLY:HA3 | 2:B:189:LEU:CD1 | 2.21 | 0.71 |
| 1:A:12:SER:HB3 | 1:A:107:LYS:HZ1 | 1.54 | 0.71 |
| 1:C:124:GLN:OE1 | 1:C:131:SER:N | 2.20 | 0.71 |
| 2:D:130:VAL:HG11 | 2:D:216:ILE:HG22 | 1.72 | 0.71 |
| 2:B:134:VAL:CG2 | 2:B:135:PRO:HD2 | 2.20 | 0.71 |
| 2:B:166:GLY:O | 2:B:168:LEU:HD13 | 1.88 | 0.71 |
| 2:D:68:PHE:CD2 | 2:D:81:LEU:HD21 | 2.26 | 0.71 |
| 1:C:92:LYS:HG3 | 1:C:93:THR:HG1 | 1.53 | 0.71 |
| 2:B:152:LYS:HG2 | 2:B:185:SER:HG | 1.55 | 0.71 |
| 2:B:68:PHE:CE2 | 2:B:83:MET:CG | 2.71 | 0.71 |
| 2:D:212:LYS:HE3 | 2:D:214:ASP:OD1 | 1.91 | 0.70 |
| 2:D:30:SER:HA | 2:D:74:ASN:ND2 | 2.06 | 0.70 |
| 2:B:88:SER:O | 2:B:91:THR:CG2 | 2.34 | 0.70 |
| 1:C:158:GLY:O | 1:C:179:LEU:HA | 1.91 | 0.70 |
| 2:B:91:THR:O | 2:B:92:ALA:HB2 | 1.89 | 0.70 |
| 2:B:17:SER:CA | 2:B:83:MET:O | 2.40 | 0.70 |
| 1:A:184:ASP:O | 1:A:188:ARG:HG3 | 1.91 | 0.70 |
| 1:A:124:GLN:O | 1:A:127:SER:N | 2.24 | 0.70 |
| 1:A:21:ILE:N | 1:A:73:LEU:O | 2.21 | 0.70 |
| 2:B:133:LEU:CB | 2:B:148:GLY:CA | 2.58 | 0.70 |
| 2:D:34:MET:CA | 2:D:34:MET:HE3 | 2.20 | 0.70 |
| 1:C:33:LEU:HD23 | 1:C:34:ASN:N | 2.07 | 0.70 |
| 1:C:80:GLU:O | 1:C:82:ASP:N | 2.25 | 0.70 |
| 1:C:2:ILE:CD1 | 1:C:90:GLN:NE2 | 2.55 | 0.70 |
| 1:A:8:THR:CG2 | 1:A:11:LEU:HD13 | 2.21 | 0.70 |
| 1:A:144:ILE:HG22 | 1:A:144:ILE:O | 1.92 | 0.69 |
| 2:D:67:ARG:CD | 2:D:85:SER:O | 2.39 | 0.69 |
| 2:B:49:ALA:HB1 | 2:B:70:ILE:HG13 | 1.72 | 0.69 |
| 2:B:87:ARG:HB3 | 2:B:89:GLU:CD | 2.12 | 0.69 |
| 2:D:204:CYS:SG | 2:D:216:ILE:CG2 | 2.80 | 0.69 |
| 2:B:148:GLY:HA3 | 2:B:189:LEU:HD13 | 1.74 | 0.69 |
| 1:C:55:GLN:HG3 | 1:C:56:SER:H | 1.56 | 0.69 |
| 2:D:137:CYS:HA | 2:D:197:TRP:CH2 | 2.27 | 0.69 |
| 1:A:150:ILE:CG2 | 1:A:189:HIS:CD2 | 2.70 | 0.69 |
| 1:A:32:PHE:HD2 | 2:B:106:LEU:CD1 | 2.04 | 0.69 |
| 2:D:34:MET:O | 2:D:50:TYR:HD2 | 1.75 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:124:GLN:O | 1:C:127:SER:CB | 2.38 | 0.69 |
| 1:C:36:TYR:HE1 | 1:C:89:GLN:HG2 | 1.58 | 0.69 |
| 1:C:4:MET:HE3 | 1:C:90:GLN:N | 2.07 | 0.69 |
| 1:C:64:GLY:HA2 | 1:C:72:SER:O | 1.92 | 0.69 |
| 2:D:49:ALA:HB1 | 2:D:70:ILE:HD11 | 1.75 | 0.69 |
| 2:B:167:ALA:HA | 2:B:170:SER:HG | 1.58 | 0.69 |
| 1:C:146:VAL:O | 1:C:147:LYS:HB2 | 1.93 | 0.69 |
| 2:B:143:SER:C | 2:B:194:SER:OG | 2.31 | 0.69 |
| 1:C:183:LYS:CE | 1:C:187:GLU:OE2 | 2.41 | 0.69 |
| 1:A:164:THR:HG1 | 1:A:174:SER:H | 1.37 | 0.68 |
| 1:A:143:ASP:O | 1:A:198:HIS:CD2 | 2.46 | 0.68 |
| 2:B:89:GLU:H | 2:B:89:GLU:CD | 1.96 | 0.68 |
| 2:D:168:LEU:O | 2:D:169:SER:HB2 | 1.91 | 0.68 |
| 2:B:2:VAL:HG12 | 2:B:2:VAL:O | 1.93 | 0.68 |
| 2:B:6:GLU:HB3 | 2:B:116:ALA:CB | 2.23 | 0.68 |
| 1:C:38:GLN:CB | 1:C:85:THR:HG22 | 2.06 | 0.68 |
| 2:D:130:VAL:HG21 | 2:D:214:ASP:HB3 | 1.76 | 0.68 |
| 2:B:4:LEU:O | 2:B:114:GLN:NE2 | 2.26 | 0.68 |
| 1:C:108:ARG:HG3 | 1:C:109:ALA:H | 1.54 | 0.68 |
| 1:C:10:SER:HA | 1:C:103:LYS:O | 1.93 | 0.68 |
| 1:A:123:GLU:O | 1:A:124:GLN:C | 2.29 | 0.68 |
| 1:A:49:TYR:CZ | 1:A:53:ARG:CB | 2.76 | 0.68 |
| 2:B:197:TRP:CD1 | 2:B:198:PRO:HA | 2.28 | 0.68 |
| 2:D:168:LEU:O | 2:D:193:PRO:CG | 2.37 | 0.68 |
| 1:A:51:THR:OG1 | 1:A:71:TYR:CE2 | 2.33 | 0.68 |
| 2:D:67:ARG:O | 2:D:84:THR:CG2 | 2.42 | 0.68 |
| 1:A:201:SER:OG | 1:A:203:SER:N | 2.27 | 0.68 |
| 1:A:33:LEU:HD13 | 1:A:71:TYR:HB2 | 1.76 | 0.68 |
| 1:A:83:ILE:CD1 | 1:A:106:ILE:HD11 | 2.20 | 0.68 |
| 2:B:106:LEU:C | 2:B:107:TYR:HD1 | 1.98 | 0.68 |
| 1:A:108:ARG:HG2 | 1:A:108:ARG:HH21 | 1.60 | 0.67 |
| 1:A:39:LYS:H | 1:A:43:SER:HB2 | 1.59 | 0.67 |
| 2:B:87:ARG:HH11 | 2:B:89:GLU:CB | 2.07 | 0.67 |
| 1:C:155:ARG:HG2 | 1:C:179:LEU:HD21 | 1.75 | 0.67 |
| 2:D:146:THR:HA | 2:D:190:VAL:O | 1.94 | 0.67 |
| 1:A:2:ILE:HD13 | 1:A:29:ILE:HD11 | 1.75 | 0.67 |
| 1:C:108:ARG:CG | 1:C:109:ALA:O | 2.42 | 0.67 |
| 1:A:48:ILE:HG12 | 1:A:54:LEU:HD12 | 1.74 | 0.67 |
| 1:C:91:GLY:O | 2:D:106:LEU:HD12 | 1.94 | 0.67 |
| 2:D:169:SER:HB2 | 2:D:193:PRO:CG | 2.24 | 0.67 |
| 1:C:115:VAL:HG22 | 1:C:136:LEU:HG | 1.75 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:164:ASN:ND2 | 2:B:164:ASN:O | 2.28 | 0.67 |
| 2:B:22:CYS:O | 2:B:78:THR:HA | 1.95 | 0.67 |
| 2:B:17:SER:HB2 | 2:B:83:MET:O | 1.94 | 0.67 |
| 1:C:108:ARG:HD3 | 1:C:140:TYR:CG | 2.30 | 0.67 |
| 2:D:134:VAL:HG22 | 2:D:135:PRO:O | 1.94 | 0.67 |
| 1:A:108:ARG:NH2 | 1:A:108:ARG:HG2 | 2.08 | 0.67 |
| 1:A:167:ASP:O | 1:A:171:SER:N | 2.25 | 0.67 |
| 1:C:115:VAL:HG21 | 1:C:205:ILE:CG2 | 2.25 | 0.67 |
| 1:C:67:SER:O | 1:C:69:THR:N | 2.27 | 0.67 |
| 1:C:93:THR:C | 1:C:94:LEU:HD12 | 2.14 | 0.67 |
| 2:B:217:LYS:HE2 | 2:B:217:LYS:CA | 2.21 | 0.67 |
| 2:B:67:ARG:HG2 | 2:B:67:ARG:NH2 | 2.10 | 0.67 |
| 1:C:155:ARG:HH12 | 1:C:185:GLU:CD | 1.98 | 0.67 |
| 2:D:139:ASP:HA | 2:D:142:GLY:O | 1.95 | 0.67 |
| 2:B:42:GLU:OE2 | 2:B:43:LYS:HG3 | 1.95 | 0.67 |
| 1:C:153:SER:OG | 1:C:154:GLU:N | 2.28 | 0.67 |
| 2:D:180:GLN:O | 2:D:181:SER:HB2 | 1.93 | 0.67 |
| 2:B:203:ILE:HA | 2:B:217:LYS:CB | 2.20 | 0.66 |
| 2:D:196:THR:HG1 | 2:D:197:TRP:H | 1.42 | 0.66 |
| 1:A:136:LEU:HD13 | 1:A:144:ILE:CD1 | 2.24 | 0.66 |
| 1:A:183:LYS:HE2 | 1:A:187:GLU:OE2 | 1.96 | 0.66 |
| 1:A:24:ARG:NE | 1:A:70:ASP:OD2 | 2.28 | 0.66 |
| 2:B:167:ALA:C | 2:B:168:LEU:HD12 | 2.16 | 0.66 |
| 1:C:108:ARG:O | 1:C:140:TYR:CE1 | 2.48 | 0.66 |
| 2:D:151:VAL:CG1 | 2:D:186:LEU:CD1 | 2.73 | 0.66 |
| 2:D:159:VAL:HG22 | 2:D:208:HIS:HB2 | 1.77 | 0.66 |
| 1:A:27:GLN:O | 1:A:29:ILE:CD1 | 2.42 | 0.66 |
| 1:A:86:PHE:O | 1:A:101:GLY:HA2 | 1.95 | 0.66 |
| 1:A:31:ASN:OD1 | 1:A:66:GLY:O | 2.14 | 0.66 |
| 2:D:89:GLU:H | 2:D:89:GLU:CD | 1.99 | 0.66 |
| 1:A:29:ILE:CG2 | 1:A:32:PHE:HB2 | 2.22 | 0.66 |
| 1:C:108:ARG:CG | 1:C:109:ALA:H | 2.09 | 0.66 |
| 2:D:140:THR:N | 2:D:142:GLY:O | 2.28 | 0.66 |
| 1:C:108:ARG:O | 1:C:140:TYR:HE1 | 1.77 | 0.66 |
| 1:C:19:VAL:O | 1:C:74:THR:HA | 1.97 | 0.65 |
| 1:C:20:ILE:CG1 | 1:C:74:THR:OG1 | 2.36 | 0.65 |
| 1:A:29:ILE:HD13 | 1:A:29:ILE:N | 2.12 | 0.65 |
| 1:A:21:ILE:O | 1:A:73:LEU:N | 2.27 | 0.65 |
| 1:A:89:GLN:HB3 | 1:A:98:PHE:CE2 | 2.31 | 0.65 |
| 1:C:160:LEU:HD13 | 2:D:178:VAL:HG13 | 1.77 | 0.65 |
| 1:C:78:LEU:HD12 | 1:C:79:GLU:CA | 2.25 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:73:ASP:O | 2:B:74:ASN:C | 2.31 | 0.65 |
| 1:C:190:ASN:N | 1:C:190:ASN:ND2 | 2.40 | 0.65 |
| 1:C:66:GLY:HA3 | 1:C:71:TYR:CD2 | 2.32 | 0.65 |
| 1:C:89:GLN:HB3 | 1:C:98:PHE:CD2 | 2.31 | 0.65 |
| 2:B:64:VAL:HB | 2:B:68:PHE:CG | 2.32 | 0.64 |
| 1:C:125:LEU:C | 1:C:128:GLY:H | 1.99 | 0.64 |
| 2:D:1:ASP:O | 2:D:2:VAL:CB | 2.40 | 0.64 |
| 2:D:169:SER:HB3 | 2:D:193:PRO:CD | 2.22 | 0.64 |
| 2:D:169:SER:CB | 2:D:193:PRO:HD3 | 2.23 | 0.64 |
| 1:A:203:SER:C | 1:A:204:PRO:O | 2.30 | 0.64 |
| 2:B:140:THR:HG22 | 2:B:141:SER:H | 1.42 | 0.64 |
| 2:D:158:PRO:O | 2:D:208:HIS:ND1 | 2.23 | 0.64 |
| 1:A:18:ARG:CG | 1:A:74:THR:HG23 | 2.26 | 0.64 |
| 1:A:2:ILE:HG23 | 1:A:27:GLN:N | 2.13 | 0.64 |
| 1:C:2:ILE:HG12 | 1:C:29:ILE:HD13 | 1.79 | 0.64 |
| 1:C:78:LEU:CD1 | 1:C:79:GLU:N | 2.53 | 0.64 |
| 1:C:49:TYR:HE1 | 1:C:55:GLN:HA | 1.61 | 0.63 |
| 1:C:55:GLN:O | 1:C:58:VAL:HB | 1.98 | 0.63 |
| 2:D:50:TYR:N | 2:D:70:ILE:HD11 | 2.13 | 0.63 |
| 1:A:89:GLN:HB3 | 1:A:98:PHE:CD2 | 2.33 | 0.63 |
| 1:C:196:ALA:CB | 1:C:205:ILE:HG22 | 2.26 | 0.63 |
| 1:C:115:VAL:HG21 | 1:C:205:ILE:HG23 | 1.79 | 0.63 |
| 2:B:124:THR:HG23 | 2:B:124:THR:O | 1.97 | 0.63 |
| 2:B:202:VAL:O | 2:B:203:ILE:HG13 | 1.98 | 0.63 |
| 1:C:46:LEU:HD11 | 1:C:49:TYR:HB3 | 1.81 | 0.63 |
| 1:A:134:CYS:HB2 | 1:A:148:TRP:CZ2 | 2.33 | 0.63 |
| 2:B:202:VAL:O | 2:B:217:LYS:HB3 | 1.99 | 0.63 |
| 1:C:15:LEU:HD23 | 1:C:80:GLU:OE1 | 1.99 | 0.63 |
| 1:C:160:LEU:HD13 | 2:D:178:VAL:CG1 | 2.29 | 0.63 |
| 1:C:155:ARG:NH1 | 1:C:185:GLU:OE2 | 2.31 | 0.63 |
| 1:A:24:ARG:CG | 1:A:70:ASP:OD2 | 2.42 | 0.63 |
| 1:A:54:LEU:HD11 | 1:A:62:PHE:O | 1.99 | 0.63 |
| 2:B:131:TYR:O | 2:B:149:CYS:HA | 1.98 | 0.63 |
| 2:B:131:TYR:CD2 | 2:B:150:LEU:CD1 | 2.69 | 0.63 |
| 1:C:144:ILE:O | 1:C:144:ILE:HG22 | 1.95 | 0.63 |
| 2:B:130:VAL:HG23 | 2:B:214:ASP:CB | 2.28 | 0.62 |
| 2:D:139:ASP:O | 2:D:145:VAL:HA | 1.99 | 0.62 |
| 1:A:134:CYS:HB2 | 1:A:148:TRP:CH2 | 2.34 | 0.62 |
| 1:A:47:LEU:O | 1:A:48:ILE:HG13 | 1.98 | 0.62 |
| 2:D:169:SER:HB3 | 2:D:191:THR:O | 1.98 | 0.62 |
| 1:A:80:GLU:HG2 | 1:A:81:GLU:CD | 2.19 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:2:ILE:HG12 | 1:C:29:ILE:HD11 | 1.82 | 0.62 |
| 1:C:2:ILE:HD13 | 1:C:90:GLN:HE21 | 1.65 | 0.62 |
| 1:A:37:GLN:HB2 | 1:A:47:LEU:HD11 | 1.79 | 0.62 |
| 1:C:108:ARG:HG2 | 1:C:140:TYR:CE1 | 2.33 | 0.62 |
| 1:A:205:ILE:CD1 | 1:A:206:VAL:N | 2.46 | 0.62 |
| 2:B:133:LEU:CB | 2:B:148:GLY:C | 2.68 | 0.62 |
| 1:C:139:PHE:CE1 | 1:C:141:PRO:O | 2.53 | 0.62 |
| 1:C:3:GLN:N | 1:C:26:SER:OG | 2.31 | 0.62 |
| 1:C:85:THR:HG23 | 1:C:87:PHE:CE1 | 2.35 | 0.62 |
| 1:A:7:ILE:CD1 | 1:A:7:ILE:H | 2.10 | 0.62 |
| 2:B:29:PHE:O | 2:B:31:ASN:N | 2.33 | 0.62 |
| 1:C:123:GLU:O | 1:C:126:THR:HG22 | 2.00 | 0.62 |
| 2:D:163:TRP:NE1 | 2:D:188:SER:OG | 1.91 | 0.62 |
| 1:A:18:ARG:HG3 | 1:A:74:THR:HG23 | 1.82 | 0.61 |
| 1:A:135:PHE:HE1 | 2:B:189:LEU:HD23 | 1.61 | 0.61 |
| 2:D:72:ARG:HG2 | 2:D:74:ASN:OD1 | 2.01 | 0.61 |
| 2:D:92:ALA:O | 2:D:117:THR:OG1 | 2.18 | 0.61 |
| 2:D:93:ILE:HG13 | 2:D:117:THR:HB | 1.82 | 0.61 |
| 1:C:78:LEU:HD13 | 1:C:78:LEU:C | 2.12 | 0.61 |
| 1:C:2:ILE:HD13 | 1:C:90:GLN:CG | 2.30 | 0.61 |
| 1:A:30:GLY:O | 1:A:32:PHE:CD1 | 2.53 | 0.61 |
| 1:A:17:ASP:OD2 | 1:A:78:LEU:HB3 | 2.00 | 0.61 |
| 1:C:135:PHE:CE2 | 2:D:189:LEU:HG | 2.36 | 0.61 |
| 2:D:130:VAL:HG11 | 2:D:216:ILE:CG2 | 2.31 | 0.61 |
| 2:D:72:ARG:HE | 2:D:74:ASN:HD21 | 1.49 | 0.61 |
| 2:B:20:LEU:HD21 | 2:B:94:TYR:CB | 2.31 | 0.61 |
| 2:B:69:THR:O | 2:B:81:LEU:HA | 2.00 | 0.61 |
| 1:A:120:PRO:HB2 | 1:A:125:LEU:HD11 | 1.82 | 0.61 |
| 2:B:148:GLY:CA | 2:B:189:LEU:HD13 | 2.30 | 0.61 |
| 2:D:156:PRO:O | 2:D:156:PRO:HG2 | 2.01 | 0.61 |
| 1:A:198:HIS:O | 1:A:199:LYS:C | 2.36 | 0.61 |
| 2:B:4:LEU:N | 2:B:4:LEU:HD23 | 2.16 | 0.61 |
| 2:D:49:ALA:HB1 | 2:D:70:ILE:CD1 | 2.31 | 0.61 |
| 1:A:153:SER:OG | 1:A:154:GLU:N | 2.34 | 0.61 |
| 2:D:179:LEU:HD23 | 2:D:180:GLN:CA | 2.30 | 0.61 |
| 1:C:17:ASP:N | 1:C:17:ASP:OD1 | 2.33 | 0.61 |
| 1:C:183:LYS:HZ3 | 1:C:187:GLU:CD | 2.04 | 0.61 |
| 1:A:135:PHE:CD1 | 2:B:189:LEU:CG | 2.84 | 0.60 |
| 2:B:128:PRO:HD3 | 2:B:208:HIS:CD2 | 2.36 | 0.60 |
| 1:C:94:LEU:HD12 | 1:C:94:LEU:N | 2.16 | 0.60 |
| 2:D:144:SER:HA | 2:D:192:VAL:O | 2.02 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:212:LYS:HE3 | 2:D:214:ASP:HB2 | 1.82 | 0.60 |
| 1:A:12:SER:HA | 1:A:105:GLU:HG3 | 1.82 | 0.60 |
| 1:A:173:TYR:N | 1:A:173:TYR:HD2 | 1.99 | 0.60 |
| 2:B:18:ARG:N | 2:B:83:MET:O | 2.30 | 0.60 |
| 1:C:35:TRP:CE3 | 1:C:73:LEU:HD22 | 2.37 | 0.60 |
| 1:C:4:MET:HE3 | 1:C:90:GLN:CG | 2.29 | 0.60 |
| 1:A:122:SER:O | 1:A:123:GLU:O | 2.19 | 0.60 |
| 2:B:49:ALA:HB1 | 2:B:70:ILE:CG1 | 2.31 | 0.60 |
| 1:A:132:VAL:O | 1:A:178:THR:HA | 2.02 | 0.60 |
| 2:D:132:PRO:O | 2:D:132:PRO:HG2 | 2.00 | 0.60 |
| 2:D:151:VAL:HG11 | 2:D:186:LEU:CD1 | 2.31 | 0.60 |
| 1:A:19:VAL:HG22 | 1:A:78:LEU:CD1 | 2.31 | 0.60 |
| 2:B:162:LYS:O | 2:B:205:ASN:N | 2.23 | 0.60 |
| 2:D:13:GLN:HG2 | 2:D:14:PRO:CD | 2.30 | 0.60 |
| 1:A:29:ILE:HG22 | 1:A:32:PHE:H | 1.66 | 0.60 |
| 2:D:58:ILE:HG22 | 2:D:60:TYR:CE2 | 2.37 | 0.60 |
| 2:B:98:ARG:HH11 | 2:B:110:ASP:CG | 2.05 | 0.60 |
| 2:B:128:PRO:HG2 | 2:B:212:LYS:HD3 | 1.83 | 0.60 |
| 1:C:117:ILE:CG2 | 1:C:117:ILE:O | 2.49 | 0.60 |
| 1:A:31:ASN:ND2 | 1:A:67:SER:HA | 2.12 | 0.60 |
| 1:A:92:LYS:HG3 | 1:A:93:THR:OG1 | 2.02 | 0.60 |
| 2:D:91:THR:HA | 2:D:118:LEU:O | 2.00 | 0.60 |
| 1:A:146:VAL:HG22 | 1:A:196:ALA:HB2 | 1.84 | 0.60 |
| 2:D:212:LYS:CE | 2:D:214:ASP:HB2 | 2.31 | 0.60 |
| 1:A:12:SER:HB3 | 1:A:107:LYS:HG3 | 1.84 | 0.59 |
| 1:A:17:ASP:N | 1:A:17:ASP:OD2 | 2.28 | 0.59 |
| 1:A:143:ASP:O | 1:A:198:HIS:HD2 | 1.84 | 0.59 |
| 1:A:37:GLN:HE21 | 1:A:84:ALA:HB3 | 1.66 | 0.59 |
| 1:C:24:ARG:NH1 | 1:C:69:THR:HB | 2.17 | 0.59 |
| 2:D:151:VAL:HG11 | 2:D:186:LEU:HD11 | 1.84 | 0.59 |
| 2:B:174:THR:HG23 | 2:B:188:SER:HB2 | 1.84 | 0.59 |
| 1:C:54:LEU:HD21 | 1:C:58:VAL:O | 2.02 | 0.59 |
| 1:A:138:ASN:OD1 | 1:A:138:ASN:N | 2.24 | 0.59 |
| 1:A:85:THR:HG22 | 1:A:103:LYS:HG2 | 1.84 | 0.59 |
| 1:C:80:GLU:H | 1:C:80:GLU:CD | 2.06 | 0.59 |
| 1:C:81:GLU:CD | 1:C:81:GLU:N | 2.56 | 0.59 |
| 2:B:64:VAL:HA | 2:B:67:ARG:HH11 | 1.67 | 0.59 |
| 1:A:18:ARG:HD3 | 1:A:74:THR:HG23 | 1.84 | 0.59 |
| 1:A:26:SER:OG | 1:A:27:GLN:N | 2.35 | 0.59 |
| 1:C:125:LEU:O | 1:C:128:GLY:N | 2.34 | 0.59 |
| 2:D:103:THR:HG22 | 2:D:104:ARG:HG3 | 1.85 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:11:LEU:HA | 2:D:119:ILE:HB | 1.83 | 0.59 |
| 2:D:50:TYR:CD2 | 2:D:51:ILE:N | 2.71 | 0.59 |
| 2:B:101:THR:O | 2:B:101:THR:HG23 | 2.03 | 0.59 |
| 2:D:58:ILE:CG2 | 2:D:60:TYR:CE2 | 2.86 | 0.59 |
| 1:A:49:TYR:CE1 | 1:A:53:ARG:CB | 2.85 | 0.59 |
| 1:C:24:ARG:NH1 | 1:C:69:THR:CB | 2.66 | 0.59 |
| 2:D:119:ILE:HD13 | 2:D:156:PRO:HB2 | 1.85 | 0.59 |
| 1:A:21:ILE:O | 1:A:72:SER:CA | 2.51 | 0.59 |
| 1:C:89:GLN:HA | 1:C:97:THR:O | 2.03 | 0.59 |
| 1:A:17:ASP:OD2 | 1:A:78:LEU:CB | 2.50 | 0.58 |
| 2:B:98:ARG:HG2 | 2:B:99:GLY:H | 1.66 | 0.58 |
| 2:B:98:ARG:O | 2:B:109:PHE:HA | 2.03 | 0.58 |
| 2:D:133:LEU:HD12 | 2:D:148:GLY:CA | 2.30 | 0.58 |
| 1:A:163:TRP:CE3 | 1:A:163:TRP:N | 2.71 | 0.58 |
| 2:B:19:LYS:HD3 | 2:B:80:PHE:CD1 | 2.38 | 0.58 |
| 1:C:152:GLY:O | 1:C:153:SER:CB | 2.46 | 0.58 |
| 1:C:196:ALA:HB3 | 1:C:205:ILE:HG21 | 1.81 | 0.58 |
| 1:A:136:LEU:HD12 | 1:A:175:MET:SD | 2.44 | 0.58 |
| 2:D:154:TYR:CE2 | 2:D:184:TYR:HB2 | 2.38 | 0.58 |
| 1:A:110:ASP:O | 1:A:111:ALA:HB2 | 2.03 | 0.58 |
| 1:A:4:MET:CE | 1:A:4:MET:HA | 2.31 | 0.58 |
| 1:A:156:GLN:HA | 1:A:156:GLN:OE1 | 2.03 | 0.58 |
| 1:A:173:TYR:N | 1:A:173:TYR:CD2 | 2.72 | 0.58 |
| 1:A:49:TYR:CD1 | 1:A:49:TYR:N | 2.72 | 0.58 |
| 2:B:128:PRO:CG | 2:B:212:LYS:HD3 | 2.34 | 0.58 |
| 2:B:174:THR:HA | 2:B:188:SER:HA | 1.86 | 0.58 |
| 2:D:146:THR:CG2 | 2:D:189:LEU:HB3 | 2.34 | 0.58 |
| 1:A:163:TRP:HE3 | 1:A:163:TRP:N | 2.02 | 0.58 |
| 2:B:139:ASP:OD1 | 2:B:145:VAL:HG11 | 2.03 | 0.58 |
| 2:B:168:LEU:O | 2:B:169:SER:CB | 2.52 | 0.58 |
| 1:A:12:SER:CB | 1:A:107:LYS:HZ1 | 2.17 | 0.58 |
| 1:C:65:TRP:HZ2 | 1:C:74:THR:OG1 | 1.86 | 0.58 |
| 1:A:4:MET:CA | 1:A:4:MET:HE2 | 2.30 | 0.57 |
| 1:A:22:SER:HA | 1:A:72:SER:HA | 1.86 | 0.57 |
| 2:B:130:VAL:HG22 | 2:B:206:VAL:CG2 | 2.27 | 0.57 |
| 2:B:65:LYS:HD2 | 2:B:66:GLY:H | 1.69 | 0.57 |
| 2:D:179:LEU:HA | 2:D:184:TYR:HA | 1.86 | 0.57 |
| 1:A:49:TYR:CD1 | 1:A:53:ARG:HB2 | 2.39 | 0.57 |
| 1:C:35:TRP:CD2 | 1:C:73:LEU:HD22 | 2.40 | 0.57 |
| 1:A:34:ASN:HD21 | 2:B:106:LEU:HD21 | 1.69 | 0.57 |
| 2:B:53:SER:O | 2:B:54:GLY:C | 2.42 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:29:PHE:O | 2:D:72:ARG:NH1 | 2.35 | 0.57 |
| 1:C:170:ASP:O | 1:C:172:THR:HG23 | 2.05 | 0.57 |
| 2:D:49:ALA:HB1 | 2:D:70:ILE:CG1 | 2.35 | 0.57 |
| 1:A:18:ARG:CD | 1:A:74:THR:HG23 | 2.35 | 0.57 |
| 2:B:133:LEU:CG | 2:B:148:GLY:HA3 | 2.35 | 0.57 |
| 2:B:87:ARG:NE | 2:B:89:GLU:OE1 | 2.33 | 0.57 |
| 1:C:137:ASN:O | 1:C:138:ASN:HB2 | 2.05 | 0.57 |
| 1:A:148:TRP:HA | 1:A:193:THR:O | 2.05 | 0.57 |
| 2:B:166:GLY:C | 2:B:168:LEU:CD1 | 2.69 | 0.57 |
| 2:B:146:THR:HG23 | 2:B:191:THR:HG23 | 1.86 | 0.57 |
| 1:C:124:GLN:NE2 | 1:C:131:SER:N | 2.53 | 0.57 |
| 2:D:145:VAL:HG23 | 2:D:192:VAL:O | 2.05 | 0.57 |
| 1:C:167:ASP:O | 1:C:171:SER:N | 2.38 | 0.57 |
| 1:C:183:LYS:NZ | 1:C:187:GLU:OE2 | 2.37 | 0.57 |
| 1:C:203:SER:HB2 | 1:C:204:PRO:CD | 2.31 | 0.57 |
| 1:A:185:GLU:HA | 1:A:188:ARG:CG | 2.31 | 0.56 |
| 2:B:68:PHE:HD2 | 2:B:81:LEU:HD11 | 1.69 | 0.56 |
| 1:C:35:TRP:CE3 | 1:C:73:LEU:CD2 | 2.88 | 0.56 |
| 1:C:49:TYR:O | 1:C:53:ARG:HG2 | 2.04 | 0.56 |
| 1:A:39:LYS:O | 1:A:41:ASP:OD1 | 2.21 | 0.56 |
| 2:D:60:TYR:HH | 2:D:69:THR:HA | 1.66 | 0.56 |
| 1:A:144:ILE:O | 1:A:144:ILE:CG2 | 2.49 | 0.56 |
| 2:D:74:ASN:C | 2:D:77:ASN:HB2 | 2.25 | 0.56 |
| 1:A:107:LYS:HA | 1:A:140:TYR:OH | 2.05 | 0.56 |
| 2:D:84:THR:O | 2:D:85:SER:C | 2.39 | 0.56 |
| 1:C:164:THR:HG22 | 2:D:175:VAL:HA | 1.86 | 0.56 |
| 2:D:74:ASN:O | 2:D:77:ASN:CB | 2.43 | 0.56 |
| 1:A:108:ARG:NE | 1:A:170:ASP:O | 2.36 | 0.56 |
| 2:B:180:GLN:O | 2:B:181:SER:CB | 2.52 | 0.56 |
| 1:A:85:THR:CG2 | 1:A:103:LYS:HG2 | 2.36 | 0.56 |
| 2:D:93:ILE:HG22 | 2:D:115:GLY:HA3 | 1.87 | 0.56 |
| 2:D:68:PHE:CE2 | 2:D:81:LEU:HD21 | 2.39 | 0.56 |
| 2:B:203:ILE:HG21 | 2:B:215:LEU:HD11 | 1.87 | 0.56 |
| 1:C:183:LYS:O | 1:C:183:LYS:HG2 | 2.06 | 0.56 |
| 2:D:74:ASN:N | 2:D:75:PRO:HD2 | 2.21 | 0.56 |
| 1:A:17:ASP:O | 1:A:78:LEU:HB2 | 2.06 | 0.56 |
| 1:C:61:ARG:NH2 | 1:C:82:ASP:CG | 2.58 | 0.56 |
| 1:C:2:ILE:HD13 | 1:C:90:GLN:HG2 | 1.88 | 0.56 |
| 2:D:34:MET:HB3 | 2:D:79:LEU:HD22 | 1.87 | 0.56 |
| 2:B:102:GLY:C | 2:B:103:THR:OG1 | 2.42 | 0.56 |
| 1:C:12:SER:HA | 1:C:105:GLU:O | 2.06 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:147:LYS:CE | 1:A:154:GLU:OE2 | 2.55 | 0.55 |
| 1:A:136:LEU:CD1 | 1:A:175:MET:SD | 2.94 | 0.55 |
| 1:A:33:LEU:CD1 | 1:A:71:TYR:HB2 | 2.36 | 0.55 |
| 1:A:90:GLN:HG3 | 1:A:97:THR:H | 1.71 | 0.55 |
| 2:B:128:PRO:HD2 | 2:B:212:LYS:HD3 | 1.87 | 0.55 |
| 2:D:49:ALA:CB | 2:D:70:ILE:HD11 | 2.35 | 0.55 |
| 2:D:91:THR:O | 2:D:92:ALA:HB2 | 2.05 | 0.55 |
| 1:A:197:THR:O | 1:A:198:HIS:HB2 | 2.06 | 0.55 |
| 1:C:139:PHE:N | 1:C:173:TYR:O | 2.38 | 0.55 |
| 2:D:10:GLY:CA | 2:D:18:ARG:NH1 | 2.64 | 0.55 |
| 2:D:215:LEU:O | 2:D:216:ILE:HB | 2.07 | 0.55 |
| 1:A:120:PRO:HB3 | 1:A:125:LEU:CG | 2.37 | 0.55 |
| 1:A:115:VAL:HG21 | 1:A:205:ILE:HD12 | 1.88 | 0.55 |
| 1:A:39:LYS:CB | 1:A:40:PRO:HD2 | 2.30 | 0.55 |
| 1:C:107:LYS:HA | 1:C:140:TYR:OH | 2.06 | 0.55 |
| 1:A:197:THR:HG22 | 1:A:198:HIS:N | 2.22 | 0.55 |
| 2:B:179:LEU:HG | 2:B:184:TYR:CZ | 2.42 | 0.55 |
| 1:C:182:THR:O | 1:C:184:ASP:N | 2.39 | 0.55 |
| 1:C:4:MET:HE3 | 1:C:90:GLN:CB | 2.37 | 0.55 |
| 2:B:110:ASP:OD2 | 2:B:111:TYR:HE2 | 1.87 | 0.55 |
| 1:C:148:TRP:HA | 1:C:193:THR:O | 2.06 | 0.55 |
| 1:C:196:ALA:CB | 1:C:205:ILE:CG2 | 2.79 | 0.55 |
| 1:C:49:TYR:CE2 | 1:C:53:ARG:CB | 2.89 | 0.55 |
| 2:D:4:LEU:HD12 | 2:D:96:CYS:O | 2.07 | 0.55 |
| 1:A:135:PHE:CE1 | 2:B:189:LEU:HB2 | 2.41 | 0.55 |
| 1:A:135:PHE:HE1 | 2:B:189:LEU:HB2 | 1.72 | 0.55 |
| 1:C:170:ASP:O | 1:C:171:SER:C | 2.44 | 0.55 |
| 1:C:182:THR:C | 1:C:184:ASP:N | 2.59 | 0.55 |
| 2:D:19:LYS:HD2 | 2:D:82:GLN:CD | 2.27 | 0.55 |
| 1:A:70:ASP:C | 1:A:71:TYR:CD1 | 2.80 | 0.55 |
| 2:B:99:GLY:O | 2:B:110:ASP:HB3 | 2.07 | 0.55 |
| 2:B:180:GLN:O | 2:B:181:SER:HB2 | 2.07 | 0.55 |
| 2:B:201:THR:HG22 | 2:B:202:VAL:O | 2.07 | 0.55 |
| 2:B:67:ARG:N | 2:B:67:ARG:HD3 | 2.22 | 0.55 |
| 1:C:67:SER:O | 1:C:68:GLY:C | 2.45 | 0.55 |
| 2:D:38:ARG:O | 2:D:45:LEU:HA | 2.07 | 0.55 |
| 1:A:48:ILE:CG1 | 1:A:54:LEU:HD12 | 2.37 | 0.54 |
| 2:D:13:GLN:CG | 2:D:14:PRO:HD2 | 2.36 | 0.54 |
| 1:A:2:ILE:HD12 | 1:A:29:ILE:HD11 | 1.88 | 0.54 |
| 1:A:49:TYR:CE1 | 1:A:53:ARG:HB2 | 2.42 | 0.54 |
| 1:A:7:ILE:N | 1:A:7:ILE:CD1 | 2.60 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:143:SER:CA | 2:B:194:SER:OG | 2.55 | 0.54 |
| 2:B:164:ASN:ND2 | 2:B:164:ASN:C | 2.61 | 0.54 |
| 2:D:169:SER:HB2 | 2:D:193:PRO:HG3 | 1.89 | 0.54 |
| 2:D:87:ARG:O | 2:D:88:SER:C | 2.42 | 0.54 |
| 1:A:135:PHE:CE1 | 2:B:189:LEU:CD2 | 2.83 | 0.54 |
| 1:A:39:LYS:HG3 | 1:A:43:SER:CB | 2.37 | 0.54 |
| 1:C:85:THR:CG2 | 1:C:87:PHE:CE1 | 2.91 | 0.54 |
| 2:D:91:THR:HG22 | 2:D:91:THR:O | 2.06 | 0.54 |
| 1:A:48:ILE:HD11 | 1:A:54:LEU:CD1 | 2.38 | 0.54 |
| 1:A:15:LEU:CD2 | 1:A:80:GLU:HB3 | 2.25 | 0.54 |
| 2:B:30:SER:HB3 | 2:B:74:ASN:HD22 | 1.71 | 0.54 |
| 2:B:159:VAL:O | 2:B:159:VAL:CG1 | 2.36 | 0.54 |
| 2:B:167:ALA:C | 2:B:168:LEU:HD13 | 2.21 | 0.54 |
| 2:D:179:LEU:O | 2:D:179:LEU:CD2 | 2.53 | 0.54 |
| 2:B:130:VAL:CG2 | 2:B:206:VAL:HG21 | 2.31 | 0.54 |
| 1:C:147:LYS:HE2 | 1:C:154:GLU:OE2 | 2.08 | 0.54 |
| 1:C:57:GLY:O | 1:C:58:VAL:C | 2.44 | 0.54 |
| 1:A:137:ASN:O | 1:A:139:PHE:HD2 | 1.90 | 0.54 |
| 1:A:18:ARG:NH2 | 1:A:74:THR:CG2 | 2.66 | 0.54 |
| 2:B:100:GLY:O | 2:B:101:THR:CB | 2.40 | 0.54 |
| 2:B:140:THR:HG1 | 2:B:145:VAL:HA | 1.70 | 0.54 |
| 1:C:2:ILE:C | 1:C:3:GLN:HG3 | 2.28 | 0.54 |
| 1:C:29:ILE:HG12 | 1:C:90:GLN:HB2 | 1.89 | 0.54 |
| 2:D:167:ALA:C | 2:D:170:SER:OG | 2.47 | 0.54 |
| 2:D:93:ILE:CG2 | 2:D:115:GLY:HA3 | 2.38 | 0.54 |
| 1:A:4:MET:CE | 1:A:4:MET:CA | 2.86 | 0.54 |
| 2:B:51:ILE:HG21 | 2:B:72:ARG:HD2 | 1.89 | 0.54 |
| 2:D:179:LEU:HD12 | 2:D:184:TYR:CE2 | 2.43 | 0.54 |
| 2:B:133:LEU:HD13 | 2:B:189:LEU:CD1 | 2.10 | 0.54 |
| 1:C:83:ILE:HG13 | 1:C:104:LEU:O | 2.08 | 0.54 |
| 2:D:168:LEU:N | 2:D:170:SER:OG | 2.40 | 0.54 |
| 1:A:46:LEU:HD22 | 1:A:47:LEU:H | 1.73 | 0.53 |
| 2:B:87:ARG:O | 2:B:120:VAL:HG11 | 2.08 | 0.53 |
| 1:C:136:LEU:HD23 | 1:C:144:ILE:HD11 | 1.90 | 0.53 |
| 1:C:37:GLN:HG3 | 1:C:86:PHE:CE1 | 2.42 | 0.53 |
| 2:D:41:PRO:HA | 2:D:43:LYS:O | 2.07 | 0.53 |
| 2:B:134:VAL:CG2 | 2:B:135:PRO:CD | 2.86 | 0.53 |
| 2:D:79:LEU:HD12 | 2:D:80:PHE:H | 1.73 | 0.53 |
| 2:B:216:ILE:HG23 | 2:B:217:LYS:N | 2.22 | 0.53 |
| 2:B:63:THR:O | 2:B:64:VAL:CG1 | 2.56 | 0.53 |
| 2:B:154:TYR:HH | 2:B:186:LEU:HD23 | 1.71 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:41:ASP:CG | 1:C:41:ASP:O | 2.47 | 0.53 |
| 1:C:93:THR:HG22 | 1:C:94:LEU:N | 2.24 | 0.53 |
| 1:C:146:VAL:O | 1:C:147:LYS:CB | 2.50 | 0.53 |
| 1:C:166:GLN:O | 1:C:167:ASP:C | 2.44 | 0.53 |
| 1:C:78:LEU:CD1 | 1:C:78:LEU:O | 2.30 | 0.53 |
| 2:D:13:GLN:CD | 2:D:14:PRO:HD2 | 2.29 | 0.53 |
| 2:D:33:GLY:C | 2:D:34:MET:HE3 | 2.28 | 0.53 |
| 1:A:105:GLU:O | 1:A:105:GLU:CG | 2.46 | 0.53 |
| 2:B:51:ILE:HB | 2:B:70:ILE:HG22 | 1.91 | 0.53 |
| 1:C:34:ASN:OD1 | 2:D:106:LEU:HD21 | 2.08 | 0.53 |
| 1:C:39:LYS:C | 1:C:41:ASP:H | 2.11 | 0.53 |
| 1:A:2:ILE:HG23 | 1:A:27:GLN:H | 1.73 | 0.53 |
| 1:C:152:GLY:O | 1:C:153:SER:HB2 | 2.08 | 0.53 |
| 1:C:85:THR:CG2 | 1:C:87:PHE:CZ | 2.91 | 0.53 |
| 1:C:108:ARG:HD3 | 1:C:140:TYR:CB | 2.39 | 0.53 |
| 1:C:89:GLN:HB3 | 1:C:98:PHE:HA | 1.91 | 0.53 |
| 1:A:34:ASN:ND2 | 2:B:108:TYR:HB3 | 2.23 | 0.53 |
| 1:A:62:PHE:CE2 | 1:A:75:ILE:HD13 | 2.44 | 0.53 |
| 2:B:88:SER:N | 2:B:89:GLU:OE2 | 2.42 | 0.53 |
| 1:C:83:ILE:CG1 | 1:C:104:LEU:O | 2.57 | 0.53 |
| 2:D:9:GLY:O | 2:D:18:ARG:CZ | 2.58 | 0.53 |
| 1:A:139:PHE:O | 1:A:173:TYR:N | 2.42 | 0.52 |
| 1:A:49:TYR:CE1 | 1:A:53:ARG:HB3 | 2.43 | 0.52 |
| 1:A:19:VAL:O | 1:A:75:ILE:N | 2.42 | 0.52 |
| 2:B:61:ALA:O | 2:B:62:ASP:C | 2.46 | 0.52 |
| 2:B:87:ARG:CB | 2:B:89:GLU:OE1 | 2.53 | 0.52 |
| 1:C:189:HIS:C | 1:C:190:ASN:HD22 | 2.12 | 0.52 |
| 1:A:66:GLY:HA3 | 1:A:71:TYR:CG | 2.43 | 0.52 |
| 1:C:31:ASN:HD21 | 1:C:67:SER:HA | 1.74 | 0.52 |
| 1:C:20:ILE:CD1 | 1:C:72:SER:HB2 | 2.40 | 0.52 |
| 2:D:13:GLN:CG | 2:D:14:PRO:CD | 2.87 | 0.52 |
| 2:B:63:THR:O | 2:B:64:VAL:HG12 | 2.10 | 0.52 |
| 1:C:136:LEU:HD23 | 1:C:144:ILE:CD1 | 2.40 | 0.52 |
| 1:C:89:GLN:HG2 | 1:C:98:PHE:CD2 | 2.45 | 0.52 |
| 1:A:77:ASN:O | 1:A:78:LEU:C | 2.45 | 0.52 |
| 2:B:143:SER:HB3 | 2:B:194:SER:OG | 2.10 | 0.52 |
| 2:B:32:PHE:O | 2:B:72:ARG:NH1 | 2.42 | 0.52 |
| 2:B:9:GLY:C | 2:B:18:ARG:HH12 | 2.13 | 0.52 |
| 1:C:71:TYR:N | 1:C:71:TYR:HD1 | 2.03 | 0.52 |
| 2:D:199:SER:HB2 | 2:D:200:GLN:OE1 | 2.10 | 0.52 |
| 2:D:34:MET:HE2 | 2:D:98:ARG:HA | 1.86 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:40:ALA:HB2 | 2:D:92:ALA:HB2 | 1.91 | 0.52 |
| 2:B:144:SER:OG | 2:B:193:PRO:CB | 2.55 | 0.52 |
| 2:B:150:LEU:HD13 | 2:B:152:LYS:HB2 | 1.91 | 0.52 |
| 2:B:98:ARG:HD2 | 2:B:111:TYR:HD2 | 1.75 | 0.52 |
| 1:C:32:PHE:HB3 | 2:D:106:LEU:CD1 | 2.40 | 0.52 |
| 2:B:147:LEU:O | 2:B:189:LEU:CD1 | 2.53 | 0.52 |
| 2:B:130:VAL:CG2 | 2:B:214:ASP:CB | 2.88 | 0.52 |
| 2:D:100:GLY:O | 2:D:101:THR:C | 2.42 | 0.52 |
| 1:A:43:SER:O | 1:A:44:LEU:C | 2.47 | 0.52 |
| 2:B:65:LYS:HD2 | 2:B:66:GLY:N | 2.24 | 0.52 |
| 2:D:13:GLN:HG2 | 2:D:14:PRO:HD3 | 1.90 | 0.52 |
| 1:A:57:GLY:O | 1:A:58:VAL:C | 2.44 | 0.52 |
| 1:C:78:LEU:CD1 | 1:C:79:GLU:C | 2.77 | 0.52 |
| 2:D:126:THR:C | 2:D:127:ALA:O | 2.46 | 0.52 |
| 2:D:179:LEU:HD21 | 2:D:182:GLY:H | 1.75 | 0.52 |
| 2:B:20:LEU:N | 2:B:81:LEU:O | 2.42 | 0.52 |
| 1:C:150:ILE:C | 1:C:152:GLY:H | 2.10 | 0.52 |
| 1:C:75:ILE:CG2 | 1:C:76:SER:N | 2.71 | 0.52 |
| 2:D:192:VAL:HG23 | 2:D:192:VAL:O | 2.07 | 0.52 |
| 1:A:39:LYS:CB | 1:A:40:PRO:CD | 2.88 | 0.51 |
| 1:C:125:LEU:CD2 | 1:C:130:ALA:HB2 | 2.41 | 0.51 |
| 1:A:108:ARG:CZ | 1:A:172:THR:CG2 | 2.86 | 0.51 |
| 1:A:141:PRO:HD2 | 1:A:198:HIS:CE1 | 2.45 | 0.51 |
| 1:A:54:LEU:HD23 | 1:A:58:VAL:O | 2.10 | 0.51 |
| 1:C:36:TYR:CE1 | 1:C:89:GLN:HG2 | 2.42 | 0.51 |
| 1:C:9:SER:OG | 1:C:10:SER:N | 2.43 | 0.51 |
| 2:B:33:GLY:HA2 | 2:B:72:ARG:NH2 | 2.23 | 0.51 |
| 2:B:60:TYR:CD2 | 2:B:65:LYS:CD | 2.79 | 0.51 |
| 1:A:163:TRP:CE2 | 1:A:175:MET:HG3 | 2.45 | 0.51 |
| 1:A:62:PHE:CE2 | 1:A:75:ILE:CD1 | 2.94 | 0.51 |
| 2:B:28:THR:O | 2:B:29:PHE:C | 2.49 | 0.51 |
| 1:C:160:LEU:HD22 | 2:D:178:VAL:CG2 | 2.27 | 0.51 |
| 1:C:164:THR:CG2 | 2:D:175:VAL:HG23 | 2.40 | 0.51 |
| 1:C:32:PHE:HB3 | 2:D:106:LEU:HD13 | 1.91 | 0.51 |
| 1:C:83:ILE:O | 1:C:84:ALA:HB2 | 2.09 | 0.51 |
| 1:A:39:LYS:HG3 | 1:A:43:SER:HB3 | 1.93 | 0.51 |
| 1:C:21:ILE:HG22 | 1:C:22:SER:N | 2.21 | 0.51 |
| 2:D:125:THR:CG2 | 2:D:126:THR:H | 2.20 | 0.51 |
| 2:D:34:MET:CB | 2:D:79:LEU:HD22 | 2.40 | 0.51 |
| 1:A:107:LYS:HA | 1:A:140:TYR:HH | 1.76 | 0.51 |
| 1:A:34:ASN:OD1 | 1:A:49:TYR:HA | 2.11 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:2:VAL:HG11 | 2:B:111:TYR:CE1 | 2.46 | 0.51 |
| 1:C:38:GLN:O | 1:C:84:ALA:HB1 | 2.10 | 0.51 |
| 2:D:177:SER:HA | 2:D:185:SER:O | 2.11 | 0.51 |
| 2:D:30:SER:HA | 2:D:74:ASN:HD22 | 1.74 | 0.51 |
| 1:A:111:ALA:N | 1:A:200:THR:HG21 | 2.25 | 0.51 |
| 1:A:136:LEU:HD21 | 1:A:146:VAL:CG2 | 2.41 | 0.51 |
| 2:B:2:VAL:HA | 2:B:26:GLY:HA3 | 1.93 | 0.51 |
| 2:D:130:VAL:CG1 | 2:D:216:ILE:CG2 | 2.88 | 0.51 |
| 1:C:118:PHE:CE1 | 2:D:135:PRO:HD3 | 2.46 | 0.51 |
| 2:D:130:VAL:HG12 | 2:D:216:ILE:HG21 | 1.93 | 0.51 |
| 1:A:136:LEU:HD21 | 1:A:146:VAL:HG21 | 1.93 | 0.51 |
| 1:A:150:ILE:HG21 | 1:A:189:HIS:CG | 2.38 | 0.51 |
| 1:C:182:THR:O | 1:C:183:LYS:C | 2.46 | 0.51 |
| 2:D:146:THR:OG1 | 2:D:191:THR:CG2 | 2.56 | 0.51 |
| 2:D:169:SER:CB | 2:D:193:PRO:CD | 2.87 | 0.51 |
| 1:A:156:GLN:O | 1:A:157:ASN:C | 2.47 | 0.50 |
| 1:A:25:ALA:HB1 | 1:A:27:GLN:O | 2.11 | 0.50 |
| 1:A:31:ASN:CA | 1:A:71:TYR:OH | 2.53 | 0.50 |
| 1:A:80:GLU:O | 1:A:83:ILE:CG2 | 2.58 | 0.50 |
| 2:B:58:ILE:HG23 | 2:B:70:ILE:HB | 1.93 | 0.50 |
| 2:B:22:CYS:HB3 | 2:B:79:LEU:HB3 | 1.92 | 0.50 |
| 1:A:18:ARG:CA | 1:A:75:ILE:O | 2.37 | 0.50 |
| 1:C:139:PHE:N | 1:C:139:PHE:CD2 | 2.78 | 0.50 |
| 1:C:159:VAL:HA | 1:C:178:THR:O | 2.10 | 0.50 |
| 2:D:100:GLY:O | 2:D:101:THR:CB | 2.41 | 0.50 |
| 2:B:17:SER:HA | 2:B:83:MET:O | 2.11 | 0.50 |
| 1:C:85:THR:HG21 | 1:C:87:PHE:CZ | 2.46 | 0.50 |
| 1:C:166:GLN:CG | 1:C:171:SER:CA | 2.83 | 0.50 |
| 2:D:75:PRO:CD | 2:D:77:ASN:OD1 | 2.58 | 0.50 |
| 2:D:41:PRO:O | 2:D:42:GLU:HB3 | 2.11 | 0.50 |
| 2:D:73:ASP:OD1 | 2:D:77:ASN:OD1 | 2.29 | 0.50 |
| 1:A:108:ARG:NE | 1:A:172:THR:HG23 | 2.26 | 0.50 |
| 1:A:130:ALA:CA | 1:A:181:LEU:O | 2.59 | 0.50 |
| 2:B:91:THR:HA | 2:B:118:LEU:O | 2.11 | 0.50 |
| 1:C:120:PRO:HG3 | 1:C:132:VAL:HG22 | 1.94 | 0.50 |
| 1:C:49:TYR:CE2 | 1:C:53:ARG:HB3 | 2.46 | 0.50 |
| 1:C:81:GLU:H | 1:C:81:GLU:CD | 2.14 | 0.50 |
| 1:C:90:GLN:OE1 | 1:C:92:LYS:HB3 | 2.11 | 0.50 |
| 2:D:13:GLN:HG2 | 2:D:14:PRO:HD2 | 1.93 | 0.50 |
| 1:A:19:VAL:O | 1:A:74:THR:HA | 2.12 | 0.50 |
| 2:B:52:SER:O | 2:B:72:ARG:NH2 | 2.45 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:139:PHE:HE1 | 1:C:141:PRO:O | 1.93 | 0.50 |
| 2:D:174:THR:HG22 | 2:D:175:VAL:O | 2.12 | 0.50 |
| 2:D:42:GLU:HG2 | 2:D:42:GLU:O | 2.12 | 0.50 |
| 2:B:159:VAL:HG13 | 2:B:160:THR:N | 2.12 | 0.50 |
| 1:C:78:LEU:HD12 | 1:C:79:GLU:C | 2.32 | 0.50 |
| 2:D:169:SER:CB | 2:D:193:PRO:CG | 2.90 | 0.50 |
| 2:D:39:GLN:HB2 | 2:D:45:LEU:HD23 | 1.94 | 0.50 |
| 1:A:133:VAL:HG12 | 1:A:134:CYS:N | 2.26 | 0.49 |
| 1:A:49:TYR:CG | 1:A:53:ARG:HB2 | 2.47 | 0.49 |
| 2:B:2:VAL:CG1 | 2:B:111:TYR:CD1 | 2.95 | 0.49 |
| 1:C:5:THR:HB | 1:C:24:ARG:HG2 | 1.93 | 0.49 |
| 1:A:13:VAL:HG21 | 1:A:19:VAL:HG22 | 1.94 | 0.49 |
| 1:C:146:VAL:HG21 | 1:C:175:MET:HE1 | 1.93 | 0.49 |
| 1:C:21:ILE:CG2 | 1:C:22:SER:N | 2.72 | 0.49 |
| 1:A:19:VAL:HG21 | 1:A:78:LEU:CD1 | 2.41 | 0.49 |
| 1:A:135:PHE:HZ | 2:B:173:ARG:HB2 | 1.76 | 0.49 |
| 1:A:46:LEU:HD22 | 1:A:47:LEU:N | 2.28 | 0.49 |
| 2:B:164:ASN:HD22 | 2:B:165:TYR:C | 2.14 | 0.49 |
| 1:C:8:THR:HG21 | 1:C:11:LEU:HD22 | 1.94 | 0.49 |
| 1:C:166:GLN:NE2 | 1:C:171:SER:CB | 2.74 | 0.49 |
| 2:D:151:VAL:HG13 | 2:D:186:LEU:HD12 | 1.92 | 0.49 |
| 2:B:128:PRO:CD | 2:B:212:LYS:HD3 | 2.42 | 0.49 |
| 1:C:136:LEU:HD21 | 1:C:196:ALA:HB2 | 1.94 | 0.49 |
| 1:A:90:GLN:NE2 | 1:A:93:THR:O | 2.44 | 0.49 |
| 2:B:103:THR:O | 2:B:106:LEU:CB | 2.61 | 0.49 |
| 2:B:130:VAL:HG23 | 2:B:214:ASP:HB2 | 1.94 | 0.49 |
| 2:B:130:VAL:CG2 | 2:B:214:ASP:HB3 | 2.42 | 0.49 |
| 1:C:32:PHE:HD1 | 1:C:92:LYS:HD3 | 1.78 | 0.49 |
| 1:A:135:PHE:HD1 | 2:B:189:LEU:HG | 1.71 | 0.49 |
| 2:B:87:ARG:CZ | 2:B:89:GLU:HB2 | 2.42 | 0.49 |
| 1:C:13:VAL:HG21 | 1:C:19:VAL:HG22 | 1.95 | 0.49 |
| 1:C:66:GLY:HA3 | 1:C:71:TYR:CB | 2.42 | 0.49 |
| 2:D:146:THR:HG22 | 2:D:189:LEU:HB3 | 1.95 | 0.49 |
| 2:D:137:CYS:HA | 2:D:197:TRP:HH2 | 1.77 | 0.49 |
| 1:A:48:ILE:CD1 | 1:A:54:LEU:HD12 | 2.43 | 0.49 |
| 2:B:134:VAL:HG22 | 2:B:135:PRO:N | 2.26 | 0.49 |
| 1:C:37:GLN:HG3 | 1:C:86:PHE:HE1 | 1.78 | 0.49 |
| 2:B:29:PHE:HB2 | 2:B:77:ASN:ND2 | 2.27 | 0.49 |
| 2:D:104:ARG:O | 2:D:105:SER:HB3 | 2.07 | 0.49 |
| 2:D:11:LEU:HD22 | 2:D:119:ILE:HG22 | 1.81 | 0.49 |
| 2:B:27:PHE:HD2 | 2:B:28:THR:H | 1.59 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:52:SER:CB | 2:B:57:SER:H | 2.25 | 0.48 |
| 1:C:20:ILE:HD11 | 1:C:72:SER:HB2 | 1.94 | 0.48 |
| 2:D:11:LEU:HD21 | 2:D:119:ILE:HG22 | 1.68 | 0.48 |
| 2:B:104:ARG:C | 2:B:106:LEU:H | 2.16 | 0.48 |
| 2:D:132:PRO:O | 2:D:132:PRO:CG | 2.61 | 0.48 |
| 2:D:166:GLY:O | 2:D:170:SER:OG | 2.31 | 0.48 |
| 2:D:162:LYS:N | 2:D:205:ASN:O | 2.38 | 0.48 |
| 1:A:2:ILE:HA | 1:A:26:SER:OG | 2.12 | 0.48 |
| 2:D:112:TRP:HD1 | 2:D:112:TRP:H | 1.62 | 0.48 |
| 1:C:133:VAL:CG2 | 2:D:133:LEU:CD2 | 2.86 | 0.48 |
| 2:D:168:LEU:O | 2:D:169:SER:CB | 2.60 | 0.48 |
| 1:A:89:GLN:HA | 1:A:97:THR:O | 2.13 | 0.48 |
| 1:C:29:ILE:CG1 | 1:C:90:GLN:HB2 | 2.43 | 0.48 |
| 1:C:32:PHE:CD1 | 1:C:92:LYS:HD3 | 2.48 | 0.48 |
| 2:D:163:TRP:HE1 | 2:D:188:SER:HG | 0.50 | 0.48 |
| 1:A:79:GLU:O | 1:A:80:GLU:C | 2.52 | 0.48 |
| 2:B:14:PRO:HD3 | 2:B:121:SER:O | 2.13 | 0.48 |
| 1:A:61:ARG:NH2 | 1:A:82:ASP:OD1 | 2.46 | 0.48 |
| 2:B:135:PRO:HD3 | 2:B:147:LEU:HD12 | 1.96 | 0.48 |
| 1:C:183:LYS:O | 1:C:187:GLU:HG3 | 2.13 | 0.48 |
| 1:C:66:GLY:HA3 | 1:C:71:TYR:CG | 2.49 | 0.48 |
| 2:D:147:LEU:N | 2:D:190:VAL:O | 2.43 | 0.48 |
| 1:A:34:ASN:HD21 | 2:B:108:TYR:HB3 | 1.79 | 0.48 |
| 2:B:90:ASP:O | 2:B:91:THR:C | 2.47 | 0.48 |
| 1:C:81:GLU:HG2 | 1:C:81:GLU:O | 2.13 | 0.48 |
| 1:A:105:GLU:C | 1:A:106:ILE:HD13 | 2.29 | 0.48 |
| 1:A:110:ASP:HB3 | 1:A:200:THR:CG2 | 2.44 | 0.48 |
| 2:D:17:SER:HA | 2:D:86:LEU:CD1 | 2.44 | 0.48 |
| 1:A:125:LEU:O | 1:A:126:THR:C | 2.51 | 0.48 |
| 1:A:135:PHE:HZ | 2:B:173:ARG:HG3 | 1.79 | 0.48 |
| 1:A:24:ARG:HA | 1:A:69:THR:O | 2.13 | 0.48 |
| 2:B:73:ASP:OD1 | 2:B:76:LYS:HB2 | 2.14 | 0.48 |
| 1:C:124:GLN:CD | 1:C:130:ALA:HA | 2.34 | 0.48 |
| 1:C:150:ILE:HG23 | 1:C:192:TYR:CE1 | 2.48 | 0.48 |
| 1:C:59:PRO:O | 1:C:62:PHE:HD1 | 1.97 | 0.48 |
| 1:A:36:TYR:CE1 | 1:A:89:GLN:HG2 | 2.34 | 0.48 |
| 2:D:130:VAL:CG1 | 2:D:216:ILE:HG21 | 2.43 | 0.47 |
| 2:D:73:ASP:O | 2:D:77:ASN:CG | 2.52 | 0.47 |
| 1:C:125:LEU:HD23 | 1:C:129:GLY:O | 2.13 | 0.47 |
| 1:C:56:SER:C | 1:C:58:VAL:N | 2.67 | 0.47 |
| 1:C:32:PHE:CD2 | 2:D:106:LEU:HD13 | 2.49 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:34:MET:N | 2:D:51:ILE:O | 2.45 | 0.47 |
| 1:C:94:LEU:CD1 | 1:C:94:LEU:N | 2.77 | 0.47 |
| 1:C:93:THR:O | 1:C:96:TYR:CE2 | 2.67 | 0.47 |
| 1:A:115:VAL:HG21 | 1:A:205:ILE:CD1 | 2.43 | 0.47 |
| 1:A:50:TYR:CZ | 2:B:104:ARG:HD2 | 2.49 | 0.47 |
| 1:C:54:LEU:HD11 | 1:C:58:VAL:HG12 | 1.96 | 0.47 |
| 1:C:71:TYR:C | 1:C:72:SER:OG | 2.34 | 0.47 |
| 2:D:19:LYS:CD | 2:D:82:GLN:HB2 | 2.37 | 0.47 |
| 2:B:217:LYS:CE | 2:B:217:LYS:CA | 2.87 | 0.47 |
| 1:C:83:ILE:HA | 1:C:104:LEU:HD23 | 1.95 | 0.47 |
| 1:C:32:PHE:HE1 | 1:C:92:LYS:HZ3 | 1.58 | 0.47 |
| 2:D:11:LEU:HD23 | 2:D:119:ILE:HG22 | 1.52 | 0.47 |
| 2:B:152:LYS:HD3 | 2:B:152:LYS:C | 2.34 | 0.47 |
| 2:B:148:GLY:CA | 2:B:189:LEU:CD1 | 2.90 | 0.47 |
| 1:C:116:SER:N | 1:C:135:PHE:O | 2.44 | 0.47 |
| 1:A:120:PRO:HD3 | 1:A:132:VAL:HG22 | 1.95 | 0.47 |
| 2:B:2:VAL:HG11 | 2:B:111:TYR:CZ | 2.49 | 0.47 |
| 1:C:167:ASP:OD2 | 1:C:168:SER:N | 2.48 | 0.47 |
| 1:C:47:LEU:O | 1:C:58:VAL:HG21 | 2.15 | 0.47 |
| 2:D:147:LEU:HA | 2:D:147:LEU:HD13 | 1.45 | 0.47 |
| 1:A:81:GLU:CD | 1:A:81:GLU:N | 2.67 | 0.47 |
| 1:C:9:SER:O | 1:C:103:LYS:O | 2.33 | 0.47 |
| 2:D:179:LEU:HD11 | 2:D:182:GLY:O | 2.15 | 0.47 |
| 1:A:136:LEU:CD1 | 1:A:146:VAL:HG21 | 2.42 | 0.47 |
| 1:A:29:ILE:HD12 | 1:A:29:ILE:HA | 1.32 | 0.47 |
| 1:C:118:PHE:CD1 | 2:D:135:PRO:HD3 | 2.49 | 0.47 |
| 1:C:139:PHE:CD1 | 1:C:141:PRO:O | 2.68 | 0.47 |
| 2:D:123:ALA:HB3 | 2:D:155:PHE:CE2 | 2.50 | 0.47 |
| 2:D:49:ALA:HB1 | 2:D:70:ILE:HG12 | 1.97 | 0.47 |
| 1:A:65:TRP:HD1 | 1:A:72:SER:O | 1.97 | 0.46 |
| 1:C:163:TRP:CH2 | 1:C:175:MET:HE2 | 2.50 | 0.46 |
| 2:D:9:GLY:O | 2:D:18:ARG:NH1 | 2.48 | 0.46 |
| 1:A:116:SER:HB3 | 1:A:118:PHE:CE2 | 2.50 | 0.46 |
| 2:B:67:ARG:CG | 2:B:67:ARG:NH2 | 2.72 | 0.46 |
| 1:C:144:ILE:HG13 | 1:C:198:HIS:HD2 | 1.80 | 0.46 |
| 1:C:36:TYR:HE2 | 1:C:46:LEU:HD23 | 1.72 | 0.46 |
| 1:A:57:GLY:HA2 | 2:D:214:ASP:OD1 | 2.15 | 0.46 |
| 2:B:130:VAL:HG12 | 2:B:131:TYR:N | 2.30 | 0.46 |
| 2:B:17:SER:HA | 2:B:86:LEU:HD12 | 1.97 | 0.46 |
| 1:C:33:LEU:HD23 | 1:C:33:LEU:C | 2.36 | 0.46 |
| 1:C:39:LYS:O | 1:C:41:ASP:N | 2.49 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:8:GLY:O | 2:D:18:ARG:HD2 | 2.15 | 0.46 |
| 2:D:53:SER:HA | 2:D:72:ARG:CZ | 2.45 | 0.46 |
| 1:A:115:VAL:CG1 | 1:A:116:SER:N | 2.79 | 0.46 |
| 1:A:73:LEU:CD2 | 1:A:86:PHE:CD1 | 2.98 | 0.46 |
| 2:B:3:GLN:N | 2:B:25:SER:O | 2.43 | 0.46 |
| 1:C:24:ARG:NH1 | 1:C:69:THR:OG1 | 2.47 | 0.46 |
| 2:D:155:PHE:CD2 | 2:D:156:PRO:N | 2.83 | 0.46 |
| 2:D:168:LEU:HA | 2:D:168:LEU:HD12 | 1.60 | 0.46 |
| 1:A:25:ALA:HB3 | 1:A:69:THR:HB | 1.98 | 0.46 |
| 2:B:6:GLU:HB2 | 2:B:116:ALA:HB2 | 1.91 | 0.46 |
| 2:B:133:LEU:HD12 | 2:B:148:GLY:CA | 2.18 | 0.46 |
| 2:B:29:PHE:O | 2:B:30:SER:C | 2.52 | 0.46 |
| 1:C:4:MET:HE1 | 1:C:90:GLN:HG2 | 1.91 | 0.46 |
| 2:D:92:ALA:O | 2:D:117:THR:HA | 2.15 | 0.46 |
| 1:A:48:ILE:HD11 | 1:A:54:LEU:HD11 | 1.98 | 0.46 |
| 1:A:33:LEU:O | 1:A:51:THR:N | 2.49 | 0.46 |
| 2:B:64:VAL:O | 2:B:67:ARG:N | 2.46 | 0.46 |
| 2:B:91:THR:O | 2:B:92:ALA:CB | 2.58 | 0.46 |
| 1:C:119:PRO:HA | 1:C:120:PRO:HD3 | 1.87 | 0.46 |
| 2:D:6:GLU:OE2 | 2:D:114:GLN:OE1 | 2.33 | 0.46 |
| 1:A:174:SER:OG | 2:B:173:ARG:HD2 | 2.15 | 0.46 |
| 2:B:146:THR:HA | 2:B:191:THR:CG2 | 2.40 | 0.46 |
| 1:C:126:THR:C | 1:C:128:GLY:N | 2.69 | 0.46 |
| 1:C:124:GLN:CD | 1:C:131:SER:N | 2.68 | 0.46 |
| 1:C:61:ARG:HD3 | 1:C:77:ASN:O | 2.16 | 0.46 |
| 1:C:149:LYS:O | 1:C:193:THR:N | 2.39 | 0.46 |
| 1:A:123:GLU:O | 1:A:126:THR:HB | 2.14 | 0.46 |
| 1:A:17:ASP:OD2 | 1:A:78:LEU:HB2 | 2.15 | 0.46 |
| 1:A:205:ILE:HD12 | 1:A:205:ILE:HG23 | 1.71 | 0.46 |
| 1:A:29:ILE:O | 1:A:32:PHE:HD1 | 1.98 | 0.46 |
| 1:A:135:PHE:CE1 | 2:B:189:LEU:CG | 2.99 | 0.46 |
| 2:B:68:PHE:CD1 | 2:B:68:PHE:N | 2.84 | 0.46 |
| 2:B:74:ASN:HB2 | 2:B:75:PRO:CD | 2.46 | 0.46 |
| 1:C:58:VAL:HA | 1:C:59:PRO:HD3 | 1.63 | 0.46 |
| 2:D:38:ARG:HD3 | 2:D:48:VAL:HG21 | 1.98 | 0.46 |
| 1:A:170:ASP:OD2 | 1:A:172:THR:OG1 | 2.28 | 0.46 |
| 1:A:28:ASP:C | 1:A:29:ILE:CD1 | 2.84 | 0.46 |
| 2:B:61:ALA:O | 2:B:64:VAL:N | 2.39 | 0.46 |
| 2:B:64:VAL:HG23 | 2:B:68:PHE:HB2 | 1.98 | 0.46 |
| 1:C:108:ARG:C | 1:C:140:TYR:CE1 | 2.90 | 0.46 |
| 1:C:16:GLY:O | 1:C:77:ASN:HA | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:19:LYS:HD2 | 2:D:82:GLN:CB | 2.38 | 0.46 |
| 1:A:147:LYS:HE2 | 1:A:147:LYS:HB3 | 1.28 | 0.45 |
| 1:A:38:GLN:HB2 | 1:A:44:LEU:HG | 1.98 | 0.45 |
| 2:D:216:ILE:HG12 | 2:D:217:LYS:CA | 2.41 | 0.45 |
| 1:A:186:TYR:O | 1:A:187:GLU:C | 2.52 | 0.45 |
| 2:B:63:THR:C | 2:B:64:VAL:HG13 | 2.37 | 0.45 |
| 1:C:54:LEU:HG | 1:C:58:VAL:HB | 1.98 | 0.45 |
| 2:D:52:SER:O | 2:D:53:SER:C | 2.50 | 0.45 |
| 1:A:108:ARG:CG | 1:A:108:ARG:HH21 | 2.21 | 0.45 |
| 1:A:137:ASN:HB3 | 1:A:138:ASN:OD1 | 2.15 | 0.45 |
| 1:A:195:GLU:HG3 | 1:A:204:PRO:HB3 | 1.98 | 0.45 |
| 1:A:48:ILE:HG12 | 1:A:54:LEU:HA | 1.99 | 0.45 |
| 1:A:79:GLU:C | 1:A:81:GLU:H | 2.20 | 0.45 |
| 1:C:126:THR:O | 1:C:127:SER:C | 2.51 | 0.45 |
| 1:C:150:ILE:C | 1:C:152:GLY:N | 2.66 | 0.45 |
| 1:C:98:PHE:CZ | 2:D:109:PHE:HE2 | 2.34 | 0.45 |
| 2:B:17:SER:CB | 2:B:84:THR:HA | 2.44 | 0.45 |
| 2:D:18:ARG:HG3 | 2:D:118:LEU:CD1 | 2.42 | 0.45 |
| 2:B:41:PRO:C | 2:B:43:LYS:N | 2.62 | 0.45 |
| 1:C:12:SER:HB3 | 1:C:107:LYS:CB | 2.43 | 0.45 |
| 1:C:13:VAL:HG23 | 1:C:17:ASP:OD2 | 2.16 | 0.45 |
| 2:B:146:THR:OG1 | 2:B:191:THR:HG22 | 2.17 | 0.45 |
| 2:B:212:LYS:HE3 | 2:B:213:THR:C | 2.37 | 0.45 |
| 2:D:98:ARG:HD3 | 2:D:110:ASP:HB3 | 1.99 | 0.45 |
| 1:A:155:ARG:HD2 | 1:A:155:ARG:HA | 1.54 | 0.45 |
| 2:B:117:THR:OG1 | 2:B:118:LEU:N | 2.49 | 0.45 |
| 2:B:146:THR:OG1 | 2:B:191:THR:CG2 | 2.65 | 0.45 |
| 1:C:130:ALA:O | 1:C:180:THR:HG23 | 2.17 | 0.45 |
| 1:C:92:LYS:CG | 1:C:93:THR:OG1 | 2.36 | 0.45 |
| 1:A:131:SER:HG | 1:A:180:THR:HG23 | 1.80 | 0.45 |
| 1:A:33:LEU:HD13 | 1:A:71:TYR:CD2 | 2.47 | 0.45 |
| 1:A:60:SER:O | 1:C:126:THR:CG2 | 2.56 | 0.45 |
| 2:B:52:SER:HB2 | 2:B:57:SER:H | 1.82 | 0.45 |
| 1:C:108:ARG:N | 1:C:140:TYR:OH | 2.45 | 0.45 |
| 2:D:97:THR:CG2 | 2:D:112:TRP:HA | 2.38 | 0.45 |
| 2:D:39:GLN:O | 2:D:39:GLN:CG | 2.64 | 0.45 |
| 1:C:94:LEU:HD21 | 2:D:59:ASN:HB3 | 1.98 | 0.45 |
| 2:B:212:LYS:O | 2:B:212:LYS:HG3 | 2.11 | 0.45 |
| 2:B:74:ASN:O | 2:B:77:ASN:N | 2.45 | 0.45 |
| 1:C:108:ARG:HG2 | 1:C:140:TYR:CG | 2.46 | 0.45 |
| 1:C:50:TYR:CE2 | 2:D:104:ARG:NH1 | 2.84 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:17:SER:HB2 | 2:D:83:MET:O | 2.17 | 0.45 |
| 1:A:135:PHE:HZ | 2:B:173:ARG:CB | 2.30 | 0.45 |
| 1:C:106:ILE:HG21 | 1:C:171:SER:HG | 1.75 | 0.45 |
| 2:D:204:CYS:SG | 2:D:216:ILE:HG22 | 2.55 | 0.45 |
| 2:D:209:PRO:O | 2:D:211:SER:N | 2.40 | 0.45 |
| 2:D:24:ALA:HB3 | 2:D:77:ASN:O | 2.17 | 0.45 |
| 1:A:111:ALA:O | 1:A:200:THR:HG21 | 2.17 | 0.44 |
| 1:C:85:THR:HA | 1:C:102:THR:O | 2.16 | 0.44 |
| 1:C:12:SER:OG | 1:C:105:GLU:HB2 | 2.09 | 0.44 |
| 1:C:59:PRO:O | 1:C:62:PHE:HB2 | 2.18 | 0.44 |
| 1:A:144:ILE:HD13 | 1:A:144:ILE:HG23 | 1.61 | 0.44 |
| 1:A:32:PHE:CD2 | 2:B:106:LEU:HD12 | 2.40 | 0.44 |
| 1:C:19:VAL:HG21 | 1:C:78:LEU:HD22 | 1.99 | 0.44 |
| 2:D:137:CYS:HA | 2:D:197:TRP:CZ3 | 2.52 | 0.44 |
| 2:D:147:LEU:HD11 | 2:D:217:LYS:HZ3 | 1.82 | 0.44 |
| 1:A:7:ILE:O | 1:A:8:THR:CB | 2.65 | 0.44 |
| 2:B:106:LEU:HA | 2:B:106:LEU:HD12 | 1.75 | 0.44 |
| 2:B:2:VAL:HG12 | 2:B:111:TYR:CD1 | 2.52 | 0.44 |
| 2:B:162:LYS:HA | 2:B:162:LYS:HD2 | 1.26 | 0.44 |
| 2:B:146:THR:CB | 2:B:191:THR:HG22 | 2.47 | 0.44 |
| 2:B:130:VAL:CG2 | 2:B:214:ASP:HB2 | 2.47 | 0.44 |
| 1:C:9:SER:CA | 1:C:102:THR:HA | 2.42 | 0.44 |
| 1:C:39:LYS:C | 1:C:41:ASP:N | 2.71 | 0.44 |
| 2:D:97:THR:HG22 | 2:D:111:TYR:O | 2.17 | 0.44 |
| 2:D:6:GLU:CD | 2:D:115:GLY:H | 2.21 | 0.44 |
| 2:B:108:TYR:C | 2:B:109:PHE:CD1 | 2.90 | 0.44 |
| 2:B:143:SER:CB | 2:B:194:SER:OG | 2.65 | 0.44 |
| 1:C:32:PHE:CB | 2:D:106:LEU:HD13 | 2.47 | 0.44 |
| 1:C:98:PHE:HZ | 2:D:109:PHE:HE2 | 1.64 | 0.44 |
| 2:D:58:ILE:HG21 | 2:D:60:TYR:CE2 | 2.52 | 0.44 |
| 1:A:57:GLY:CA | 2:D:214:ASP:OD1 | 2.65 | 0.44 |
| 2:D:50:TYR:N | 2:D:70:ILE:CD1 | 2.81 | 0.44 |
| 1:A:47:LEU:HD23 | 1:A:58:VAL:HG21 | 2.00 | 0.44 |
| 2:B:138:SER:O | 2:B:145:VAL:CG2 | 2.61 | 0.44 |
| 2:B:2:VAL:CG1 | 2:B:2:VAL:O | 2.63 | 0.44 |
| 2:B:61:ALA:C | 2:B:63:THR:N | 2.70 | 0.44 |
| 2:D:145:VAL:HG11 | 2:D:197:TRP:CZ3 | 2.52 | 0.44 |
| 2:B:139:ASP:O | 2:B:145:VAL:HG12 | 2.17 | 0.44 |
| 2:B:48:VAL:CG2 | 2:B:64:VAL:HG11 | 2.48 | 0.44 |
| 2:D:165:TYR:C | 2:D:165:TYR:HD1 | 2.21 | 0.44 |
| 1:A:144:ILE:HD12 | 1:A:144:ILE:HG21 | 1.60 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-----------------|--------------------------|-------------------|
| 2:D:126:THR:HG21 | 2:D:183:PHE:CE2 | 2.53 | 0.44 |
| 2:D:33:GLY:HA3 | 2:D:50:TYR:HE2 | 1.83 | 0.44 |
| 1:A:112:ALA:HB1 | 1:A:113:PRO:HD2 | 1.99 | 0.44 |
| 1:A:28:ASP:C | 1:A:29:ILE:HD12 | 2.38 | 0.44 |
| 1:C:167:ASP:O | 1:C:168:SER:C | 2.56 | 0.43 |
| 1:C:190:ASN:O | 1:C:192:TYR:HD2 | 1.94 | 0.43 |
| 2:D:70:ILE:HD13 | 2:D:70:ILE:HG21 | 1.37 | 0.43 |
| 2:B:17:SER:HB3 | 2:B:84:THR:CA | 2.45 | 0.43 |
| 2:B:217:LYS:O | 2:B:217:LYS:HD3 | 2.18 | 0.43 |
| 2:B:51:ILE:HB | 2:B:70:ILE:CG2 | 2.48 | 0.43 |
| 1:C:85:THR:HG23 | 1:C:87:PHE:CZ | 2.52 | 0.43 |
| 2:D:20:LEU:HD13 | 2:D:83:MET:CE | 2.48 | 0.43 |
| 1:A:148:TRP:CZ2 | 1:A:194:CYS:HB2 | 2.53 | 0.43 |
| 2:B:104:ARG:O | 2:B:105:SER:C | 2.52 | 0.43 |
| 2:B:110:ASP:OD2 | 2:B:111:TYR:CD2 | 2.68 | 0.43 |
| 2:B:11:LEU:HD23 | 2:B:12:VAL:N | 2.33 | 0.43 |
| 1:C:169:LYS:NZ | 1:C:170:ASP:HB3 | 2.33 | 0.43 |
| 2:D:94:TYR:O | 2:D:115:GLY:HA2 | 2.19 | 0.43 |
| 2:D:146:THR:HA | 2:D:191:THR:HA | 1.99 | 0.43 |
| 2:D:20:LEU:N | 2:D:81:LEU:O | 2.35 | 0.43 |
| 1:A:182:THR:HG22 | 1:A:184:ASP:N | 2.33 | 0.43 |
| 1:A:7:ILE:O | 1:A:8:THR:HB | 2.19 | 0.43 |
| 2:B:2:VAL:HG11 | 2:B:111:TYR:CD1 | 2.54 | 0.43 |
| 2:B:68:PHE:CD2 | 2:B:83:MET:HG2 | 2.48 | 0.43 |
| 1:C:41:ASP:OD1 | 1:C:41:ASP:O | 2.35 | 0.43 |
| 1:C:61:ARG:HB3 | 1:C:75:ILE:HG23 | 1.99 | 0.43 |
| 1:C:65:TRP:HZ2 | 1:C:74:THR:CB | 2.30 | 0.43 |
| 1:A:135:PHE:HD1 | 2:B:189:LEU:CG | 2.25 | 0.43 |
| 1:A:151:ASP:OD2 | 1:A:191:SER:N | 2.43 | 0.43 |
| 2:B:130:VAL:HG23 | 2:B:214:ASP:HB3 | 1.98 | 0.43 |
| 1:C:182:THR:HG22 | 1:C:184:ASP:H | 1.83 | 0.43 |
| 1:C:56:SER:O | 1:C:57:GLY:C | 2.49 | 0.43 |
| 1:A:22:SER:HA | 1:A:72:SER:CA | 2.48 | 0.43 |
| 1:C:144:ILE:CG2 | 1:C:175:MET:HE3 | 2.48 | 0.43 |
| 2:D:100:GLY:HA3 | 2:D:108:TYR:CZ | 2.54 | 0.43 |
| 2:D:197:TRP:C | 2:D:199:SER:H | 2.21 | 0.43 |
| 2:D:45:LEU:HA | 2:D:45:LEU:HD23 | 1.56 | 0.43 |
| 2:B:209:PRO:O | 2:B:211:SER:N | 2.42 | 0.43 |
| 2:B:63:THR:C | 2:B:64:VAL:CG1 | 2.86 | 0.43 |
| 2:D:100:GLY:C | 2:D:102:GLY:N | 2.65 | 0.43 |
| 2:D:129:SER:O | 2:D:152:LYS:N | 2.48 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:150:ILE:CG2 | 1:A:189:HIS:CG | 2.99 | 0.43 |
| 1:C:106:ILE:HB | 1:C:166:GLN:CD | 2.38 | 0.43 |
| 1:C:184:ASP:O | 1:C:185:GLU:C | 2.54 | 0.43 |
| 2:D:194:SER:C | 2:D:196:THR:N | 2.71 | 0.43 |
| 1:C:90:GLN:OE1 | 1:C:90:GLN:C | 2.58 | 0.43 |
| 1:A:135:PHE:CZ | 2:B:173:ARG:HG3 | 2.54 | 0.42 |
| 1:C:199:LYS:HG2 | 1:C:199:LYS:O | 2.16 | 0.42 |
| 2:D:13:GLN:HA | 2:D:14:PRO:HD3 | 1.66 | 0.42 |
| 2:D:150:LEU:CD1 | 2:D:152:LYS:HB2 | 2.44 | 0.42 |
| 1:A:125:LEU:HA | 1:A:129:GLY:O | 2.19 | 0.42 |
| 1:A:59:PRO:O | 1:A:59:PRO:HD2 | 2.18 | 0.42 |
| 2:B:2:VAL:CG1 | 2:B:111:TYR:CE1 | 3.02 | 0.42 |
| 1:C:181:LEU:HD12 | 1:C:186:TYR:HD2 | 1.84 | 0.42 |
| 1:C:91:GLY:CA | 2:D:107:TYR:HB2 | 2.49 | 0.42 |
| 1:A:47:LEU:HD23 | 1:A:58:VAL:CG2 | 2.49 | 0.42 |
| 2:B:22:CYS:O | 2:B:78:THR:CA | 2.66 | 0.42 |
| 2:D:202:VAL:O | 2:D:203:ILE:HG13 | 2.19 | 0.42 |
| 2:D:212:LYS:HE3 | 2:D:214:ASP:CB | 2.49 | 0.42 |
| 2:B:203:ILE:CG2 | 2:B:215:LEU:HD11 | 2.47 | 0.42 |
| 2:B:45:LEU:HA | 2:B:45:LEU:HD23 | 1.75 | 0.42 |
| 2:B:70:ILE:HG23 | 2:B:70:ILE:HD13 | 1.19 | 0.42 |
| 1:C:110:ASP:OD2 | 1:C:199:LYS:CE | 2.67 | 0.42 |
| 2:D:1:ASP:O | 2:D:1:ASP:OD1 | 2.37 | 0.42 |
| 1:A:107:LYS:HA | 1:A:140:TYR:CZ | 2.55 | 0.42 |
| 2:B:166:GLY:O | 2:B:168:LEU:HD12 | 2.05 | 0.42 |
| 2:B:177:SER:HG | 2:B:184:TYR:HD1 | 1.67 | 0.42 |
| 2:B:38:ARG:O | 2:B:46:GLU:N | 2.44 | 0.42 |
| 1:A:156:GLN:HB3 | 1:A:157:ASN:H | 1.67 | 0.42 |
| 2:B:60:TYR:HH | 2:B:69:THR:HA | 1.74 | 0.42 |
| 2:D:194:SER:O | 2:D:195:SER:C | 2.53 | 0.42 |
| 2:B:91:THR:CB | 2:B:120:VAL:H | 2.22 | 0.42 |
| 2:B:166:GLY:C | 2:B:168:LEU:HD12 | 2.40 | 0.42 |
| 2:B:3:GLN:C | 2:B:4:LEU:HD23 | 2.40 | 0.42 |
| 2:D:17:SER:CB | 2:D:83:MET:O | 2.68 | 0.42 |
| 2:D:17:SER:HA | 2:D:86:LEU:HD11 | 2.02 | 0.42 |
| 1:A:148:TRP:CH2 | 1:A:194:CYS:HB2 | 2.54 | 0.42 |
| 1:A:173:TYR:H | 1:A:173:TYR:HD2 | 1.67 | 0.42 |
| 1:A:34:ASN:HD22 | 1:A:89:GLN:HE21 | 1.67 | 0.42 |
| 2:B:163:TRP:CE3 | 2:B:203:ILE:O | 2.72 | 0.42 |
| 1:C:136:LEU:O | 1:C:175:MET:N | 2.40 | 0.42 |
| 1:C:29:ILE:CG1 | 1:C:90:GLN:CB | 2.93 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:101:THR:HG22 | 2:D:101:THR:O | 2.20 | 0.42 |
| 2:D:171:GLY:O | 2:D:190:VAL:HG23 | 2.20 | 0.42 |
| 1:A:49:TYR:CE2 | 1:A:53:ARG:CB | 3.03 | 0.42 |
| 2:B:60:TYR:OH | 2:B:70:ILE:N | 2.44 | 0.42 |
| 2:D:92:ALA:O | 2:D:117:THR:CA | 2.68 | 0.42 |
| 2:D:125:THR:HG23 | 2:D:155:PHE:O | 2.19 | 0.42 |
| 2:D:196:THR:HA | 2:D:200:GLN:OE1 | 2.20 | 0.42 |
| 2:D:51:ILE:O | 2:D:51:ILE:HG23 | 2.19 | 0.42 |
| 1:A:155:ARG:NE | 1:A:157:ASN:O | 2.53 | 0.42 |
| 1:A:162:SER:C | 1:A:163:TRP:CE3 | 2.93 | 0.42 |
| 2:B:20:LEU:HD21 | 2:B:94:TYR:CG | 2.55 | 0.42 |
| 2:B:37:VAL:HG11 | 2:B:112:TRP:HH2 | 1.84 | 0.42 |
| 1:C:46:LEU:CD1 | 1:C:49:TYR:HD1 | 2.33 | 0.42 |
| 2:D:27:PHE:CE2 | 2:D:32:PHE:CE1 | 3.08 | 0.42 |
| 1:A:197:THR:O | 1:A:198:HIS:CB | 2.65 | 0.41 |
| 1:A:6:GLN:NE2 | 1:A:86:PHE:O | 2.48 | 0.41 |
| 2:B:174:THR:O | 2:B:175:VAL:C | 2.56 | 0.41 |
| 2:B:17:SER:CA | 2:B:86:LEU:HD12 | 2.50 | 0.41 |
| 1:C:39:LYS:HB2 | 1:C:41:ASP:O | 2.20 | 0.41 |
| 1:A:121:SER:O | 1:A:125:LEU:CG | 2.63 | 0.41 |
| 2:B:164:ASN:HD22 | 2:B:164:ASN:C | 2.24 | 0.41 |
| 2:B:50:TYR:HD1 | 2:B:59:ASN:HB3 | 1.85 | 0.41 |
| 1:C:53:ARG:HD3 | 1:C:53:ARG:HA | 1.81 | 0.41 |
| 1:C:93:THR:O | 1:C:96:TYR:CD2 | 2.73 | 0.41 |
| 1:C:93:THR:O | 1:C:94:LEU:HD12 | 2.19 | 0.41 |
| 1:A:3:GLN:H | 1:A:26:SER:HB3 | 1.85 | 0.41 |
| 2:B:70:ILE:HD12 | 2:B:70:ILE:HG21 | 1.41 | 0.41 |
| 2:D:72:ARG:CD | 2:D:74:ASN:OD1 | 2.68 | 0.41 |
| 1:A:149:LYS:C | 1:A:153:SER:O | 2.59 | 0.41 |
| 1:A:88:CYS:SG | 1:A:99:GLY:HA3 | 2.60 | 0.41 |
| 1:C:7:ILE:O | 1:C:8:THR:CB | 2.68 | 0.41 |
| 1:A:42:GLY:O | 1:A:43:SER:C | 2.58 | 0.41 |
| 1:A:65:TRP:CD1 | 1:A:72:SER:O | 2.74 | 0.41 |
| 1:C:66:GLY:HA3 | 1:C:71:TYR:HB3 | 2.03 | 0.41 |
| 2:D:148:GLY:HA3 | 2:D:189:LEU:HD13 | 2.03 | 0.41 |
| 2:D:192:VAL:HA | 2:D:193:PRO:HD3 | 1.59 | 0.41 |
| 2:D:203:ILE:HG23 | 2:D:215:LEU:HG | 2.03 | 0.41 |
| 1:A:31:ASN:HA | 1:A:71:TYR:CZ | 2.54 | 0.41 |
| 2:B:51:ILE:HG12 | 2:B:52:SER:N | 2.36 | 0.41 |
| 1:C:196:ALA:H | 1:C:205:ILE:HG22 | 1.86 | 0.41 |
| 1:C:115:VAL:CG2 | 1:C:205:ILE:CG2 | 2.98 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:29:ILE:HD12 | 1:C:29:ILE:HA | 1.38 | 0.41 |
| 1:C:89:GLN:HB3 | 1:C:98:PHE:CG | 2.56 | 0.41 |
| 2:D:67:ARG:NH2 | 2:D:90:ASP:OD1 | 2.49 | 0.41 |
| 1:C:147:LYS:O | 1:C:195:GLU:N | 2.51 | 0.41 |
| 2:D:165:TYR:CD1 | 2:D:165:TYR:C | 2.93 | 0.41 |
| 2:D:10:GLY:CA | 2:D:18:ARG:HH12 | 2.12 | 0.41 |
| 2:D:192:VAL:CG2 | 2:D:192:VAL:O | 2.65 | 0.41 |
| 1:A:131:SER:OG | 1:A:180:THR:HA | 2.21 | 0.41 |
| 1:A:61:ARG:NH2 | 1:A:82:ASP:OD2 | 2.54 | 0.41 |
| 2:B:128:PRO:HD2 | 2:B:212:LYS:HG2 | 2.02 | 0.41 |
| 2:B:39:GLN:O | 2:B:93:ILE:HD12 | 2.20 | 0.41 |
| 1:C:183:LYS:CG | 1:C:183:LYS:O | 2.68 | 0.41 |
| 2:D:111:TYR:CE1 | 2:D:112:TRP:O | 2.73 | 0.41 |
| 2:D:93:ILE:CG1 | 2:D:117:THR:HB | 2.47 | 0.41 |
| 2:D:123:ALA:HB3 | 2:D:155:PHE:CZ | 2.56 | 0.41 |
| 2:D:39:GLN:HB2 | 2:D:45:LEU:CD2 | 2.51 | 0.41 |
| 1:A:133:VAL:CG1 | 1:A:134:CYS:N | 2.84 | 0.41 |
| 1:A:175:MET:SD | 1:A:175:MET:C | 2.99 | 0.41 |
| 2:B:21:SER:HA | 2:B:80:PHE:HA | 2.02 | 0.41 |
| 1:C:106:ILE:HG22 | 1:C:166:GLN:NE2 | 2.34 | 0.41 |
| 1:C:61:ARG:CB | 1:C:75:ILE:HG23 | 2.51 | 0.41 |
| 1:A:112:ALA:CB | 1:A:113:PRO:HD2 | 2.49 | 0.41 |
| 1:A:48:ILE:HD11 | 1:A:54:LEU:HD12 | 2.03 | 0.41 |
| 2:B:154:TYR:N | 2:B:154:TYR:CD1 | 2.88 | 0.41 |
| 2:B:20:LEU:O | 2:B:80:PHE:HA | 2.20 | 0.41 |
| 2:B:19:LYS:HA | 2:B:81:LEU:O | 2.21 | 0.41 |
| 1:C:106:ILE:HB | 1:C:166:GLN:NE2 | 2.36 | 0.41 |
| 1:C:91:GLY:C | 2:D:106:LEU:HD12 | 2.40 | 0.41 |
| 2:D:179:LEU:HD23 | 2:D:180:GLN:HA | 2.03 | 0.41 |
| 1:C:106:ILE:HB | 1:C:166:GLN:OE1 | 2.21 | 0.41 |
| 1:C:166:GLN:O | 1:C:168:SER:N | 2.54 | 0.41 |
| 1:C:35:TRP:CE3 | 1:C:73:LEU:HD23 | 2.56 | 0.41 |
| 2:D:126:THR:HG22 | 2:D:127:ALA:O | 2.21 | 0.41 |
| 2:B:65:LYS:HD2 | 2:B:65:LYS:HA | 1.61 | 0.40 |
| 2:B:71:SER:HB2 | 2:B:80:PHE:HB2 | 2.02 | 0.40 |
| 2:B:98:ARG:NH1 | 2:B:111:TYR:CE2 | 2.90 | 0.40 |
| 2:D:17:SER:HB3 | 2:D:84:THR:CA | 2.47 | 0.40 |
| 2:B:34:MET:HB3 | 2:B:79:LEU:HD22 | 2.04 | 0.40 |
| 1:C:10:SER:CA | 1:C:103:LYS:O | 2.67 | 0.40 |
| 1:C:41:ASP:O | 1:C:42:GLY:C | 2.60 | 0.40 |
| 2:D:129:SER:O | 2:D:151:VAL:HA | 2.21 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:86:LEU:HD22 | 2:D:118:LEU:CD2 | 2.50 | 0.40 |
| 1:A:137:ASN:OD1 | 2:B:173:ARG:HG3 | 2.22 | 0.40 |
| 1:A:134:CYS:CB | 1:A:148:TRP:CZ2 | 3.01 | 0.40 |
| 1:A:79:GLU:C | 1:A:81:GLU:N | 2.71 | 0.40 |
| 2:B:64:VAL:O | 2:B:68:PHE:N | 2.35 | 0.40 |
| 1:C:11:LEU:O | 1:C:104:LEU:HA | 2.21 | 0.40 |
| 1:C:92:LYS:C | 1:C:93:THR:OG1 | 2.58 | 0.40 |
| 2:D:136:GLY:O | 2:D:137:CYS:SG | 2.80 | 0.40 |
| 1:A:111:ALA:CA | 1:A:200:THR:HG21 | 2.52 | 0.40 |
| 1:A:181:LEU:HD23 | 1:A:181:LEU:HA | 1.66 | 0.40 |
| 2:B:130:VAL:CG2 | 2:B:206:VAL:CG2 | 2.96 | 0.40 |
| 2:B:36:TRP:HB3 | 2:B:48:VAL:HG12 | 2.03 | 0.40 |
| 1:C:50:TYR:C | 1:C:52:SER:N | 2.70 | 0.40 |
| 1:C:55:GLN:HG3 | 1:C:56:SER:OG | 2.20 | 0.40 |
| 1:C:96:TYR:CZ | 2:D:107:TYR:CG | 3.10 | 0.40 |
| 1:C:164:THR:HG22 | 2:D:175:VAL:HG23 | 2.04 | 0.40 |
| 1:A:16:GLY:HA2 | 1:A:77:ASN:OD1 | 2.21 | 0.40 |
| 2:B:12:VAL:O | 2:B:120:VAL:HA | 2.22 | 0.40 |
| 1:C:50:TYR:HD2 | 1:C:53:ARG:NH2 | 2.19 | 0.40 |
| 1:C:54:LEU:HD11 | 1:C:58:VAL:CG1 | 2.51 | 0.40 |
| 2:D:60:TYR:OH | 2:D:69:THR:CA | 2.40 | 0.40 |

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

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 2:B:1:ASP:N | 1:C:77:ASN:OD1[2_656] | 2.01 | 0.19 |
| 2:B:124:THR:CG2 | 1:C:156:GLN:NE2[1_565] | 2.04 | 0.16 |

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 | 204/206 (99%) | 166 (81%) | 26 (13%) | 12 (6%) | 1 | 10 |
| 1 | C | 204/206 (99%) | 162 (79%) | 24 (12%) | 18 (9%) | 1 | 4 |
| 2 | B | 215/217 (99%) | 163 (76%) | 26 (12%) | 26 (12%) | 0 | 1 |
| 2 | D | 215/217 (99%) | 169 (79%) | 25 (12%) | 21 (10%) | 0 | 3 |
| All | All | 838/846 (99%) | 660 (79%) | 101 (12%) | 77 (9%) | 1 | 4 |

All (77) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 40 | PRO |
| 1 | A | 51 | THR |
| 1 | A | 80 | GLU |
| 1 | A | 199 | LYS |
| 2 | B | 42 | GLU |
| 2 | B | 105 | SER |
| 2 | B | 170 | SER |
| 2 | B | 194 | SER |
| 2 | B | 209 | PRO |
| 2 | B | 211 | SER |
| 1 | C | 8 | THR |
| 1 | C | 31 | ASN |
| 1 | C | 51 | THR |
| 1 | C | 78 | LEU |
| 1 | C | 81 | GLU |
| 1 | C | 151 | ASP |
| 2 | D | 42 | GLU |
| 2 | D | 75 | PRO |
| 2 | D | 88 | SER |
| 2 | D | 123 | ALA |
| 2 | D | 128 | PRO |
| 2 | D | 137 | CYS |
| 2 | D | 138 | SER |
| 2 | D | 167 | ALA |
| 2 | D | 169 | SER |
| 2 | D | 170 | SER |
| 2 | D | 197 | TRP |
| 2 | D | 216 | ILE |
| 1 | A | 8 | THR |
| 1 | A | 26 | SER |
| 1 | A | 123 | GLU |
| 1 | A | 171 | SER |
| 1 | A | 188 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 198 | HIS |
| 2 | B | 2 | VAL |
| 2 | B | 54 | GLY |
| 2 | B | 62 | ASP |
| 2 | B | 73 | ASP |
| 2 | B | 89 | GLU |
| 2 | B | 100 | GLY |
| 2 | B | 125 | THR |
| 2 | B | 139 | ASP |
| 1 | C | 40 | PRO |
| 1 | C | 42 | GLY |
| 1 | C | 57 | GLY |
| 1 | C | 68 | GLY |
| 1 | C | 199 | LYS |
| 2 | D | 48 | VAL |
| 1 | A | 138 | ASN |
| 2 | B | 7 | SER |
| 2 | B | 30 | SER |
| 2 | B | 104 | ARG |
| 2 | B | 135 | PRO |
| 2 | B | 210 | ALA |
| 1 | C | 43 | SER |
| 1 | C | 80 | GLU |
| 1 | C | 113 | PRO |
| 2 | B | 169 | SER |
| 2 | B | 199 | SER |
| 1 | C | 84 | ALA |
| 2 | D | 211 | SER |
| 1 | C | 141 | PRO |
| 2 | D | 2 | VAL |
| 2 | D | 41 | PRO |
| 2 | D | 127 | ALA |
| 2 | B | 144 | SER |
| 2 | D | 100 | GLY |
| 2 | D | 144 | SER |
| 1 | A | 100 | GLY |
| 2 | D | 16 | GLY |
| 2 | D | 99 | GLY |
| 2 | B | 166 | GLY |
| 1 | C | 144 | ILE |
| 2 | B | 197 | TRP |
| 2 | B | 216 | ILE |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | C | 30 | GLY |
| 2 | B | 74 | ASN |

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 | 184/184 (100%) | 135 (73%) | 49 (27%) | 0 | 1 |
| 1 | C | 184/184 (100%) | 138 (75%) | 46 (25%) | 0 | 2 |
| 2 | B | 181/181 (100%) | 130 (72%) | 51 (28%) | 0 | 1 |
| 2 | D | 181/181 (100%) | 126 (70%) | 55 (30%) | 0 | 0 |
| All | All | 730/730 (100%) | 529 (72%) | 201 (28%) | 0 | 1 |

All (201) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 4 | MET |
| 1 | A | 5 | THR |
| 1 | A | 7 | ILE |
| 1 | A | 10 | SER |
| 1 | A | 13 | VAL |
| 1 | A | 15 | LEU |
| 1 | A | 17 | ASP |
| 1 | A | 27 | GLN |
| 1 | A | 29 | ILE |
| 1 | A | 39 | LYS |
| 1 | A | 40 | PRO |
| 1 | A | 41 | ASP |
| 1 | A | 43 | SER |
| 1 | A | 44 | LEU |
| 1 | A | 46 | LEU |
| 1 | A | 49 | TYR |
| 1 | A | 54 | LEU |
| 1 | A | 55 | GLN |
| 1 | A | 65 | TRP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 71 | TYR |
| 1 | A | 76 | SER |
| 1 | A | 77 | ASN |
| 1 | A | 78 | LEU |
| 1 | A | 83 | ILE |
| 1 | A | 85 | THR |
| 1 | A | 92 | LYS |
| 1 | A | 106 | ILE |
| 1 | A | 114 | THR |
| 1 | A | 119 | PRO |
| 1 | A | 120 | PRO |
| 1 | A | 122 | SER |
| 1 | A | 135 | PHE |
| 1 | A | 136 | LEU |
| 1 | A | 142 | LYS |
| 1 | A | 144 | ILE |
| 1 | A | 147 | LYS |
| 1 | A | 154 | GLU |
| 1 | A | 160 | LEU |
| 1 | A | 162 | SER |
| 1 | A | 163 | TRP |
| 1 | A | 164 | THR |
| 1 | A | 168 | SER |
| 1 | A | 171 | SER |
| 1 | A | 173 | TYR |
| 1 | A | 175 | MET |
| 1 | A | 179 | LEU |
| 1 | A | 184 | ASP |
| 1 | A | 194 | CYS |
| 1 | A | 205 | ILE |
| 2 | B | 7 | SER |
| 2 | B | 13 | GLN |
| 2 | B | 17 | SER |
| 2 | B | 18 | ARG |
| 2 | B | 20 | LEU |
| 2 | B | 27 | PHE |
| 2 | B | 28 | THR |
| 2 | B | 31 | ASN |
| 2 | B | 37 | VAL |
| 2 | B | 48 | VAL |
| 2 | B | 56 | SER |
| 2 | B | 59 | ASN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | B | 63 | THR |
| 2 | B | 67 | ARG |
| 2 | B | 77 | ASN |
| 2 | B | 84 | THR |
| 2 | B | 85 | SER |
| 2 | B | 89 | GLU |
| 2 | B | 98 | ARG |
| 2 | B | 101 | THR |
| 2 | B | 103 | THR |
| 2 | B | 114 | GLN |
| 2 | B | 117 | THR |
| 2 | B | 126 | THR |
| 2 | B | 135 | PRO |
| 2 | B | 144 | SER |
| 2 | B | 145 | VAL |
| 2 | B | 150 | LEU |
| 2 | B | 152 | LYS |
| 2 | B | 154 | TYR |
| 2 | B | 158 | PRO |
| 2 | B | 164 | ASN |
| 2 | B | 165 | TYR |
| 2 | B | 168 | LEU |
| 2 | B | 170 | SER |
| 2 | B | 172 | VAL |
| 2 | B | 178 | VAL |
| 2 | B | 180 | GLN |
| 2 | B | 185 | SER |
| 2 | B | 192 | VAL |
| 2 | B | 194 | SER |
| 2 | B | 195 | SER |
| 2 | B | 196 | THR |
| 2 | B | 199 | SER |
| 2 | B | 202 | VAL |
| 2 | B | 204 | CYS |
| 2 | B | 205 | ASN |
| 2 | B | 212 | LYS |
| 2 | B | 213 | THR |
| 2 | B | 216 | ILE |
| 2 | B | 217 | LYS |
| 1 | C | 4 | MET |
| 1 | C | 7 | ILE |
| 1 | C | 10 | SER |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | C | 12 | SER |
| 1 | C | 15 | LEU |
| 1 | C | 17 | ASP |
| 1 | C | 20 | ILE |
| 1 | C | 22 | SER |
| 1 | C | 24 | ARG |
| 1 | C | 27 | GLN |
| 1 | C | 40 | PRO |
| 1 | C | 44 | LEU |
| 1 | C | 48 | ILE |
| 1 | C | 60 | SER |
| 1 | C | 65 | TRP |
| 1 | C | 67 | SER |
| 1 | C | 71 | TYR |
| 1 | C | 72 | SER |
| 1 | C | 78 | LEU |
| 1 | C | 79 | GLU |
| 1 | C | 80 | GLU |
| 1 | C | 81 | GLU |
| 1 | C | 83 | ILE |
| 1 | C | 89 | GLN |
| 1 | C | 95 | PRO |
| 1 | C | 103 | LYS |
| 1 | C | 105 | GLU |
| 1 | C | 107 | LYS |
| 1 | C | 108 | ARG |
| 1 | C | 114 | THR |
| 1 | C | 126 | THR |
| 1 | C | 131 | SER |
| 1 | C | 141 | PRO |
| 1 | C | 142 | LYS |
| 1 | C | 143 | ASP |
| 1 | C | 169 | LYS |
| 1 | C | 172 | THR |
| 1 | C | 175 | MET |
| 1 | C | 178 | THR |
| 1 | C | 179 | LEU |
| 1 | C | 190 | ASN |
| 1 | C | 193 | THR |
| 1 | C | 197 | THR |
| 1 | C | 200 | THR |
| 1 | C | 202 | THR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | C | 205 | ILE |
| 2 | D | 3 | GLN |
| 2 | D | 11 | LEU |
| 2 | D | 13 | GLN |
| 2 | D | 17 | SER |
| 2 | D | 18 | ARG |
| 2 | D | 20 | LEU |
| 2 | D | 30 | SER |
| 2 | D | 34 | MET |
| 2 | D | 39 | GLN |
| 2 | D | 48 | VAL |
| 2 | D | 50 | TYR |
| 2 | D | 56 | SER |
| 2 | D | 59 | ASN |
| 2 | D | 65 | LYS |
| 2 | D | 69 | THR |
| 2 | D | 71 | SER |
| 2 | D | 85 | SER |
| 2 | D | 87 | ARG |
| 2 | D | 91 | THR |
| 2 | D | 93 | ILE |
| 2 | D | 103 | THR |
| 2 | D | 105 | SER |
| 2 | D | 108 | TYR |
| 2 | D | 114 | GLN |
| 2 | D | 122 | SER |
| 2 | D | 128 | PRO |
| 2 | D | 132 | PRO |
| 2 | D | 135 | PRO |
| 2 | D | 139 | ASP |
| 2 | D | 144 | SER |
| 2 | D | 145 | VAL |
| 2 | D | 147 | LEU |
| 2 | D | 149 | CYS |
| 2 | D | 151 | VAL |
| 2 | D | 152 | LYS |
| 2 | D | 156 | PRO |
| 2 | D | 159 | VAL |
| 2 | D | 165 | TYR |
| 2 | D | 168 | LEU |
| 2 | D | 170 | SER |
| 2 | D | 173 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | D | 175 | VAL |
| 2 | D | 180 | GLN |
| 2 | D | 184 | TYR |
| 2 | D | 189 | LEU |
| 2 | D | 191 | THR |
| 2 | D | 194 | SER |
| 2 | D | 195 | SER |
| 2 | D | 199 | SER |
| 2 | D | 200 | GLN |
| 2 | D | 201 | THR |
| 2 | D | 202 | VAL |
| 2 | D | 205 | ASN |
| 2 | D | 215 | LEU |
| 2 | D | 217 | LYS |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 27 | GLN |
| 1 | A | 37 | GLN |
| 1 | A | 190 | ASN |
| 2 | B | 59 | ASN |
| 2 | B | 77 | ASN |
| 2 | B | 164 | ASN |
| 2 | B | 180 | GLN |
| 2 | B | 208 | HIS |
| 1 | C | 27 | GLN |
| 1 | C | 31 | ASN |
| 1 | C | 77 | ASN |
| 1 | C | 89 | GLN |
| 1 | C | 161 | ASN |
| 1 | C | 190 | ASN |
| 2 | D | 3 | GLN |
| 2 | D | 59 | ASN |

5.3.3 RNA

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](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|----------------|--------|--|-----------------------|-------|
| 1 | A | 206/206 (100%) | -0.28 | 0 100 100 | 28, 28, 28, 28 | 0 |
| 1 | C | 206/206 (100%) | -0.29 | 0 100 100 | 28, 28, 28, 28 | 0 |
| 2 | B | 217/217 (100%) | -0.20 | 10 (4%) 32 16 | 28, 28, 28, 28 | 0 |
| 2 | D | 217/217 (100%) | -0.11 | 12 (5%) 25 11 | 28, 28, 28, 28 | 0 |
| All | All | 846/846 (100%) | -0.22 | 22 (2%) 56 33 | 28, 28, 28, 28 | 0 |

All (22) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 2 | D | 137 | CYS | 5.3 |
| 2 | B | 139 | ASP | 4.9 |
| 2 | D | 142 | GLY | 4.9 |
| 2 | B | 140 | THR | 4.5 |
| 2 | D | 169 | SER | 4.1 |
| 2 | D | 166 | GLY | 4.1 |
| 2 | D | 141 | SER | 3.9 |
| 2 | D | 140 | THR | 3.6 |
| 2 | D | 167 | ALA | 3.5 |
| 2 | B | 138 | SER | 3.5 |
| 2 | B | 166 | GLY | 3.5 |
| 2 | B | 137 | CYS | 3.4 |
| 2 | B | 169 | SER | 3.3 |
| 2 | B | 141 | SER | 3.0 |
| 2 | D | 139 | ASP | 3.0 |
| 2 | B | 136 | GLY | 2.8 |
| 2 | D | 136 | GLY | 2.8 |
| 2 | D | 168 | LEU | 2.7 |
| 2 | B | 42 | GLU | 2.7 |
| 2 | D | 138 | SER | 2.6 |
| 2 | B | 167 | ALA | 2.4 |
| 2 | D | 42 | GLU | 2.1 |

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

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

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.