



Full wwPDB NMR Structure Validation Report ⓘ

Jun 12, 2024 – 05:13 AM EDT

PDB ID : 1YUA
Title : C-TERMINAL DOMAIN OF ESCHERICHIA COLI TOPOISOMERASE I
Authors : Yu, L.; Zhu, C.-X.; Tse-Dinh, Y.-C.; Fesik, S.W.
Deposited on : 1995-03-02

This is a Full wwPDB NMR 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/NMRValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
wwPDB-RCI : v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV : Wang et al. (2010)
wwPDB-ShiftChecker : v1.2
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

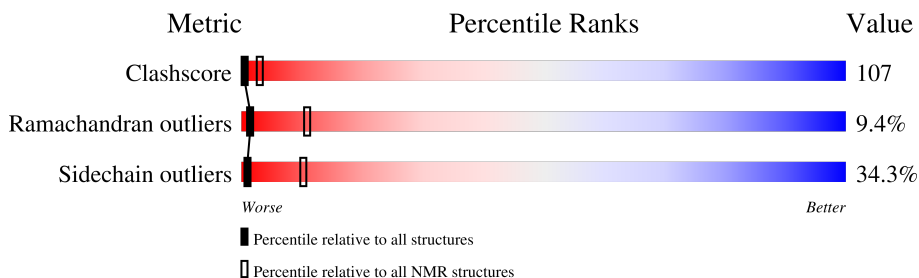
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR

The overall completeness of chemical shifts assignment was not calculated.

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) | NMR archive (#Entries) |
|-----------------------|--------------------------|------------------------|
| Clashscore | 158937 | 12864 |
| Ramachandran outliers | 154571 | 11451 |
| Sidechain outliers | 154315 | 11428 |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and a grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 122 | |

2 Ensemble composition and analysis

This entry contains 26 models. Model 23 is the overall representative, medoid model (most similar to other models).

The following residues are included in the computation of the global validation metrics.

| Well-defined (core) protein residues | | | |
|--------------------------------------|-----------------------|-------------------|--------------|
| Well-defined core | Residue range (total) | Backbone RMSD (Å) | Medoid model |
| 1 | A:12-A:120 (109) | 0.85 | 23 |

Ill-defined regions of proteins are excluded from the global statistics.

Ligands and non-protein polymers are included in the analysis.

The models can be grouped into 2 clusters and 1 single-model cluster was found.

| Cluster number | Models |
|-----------------------|-------------------------------------------------------------------------------------|
| 1 | 1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 |
| 2 | 4, 5 |
| Single-model clusters | 14 |

3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 1943 atoms, of which 966 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called TOPOISOMERASE I.

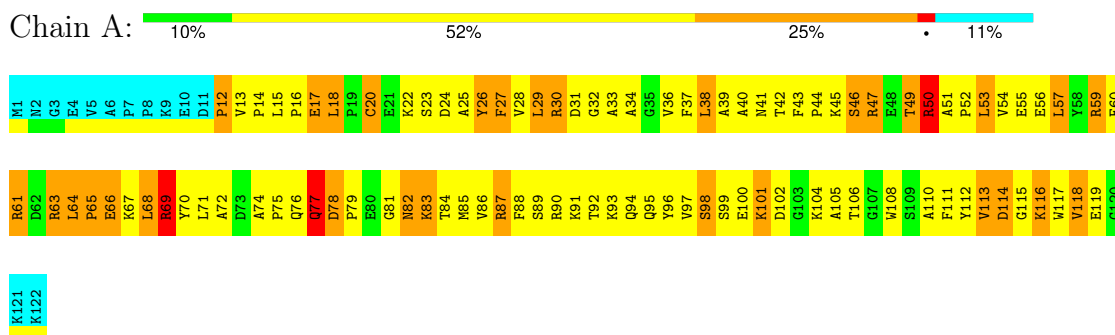
| Mol | Chain | Residues | Atoms | | | | | | Trace |
|-----|-------|----------|-------|-----|-----|-----|-----|---|-------|
| | | | Total | C | H | N | O | S | |
| 1 | A | 122 | 1943 | 620 | 966 | 170 | 184 | 3 | 0 |

4 Residue-property plots

4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

- Molecule 1: TOPOISOMERASE I

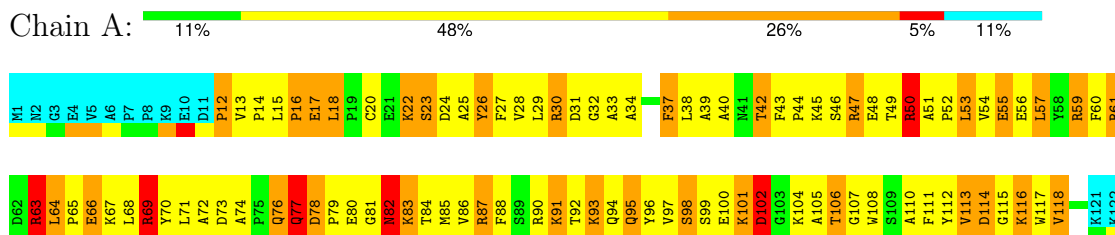


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

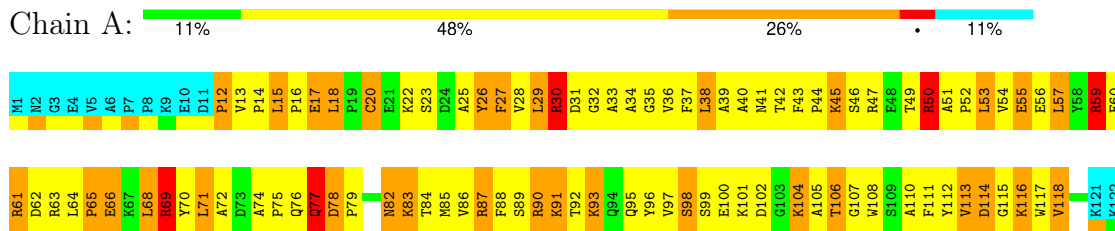
4.2.1 Score per residue for model 1

- Molecule 1: TOPOISOMERASE I



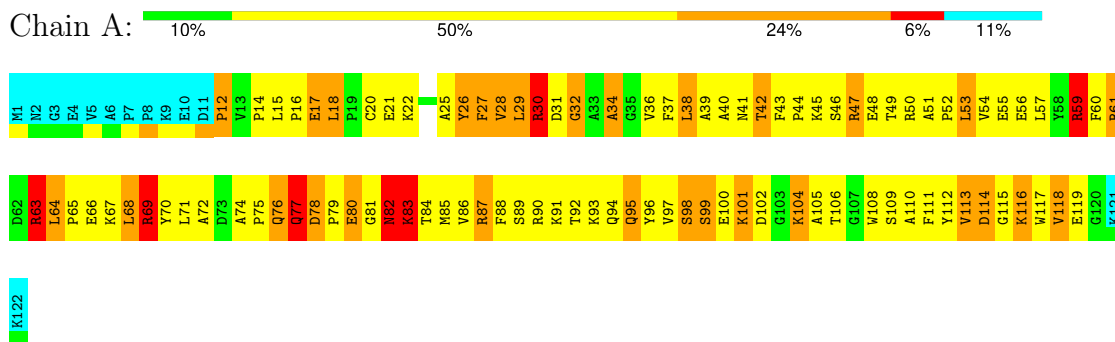
4.2.2 Score per residue for model 2

- Molecule 1: TOPOISOMERASE I



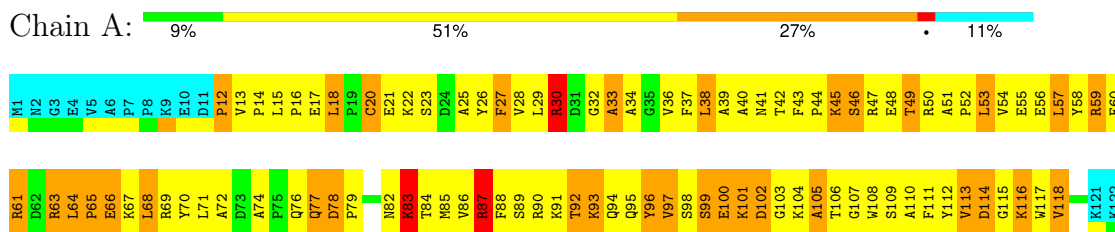
4.2.3 Score per residue for model 3

- Molecule 1: TOPOISOMERASE I



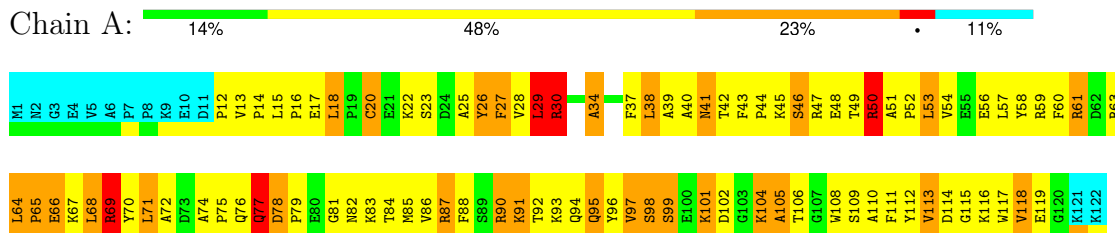
4.2.4 Score per residue for model 4

- Molecule 1: TOPOISOMERASE I



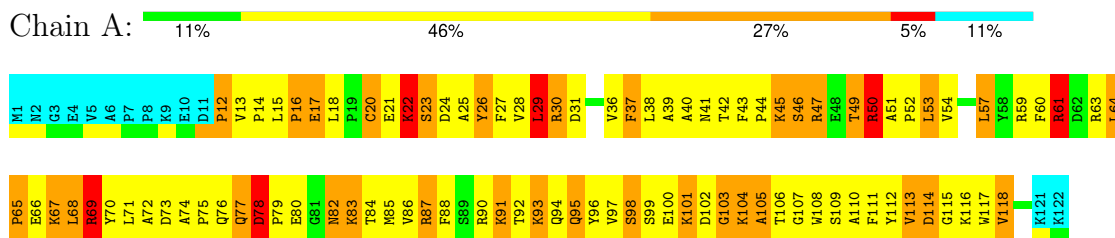
4.2.5 Score per residue for model 5

- Molecule 1: TOPOISOMERASE I



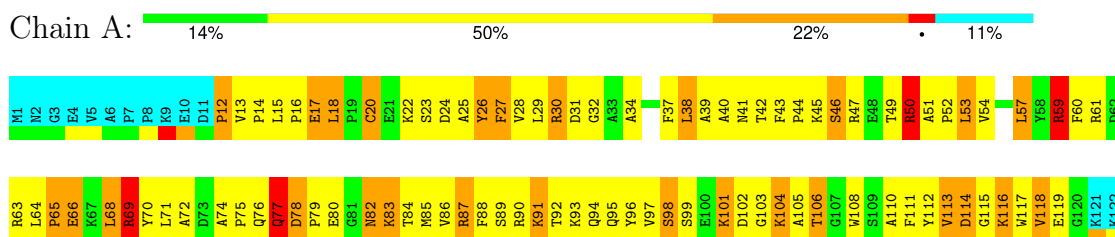
4.2.6 Score per residue for model 6

- Molecule 1: TOPOISOMERASE I



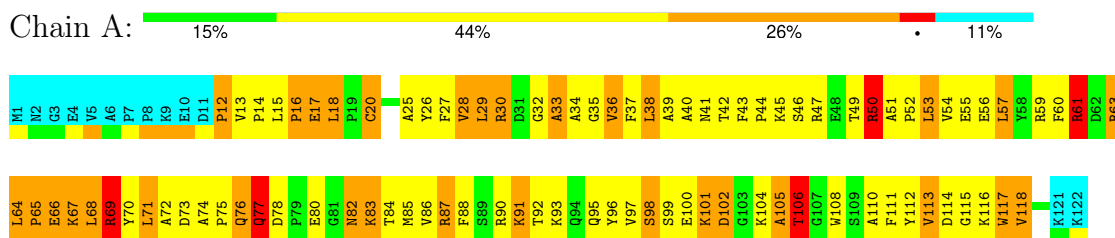
4.2.7 Score per residue for model 7

- Molecule 1: TOPOISOMERASE I



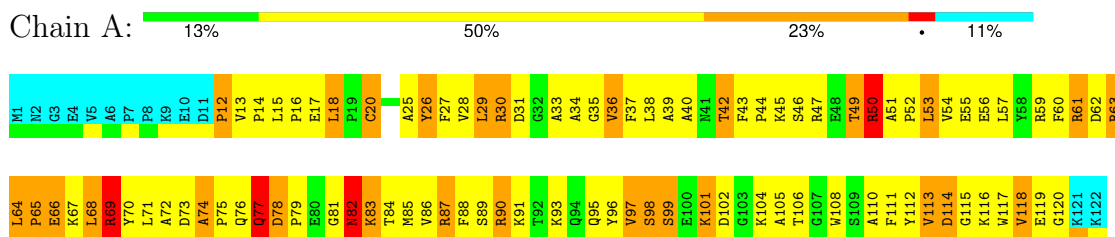
4.2.8 Score per residue for model 8

- Molecule 1: TOPOISOMERASE I



4.2.9 Score per residue for model 9

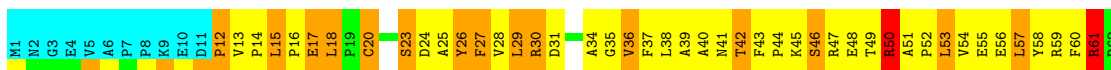
- Molecule 1: TOPOISOMERASE I





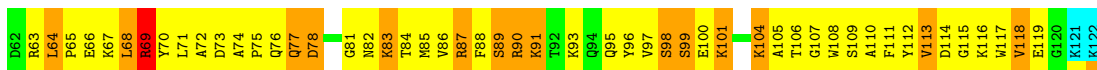
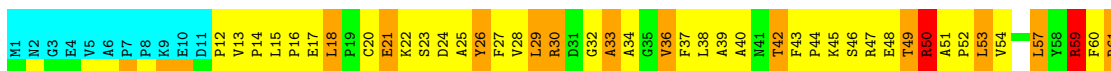
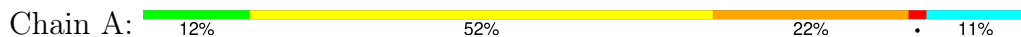
4.2.18 Score per residue for model 18

- Molecule 1: TOPOISOMERASE I



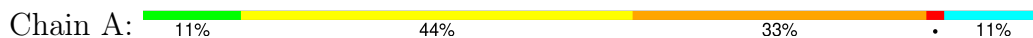
4.2.19 Score per residue for model 19

- Molecule 1: TOPOISOMERASE I



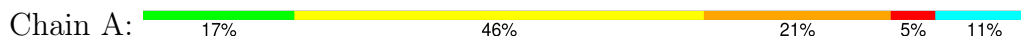
4.2.20 Score per residue for model 20

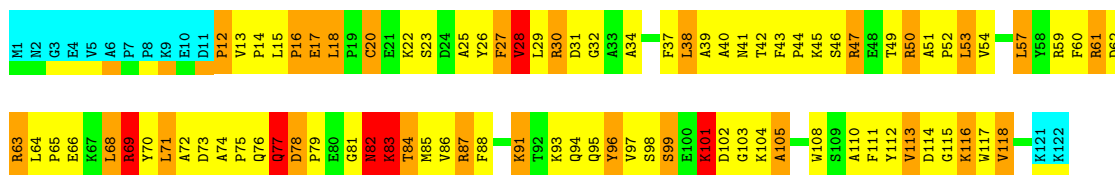
- Molecule 1: TOPOISOMERASE I



4.2.21 Score per residue for model 21

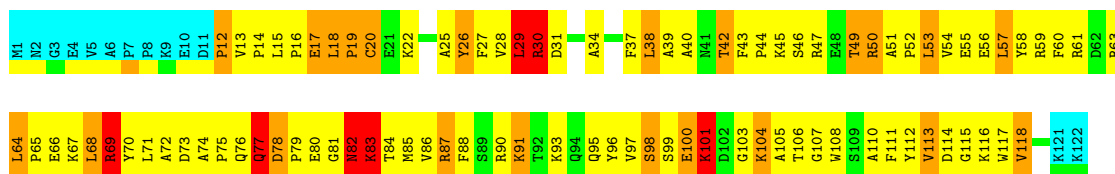
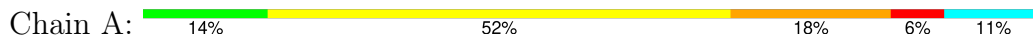
- Molecule 1: TOPOISOMERASE I





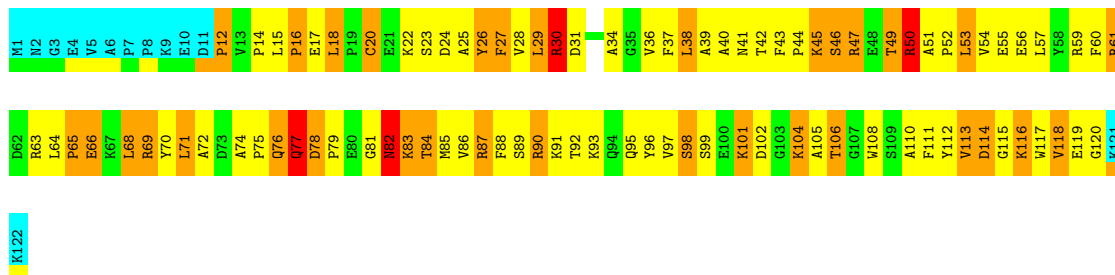
4.2.22 Score per residue for model 22

- Molecule 1: TOPOISOMERASE I



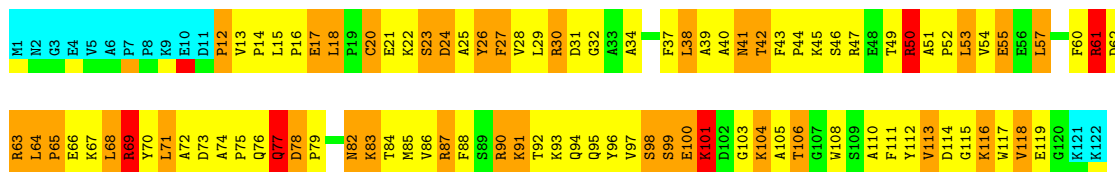
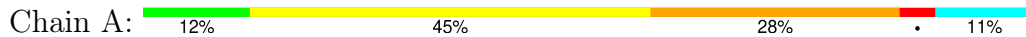
4.2.23 Score per residue for model 23 (medoid)

- Molecule 1: TOPOISOMERASE I



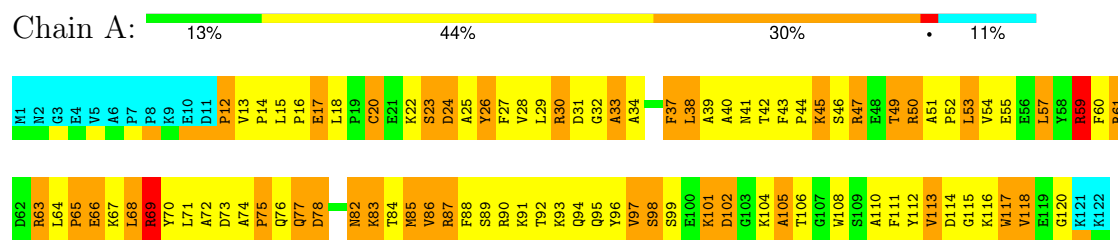
4.2.24 Score per residue for model 24

- Molecule 1: TOPOISOMERASE I



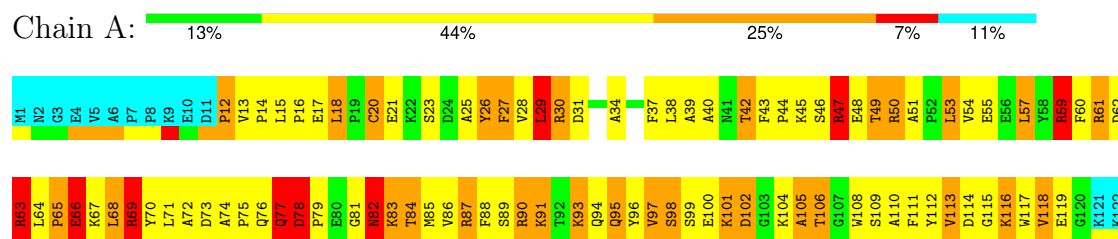
4.2.25 Score per residue for model 25

- Molecule 1: TOPOISOMERASE I



4.2.26 Score per residue for model 26

- Molecule 1: TOPOISOMERASE I



5 Refinement protocol and experimental data overview

Of the ? calculated structures, 26 were deposited, based on the following criterion: ?.

The following table shows the software used for structure solution, optimisation and refinement.

| Software name | Classification | Version |
|---------------|----------------|---------|
| X-PLOR | refinement | |

No chemical shift data was provided.

6 Model quality [i](#)

6.1 Standard geometry [i](#)

There are no covalent bond-length or bond-angle outliers.

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 | Planarity |
|-----|-------|-----------|-----------|
| 1 | A | 0.0±0.0 | 8.7±0.6 |
| All | All | 0 | 225 |

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

All unique planar outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Group | Models (Total) |
|-----|-------|-----|------|-----------|----------------|
| 1 | A | 30 | ARG | Sidechain | 26 |
| 1 | A | 47 | ARG | Sidechain | 26 |
| 1 | A | 63 | ARG | Sidechain | 26 |
| 1 | A | 69 | ARG | Sidechain | 26 |
| 1 | A | 87 | ARG | Sidechain | 26 |
| 1 | A | 90 | ARG | Sidechain | 25 |
| 1 | A | 50 | ARG | Sidechain | 24 |
| 1 | A | 61 | ARG | Sidechain | 24 |
| 1 | A | 59 | ARG | Sidechain | 22 |

6.2 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 each 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 averaged over the ensemble.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes |
|-----|-------|-------|----------|----------|---------|
| 1 | A | 877 | 863 | 863 | 186±12 |
| All | All | 22802 | 22438 | 22438 | 4830 |

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 107.

All unique clashes are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:57:LEU:HD22 | 1:A:72:ALA:HB2 | 1.05 | 1.11 | 4 | 4 |
| 1:A:20:CYS:SG | 1:A:25:ALA:HB3 | 1.05 | 1.92 | 6 | 3 |
| 1:A:57:LEU:HD12 | 1:A:72:ALA:HB2 | 1.05 | 1.29 | 21 | 13 |
| 1:A:29:LEU:HD11 | 1:A:68:LEU:HD21 | 1.02 | 1.29 | 22 | 2 |
| 1:A:74:ALA:HB2 | 1:A:117:TRP:CE2 | 1.02 | 1.89 | 25 | 25 |
| 1:A:25:ALA:HB2 | 1:A:42:THR:HG23 | 1.01 | 1.28 | 13 | 19 |
| 1:A:74:ALA:HB2 | 1:A:117:TRP:CZ2 | 1.00 | 1.91 | 12 | 25 |
| 1:A:108:TRP:CH2 | 1:A:110:ALA:HB2 | 1.00 | 1.91 | 4 | 26 |
| 1:A:97:VAL:HG23 | 1:A:110:ALA:HB3 | 0.99 | 1.35 | 25 | 20 |
| 1:A:64:LEU:CD2 | 1:A:68:LEU:HD13 | 0.99 | 1.86 | 9 | 3 |
| 1:A:51:ALA:HB3 | 1:A:85:MET:CE | 0.99 | 1.87 | 14 | 12 |
| 1:A:64:LEU:HD22 | 1:A:68:LEU:HD13 | 0.98 | 1.26 | 9 | 1 |
| 1:A:57:LEU:CD2 | 1:A:72:ALA:HB2 | 0.98 | 1.89 | 8 | 4 |
| 1:A:25:ALA:HB2 | 1:A:42:THR:CG2 | 0.98 | 1.88 | 8 | 23 |
| 1:A:29:LEU:HD11 | 1:A:36:VAL:CG2 | 0.97 | 1.90 | 19 | 9 |
| 1:A:37:PHE:CE2 | 1:A:39:ALA:HB2 | 0.97 | 1.95 | 19 | 25 |
| 1:A:64:LEU:HD12 | 1:A:68:LEU:HD21 | 0.97 | 1.34 | 24 | 1 |
| 1:A:51:ALA:HB3 | 1:A:85:MET:HE3 | 0.91 | 1.40 | 4 | 13 |
| 1:A:20:CYS:SG | 1:A:40:ALA:HB2 | 0.89 | 2.07 | 8 | 16 |
| 1:A:34:ALA:HB1 | 1:A:88:PHE:CE2 | 0.89 | 2.03 | 4 | 4 |
| 1:A:47:ARG:O | 1:A:49:THR:HG23 | 0.88 | 1.69 | 1 | 1 |
| 1:A:51:ALA:HB1 | 1:A:86:VAL:HB | 0.88 | 1.44 | 4 | 12 |
| 1:A:51:ALA:HB3 | 1:A:86:VAL:O | 0.88 | 1.69 | 16 | 22 |
| 1:A:51:ALA:HB3 | 1:A:85:MET:HE2 | 0.87 | 1.47 | 17 | 2 |
| 1:A:64:LEU:HD23 | 1:A:65:PRO:HD2 | 0.87 | 1.46 | 22 | 6 |
| 1:A:85:MET:O | 1:A:97:VAL:HG12 | 0.87 | 1.69 | 25 | 7 |
| 1:A:61:ARG:O | 1:A:64:LEU:HD22 | 0.86 | 1.70 | 24 | 6 |
| 1:A:29:LEU:HD12 | 1:A:38:LEU:HD23 | 0.86 | 1.46 | 20 | 5 |
| 1:A:15:LEU:HD12 | 1:A:27:PHE:O | 0.86 | 1.71 | 12 | 19 |
| 1:A:64:LEU:CD1 | 1:A:68:LEU:HD21 | 0.86 | 2.01 | 24 | 1 |
| 1:A:71:LEU:HD22 | 1:A:86:VAL:CG2 | 0.85 | 1.99 | 12 | 19 |
| 1:A:57:LEU:CD1 | 1:A:72:ALA:HB2 | 0.85 | 2.01 | 21 | 13 |
| 1:A:20:CYS:SG | 1:A:40:ALA:CB | 0.85 | 2.65 | 22 | 19 |
| 1:A:84:THR:HG22 | 1:A:97:VAL:HG12 | 0.85 | 1.47 | 5 | 1 |
| 1:A:29:LEU:HD21 | 1:A:68:LEU:HD21 | 0.85 | 1.48 | 26 | 5 |
| 1:A:54:VAL:HG11 | 1:A:74:ALA:O | 0.84 | 1.71 | 10 | 23 |
| 1:A:71:LEU:HD11 | 1:A:95:GLN:HG3 | 0.84 | 1.48 | 13 | 8 |
| 1:A:20:CYS:SG | 1:A:27:PHE:CE1 | 0.83 | 2.70 | 8 | 11 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:54:VAL:HG11 | 1:A:75:PRO:O | 0.83 | 1.73 | 11 | 16 |
| 1:A:38:LEU:HD11 | 1:A:52:PRO:HB3 | 0.83 | 1.49 | 21 | 20 |
| 1:A:64:LEU:HD13 | 1:A:69:ARG:HD2 | 0.83 | 1.49 | 15 | 2 |
| 1:A:53:LEU:HD23 | 1:A:85:MET:HA | 0.83 | 1.50 | 3 | 8 |
| 1:A:18:LEU:HD23 | 1:A:18:LEU:N | 0.82 | 1.88 | 22 | 2 |
| 1:A:57:LEU:CD1 | 1:A:64:LEU:HD11 | 0.82 | 2.04 | 16 | 5 |
| 1:A:57:LEU:CD2 | 1:A:68:LEU:HD11 | 0.82 | 2.03 | 10 | 1 |
| 1:A:57:LEU:HD23 | 1:A:68:LEU:HD11 | 0.82 | 1.51 | 10 | 1 |
| 1:A:18:LEU:HD22 | 1:A:60:PHE:CZ | 0.82 | 2.10 | 22 | 2 |
| 1:A:18:LEU:HD23 | 1:A:27:PHE:CD2 | 0.82 | 2.10 | 21 | 3 |
| 1:A:71:LEU:HD23 | 1:A:86:VAL:CG1 | 0.81 | 2.04 | 17 | 3 |
| 1:A:70:TYR:CE2 | 1:A:71:LEU:HD12 | 0.81 | 2.10 | 15 | 4 |
| 1:A:37:PHE:C | 1:A:38:LEU:HD13 | 0.81 | 1.96 | 5 | 2 |
| 1:A:29:LEU:HD12 | 1:A:38:LEU:CD2 | 0.81 | 2.06 | 20 | 5 |
| 1:A:18:LEU:HD22 | 1:A:60:PHE:CE2 | 0.80 | 2.11 | 22 | 2 |
| 1:A:20:CYS:SG | 1:A:40:ALA:HB1 | 0.80 | 2.16 | 3 | 5 |
| 1:A:71:LEU:HD22 | 1:A:86:VAL:HG22 | 0.80 | 1.52 | 4 | 5 |
| 1:A:82:ASN:CB | 1:A:106:THR:HG21 | 0.80 | 2.06 | 25 | 3 |
| 1:A:13:VAL:HG23 | 1:A:29:LEU:HD22 | 0.80 | 1.54 | 14 | 2 |
| 1:A:38:LEU:HD11 | 1:A:52:PRO:CA | 0.80 | 2.07 | 12 | 9 |
| 1:A:54:VAL:HG23 | 1:A:84:THR:O | 0.80 | 1.76 | 5 | 18 |
| 1:A:53:LEU:HD22 | 1:A:85:MET:HB3 | 0.79 | 1.52 | 17 | 14 |
| 1:A:47:ARG:O | 1:A:49:THR:HG22 | 0.79 | 1.78 | 26 | 4 |
| 1:A:71:LEU:HD21 | 1:A:95:GLN:HB3 | 0.79 | 1.54 | 11 | 8 |
| 1:A:20:CYS:SG | 1:A:27:PHE:CD1 | 0.79 | 2.76 | 25 | 14 |
| 1:A:64:LEU:O | 1:A:64:LEU:HD23 | 0.79 | 1.76 | 5 | 6 |
| 1:A:71:LEU:HD22 | 1:A:86:VAL:CG1 | 0.78 | 2.08 | 11 | 7 |
| 1:A:54:VAL:HG22 | 1:A:86:VAL:HG13 | 0.78 | 1.54 | 21 | 2 |
| 1:A:20:CYS:SG | 1:A:26:TYR:O | 0.78 | 2.42 | 2 | 17 |
| 1:A:53:LEU:HD22 | 1:A:85:MET:HB2 | 0.78 | 1.56 | 16 | 3 |
| 1:A:77:GLN:N | 1:A:84:THR:HG22 | 0.77 | 1.94 | 25 | 6 |
| 1:A:29:LEU:HD11 | 1:A:36:VAL:HG21 | 0.77 | 1.55 | 23 | 9 |
| 1:A:84:THR:HG23 | 1:A:98:SER:C | 0.76 | 2.01 | 6 | 19 |
| 1:A:29:LEU:HD21 | 1:A:68:LEU:CD2 | 0.76 | 2.10 | 7 | 6 |
| 1:A:57:LEU:HG | 1:A:72:ALA:HB2 | 0.76 | 1.56 | 20 | 6 |
| 1:A:54:VAL:HG21 | 1:A:75:PRO:O | 0.76 | 1.81 | 9 | 11 |
| 1:A:18:LEU:HD13 | 1:A:60:PHE:CE2 | 0.76 | 2.15 | 4 | 4 |
| 1:A:54:VAL:HG21 | 1:A:97:VAL:HG11 | 0.76 | 1.55 | 14 | 13 |
| 1:A:105:ALA:O | 1:A:106:THR:HG23 | 0.76 | 1.81 | 20 | 3 |
| 1:A:51:ALA:HB3 | 1:A:85:MET:SD | 0.76 | 2.20 | 25 | 1 |
| 1:A:57:LEU:HD12 | 1:A:64:LEU:HD11 | 0.76 | 1.57 | 16 | 3 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:38:LEU:HD13 | 1:A:38:LEU:N | 0.75 | 1.96 | 5 | 1 |
| 1:A:57:LEU:HD22 | 1:A:72:ALA:CB | 0.75 | 2.04 | 4 | 2 |
| 1:A:57:LEU:HD11 | 1:A:64:LEU:HD11 | 0.75 | 1.57 | 20 | 6 |
| 1:A:68:LEU:N | 1:A:68:LEU:HD12 | 0.74 | 1.97 | 16 | 3 |
| 1:A:71:LEU:HD23 | 1:A:86:VAL:HG11 | 0.74 | 1.57 | 17 | 2 |
| 1:A:53:LEU:HD22 | 1:A:85:MET:CB | 0.74 | 2.12 | 7 | 13 |
| 1:A:68:LEU:HD12 | 1:A:68:LEU:N | 0.74 | 1.98 | 11 | 8 |
| 1:A:13:VAL:HG21 | 1:A:65:PRO:HD3 | 0.74 | 1.60 | 6 | 5 |
| 1:A:20:CYS:SG | 1:A:40:ALA:HA | 0.73 | 2.22 | 3 | 20 |
| 1:A:71:LEU:HD21 | 1:A:95:GLN:HG2 | 0.73 | 1.59 | 20 | 12 |
| 1:A:74:ALA:HB1 | 1:A:75:PRO:HD2 | 0.73 | 1.60 | 17 | 12 |
| 1:A:51:ALA:HB1 | 1:A:86:VAL:CB | 0.73 | 2.12 | 4 | 10 |
| 1:A:84:THR:HG23 | 1:A:99:SER:N | 0.73 | 1.97 | 24 | 19 |
| 1:A:29:LEU:HD21 | 1:A:68:LEU:HD22 | 0.73 | 1.59 | 17 | 3 |
| 1:A:29:LEU:HD11 | 1:A:68:LEU:CD2 | 0.73 | 2.12 | 22 | 2 |
| 1:A:51:ALA:CB | 1:A:85:MET:HE2 | 0.73 | 2.12 | 17 | 1 |
| 1:A:71:LEU:HD22 | 1:A:86:VAL:HG11 | 0.73 | 1.57 | 11 | 6 |
| 1:A:82:ASN:HB2 | 1:A:106:THR:HG21 | 0.73 | 1.61 | 25 | 1 |
| 1:A:113:VAL:HG23 | 1:A:116:LYS:O | 0.73 | 1.84 | 12 | 26 |
| 1:A:13:VAL:HG12 | 1:A:13:VAL:O | 0.73 | 1.84 | 13 | 9 |
| 1:A:71:LEU:HD21 | 1:A:95:GLN:CB | 0.72 | 2.14 | 11 | 10 |
| 1:A:57:LEU:HD11 | 1:A:64:LEU:CD1 | 0.72 | 2.14 | 9 | 7 |
| 1:A:29:LEU:HD12 | 1:A:37:PHE:O | 0.72 | 1.84 | 24 | 6 |
| 1:A:86:VAL:HG12 | 1:A:97:VAL:HG12 | 0.72 | 1.60 | 21 | 1 |
| 1:A:53:LEU:HD22 | 1:A:55:GLU:HG2 | 0.72 | 1.60 | 9 | 3 |
| 1:A:97:VAL:CG2 | 1:A:110:ALA:HB3 | 0.72 | 2.14 | 19 | 18 |
| 1:A:105:ALA:C | 1:A:106:THR:HG23 | 0.72 | 2.05 | 3 | 2 |
| 1:A:36:VAL:HG11 | 1:A:68:LEU:HD23 | 0.72 | 1.60 | 6 | 2 |
| 1:A:57:LEU:CB | 1:A:72:ALA:HB2 | 0.72 | 2.15 | 10 | 2 |
| 1:A:64:LEU:HD12 | 1:A:68:LEU:CD2 | 0.71 | 2.15 | 24 | 1 |
| 1:A:13:VAL:O | 1:A:13:VAL:HG12 | 0.71 | 1.85 | 16 | 2 |
| 1:A:64:LEU:HG | 1:A:68:LEU:HD22 | 0.71 | 1.59 | 10 | 1 |
| 1:A:13:VAL:CG2 | 1:A:29:LEU:HD22 | 0.71 | 2.15 | 14 | 3 |
| 1:A:14:PRO:CA | 1:A:28:VAL:HG13 | 0.71 | 2.15 | 13 | 2 |
| 1:A:20:CYS:SG | 1:A:40:ALA:CA | 0.71 | 2.79 | 26 | 19 |
| 1:A:38:LEU:HD11 | 1:A:52:PRO:CB | 0.71 | 2.16 | 10 | 14 |
| 1:A:53:LEU:HD23 | 1:A:85:MET:CA | 0.70 | 2.16 | 13 | 6 |
| 1:A:38:LEU:HD22 | 1:A:50:ARG:O | 0.70 | 1.86 | 5 | 1 |
| 1:A:36:VAL:HG11 | 1:A:68:LEU:CD2 | 0.70 | 2.16 | 6 | 1 |
| 1:A:52:PRO:O | 1:A:86:VAL:HG22 | 0.70 | 1.87 | 17 | 3 |
| 1:A:18:LEU:HD12 | 1:A:60:PHE:CZ | 0.70 | 2.22 | 17 | 13 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:18:LEU:HD23 | 1:A:27:PHE:HD2 | 0.70 | 1.45 | 21 | 5 |
| 1:A:71:LEU:HD22 | 1:A:86:VAL:HG21 | 0.70 | 1.64 | 22 | 13 |
| 1:A:14:PRO:HA | 1:A:28:VAL:HG22 | 0.70 | 1.62 | 18 | 11 |
| 1:A:37:PHE:HE2 | 1:A:39:ALA:HB2 | 0.70 | 1.46 | 23 | 17 |
| 1:A:38:LEU:HD21 | 1:A:52:PRO:CA | 0.69 | 2.17 | 5 | 2 |
| 1:A:40:ALA:HB3 | 1:A:46:SER:O | 0.69 | 1.88 | 24 | 4 |
| 1:A:13:VAL:HG21 | 1:A:65:PRO:HG2 | 0.69 | 1.63 | 2 | 3 |
| 1:A:15:LEU:HD22 | 1:A:60:PHE:CD2 | 0.69 | 2.23 | 5 | 9 |
| 1:A:25:ALA:HB2 | 1:A:42:THR:HG21 | 0.68 | 1.65 | 16 | 13 |
| 1:A:112:TYR:CD2 | 1:A:117:TRP:CZ2 | 0.68 | 2.81 | 20 | 2 |
| 1:A:20:CYS:HG | 1:A:27:PHE:HD1 | 0.68 | 1.30 | 3 | 1 |
| 1:A:29:LEU:HD12 | 1:A:38:LEU:HG | 0.68 | 1.64 | 11 | 4 |
| 1:A:68:LEU:C | 1:A:68:LEU:HD23 | 0.68 | 2.09 | 10 | 1 |
| 1:A:64:LEU:HD21 | 1:A:68:LEU:HB2 | 0.68 | 1.66 | 1 | 1 |
| 1:A:33:ALA:O | 1:A:34:ALA:HB3 | 0.67 | 1.89 | 4 | 5 |
| 1:A:104:LYS:O | 1:A:105:ALA:HB3 | 0.67 | 1.89 | 3 | 2 |
| 1:A:57:LEU:CD2 | 1:A:64:LEU:HD11 | 0.67 | 2.19 | 4 | 1 |
| 1:A:82:ASN:HD22 | 1:A:106:THR:HG21 | 0.67 | 1.50 | 5 | 3 |
| 1:A:70:TYR:CE1 | 1:A:71:LEU:HD12 | 0.67 | 2.25 | 24 | 6 |
| 1:A:39:ALA:HA | 1:A:49:THR:HG22 | 0.67 | 1.66 | 11 | 5 |
| 1:A:70:TYR:CZ | 1:A:71:LEU:HD12 | 0.67 | 2.24 | 15 | 2 |
| 1:A:64:LEU:HD11 | 1:A:69:ARG:CA | 0.66 | 2.20 | 15 | 1 |
| 1:A:15:LEU:HD11 | 1:A:29:LEU:HB2 | 0.66 | 1.67 | 4 | 10 |
| 1:A:54:VAL:CG2 | 1:A:97:VAL:HG11 | 0.66 | 2.20 | 20 | 12 |
| 1:A:13:VAL:HG21 | 1:A:65:PRO:CD | 0.66 | 2.19 | 5 | 4 |
| 1:A:25:ALA:CB | 1:A:42:THR:HG23 | 0.66 | 2.19 | 26 | 12 |
| 1:A:113:VAL:HG23 | 1:A:118:VAL:HG22 | 0.66 | 1.68 | 8 | 7 |
| 1:A:87:ARG:CB | 1:A:96:TYR:CZ | 0.66 | 2.79 | 5 | 24 |
| 1:A:64:LEU:HD21 | 1:A:68:LEU:HD13 | 0.66 | 1.67 | 20 | 2 |
| 1:A:15:LEU:HD12 | 1:A:60:PHE:CD1 | 0.66 | 2.26 | 9 | 1 |
| 1:A:40:ALA:HB2 | 1:A:46:SER:OG | 0.65 | 1.91 | 12 | 4 |
| 1:A:57:LEU:CG | 1:A:72:ALA:HB2 | 0.65 | 2.21 | 25 | 10 |
| 1:A:64:LEU:HD23 | 1:A:64:LEU:C | 0.65 | 2.11 | 5 | 6 |
| 1:A:14:PRO:HA | 1:A:28:VAL:HG13 | 0.65 | 1.67 | 16 | 3 |
| 1:A:57:LEU:HD11 | 1:A:64:LEU:HD12 | 0.65 | 1.67 | 21 | 2 |
| 1:A:70:TYR:CB | 1:A:112:TYR:CE2 | 0.65 | 2.80 | 12 | 10 |
| 1:A:64:LEU:HD12 | 1:A:68:LEU:HB2 | 0.65 | 1.69 | 5 | 1 |
| 1:A:14:PRO:CA | 1:A:28:VAL:HG22 | 0.65 | 2.21 | 18 | 5 |
| 1:A:112:TYR:CD2 | 1:A:117:TRP:CE2 | 0.65 | 2.85 | 20 | 2 |
| 1:A:57:LEU:HD12 | 1:A:72:ALA:CB | 0.65 | 2.17 | 21 | 9 |
| 1:A:51:ALA:HB1 | 1:A:86:VAL:O | 0.65 | 1.92 | 14 | 3 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:108:TRP:CH2 | 1:A:110:ALA:CB | 0.65 | 2.79 | 8 | 18 |
| 1:A:64:LEU:HD13 | 1:A:68:LEU:HD13 | 0.65 | 1.68 | 21 | 1 |
| 1:A:51:ALA:HB3 | 1:A:85:MET:HE1 | 0.65 | 1.66 | 14 | 1 |
| 1:A:38:LEU:HD11 | 1:A:52:PRO:HA | 0.65 | 1.67 | 17 | 6 |
| 1:A:53:LEU:HD13 | 1:A:55:GLU:OE2 | 0.65 | 1.92 | 11 | 4 |
| 1:A:57:LEU:HB3 | 1:A:72:ALA:HB2 | 0.65 | 1.69 | 23 | 3 |
| 1:A:57:LEU:HD11 | 1:A:68:LEU:HD13 | 0.65 | 1.66 | 15 | 1 |
| 1:A:64:LEU:HD21 | 1:A:68:LEU:CB | 0.64 | 2.22 | 1 | 1 |
| 1:A:38:LEU:HD22 | 1:A:38:LEU:H | 0.64 | 1.51 | 5 | 1 |
| 1:A:99:SER:HG | 1:A:108:TRP:HE3 | 0.64 | 1.35 | 25 | 1 |
| 1:A:53:LEU:HD23 | 1:A:84:THR:O | 0.64 | 1.91 | 11 | 9 |
| 1:A:26:TYR:CE2 | 1:A:41:ASN:CB | 0.64 | 2.81 | 18 | 8 |
| 1:A:71:LEU:HD21 | 1:A:95:GLN:CG | 0.64 | 2.23 | 23 | 18 |
| 1:A:38:LEU:N | 1:A:38:LEU:HD13 | 0.64 | 2.08 | 3 | 1 |
| 1:A:18:LEU:HD13 | 1:A:60:PHE:HE2 | 0.64 | 1.53 | 9 | 4 |
| 1:A:15:LEU:CD2 | 1:A:60:PHE:CD2 | 0.64 | 2.81 | 7 | 8 |
| 1:A:38:LEU:HD21 | 1:A:52:PRO:HB3 | 0.63 | 1.69 | 24 | 8 |
| 1:A:71:LEU:HD11 | 1:A:95:GLN:HG2 | 0.63 | 1.69 | 6 | 12 |
| 1:A:70:TYR:CB | 1:A:112:TYR:CZ | 0.63 | 2.81 | 12 | 10 |
| 1:A:74:ALA:HB1 | 1:A:97:VAL:HG21 | 0.63 | 1.70 | 5 | 2 |
| 1:A:13:VAL:HG21 | 1:A:65:PRO:HG3 | 0.63 | 1.68 | 10 | 2 |
| 1:A:26:TYR:CD1 | 1:A:26:TYR:N | 0.63 | 2.66 | 19 | 14 |
| 1:A:26:TYR:CE1 | 1:A:41:ASN:ND2 | 0.63 | 2.67 | 4 | 3 |
| 1:A:71:LEU:CD2 | 1:A:86:VAL:HG11 | 0.63 | 2.23 | 16 | 8 |
| 1:A:38:LEU:HD21 | 1:A:52:PRO:CB | 0.63 | 2.24 | 5 | 2 |
| 1:A:64:LEU:HD11 | 1:A:69:ARG:HA | 0.63 | 1.69 | 15 | 3 |
| 1:A:15:LEU:CD1 | 1:A:60:PHE:CG | 0.63 | 2.82 | 9 | 1 |
| 1:A:18:LEU:CD2 | 1:A:60:PHE:CZ | 0.63 | 2.82 | 13 | 2 |
| 1:A:29:LEU:HD22 | 1:A:64:LEU:HD21 | 0.63 | 1.70 | 21 | 1 |
| 1:A:74:ALA:CB | 1:A:117:TRP:CE2 | 0.63 | 2.81 | 5 | 18 |
| 1:A:68:LEU:N | 1:A:70:TYR:CE2 | 0.63 | 2.67 | 10 | 1 |
| 1:A:71:LEU:CD2 | 1:A:86:VAL:HG22 | 0.63 | 2.22 | 4 | 6 |
| 1:A:34:ALA:HB1 | 1:A:88:PHE:HE2 | 0.63 | 1.46 | 4 | 1 |
| 1:A:26:TYR:CE1 | 1:A:41:ASN:CB | 0.63 | 2.81 | 10 | 4 |
| 1:A:15:LEU:N | 1:A:16:PRO:CD | 0.62 | 2.62 | 23 | 25 |
| 1:A:14:PRO:CB | 1:A:28:VAL:HG22 | 0.62 | 2.25 | 18 | 3 |
| 1:A:13:VAL:HG23 | 1:A:29:LEU:CD2 | 0.62 | 2.22 | 14 | 3 |
| 1:A:108:TRP:CZ3 | 1:A:110:ALA:HB2 | 0.62 | 2.30 | 17 | 7 |
| 1:A:70:TYR:CD1 | 1:A:112:TYR:CE2 | 0.62 | 2.87 | 18 | 1 |
| 1:A:38:LEU:HD11 | 1:A:52:PRO:HG3 | 0.62 | 1.70 | 5 | 1 |
| 1:A:38:LEU:H | 1:A:38:LEU:HD22 | 0.62 | 1.55 | 3 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:88:PHE:CD1 | 1:A:89:SER:N | 0.61 | 2.67 | 12 | 4 |
| 1:A:38:LEU:N | 1:A:38:LEU:HD22 | 0.61 | 2.10 | 5 | 2 |
| 1:A:57:LEU:CD1 | 1:A:64:LEU:HD12 | 0.61 | 2.25 | 21 | 2 |
| 1:A:110:ALA:HB1 | 1:A:118:VAL:O | 0.61 | 1.96 | 25 | 23 |
| 1:A:65:PRO:HG2 | 1:A:68:LEU:HD11 | 0.61 | 1.72 | 13 | 2 |
| 1:A:57:LEU:HD11 | 1:A:68:LEU:HD12 | 0.61 | 1.72 | 19 | 1 |
| 1:A:14:PRO:HB3 | 1:A:28:VAL:HG22 | 0.61 | 1.70 | 18 | 2 |
| 1:A:84:THR:HG23 | 1:A:99:SER:CA | 0.61 | 2.25 | 21 | 6 |
| 1:A:64:LEU:HD23 | 1:A:65:PRO:CD | 0.60 | 2.26 | 17 | 3 |
| 1:A:71:LEU:CD2 | 1:A:86:VAL:CG1 | 0.60 | 2.79 | 5 | 14 |
| 1:A:37:PHE:O | 1:A:38:LEU:HD23 | 0.60 | 1.96 | 15 | 3 |
| 1:A:97:VAL:HG22 | 1:A:117:TRP:CZ3 | 0.60 | 2.31 | 18 | 7 |
| 1:A:32:GLY:O | 1:A:33:ALA:HB3 | 0.60 | 1.96 | 4 | 4 |
| 1:A:111:PHE:O | 1:A:118:VAL:HG22 | 0.60 | 1.97 | 14 | 20 |
| 1:A:36:VAL:HG21 | 1:A:68:LEU:HD23 | 0.60 | 1.72 | 3 | 2 |
| 1:A:18:LEU:N | 1:A:18:LEU:CD2 | 0.60 | 2.62 | 22 | 1 |
| 1:A:20:CYS:HG | 1:A:27:PHE:HE1 | 0.60 | 1.32 | 8 | 1 |
| 1:A:57:LEU:HD12 | 1:A:64:LEU:CD1 | 0.60 | 2.27 | 19 | 4 |
| 1:A:40:ALA:CB | 1:A:46:SER:CB | 0.59 | 2.80 | 20 | 22 |
| 1:A:18:LEU:CD1 | 1:A:60:PHE:CE1 | 0.59 | 2.85 | 11 | 9 |
| 1:A:70:TYR:CE2 | 1:A:71:LEU:CD1 | 0.59 | 2.85 | 15 | 2 |
| 1:A:26:TYR:CE2 | 1:A:28:VAL:CG2 | 0.59 | 2.85 | 19 | 7 |
| 1:A:86:VAL:HA | 1:A:97:VAL:HG12 | 0.59 | 1.72 | 16 | 4 |
| 1:A:36:VAL:HG22 | 1:A:95:GLN:HE21 | 0.59 | 1.56 | 12 | 1 |
| 1:A:53:LEU:HD13 | 1:A:85:MET:HA | 0.59 | 1.72 | 14 | 14 |
| 1:A:78:ASP:OD1 | 1:A:108:TRP:CD1 | 0.59 | 2.55 | 16 | 2 |
| 1:A:57:LEU:CD1 | 1:A:64:LEU:CD1 | 0.59 | 2.81 | 22 | 9 |
| 1:A:78:ASP:CB | 1:A:79:PRO:CD | 0.59 | 2.80 | 4 | 7 |
| 1:A:58:TYR:HA | 1:A:72:ALA:HB1 | 0.59 | 1.74 | 5 | 1 |
| 1:A:38:LEU:HD12 | 1:A:38:LEU:N | 0.59 | 2.12 | 16 | 2 |
| 1:A:64:LEU:HD13 | 1:A:69:ARG:CD | 0.59 | 2.24 | 15 | 1 |
| 1:A:51:ALA:CB | 1:A:85:MET:CE | 0.59 | 2.79 | 17 | 1 |
| 1:A:65:PRO:HG2 | 1:A:68:LEU:HD21 | 0.59 | 1.73 | 19 | 1 |
| 1:A:71:LEU:CD2 | 1:A:86:VAL:HG13 | 0.59 | 2.26 | 6 | 4 |
| 1:A:111:PHE:N | 1:A:111:PHE:CD1 | 0.59 | 2.71 | 10 | 12 |
| 1:A:18:LEU:HD23 | 1:A:18:LEU:H | 0.59 | 1.55 | 13 | 2 |
| 1:A:38:LEU:HD23 | 1:A:38:LEU:N | 0.59 | 2.12 | 22 | 1 |
| 1:A:18:LEU:CD2 | 1:A:27:PHE:CD2 | 0.59 | 2.85 | 3 | 1 |
| 1:A:87:ARG:O | 1:A:96:TYR:CD2 | 0.59 | 2.55 | 4 | 1 |
| 1:A:101:LYS:CD | 1:A:106:THR:CG2 | 0.59 | 2.81 | 14 | 2 |
| 1:A:34:ALA:HB1 | 1:A:88:PHE:CD2 | 0.59 | 2.33 | 24 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:70:TYR:HB2 | 1:A:112:TYR:CZ | 0.59 | 2.33 | 14 | 23 |
| 1:A:99:SER:OG | 1:A:108:TRP:CE3 | 0.59 | 2.56 | 4 | 7 |
| 1:A:78:ASP:OD2 | 1:A:108:TRP:CD1 | 0.58 | 2.56 | 16 | 9 |
| 1:A:64:LEU:CD2 | 1:A:68:LEU:CD1 | 0.58 | 2.81 | 2 | 5 |
| 1:A:64:LEU:CD2 | 1:A:68:LEU:HD12 | 0.58 | 2.28 | 2 | 4 |
| 1:A:71:LEU:HD21 | 1:A:95:GLN:HG3 | 0.58 | 1.74 | 21 | 4 |
| 1:A:13:VAL:HB | 1:A:29:LEU:HD23 | 0.58 | 1.74 | 17 | 2 |
| 1:A:84:THR:HG21 | 1:A:108:TRP:CZ3 | 0.58 | 2.32 | 12 | 14 |
| 1:A:51:ALA:CB | 1:A:85:MET:HE3 | 0.58 | 2.22 | 14 | 1 |
| 1:A:78:ASP:OD1 | 1:A:108:TRP:CE2 | 0.58 | 2.56 | 3 | 9 |
| 1:A:57:LEU:CD2 | 1:A:64:LEU:CD1 | 0.58 | 2.81 | 4 | 1 |
| 1:A:12:PRO:CG | 1:A:28:VAL:CG1 | 0.58 | 2.81 | 19 | 1 |
| 1:A:20:CYS:HG | 1:A:40:ALA:HA | 0.58 | 1.58 | 18 | 5 |
| 1:A:15:LEU:HB3 | 1:A:18:LEU:HD21 | 0.58 | 1.75 | 22 | 2 |
| 1:A:26:TYR:CD2 | 1:A:28:VAL:HG23 | 0.58 | 2.33 | 2 | 9 |
| 1:A:29:LEU:CD1 | 1:A:36:VAL:CG2 | 0.58 | 2.81 | 23 | 9 |
| 1:A:30:ARG:O | 1:A:37:PHE:CD1 | 0.58 | 2.57 | 3 | 8 |
| 1:A:20:CYS:HG | 1:A:25:ALA:HB3 | 0.58 | 1.57 | 6 | 2 |
| 1:A:86:VAL:HG12 | 1:A:97:VAL:CG1 | 0.58 | 2.29 | 21 | 1 |
| 1:A:22:LYS:N | 1:A:22:LYS:CD | 0.58 | 2.67 | 22 | 1 |
| 1:A:78:ASP:OD1 | 1:A:108:TRP:CD2 | 0.58 | 2.57 | 16 | 3 |
| 1:A:26:TYR:CZ | 1:A:41:ASN:OD1 | 0.58 | 2.56 | 5 | 5 |
| 1:A:53:LEU:HD12 | 1:A:55:GLU:CG | 0.58 | 2.29 | 1 | 1 |
| 1:A:27:PHE:CZ | 1:A:48:GLU:O | 0.58 | 2.57 | 3 | 3 |
| 1:A:15:LEU:HD12 | 1:A:60:PHE:CG | 0.58 | 2.33 | 9 | 1 |
| 1:A:96:TYR:CG | 1:A:96:TYR:O | 0.58 | 2.55 | 21 | 1 |
| 1:A:82:ASN:OD1 | 1:A:82:ASN:N | 0.58 | 2.37 | 1 | 5 |
| 1:A:40:ALA:HB3 | 1:A:46:SER:HB3 | 0.58 | 1.74 | 19 | 2 |
| 1:A:70:TYR:CD1 | 1:A:71:LEU:N | 0.58 | 2.72 | 5 | 13 |
| 1:A:87:ARG:HB2 | 1:A:96:TYR:CZ | 0.58 | 2.34 | 25 | 23 |
| 1:A:18:LEU:CD1 | 1:A:60:PHE:CE2 | 0.58 | 2.87 | 8 | 4 |
| 1:A:113:VAL:CG2 | 1:A:118:VAL:CG2 | 0.58 | 2.82 | 8 | 3 |
| 1:A:67:LYS:O | 1:A:70:TYR:CE1 | 0.58 | 2.57 | 6 | 4 |
| 1:A:76:GLN:CA | 1:A:84:THR:HG22 | 0.58 | 2.28 | 17 | 1 |
| 1:A:99:SER:OG | 1:A:108:TRP:CD2 | 0.58 | 2.57 | 17 | 4 |
| 1:A:34:ALA:O | 1:A:88:PHE:CG | 0.58 | 2.57 | 8 | 9 |
| 1:A:53:LEU:HD13 | 1:A:84:THR:O | 0.58 | 1.99 | 17 | 13 |
| 1:A:34:ALA:O | 1:A:88:PHE:CZ | 0.58 | 2.57 | 14 | 9 |
| 1:A:15:LEU:HD22 | 1:A:60:PHE:CG | 0.57 | 2.33 | 5 | 1 |
| 1:A:95:GLN:O | 1:A:117:TRP:CZ3 | 0.57 | 2.57 | 17 | 3 |
| 1:A:77:GLN:N | 1:A:84:THR:OG1 | 0.57 | 2.37 | 8 | 19 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:88:PHE:CD1 | 1:A:94:GLN:O | 0.57 | 2.57 | 25 | 14 |
| 1:A:95:GLN:O | 1:A:117:TRP:CH2 | 0.57 | 2.57 | 25 | 3 |
| 1:A:53:LEU:HD13 | 1:A:85:MET:CA | 0.57 | 2.30 | 2 | 3 |
| 1:A:54:VAL:CG2 | 1:A:97:VAL:CG1 | 0.57 | 2.83 | 20 | 9 |
| 1:A:38:LEU:HD11 | 1:A:52:PRO:CG | 0.57 | 2.30 | 5 | 2 |
| 1:A:34:ALA:O | 1:A:88:PHE:CD1 | 0.57 | 2.57 | 12 | 3 |
| 1:A:70:TYR:HB2 | 1:A:112:TYR:CE2 | 0.57 | 2.35 | 3 | 23 |
| 1:A:76:GLN:CG | 1:A:77:GLN:NE2 | 0.57 | 2.67 | 3 | 1 |
| 1:A:26:TYR:CE1 | 1:A:41:ASN:OD1 | 0.57 | 2.57 | 5 | 3 |
| 1:A:64:LEU:HD22 | 1:A:68:LEU:CD1 | 0.57 | 2.17 | 9 | 1 |
| 1:A:18:LEU:CD1 | 1:A:60:PHE:CZ | 0.57 | 2.87 | 15 | 5 |
| 1:A:18:LEU:HD12 | 1:A:27:PHE:HB2 | 0.57 | 1.76 | 13 | 1 |
| 1:A:78:ASP:OD1 | 1:A:108:TRP:CG | 0.57 | 2.57 | 1 | 2 |
| 1:A:71:LEU:HD21 | 1:A:95:GLN:CD | 0.57 | 2.20 | 4 | 2 |
| 1:A:27:PHE:CE1 | 1:A:48:GLU:O | 0.57 | 2.58 | 17 | 3 |
| 1:A:34:ALA:O | 1:A:88:PHE:CE1 | 0.57 | 2.57 | 24 | 8 |
| 1:A:27:PHE:CE1 | 1:A:38:LEU:O | 0.57 | 2.57 | 7 | 10 |
| 1:A:89:SER:OG | 1:A:96:TYR:CD2 | 0.57 | 2.58 | 13 | 4 |
| 1:A:88:PHE:CD2 | 1:A:95:GLN:OE1 | 0.57 | 2.57 | 17 | 2 |
| 1:A:67:LYS:O | 1:A:68:LEU:HD12 | 0.57 | 2.00 | 1 | 1 |
| 1:A:101:LYS:CB | 1:A:104:LYS:CG | 0.57 | 2.83 | 11 | 4 |
| 1:A:34:ALA:O | 1:A:88:PHE:CD2 | 0.57 | 2.57 | 15 | 7 |
| 1:A:57:LEU:HD23 | 1:A:72:ALA:HB2 | 0.57 | 1.70 | 8 | 1 |
| 1:A:57:LEU:CD2 | 1:A:68:LEU:CD1 | 0.57 | 2.82 | 10 | 1 |
| 1:A:64:LEU:CD1 | 1:A:68:LEU:CD2 | 0.57 | 2.81 | 24 | 1 |
| 1:A:20:CYS:CB | 1:A:40:ALA:HB1 | 0.57 | 2.30 | 3 | 1 |
| 1:A:67:LYS:O | 1:A:70:TYR:CE2 | 0.57 | 2.58 | 24 | 3 |
| 1:A:26:TYR:N | 1:A:26:TYR:CD1 | 0.57 | 2.72 | 18 | 2 |
| 1:A:96:TYR:O | 1:A:96:TYR:CD1 | 0.56 | 2.57 | 21 | 8 |
| 1:A:34:ALA:O | 1:A:88:PHE:CE2 | 0.56 | 2.57 | 2 | 5 |
| 1:A:41:ASN:ND2 | 1:A:42:THR:HG23 | 0.56 | 2.15 | 5 | 1 |
| 1:A:15:LEU:CD1 | 1:A:38:LEU:HD23 | 0.56 | 2.30 | 8 | 4 |
| 1:A:51:ALA:HB1 | 1:A:86:VAL:HG12 | 0.56 | 1.76 | 22 | 3 |
| 1:A:53:LEU:HD12 | 1:A:55:GLU:HG2 | 0.56 | 1.77 | 16 | 1 |
| 1:A:14:PRO:HA | 1:A:28:VAL:HG12 | 0.56 | 1.77 | 21 | 2 |
| 1:A:112:TYR:CD1 | 1:A:117:TRP:CE2 | 0.56 | 2.93 | 3 | 16 |
| 1:A:104:LYS:O | 1:A:105:ALA:CB | 0.56 | 2.53 | 3 | 2 |
| 1:A:40:ALA:HB1 | 1:A:46:SER:OG | 0.56 | 2.01 | 7 | 6 |
| 1:A:112:TYR:CE2 | 1:A:117:TRP:NE1 | 0.56 | 2.74 | 20 | 2 |
| 1:A:51:ALA:CB | 1:A:86:VAL:O | 0.56 | 2.54 | 6 | 24 |
| 1:A:53:LEU:HD12 | 1:A:55:GLU:HG3 | 0.56 | 1.76 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:87:ARG:CB | 1:A:96:TYR:O | 0.56 | 2.54 | 4 | 18 |
| 1:A:33:ALA:O | 1:A:34:ALA:CB | 0.56 | 2.53 | 25 | 4 |
| 1:A:37:PHE:CD2 | 1:A:49:THR:OG1 | 0.56 | 2.57 | 26 | 5 |
| 1:A:20:CYS:SG | 1:A:21:GLU:N | 0.56 | 2.78 | 6 | 2 |
| 1:A:18:LEU:HD12 | 1:A:60:PHE:CE2 | 0.56 | 2.35 | 1 | 2 |
| 1:A:30:ARG:NH1 | 1:A:39:ALA:HB3 | 0.56 | 2.16 | 1 | 1 |
| 1:A:81:GLY:O | 1:A:83:LYS:N | 0.56 | 2.39 | 26 | 12 |
| 1:A:36:VAL:CG2 | 1:A:37:PHE:N | 0.56 | 2.69 | 14 | 8 |
| 1:A:36:VAL:HG22 | 1:A:37:PHE:N | 0.56 | 2.16 | 6 | 8 |
| 1:A:77:GLN:O | 1:A:78:ASP:CB | 0.56 | 2.53 | 23 | 17 |
| 1:A:68:LEU:N | 1:A:68:LEU:CD1 | 0.56 | 2.67 | 21 | 7 |
| 1:A:51:ALA:O | 1:A:85:MET:HE1 | 0.56 | 2.01 | 20 | 2 |
| 1:A:65:PRO:O | 1:A:66:GLU:HB3 | 0.56 | 2.01 | 1 | 8 |
| 1:A:64:LEU:CG | 1:A:68:LEU:HD22 | 0.56 | 2.31 | 10 | 1 |
| 1:A:71:LEU:HD22 | 1:A:86:VAL:HG13 | 0.55 | 1.78 | 6 | 1 |
| 1:A:14:PRO:C | 1:A:16:PRO:CD | 0.55 | 2.75 | 12 | 26 |
| 1:A:54:VAL:HG21 | 1:A:97:VAL:CG1 | 0.55 | 2.31 | 4 | 2 |
| 1:A:65:PRO:CG | 1:A:68:LEU:HD11 | 0.55 | 2.31 | 13 | 3 |
| 1:A:75:PRO:O | 1:A:76:GLN:CG | 0.55 | 2.53 | 14 | 1 |
| 1:A:87:ARG:HB2 | 1:A:96:TYR:CE2 | 0.55 | 2.37 | 12 | 21 |
| 1:A:76:GLN:CG | 1:A:76:GLN:O | 0.55 | 2.54 | 14 | 1 |
| 1:A:38:LEU:HD12 | 1:A:50:ARG:O | 0.55 | 2.01 | 1 | 3 |
| 1:A:108:TRP:CZ2 | 1:A:110:ALA:HB2 | 0.55 | 2.36 | 9 | 2 |
| 1:A:74:ALA:HB2 | 1:A:117:TRP:NE1 | 0.55 | 2.16 | 16 | 4 |
| 1:A:96:TYR:CD1 | 1:A:96:TYR:O | 0.55 | 2.59 | 11 | 6 |
| 1:A:23:SER:O | 1:A:24:ASP:CB | 0.55 | 2.55 | 1 | 7 |
| 1:A:76:GLN:O | 1:A:77:GLN:CB | 0.55 | 2.55 | 6 | 22 |
| 1:A:111:PHE:HB2 | 1:A:118:VAL:HG23 | 0.55 | 1.77 | 3 | 23 |
| 1:A:71:LEU:CD2 | 1:A:86:VAL:CG2 | 0.55 | 2.85 | 24 | 12 |
| 1:A:108:TRP:HH2 | 1:A:110:ALA:HB2 | 0.55 | 1.53 | 4 | 1 |
| 1:A:36:VAL:HG23 | 1:A:52:PRO:HG2 | 0.55 | 1.78 | 17 | 1 |
| 1:A:65:PRO:CG | 1:A:68:LEU:HD21 | 0.55 | 2.32 | 19 | 1 |
| 1:A:26:TYR:CE2 | 1:A:41:ASN:HB3 | 0.55 | 2.36 | 5 | 4 |
| 1:A:75:PRO:O | 1:A:76:GLN:CB | 0.55 | 2.55 | 14 | 1 |
| 1:A:43:PHE:CD1 | 1:A:43:PHE:C | 0.54 | 2.81 | 1 | 12 |
| 1:A:53:LEU:CD1 | 1:A:84:THR:O | 0.54 | 2.56 | 4 | 16 |
| 1:A:25:ALA:CB | 1:A:42:THR:CG2 | 0.54 | 2.86 | 15 | 8 |
| 1:A:12:PRO:CB | 1:A:29:LEU:O | 0.54 | 2.56 | 14 | 7 |
| 1:A:99:SER:HG | 1:A:108:TRP:CB | 0.54 | 2.15 | 19 | 2 |
| 1:A:16:PRO:HA | 1:A:26:TYR:CB | 0.54 | 2.33 | 22 | 25 |
| 1:A:110:ALA:CB | 1:A:118:VAL:O | 0.54 | 2.56 | 3 | 23 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:26:TYR:CZ | 1:A:41:ASN:CG | 0.54 | 2.81 | 18 | 7 |
| 1:A:54:VAL:HG22 | 1:A:86:VAL:HG23 | 0.54 | 1.78 | 16 | 1 |
| 1:A:76:GLN:HA | 1:A:84:THR:HG22 | 0.54 | 1.80 | 17 | 1 |
| 1:A:14:PRO:HA | 1:A:28:VAL:HA | 0.54 | 1.80 | 13 | 22 |
| 1:A:88:PHE:CD1 | 1:A:88:PHE:C | 0.54 | 2.81 | 17 | 8 |
| 1:A:56:GLU:O | 1:A:60:PHE:CD1 | 0.54 | 2.60 | 3 | 1 |
| 1:A:30:ARG:HB3 | 1:A:37:PHE:CZ | 0.54 | 2.37 | 5 | 3 |
| 1:A:18:LEU:HD12 | 1:A:60:PHE:CE1 | 0.54 | 2.37 | 11 | 8 |
| 1:A:43:PHE:CG | 1:A:44:PRO:HA | 0.54 | 2.38 | 12 | 26 |
| 1:A:57:LEU:HD13 | 1:A:72:ALA:CA | 0.54 | 2.33 | 1 | 1 |
| 1:A:78:ASP:OD1 | 1:A:108:TRP:CZ2 | 0.54 | 2.61 | 26 | 5 |
| 1:A:18:LEU:HD11 | 1:A:56:GLU:OE1 | 0.54 | 2.02 | 5 | 1 |
| 1:A:15:LEU:HD11 | 1:A:38:LEU:HD23 | 0.54 | 1.80 | 8 | 1 |
| 1:A:58:TYR:CD1 | 1:A:58:TYR:C | 0.54 | 2.82 | 12 | 2 |
| 1:A:52:PRO:HG2 | 1:A:57:LEU:HD23 | 0.54 | 1.78 | 18 | 3 |
| 1:A:108:TRP:CZ2 | 1:A:119:GLU:CG | 0.54 | 2.91 | 17 | 1 |
| 1:A:64:LEU:CG | 1:A:68:LEU:HD21 | 0.54 | 2.32 | 24 | 1 |
| 1:A:18:LEU:HD11 | 1:A:56:GLU:OE2 | 0.54 | 2.02 | 1 | 1 |
| 1:A:25:ALA:HB1 | 1:A:41:ASN:ND2 | 0.54 | 2.18 | 24 | 2 |
| 1:A:15:LEU:N | 1:A:16:PRO:HD3 | 0.53 | 2.19 | 23 | 23 |
| 1:A:25:ALA:CB | 1:A:42:THR:OG1 | 0.53 | 2.57 | 9 | 19 |
| 1:A:111:PHE:O | 1:A:118:VAL:CG2 | 0.53 | 2.56 | 14 | 21 |
| 1:A:68:LEU:CD2 | 1:A:68:LEU:O | 0.53 | 2.56 | 15 | 1 |
| 1:A:55:GLU:CG | 1:A:56:GLU:N | 0.53 | 2.70 | 17 | 1 |
| 1:A:87:ARG:CB | 1:A:96:TYR:CE2 | 0.53 | 2.90 | 12 | 13 |
| 1:A:40:ALA:CB | 1:A:46:SER:OG | 0.53 | 2.57 | 19 | 13 |
| 1:A:70:TYR:HB3 | 1:A:112:TYR:CE2 | 0.53 | 2.37 | 12 | 3 |
| 1:A:85:MET:O | 1:A:97:VAL:CG1 | 0.53 | 2.57 | 5 | 5 |
| 1:A:20:CYS:SG | 1:A:27:PHE:HD1 | 0.53 | 2.26 | 1 | 4 |
| 1:A:13:VAL:HG22 | 1:A:65:PRO:CG | 0.53 | 2.33 | 9 | 1 |
| 1:A:78:ASP:OD2 | 1:A:82:ASN:ND2 | 0.53 | 2.42 | 9 | 1 |
| 1:A:42:THR:O | 1:A:45:LYS:CB | 0.53 | 2.56 | 18 | 1 |
| 1:A:13:VAL:CG2 | 1:A:65:PRO:CG | 0.53 | 2.86 | 9 | 3 |
| 1:A:18:LEU:HD21 | 1:A:56:GLU:OE2 | 0.53 | 2.03 | 5 | 1 |
| 1:A:15:LEU:O | 1:A:17:GLU:N | 0.53 | 2.41 | 6 | 12 |
| 1:A:53:LEU:CD2 | 1:A:84:THR:O | 0.53 | 2.57 | 11 | 9 |
| 1:A:87:ARG:CG | 1:A:96:TYR:O | 0.53 | 2.57 | 21 | 6 |
| 1:A:52:PRO:O | 1:A:86:VAL:CG2 | 0.53 | 2.56 | 21 | 2 |
| 1:A:96:TYR:CD1 | 1:A:96:TYR:C | 0.53 | 2.81 | 7 | 16 |
| 1:A:13:VAL:O | 1:A:13:VAL:CG1 | 0.53 | 2.57 | 17 | 6 |
| 1:A:40:ALA:HB2 | 1:A:46:SER:HB2 | 0.53 | 1.81 | 5 | 6 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:34:ALA:HB1 | 1:A:88:PHE:CZ | 0.53 | 2.39 | 12 | 1 |
| 1:A:56:GLU:OE2 | 1:A:60:PHE:CE1 | 0.53 | 2.62 | 20 | 1 |
| 1:A:49:THR:O | 1:A:50:ARG:CB | 0.53 | 2.57 | 1 | 17 |
| 1:A:54:VAL:CG1 | 1:A:74:ALA:O | 0.53 | 2.57 | 11 | 16 |
| 1:A:15:LEU:HG | 1:A:60:PHE:CD2 | 0.53 | 2.38 | 9 | 1 |
| 1:A:57:LEU:HB2 | 1:A:72:ALA:HB2 | 0.53 | 1.80 | 10 | 1 |
| 1:A:75:PRO:O | 1:A:84:THR:CG2 | 0.53 | 2.57 | 17 | 1 |
| 1:A:77:GLN:CG | 1:A:81:GLY:O | 0.53 | 2.57 | 17 | 1 |
| 1:A:54:VAL:CG1 | 1:A:75:PRO:O | 0.53 | 2.57 | 12 | 12 |
| 1:A:40:ALA:CB | 1:A:46:SER:HB2 | 0.53 | 2.34 | 9 | 17 |
| 1:A:78:ASP:OD2 | 1:A:108:TRP:NE1 | 0.53 | 2.42 | 23 | 5 |
| 1:A:20:CYS:SG | 1:A:26:TYR:C | 0.53 | 2.87 | 12 | 2 |
| 1:A:86:VAL:CG1 | 1:A:95:GLN:OE1 | 0.53 | 2.57 | 7 | 1 |
| 1:A:101:LYS:O | 1:A:102:ASP:CB | 0.53 | 2.56 | 10 | 10 |
| 1:A:30:ARG:HB2 | 1:A:37:PHE:CE1 | 0.53 | 2.39 | 6 | 7 |
| 1:A:78:ASP:OD1 | 1:A:79:PRO:CD | 0.53 | 2.57 | 20 | 2 |
| 1:A:57:LEU:HD13 | 1:A:72:ALA:HB2 | 0.52 | 1.80 | 1 | 1 |
| 1:A:87:ARG:HB2 | 1:A:96:TYR:CE1 | 0.52 | 2.39 | 19 | 11 |
| 1:A:87:ARG:HB3 | 1:A:96:TYR:CZ | 0.52 | 2.39 | 4 | 20 |
| 1:A:52:PRO:CB | 1:A:56:GLU:OE2 | 0.52 | 2.57 | 2 | 1 |
| 1:A:29:LEU:HD11 | 1:A:36:VAL:HG22 | 0.52 | 1.74 | 19 | 4 |
| 1:A:55:GLU:CB | 1:A:76:GLN:OE1 | 0.52 | 2.57 | 17 | 2 |
| 1:A:104:LYS:O | 1:A:106:THR:N | 0.52 | 2.42 | 16 | 1 |
| 1:A:20:CYS:HB2 | 1:A:40:ALA:HB1 | 0.52 | 1.80 | 19 | 1 |
| 1:A:55:GLU:OE1 | 1:A:83:LYS:CD | 0.52 | 2.57 | 25 | 1 |
| 1:A:105:ALA:O | 1:A:106:THR:CG2 | 0.52 | 2.57 | 20 | 4 |
| 1:A:64:LEU:HD23 | 1:A:66:GLU:N | 0.52 | 2.19 | 1 | 1 |
| 1:A:38:LEU:HD21 | 1:A:52:PRO:HA | 0.52 | 1.81 | 3 | 1 |
| 1:A:78:ASP:OD1 | 1:A:82:ASN:ND2 | 0.52 | 2.42 | 24 | 5 |
| 1:A:15:LEU:CD1 | 1:A:38:LEU:CD2 | 0.52 | 2.86 | 8 | 1 |
| 1:A:84:THR:OG1 | 1:A:98:SER:N | 0.52 | 2.42 | 9 | 3 |
| 1:A:77:GLN:CA | 1:A:84:THR:OG1 | 0.52 | 2.57 | 5 | 18 |
| 1:A:119:GLU:O | 1:A:119:GLU:CG | 0.52 | 2.57 | 9 | 4 |
| 1:A:97:VAL:HG23 | 1:A:117:TRP:CZ3 | 0.52 | 2.39 | 5 | 1 |
| 1:A:20:CYS:SG | 1:A:27:PHE:HE1 | 0.52 | 2.25 | 8 | 1 |
| 1:A:88:PHE:CG | 1:A:89:SER:N | 0.52 | 2.78 | 12 | 1 |
| 1:A:18:LEU:HD12 | 1:A:60:PHE:HE2 | 0.52 | 1.64 | 1 | 1 |
| 1:A:53:LEU:O | 1:A:56:GLU:CG | 0.52 | 2.57 | 2 | 1 |
| 1:A:105:ALA:O | 1:A:106:THR:CB | 0.52 | 2.57 | 23 | 2 |
| 1:A:76:GLN:C | 1:A:84:THR:HG22 | 0.52 | 2.24 | 25 | 3 |
| 1:A:13:VAL:HG21 | 1:A:65:PRO:CG | 0.52 | 2.35 | 7 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:57:LEU:CD2 | 1:A:68:LEU:HD21 | 0.52 | 2.34 | 10 | 1 |
| 1:A:65:PRO:O | 1:A:67:LYS:N | 0.52 | 2.43 | 10 | 2 |
| 1:A:37:PHE:N | 1:A:37:PHE:CD1 | 0.52 | 2.78 | 15 | 7 |
| 1:A:13:VAL:CG1 | 1:A:63:ARG:O | 0.52 | 2.57 | 9 | 1 |
| 1:A:51:ALA:HB1 | 1:A:86:VAL:CG1 | 0.52 | 2.35 | 22 | 3 |
| 1:A:15:LEU:CD1 | 1:A:27:PHE:O | 0.52 | 2.55 | 13 | 12 |
| 1:A:112:TYR:CD1 | 1:A:117:TRP:CD1 | 0.52 | 2.97 | 13 | 13 |
| 1:A:87:ARG:NE | 1:A:98:SER:OG | 0.52 | 2.43 | 4 | 1 |
| 1:A:70:TYR:CD2 | 1:A:71:LEU:N | 0.52 | 2.78 | 12 | 3 |
| 1:A:85:MET:CE | 1:A:87:ARG:NE | 0.52 | 2.73 | 25 | 1 |
| 1:A:112:TYR:CD1 | 1:A:117:TRP:NE1 | 0.52 | 2.78 | 11 | 11 |
| 1:A:17:GLU:HB3 | 1:A:60:PHE:CE2 | 0.52 | 2.40 | 19 | 5 |
| 1:A:64:LEU:HD21 | 1:A:68:LEU:CD1 | 0.52 | 2.35 | 4 | 5 |
| 1:A:53:LEU:HG | 1:A:85:MET:CB | 0.52 | 2.34 | 26 | 9 |
| 1:A:38:LEU:CD2 | 1:A:50:ARG:O | 0.52 | 2.57 | 5 | 1 |
| 1:A:43:PHE:CD1 | 1:A:44:PRO:N | 0.52 | 2.78 | 22 | 9 |
| 1:A:64:LEU:HD23 | 1:A:66:GLU:H | 0.52 | 1.64 | 1 | 1 |
| 1:A:26:TYR:CE1 | 1:A:41:ASN:HB2 | 0.52 | 2.40 | 13 | 7 |
| 1:A:101:LYS:O | 1:A:103:GLY:N | 0.52 | 2.43 | 20 | 3 |
| 1:A:23:SER:OG | 1:A:45:LYS:CE | 0.52 | 2.57 | 25 | 2 |
| 1:A:109:SER:O | 1:A:111:PHE:CE1 | 0.52 | 2.63 | 17 | 5 |
| 1:A:97:VAL:HG13 | 1:A:117:TRP:CH2 | 0.52 | 2.40 | 21 | 1 |
| 1:A:85:MET:HE2 | 1:A:87:ARG:NE | 0.52 | 2.20 | 25 | 1 |
| 1:A:37:PHE:CD2 | 1:A:49:THR:HB | 0.51 | 2.40 | 10 | 20 |
| 1:A:40:ALA:CB | 1:A:46:SER:HB3 | 0.51 | 2.35 | 21 | 14 |
| 1:A:101:LYS:HB2 | 1:A:106:THR:HG23 | 0.51 | 1.82 | 9 | 3 |
| 1:A:85:MET:HG3 | 1:A:86:VAL:N | 0.51 | 2.20 | 25 | 3 |
| 1:A:82:ASN:O | 1:A:83:LYS:C | 0.51 | 2.49 | 11 | 14 |
| 1:A:113:VAL:CG2 | 1:A:116:LYS:O | 0.51 | 2.56 | 12 | 9 |
| 1:A:61:ARG:O | 1:A:64:LEU:CD2 | 0.51 | 2.57 | 18 | 5 |
| 1:A:67:LYS:O | 1:A:68:LEU:CB | 0.51 | 2.56 | 10 | 1 |
| 1:A:44:PRO:O | 1:A:46:SER:N | 0.51 | 2.43 | 6 | 19 |
| 1:A:70:TYR:CE2 | 1:A:71:LEU:HG | 0.51 | 2.40 | 25 | 3 |
| 1:A:78:ASP:OD1 | 1:A:79:PRO:N | 0.51 | 2.43 | 20 | 2 |
| 1:A:38:LEU:CD1 | 1:A:52:PRO:CD | 0.51 | 2.87 | 9 | 1 |
| 1:A:87:ARG:HG3 | 1:A:96:TYR:CE1 | 0.51 | 2.41 | 20 | 14 |
| 1:A:87:ARG:NH1 | 1:A:100:GLU:OE2 | 0.51 | 2.43 | 26 | 2 |
| 1:A:85:MET:CG | 1:A:86:VAL:N | 0.51 | 2.73 | 25 | 1 |
| 1:A:28:VAL:HG12 | 1:A:28:VAL:O | 0.51 | 2.05 | 12 | 2 |
| 1:A:55:GLU:OE1 | 1:A:83:LYS:CE | 0.51 | 2.59 | 1 | 1 |
| 1:A:111:PHE:O | 1:A:118:VAL:HG23 | 0.51 | 2.05 | 8 | 5 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:101:LYS:CB | 1:A:104:LYS:HG2 | 0.51 | 2.35 | 11 | 5 |
| 1:A:28:VAL:O | 1:A:30:ARG:N | 0.51 | 2.43 | 12 | 4 |
| 1:A:21:GLU:N | 1:A:48:GLU:OE1 | 0.51 | 2.43 | 14 | 1 |
| 1:A:18:LEU:HB2 | 1:A:60:PHE:CE2 | 0.51 | 2.41 | 21 | 1 |
| 1:A:26:TYR:OH | 1:A:41:ASN:ND2 | 0.51 | 2.44 | 2 | 2 |
| 1:A:54:VAL:CG2 | 1:A:75:PRO:O | 0.51 | 2.57 | 26 | 4 |
| 1:A:57:LEU:O | 1:A:61:ARG:N | 0.51 | 2.43 | 8 | 1 |
| 1:A:96:TYR:C | 1:A:96:TYR:CD1 | 0.51 | 2.84 | 15 | 3 |
| 1:A:111:PHE:C | 1:A:117:TRP:CE3 | 0.51 | 2.84 | 25 | 2 |
| 1:A:14:PRO:C | 1:A:16:PRO:HD3 | 0.51 | 2.27 | 13 | 26 |
| 1:A:26:TYR:CE2 | 1:A:28:VAL:HG23 | 0.51 | 2.41 | 19 | 8 |
| 1:A:108:TRP:CZ2 | 1:A:119:GLU:HG2 | 0.51 | 2.41 | 7 | 6 |
| 1:A:23:SER:OG | 1:A:45:LYS:NZ | 0.51 | 2.43 | 25 | 1 |
| 1:A:68:LEU:HD23 | 1:A:69:ARG:N | 0.51 | 2.21 | 24 | 2 |
| 1:A:78:ASP:OD1 | 1:A:78:ASP:N | 0.51 | 2.43 | 14 | 1 |
| 1:A:86:VAL:CG1 | 1:A:87:ARG:N | 0.51 | 2.73 | 12 | 4 |
| 1:A:37:PHE:CE2 | 1:A:49:THR:HB | 0.51 | 2.41 | 22 | 14 |
| 1:A:17:GLU:OE2 | 1:A:59:ARG:CZ | 0.51 | 2.59 | 3 | 2 |
| 1:A:30:ARG:HB3 | 1:A:37:PHE:CE1 | 0.51 | 2.41 | 3 | 4 |
| 1:A:76:GLN:HG3 | 1:A:77:GLN:NE2 | 0.51 | 2.21 | 3 | 1 |
| 1:A:82:ASN:CG | 1:A:106:THR:HG21 | 0.51 | 2.26 | 9 | 2 |
| 1:A:78:ASP:OD2 | 1:A:108:TRP:CG | 0.51 | 2.64 | 14 | 1 |
| 1:A:87:ARG:O | 1:A:95:GLN:NE2 | 0.51 | 2.43 | 14 | 1 |
| 1:A:52:PRO:HB2 | 1:A:57:LEU:HD11 | 0.51 | 1.81 | 17 | 1 |
| 1:A:12:PRO:HG2 | 1:A:28:VAL:HG13 | 0.51 | 1.83 | 19 | 1 |
| 1:A:57:LEU:HD13 | 1:A:72:ALA:N | 0.50 | 2.21 | 1 | 1 |
| 1:A:74:ALA:CB | 1:A:117:TRP:CZ2 | 0.50 | 2.91 | 9 | 9 |
| 1:A:87:ARG:NH2 | 1:A:100:GLU:OE1 | 0.50 | 2.44 | 6 | 1 |
| 1:A:53:LEU:HD22 | 1:A:55:GLU:CG | 0.50 | 2.36 | 11 | 2 |
| 1:A:78:ASP:CB | 1:A:79:PRO:HD2 | 0.50 | 2.36 | 6 | 10 |
| 1:A:87:ARG:CB | 1:A:96:TYR:CE1 | 0.50 | 2.94 | 3 | 12 |
| 1:A:114:ASP:O | 1:A:116:LYS:CE | 0.50 | 2.59 | 2 | 1 |
| 1:A:29:LEU:C | 1:A:29:LEU:CD2 | 0.50 | 2.79 | 3 | 2 |
| 1:A:49:THR:O | 1:A:50:ARG:CG | 0.50 | 2.59 | 12 | 3 |
| 1:A:14:PRO:CA | 1:A:28:VAL:HG12 | 0.50 | 2.37 | 26 | 2 |
| 1:A:88:PHE:CZ | 1:A:93:LYS:HA | 0.50 | 2.40 | 7 | 25 |
| 1:A:66:GLU:O | 1:A:66:GLU:CG | 0.50 | 2.58 | 21 | 3 |
| 1:A:12:PRO:HG2 | 1:A:28:VAL:CG1 | 0.50 | 2.36 | 19 | 4 |
| 1:A:51:ALA:O | 1:A:85:MET:CE | 0.50 | 2.59 | 20 | 5 |
| 1:A:78:ASP:HB2 | 1:A:108:TRP:CD2 | 0.50 | 2.42 | 18 | 2 |
| 1:A:111:PHE:HB2 | 1:A:118:VAL:CG2 | 0.50 | 2.37 | 4 | 21 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:70:TYR:HB3 | 1:A:112:TYR:CZ | 0.50 | 2.42 | 12 | 4 |
| 1:A:29:LEU:CD2 | 1:A:29:LEU:C | 0.50 | 2.80 | 22 | 2 |
| 1:A:25:ALA:CB | 1:A:42:THR:N | 0.50 | 2.74 | 26 | 2 |
| 1:A:64:LEU:C | 1:A:64:LEU:CD2 | 0.50 | 2.78 | 5 | 6 |
| 1:A:32:GLY:O | 1:A:34:ALA:N | 0.50 | 2.43 | 19 | 1 |
| 1:A:99:SER:O | 1:A:106:THR:HG23 | 0.50 | 2.06 | 25 | 1 |
| 1:A:96:TYR:HB2 | 1:A:111:PHE:CD2 | 0.50 | 2.42 | 21 | 1 |
| 1:A:64:LEU:HD13 | 1:A:69:ARG:HA | 0.50 | 1.83 | 2 | 1 |
| 1:A:82:ASN:O | 1:A:83:LYS:O | 0.50 | 2.29 | 4 | 14 |
| 1:A:76:GLN:O | 1:A:77:GLN:CG | 0.50 | 2.60 | 18 | 1 |
| 1:A:25:ALA:HB1 | 1:A:42:THR:N | 0.50 | 2.22 | 26 | 2 |
| 1:A:76:GLN:HA | 1:A:84:THR:CG2 | 0.50 | 2.37 | 17 | 1 |
| 1:A:87:ARG:CZ | 1:A:100:GLU:OE2 | 0.49 | 2.60 | 26 | 3 |
| 1:A:100:GLU:HA | 1:A:106:THR:HG23 | 0.49 | 1.82 | 3 | 1 |
| 1:A:78:ASP:HB2 | 1:A:79:PRO:CD | 0.49 | 2.37 | 5 | 4 |
| 1:A:54:VAL:CB | 1:A:75:PRO:O | 0.49 | 2.59 | 12 | 3 |
| 1:A:113:VAL:HG23 | 1:A:118:VAL:CG2 | 0.49 | 2.33 | 8 | 3 |
| 1:A:86:VAL:HG12 | 1:A:87:ARG:N | 0.49 | 2.22 | 10 | 5 |
| 1:A:54:VAL:CG1 | 1:A:76:GLN:HG3 | 0.49 | 2.37 | 8 | 2 |
| 1:A:78:ASP:HB2 | 1:A:79:PRO:HD2 | 0.49 | 1.84 | 5 | 7 |
| 1:A:77:GLN:O | 1:A:82:ASN:OD1 | 0.49 | 2.30 | 23 | 3 |
| 1:A:26:TYR:CE2 | 1:A:41:ASN:HB2 | 0.49 | 2.42 | 23 | 4 |
| 1:A:15:LEU:HB2 | 1:A:27:PHE:O | 0.49 | 2.06 | 13 | 23 |
| 1:A:87:ARG:NE | 1:A:98:SER:HB3 | 0.49 | 2.22 | 17 | 4 |
| 1:A:42:THR:O | 1:A:43:PHE:C | 0.49 | 2.51 | 26 | 25 |
| 1:A:20:CYS:HB3 | 1:A:40:ALA:HB1 | 0.49 | 1.84 | 3 | 1 |
| 1:A:54:VAL:CG2 | 1:A:84:THR:O | 0.49 | 2.58 | 15 | 6 |
| 1:A:113:VAL:CG2 | 1:A:118:VAL:HG22 | 0.49 | 2.37 | 22 | 3 |
| 1:A:65:PRO:HG2 | 1:A:68:LEU:CD1 | 0.49 | 2.38 | 6 | 4 |
| 1:A:71:LEU:CD2 | 1:A:86:VAL:HB | 0.49 | 2.37 | 17 | 1 |
| 1:A:77:GLN:N | 1:A:84:THR:CG2 | 0.49 | 2.72 | 26 | 2 |
| 1:A:86:VAL:CG1 | 1:A:95:GLN:HG3 | 0.49 | 2.37 | 15 | 5 |
| 1:A:13:VAL:N | 1:A:14:PRO:HD3 | 0.49 | 2.22 | 26 | 10 |
| 1:A:87:ARG:HB2 | 1:A:96:TYR:CD2 | 0.49 | 2.43 | 14 | 5 |
| 1:A:37:PHE:C | 1:A:37:PHE:CD1 | 0.49 | 2.84 | 1 | 1 |
| 1:A:87:ARG:CZ | 1:A:98:SER:OG | 0.49 | 2.61 | 17 | 1 |
| 1:A:47:ARG:O | 1:A:49:THR:CG2 | 0.49 | 2.58 | 26 | 1 |
| 1:A:44:PRO:O | 1:A:45:LYS:C | 0.49 | 2.50 | 6 | 25 |
| 1:A:96:TYR:CD1 | 1:A:109:SER:HB2 | 0.49 | 2.42 | 4 | 1 |
| 1:A:57:LEU:HB2 | 1:A:72:ALA:CB | 0.49 | 2.37 | 10 | 1 |
| 1:A:30:ARG:HB2 | 1:A:37:PHE:CZ | 0.49 | 2.41 | 14 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:77:GLN:O | 1:A:78:ASP:OD1 | 0.49 | 2.31 | 13 | 7 |
| 1:A:82:ASN:HB3 | 1:A:106:THR:HG21 | 0.49 | 1.82 | 16 | 1 |
| 1:A:17:GLU:HB2 | 1:A:63:ARG:NH1 | 0.49 | 2.23 | 21 | 1 |
| 1:A:101:LYS:HD3 | 1:A:106:THR:CG2 | 0.49 | 2.38 | 22 | 1 |
| 1:A:78:ASP:CG | 1:A:79:PRO:CD | 0.49 | 2.80 | 1 | 1 |
| 1:A:55:GLU:HG3 | 1:A:56:GLU:N | 0.49 | 2.22 | 17 | 8 |
| 1:A:30:ARG:CB | 1:A:37:PHE:CE1 | 0.49 | 2.96 | 22 | 3 |
| 1:A:101:LYS:HB2 | 1:A:104:LYS:CG | 0.49 | 2.38 | 24 | 3 |
| 1:A:77:GLN:O | 1:A:82:ASN:N | 0.49 | 2.46 | 17 | 1 |
| 1:A:15:LEU:CD1 | 1:A:38:LEU:HD22 | 0.49 | 2.38 | 18 | 1 |
| 1:A:56:GLU:OE2 | 1:A:60:PHE:CD1 | 0.49 | 2.66 | 20 | 1 |
| 1:A:17:GLU:OE1 | 1:A:63:ARG:CZ | 0.49 | 2.61 | 21 | 1 |
| 1:A:52:PRO:HD2 | 1:A:86:VAL:HG23 | 0.49 | 1.84 | 25 | 1 |
| 1:A:70:TYR:CE1 | 1:A:71:LEU:HG | 0.49 | 2.43 | 7 | 4 |
| 1:A:112:TYR:HB2 | 1:A:117:TRP:CH2 | 0.49 | 2.43 | 18 | 18 |
| 1:A:112:TYR:HB2 | 1:A:117:TRP:CZ2 | 0.49 | 2.43 | 9 | 9 |
| 1:A:108:TRP:CZ2 | 1:A:119:GLU:HG3 | 0.49 | 2.43 | 17 | 1 |
| 1:A:64:LEU:HD11 | 1:A:69:ARG:HG2 | 0.49 | 1.83 | 24 | 1 |
| 1:A:41:ASN:HD21 | 1:A:42:THR:HG23 | 0.48 | 1.67 | 5 | 1 |
| 1:A:22:LYS:CG | 1:A:22:LYS:O | 0.48 | 2.61 | 17 | 2 |
| 1:A:77:GLN:O | 1:A:78:ASP:OD2 | 0.48 | 2.30 | 20 | 3 |
| 1:A:101:LYS:HB3 | 1:A:104:LYS:CG | 0.48 | 2.37 | 22 | 2 |
| 1:A:82:ASN:ND2 | 1:A:99:SER:HB3 | 0.48 | 2.23 | 24 | 2 |
| 1:A:15:LEU:CD2 | 1:A:60:PHE:CD1 | 0.48 | 2.96 | 1 | 1 |
| 1:A:77:GLN:HA | 1:A:83:LYS:CA | 0.48 | 2.38 | 25 | 10 |
| 1:A:105:ALA:C | 1:A:106:THR:CG2 | 0.48 | 2.77 | 3 | 2 |
| 1:A:114:ASP:O | 1:A:116:LYS:CD | 0.48 | 2.61 | 14 | 1 |
| 1:A:17:GLU:CA | 1:A:17:GLU:OE1 | 0.48 | 2.60 | 1 | 1 |
| 1:A:26:TYR:CZ | 1:A:41:ASN:ND2 | 0.48 | 2.82 | 2 | 3 |
| 1:A:37:PHE:CD1 | 1:A:37:PHE:N | 0.48 | 2.82 | 14 | 4 |
| 1:A:76:GLN:C | 1:A:77:GLN:CG | 0.48 | 2.81 | 11 | 10 |
| 1:A:37:PHE:CB | 1:A:50:ARG:O | 0.48 | 2.62 | 11 | 1 |
| 1:A:101:LYS:HD2 | 1:A:106:THR:CG2 | 0.48 | 2.37 | 14 | 1 |
| 1:A:78:ASP:HB2 | 1:A:82:ASN:OD1 | 0.48 | 2.08 | 1 | 1 |
| 1:A:112:TYR:CZ | 1:A:115:GLY:HA2 | 0.48 | 2.43 | 14 | 24 |
| 1:A:99:SER:O | 1:A:106:THR:OG1 | 0.48 | 2.30 | 16 | 10 |
| 1:A:38:LEU:N | 1:A:38:LEU:CD1 | 0.48 | 2.67 | 5 | 4 |
| 1:A:78:ASP:CG | 1:A:82:ASN:ND2 | 0.48 | 2.67 | 9 | 3 |
| 1:A:96:TYR:O | 1:A:96:TYR:CG | 0.48 | 2.66 | 16 | 9 |
| 1:A:77:GLN:O | 1:A:82:ASN:O | 0.48 | 2.31 | 18 | 2 |
| 1:A:78:ASP:CB | 1:A:82:ASN:OD1 | 0.48 | 2.61 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:53:LEU:CD2 | 1:A:85:MET:CA | 0.48 | 2.91 | 13 | 6 |
| 1:A:26:TYR:CD1 | 1:A:41:ASN:HB2 | 0.48 | 2.44 | 8 | 2 |
| 1:A:53:LEU:CD2 | 1:A:85:MET:HB3 | 0.48 | 2.38 | 7 | 8 |
| 1:A:87:ARG:HB3 | 1:A:96:TYR:CE2 | 0.48 | 2.44 | 4 | 1 |
| 1:A:17:GLU:CB | 1:A:63:ARG:NH1 | 0.48 | 2.76 | 21 | 1 |
| 1:A:105:ALA:O | 1:A:106:THR:OG1 | 0.48 | 2.32 | 23 | 2 |
| 1:A:30:ARG:HD3 | 1:A:39:ALA:HB3 | 0.48 | 1.86 | 5 | 1 |
| 1:A:18:LEU:HB2 | 1:A:60:PHE:CZ | 0.48 | 2.44 | 3 | 3 |
| 1:A:36:VAL:HG21 | 1:A:68:LEU:HD21 | 0.48 | 1.85 | 8 | 1 |
| 1:A:66:GLU:HG2 | 1:A:67:LYS:N | 0.48 | 2.24 | 15 | 2 |
| 1:A:37:PHE:C | 1:A:38:LEU:HD23 | 0.48 | 2.29 | 15 | 1 |
| 1:A:29:LEU:HD22 | 1:A:64:LEU:CD2 | 0.48 | 2.38 | 21 | 1 |
| 1:A:68:LEU:HA | 1:A:70:TYR:CE1 | 0.48 | 2.43 | 21 | 1 |
| 1:A:114:ASP:C | 1:A:116:LYS:N | 0.48 | 2.66 | 22 | 26 |
| 1:A:57:LEU:HD21 | 1:A:64:LEU:HD11 | 0.48 | 1.84 | 4 | 1 |
| 1:A:96:TYR:HA | 1:A:110:ALA:O | 0.48 | 2.09 | 14 | 2 |
| 1:A:78:ASP:OD1 | 1:A:80:GLU:N | 0.48 | 2.47 | 6 | 2 |
| 1:A:53:LEU:O | 1:A:57:LEU:HD12 | 0.48 | 2.09 | 10 | 1 |
| 1:A:77:GLN:O | 1:A:78:ASP:O | 0.48 | 2.32 | 16 | 2 |
| 1:A:12:PRO:HB3 | 1:A:29:LEU:O | 0.48 | 2.08 | 23 | 2 |
| 1:A:15:LEU:O | 1:A:18:LEU:HG | 0.48 | 2.09 | 22 | 2 |
| 1:A:16:PRO:HA | 1:A:26:TYR:CG | 0.47 | 2.43 | 6 | 7 |
| 1:A:70:TYR:CD1 | 1:A:71:LEU:HG | 0.47 | 2.44 | 3 | 1 |
| 1:A:74:ALA:HA | 1:A:117:TRP:CD1 | 0.47 | 2.44 | 5 | 1 |
| 1:A:57:LEU:HD22 | 1:A:68:LEU:HD21 | 0.47 | 1.86 | 10 | 1 |
| 1:A:29:LEU:CD1 | 1:A:38:LEU:CD2 | 0.47 | 2.88 | 20 | 1 |
| 1:A:17:GLU:OE1 | 1:A:59:ARG:NE | 0.47 | 2.47 | 3 | 1 |
| 1:A:40:ALA:HB3 | 1:A:46:SER:CB | 0.47 | 2.38 | 19 | 3 |
| 1:A:54:VAL:HG11 | 1:A:74:ALA:C | 0.47 | 2.30 | 15 | 3 |
| 1:A:15:LEU:HD23 | 1:A:60:PHE:CD2 | 0.47 | 2.43 | 24 | 2 |
| 1:A:27:PHE:CD2 | 1:A:38:LEU:HB3 | 0.47 | 2.45 | 9 | 1 |
| 1:A:105:ALA:O | 1:A:106:THR:O | 0.47 | 2.32 | 11 | 1 |
| 1:A:26:TYR:CD1 | 1:A:28:VAL:CG2 | 0.47 | 2.97 | 13 | 1 |
| 1:A:97:VAL:CG2 | 1:A:117:TRP:CZ3 | 0.47 | 2.98 | 17 | 1 |
| 1:A:67:LYS:O | 1:A:70:TYR:CZ | 0.47 | 2.67 | 6 | 6 |
| 1:A:87:ARG:HB2 | 1:A:96:TYR:O | 0.47 | 2.09 | 14 | 24 |
| 1:A:12:PRO:CG | 1:A:29:LEU:O | 0.47 | 2.62 | 2 | 2 |
| 1:A:77:GLN:O | 1:A:78:ASP:HB2 | 0.47 | 2.10 | 26 | 9 |
| 1:A:12:PRO:HG3 | 1:A:30:ARG:CG | 0.47 | 2.39 | 7 | 7 |
| 1:A:99:SER:O | 1:A:99:SER:OG | 0.47 | 2.27 | 18 | 2 |
| 1:A:78:ASP:HB2 | 1:A:108:TRP:CE2 | 0.47 | 2.44 | 25 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:59:ARG:NH1 | 1:A:59:ARG:O | 0.47 | 2.46 | 26 | 1 |
| 1:A:15:LEU:HD23 | 1:A:60:PHE:CD1 | 0.47 | 2.44 | 1 | 1 |
| 1:A:99:SER:O | 1:A:105:ALA:O | 0.47 | 2.32 | 23 | 2 |
| 1:A:88:PHE:CE1 | 1:A:89:SER:O | 0.47 | 2.67 | 11 | 2 |
| 1:A:15:LEU:HB3 | 1:A:18:LEU:CD2 | 0.47 | 2.38 | 22 | 2 |
| 1:A:51:ALA:O | 1:A:85:MET:HE3 | 0.47 | 2.09 | 16 | 1 |
| 1:A:87:ARG:NE | 1:A:100:GLU:OE2 | 0.47 | 2.47 | 8 | 1 |
| 1:A:59:ARG:HD3 | 1:A:60:PHE:CE1 | 0.47 | 2.45 | 7 | 7 |
| 1:A:99:SER:CB | 1:A:108:TRP:HB3 | 0.47 | 2.39 | 14 | 12 |
| 1:A:14:PRO:O | 1:A:16:PRO:HD2 | 0.47 | 2.10 | 13 | 6 |
| 1:A:54:VAL:HB | 1:A:76:GLN:CB | 0.47 | 2.39 | 14 | 8 |
| 1:A:42:THR:CB | 1:A:45:LYS:HD3 | 0.47 | 2.39 | 4 | 1 |
| 1:A:78:ASP:OD1 | 1:A:82:ASN:OD1 | 0.47 | 2.33 | 13 | 2 |
| 1:A:13:VAL:CB | 1:A:29:LEU:HB3 | 0.47 | 2.39 | 8 | 1 |
| 1:A:78:ASP:OD1 | 1:A:82:ASN:O | 0.47 | 2.32 | 9 | 1 |
| 1:A:82:ASN:O | 1:A:100:GLU:O | 0.47 | 2.33 | 19 | 4 |
| 1:A:68:LEU:HA | 1:A:70:TYR:CZ | 0.47 | 2.45 | 21 | 4 |
| 1:A:97:VAL:O | 1:A:109:SER:HA | 0.47 | 2.10 | 10 | 9 |
| 1:A:99:SER:OG | 1:A:106:THR:OG1 | 0.47 | 2.33 | 16 | 4 |
| 1:A:71:LEU:HD11 | 1:A:95:GLN:CG | 0.47 | 2.40 | 4 | 1 |
| 1:A:57:LEU:HD12 | 1:A:64:LEU:HD12 | 0.47 | 1.85 | 25 | 2 |
| 1:A:99:SER:OG | 1:A:108:TRP:CB | 0.47 | 2.63 | 15 | 3 |
| 1:A:61:ARG:CD | 1:A:69:ARG:CD | 0.47 | 2.92 | 18 | 1 |
| 1:A:61:ARG:HD3 | 1:A:69:ARG:CD | 0.47 | 2.40 | 18 | 1 |
| 1:A:64:LEU:CD2 | 1:A:68:LEU:HB2 | 0.47 | 2.40 | 1 | 1 |
| 1:A:17:GLU:HB3 | 1:A:60:PHE:CZ | 0.47 | 2.44 | 2 | 5 |
| 1:A:71:LEU:CD1 | 1:A:95:GLN:HG3 | 0.47 | 2.39 | 4 | 2 |
| 1:A:82:ASN:ND2 | 1:A:106:THR:HG21 | 0.47 | 2.20 | 5 | 2 |
| 1:A:99:SER:OG | 1:A:108:TRP:CG | 0.47 | 2.68 | 21 | 2 |
| 1:A:78:ASP:CG | 1:A:108:TRP:CD1 | 0.47 | 2.88 | 16 | 2 |
| 1:A:64:LEU:HD21 | 1:A:68:LEU:HD12 | 0.47 | 1.87 | 2 | 3 |
| 1:A:104:LYS:O | 1:A:105:ALA:O | 0.47 | 2.33 | 20 | 8 |
| 1:A:38:LEU:HD21 | 1:A:52:PRO:N | 0.47 | 2.25 | 5 | 1 |
| 1:A:98:SER:HA | 1:A:108:TRP:O | 0.47 | 2.09 | 21 | 6 |
| 1:A:100:GLU:O | 1:A:101:LYS:O | 0.47 | 2.33 | 14 | 3 |
| 1:A:23:SER:CB | 1:A:45:LYS:HD3 | 0.47 | 2.40 | 25 | 1 |
| 1:A:57:LEU:HB3 | 1:A:72:ALA:CB | 0.47 | 2.41 | 17 | 7 |
| 1:A:76:GLN:O | 1:A:77:GLN:OE1 | 0.47 | 2.34 | 1 | 6 |
| 1:A:32:GLY:O | 1:A:33:ALA:CB | 0.47 | 2.61 | 4 | 2 |
| 1:A:108:TRP:CZ3 | 1:A:110:ALA:CB | 0.47 | 2.98 | 21 | 2 |
| 1:A:119:GLU:N | 1:A:119:GLU:OE1 | 0.47 | 2.48 | 23 | 3 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:42:THR:OG1 | 1:A:46:SER:OG | 0.46 | 2.33 | 11 | 4 |
| 1:A:94:GLN:O | 1:A:95:GLN:OE1 | 0.46 | 2.34 | 11 | 1 |
| 1:A:14:PRO:N | 1:A:28:VAL:HG13 | 0.46 | 2.25 | 13 | 2 |
| 1:A:78:ASP:OD2 | 1:A:108:TRP:CD2 | 0.46 | 2.68 | 14 | 1 |
| 1:A:58:TYR:C | 1:A:58:TYR:CD1 | 0.46 | 2.88 | 22 | 1 |
| 1:A:23:SER:O | 1:A:24:ASP:HB2 | 0.46 | 2.10 | 24 | 6 |
| 1:A:110:ALA:HA | 1:A:118:VAL:O | 0.46 | 2.10 | 3 | 24 |
| 1:A:16:PRO:HA | 1:A:26:TYR:HB3 | 0.46 | 1.87 | 13 | 6 |
| 1:A:31:ASP:O | 1:A:31:ASP:OD1 | 0.46 | 2.34 | 23 | 4 |
| 1:A:88:PHE:CE1 | 1:A:89:SER:C | 0.46 | 2.89 | 12 | 1 |
| 1:A:95:GLN:CD | 1:A:95:GLN:N | 0.46 | 2.67 | 13 | 1 |
| 1:A:18:LEU:O | 1:A:19:PRO:O | 0.46 | 2.33 | 22 | 1 |
| 1:A:12:PRO:HG2 | 1:A:30:ARG:CD | 0.46 | 2.40 | 3 | 1 |
| 1:A:87:ARG:O | 1:A:95:GLN:OE1 | 0.46 | 2.32 | 21 | 2 |
| 1:A:25:ALA:HB2 | 1:A:42:THR:CB | 0.46 | 2.39 | 8 | 2 |
| 1:A:99:SER:OG | 1:A:108:TRP:HB3 | 0.46 | 2.10 | 16 | 12 |
| 1:A:101:LYS:HE2 | 1:A:104:LYS:CE | 0.46 | 2.40 | 14 | 1 |
| 1:A:95:GLN:N | 1:A:95:GLN:CD | 0.46 | 2.66 | 16 | 2 |
| 1:A:61:ARG:HG2 | 1:A:61:ARG:NH1 | 0.46 | 2.25 | 24 | 1 |
| 1:A:65:PRO:HG2 | 1:A:68:LEU:HD22 | 0.46 | 1.86 | 24 | 1 |
| 1:A:12:PRO:O | 1:A:14:PRO:HD3 | 0.46 | 2.10 | 9 | 10 |
| 1:A:111:PHE:O | 1:A:117:TRP:HA | 0.46 | 2.10 | 25 | 7 |
| 1:A:84:THR:HG22 | 1:A:97:VAL:CG1 | 0.46 | 2.32 | 5 | 1 |
| 1:A:35:GLY:O | 1:A:36:VAL:O | 0.46 | 2.33 | 15 | 4 |
| 1:A:28:VAL:O | 1:A:29:LEU:C | 0.46 | 2.53 | 12 | 4 |
| 1:A:40:ALA:HB3 | 1:A:46:SER:HB2 | 0.46 | 1.88 | 14 | 1 |
| 1:A:12:PRO:HG2 | 1:A:28:VAL:HG12 | 0.46 | 1.87 | 24 | 1 |
| 1:A:57:LEU:HD11 | 1:A:64:LEU:HG | 0.46 | 1.88 | 26 | 1 |
| 1:A:114:ASP:O | 1:A:114:ASP:OD1 | 0.46 | 2.34 | 1 | 1 |
| 1:A:15:LEU:HD13 | 1:A:38:LEU:HD23 | 0.46 | 1.86 | 2 | 1 |
| 1:A:17:GLU:HB3 | 1:A:60:PHE:CE1 | 0.46 | 2.44 | 21 | 2 |
| 1:A:43:PHE:C | 1:A:43:PHE:CD1 | 0.46 | 2.88 | 24 | 7 |
| 1:A:38:LEU:CD1 | 1:A:52:PRO:HD3 | 0.46 | 2.41 | 9 | 1 |
| 1:A:30:ARG:O | 1:A:37:PHE:O | 0.46 | 2.33 | 10 | 1 |
| 1:A:15:LEU:HB3 | 1:A:18:LEU:CG | 0.46 | 2.41 | 13 | 2 |
| 1:A:101:LYS:CB | 1:A:104:LYS:HB2 | 0.46 | 2.41 | 19 | 1 |
| 1:A:105:ALA:C | 1:A:106:THR:OG1 | 0.46 | 2.54 | 23 | 1 |
| 1:A:81:GLY:O | 1:A:82:ASN:C | 0.46 | 2.54 | 22 | 13 |
| 1:A:49:THR:C | 1:A:50:ARG:CG | 0.46 | 2.83 | 1 | 4 |
| 1:A:16:PRO:O | 1:A:17:GLU:C | 0.46 | 2.54 | 9 | 14 |
| 1:A:12:PRO:HB2 | 1:A:29:LEU:O | 0.46 | 2.11 | 10 | 6 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:34:ALA:CB | 1:A:88:PHE:CE2 | 0.46 | 2.88 | 4 | 1 |
| 1:A:78:ASP:OD2 | 1:A:82:ASN:OD1 | 0.46 | 2.33 | 20 | 1 |
| 1:A:114:ASP:O | 1:A:115:GLY:C | 0.46 | 2.54 | 17 | 26 |
| 1:A:27:PHE:CD1 | 1:A:38:LEU:O | 0.46 | 2.69 | 2 | 1 |
| 1:A:64:LEU:HD23 | 1:A:68:LEU:CD1 | 0.46 | 2.41 | 2 | 3 |
| 1:A:31:ASP:O | 1:A:32:GLY:O | 0.46 | 2.34 | 20 | 2 |
| 1:A:18:LEU:CD2 | 1:A:18:LEU:H | 0.46 | 2.21 | 13 | 1 |
| 1:A:18:LEU:CD1 | 1:A:27:PHE:HB2 | 0.46 | 2.41 | 13 | 1 |
| 1:A:87:ARG:HG2 | 1:A:96:TYR:O | 0.46 | 2.11 | 21 | 2 |
| 1:A:29:LEU:HA | 1:A:38:LEU:HD23 | 0.46 | 1.86 | 18 | 1 |
| 1:A:71:LEU:HD21 | 1:A:95:GLN:OE1 | 0.46 | 2.10 | 21 | 1 |
| 1:A:45:LYS:HG2 | 1:A:46:SER:N | 0.46 | 2.26 | 18 | 3 |
| 1:A:64:LEU:CB | 1:A:65:PRO:HD2 | 0.46 | 2.41 | 6 | 5 |
| 1:A:98:SER:O | 1:A:100:GLU:OE1 | 0.46 | 2.33 | 19 | 2 |
| 1:A:12:PRO:HG2 | 1:A:30:ARG:CG | 0.46 | 2.41 | 3 | 1 |
| 1:A:26:TYR:CE1 | 1:A:28:VAL:CG2 | 0.46 | 2.99 | 13 | 1 |
| 1:A:32:GLY:O | 1:A:33:ALA:O | 0.46 | 2.34 | 25 | 1 |
| 1:A:12:PRO:CG | 1:A:30:ARG:HG3 | 0.45 | 2.42 | 1 | 4 |
| 1:A:55:GLU:OE1 | 1:A:83:LYS:HE3 | 0.45 | 2.11 | 1 | 1 |
| 1:A:32:GLY:O | 1:A:35:GLY:O | 0.45 | 2.34 | 2 | 1 |
| 1:A:71:LEU:CD2 | 1:A:95:GLN:HG2 | 0.45 | 2.41 | 24 | 6 |
| 1:A:71:LEU:CD2 | 1:A:86:VAL:CB | 0.45 | 2.93 | 17 | 1 |
| 1:A:42:THR:HB | 1:A:45:LYS:CD | 0.45 | 2.41 | 18 | 1 |
| 1:A:78:ASP:CG | 1:A:79:PRO:HD2 | 0.45 | 2.31 | 1 | 8 |
| 1:A:80:GLU:OE2 | 1:A:82:ASN:OD1 | 0.45 | 2.34 | 10 | 3 |
| 1:A:13:VAL:CG2 | 1:A:29:LEU:HB3 | 0.45 | 2.42 | 8 | 1 |
| 1:A:13:VAL:HB | 1:A:29:LEU:CB | 0.45 | 2.42 | 22 | 3 |
| 1:A:73:ASP:O | 1:A:74:ALA:O | 0.45 | 2.34 | 9 | 2 |
| 1:A:101:LYS:HG3 | 1:A:106:THR:CG2 | 0.45 | 2.41 | 9 | 1 |
| 1:A:116:LYS:O | 1:A:117:TRP:O | 0.45 | 2.34 | 12 | 1 |
| 1:A:70:TYR:CD1 | 1:A:70:TYR:C | 0.45 | 2.89 | 18 | 1 |
| 1:A:43:PHE:CD2 | 1:A:44:PRO:HA | 0.45 | 2.47 | 11 | 11 |
| 1:A:40:ALA:HB2 | 1:A:46:SER:HB3 | 0.45 | 1.88 | 4 | 1 |
| 1:A:84:THR:CG2 | 1:A:97:VAL:HG12 | 0.45 | 2.33 | 5 | 1 |
| 1:A:12:PRO:HG2 | 1:A:29:LEU:O | 0.45 | 2.11 | 18 | 2 |
| 1:A:104:LYS:O | 1:A:105:ALA:C | 0.45 | 2.55 | 11 | 16 |
| 1:A:52:PRO:CA | 1:A:56:GLU:OE2 | 0.45 | 2.64 | 2 | 1 |
| 1:A:105:ALA:O | 1:A:107:GLY:N | 0.45 | 2.49 | 19 | 3 |
| 1:A:15:LEU:CD1 | 1:A:29:LEU:HB2 | 0.45 | 2.41 | 17 | 2 |
| 1:A:95:GLN:N | 1:A:95:GLN:OE1 | 0.45 | 2.49 | 5 | 1 |
| 1:A:76:GLN:O | 1:A:76:GLN:CG | 0.45 | 2.64 | 20 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:38:LEU:HD11 | 1:A:52:PRO:CD | 0.45 | 2.42 | 9 | 1 |
| 1:A:64:LEU:CD2 | 1:A:65:PRO:HD2 | 0.45 | 2.40 | 9 | 1 |
| 1:A:71:LEU:CD2 | 1:A:86:VAL:HG21 | 0.45 | 2.41 | 16 | 1 |
| 1:A:80:GLU:O | 1:A:80:GLU:OE1 | 0.45 | 2.34 | 17 | 1 |
| 1:A:57:LEU:HD13 | 1:A:72:ALA:CB | 0.45 | 2.41 | 1 | 1 |
| 1:A:53:LEU:O | 1:A:56:GLU:HG2 | 0.45 | 2.11 | 2 | 1 |
| 1:A:119:GLU:O | 1:A:119:GLU:HG2 | 0.45 | 2.11 | 3 | 2 |
| 1:A:100:GLU:OE1 | 1:A:102:ASP:O | 0.45 | 2.34 | 4 | 1 |
| 1:A:52:PRO:O | 1:A:53:LEU:C | 0.45 | 2.54 | 17 | 4 |
| 1:A:87:ARG:NE | 1:A:98:SER:HB2 | 0.45 | 2.27 | 18 | 4 |
| 1:A:70:TYR:CD1 | 1:A:112:TYR:CD2 | 0.45 | 3.04 | 18 | 1 |
| 1:A:21:GLU:OE1 | 1:A:45:LYS:O | 0.45 | 2.34 | 19 | 1 |
| 1:A:25:ALA:CB | 1:A:41:ASN:ND2 | 0.45 | 2.80 | 24 | 1 |
| 1:A:29:LEU:HB2 | 1:A:38:LEU:CD2 | 0.45 | 2.42 | 18 | 2 |
| 1:A:77:GLN:C | 1:A:84:THR:OG1 | 0.45 | 2.55 | 19 | 1 |
| 1:A:55:GLU:HB3 | 1:A:76:GLN:NE2 | 0.45 | 2.27 | 24 | 1 |
| 1:A:101:LYS:HB3 | 1:A:104:LYS:CD | 0.45 | 2.40 | 11 | 2 |
| 1:A:63:ARG:NH1 | 1:A:63:ARG:HG2 | 0.45 | 2.27 | 3 | 1 |
| 1:A:50:ARG:HG3 | 1:A:51:ALA:N | 0.45 | 2.26 | 9 | 1 |
| 1:A:38:LEU:HD12 | 1:A:52:PRO:HB3 | 0.45 | 1.89 | 18 | 1 |
| 1:A:82:ASN:CB | 1:A:100:GLU:O | 0.45 | 2.64 | 1 | 1 |
| 1:A:76:GLN:O | 1:A:77:GLN:HB3 | 0.45 | 2.12 | 8 | 9 |
| 1:A:37:PHE:HB2 | 1:A:50:ARG:O | 0.45 | 2.12 | 11 | 2 |
| 1:A:67:LYS:O | 1:A:68:LEU:HB2 | 0.45 | 2.11 | 10 | 2 |
| 1:A:77:GLN:O | 1:A:78:ASP:HB3 | 0.45 | 2.12 | 13 | 6 |
| 1:A:17:GLU:HB3 | 1:A:18:LEU:HD23 | 0.45 | 1.88 | 13 | 1 |
| 1:A:84:THR:HB | 1:A:99:SER:CA | 0.45 | 2.42 | 18 | 2 |
| 1:A:47:ARG:O | 1:A:49:THR:N | 0.45 | 2.50 | 1 | 1 |
| 1:A:13:VAL:CG2 | 1:A:65:PRO:HG2 | 0.45 | 2.42 | 9 | 3 |
| 1:A:77:GLN:HA | 1:A:82:ASN:O | 0.45 | 2.11 | 11 | 8 |
| 1:A:57:LEU:HD23 | 1:A:71:LEU:HB3 | 0.45 | 1.88 | 5 | 2 |
| 1:A:26:TYR:CE1 | 1:A:28:VAL:HG23 | 0.45 | 2.47 | 6 | 1 |
| 1:A:16:PRO:HA | 1:A:26:TYR:CD2 | 0.45 | 2.47 | 13 | 1 |
| 1:A:17:GLU:O | 1:A:19:PRO:HD3 | 0.45 | 2.11 | 22 | 2 |
| 1:A:30:ARG:CB | 1:A:37:PHE:CZ | 0.45 | 3.00 | 22 | 1 |
| 1:A:29:LEU:CD2 | 1:A:68:LEU:HD22 | 0.45 | 2.39 | 25 | 1 |
| 1:A:105:ALA:O | 1:A:106:THR:C | 0.44 | 2.56 | 2 | 11 |
| 1:A:57:LEU:CB | 1:A:72:ALA:CB | 0.44 | 2.93 | 10 | 1 |
| 1:A:101:LYS:HB2 | 1:A:104:LYS:HG2 | 0.44 | 1.89 | 11 | 1 |
| 1:A:39:ALA:HA | 1:A:49:THR:CB | 0.44 | 2.42 | 22 | 1 |
| 1:A:65:PRO:O | 1:A:66:GLU:HB2 | 0.44 | 2.12 | 20 | 10 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:21:GLU:HG3 | 1:A:46:SER:HG | 0.44 | 1.72 | 4 | 1 |
| 1:A:13:VAL:CG2 | 1:A:29:LEU:HD23 | 0.44 | 2.41 | 12 | 1 |
| 1:A:97:VAL:HG22 | 1:A:117:TRP:CH2 | 0.44 | 2.47 | 18 | 1 |
| 1:A:12:PRO:HG3 | 1:A:30:ARG:HG3 | 0.44 | 1.89 | 17 | 7 |
| 1:A:27:PHE:CD2 | 1:A:38:LEU:HB2 | 0.44 | 2.48 | 3 | 2 |
| 1:A:77:GLN:H | 1:A:84:THR:HG22 | 0.44 | 1.67 | 4 | 1 |
| 1:A:83:LYS:O | 1:A:100:GLU:N | 0.44 | 2.50 | 16 | 1 |
| 1:A:61:ARG:NE | 1:A:69:ARG:HD2 | 0.44 | 2.27 | 18 | 1 |
| 1:A:85:MET:O | 1:A:97:VAL:HA | 0.44 | 2.13 | 21 | 1 |
| 1:A:67:LYS:O | 1:A:70:TYR:OH | 0.44 | 2.33 | 1 | 3 |
| 1:A:101:LYS:HB2 | 1:A:106:THR:HG22 | 0.44 | 1.90 | 3 | 1 |
| 1:A:77:GLN:HA | 1:A:83:LYS:HA | 0.44 | 1.89 | 4 | 4 |
| 1:A:87:ARG:HG2 | 1:A:96:TYR:CZ | 0.44 | 2.48 | 4 | 1 |
| 1:A:54:VAL:HG12 | 1:A:76:GLN:CG | 0.44 | 2.42 | 8 | 1 |
| 1:A:20:CYS:O | 1:A:21:GLU:CB | 0.44 | 2.64 | 12 | 1 |
| 1:A:109:SER:O | 1:A:109:SER:OG | 0.44 | 2.33 | 16 | 3 |
| 1:A:29:LEU:HG | 1:A:30:ARG:N | 0.44 | 2.28 | 20 | 5 |
| 1:A:16:PRO:C | 1:A:18:LEU:N | 0.44 | 2.71 | 3 | 1 |
| 1:A:38:LEU:CD2 | 1:A:52:PRO:HB3 | 0.44 | 2.43 | 5 | 3 |
| 1:A:26:TYR:CD1 | 1:A:28:VAL:HG23 | 0.44 | 2.47 | 6 | 2 |
| 1:A:78:ASP:OD1 | 1:A:79:PRO:HD2 | 0.44 | 2.12 | 6 | 2 |
| 1:A:63:ARG:HG3 | 1:A:63:ARG:NH1 | 0.44 | 2.28 | 8 | 1 |
| 1:A:66:GLU:OE2 | 1:A:66:GLU:O | 0.44 | 2.36 | 16 | 1 |
| 1:A:97:VAL:HG23 | 1:A:108:TRP:HZ3 | 0.44 | 1.71 | 16 | 1 |
| 1:A:52:PRO:HB2 | 1:A:86:VAL:CG2 | 0.44 | 2.43 | 17 | 1 |
| 1:A:21:GLU:OE2 | 1:A:45:LYS:O | 0.44 | 2.35 | 26 | 1 |
| 1:A:91:LYS:N | 1:A:91:LYS:HD3 | 0.44 | 2.28 | 7 | 11 |
| 1:A:38:LEU:CD1 | 1:A:52:PRO:HB3 | 0.44 | 2.41 | 9 | 7 |
| 1:A:22:LYS:O | 1:A:22:LYS:HG3 | 0.44 | 2.12 | 17 | 3 |
| 1:A:68:LEU:O | 1:A:68:LEU:HD22 | 0.44 | 2.13 | 15 | 1 |
| 1:A:39:ALA:HA | 1:A:49:THR:CG2 | 0.44 | 2.43 | 3 | 3 |
| 1:A:101:LYS:HB3 | 1:A:104:LYS:CE | 0.44 | 2.43 | 16 | 1 |
| 1:A:87:ARG:NH2 | 1:A:100:GLU:OE2 | 0.44 | 2.50 | 17 | 1 |
| 1:A:21:GLU:HG2 | 1:A:48:GLU:OE2 | 0.44 | 2.13 | 19 | 1 |
| 1:A:78:ASP:CB | 1:A:99:SER:OG | 0.44 | 2.66 | 19 | 1 |
| 1:A:17:GLU:OE1 | 1:A:59:ARG:CZ | 0.44 | 2.65 | 2 | 1 |
| 1:A:82:ASN:CB | 1:A:101:LYS:HG3 | 0.44 | 2.43 | 4 | 1 |
| 1:A:18:LEU:HG | 1:A:60:PHE:CZ | 0.44 | 2.48 | 6 | 1 |
| 1:A:42:THR:HB | 1:A:45:LYS:CB | 0.44 | 2.43 | 6 | 1 |
| 1:A:75:PRO:CG | 1:A:108:TRP:CH2 | 0.44 | 3.01 | 8 | 1 |
| 1:A:78:ASP:HB3 | 1:A:99:SER:OG | 0.44 | 2.12 | 17 | 3 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:13:VAL:HB | 1:A:29:LEU:CD2 | 0.44 | 2.43 | 15 | 1 |
| 1:A:51:ALA:CB | 1:A:86:VAL:HG12 | 0.44 | 2.42 | 16 | 1 |
| 1:A:98:SER:OG | 1:A:108:TRP:O | 0.44 | 2.31 | 16 | 2 |
| 1:A:31:ASP:O | 1:A:31:ASP:OD2 | 0.44 | 2.35 | 18 | 1 |
| 1:A:82:ASN:ND2 | 1:A:82:ASN:N | 0.44 | 2.66 | 24 | 1 |
| 1:A:110:ALA:CA | 1:A:118:VAL:O | 0.44 | 2.66 | 3 | 20 |
| 1:A:68:LEU:HB3 | 1:A:71:LEU:HD12 | 0.44 | 1.90 | 3 | 1 |
| 1:A:20:CYS:SG | 1:A:27:PHE:CG | 0.44 | 3.11 | 12 | 1 |
| 1:A:52:PRO:CB | 1:A:57:LEU:HD11 | 0.44 | 2.43 | 17 | 1 |
| 1:A:85:MET:O | 1:A:97:VAL:HB | 0.44 | 2.13 | 21 | 1 |
| 1:A:63:ARG:O | 1:A:64:LEU:C | 0.43 | 2.56 | 15 | 4 |
| 1:A:59:ARG:HD3 | 1:A:60:PHE:CD1 | 0.43 | 2.47 | 2 | 1 |
| 1:A:116:LYS:O | 1:A:117:TRP:C | 0.43 | 2.57 | 24 | 8 |
| 1:A:20:CYS:O | 1:A:48:GLU:OE1 | 0.43 | 2.36 | 5 | 3 |
| 1:A:26:TYR:CD2 | 1:A:41:ASN:HB3 | 0.43 | 2.49 | 5 | 1 |
| 1:A:68:LEU:HD12 | 1:A:68:LEU:H | 0.43 | 1.70 | 9 | 1 |
| 1:A:55:GLU:HB3 | 1:A:76:GLN:CG | 0.43 | 2.43 | 20 | 1 |
| 1:A:25:ALA:HB2 | 1:A:42:THR:OG1 | 0.43 | 2.13 | 8 | 3 |
| 1:A:66:GLU:HG3 | 1:A:69:ARG:NH2 | 0.43 | 2.28 | 8 | 1 |
| 1:A:15:LEU:HD12 | 1:A:60:PHE:CE1 | 0.43 | 2.48 | 9 | 1 |
| 1:A:54:VAL:CG1 | 1:A:76:GLN:HB3 | 0.43 | 2.43 | 14 | 1 |
| 1:A:84:THR:HB | 1:A:99:SER:HA | 0.43 | 1.91 | 26 | 2 |
| 1:A:29:LEU:HG | 1:A:38:LEU:CD2 | 0.43 | 2.43 | 22 | 1 |
| 1:A:80:GLU:OE1 | 1:A:82:ASN:OD1 | 0.43 | 2.36 | 22 | 1 |
| 1:A:78:ASP:CG | 1:A:108:TRP:CG | 0.43 | 2.92 | 1 | 1 |
| 1:A:57:LEU:CG | 1:A:64:LEU:HD11 | 0.43 | 2.43 | 20 | 2 |
| 1:A:77:GLN:HB2 | 1:A:81:GLY:O | 0.43 | 2.12 | 21 | 7 |
| 1:A:96:TYR:HB2 | 1:A:110:ALA:O | 0.43 | 2.14 | 5 | 4 |
| 1:A:15:LEU:CD2 | 1:A:60:PHE:CG | 0.43 | 3.01 | 5 | 1 |
| 1:A:77:GLN:HG2 | 1:A:81:GLY:O | 0.43 | 2.12 | 17 | 1 |
| 1:A:87:ARG:NE | 1:A:98:SER:CB | 0.43 | 2.81 | 17 | 1 |
| 1:A:82:ASN:O | 1:A:99:SER:HB2 | 0.43 | 2.13 | 18 | 1 |
| 1:A:101:LYS:HD2 | 1:A:104:LYS:CE | 0.43 | 2.43 | 24 | 1 |
| 1:A:68:LEU:O | 1:A:69:ARG:C | 0.43 | 2.55 | 1 | 3 |
| 1:A:92:THR:O | 1:A:93:LYS:C | 0.43 | 2.57 | 23 | 13 |
| 1:A:57:LEU:HG | 1:A:64:LEU:CD1 | 0.43 | 2.44 | 3 | 1 |
| 1:A:13:VAL:HB | 1:A:29:LEU:HB3 | 0.43 | 1.89 | 8 | 1 |
| 1:A:101:LYS:CE | 1:A:104:LYS:HE3 | 0.43 | 2.44 | 21 | 2 |
| 1:A:77:GLN:HB3 | 1:A:83:LYS:CD | 0.43 | 2.44 | 13 | 1 |
| 1:A:119:GLU:O | 1:A:119:GLU:CD | 0.43 | 2.57 | 13 | 1 |
| 1:A:31:ASP:O | 1:A:31:ASP:CG | 0.43 | 2.57 | 20 | 14 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:86:VAL:CG1 | 1:A:95:GLN:CG | 0.43 | 2.97 | 15 | 3 |
| 1:A:53:LEU:HG | 1:A:85:MET:HB2 | 0.43 | 1.90 | 8 | 6 |
| 1:A:82:ASN:OD1 | 1:A:99:SER:HB3 | 0.43 | 2.14 | 4 | 3 |
| 1:A:78:ASP:OD1 | 1:A:82:ASN:CG | 0.43 | 2.57 | 15 | 2 |
| 1:A:84:THR:CG2 | 1:A:98:SER:C | 0.43 | 2.84 | 6 | 2 |
| 1:A:91:LYS:HD3 | 1:A:91:LYS:N | 0.43 | 2.28 | 5 | 1 |
| 1:A:33:ALA:O | 1:A:34:ALA:C | 0.43 | 2.57 | 19 | 1 |
| 1:A:84:THR:OG1 | 1:A:98:SER:C | 0.43 | 2.57 | 25 | 2 |
| 1:A:50:ARG:O | 1:A:51:ALA:C | 0.43 | 2.57 | 25 | 7 |
| 1:A:69:ARG:O | 1:A:73:ASP:CG | 0.43 | 2.57 | 1 | 1 |
| 1:A:69:ARG:O | 1:A:70:TYR:C | 0.43 | 2.57 | 5 | 14 |
| 1:A:40:ALA:CB | 1:A:46:SER:O | 0.43 | 2.64 | 7 | 1 |
| 1:A:37:PHE:HB2 | 1:A:50:ARG:CA | 0.43 | 2.43 | 10 | 1 |
| 1:A:66:GLU:CG | 1:A:67:LYS:N | 0.43 | 2.80 | 15 | 1 |
| 1:A:14:PRO:HA | 1:A:28:VAL:CG1 | 0.43 | 2.42 | 16 | 2 |
| 1:A:107:GLY:O | 1:A:108:TRP:C | 0.43 | 2.57 | 20 | 8 |
| 1:A:71:LEU:HD21 | 1:A:86:VAL:HG13 | 0.43 | 1.91 | 2 | 3 |
| 1:A:61:ARG:NH1 | 1:A:69:ARG:HD2 | 0.43 | 2.29 | 12 | 1 |
| 1:A:97:VAL:HG22 | 1:A:110:ALA:HB3 | 0.43 | 1.91 | 13 | 1 |
| 1:A:96:TYR:CB | 1:A:111:PHE:CD2 | 0.43 | 3.01 | 22 | 1 |
| 1:A:15:LEU:HD22 | 1:A:60:PHE:CE2 | 0.43 | 2.49 | 26 | 1 |
| 1:A:29:LEU:HD11 | 1:A:68:LEU:HD22 | 0.43 | 1.90 | 5 | 1 |
| 1:A:38:LEU:N | 1:A:38:LEU:CD2 | 0.43 | 2.78 | 5 | 1 |
| 1:A:94:GLN:C | 1:A:95:GLN:OE1 | 0.43 | 2.57 | 5 | 4 |
| 1:A:38:LEU:CD1 | 1:A:52:PRO:CB | 0.43 | 2.96 | 9 | 1 |
| 1:A:78:ASP:OD1 | 1:A:108:TRP:NE1 | 0.43 | 2.52 | 16 | 1 |
| 1:A:76:GLN:O | 1:A:77:GLN:HG3 | 0.43 | 2.13 | 19 | 2 |
| 1:A:66:GLU:O | 1:A:66:GLU:CD | 0.43 | 2.57 | 21 | 1 |
| 1:A:82:ASN:O | 1:A:83:LYS:HB2 | 0.43 | 2.14 | 24 | 1 |
| 1:A:56:GLU:HG3 | 1:A:57:LEU:N | 0.43 | 2.28 | 2 | 1 |
| 1:A:20:CYS:HB3 | 1:A:40:ALA:CB | 0.43 | 2.44 | 3 | 1 |
| 1:A:25:ALA:HA | 1:A:41:ASN:OD1 | 0.43 | 2.13 | 4 | 2 |
| 1:A:85:MET:HE2 | 1:A:87:ARG:HD3 | 0.43 | 1.91 | 8 | 2 |
| 1:A:20:CYS:O | 1:A:21:GLU:HB2 | 0.43 | 2.13 | 12 | 1 |
| 1:A:19:PRO:HA | 1:A:26:TYR:HA | 0.43 | 1.91 | 13 | 2 |
| 1:A:55:GLU:OE1 | 1:A:83:LYS:HD3 | 0.43 | 2.14 | 25 | 2 |
| 1:A:71:LEU:CD2 | 1:A:95:GLN:HG3 | 0.43 | 2.44 | 21 | 1 |
| 1:A:29:LEU:O | 1:A:29:LEU:HD23 | 0.43 | 2.13 | 23 | 1 |
| 1:A:42:THR:O | 1:A:45:LYS:HB3 | 0.43 | 2.14 | 11 | 21 |
| 1:A:76:GLN:O | 1:A:77:GLN:CD | 0.43 | 2.57 | 2 | 4 |
| 1:A:57:LEU:HD22 | 1:A:72:ALA:CA | 0.43 | 2.44 | 8 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:15:LEU:HD13 | 1:A:63:ARG:NE | 0.43 | 2.29 | 9 | 1 |
| 1:A:38:LEU:HD21 | 1:A:52:PRO:CG | 0.43 | 2.44 | 23 | 1 |
| 1:A:68:LEU:HD23 | 1:A:68:LEU:C | 0.43 | 2.34 | 24 | 1 |
| 1:A:78:ASP:OD1 | 1:A:99:SER:HB3 | 0.42 | 2.14 | 9 | 1 |
| 1:A:101:LYS:HB2 | 1:A:106:THR:CG2 | 0.42 | 2.43 | 9 | 1 |
| 1:A:100:GLU:CG | 1:A:105:ALA:HA | 0.42 | 2.44 | 10 | 2 |
| 1:A:28:VAL:CG2 | 1:A:41:ASN:HB2 | 0.42 | 2.43 | 16 | 3 |
| 1:A:26:TYR:CZ | 1:A:41:ASN:CB | 0.42 | 3.02 | 17 | 2 |
| 1:A:42:THR:CG2 | 1:A:45:LYS:HD2 | 0.42 | 2.43 | 24 | 1 |
| 1:A:55:GLU:N | 1:A:76:GLN:HB3 | 0.42 | 2.29 | 8 | 2 |
| 1:A:78:ASP:HB3 | 1:A:99:SER:CB | 0.42 | 2.44 | 5 | 1 |
| 1:A:119:GLU:CD | 1:A:119:GLU:N | 0.42 | 2.73 | 5 | 1 |
| 1:A:77:GLN:O | 1:A:78:ASP:CG | 0.42 | 2.57 | 20 | 2 |
| 1:A:80:GLU:CD | 1:A:82:ASN:OD1 | 0.42 | 2.57 | 10 | 1 |
| 1:A:61:ARG:HD2 | 1:A:72:ALA:HB1 | 0.42 | 1.90 | 12 | 1 |
| 1:A:83:LYS:O | 1:A:99:SER:HA | 0.42 | 2.14 | 15 | 4 |
| 1:A:71:LEU:HD23 | 1:A:86:VAL:HG22 | 0.42 | 1.90 | 24 | 1 |
| 1:A:111:PHE:CD1 | 1:A:111:PHE:N | 0.42 | 2.86 | 19 | 2 |
| 1:A:90:ARG:O | 1:A:91:LYS:C | 0.42 | 2.56 | 2 | 1 |
| 1:A:77:GLN:C | 1:A:77:GLN:OE1 | 0.42 | 2.57 | 4 | 1 |
| 1:A:80:GLU:OE1 | 1:A:80:GLU:C | 0.42 | 2.57 | 10 | 1 |
| 1:A:66:GLU:O | 1:A:66:GLU:HG2 | 0.42 | 2.15 | 21 | 2 |
| 1:A:21:GLU:CG | 1:A:48:GLU:OE2 | 0.42 | 2.67 | 19 | 1 |
| 1:A:16:PRO:O | 1:A:18:LEU:N | 0.42 | 2.53 | 22 | 1 |
| 1:A:85:MET:O | 1:A:97:VAL:HG13 | 0.42 | 2.14 | 5 | 1 |
| 1:A:26:TYR:CE1 | 1:A:28:VAL:HG13 | 0.42 | 2.49 | 8 | 1 |
| 1:A:49:THR:O | 1:A:50:ARG:HG3 | 0.42 | 2.14 | 15 | 3 |
| 1:A:31:ASP:CG | 1:A:31:ASP:O | 0.42 | 2.57 | 16 | 1 |
| 1:A:28:VAL:HG23 | 1:A:41:ASN:HB2 | 0.42 | 1.90 | 17 | 1 |
| 1:A:23:SER:CB | 1:A:45:LYS:HE2 | 0.42 | 2.45 | 18 | 1 |
| 1:A:86:VAL:CG1 | 1:A:97:VAL:HG12 | 0.42 | 2.38 | 21 | 1 |
| 1:A:84:THR:HA | 1:A:99:SER:HA | 0.42 | 1.91 | 26 | 1 |
| 1:A:65:PRO:HD2 | 1:A:68:LEU:CD1 | 0.42 | 2.45 | 5 | 4 |
| 1:A:28:VAL:O | 1:A:28:VAL:HG12 | 0.42 | 2.13 | 22 | 2 |
| 1:A:57:LEU:HG | 1:A:72:ALA:CB | 0.42 | 2.45 | 9 | 1 |
| 1:A:53:LEU:CB | 1:A:56:GLU:OE1 | 0.42 | 2.67 | 14 | 1 |
| 1:A:76:GLN:OE1 | 1:A:83:LYS:HG2 | 0.42 | 2.14 | 20 | 1 |
| 1:A:101:LYS:HB3 | 1:A:104:LYS:HD3 | 0.42 | 1.92 | 1 | 1 |
| 1:A:101:LYS:O | 1:A:102:ASP:HB2 | 0.42 | 2.15 | 18 | 3 |
| 1:A:89:SER:HG | 1:A:96:TYR:HE2 | 0.42 | 1.56 | 4 | 1 |
| 1:A:13:VAL:HG23 | 1:A:29:LEU:HB3 | 0.42 | 1.90 | 8 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:35:GLY:O | 1:A:36:VAL:C | 0.42 | 2.57 | 18 | 4 |
| 1:A:29:LEU:HA | 1:A:37:PHE:O | 0.42 | 2.14 | 9 | 2 |
| 1:A:84:THR:HG21 | 1:A:108:TRP:CE3 | 0.42 | 2.49 | 12 | 3 |
| 1:A:30:ARG:O | 1:A:37:PHE:CE1 | 0.42 | 2.73 | 3 | 1 |
| 1:A:53:LEU:HA | 1:A:85:MET:HA | 0.42 | 1.91 | 9 | 2 |
| 1:A:73:ASP:O | 1:A:74:ALA:C | 0.42 | 2.58 | 9 | 1 |
| 1:A:20:CYS:HA | 1:A:27:PHE:CE1 | 0.42 | 2.50 | 10 | 1 |
| 1:A:61:ARG:NH1 | 1:A:61:ARG:CG | 0.42 | 2.82 | 24 | 1 |
| 1:A:29:LEU:HD23 | 1:A:37:PHE:O | 0.42 | 2.14 | 3 | 2 |
| 1:A:108:TRP:CZ2 | 1:A:119:GLU:HB3 | 0.42 | 2.50 | 5 | 1 |
| 1:A:82:ASN:ND2 | 1:A:99:SER:CB | 0.42 | 2.82 | 12 | 1 |
| 1:A:101:LYS:HE2 | 1:A:104:LYS:NZ | 0.42 | 2.30 | 14 | 1 |
| 1:A:15:LEU:O | 1:A:16:PRO:C | 0.42 | 2.56 | 26 | 2 |
| 1:A:64:LEU:CD1 | 1:A:69:ARG:HA | 0.42 | 2.44 | 7 | 2 |
| 1:A:57:LEU:HD23 | 1:A:72:ALA:N | 0.42 | 2.30 | 3 | 1 |
| 1:A:82:ASN:OD1 | 1:A:99:SER:CB | 0.42 | 2.68 | 19 | 2 |
| 1:A:113:VAL:HB | 1:A:116:LYS:CB | 0.42 | 2.45 | 17 | 2 |
| 1:A:41:ASN:ND2 | 1:A:41:ASN:C | 0.41 | 2.73 | 5 | 2 |
| 1:A:26:TYR:O | 1:A:40:ALA:HA | 0.41 | 2.15 | 14 | 3 |
| 1:A:54:VAL:HG22 | 1:A:97:VAL:HG11 | 0.41 | 1.92 | 11 | 1 |
| 1:A:71:LEU:HD21 | 1:A:86:VAL:CG1 | 0.41 | 2.43 | 14 | 1 |
| 1:A:96:TYR:CA | 1:A:110:ALA:O | 0.41 | 2.68 | 17 | 2 |
| 1:A:78:ASP:HB2 | 1:A:108:TRP:NE1 | 0.41 | 2.29 | 20 | 1 |
| 1:A:12:PRO:HG2 | 1:A:30:ARG:HG3 | 0.41 | 1.92 | 3 | 1 |
| 1:A:21:GLU:CG | 1:A:46:SER:OG | 0.41 | 2.67 | 4 | 1 |
| 1:A:64:LEU:HD23 | 1:A:65:PRO:N | 0.41 | 2.30 | 15 | 1 |
| 1:A:74:ALA:CB | 1:A:75:PRO:HD2 | 0.41 | 2.37 | 26 | 2 |
| 1:A:21:GLU:OE1 | 1:A:46:SER:HA | 0.41 | 2.15 | 24 | 1 |
| 1:A:23:SER:OG | 1:A:45:LYS:HE2 | 0.41 | 2.15 | 25 | 1 |
| 1:A:90:ARG:O | 1:A:92:THR:N | 0.41 | 2.53 | 2 | 1 |
| 1:A:95:GLN:OE1 | 1:A:95:GLN:HA | 0.41 | 2.14 | 4 | 1 |
| 1:A:28:VAL:HG12 | 1:A:30:ARG:HD2 | 0.41 | 1.91 | 5 | 1 |
| 1:A:66:GLU:CG | 1:A:69:ARG:NH2 | 0.41 | 2.83 | 8 | 1 |
| 1:A:51:ALA:CB | 1:A:86:VAL:C | 0.41 | 2.89 | 10 | 1 |
| 1:A:32:GLY:O | 1:A:33:ALA:HB2 | 0.41 | 2.15 | 15 | 1 |
| 1:A:82:ASN:HA | 1:A:101:LYS:CD | 0.41 | 2.45 | 16 | 1 |
| 1:A:26:TYR:OH | 1:A:41:ASN:CG | 0.41 | 2.58 | 23 | 2 |
| 1:A:49:THR:O | 1:A:50:ARG:HB3 | 0.41 | 2.16 | 2 | 4 |
| 1:A:23:SER:OG | 1:A:45:LYS:HD3 | 0.41 | 2.16 | 6 | 1 |
| 1:A:12:PRO:C | 1:A:14:PRO:HD3 | 0.41 | 2.36 | 8 | 1 |
| 1:A:85:MET:C | 1:A:97:VAL:HG12 | 0.41 | 2.31 | 9 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:75:PRO:O | 1:A:76:GLN:HG2 | 0.41 | 2.14 | 14 | 1 |
| 1:A:76:GLN:O | 1:A:83:LYS:HA | 0.41 | 2.15 | 17 | 1 |
| 1:A:13:VAL:CG2 | 1:A:65:PRO:HD3 | 0.41 | 2.44 | 24 | 1 |
| 1:A:80:GLU:HG2 | 1:A:101:LYS:NZ | 0.41 | 2.30 | 1 | 1 |
| 1:A:86:VAL:O | 1:A:87:ARG:HD3 | 0.41 | 2.16 | 3 | 8 |
| 1:A:29:LEU:CD1 | 1:A:68:LEU:HD21 | 0.41 | 2.28 | 3 | 1 |
| 1:A:118:VAL:C | 1:A:119:GLU:OE1 | 0.41 | 2.59 | 5 | 1 |
| 1:A:61:ARG:HD2 | 1:A:72:ALA:CB | 0.41 | 2.46 | 12 | 1 |
| 1:A:57:LEU:HD21 | 1:A:68:LEU:HD11 | 0.41 | 1.92 | 15 | 1 |
| 1:A:53:LEU:CD1 | 1:A:84:THR:C | 0.41 | 2.89 | 2 | 1 |
| 1:A:112:TYR:CE1 | 1:A:115:GLY:HA2 | 0.41 | 2.51 | 9 | 3 |
| 1:A:65:PRO:CG | 1:A:68:LEU:CD1 | 0.41 | 2.99 | 6 | 1 |
| 1:A:49:THR:O | 1:A:50:ARG:HB2 | 0.41 | 2.16 | 9 | 2 |
| 1:A:13:VAL:N | 1:A:14:PRO:CD | 0.41 | 2.84 | 26 | 1 |
| 1:A:84:THR:HG22 | 1:A:97:VAL:HB | 0.41 | 1.91 | 1 | 1 |
| 1:A:90:ARG:O | 1:A:90:ARG:HD2 | 0.41 | 2.16 | 2 | 1 |
| 1:A:99:SER:OG | 1:A:106:THR:HG21 | 0.41 | 2.15 | 3 | 1 |
| 1:A:46:SER:OG | 1:A:48:GLU:OE2 | 0.41 | 2.34 | 4 | 1 |
| 1:A:98:SER:OG | 1:A:98:SER:O | 0.41 | 2.38 | 4 | 1 |
| 1:A:57:LEU:CD2 | 1:A:71:LEU:HB3 | 0.41 | 2.45 | 14 | 1 |
| 1:A:77:GLN:HG3 | 1:A:83:LYS:HA | 0.41 | 1.93 | 19 | 1 |
| 1:A:82:ASN:HB3 | 1:A:101:LYS:CG | 0.41 | 2.45 | 21 | 1 |
| 1:A:15:LEU:C | 1:A:17:GLU:N | 0.41 | 2.74 | 1 | 5 |
| 1:A:69:ARG:O | 1:A:73:ASP:HB2 | 0.41 | 2.16 | 1 | 1 |
| 1:A:42:THR:HB | 1:A:45:LYS:HB3 | 0.41 | 1.92 | 6 | 1 |
| 1:A:20:CYS:HA | 1:A:27:PHE:CD1 | 0.41 | 2.51 | 10 | 1 |
| 1:A:85:MET:HE3 | 1:A:86:VAL:O | 0.41 | 2.16 | 2 | 1 |
| 1:A:66:GLU:O | 1:A:69:ARG:HG3 | 0.41 | 2.16 | 5 | 1 |
| 1:A:83:LYS:HE3 | 1:A:101:LYS:NZ | 0.41 | 2.31 | 6 | 1 |
| 1:A:113:VAL:CG2 | 1:A:118:VAL:HG21 | 0.41 | 2.45 | 8 | 1 |
| 1:A:76:GLN:O | 1:A:77:GLN:HG2 | 0.41 | 2.16 | 12 | 2 |
| 1:A:101:LYS:O | 1:A:104:LYS:HD2 | 0.41 | 2.16 | 13 | 1 |
| 1:A:53:LEU:HB3 | 1:A:56:GLU:OE1 | 0.41 | 2.16 | 14 | 1 |
| 1:A:101:LYS:CD | 1:A:106:THR:HG23 | 0.41 | 2.45 | 14 | 1 |
| 1:A:45:LYS:CG | 1:A:46:SER:N | 0.41 | 2.83 | 18 | 1 |
| 1:A:76:GLN:HA | 1:A:84:THR:HG23 | 0.41 | 1.93 | 18 | 2 |
| 1:A:84:THR:HA | 1:A:98:SER:O | 0.41 | 2.16 | 18 | 1 |
| 1:A:44:PRO:C | 1:A:46:SER:N | 0.41 | 2.74 | 20 | 1 |
| 1:A:12:PRO:HG3 | 1:A:30:ARG:CD | 0.41 | 2.46 | 26 | 1 |
| 1:A:80:GLU:HG2 | 1:A:101:LYS:CE | 0.41 | 2.46 | 1 | 1 |
| 1:A:114:ASP:O | 1:A:116:LYS:HE2 | 0.41 | 2.16 | 2 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:21:GLU:O | 1:A:22:LYS:HB2 | 0.41 | 2.16 | 6 | 1 |
| 1:A:20:CYS:SG | 1:A:27:PHE:CZ | 0.41 | 3.14 | 13 | 1 |
| 1:A:114:ASP:O | 1:A:114:ASP:OD2 | 0.41 | 2.39 | 15 | 1 |
| 1:A:36:VAL:O | 1:A:37:PHE:HB3 | 0.41 | 2.16 | 16 | 1 |
| 1:A:114:ASP:O | 1:A:116:LYS:HD2 | 0.41 | 2.16 | 20 | 1 |
| 1:A:31:ASP:N | 1:A:31:ASP:OD1 | 0.41 | 2.54 | 24 | 1 |
| 1:A:65:PRO:HD2 | 1:A:68:LEU:HD13 | 0.41 | 1.92 | 26 | 1 |
| 1:A:87:ARG:HG2 | 1:A:96:TYR:OH | 0.40 | 2.16 | 4 | 1 |
| 1:A:29:LEU:CD1 | 1:A:36:VAL:HG22 | 0.40 | 2.46 | 6 | 1 |
| 1:A:57:LEU:CD2 | 1:A:68:LEU:CG | 0.40 | 2.99 | 10 | 1 |
| 1:A:76:GLN:C | 1:A:77:GLN:HG2 | 0.40 | 2.37 | 11 | 2 |
| 1:A:70:TYR:CG | 1:A:71:LEU:N | 0.40 | 2.89 | 15 | 1 |
| 1:A:64:LEU:HD23 | 1:A:64:LEU:HA | 0.40 | 1.76 | 21 | 1 |
| 1:A:97:VAL:HG13 | 1:A:117:TRP:CZ3 | 0.40 | 2.50 | 21 | 1 |
| 1:A:69:ARG:O | 1:A:71:LEU:N | 0.40 | 2.53 | 22 | 1 |
| 1:A:41:ASN:ND2 | 1:A:41:ASN:O | 0.40 | 2.53 | 3 | 1 |
| 1:A:63:ARG:NH1 | 1:A:63:ARG:CG | 0.40 | 2.84 | 3 | 1 |
| 1:A:25:ALA:CA | 1:A:41:ASN:OD1 | 0.40 | 2.69 | 4 | 1 |
| 1:A:42:THR:OG1 | 1:A:45:LYS:HD3 | 0.40 | 2.17 | 5 | 1 |
| 1:A:77:GLN:CD | 1:A:77:GLN:C | 0.40 | 2.80 | 9 | 1 |
| 1:A:67:LYS:C | 1:A:68:LEU:HG | 0.40 | 2.36 | 16 | 1 |
| 1:A:79:PRO:HD2 | 1:A:108:TRP:NE1 | 0.40 | 2.31 | 18 | 1 |
| 1:A:53:LEU:O | 1:A:54:VAL:C | 0.40 | 2.59 | 1 | 1 |
| 1:A:21:GLU:HG3 | 1:A:46:SER:OG | 0.40 | 2.16 | 4 | 1 |
| 1:A:13:VAL:CB | 1:A:29:LEU:HD23 | 0.40 | 2.46 | 17 | 1 |
| 1:A:21:GLU:CG | 1:A:46:SER:HB2 | 0.40 | 2.46 | 26 | 1 |
| 1:A:18:LEU:CD1 | 1:A:56:GLU:HG2 | 0.40 | 2.46 | 3 | 1 |
| 1:A:14:PRO:C | 1:A:16:PRO:HD2 | 0.40 | 2.37 | 12 | 1 |
| 1:A:26:TYR:OH | 1:A:41:ASN:OD1 | 0.40 | 2.35 | 16 | 1 |
| 1:A:68:LEU:O | 1:A:71:LEU:HB2 | 0.40 | 2.17 | 17 | 1 |
| 1:A:69:ARG:O | 1:A:73:ASP:CB | 0.40 | 2.69 | 1 | 1 |
| 1:A:38:LEU:CG | 1:A:52:PRO:HB3 | 0.40 | 2.45 | 5 | 1 |
| 1:A:77:GLN:OE1 | 1:A:78:ASP:O | 0.40 | 2.40 | 14 | 1 |
| 1:A:70:TYR:HB2 | 1:A:112:TYR:OH | 0.40 | 2.16 | 16 | 1 |
| 1:A:86:VAL:HG13 | 1:A:95:GLN:HG3 | 0.40 | 1.92 | 20 | 1 |

6.3 Torsion angles [i](#)

6.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the backbone conformation was analysed and the total number of residues.

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|--------------|--------------|-------------|-------------|----|
| 1 | A | 109/122 (89%) | 74±3 (68±3%) | 25±2 (23±2%) | 10±2 (9±2%) | 1 | 11 |
| All | All | 2834/3172 (89%) | 1920 (68%) | 647 (23%) | 267 (9%) | 1 | 11 |

All 36 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 77 | GLN | 26 |
| 1 | A | 113 | VAL | 26 |
| 1 | A | 12 | PRO | 22 |
| 1 | A | 83 | LYS | 20 |
| 1 | A | 66 | GLU | 18 |
| 1 | A | 50 | ARG | 16 |
| 1 | A | 65 | PRO | 16 |
| 1 | A | 82 | ASN | 12 |
| 1 | A | 105 | ALA | 12 |
| 1 | A | 16 | PRO | 10 |
| 1 | A | 32 | GLY | 9 |
| 1 | A | 33 | ALA | 7 |
| 1 | A | 103 | GLY | 7 |
| 1 | A | 102 | ASP | 6 |
| 1 | A | 45 | LYS | 6 |
| 1 | A | 29 | LEU | 6 |
| 1 | A | 101 | LYS | 6 |
| 1 | A | 78 | ASP | 5 |
| 1 | A | 36 | VAL | 5 |
| 1 | A | 106 | THR | 4 |
| 1 | A | 34 | ALA | 3 |
| 1 | A | 81 | GLY | 3 |
| 1 | A | 117 | TRP | 3 |
| 1 | A | 22 | LYS | 2 |
| 1 | A | 48 | GLU | 2 |
| 1 | A | 20 | CYS | 2 |
| 1 | A | 67 | LYS | 2 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 68 | LEU | 2 |
| 1 | A | 75 | PRO | 2 |
| 1 | A | 74 | ALA | 1 |
| 1 | A | 99 | SER | 1 |
| 1 | A | 107 | GLY | 1 |
| 1 | A | 52 | PRO | 1 |
| 1 | A | 21 | GLU | 1 |
| 1 | A | 28 | VAL | 1 |
| 1 | A | 19 | PRO | 1 |

6.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the sidechain conformation was analysed and the total number of residues.

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|-----|-------|-----------------|--------------|--------------|--------------------|
| 1 | A | 92/103 (89%) | 60±4 (66±4%) | 32±4 (34±4%) | 1 10 |
| All | All | 2392/2678 (89%) | 1571 (66%) | 821 (34%) | 1 10 |

All 72 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 53 | LEU | 26 |
| 1 | A | 101 | LYS | 26 |
| 1 | A | 118 | VAL | 26 |
| 1 | A | 18 | LEU | 25 |
| 1 | A | 78 | ASP | 25 |
| 1 | A | 91 | LYS | 25 |
| 1 | A | 68 | LEU | 25 |
| 1 | A | 61 | ARG | 23 |
| 1 | A | 69 | ARG | 23 |
| 1 | A | 26 | TYR | 22 |
| 1 | A | 23 | SER | 21 |
| 1 | A | 98 | SER | 21 |
| 1 | A | 20 | CYS | 21 |
| 1 | A | 77 | GLN | 19 |
| 1 | A | 82 | ASN | 19 |
| 1 | A | 22 | LYS | 18 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 38 | LEU | 18 |
| 1 | A | 57 | LEU | 17 |
| 1 | A | 59 | ARG | 17 |
| 1 | A | 64 | LEU | 17 |
| 1 | A | 116 | LYS | 17 |
| 1 | A | 29 | LEU | 16 |
| 1 | A | 17 | GLU | 15 |
| 1 | A | 63 | ARG | 15 |
| 1 | A | 27 | PHE | 15 |
| 1 | A | 67 | LYS | 15 |
| 1 | A | 49 | THR | 15 |
| 1 | A | 50 | ARG | 14 |
| 1 | A | 114 | ASP | 13 |
| 1 | A | 30 | ARG | 13 |
| 1 | A | 46 | SER | 13 |
| 1 | A | 71 | LEU | 12 |
| 1 | A | 104 | LYS | 12 |
| 1 | A | 42 | THR | 11 |
| 1 | A | 102 | ASP | 10 |
| 1 | A | 106 | THR | 10 |
| 1 | A | 47 | ARG | 10 |
| 1 | A | 90 | ARG | 10 |
| 1 | A | 73 | ASP | 10 |
| 1 | A | 24 | ASP | 10 |
| 1 | A | 76 | GLN | 9 |
| 1 | A | 83 | LYS | 9 |
| 1 | A | 89 | SER | 9 |
| 1 | A | 55 | GLU | 8 |
| 1 | A | 62 | ASP | 8 |
| 1 | A | 97 | VAL | 8 |
| 1 | A | 93 | LYS | 7 |
| 1 | A | 95 | GLN | 7 |
| 1 | A | 99 | SER | 7 |
| 1 | A | 100 | GLU | 7 |
| 1 | A | 37 | PHE | 5 |
| 1 | A | 45 | LYS | 5 |
| 1 | A | 80 | GLU | 5 |
| 1 | A | 84 | THR | 5 |
| 1 | A | 56 | GLU | 4 |
| 1 | A | 66 | GLU | 3 |
| 1 | A | 28 | VAL | 3 |
| 1 | A | 15 | LEU | 2 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 21 | GLU | 2 |
| 1 | A | 96 | TYR | 2 |
| 1 | A | 41 | ASN | 2 |
| 1 | A | 85 | MET | 2 |
| 1 | A | 112 | TYR | 2 |
| 1 | A | 86 | VAL | 2 |
| 1 | A | 58 | TYR | 1 |
| 1 | A | 87 | ARG | 1 |
| 1 | A | 92 | THR | 1 |
| 1 | A | 109 | SER | 1 |
| 1 | A | 111 | PHE | 1 |
| 1 | A | 31 | ASP | 1 |
| 1 | A | 36 | VAL | 1 |
| 1 | A | 119 | GLU | 1 |

6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

6.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.6 Ligand geometry [i](#)

There are no ligands in this entry.

6.7 Other polymers [i](#)

There are no such molecules in this entry.

6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

7 Chemical shift validation

No chemical shift data were provided