



Full wwPDB NMR Structure Validation Report ⓘ

May 28, 2020 – 11:40 pm BST

PDB ID : 2LMP
Title : Structural Model for a 40-residue Beta-Amyloid Fibril with Three-Fold Symmetry, Positive Stagger
Authors : Tycko, R.; Paravastu, A.
Deposited on : 2011-12-08

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

Cyrange : Kirchner and Güntert (2011)
NmrClust : Kelley et al. (1996)
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
RCI : v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV : Wang et al. (2010)
ShiftChecker : 2.11
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

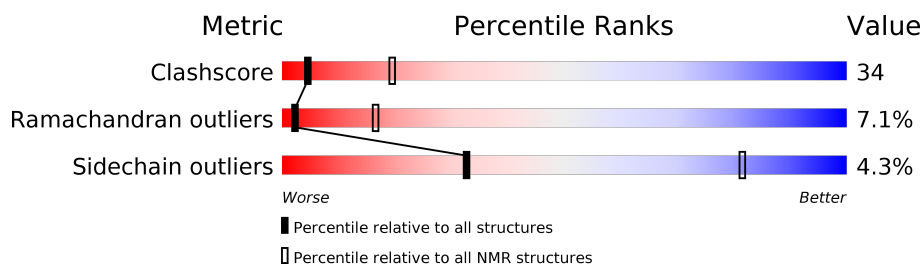
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

SOLID-STATE NMR

The overall completeness of chemical shifts assignment is 1%.

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.



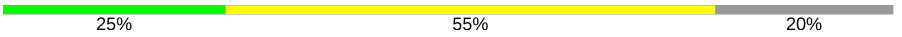
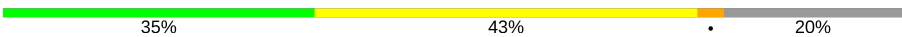
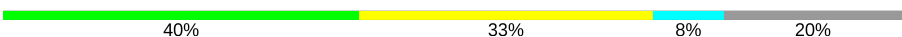

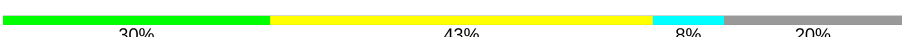
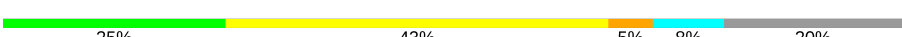
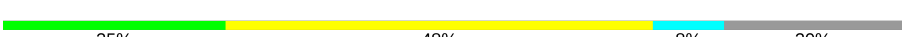
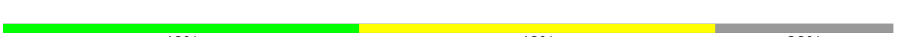

| Metric | Whole archive (#Entries) | NMR archive (#Entries) |
|-----------------------|--------------------------|------------------------|
| Clashscore | 158937 | 12864 |
| Ramachandran outliers | 154571 | 11451 |
| Sidechain outliers | 154315 | 11428 |

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 | 40 | 38% 35% 8% 20% |
| 1 | B | 40 | 33% 38% 8% 20% |
| 1 | C | 40 | 20% 53% 8% 20% |
| 1 | D | 40 | 28% 50% 8% 20% |
| 1 | E | 40 | 33% 40% 8% 20% |
| 1 | F | 40 | 28% 33% 20% 20% |
| 1 | G | 40 | 33% 28% 20% 20% |
| 1 | H | 40 | 23% 38% 20% 20% |
| 1 | I | 40 | 20% 55% 5% 20% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 1 | J | 40 |  25% 55% 20% |
| 1 | K | 40 |  35% 43% 20% |
| 1 | L | 40 |  40% 33% 8% 20% |
| 1 | M | 40 |  50% 18% 13% 20% |
| 1 | N | 40 |  30% 43% 8% 20% |
| 1 | O | 40 |  25% 43% 5% 8% 20% |
| 1 | P | 40 |  25% 48% 8% 20% |
| 1 | Q | 40 |  40% 40% 20% |
| 1 | R | 40 |  38% 43% 20% |

2 Ensemble composition and analysis

This entry contains 10 models. Model 8 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

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:11-A:39, B:11-B:39, C:12-C:40, D:9-D:40, E:12- E:40, F:12-F:22, F:28-F:40, G:9-G:22, G:30-G:39, H:11-H:23, H:29-H:39, I:11-I:40, J:9-J:40, K:9- K:40, L:12-L:40, M:9-M:24, M:30-M:40, N:12-N:40, O:12-O:40, P:12-P:40, Q:9-Q:40, R:9-R:40 (521) | 1.36 | 8 |

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

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

NmrClust was unable to cluster the ensemble.

Error message: No clusters in NmrClust output

3 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 8550 atoms, of which 4266 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Beta-amyloid protein 40.

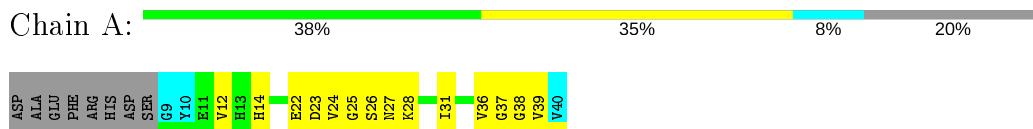
| Mol | Chain | Residues | Atoms | | | | | Trace | |
|-----|-------|----------|-------|-----|-----|----|----|-------|---|
| | | | Total | C | H | N | O | | S |
| 1 | A | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | B | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | C | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | D | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | E | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | F | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | G | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | H | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | I | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | J | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | K | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | L | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | M | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | N | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | O | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | P | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | Q | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |
| 1 | R | 32 | 475 | 154 | 237 | 40 | 43 | 1 | 0 |

4 Residue-property plots [i](#)

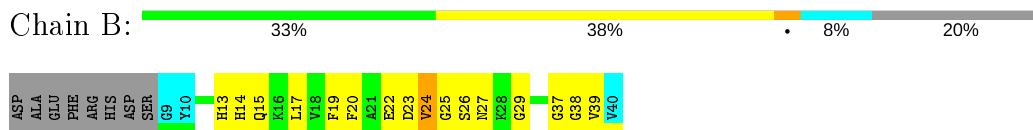
4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA and DNA 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.

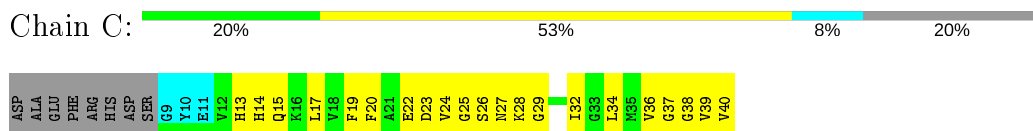
- Molecule 1: Beta-amyloid protein 40



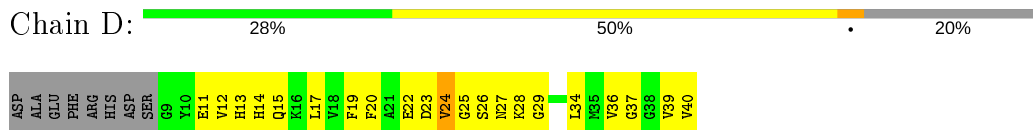
- Molecule 1: Beta-amyloid protein 40



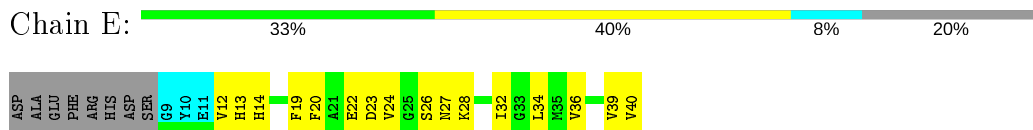
- Molecule 1: Beta-amyloid protein 40



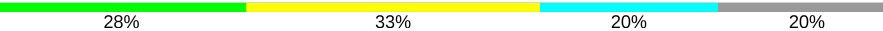
- Molecule 1: Beta-amyloid protein 40

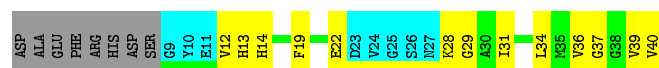


- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

Chain F:  28% 33% 20% 20%

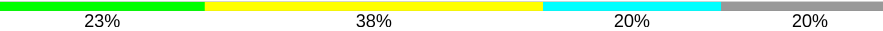


• Molecule 1: Beta-amyloid protein 40

Chain G:  33% 28% 20% 20%



• Molecule 1: Beta-amyloid protein 40

Chain H:  23% 38% 20% 20%



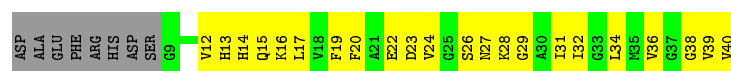
• Molecule 1: Beta-amyloid protein 40

Chain I:  20% 55% 5% 20%



• Molecule 1: Beta-amyloid protein 40

Chain J:  25% 55% 20%



• Molecule 1: Beta-amyloid protein 40

Chain K:  35% 43% 20%



• Molecule 1: Beta-amyloid protein 40

Chain L:  40% 33% 8% 20%



• Molecule 1: Beta-amyloid protein 40

Chain M:  50% 18% 13% 20%



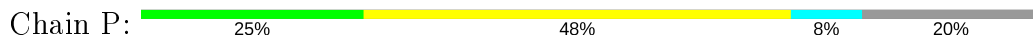
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



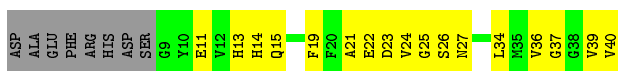
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



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: Beta-amyloid protein 40

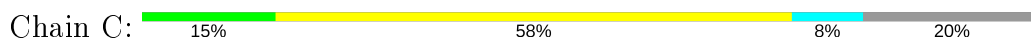




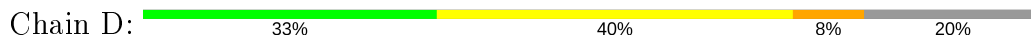
- Molecule 1: Beta-amyloid protein 40



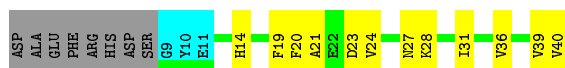
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



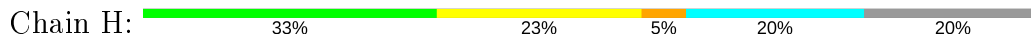
- Molecule 1: Beta-amyloid protein 40



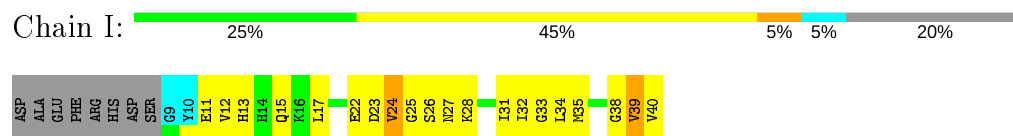
- Molecule 1: Beta-amyloid protein 40



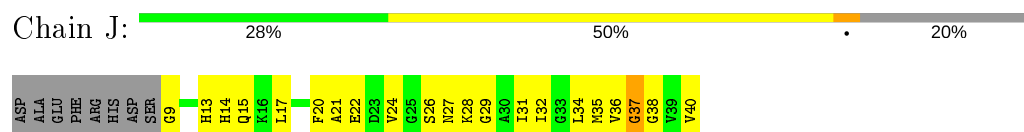
- Molecule 1: Beta-amyloid protein 40



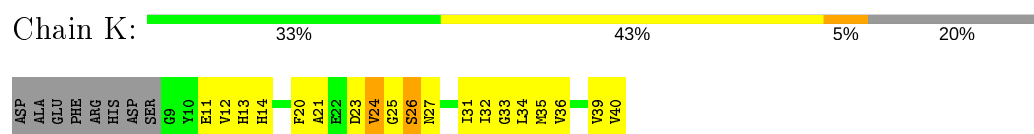
- Molecule 1: Beta-amyloid protein 40



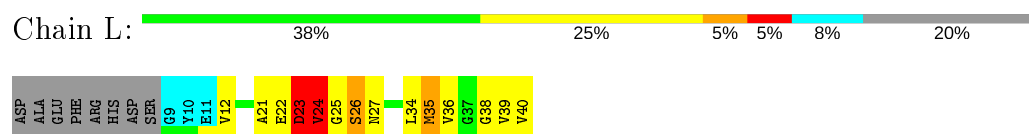
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



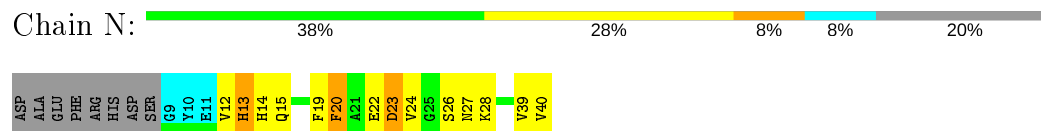
- Molecule 1: Beta-amyloid protein 40



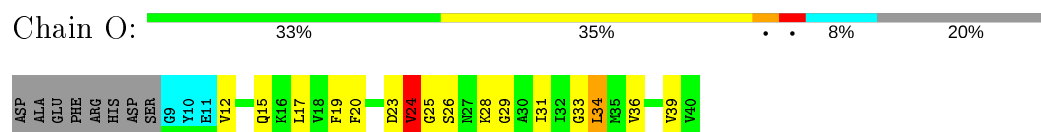
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40





- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

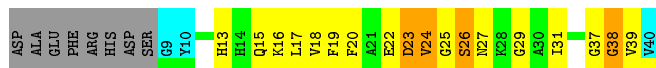


4.2.2 Score per residue for model 2

- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

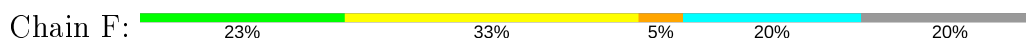


- Molecule 1: Beta-amyloid protein 40

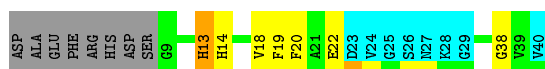




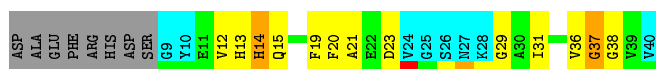
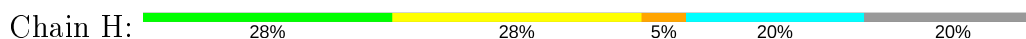
- Molecule 1: Beta-amyloid protein 40



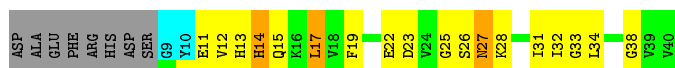
- Molecule 1: Beta-amyloid protein 40



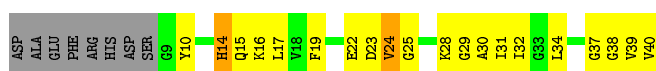
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



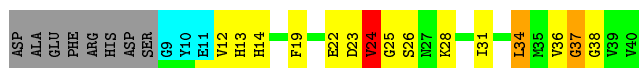
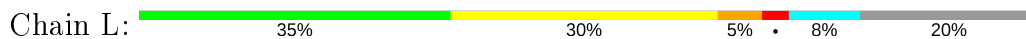
- Molecule 1: Beta-amyloid protein 40



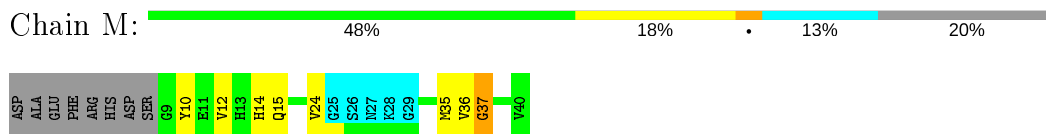
- Molecule 1: Beta-amyloid protein 40



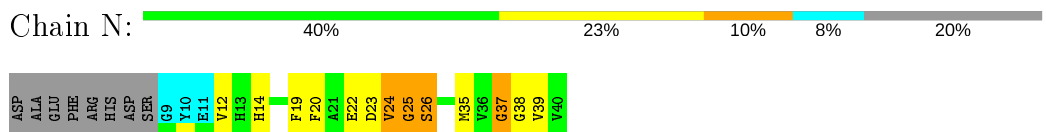
- Molecule 1: Beta-amyloid protein 40



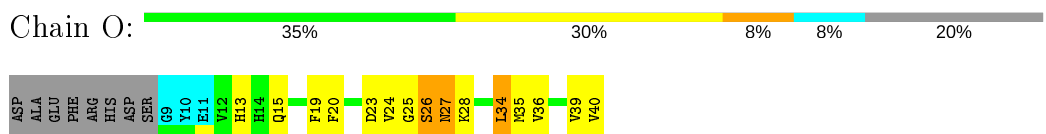
- Molecule 1: Beta-amyloid protein 40



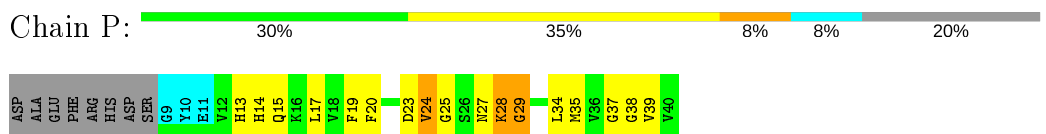
- Molecule 1: Beta-amyloid protein 40



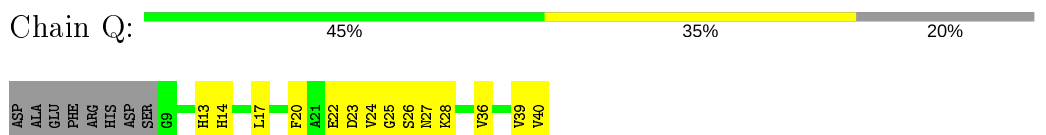
- Molecule 1: Beta-amyloid protein 40



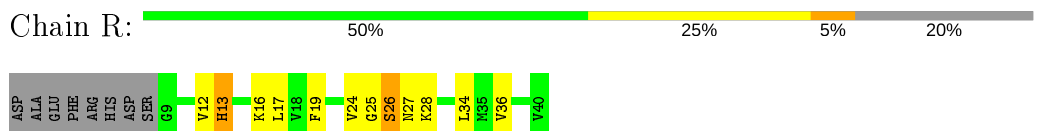
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

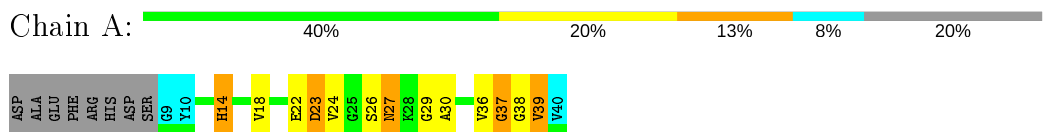


- Molecule 1: Beta-amyloid protein 40

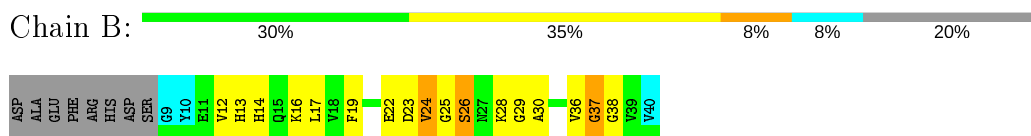


4.2.3 Score per residue for model 3

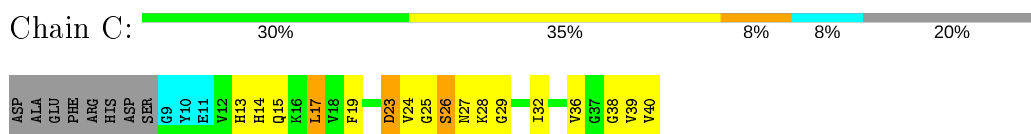
- Molecule 1: Beta-amyloid protein 40



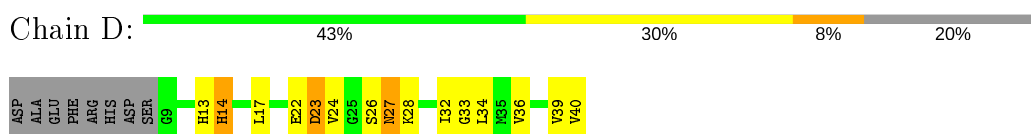
- Molecule 1: Beta-amyloid protein 40



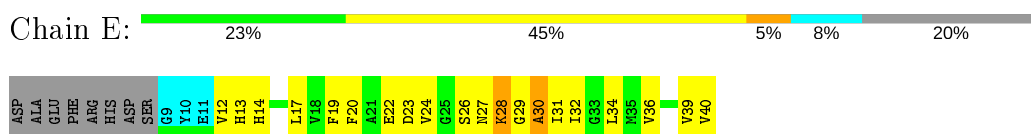
- Molecule 1: Beta-amyloid protein 40



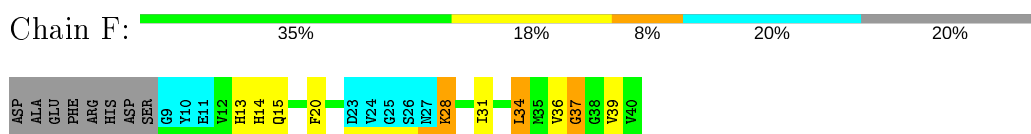
- Molecule 1: Beta-amyloid protein 40



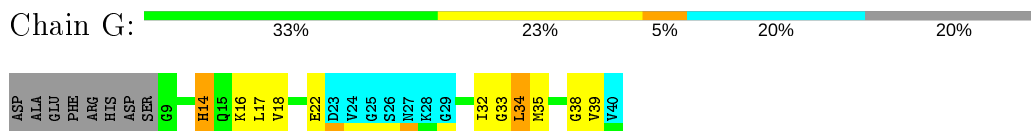
- Molecule 1: Beta-amyloid protein 40



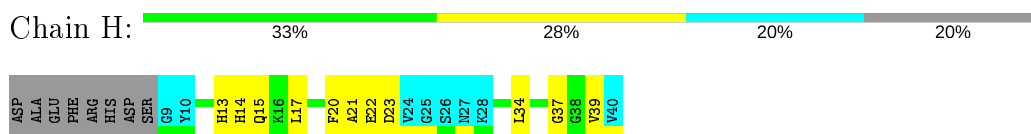
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

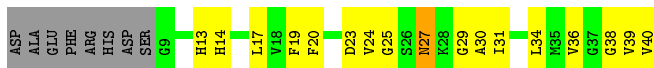


- Molecule 1: Beta-amyloid protein 40





- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



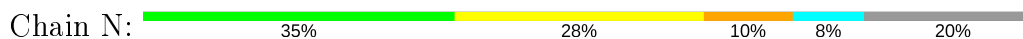
- Molecule 1: Beta-amyloid protein 40



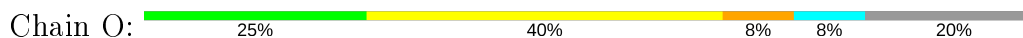
- Molecule 1: Beta-amyloid protein 40



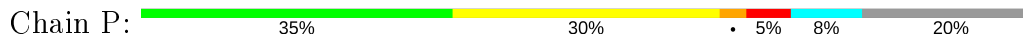
- Molecule 1: Beta-amyloid protein 40



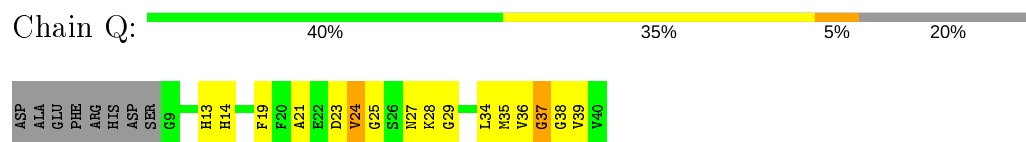
- Molecule 1: Beta-amyloid protein 40



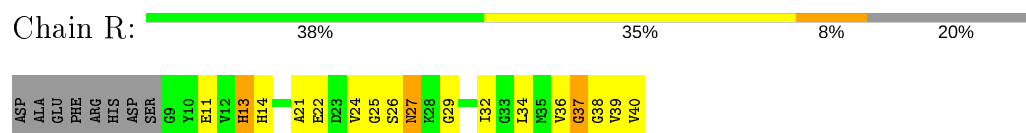
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

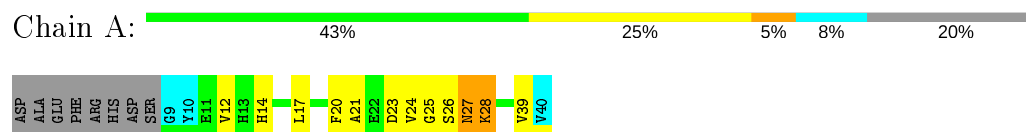


- Molecule 1: Beta-amyloid protein 40

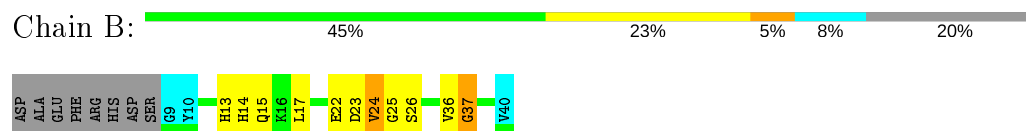


4.2.4 Score per residue for model 4

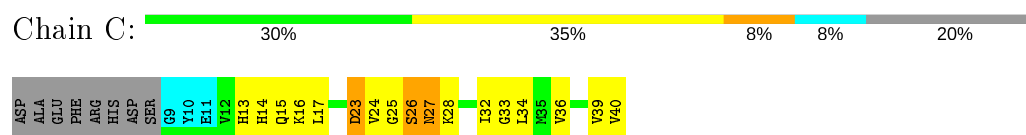
- Molecule 1: Beta-amyloid protein 40



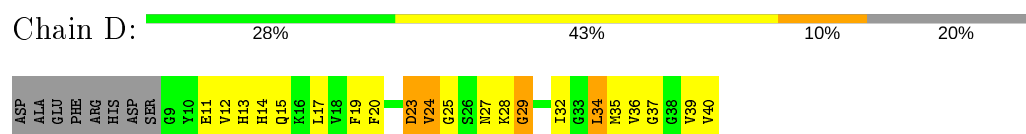
- Molecule 1: Beta-amyloid protein 40



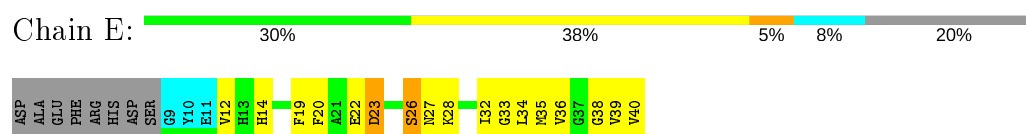
- Molecule 1: Beta-amyloid protein 40



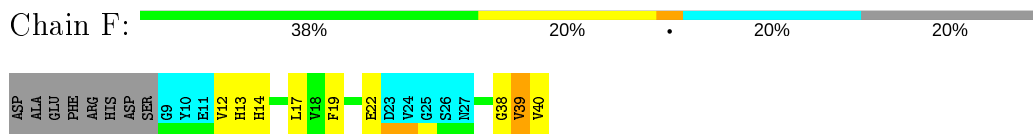
- Molecule 1: Beta-amyloid protein 40



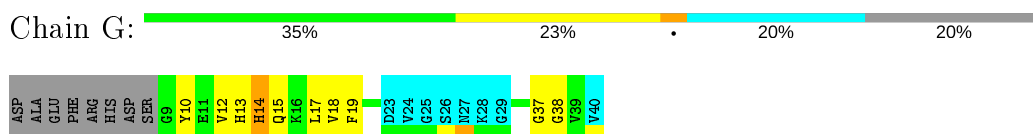
- Molecule 1: Beta-amyloid protein 40



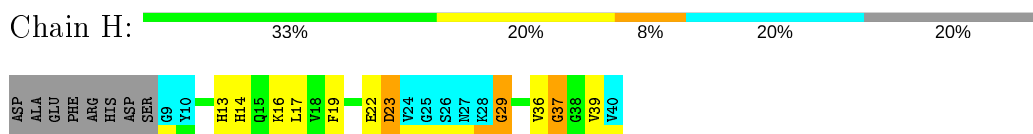
• Molecule 1: Beta-amyloid protein 40



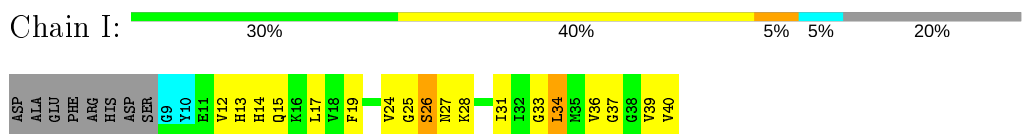
• Molecule 1: Beta-amyloid protein 40



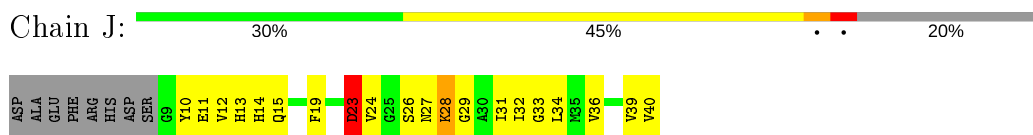
• Molecule 1: Beta-amyloid protein 40



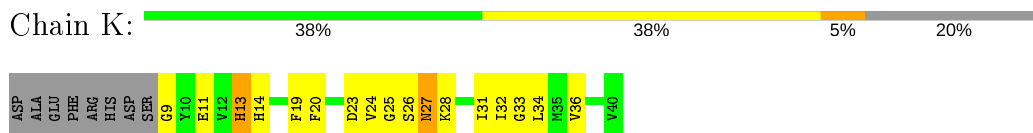
• Molecule 1: Beta-amyloid protein 40



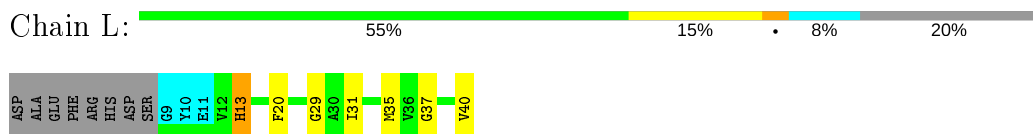
• Molecule 1: Beta-amyloid protein 40



• Molecule 1: Beta-amyloid protein 40



• Molecule 1: Beta-amyloid protein 40



• Molecule 1: Beta-amyloid protein 40





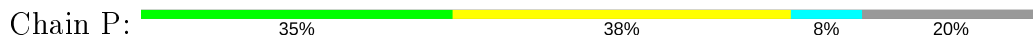
● Molecule 1: Beta-amyloid protein 40



● Molecule 1: Beta-amyloid protein 40



● Molecule 1: Beta-amyloid protein 40



● Molecule 1: Beta-amyloid protein 40

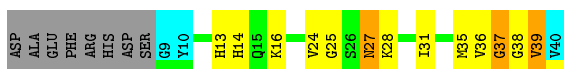


● Molecule 1: Beta-amyloid protein 40



4.2.5 Score per residue for model 5

● Molecule 1: Beta-amyloid protein 40



● Molecule 1: Beta-amyloid protein 40





- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



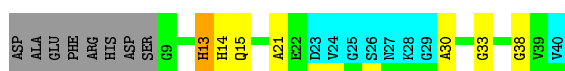
- Molecule 1: Beta-amyloid protein 40



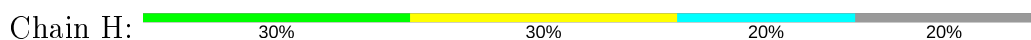
- Molecule 1: Beta-amyloid protein 40



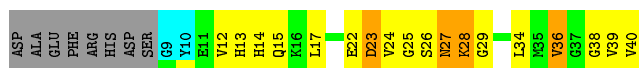
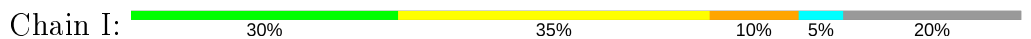
- Molecule 1: Beta-amyloid protein 40



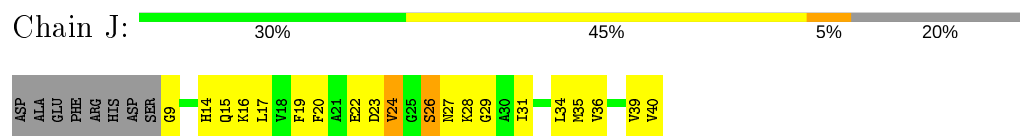
- Molecule 1: Beta-amyloid protein 40



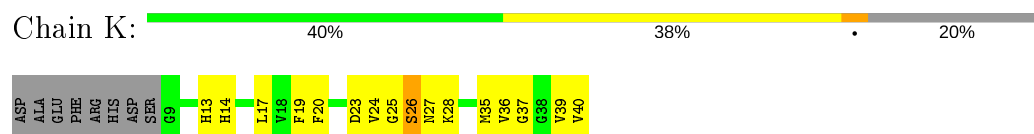
- Molecule 1: Beta-amyloid protein 40



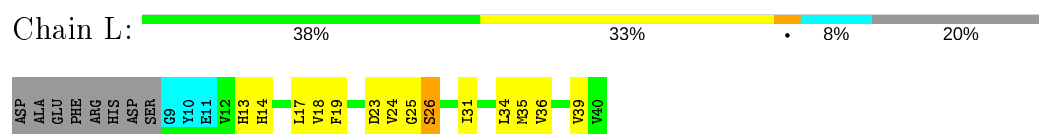
- Molecule 1: Beta-amyloid protein 40



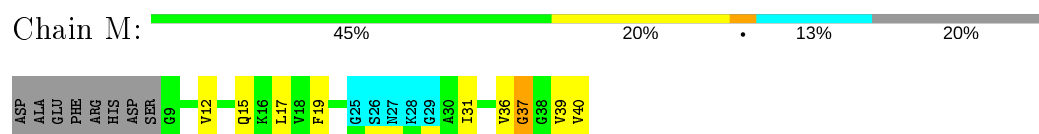
- Molecule 1: Beta-amyloid protein 40



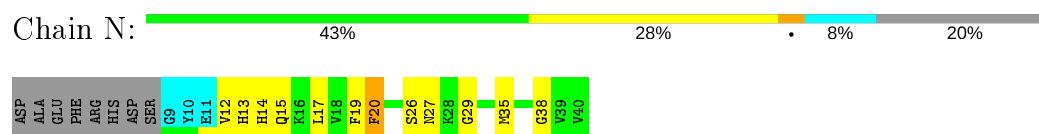
- Molecule 1: Beta-amyloid protein 40



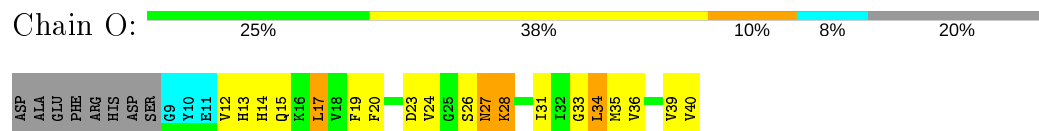
- Molecule 1: Beta-amyloid protein 40



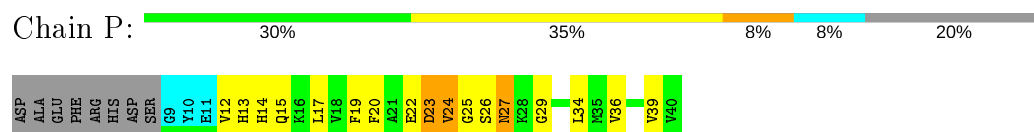
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40





- Molecule 1: Beta-amyloid protein 40



4.2.6 Score per residue for model 6

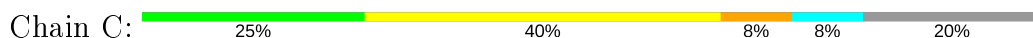
- Molecule 1: Beta-amyloid protein 40



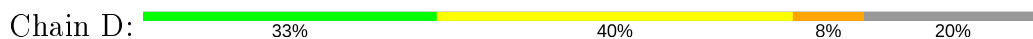
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

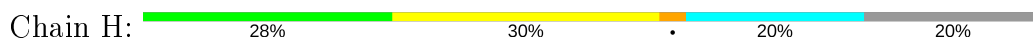




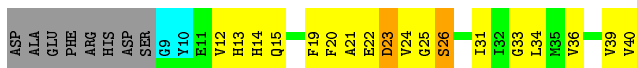
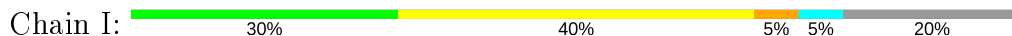
• Molecule 1: Beta-amyloid protein 40



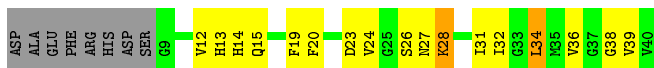
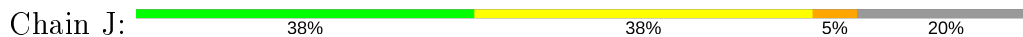
• Molecule 1: Beta-amyloid protein 40



• Molecule 1: Beta-amyloid protein 40



• Molecule 1: Beta-amyloid protein 40



• Molecule 1: Beta-amyloid protein 40



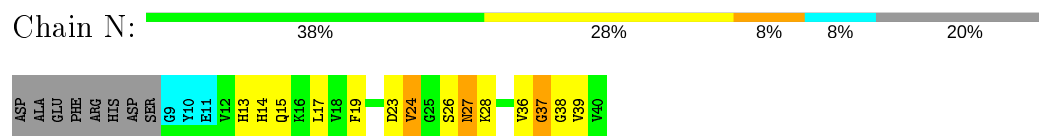
• Molecule 1: Beta-amyloid protein 40



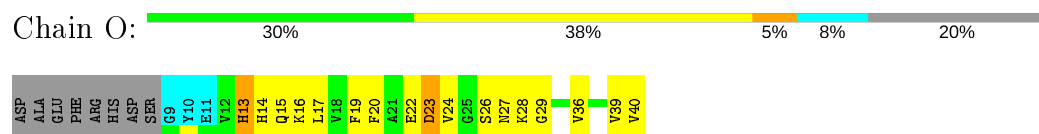
• Molecule 1: Beta-amyloid protein 40



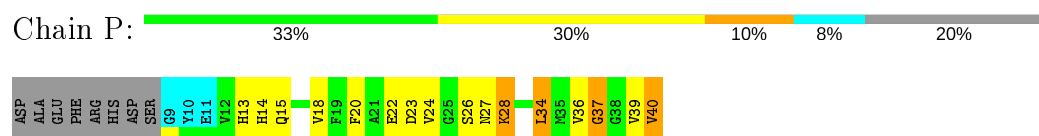
- Molecule 1: Beta-amyloid protein 40



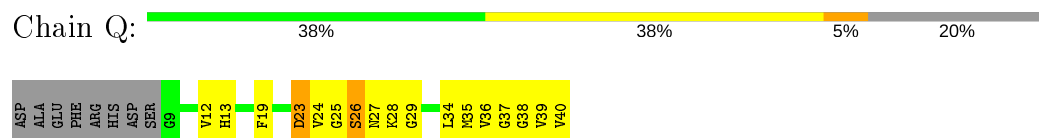
- Molecule 1: Beta-amyloid protein 40



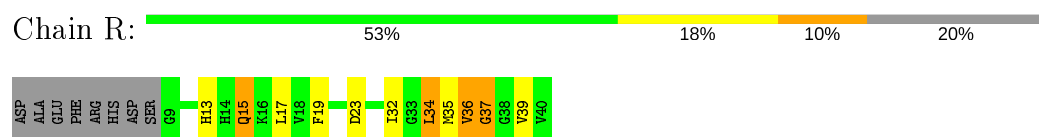
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

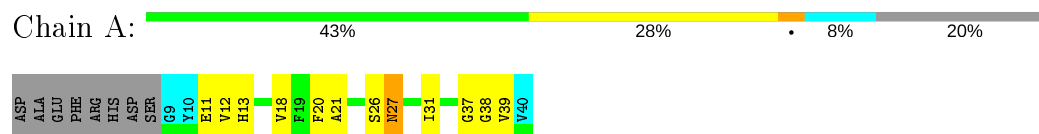


- Molecule 1: Beta-amyloid protein 40

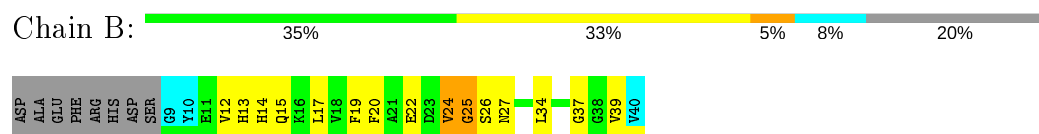


4.2.7 Score per residue for model 7

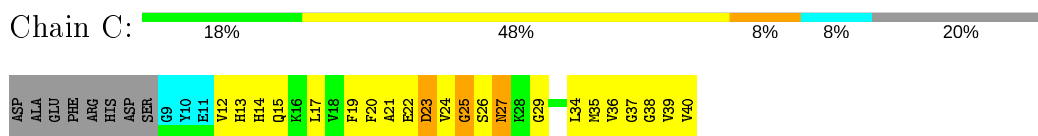
- Molecule 1: Beta-amyloid protein 40



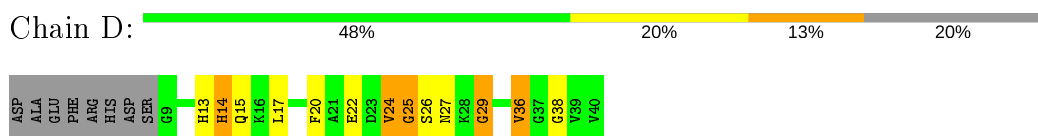
- Molecule 1: Beta-amyloid protein 40



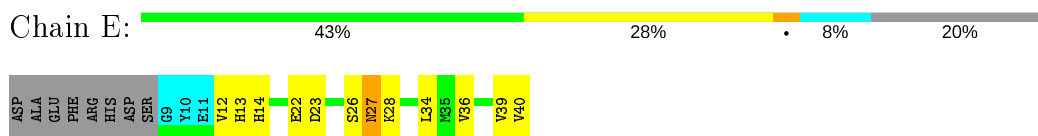
• Molecule 1: Beta-amyloid protein 40



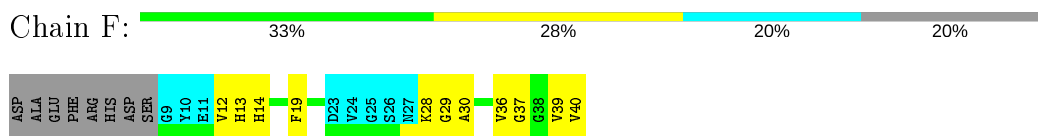
• Molecule 1: Beta-amyloid protein 40



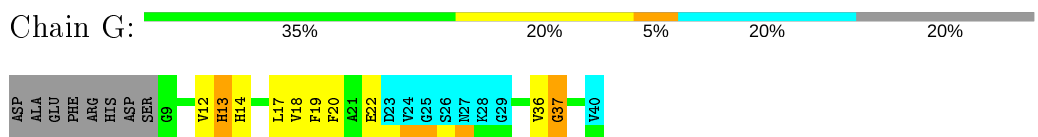
• Molecule 1: Beta-amyloid protein 40



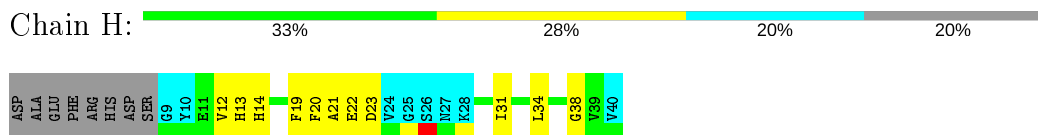
• Molecule 1: Beta-amyloid protein 40



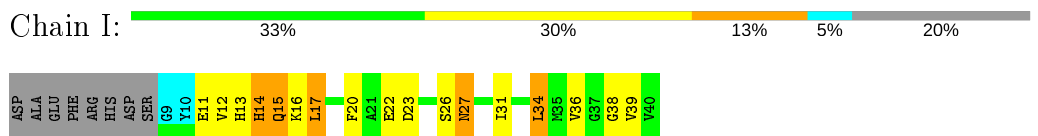
• Molecule 1: Beta-amyloid protein 40



• Molecule 1: Beta-amyloid protein 40



• Molecule 1: Beta-amyloid protein 40



• Molecule 1: Beta-amyloid protein 40





- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



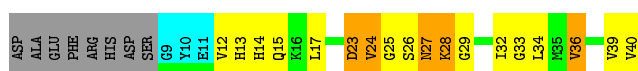
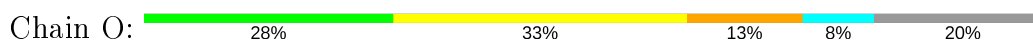
- Molecule 1: Beta-amyloid protein 40



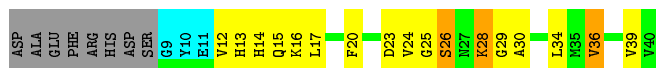
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



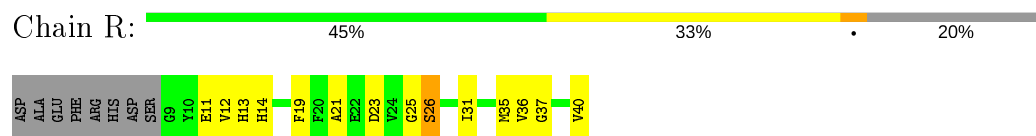
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

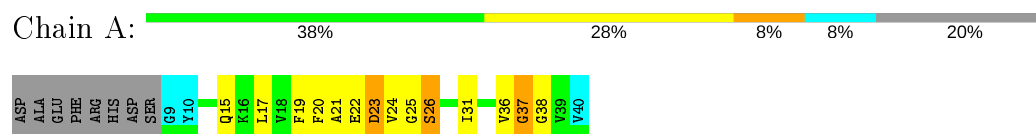


- Molecule 1: Beta-amyloid protein 40

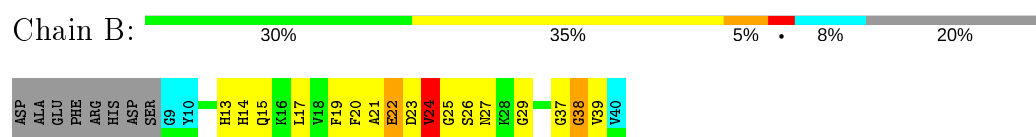


4.2.8 Score per residue for model 8 (medoid)

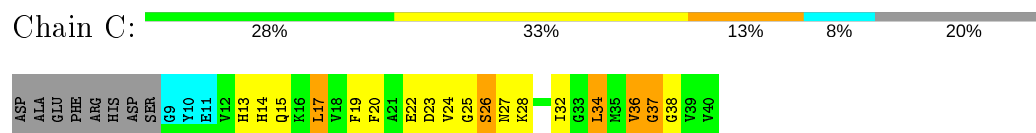
- Molecule 1: Beta-amyloid protein 40



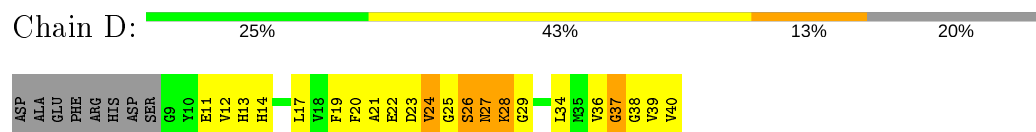
- Molecule 1: Beta-amyloid protein 40



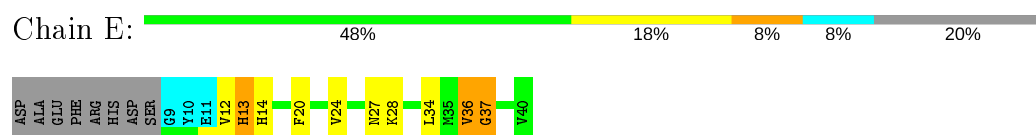
- Molecule 1: Beta-amyloid protein 40



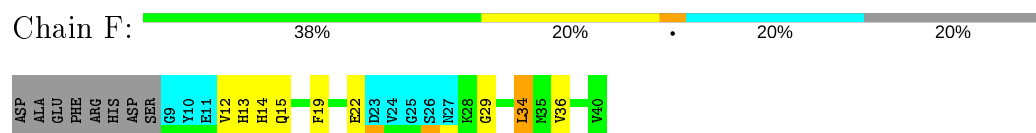
- Molecule 1: Beta-amyloid protein 40



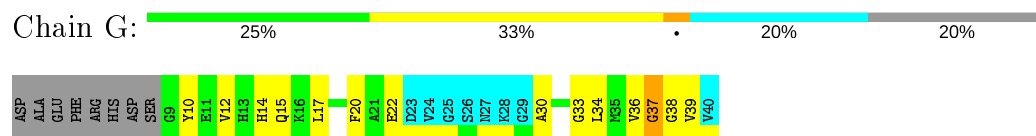
- Molecule 1: Beta-amyloid protein 40



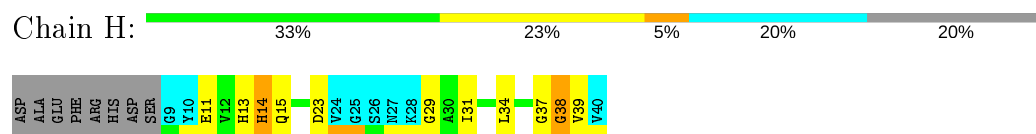
- Molecule 1: Beta-amyloid protein 40



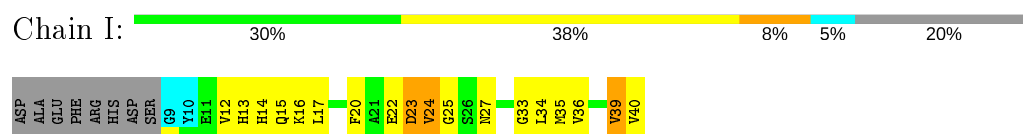
- Molecule 1: Beta-amyloid protein 40



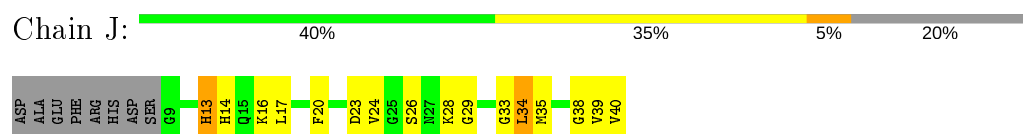
- Molecule 1: Beta-amyloid protein 40



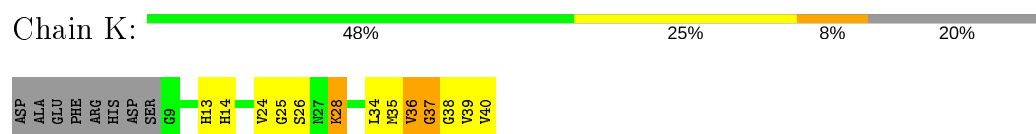
- Molecule 1: Beta-amyloid protein 40



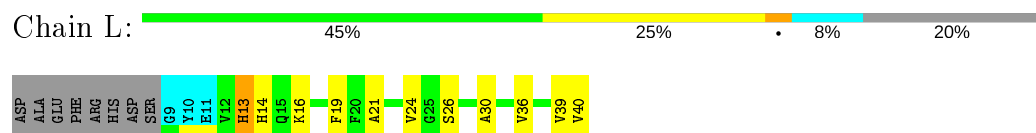
- Molecule 1: Beta-amyloid protein 40



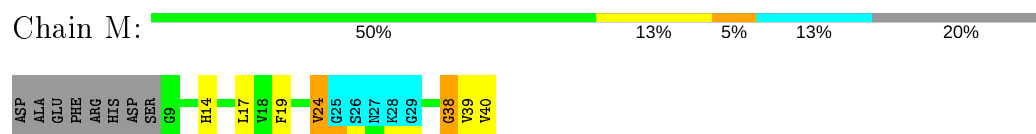
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

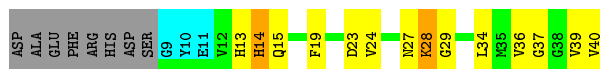




- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

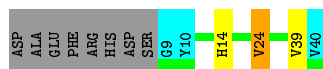


- Molecule 1: Beta-amyloid protein 40

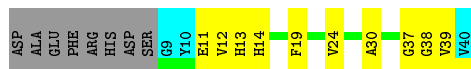


4.2.9 Score per residue for model 9

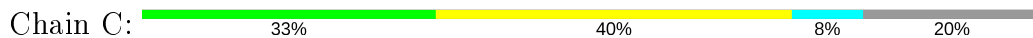
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40





- Molecule 1: Beta-amyloid protein 40



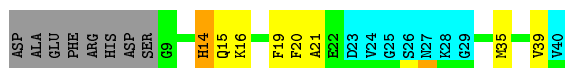
- Molecule 1: Beta-amyloid protein 40



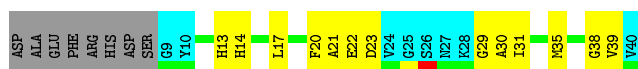
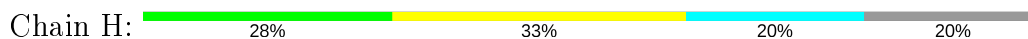
- Molecule 1: Beta-amyloid protein 40



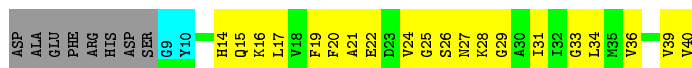
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



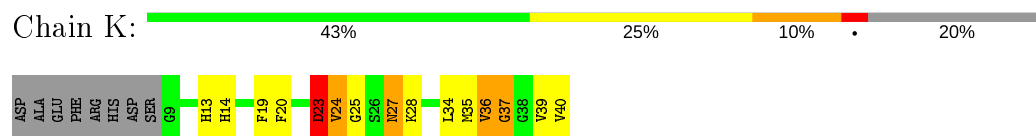
- Molecule 1: Beta-amyloid protein 40



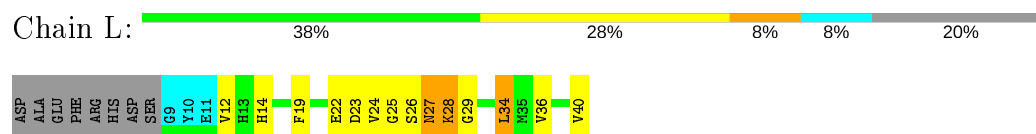
- Molecule 1: Beta-amyloid protein 40



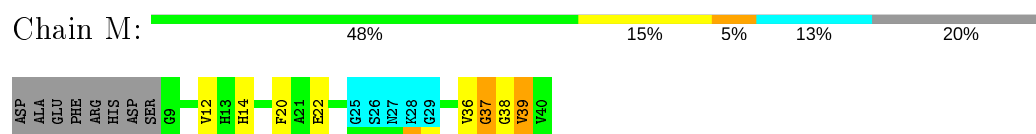
- Molecule 1: Beta-amyloid protein 40



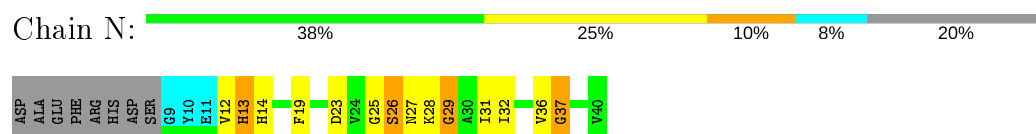
- Molecule 1: Beta-amyloid protein 40



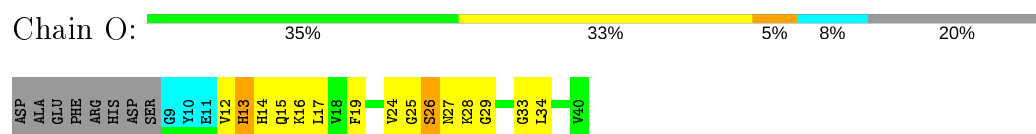
- Molecule 1: Beta-amyloid protein 40



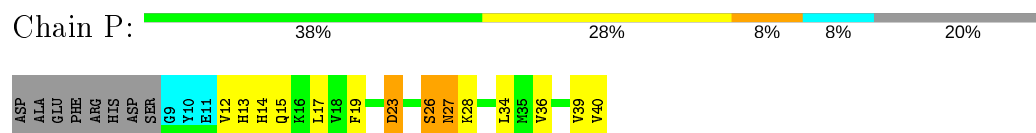
- Molecule 1: Beta-amyloid protein 40



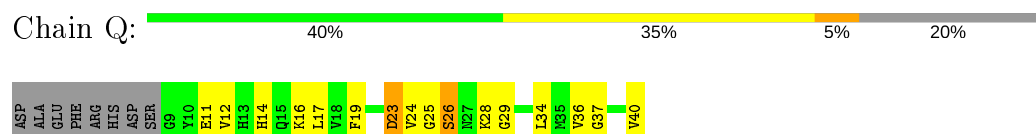
- Molecule 1: Beta-amyloid protein 40



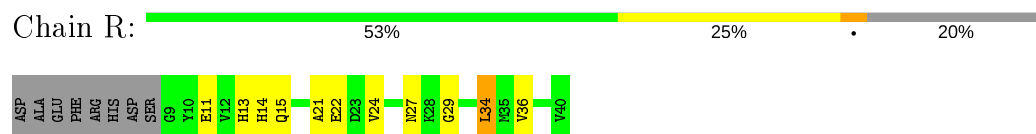
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

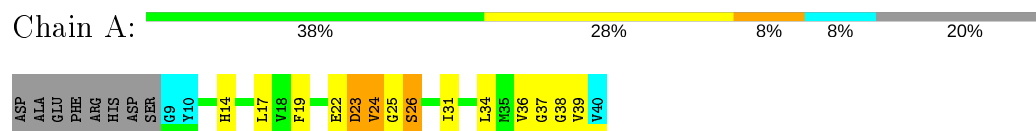


- Molecule 1: Beta-amyloid protein 40

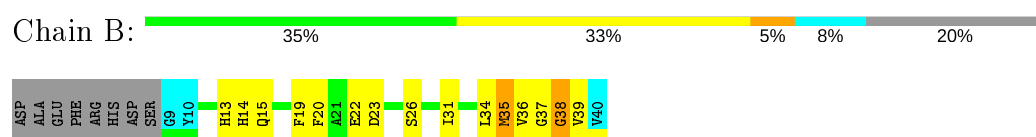


4.2.10 Score per residue for model 10

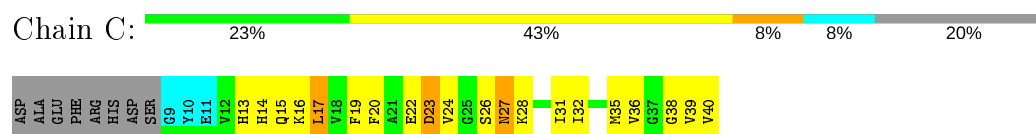
- Molecule 1: Beta-amyloid protein 40



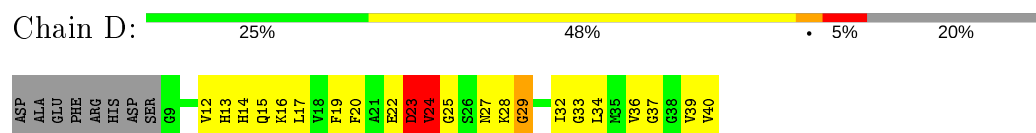
- Molecule 1: Beta-amyloid protein 40



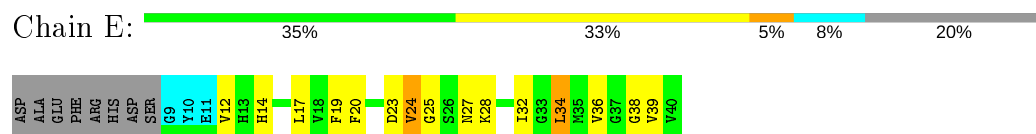
- Molecule 1: Beta-amyloid protein 40



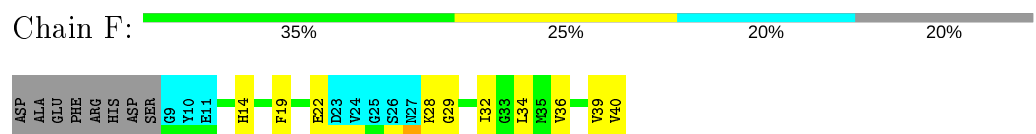
- Molecule 1: Beta-amyloid protein 40



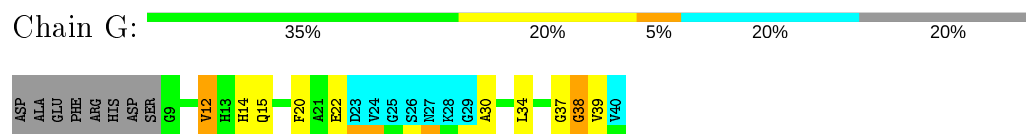
- Molecule 1: Beta-amyloid protein 40



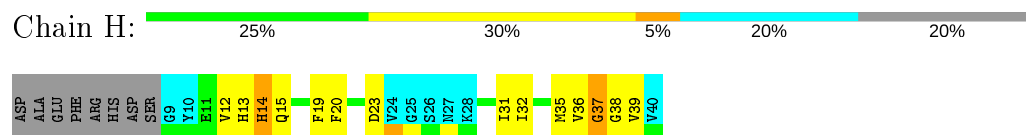
- Molecule 1: Beta-amyloid protein 40



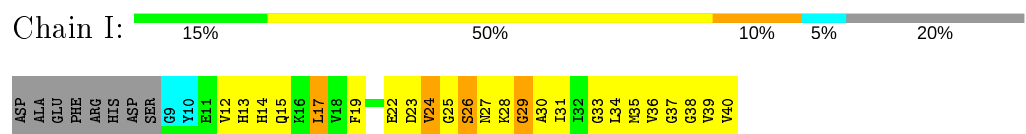
- Molecule 1: Beta-amyloid protein 40



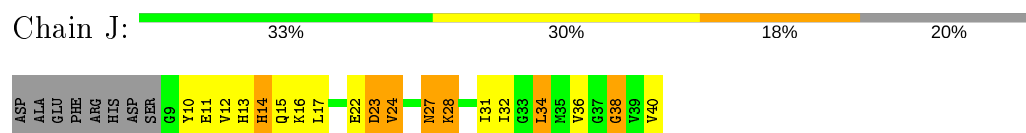
- Molecule 1: Beta-amyloid protein 40



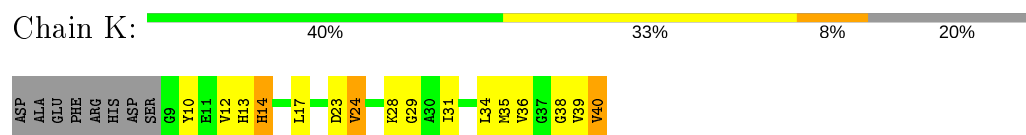
- Molecule 1: Beta-amyloid protein 40



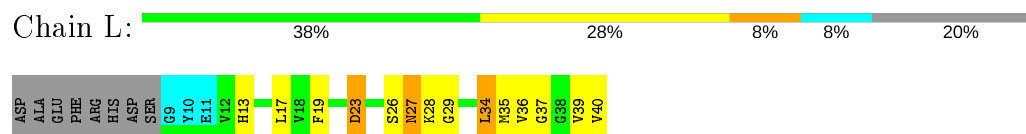
- Molecule 1: Beta-amyloid protein 40



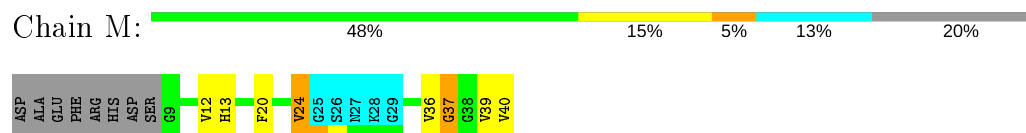
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40

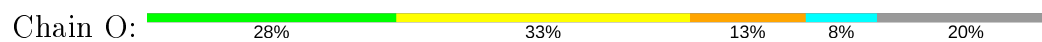


- Molecule 1: Beta-amyloid protein 40

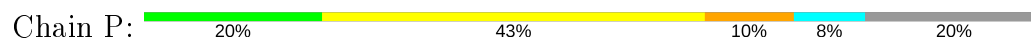




- Molecule 1: Beta-amyloid protein 40



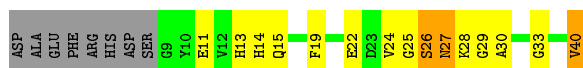
- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



- Molecule 1: Beta-amyloid protein 40



5 Refinement protocol and experimental data overview

The models were refined using the following method: *simulated annealing*.

Of the 40 calculated structures, 10 were deposited, based on the following criterion: *structures with the lowest energy*.

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

| Software name | Classification | Version |
|---------------|--------------------|---------|
| X-PLOR NIH | structure solution | |
| X-PLOR NIH | refinement | |

The following table shows chemical shift validation statistics as aggregates over all chemical shift files. Detailed validation can be found in section 7 of this report.

| | |
|--|--------------|
| Chemical shift file(s) | input_cs.cif |
| Number of chemical shift lists | 1 |
| Total number of shifts | 90 |
| Number of shifts mapped to atoms | 90 |
| Number of unparsed shifts | 0 |
| Number of shifts with mapping errors | 0 |
| Number of shifts with mapping warnings | 0 |
| Assignment completeness (well-defined parts) | 1% |

Note: This is a solid-state NMR structure, where hydrogen atoms are typically not assigned a chemical shift value, which may lead to lower completeness of assignment measure.

No validations of the models with respect to experimental NMR restraints is performed at this time.

6 Model quality i

6.1 Standard geometry i

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

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

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 | 214 | 216 | 216 | 15±5 |
| 1 | B | 214 | 216 | 216 | 24±9 |
| 1 | C | 213 | 219 | 219 | 33±6 |
| 1 | D | 238 | 237 | 236 | 32±8 |
| 1 | E | 213 | 219 | 219 | 24±7 |
| 1 | F | 180 | 192 | 192 | 16±5 |
| 1 | G | 184 | 185 | 184 | 11±3 |
| 1 | H | 180 | 180 | 180 | 20±4 |
| 1 | I | 222 | 225 | 225 | 31±6 |
| 1 | J | 238 | 237 | 236 | 30±6 |
| 1 | K | 238 | 237 | 236 | 28±6 |
| 1 | L | 213 | 219 | 219 | 18±6 |
| 1 | M | 207 | 207 | 206 | 8±2 |
| 1 | N | 213 | 219 | 219 | 19±4 |
| 1 | O | 213 | 219 | 219 | 31±6 |
| 1 | P | 213 | 219 | 219 | 29±5 |
| 1 | Q | 238 | 237 | 236 | 26±4 |
| 1 | R | 238 | 237 | 236 | 16±6 |
| All | All | 38690 | 39200 | 39130 | 2682 |

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 34.

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

| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:O:24:VAL:HG12 | 1:O:25:GLY:H | 0.88 | 1.28 | 7 | 3 |
| 1:Q:34:LEU:HD23 | 1:Q:35:MET:N | 0.88 | 1.84 | 5 | 2 |
| 1:C:17:LEU:HD21 | 1:E:36:VAL:HG11 | 0.87 | 1.47 | 4 | 2 |
| 1:J:28:LYS:O | 1:K:29:GLY:O | 0.86 | 1.93 | 10 | 1 |
| 1:I:24:VAL:HG12 | 1:I:25:GLY:H | 0.86 | 1.29 | 1 | 2 |
| 1:C:17:LEU:HD22 | 1:C:17:LEU:N | 0.86 | 1.84 | 3 | 1 |
| 1:B:23:ASP:O | 1:B:24:VAL:HG13 | 0.86 | 1.71 | 8 | 1 |
| 1:K:24:VAL:HG12 | 1:K:25:GLY:H | 0.86 | 1.27 | 7 | 6 |
| 1:J:34:LEU:HD23 | 1:J:35:MET:N | 0.85 | 1.85 | 5 | 2 |
| 1:I:28:LYS:O | 1:J:29:GLY:O | 0.84 | 1.95 | 2 | 1 |
| 1:G:30:ALA:HB3 | 1:H:29:GLY:O | 0.83 | 1.73 | 5 | 1 |
| 1:B:24:VAL:HG12 | 1:B:25:GLY:H | 0.82 | 1.32 | 2 | 2 |
| 1:Q:39:VAL:HG13 | 1:R:39:VAL:O | 0.81 | 1.75 | 8 | 1 |
| 1:I:33:GLY:O | 1:I:34:LEU:HD23 | 0.81 | 1.76 | 9 | 3 |
| 1:H:15:GLN:HE22 | 1:K:36:VAL:HG13 | 0.80 | 1.36 | 1 | 1 |
| 1:H:38:GLY:O | 1:N:31:ILE:HG21 | 0.80 | 1.76 | 9 | 1 |
| 1:B:39:VAL:O | 1:H:31:ILE:HD13 | 0.79 | 1.77 | 1 | 1 |
| 1:I:17:LEU:HD12 | 1:I:17:LEU:N | 0.79 | 1.91 | 2 | 2 |
| 1:M:17:LEU:HD11 | 1:O:36:VAL:HG11 | 0.79 | 1.54 | 3 | 2 |
| 1:P:17:LEU:N | 1:P:17:LEU:HD12 | 0.79 | 1.93 | 5 | 2 |
| 1:J:33:GLY:C | 1:J:34:LEU:HD12 | 0.78 | 1.99 | 4 | 1 |
| 1:A:17:LEU:HD11 | 1:C:36:VAL:HG11 | 0.78 | 1.56 | 8 | 1 |
| 1:Q:24:VAL:HG12 | 1:Q:25:GLY:H | 0.78 | 1.37 | 8 | 4 |
| 1:P:24:VAL:HG12 | 1:P:25:GLY:H | 0.78 | 1.39 | 10 | 2 |
| 1:I:27:ASN:O | 1:I:29:GLY:N | 0.77 | 2.17 | 5 | 2 |
| 1:K:34:LEU:HD22 | 1:K:36:VAL:HG13 | 0.77 | 1.54 | 3 | 1 |
| 1:L:23:ASP:O | 1:L:24:VAL:HG13 | 0.77 | 1.78 | 1 | 1 |
| 1:C:33:GLY:C | 1:C:34:LEU:HD12 | 0.77 | 1.99 | 1 | 4 |
| 1:F:39:VAL:HG12 | 1:L:31:ILE:HD11 | 0.77 | 1.55 | 6 | 1 |
| 1:I:15:GLN:HE21 | 1:K:36:VAL:HG12 | 0.76 | 1.40 | 7 | 1 |
| 1:C:17:LEU:HD12 | 1:C:17:LEU:N | 0.76 | 1.95 | 8 | 3 |
| 1:J:26:SER:O | 1:J:27:ASN:O | 0.76 | 2.04 | 9 | 1 |
| 1:J:27:ASN:HD21 | 1:J:30:ALA:H | 0.76 | 1.22 | 3 | 1 |
| 1:A:26:SER:O | 1:A:27:ASN:O | 0.76 | 2.04 | 4 | 3 |
| 1:E:31:ILE:HD11 | 1:Q:39:VAL:HG13 | 0.76 | 1.56 | 3 | 1 |
| 1:E:24:VAL:HG12 | 1:E:25:GLY:H | 0.75 | 1.40 | 10 | 2 |
| 1:E:32:ILE:HG23 | 1:E:34:LEU:HD13 | 0.75 | 1.57 | 6 | 2 |
| 1:K:33:GLY:C | 1:K:34:LEU:HD12 | 0.74 | 2.03 | 6 | 3 |
| 1:E:39:VAL:HG23 | 1:K:31:ILE:HD11 | 0.74 | 1.58 | 7 | 2 |
| 1:I:17:LEU:HD11 | 1:K:36:VAL:HG11 | 0.74 | 1.57 | 1 | 4 |
| 1:G:17:LEU:HD11 | 1:I:36:VAL:HG11 | 0.74 | 1.59 | 7 | 2 |
| 1:H:30:ALA:HB3 | 1:I:29:GLY:O | 0.74 | 1.81 | 9 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:O:17:LEU:HD21 | 1:Q:36:VAL:HG21 | 0.73 | 1.59 | 1 | 1 |
| 1:D:36:VAL:CG1 | 1:E:36:VAL:HG12 | 0.73 | 2.13 | 4 | 1 |
| 1:G:21:ALA:HB1 | 1:H:23:ASP:CG | 0.73 | 2.03 | 9 | 1 |
| 1:A:22:GLU:O | 1:B:24:VAL:HG13 | 0.73 | 1.83 | 2 | 1 |
| 1:D:33:GLY:C | 1:D:34:LEU:HD12 | 0.73 | 2.04 | 10 | 2 |
| 1:O:33:GLY:C | 1:O:34:LEU:HD12 | 0.73 | 2.03 | 9 | 2 |
| 1:N:24:VAL:HG22 | 1:N:25:GLY:H | 0.72 | 1.44 | 3 | 1 |
| 1:B:31:ILE:HD13 | 1:N:38:GLY:O | 0.72 | 1.85 | 5 | 1 |
| 1:J:24:VAL:HG12 | 1:K:26:SER:OG | 0.72 | 1.84 | 8 | 1 |
| 1:D:39:VAL:HG13 | 1:J:31:ILE:HD12 | 0.72 | 1.60 | 2 | 1 |
| 1:J:24:VAL:HG12 | 1:J:25:GLY:H | 0.72 | 1.42 | 2 | 3 |
| 1:I:33:GLY:C | 1:I:34:LEU:HD12 | 0.72 | 2.04 | 6 | 4 |
| 1:H:17:LEU:HD12 | 1:H:17:LEU:N | 0.71 | 2.00 | 4 | 1 |
| 1:O:34:LEU:O | 1:P:34:LEU:HD12 | 0.71 | 1.84 | 7 | 4 |
| 1:N:23:ASP:OD2 | 1:O:24:VAL:HG23 | 0.71 | 1.86 | 4 | 1 |
| 1:I:27:ASN:N | 1:J:27:ASN:ND2 | 0.71 | 2.39 | 9 | 1 |
| 1:K:24:VAL:HG12 | 1:K:25:GLY:N | 0.71 | 2.00 | 7 | 5 |
| 1:P:24:VAL:HG13 | 1:P:25:GLY:N | 0.70 | 2.01 | 5 | 1 |
| 1:J:17:LEU:CD1 | 1:L:36:VAL:HG11 | 0.70 | 2.15 | 5 | 1 |
| 1:C:39:VAL:HG23 | 1:I:31:ILE:HD11 | 0.70 | 1.61 | 4 | 2 |
| 1:J:17:LEU:HD21 | 1:L:36:VAL:HG21 | 0.70 | 1.63 | 2 | 3 |
| 1:O:34:LEU:O | 1:P:34:LEU:HD23 | 0.70 | 1.86 | 5 | 2 |
| 1:J:16:LYS:C | 1:J:17:LEU:HD12 | 0.70 | 2.07 | 7 | 4 |
| 1:I:17:LEU:HD11 | 1:K:36:VAL:HG21 | 0.69 | 1.60 | 5 | 1 |
| 1:A:17:LEU:HD11 | 1:C:36:VAL:HG21 | 0.69 | 1.62 | 1 | 1 |
| 1:D:27:ASN:O | 1:D:29:GLY:N | 0.69 | 2.25 | 1 | 2 |
| 1:A:31:ILE:HD13 | 1:M:38:GLY:O | 0.69 | 1.88 | 7 | 1 |
| 1:F:39:VAL:CG1 | 1:L:31:ILE:HD11 | 0.69 | 2.18 | 6 | 1 |
| 1:Q:23:ASP:O | 1:Q:24:VAL:O | 0.69 | 2.11 | 3 | 1 |
| 1:D:17:LEU:HD21 | 1:F:36:VAL:HG21 | 0.69 | 1.65 | 6 | 1 |
| 1:I:12:VAL:HG21 | 1:J:12:VAL:C | 0.69 | 2.07 | 7 | 1 |
| 1:N:23:ASP:H | 1:O:28:LYS:HZ3 | 0.69 | 1.31 | 10 | 1 |
| 1:P:26:SER:O | 1:P:27:ASN:O | 0.69 | 2.11 | 3 | 1 |
| 1:I:15:GLN:OE1 | 1:L:36:VAL:HG23 | 0.69 | 1.88 | 8 | 1 |
| 1:A:17:LEU:CD1 | 1:C:36:VAL:HG21 | 0.68 | 2.18 | 4 | 1 |
| 1:P:27:ASN:O | 1:P:29:GLY:N | 0.68 | 2.26 | 2 | 2 |
| 1:N:30:ALA:O | 1:O:30:ALA:HB1 | 0.68 | 1.87 | 4 | 1 |
| 1:D:38:GLY:O | 1:K:31:ILE:HD12 | 0.68 | 1.88 | 7 | 1 |
| 1:C:38:GLY:O | 1:D:39:VAL:HG21 | 0.68 | 1.89 | 2 | 1 |
| 1:O:24:VAL:HG12 | 1:O:25:GLY:N | 0.68 | 2.04 | 4 | 4 |
| 1:I:27:ASN:ND2 | 1:I:28:LYS:N | 0.68 | 2.42 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:D:14:HIS:ND1 | 1:D:14:HIS:N | 0.68 | 2.40 | 3 | 2 |
| 1:C:17:LEU:CD2 | 1:E:36:VAL:HG11 | 0.68 | 2.18 | 4 | 1 |
| 1:O:16:LYS:O | 1:O:17:LEU:HD23 | 0.68 | 1.89 | 9 | 1 |
| 1:B:19:PHE:CD2 | 1:C:19:PHE:CE1 | 0.68 | 2.82 | 5 | 6 |
| 1:I:39:VAL:HG13 | 1:O:31:ILE:HD11 | 0.68 | 1.66 | 8 | 1 |
| 1:O:17:LEU:HD12 | 1:P:17:LEU:HD22 | 0.68 | 1.65 | 7 | 3 |
| 1:K:34:LEU:HD12 | 1:K:35:MET:N | 0.68 | 2.04 | 9 | 1 |
| 1:F:31:ILE:HD12 | 1:R:39:VAL:HG22 | 0.67 | 1.66 | 1 | 2 |
| 1:J:14:HIS:CD2 | 1:J:15:GLN:N | 0.67 | 2.63 | 2 | 1 |
| 1:O:33:GLY:O | 1:O:34:LEU:HD23 | 0.67 | 1.88 | 3 | 3 |
| 1:N:30:ALA:H | 1:P:28:LYS:NZ | 0.67 | 1.87 | 10 | 1 |
| 1:A:24:VAL:HG12 | 1:A:25:GLY:H | 0.67 | 1.48 | 1 | 4 |
| 1:N:27:ASN:H | 1:O:28:LYS:H | 0.67 | 1.33 | 4 | 1 |
| 1:D:14:HIS:ND1 | 1:D:15:GLN:N | 0.67 | 2.42 | 9 | 2 |
| 1:I:17:LEU:HD12 | 1:J:17:LEU:HD22 | 0.67 | 1.66 | 5 | 3 |
| 1:G:14:HIS:N | 1:G:14:HIS:ND1 | 0.67 | 2.41 | 4 | 1 |
| 1:I:23:ASP:OD1 | 1:J:24:VAL:HG13 | 0.67 | 1.89 | 8 | 1 |
| 1:C:24:VAL:H | 1:D:24:VAL:HG11 | 0.67 | 1.50 | 9 | 1 |
| 1:P:36:VAL:CG2 | 1:Q:36:VAL:HG22 | 0.67 | 2.20 | 4 | 2 |
| 1:I:24:VAL:HG12 | 1:I:25:GLY:N | 0.67 | 2.05 | 1 | 2 |
| 1:L:24:VAL:HG22 | 1:L:25:GLY:H | 0.67 | 1.50 | 5 | 1 |
| 1:B:15:GLN:NE2 | 1:E:36:VAL:HG23 | 0.66 | 2.05 | 7 | 1 |
| 1:B:23:ASP:O | 1:B:24:VAL:CG1 | 0.66 | 2.43 | 8 | 1 |
| 1:J:14:HIS:ND1 | 1:K:14:HIS:N | 0.66 | 2.44 | 3 | 1 |
| 1:J:14:HIS:ND1 | 1:J:15:GLN:N | 0.66 | 2.43 | 4 | 1 |
| 1:P:24:VAL:HG12 | 1:P:25:GLY:N | 0.66 | 2.05 | 4 | 2 |
| 1:C:34:LEU:HD12 | 1:C:35:MET:N | 0.66 | 2.05 | 6 | 1 |
| 1:N:22:GLU:N | 1:O:28:LYS:NZ | 0.66 | 2.44 | 7 | 1 |
| 1:D:27:ASN:ND2 | 1:D:30:ALA:N | 0.66 | 2.44 | 9 | 1 |
| 1:Q:33:GLY:C | 1:Q:34:LEU:HD12 | 0.66 | 2.11 | 10 | 1 |
| 1:D:19:PHE:CE2 | 1:E:19:PHE:CZ | 0.66 | 2.84 | 2 | 2 |
| 1:O:34:LEU:HD23 | 1:O:34:LEU:N | 0.66 | 2.06 | 2 | 1 |
| 1:P:14:HIS:CD2 | 1:P:15:GLN:N | 0.66 | 2.64 | 3 | 3 |
| 1:D:17:LEU:HD11 | 1:F:36:VAL:HG11 | 0.66 | 1.67 | 2 | 2 |
| 1:D:20:PHE:CE2 | 1:E:20:PHE:CD2 | 0.66 | 2.83 | 4 | 1 |
| 1:N:17:LEU:HD11 | 1:P:36:VAL:HG11 | 0.66 | 1.67 | 8 | 2 |
| 1:J:17:LEU:HD22 | 1:K:17:LEU:HD22 | 0.66 | 1.67 | 10 | 1 |
| 1:A:23:ASP:N | 1:B:23:ASP:O | 0.66 | 2.29 | 4 | 1 |
| 1:E:39:VAL:HG21 | 1:J:31:ILE:HD11 | 0.65 | 1.67 | 2 | 1 |
| 1:L:26:SER:O | 1:L:27:ASN:O | 0.65 | 2.14 | 10 | 2 |
| 1:A:24:VAL:HG12 | 1:A:25:GLY:N | 0.65 | 2.06 | 5 | 5 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:C:17:LEU:CD2 | 1:C:17:LEU:N | 0.65 | 2.60 | 3 | 1 |
| 1:C:27:ASN:HD22 | 1:C:27:ASN:H | 0.65 | 1.30 | 4 | 1 |
| 1:R:24:VAL:HG12 | 1:R:25:GLY:H | 0.65 | 1.50 | 3 | 2 |
| 1:P:19:PHE:CD1 | 1:Q:19:PHE:CE2 | 0.65 | 2.85 | 4 | 1 |
| 1:K:14:HIS:CE1 | 1:L:14:HIS:N | 0.65 | 2.65 | 7 | 2 |
| 1:P:32:ILE:HG22 | 1:Q:34:LEU:HD11 | 0.65 | 1.67 | 10 | 1 |
| 1:J:19:PHE:CD1 | 1:K:19:PHE:CE2 | 0.65 | 2.85 | 4 | 1 |
| 1:B:12:VAL:HG21 | 1:C:12:VAL:O | 0.65 | 1.90 | 1 | 1 |
| 1:C:15:GLN:HE22 | 1:F:37:GLY:N | 0.65 | 1.90 | 1 | 3 |
| 1:H:13:HIS:ND1 | 1:H:14:HIS:N | 0.65 | 2.44 | 6 | 2 |
| 1:I:15:GLN:HE22 | 1:L:37:GLY:H | 0.65 | 1.35 | 4 | 1 |
| 1:G:14:HIS:ND1 | 1:H:14:HIS:O | 0.65 | 2.30 | 5 | 2 |
| 1:P:17:LEU:HD21 | 1:R:36:VAL:HG11 | 0.65 | 1.69 | 3 | 1 |
| 1:H:17:LEU:HD21 | 1:J:36:VAL:HG11 | 0.65 | 1.68 | 4 | 3 |
| 1:I:14:HIS:ND1 | 1:J:14:HIS:N | 0.65 | 2.45 | 8 | 3 |
| 1:R:24:VAL:HG12 | 1:R:25:GLY:N | 0.64 | 2.06 | 3 | 2 |
| 1:I:21:ALA:HB3 | 1:K:28:LYS:NZ | 0.64 | 2.07 | 6 | 1 |
| 1:N:23:ASP:N | 1:O:28:LYS:HZ3 | 0.64 | 1.88 | 10 | 1 |
| 1:R:32:ILE:HG22 | 1:R:34:LEU:HD22 | 0.64 | 1.67 | 6 | 1 |
| 1:P:14:HIS:ND1 | 1:Q:14:HIS:CD2 | 0.64 | 2.65 | 9 | 1 |
| 1:B:14:HIS:ND1 | 1:B:15:GLN:N | 0.64 | 2.46 | 6 | 1 |
| 1:A:13:HIS:H | 1:B:13:HIS:CD2 | 0.64 | 2.10 | 7 | 1 |
| 1:B:13:HIS:NE2 | 1:J:28:LYS:NZ | 0.64 | 2.46 | 2 | 1 |
| 1:P:34:LEU:HD23 | 1:P:35:MET:N | 0.64 | 2.08 | 1 | 1 |
| 1:K:34:LEU:HD23 | 1:K:35:MET:N | 0.64 | 2.08 | 3 | 2 |
| 1:I:22:GLU:N | 1:I:28:LYS:NZ | 0.64 | 2.45 | 9 | 1 |
| 1:P:15:GLN:OE1 | 1:Q:17:LEU:HD11 | 0.64 | 1.93 | 9 | 1 |
| 1:K:14:HIS:ND1 | 1:L:13:HIS:CG | 0.64 | 2.66 | 2 | 1 |
| 1:B:17:LEU:HD11 | 1:D:36:VAL:HG11 | 0.64 | 1.70 | 5 | 2 |
| 1:P:13:HIS:N | 1:Q:13:HIS:ND1 | 0.64 | 2.46 | 2 | 1 |
| 1:C:14:HIS:CD2 | 1:C:15:GLN:N | 0.64 | 2.66 | 5 | 2 |
| 1:G:13:HIS:ND1 | 1:G:13:HIS:N | 0.64 | 2.46 | 7 | 1 |
| 1:D:20:PHE:CE1 | 1:E:20:PHE:CD1 | 0.64 | 2.85 | 10 | 2 |
| 1:J:17:LEU:HD12 | 1:J:17:LEU:N | 0.64 | 2.08 | 10 | 2 |
| 1:A:23:ASP:OD1 | 1:B:24:VAL:HG11 | 0.64 | 1.91 | 1 | 1 |
| 1:D:19:PHE:CD2 | 1:E:19:PHE:CE1 | 0.64 | 2.86 | 9 | 3 |
| 1:K:19:PHE:CE1 | 1:L:19:PHE:CE1 | 0.64 | 2.86 | 6 | 1 |
| 1:P:14:HIS:CE1 | 1:Q:14:HIS:CE1 | 0.64 | 2.86 | 9 | 1 |
| 1:B:16:LYS:C | 1:B:17:LEU:HD22 | 0.63 | 2.13 | 3 | 1 |
| 1:G:14:HIS:CE1 | 1:H:14:HIS:CD2 | 0.63 | 2.86 | 5 | 1 |
| 1:P:14:HIS:NE2 | 1:Q:16:LYS:N | 0.63 | 2.46 | 5 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:20:PHE:CE2 | 1:C:20:PHE:CD1 | 0.63 | 2.86 | 1 | 3 |
| 1:N:20:PHE:CZ | 1:O:20:PHE:CD1 | 0.63 | 2.86 | 1 | 1 |
| 1:N:14:HIS:ND1 | 1:O:14:HIS:N | 0.63 | 2.46 | 8 | 2 |
| 1:A:20:PHE:CZ | 1:B:20:PHE:CD1 | 0.63 | 2.86 | 2 | 1 |
| 1:C:17:LEU:HD11 | 1:E:36:VAL:HG11 | 0.63 | 1.70 | 2 | 3 |
| 1:G:14:HIS:CD2 | 1:G:16:LYS:NZ | 0.63 | 2.66 | 9 | 1 |
| 1:P:24:VAL:HG13 | 1:P:25:GLY:H | 0.63 | 1.52 | 5 | 1 |
| 1:A:27:ASN:ND2 | 1:B:27:ASN:ND2 | 0.63 | 2.46 | 7 | 1 |
| 1:J:20:PHE:CE2 | 1:K:20:PHE:CD1 | 0.63 | 2.86 | 5 | 4 |
| 1:K:14:HIS:ND1 | 1:L:13:HIS:CE1 | 0.63 | 2.67 | 2 | 1 |
| 1:J:27:ASN:OD1 | 1:J:30:ALA:N | 0.63 | 2.31 | 3 | 1 |
| 1:E:21:ALA:O | 1:F:21:ALA:HB3 | 0.63 | 1.93 | 6 | 1 |
| 1:J:26:SER:N | 1:K:26:SER:OG | 0.63 | 2.31 | 8 | 1 |
| 1:I:27:ASN:OD1 | 1:I:28:LYS:N | 0.63 | 2.30 | 10 | 2 |
| 1:O:14:HIS:ND1 | 1:P:14:HIS:CE1 | 0.63 | 2.67 | 6 | 1 |
| 1:N:20:PHE:CZ | 1:O:20:PHE:CG | 0.63 | 2.87 | 5 | 3 |
| 1:R:34:LEU:HD23 | 1:R:34:LEU:N | 0.63 | 2.09 | 2 | 3 |
| 1:O:36:VAL:O | 1:O:36:VAL:HG13 | 0.63 | 1.93 | 6 | 1 |
| 1:N:13:HIS:CD2 | 1:N:13:HIS:H | 0.63 | 2.09 | 1 | 1 |
| 1:K:14:HIS:CE1 | 1:L:13:HIS:CG | 0.63 | 2.87 | 2 | 1 |
| 1:J:24:VAL:HG12 | 1:J:25:GLY:N | 0.63 | 2.08 | 9 | 3 |
| 1:Q:34:LEU:HD22 | 1:Q:36:VAL:HG22 | 0.63 | 1.70 | 3 | 1 |
| 1:H:14:HIS:ND1 | 1:H:14:HIS:N | 0.63 | 2.47 | 5 | 2 |
| 1:O:12:VAL:HG12 | 1:O:13:HIS:N | 0.63 | 2.09 | 7 | 2 |
| 1:O:12:VAL:HG12 | 1:O:13:HIS:H | 0.63 | 1.53 | 7 | 2 |
| 1:E:14:HIS:CE1 | 1:F:14:HIS:N | 0.62 | 2.67 | 1 | 3 |
| 1:B:24:VAL:HG12 | 1:B:25:GLY:N | 0.62 | 2.08 | 2 | 2 |
| 1:N:19:PHE:CE1 | 1:O:19:PHE:CE1 | 0.62 | 2.87 | 10 | 1 |
| 1:I:20:PHE:CE2 | 1:J:20:PHE:CD1 | 0.62 | 2.87 | 6 | 3 |
| 1:K:24:VAL:CG1 | 1:K:25:GLY:H | 0.62 | 2.05 | 7 | 2 |
| 1:A:12:VAL:CA | 1:B:13:HIS:HD1 | 0.62 | 2.07 | 2 | 1 |
| 1:P:23:ASP:O | 1:P:24:VAL:O | 0.62 | 2.17 | 2 | 2 |
| 1:O:14:HIS:CD2 | 1:P:14:HIS:H | 0.62 | 2.12 | 10 | 1 |
| 1:O:20:PHE:CZ | 1:P:20:PHE:CD1 | 0.62 | 2.87 | 1 | 3 |
| 1:N:13:HIS:CD2 | 1:N:13:HIS:N | 0.62 | 2.67 | 9 | 2 |
| 1:D:32:ILE:HG23 | 1:D:34:LEU:HD13 | 0.62 | 1.69 | 3 | 2 |
| 1:I:28:LYS:NZ | 1:J:28:LYS:NZ | 0.62 | 2.48 | 5 | 1 |
| 1:A:13:HIS:N | 1:B:13:HIS:CD2 | 0.62 | 2.67 | 7 | 1 |
| 1:D:12:VAL:HG12 | 1:D:13:HIS:N | 0.62 | 2.08 | 10 | 1 |
| 1:D:12:VAL:HG12 | 1:D:13:HIS:H | 0.62 | 1.54 | 10 | 1 |
| 1:P:39:VAL:HG12 | 1:P:40:VAL:N | 0.62 | 2.10 | 10 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:H:15:GLN:NE2 | 1:J:36:VAL:HG12 | 0.62 | 2.09 | 3 | 1 |
| 1:G:14:HIS:ND1 | 1:H:14:HIS:CE1 | 0.62 | 2.68 | 5 | 1 |
| 1:L:24:VAL:HG22 | 1:L:25:GLY:N | 0.62 | 2.09 | 5 | 1 |
| 1:L:24:VAL:HG12 | 1:L:25:GLY:N | 0.62 | 2.09 | 9 | 1 |
| 1:F:31:ILE:HD11 | 1:R:39:VAL:HG23 | 0.62 | 1.72 | 6 | 1 |
| 1:B:14:HIS:CD2 | 1:B:15:GLN:N | 0.62 | 2.68 | 10 | 2 |
| 1:O:16:LYS:C | 1:O:17:LEU:HD23 | 0.62 | 2.15 | 9 | 1 |
| 1:I:27:ASN:ND2 | 1:J:29:GLY:O | 0.62 | 2.33 | 1 | 1 |
| 1:E:33:GLY:C | 1:E:34:LEU:HD12 | 0.62 | 2.15 | 6 | 2 |
| 1:Q:24:VAL:HG12 | 1:Q:25:GLY:N | 0.62 | 2.09 | 1 | 6 |
| 1:E:14:HIS:CE1 | 1:F:14:HIS:H | 0.62 | 2.13 | 7 | 3 |
| 1:J:32:ILE:HG22 | 1:K:34:LEU:HD11 | 0.62 | 1.71 | 4 | 3 |
| 1:E:19:PHE:CD1 | 1:F:19:PHE:CE2 | 0.62 | 2.87 | 2 | 1 |
| 1:H:20:PHE:CZ | 1:I:20:PHE:CD1 | 0.62 | 2.87 | 3 | 2 |
| 1:R:27:ASN:O | 1:R:29:GLY:N | 0.62 | 2.31 | 4 | 2 |
| 1:E:20:PHE:CE2 | 1:F:20:PHE:CD1 | 0.62 | 2.87 | 3 | 1 |
| 1:K:15:GLN:NE2 | 1:K:15:GLN:N | 0.62 | 2.48 | 7 | 1 |
| 1:H:15:GLN:NE2 | 1:I:15:GLN:NE2 | 0.61 | 2.48 | 6 | 1 |
| 1:H:13:HIS:NE2 | 1:Q:28:LYS:NZ | 0.61 | 2.47 | 3 | 1 |
| 1:Q:34:LEU:HD23 | 1:Q:34:LEU:N | 0.61 | 2.10 | 7 | 1 |
| 1:P:14:HIS:ND1 | 1:P:15:GLN:N | 0.61 | 2.47 | 8 | 1 |
| 1:K:36:VAL:CG1 | 1:L:36:VAL:HG12 | 0.61 | 2.25 | 5 | 1 |
| 1:A:14:HIS:HD1 | 1:B:14:HIS:H | 0.61 | 1.36 | 6 | 1 |
| 1:I:17:LEU:N | 1:I:17:LEU:HD12 | 0.61 | 2.10 | 8 | 1 |
| 1:K:36:VAL:HG12 | 1:L:34:LEU:HD11 | 0.61 | 1.73 | 5 | 1 |
| 1:C:34:LEU:N | 1:D:34:LEU:HD23 | 0.61 | 2.10 | 8 | 1 |
| 1:K:28:LYS:O | 1:L:30:ALA:HB2 | 0.61 | 1.94 | 8 | 1 |
| 1:Q:14:HIS:CG | 1:R:14:HIS:O | 0.61 | 2.54 | 7 | 3 |
| 1:A:21:ALA:HB1 | 1:B:24:VAL:HG21 | 0.61 | 1.70 | 2 | 1 |
| 1:D:14:HIS:CD2 | 1:D:15:GLN:O | 0.61 | 2.54 | 2 | 1 |
| 1:A:14:HIS:CE1 | 1:A:16:LYS:HZ1 | 0.61 | 2.13 | 5 | 1 |
| 1:O:20:PHE:CE1 | 1:P:20:PHE:CD1 | 0.61 | 2.88 | 6 | 1 |
| 1:C:14:HIS:NE2 | 1:D:16:LYS:N | 0.61 | 2.47 | 10 | 1 |
| 1:O:20:PHE:CZ | 1:P:20:PHE:CE1 | 0.61 | 2.88 | 10 | 1 |
| 1:C:23:ASP:OD1 | 1:D:25:GLY:N | 0.61 | 2.34 | 1 | 1 |
| 1:O:25:GLY:O | 1:O:26:SER:CB | 0.61 | 2.48 | 4 | 3 |
| 1:F:34:LEU:HD23 | 1:F:34:LEU:C | 0.61 | 2.16 | 3 | 1 |
| 1:O:17:LEU:HD11 | 1:Q:36:VAL:HG11 | 0.61 | 1.73 | 7 | 3 |
| 1:I:25:GLY:O | 1:I:26:SER:CB | 0.61 | 2.49 | 10 | 3 |
| 1:I:24:VAL:HG13 | 1:I:25:GLY:N | 0.61 | 2.10 | 8 | 1 |
| 1:H:14:HIS:N | 1:H:14:HIS:ND1 | 0.61 | 2.48 | 10 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:E:14:HIS:CD2 | 1:F:14:HIS:H | 0.61 | 2.14 | 2 | 2 |
| 1:D:19:PHE:CD2 | 1:E:19:PHE:CZ | 0.61 | 2.89 | 9 | 3 |
| 1:C:24:VAL:HG22 | 1:D:24:VAL:HG21 | 0.61 | 1.73 | 4 | 1 |
| 1:P:34:LEU:O | 1:Q:34:LEU:HD12 | 0.61 | 1.95 | 4 | 2 |
| 1:H:15:GLN:NE2 | 1:K:36:VAL:HG13 | 0.61 | 2.08 | 1 | 1 |
| 1:G:14:HIS:CD2 | 1:G:15:GLN:O | 0.61 | 2.53 | 5 | 1 |
| 1:I:23:ASP:OD2 | 1:J:24:VAL:N | 0.61 | 2.34 | 6 | 1 |
| 1:J:16:LYS:O | 1:J:17:LEU:HD23 | 0.60 | 1.96 | 5 | 1 |
| 1:D:14:HIS:ND1 | 1:E:14:HIS:O | 0.60 | 2.34 | 2 | 3 |
| 1:B:15:GLN:HE22 | 1:D:37:GLY:N | 0.60 | 1.92 | 2 | 2 |
| 1:C:28:LYS:N | 1:D:28:LYS:O | 0.60 | 2.34 | 3 | 1 |
| 1:A:14:HIS:NE2 | 1:A:16:LYS:NZ | 0.60 | 2.45 | 5 | 1 |
| 1:H:14:HIS:CG | 1:H:15:GLN:N | 0.60 | 2.69 | 3 | 1 |
| 1:J:27:ASN:HD21 | 1:J:30:ALA:N | 0.60 | 1.94 | 3 | 1 |
| 1:C:24:VAL:HG12 | 1:C:25:GLY:N | 0.60 | 2.11 | 5 | 3 |
| 1:K:19:PHE:CD1 | 1:L:19:PHE:CE1 | 0.60 | 2.90 | 6 | 1 |
| 1:H:38:GLY:O | 1:N:31:ILE:HD13 | 0.60 | 1.96 | 9 | 1 |
| 1:F:39:VAL:HG23 | 1:L:31:ILE:HD12 | 0.60 | 1.74 | 2 | 1 |
| 1:R:24:VAL:HG22 | 1:R:25:GLY:N | 0.60 | 2.10 | 2 | 1 |
| 1:I:21:ALA:HB3 | 1:K:28:LYS:HZ1 | 0.60 | 1.56 | 6 | 1 |
| 1:O:15:GLN:HE22 | 1:Q:36:VAL:CG2 | 0.60 | 2.09 | 8 | 1 |
| 1:D:27:ASN:ND2 | 1:D:29:GLY:H | 0.60 | 1.93 | 9 | 1 |
| 1:D:20:PHE:CZ | 1:E:20:PHE:CD1 | 0.60 | 2.89 | 10 | 2 |
| 1:A:18:VAL:HG23 | 1:A:18:VAL:O | 0.60 | 1.95 | 6 | 2 |
| 1:D:12:VAL:CG1 | 1:D:14:HIS:NE2 | 0.60 | 2.65 | 4 | 1 |
| 1:P:17:LEU:N | 1:P:17:LEU:CD1 | 0.60 | 2.65 | 5 | 1 |
| 1:F:34:LEU:HD21 | 1:F:36:VAL:CG2 | 0.60 | 2.27 | 2 | 1 |
| 1:P:23:ASP:N | 1:Q:22:GLU:O | 0.60 | 2.34 | 2 | 1 |
| 1:C:15:GLN:HE21 | 1:D:15:GLN:NE2 | 0.60 | 1.95 | 6 | 1 |
| 1:K:23:ASP:OD1 | 1:L:27:ASN:N | 0.60 | 2.35 | 1 | 1 |
| 1:Q:36:VAL:O | 1:Q:36:VAL:HG13 | 0.60 | 1.97 | 1 | 1 |
| 1:C:32:ILE:HG22 | 1:D:34:LEU:HD11 | 0.60 | 1.73 | 3 | 2 |
| 1:I:12:VAL:CG2 | 1:I:14:HIS:NE2 | 0.60 | 2.65 | 8 | 1 |
| 1:F:36:VAL:O | 1:F:36:VAL:HG23 | 0.60 | 1.97 | 10 | 1 |
| 1:B:20:PHE:CZ | 1:C:20:PHE:CD1 | 0.60 | 2.90 | 7 | 5 |
| 1:B:20:PHE:CZ | 1:C:20:PHE:CE1 | 0.60 | 2.90 | 7 | 2 |
| 1:I:14:HIS:ND1 | 1:J:14:HIS:O | 0.60 | 2.34 | 5 | 1 |
| 1:N:14:HIS:CE1 | 1:O:14:HIS:N | 0.60 | 2.70 | 8 | 1 |
| 1:R:24:VAL:HG22 | 1:R:25:GLY:H | 0.59 | 1.55 | 2 | 1 |
| 1:F:34:LEU:O | 1:F:34:LEU:HD23 | 0.59 | 1.97 | 3 | 2 |
| 1:H:14:HIS:ND1 | 1:I:14:HIS:N | 0.59 | 2.50 | 4 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:P:27:ASN:O | 1:Q:28:LYS:O | 0.59 | 2.20 | 5 | 1 |
| 1:J:19:PHE:CD2 | 1:K:19:PHE:CE2 | 0.59 | 2.90 | 5 | 3 |
| 1:D:20:PHE:CE2 | 1:E:20:PHE:CD1 | 0.59 | 2.90 | 8 | 3 |
| 1:M:15:GLN:NE2 | 1:O:36:VAL:HG12 | 0.59 | 2.12 | 2 | 1 |
| 1:O:27:ASN:N | 1:P:27:ASN:ND2 | 0.59 | 2.49 | 2 | 1 |
| 1:D:13:HIS:CD2 | 1:D:14:HIS:N | 0.59 | 2.70 | 5 | 1 |
| 1:C:12:VAL:CG2 | 1:C:14:HIS:NE2 | 0.59 | 2.65 | 1 | 1 |
| 1:N:21:ALA:CA | 1:O:28:LYS:HZ3 | 0.59 | 2.11 | 7 | 1 |
| 1:J:19:PHE:CE1 | 1:K:19:PHE:CZ | 0.59 | 2.90 | 4 | 1 |
| 1:H:15:GLN:HE22 | 1:K:37:GLY:H | 0.59 | 1.40 | 5 | 1 |
| 1:D:19:PHE:CD2 | 1:E:19:PHE:CE2 | 0.59 | 2.90 | 2 | 1 |
| 1:E:24:VAL:HG12 | 1:E:25:GLY:N | 0.59 | 2.11 | 2 | 1 |
| 1:E:31:ILE:HD11 | 1:Q:39:VAL:HG11 | 0.59 | 1.75 | 6 | 1 |
| 1:A:20:PHE:CE1 | 1:B:20:PHE:CD1 | 0.59 | 2.90 | 2 | 1 |
| 1:P:14:HIS:CE1 | 1:Q:14:HIS:H | 0.59 | 2.15 | 2 | 2 |
| 1:H:14:HIS:CG | 1:H:15:GLN:H | 0.59 | 2.16 | 3 | 1 |
| 1:A:36:VAL:CG2 | 1:B:37:GLY:H | 0.59 | 2.10 | 8 | 1 |
| 1:G:14:HIS:ND1 | 1:H:14:HIS:ND1 | 0.59 | 2.51 | 5 | 1 |
| 1:M:14:HIS:CG | 1:M:15:GLN:N | 0.59 | 2.70 | 6 | 1 |
| 1:M:15:GLN:NE2 | 1:N:15:GLN:NE2 | 0.59 | 2.50 | 7 | 1 |
| 1:O:34:LEU:CD2 | 1:O:34:LEU:N | 0.59 | 2.66 | 2 | 1 |
| 1:A:14:HIS:N | 1:A:14:HIS:ND1 | 0.59 | 2.48 | 3 | 1 |
| 1:Q:26:SER:OG | 1:Q:27:ASN:N | 0.59 | 2.36 | 10 | 1 |
| 1:J:14:HIS:ND1 | 1:J:15:GLN:O | 0.58 | 2.36 | 4 | 1 |
| 1:D:24:VAL:HG12 | 1:D:25:GLY:H | 0.58 | 1.57 | 9 | 1 |
| 1:G:12:VAL:HG23 | 1:H:12:VAL:O | 0.58 | 1.98 | 10 | 1 |
| 1:K:14:HIS:CG | 1:L:13:HIS:ND1 | 0.58 | 2.72 | 2 | 1 |
| 1:N:27:ASN:H | 1:O:28:LYS:N | 0.58 | 1.96 | 4 | 1 |
| 1:J:34:LEU:HD23 | 1:J:35:MET:H | 0.58 | 1.58 | 5 | 1 |
| 1:K:14:HIS:HD1 | 1:L:13:HIS:CE1 | 0.58 | 2.16 | 2 | 1 |
| 1:N:38:GLY:O | 1:O:38:GLY:N | 0.58 | 2.36 | 3 | 1 |
| 1:E:31:ILE:HD11 | 1:Q:39:VAL:CB | 0.58 | 2.28 | 6 | 1 |
| 1:I:31:ILE:HD13 | 1:J:31:ILE:CG2 | 0.58 | 2.28 | 7 | 1 |
| 1:J:25:GLY:O | 1:J:26:SER:CB | 0.58 | 2.51 | 7 | 1 |
| 1:G:15:GLN:HE21 | 1:G:17:LEU:CD1 | 0.58 | 2.11 | 8 | 1 |
| 1:N:15:GLN:HE22 | 1:P:37:GLY:CA | 0.58 | 2.11 | 8 | 1 |
| 1:C:14:HIS:ND1 | 1:D:14:HIS:N | 0.58 | 2.51 | 9 | 1 |
| 1:N:24:VAL:HG22 | 1:N:25:GLY:N | 0.58 | 2.12 | 3 | 1 |
| 1:G:33:GLY:O | 1:G:34:LEU:HD22 | 0.58 | 1.98 | 8 | 1 |
| 1:I:23:ASP:O | 1:J:23:ASP:O | 0.58 | 2.22 | 8 | 2 |
| 1:H:39:VAL:O | 1:I:39:VAL:HG11 | 0.58 | 1.98 | 3 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:J:27:ASN:ND2 | 1:J:30:ALA:H | 0.58 | 1.95 | 3 | 1 |
| 1:I:34:LEU:O | 1:J:34:LEU:HD23 | 0.58 | 1.98 | 6 | 2 |
| 1:M:14:HIS:ND1 | 1:N:14:HIS:O | 0.58 | 2.37 | 6 | 1 |
| 1:B:23:ASP:O | 1:B:24:VAL:HG22 | 0.58 | 1.97 | 8 | 1 |
| 1:C:15:GLN:HE22 | 1:F:37:GLY:H | 0.58 | 1.38 | 1 | 3 |
| 1:J:14:HIS:ND1 | 1:K:14:HIS:O | 0.58 | 2.36 | 5 | 2 |
| 1:E:31:ILE:HD11 | 1:Q:39:VAL:CG1 | 0.58 | 2.29 | 6 | 2 |
| 1:C:15:GLN:NE2 | 1:D:15:GLN:NE2 | 0.58 | 2.51 | 6 | 1 |
| 1:R:22:GLU:O | 1:R:24:VAL:N | 0.58 | 2.36 | 8 | 2 |
| 1:K:25:GLY:O | 1:K:26:SER:CB | 0.58 | 2.51 | 1 | 4 |
| 1:C:16:LYS:C | 1:C:17:LEU:HD12 | 0.58 | 2.19 | 4 | 3 |
| 1:E:14:HIS:NE2 | 1:F:12:VAL:O | 0.58 | 2.37 | 4 | 2 |
| 1:M:15:GLN:HE21 | 1:N:15:GLN:HE21 | 0.58 | 1.41 | 7 | 1 |
| 1:L:14:HIS:CE1 | 1:L:16:LYS:NZ | 0.58 | 2.72 | 8 | 1 |
| 1:P:27:ASN:OD1 | 1:P:28:LYS:N | 0.58 | 2.37 | 8 | 1 |
| 1:R:34:LEU:N | 1:R:34:LEU:CD2 | 0.58 | 2.67 | 9 | 1 |
| 1:O:28:LYS:O | 1:P:29:GLY:O | 0.58 | 2.22 | 7 | 3 |
| 1:E:29:GLY:O | 1:Q:39:VAL:HG13 | 0.58 | 1.98 | 2 | 1 |
| 1:D:39:VAL:HG23 | 1:J:31:ILE:HD11 | 0.58 | 1.74 | 4 | 2 |
| 1:N:14:HIS:CG | 1:N:15:GLN:N | 0.58 | 2.72 | 4 | 1 |
| 1:E:13:HIS:ND1 | 1:F:13:HIS:CE1 | 0.58 | 2.72 | 7 | 1 |
| 1:K:13:HIS:ND1 | 1:K:14:HIS:N | 0.58 | 2.52 | 10 | 1 |
| 1:J:15:GLN:NE2 | 1:L:37:GLY:CA | 0.58 | 2.67 | 10 | 1 |
| 1:H:20:PHE:CE1 | 1:I:20:PHE:CD1 | 0.58 | 2.91 | 9 | 2 |
| 1:B:23:ASP:C | 1:B:24:VAL:HG22 | 0.58 | 2.20 | 8 | 1 |
| 1:P:20:PHE:CE2 | 1:Q:20:PHE:CD1 | 0.57 | 2.92 | 2 | 2 |
| 1:K:15:GLN:HE21 | 1:K:15:GLN:N | 0.57 | 1.97 | 7 | 1 |
| 1:Q:18:VAL:CG2 | 1:Q:20:PHE:CZ | 0.57 | 2.87 | 1 | 1 |
| 1:C:15:GLN:NE2 | 1:F:37:GLY:CA | 0.57 | 2.67 | 3 | 1 |
| 1:O:27:ASN:OD1 | 1:O:28:LYS:N | 0.57 | 2.37 | 3 | 3 |
| 1:G:12:VAL:O | 1:G:12:VAL:HG23 | 0.57 | 1.98 | 6 | 2 |
| 1:B:17:LEU:HD12 | 1:C:17:LEU:CD2 | 0.57 | 2.30 | 5 | 1 |
| 1:D:11:GLU:O | 1:E:12:VAL:HG22 | 0.57 | 1.98 | 9 | 1 |
| 1:P:14:HIS:CE1 | 1:Q:14:HIS:CG | 0.57 | 2.92 | 9 | 1 |
| 1:G:13:HIS:O | 1:H:13:HIS:CD2 | 0.57 | 2.57 | 4 | 3 |
| 1:P:14:HIS:ND1 | 1:Q:14:HIS:O | 0.57 | 2.37 | 10 | 3 |
| 1:I:38:GLY:O | 1:O:31:ILE:CD1 | 0.57 | 2.53 | 5 | 1 |
| 1:O:14:HIS:ND1 | 1:P:14:HIS:ND1 | 0.57 | 2.52 | 6 | 1 |
| 1:I:19:PHE:CD2 | 1:J:19:PHE:CE1 | 0.57 | 2.92 | 9 | 2 |
| 1:I:26:SER:O | 1:J:27:ASN:ND2 | 0.57 | 2.38 | 5 | 1 |
| 1:R:34:LEU:HD23 | 1:R:34:LEU:H | 0.57 | 1.59 | 2 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:P:23:ASP:O | 1:Q:24:VAL:HG23 | 0.57 | 1.98 | 3 | 1 |
| 1:H:30:ALA:N | 1:I:29:GLY:O | 0.57 | 2.38 | 5 | 1 |
| 1:O:13:HIS:HB2 | 1:P:13:HIS:HD1 | 0.57 | 1.58 | 5 | 1 |
| 1:K:14:HIS:ND1 | 1:L:13:HIS:ND1 | 0.57 | 2.53 | 2 | 1 |
| 1:B:22:GLU:O | 1:B:24:VAL:N | 0.57 | 2.37 | 3 | 2 |
| 1:D:20:PHE:CZ | 1:E:20:PHE:CD2 | 0.57 | 2.92 | 4 | 1 |
| 1:F:20:PHE:CD2 | 1:F:21:ALA:N | 0.57 | 2.72 | 6 | 1 |
| 1:K:19:PHE:CE1 | 1:L:19:PHE:CE2 | 0.57 | 2.92 | 7 | 1 |
| 1:Q:17:LEU:N | 1:Q:17:LEU:HD12 | 0.57 | 2.14 | 8 | 1 |
| 1:I:25:GLY:O | 1:J:27:ASN:ND2 | 0.57 | 2.37 | 9 | 2 |
| 1:F:22:GLU:N | 1:F:22:GLU:OE1 | 0.57 | 2.38 | 2 | 1 |
| 1:E:27:ASN:O | 1:E:29:GLY:N | 0.57 | 2.36 | 3 | 2 |
| 1:I:28:LYS:HZ1 | 1:J:28:LYS:NZ | 0.57 | 1.98 | 5 | 1 |
| 1:H:20:PHE:CZ | 1:I:20:PHE:CE1 | 0.57 | 2.92 | 7 | 2 |
| 1:P:14:HIS:ND1 | 1:Q:14:HIS:N | 0.57 | 2.52 | 9 | 1 |
| 1:I:28:LYS:O | 1:J:30:ALA:HB2 | 0.57 | 1.98 | 2 | 1 |
| 1:P:38:GLY:O | 1:Q:38:GLY:N | 0.57 | 2.38 | 3 | 1 |
| 1:H:19:PHE:CD2 | 1:I:19:PHE:CE1 | 0.57 | 2.92 | 10 | 1 |
| 1:R:34:LEU:CD2 | 1:R:34:LEU:N | 0.57 | 2.68 | 6 | 2 |
| 1:O:25:GLY:N | 1:P:28:LYS:HZ2 | 0.57 | 1.98 | 3 | 1 |
| 1:A:13:HIS:O | 1:B:13:HIS:CE1 | 0.57 | 2.58 | 5 | 1 |
| 1:I:14:HIS:CD2 | 1:J:14:HIS:O | 0.57 | 2.57 | 10 | 1 |
| 1:J:14:HIS:CE1 | 1:K:14:HIS:O | 0.57 | 2.58 | 4 | 1 |
| 1:P:14:HIS:CE1 | 1:Q:12:VAL:O | 0.57 | 2.57 | 9 | 1 |
| 1:P:14:HIS:CE1 | 1:Q:14:HIS:ND1 | 0.57 | 2.72 | 9 | 1 |
| 1:C:23:ASP:CB | 1:D:23:ASP:O | 0.56 | 2.53 | 1 | 1 |
| 1:A:20:PHE:CZ | 1:B:20:PHE:CE1 | 0.56 | 2.93 | 2 | 1 |
| 1:J:26:SER:O | 1:K:28:LYS:O | 0.56 | 2.23 | 4 | 1 |
| 1:O:23:ASP:H | 1:P:24:VAL:HG11 | 0.56 | 1.60 | 5 | 1 |
| 1:J:26:SER:CB | 1:K:27:ASN:O | 0.56 | 2.53 | 6 | 1 |
| 1:B:34:LEU:O | 1:C:34:LEU:HD12 | 0.56 | 2.00 | 7 | 1 |
| 1:D:14:HIS:HE2 | 1:E:12:VAL:HG12 | 0.56 | 1.59 | 7 | 1 |
| 1:K:19:PHE:CD1 | 1:L:19:PHE:CE2 | 0.56 | 2.93 | 7 | 1 |
| 1:J:33:GLY:O | 1:J:34:LEU:HD12 | 0.56 | 2.00 | 8 | 1 |
| 1:N:14:HIS:CE1 | 1:O:14:HIS:H | 0.56 | 2.18 | 8 | 1 |
| 1:C:27:ASN:O | 1:C:29:GLY:N | 0.56 | 2.38 | 1 | 1 |
| 1:N:13:HIS:ND1 | 1:P:40:VAL:CG1 | 0.56 | 2.67 | 1 | 2 |
| 1:C:14:HIS:ND1 | 1:D:14:HIS:O | 0.56 | 2.38 | 5 | 3 |
| 1:A:27:ASN:OD1 | 1:A:28:LYS:N | 0.56 | 2.37 | 2 | 1 |
| 1:P:20:PHE:CZ | 1:Q:20:PHE:CD1 | 0.56 | 2.93 | 5 | 1 |
| 1:J:36:VAL:HG13 | 1:J:36:VAL:O | 0.56 | 2.00 | 7 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:14:HIS:HD1 | 1:C:14:HIS:H | 0.56 | 1.41 | 9 | 1 |
| 1:C:24:VAL:CG2 | 1:D:23:ASP:O | 0.56 | 2.53 | 10 | 1 |
| 1:I:14:HIS:CE1 | 1:I:15:GLN:O | 0.56 | 2.58 | 10 | 1 |
| 1:P:13:HIS:CD2 | 1:Q:13:HIS:CD2 | 0.56 | 2.94 | 1 | 1 |
| 1:I:13:HIS:NE2 | 1:K:40:VAL:O | 0.56 | 2.38 | 2 | 1 |
| 1:B:14:HIS:CD2 | 1:C:14:HIS:CE1 | 0.56 | 2.93 | 3 | 2 |
| 1:P:27:ASN:CB | 1:Q:28:LYS:H | 0.56 | 2.14 | 3 | 1 |
| 1:N:17:LEU:HD21 | 1:P:36:VAL:HG11 | 0.56 | 1.76 | 5 | 1 |
| 1:I:20:PHE:CD2 | 1:J:20:PHE:CD1 | 0.56 | 2.94 | 7 | 2 |
| 1:P:19:PHE:CD2 | 1:Q:19:PHE:CE2 | 0.56 | 2.92 | 8 | 1 |
| 1:O:32:ILE:HG23 | 1:O:34:LEU:HD21 | 0.56 | 1.75 | 8 | 2 |
| 1:J:27:ASN:O | 1:K:27:ASN:ND2 | 0.56 | 2.37 | 1 | 1 |
| 1:E:14:HIS:ND1 | 1:F:14:HIS:O | 0.56 | 2.36 | 8 | 5 |
| 1:N:20:PHE:CE2 | 1:O:20:PHE:CD1 | 0.56 | 2.93 | 4 | 1 |
| 1:H:30:ALA:O | 1:I:29:GLY:O | 0.56 | 2.23 | 5 | 1 |
| 1:E:13:HIS:O | 1:F:13:HIS:CD2 | 0.56 | 2.58 | 7 | 1 |
| 1:C:19:PHE:CD2 | 1:D:19:PHE:CE1 | 0.56 | 2.93 | 8 | 1 |
| 1:O:29:GLY:N | 1:P:27:ASN:HD21 | 0.56 | 1.98 | 10 | 1 |
| 1:G:20:PHE:CZ | 1:H:20:PHE:CD1 | 0.56 | 2.93 | 2 | 2 |
| 1:C:23:ASP:O | 1:D:26:SER:O | 0.56 | 2.24 | 3 | 1 |
| 1:D:34:LEU:O | 1:E:34:LEU:HD12 | 0.56 | 2.01 | 3 | 2 |
| 1:C:13:HIS:CD2 | 1:K:28:LYS:NZ | 0.56 | 2.73 | 5 | 1 |
| 1:J:23:ASP:OD2 | 1:K:24:VAL:O | 0.56 | 2.23 | 5 | 1 |
| 1:O:17:LEU:HD12 | 1:O:17:LEU:N | 0.56 | 2.15 | 5 | 1 |
| 1:B:17:LEU:HD21 | 1:D:36:VAL:HG21 | 0.56 | 1.76 | 6 | 1 |
| 1:Q:36:VAL:HG13 | 1:Q:36:VAL:O | 0.56 | 2.00 | 6 | 1 |
| 1:O:15:GLN:NE2 | 1:Q:36:VAL:CG2 | 0.56 | 2.69 | 8 | 1 |
| 1:Q:14:HIS:ND1 | 1:R:14:HIS:N | 0.56 | 2.53 | 10 | 1 |
| 1:R:36:VAL:O | 1:R:37:GLY:O | 0.56 | 2.24 | 3 | 3 |
| 1:F:14:HIS:ND1 | 1:F:15:GLN:N | 0.56 | 2.54 | 8 | 2 |
| 1:P:14:HIS:CG | 1:P:15:GLN:N | 0.56 | 2.73 | 8 | 2 |
| 1:Q:34:LEU:HD23 | 1:Q:35:MET:H | 0.56 | 1.57 | 5 | 1 |
| 1:M:17:LEU:CD1 | 1:O:36:VAL:HG11 | 0.56 | 2.31 | 6 | 1 |
| 1:O:13:HIS:O | 1:O:14:HIS:ND1 | 0.56 | 2.39 | 8 | 2 |
| 1:R:22:GLU:N | 1:R:22:GLU:OE1 | 0.56 | 2.38 | 10 | 1 |
| 1:Q:13:HIS:O | 1:R:13:HIS:ND1 | 0.56 | 2.39 | 2 | 1 |
| 1:O:19:PHE:CE2 | 1:P:19:PHE:CE1 | 0.56 | 2.93 | 10 | 2 |
| 1:R:26:SER:O | 1:R:27:ASN:O | 0.56 | 2.22 | 3 | 2 |
| 1:O:22:GLU:OE1 | 1:O:28:LYS:NZ | 0.56 | 2.38 | 10 | 1 |
| 1:A:22:GLU:O | 1:B:24:VAL:HG22 | 0.56 | 1.99 | 2 | 1 |
| 1:C:13:HIS:O | 1:C:14:HIS:ND1 | 0.56 | 2.38 | 6 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:L:36:VAL:O | 1:L:36:VAL:HG13 | 0.56 | 2.01 | 9 | 1 |
| 1:B:37:GLY:O | 1:B:39:VAL:N | 0.56 | 2.39 | 10 | 1 |
| 1:Q:39:VAL:HG12 | 1:Q:40:VAL:N | 0.56 | 2.15 | 1 | 2 |
| 1:C:15:GLN:HE22 | 1:F:37:GLY:CA | 0.56 | 2.13 | 3 | 1 |
| 1:I:19:PHE:CE1 | 1:J:19:PHE:CE1 | 0.56 | 2.94 | 3 | 1 |
| 1:P:36:VAL:O | 1:P:36:VAL:HG23 | 0.56 | 2.00 | 4 | 1 |
| 1:I:14:HIS:CD2 | 1:I:15:GLN:O | 0.56 | 2.58 | 5 | 2 |
| 1:M:39:VAL:HG12 | 1:M:40:VAL:N | 0.56 | 2.16 | 5 | 1 |
| 1:O:23:ASP:N | 1:P:24:VAL:HG11 | 0.56 | 2.16 | 5 | 1 |
| 1:A:14:HIS:CD2 | 1:B:14:HIS:O | 0.56 | 2.59 | 5 | 2 |
| 1:H:21:ALA:HB1 | 1:I:24:VAL:HG13 | 0.56 | 1.78 | 3 | 1 |
| 1:P:20:PHE:CE2 | 1:Q:20:PHE:CD2 | 0.56 | 2.93 | 4 | 1 |
| 1:G:17:LEU:HD11 | 1:I:36:VAL:CG1 | 0.56 | 2.32 | 7 | 2 |
| 1:E:26:SER:OG | 1:F:29:GLY:N | 0.56 | 2.39 | 5 | 1 |
| 1:G:14:HIS:CD2 | 1:G:14:HIS:N | 0.56 | 2.72 | 9 | 1 |
| 1:E:40:VAL:OXT | 1:K:28:LYS:NZ | 0.55 | 2.39 | 2 | 2 |
| 1:I:12:VAL:HG23 | 1:I:14:HIS:CE1 | 0.55 | 2.35 | 7 | 1 |
| 1:E:34:LEU:O | 1:F:34:LEU:HD23 | 0.55 | 2.01 | 10 | 1 |
| 1:A:13:HIS:O | 1:B:13:HIS:NE2 | 0.55 | 2.39 | 5 | 1 |
| 1:D:14:HIS:CG | 1:D:15:GLN:N | 0.55 | 2.74 | 6 | 2 |
| 1:H:15:GLN:NE2 | 1:I:15:GLN:HE21 | 0.55 | 1.98 | 6 | 1 |
| 1:D:25:GLY:O | 1:D:26:SER:CB | 0.55 | 2.54 | 8 | 2 |
| 1:C:28:LYS:N | 1:D:27:ASN:OD1 | 0.55 | 2.39 | 9 | 1 |
| 1:H:13:HIS:O | 1:H:14:HIS:ND1 | 0.55 | 2.40 | 9 | 1 |
| 1:R:21:ALA:HB3 | 1:R:24:VAL:O | 0.55 | 2.02 | 9 | 1 |
| 1:Q:28:LYS:O | 1:R:29:GLY:O | 0.55 | 2.24 | 10 | 1 |
| 1:H:17:LEU:HD21 | 1:J:36:VAL:HG21 | 0.55 | 1.78 | 5 | 1 |
| 1:G:14:HIS:ND1 | 1:H:14:HIS:N | 0.55 | 2.54 | 8 | 1 |
| 1:I:13:HIS:O | 1:J:13:HIS:CD2 | 0.55 | 2.59 | 1 | 1 |
| 1:I:24:VAL:CG1 | 1:I:25:GLY:H | 0.55 | 2.12 | 1 | 2 |
| 1:Q:17:LEU:C | 1:Q:17:LEU:HD23 | 0.55 | 2.22 | 1 | 2 |
| 1:Q:14:HIS:CE1 | 1:R:12:VAL:O | 0.55 | 2.60 | 2 | 1 |
| 1:D:39:VAL:CG2 | 1:J:31:ILE:HD11 | 0.55 | 2.30 | 3 | 3 |
| 1:C:15:GLN:OE1 | 1:D:15:GLN:NE2 | 0.55 | 2.40 | 4 | 1 |
| 1:C:27:ASN:H | 1:C:27:ASN:ND2 | 0.55 | 1.98 | 4 | 1 |
| 1:L:23:ASP:N | 1:L:23:ASP:OD1 | 0.55 | 2.40 | 10 | 2 |
| 1:E:19:PHE:O | 1:F:20:PHE:N | 0.55 | 2.39 | 6 | 1 |
| 1:G:14:HIS:CG | 1:H:14:HIS:O | 0.55 | 2.59 | 7 | 2 |
| 1:R:14:HIS:CG | 1:R:15:GLN:N | 0.55 | 2.73 | 9 | 2 |
| 1:N:23:ASP:CA | 1:O:28:LYS:NZ | 0.55 | 2.70 | 10 | 1 |
| 1:I:23:ASP:N | 1:J:22:GLU:OE1 | 0.55 | 2.40 | 2 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:Q:27:ASN:OD1 | 1:Q:28:LYS:N | 0.55 | 2.39 | 6 | 1 |
| 1:A:13:HIS:O | 1:B:13:HIS:CG | 0.55 | 2.60 | 7 | 1 |
| 1:P:29:GLY:O | 1:P:30:ALA:HB2 | 0.55 | 2.01 | 7 | 1 |
| 1:R:27:ASN:ND2 | 1:R:30:ALA:O | 0.55 | 2.40 | 8 | 1 |
| 1:J:14:HIS:NE2 | 1:J:15:GLN:O | 0.55 | 2.39 | 10 | 1 |
| 1:N:30:ALA:HB3 | 1:P:28:LYS:HZ3 | 0.55 | 1.61 | 10 | 1 |
| 1:B:17:LEU:HD11 | 1:D:36:VAL:CG1 | 0.55 | 2.32 | 2 | 1 |
| 1:F:16:LYS:C | 1:F:17:LEU:HD12 | 0.55 | 2.22 | 2 | 1 |
| 1:N:26:SER:O | 1:O:28:LYS:NZ | 0.55 | 2.37 | 2 | 1 |
| 1:D:33:GLY:O | 1:D:34:LEU:HD12 | 0.55 | 2.01 | 3 | 1 |
| 1:B:14:HIS:CG | 1:B:15:GLN:N | 0.55 | 2.75 | 6 | 3 |
| 1:J:13:HIS:O | 1:J:14:HIS:CG | 0.55 | 2.59 | 6 | 1 |
| 1:Q:14:HIS:CD2 | 1:R:14:HIS:O | 0.55 | 2.60 | 7 | 1 |
| 1:A:14:HIS:ND1 | 1:A:14:HIS:N | 0.55 | 2.54 | 9 | 1 |
| 1:M:13:HIS:O | 1:N:13:HIS:CD2 | 0.55 | 2.60 | 10 | 1 |
| 1:J:14:HIS:CD2 | 1:J:15:GLN:O | 0.55 | 2.60 | 1 | 2 |
| 1:A:14:HIS:CG | 1:B:14:HIS:O | 0.55 | 2.60 | 5 | 2 |
| 1:C:25:GLY:O | 1:C:26:SER:CB | 0.55 | 2.54 | 3 | 2 |
| 1:N:26:SER:O | 1:N:27:ASN:O | 0.55 | 2.25 | 6 | 2 |
| 1:P:19:PHE:CE1 | 1:Q:19:PHE:CZ | 0.55 | 2.94 | 4 | 1 |
| 1:C:13:HIS:O | 1:D:13:HIS:ND1 | 0.55 | 2.40 | 5 | 3 |
| 1:H:13:HIS:O | 1:I:13:HIS:CD2 | 0.55 | 2.60 | 6 | 2 |
| 1:H:11:GLU:N | 1:H:11:GLU:OE1 | 0.55 | 2.40 | 8 | 1 |
| 1:L:24:VAL:HG12 | 1:L:25:GLY:H | 0.55 | 1.59 | 9 | 1 |
| 1:O:19:PHE:CD2 | 1:P:19:PHE:CE1 | 0.55 | 2.95 | 1 | 4 |
| 1:I:33:GLY:C | 1:I:34:LEU:HD23 | 0.55 | 2.21 | 4 | 2 |
| 1:J:14:HIS:CG | 1:K:14:HIS:O | 0.55 | 2.60 | 4 | 1 |
| 1:L:17:LEU:C | 1:L:17:LEU:HD23 | 0.55 | 2.22 | 5 | 2 |
| 1:I:22:GLU:H | 1:I:28:LYS:NZ | 0.55 | 1.98 | 9 | 1 |
| 1:L:25:GLY:O | 1:L:26:SER:CB | 0.55 | 2.54 | 1 | 1 |
| 1:I:26:SER:O | 1:I:27:ASN:O | 0.55 | 2.25 | 7 | 2 |
| 1:B:17:LEU:HD22 | 1:B:17:LEU:N | 0.55 | 2.17 | 3 | 1 |
| 1:I:28:LYS:HZ1 | 1:J:28:LYS:HZ1 | 0.55 | 1.45 | 5 | 1 |
| 1:J:23:ASP:O | 1:J:23:ASP:OD1 | 0.55 | 2.25 | 6 | 1 |
| 1:J:23:ASP:OD2 | 1:K:28:LYS:N | 0.55 | 2.40 | 6 | 1 |
| 1:L:26:SER:OG | 1:L:27:ASN:N | 0.55 | 2.38 | 7 | 1 |
| 1:I:13:HIS:O | 1:J:13:HIS:ND1 | 0.55 | 2.40 | 3 | 2 |
| 1:N:36:VAL:O | 1:N:37:GLY:O | 0.55 | 2.25 | 9 | 3 |
| 1:A:14:HIS:ND1 | 1:B:14:HIS:O | 0.55 | 2.40 | 6 | 1 |
| 1:M:15:GLN:O | 1:N:15:GLN:NE2 | 0.55 | 2.40 | 6 | 1 |
| 1:A:35:MET:SD | 1:B:35:MET:SD | 0.54 | 3.05 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:C:14:HIS:CE1 | 1:D:14:HIS:H | 0.54 | 2.20 | 1 | 2 |
| 1:G:20:PHE:O | 1:G:20:PHE:CD2 | 0.54 | 2.61 | 1 | 1 |
| 1:J:13:HIS:O | 1:K:13:HIS:ND1 | 0.54 | 2.40 | 9 | 2 |
| 1:A:37:GLY:O | 1:A:39:VAL:N | 0.54 | 2.40 | 7 | 1 |
| 1:J:32:ILE:HG22 | 1:K:34:LEU:HD21 | 0.54 | 1.77 | 10 | 1 |
| 1:O:39:VAL:CG1 | 1:P:39:VAL:H | 0.54 | 2.15 | 1 | 1 |
| 1:P:13:HIS:CD2 | 1:Q:13:HIS:NE2 | 0.54 | 2.75 | 1 | 1 |
| 1:D:17:LEU:N | 1:D:17:LEU:HD22 | 0.54 | 2.18 | 4 | 2 |
| 1:L:13:HIS:ND1 | 1:L:14:HIS:O | 0.54 | 2.39 | 2 | 1 |
| 1:N:15:GLN:OE1 | 1:O:15:GLN:NE2 | 0.54 | 2.41 | 5 | 1 |
| 1:A:23:ASP:O | 1:A:24:VAL:O | 0.54 | 2.25 | 6 | 1 |
| 1:N:22:GLU:O | 1:O:28:LYS:NZ | 0.54 | 2.40 | 7 | 1 |
| 1:E:28:LYS:N | 1:F:29:GLY:O | 0.54 | 2.39 | 1 | 1 |
| 1:I:33:GLY:O | 1:I:34:LEU:HD12 | 0.54 | 2.02 | 1 | 4 |
| 1:K:26:SER:O | 1:K:27:ASN:O | 0.54 | 2.25 | 2 | 2 |
| 1:H:39:VAL:N | 1:I:40:VAL:O | 0.54 | 2.40 | 3 | 1 |
| 1:B:15:GLN:OE1 | 1:C:15:GLN:NE2 | 0.54 | 2.40 | 4 | 2 |
| 1:Q:36:VAL:CG1 | 1:R:36:VAL:HG12 | 0.54 | 2.32 | 1 | 3 |
| 1:C:13:HIS:O | 1:D:13:HIS:CD2 | 0.54 | 2.61 | 2 | 2 |
| 1:B:16:LYS:NZ | 1:B:18:VAL:CG2 | 0.54 | 2.71 | 2 | 1 |
| 1:Q:14:HIS:NE2 | 1:R:12:VAL:O | 0.54 | 2.39 | 2 | 1 |
| 1:C:36:VAL:O | 1:C:36:VAL:HG23 | 0.54 | 2.03 | 4 | 1 |
| 1:L:13:HIS:ND1 | 1:L:13:HIS:N | 0.54 | 2.55 | 4 | 1 |
| 1:C:23:ASP:OD2 | 1:D:23:ASP:N | 0.54 | 2.40 | 5 | 1 |
| 1:L:19:PHE:O | 1:L:19:PHE:CD2 | 0.54 | 2.61 | 10 | 2 |
| 1:M:14:HIS:CE1 | 1:M:15:GLN:O | 0.54 | 2.60 | 6 | 1 |
| 1:O:23:ASP:N | 1:P:22:GLU:O | 0.54 | 2.40 | 6 | 1 |
| 1:H:20:PHE:CE2 | 1:I:20:PHE:CD1 | 0.54 | 2.96 | 7 | 1 |
| 1:K:14:HIS:CE1 | 1:L:14:HIS:H | 0.54 | 2.18 | 9 | 2 |
| 1:K:14:HIS:CG | 1:L:13:HIS:O | 0.54 | 2.61 | 10 | 1 |
| 1:K:14:HIS:CE1 | 1:K:15:GLN:O | 0.54 | 2.60 | 3 | 1 |
| 1:H:15:GLN:CD | 1:I:15:GLN:NE2 | 0.54 | 2.61 | 6 | 1 |
| 1:R:12:VAL:O | 1:R:13:HIS:ND1 | 0.54 | 2.41 | 7 | 1 |
| 1:P:14:HIS:CE1 | 1:Q:14:HIS:N | 0.54 | 2.75 | 9 | 1 |
| 1:A:24:VAL:CG1 | 1:A:25:GLY:N | 0.54 | 2.69 | 6 | 5 |
| 1:C:19:PHE:CE2 | 1:D:19:PHE:CE1 | 0.54 | 2.96 | 2 | 1 |
| 1:K:27:ASN:OD1 | 1:K:28:LYS:N | 0.54 | 2.39 | 4 | 1 |
| 1:C:13:HIS:NE2 | 1:K:28:LYS:NZ | 0.54 | 2.56 | 5 | 1 |
| 1:O:13:HIS:CG | 1:Q:40:VAL:CG1 | 0.54 | 2.90 | 5 | 1 |
| 1:L:39:VAL:HG22 | 1:R:31:ILE:HD12 | 0.54 | 1.77 | 5 | 2 |
| 1:N:15:GLN:HE22 | 1:P:37:GLY:N | 0.54 | 2.01 | 8 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:O:13:HIS:N | 1:O:13:HIS:ND1 | 0.54 | 2.53 | 9 | 1 |
| 1:N:26:SER:CB | 1:O:27:ASN:O | 0.54 | 2.56 | 10 | 1 |
| 1:N:35:MET:CE | 1:O:35:MET:SD | 0.54 | 2.95 | 2 | 2 |
| 1:O:20:PHE:CE2 | 1:P:20:PHE:CD1 | 0.54 | 2.96 | 10 | 3 |
| 1:P:15:GLN:NE2 | 1:R:36:VAL:CG1 | 0.54 | 2.71 | 3 | 1 |
| 1:D:23:ASP:N | 1:E:22:GLU:OE1 | 0.54 | 2.40 | 9 | 2 |
| 1:I:13:HIS:O | 1:I:14:HIS:ND1 | 0.54 | 2.41 | 8 | 2 |
| 1:E:34:LEU:O | 1:F:34:LEU:CB | 0.54 | 2.56 | 5 | 2 |
| 1:Q:39:VAL:HG22 | 1:R:39:VAL:O | 0.54 | 2.03 | 6 | 1 |
| 1:J:13:HIS:N | 1:J:13:HIS:CD2 | 0.54 | 2.75 | 8 | 2 |
| 1:D:20:PHE:CZ | 1:E:20:PHE:CG | 0.54 | 2.95 | 10 | 2 |
| 1:A:11:GLU:O | 1:B:13:HIS:NE2 | 0.54 | 2.41 | 1 | 1 |
| 1:J:21:ALA:O | 1:K:21:ALA:HB1 | 0.54 | 2.03 | 1 | 1 |
| 1:G:36:VAL:O | 1:G:37:GLY:O | 0.54 | 2.25 | 8 | 3 |
| 1:L:19:PHE:O | 1:L:19:PHE:CD1 | 0.54 | 2.61 | 2 | 1 |
| 1:F:20:PHE:O | 1:F:21:ALA:HB2 | 0.54 | 2.03 | 6 | 1 |
| 1:E:12:VAL:O | 1:F:13:HIS:CG | 0.54 | 2.61 | 8 | 1 |
| 1:C:32:ILE:HG23 | 1:C:34:LEU:HD13 | 0.54 | 1.79 | 5 | 4 |
| 1:H:13:HIS:CG | 1:J:40:VAL:HG13 | 0.54 | 2.37 | 4 | 1 |
| 1:H:17:LEU:N | 1:H:17:LEU:CD1 | 0.54 | 2.70 | 4 | 1 |
| 1:B:34:LEU:HB2 | 1:C:34:LEU:HD13 | 0.54 | 1.80 | 6 | 1 |
| 1:O:13:HIS:O | 1:P:13:HIS:CG | 0.54 | 2.61 | 6 | 1 |
| 1:Q:13:HIS:C | 1:Q:14:HIS:ND1 | 0.54 | 2.61 | 7 | 1 |
| 1:C:39:VAL:HG22 | 1:C:40:VAL:N | 0.54 | 2.18 | 10 | 1 |
| 1:D:40:VAL:HG12 | 1:D:40:VAL:O | 0.54 | 2.02 | 10 | 1 |
| 1:L:23:ASP:C | 1:L:24:VAL:HG23 | 0.54 | 2.24 | 2 | 1 |
| 1:R:19:PHE:O | 1:R:19:PHE:CD1 | 0.54 | 2.61 | 7 | 3 |
| 1:N:20:PHE:CE2 | 1:O:20:PHE:CE1 | 0.54 | 2.96 | 4 | 1 |
| 1:P:24:VAL:CG1 | 1:P:25:GLY:H | 0.54 | 2.16 | 4 | 2 |
| 1:P:23:ASP:CG | 1:Q:24:VAL:H | 0.54 | 2.07 | 5 | 1 |
| 1:E:14:HIS:CG | 1:F:14:HIS:O | 0.54 | 2.61 | 6 | 1 |
| 1:O:14:HIS:ND1 | 1:P:14:HIS:N | 0.54 | 2.56 | 8 | 1 |
| 1:K:40:VAL:N | 1:L:40:VAL:OXT | 0.53 | 2.41 | 1 | 1 |
| 1:P:34:LEU:HD12 | 1:P:35:MET:N | 0.53 | 2.19 | 2 | 2 |
| 1:C:27:ASN:N | 1:C:27:ASN:ND2 | 0.53 | 2.56 | 4 | 1 |
| 1:E:19:PHE:CE2 | 1:F:32:ILE:HD12 | 0.53 | 2.37 | 6 | 1 |
| 1:G:13:HIS:CE1 | 1:H:11:GLU:OE2 | 0.53 | 2.61 | 6 | 1 |
| 1:K:27:ASN:OD1 | 1:K:29:GLY:N | 0.53 | 2.41 | 6 | 1 |
| 1:B:12:VAL:CG1 | 1:B:14:HIS:NE2 | 0.53 | 2.72 | 9 | 2 |
| 1:D:27:ASN:HD22 | 1:D:30:ALA:H | 0.53 | 1.46 | 9 | 1 |
| 1:A:11:GLU:O | 1:B:13:HIS:CE1 | 0.53 | 2.61 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:Q:14:HIS:ND1 | 1:R:14:HIS:O | 0.53 | 2.42 | 5 | 3 |
| 1:A:22:GLU:O | 1:A:24:VAL:N | 0.53 | 2.41 | 3 | 5 |
| 1:M:17:LEU:HD12 | 1:N:17:LEU:HD22 | 0.53 | 1.80 | 3 | 1 |
| 1:I:40:VAL:HG13 | 1:I:40:VAL:OXT | 0.53 | 2.04 | 5 | 1 |
| 1:I:13:HIS:CD2 | 1:K:40:VAL:HG12 | 0.53 | 2.37 | 6 | 1 |
| 1:M:20:PHE:O | 1:M:20:PHE:CD1 | 0.53 | 2.61 | 7 | 1 |
| 1:R:11:GLU:CG | 1:R:13:HIS:NE2 | 0.53 | 2.71 | 7 | 1 |
| 1:A:25:GLY:O | 1:A:26:SER:CB | 0.53 | 2.56 | 8 | 2 |
| 1:C:23:ASP:N | 1:D:27:ASN:OD1 | 0.53 | 2.40 | 8 | 1 |
| 1:B:39:VAL:HG22 | 1:H:31:ILE:HD11 | 0.53 | 1.80 | 8 | 2 |
| 1:K:23:ASP:OD2 | 1:L:24:VAL:HG23 | 0.53 | 2.03 | 9 | 1 |
| 1:N:12:VAL:HG12 | 1:N:13:HIS:N | 0.53 | 2.18 | 1 | 1 |
| 1:E:38:GLY:O | 1:K:31:ILE:CD1 | 0.53 | 2.56 | 2 | 1 |
| 1:R:12:VAL:HG12 | 1:R:13:HIS:N | 0.53 | 2.19 | 2 | 1 |
| 1:B:22:GLU:OE1 | 1:B:22:GLU:N | 0.53 | 2.40 | 3 | 1 |
| 1:I:38:GLY:O | 1:J:39:VAL:HG11 | 0.53 | 2.03 | 3 | 1 |
| 1:I:19:PHE:CD1 | 1:J:19:PHE:CD1 | 0.53 | 2.96 | 3 | 1 |
| 1:L:19:PHE:CD2 | 1:L:19:PHE:O | 0.53 | 2.61 | 8 | 3 |
| 1:F:19:PHE:CD2 | 1:F:19:PHE:O | 0.53 | 2.61 | 8 | 4 |
| 1:Q:17:LEU:HD23 | 1:Q:17:LEU:C | 0.53 | 2.23 | 5 | 1 |
| 1:D:24:VAL:CG1 | 1:D:25:GLY:N | 0.53 | 2.71 | 7 | 1 |
| 1:B:23:ASP:CB | 1:C:26:SER:O | 0.53 | 2.56 | 1 | 1 |
| 1:N:15:GLN:NE2 | 1:P:36:VAL:O | 0.53 | 2.42 | 1 | 2 |
| 1:R:13:HIS:ND1 | 1:R:13:HIS:C | 0.53 | 2.62 | 2 | 1 |
| 1:R:26:SER:OG | 1:R:27:ASN:N | 0.53 | 2.42 | 2 | 1 |
| 1:B:13:HIS:O | 1:C:13:HIS:CD2 | 0.53 | 2.61 | 3 | 1 |
| 1:D:13:HIS:CD2 | 1:D:13:HIS:O | 0.53 | 2.61 | 3 | 2 |
| 1:O:22:GLU:O | 1:O:24:VAL:N | 0.53 | 2.41 | 6 | 1 |
| 1:A:11:GLU:OE2 | 1:A:13:HIS:CE1 | 0.53 | 2.62 | 7 | 1 |
| 1:K:14:HIS:ND1 | 1:L:14:HIS:N | 0.53 | 2.55 | 7 | 2 |
| 1:C:13:HIS:NE2 | 1:D:11:GLU:OE2 | 0.53 | 2.41 | 8 | 1 |
| 1:N:14:HIS:ND1 | 1:O:14:HIS:O | 0.53 | 2.41 | 8 | 1 |
| 1:B:11:GLU:N | 1:B:11:GLU:OE1 | 0.53 | 2.42 | 9 | 1 |
| 1:A:29:GLY:O | 1:A:30:ALA:HB2 | 0.53 | 2.03 | 2 | 2 |
| 1:C:20:PHE:CE2 | 1:D:20:PHE:CD1 | 0.53 | 2.97 | 2 | 3 |
| 1:N:19:PHE:CD2 | 1:O:19:PHE:CE1 | 0.53 | 2.97 | 6 | 4 |
| 1:D:23:ASP:O | 1:D:24:VAL:O | 0.53 | 2.27 | 4 | 2 |
| 1:C:39:VAL:HG12 | 1:C:40:VAL:N | 0.53 | 2.19 | 7 | 3 |
| 1:G:14:HIS:ND1 | 1:H:14:HIS:CG | 0.53 | 2.77 | 5 | 1 |
| 1:I:12:VAL:O | 1:I:14:HIS:CD2 | 0.53 | 2.61 | 7 | 1 |
| 1:N:37:GLY:O | 1:N:39:VAL:N | 0.53 | 2.42 | 8 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:E:14:HIS:CD2 | 1:F:13:HIS:O | 0.53 | 2.61 | 9 | 1 |
| 1:C:30:ALA:O | 1:D:29:GLY:O | 0.53 | 2.26 | 1 | 1 |
| 1:O:23:ASP:OD2 | 1:Q:28:LYS:O | 0.53 | 2.26 | 1 | 2 |
| 1:N:20:PHE:CE1 | 1:O:20:PHE:CD1 | 0.53 | 2.97 | 5 | 2 |
| 1:H:12:VAL:O | 1:H:12:VAL:HG23 | 0.53 | 2.04 | 2 | 1 |
| 1:M:36:VAL:O | 1:M:37:GLY:O | 0.53 | 2.26 | 5 | 5 |
| 1:C:23:ASP:OD1 | 1:C:23:ASP:N | 0.53 | 2.41 | 3 | 1 |
| 1:C:38:GLY:O | 1:J:31:ILE:CD1 | 0.53 | 2.56 | 3 | 2 |
| 1:H:17:LEU:HD21 | 1:J:36:VAL:CG1 | 0.53 | 2.34 | 4 | 1 |
| 1:P:24:VAL:CG1 | 1:P:25:GLY:N | 0.53 | 2.71 | 4 | 1 |
| 1:A:13:HIS:O | 1:B:13:HIS:CD2 | 0.53 | 2.62 | 7 | 2 |
| 1:M:14:HIS:ND1 | 1:M:15:GLN:N | 0.53 | 2.56 | 6 | 1 |
| 1:O:36:VAL:CG2 | 1:P:34:LEU:HD11 | 0.53 | 2.34 | 7 | 1 |
| 1:N:23:ASP:CA | 1:O:28:LYS:HZ3 | 0.53 | 2.16 | 10 | 1 |
| 1:B:12:VAL:CG2 | 1:C:12:VAL:O | 0.53 | 2.56 | 1 | 1 |
| 1:J:27:ASN:O | 1:K:27:ASN:OD1 | 0.53 | 2.26 | 1 | 1 |
| 1:D:31:ILE:HD11 | 1:P:39:VAL:HG23 | 0.53 | 1.79 | 2 | 1 |
| 1:O:26:SER:OG | 1:O:27:ASN:N | 0.53 | 2.40 | 3 | 1 |
| 1:Q:12:VAL:HG12 | 1:Q:13:HIS:N | 0.53 | 2.17 | 6 | 1 |
| 1:M:15:GLN:NE2 | 1:N:15:GLN:HE21 | 0.53 | 2.02 | 7 | 1 |
| 1:O:29:GLY:N | 1:P:28:LYS:O | 0.53 | 2.42 | 7 | 1 |
| 1:K:23:ASP:N | 1:L:23:ASP:OD2 | 0.53 | 2.41 | 1 | 1 |
| 1:J:23:ASP:OD2 | 1:K:24:VAL:N | 0.53 | 2.41 | 7 | 2 |
| 1:D:27:ASN:OD1 | 1:E:27:ASN:N | 0.53 | 2.41 | 3 | 1 |
| 1:O:33:GLY:C | 1:O:34:LEU:HD23 | 0.53 | 2.24 | 3 | 4 |
| 1:O:14:HIS:CG | 1:P:14:HIS:CE1 | 0.53 | 2.96 | 6 | 1 |
| 1:B:14:HIS:ND1 | 1:C:14:HIS:O | 0.53 | 2.42 | 8 | 2 |
| 1:P:14:HIS:NE2 | 1:Q:12:VAL:O | 0.53 | 2.42 | 9 | 1 |
| 1:N:14:HIS:NE2 | 1:O:12:VAL:O | 0.53 | 2.42 | 10 | 1 |
| 1:Q:13:HIS:O | 1:R:13:HIS:CG | 0.53 | 2.62 | 2 | 1 |
| 1:D:17:LEU:HD11 | 1:F:36:VAL:HG21 | 0.53 | 1.80 | 7 | 2 |
| 1:G:18:VAL:HG23 | 1:G:18:VAL:O | 0.53 | 2.04 | 4 | 2 |
| 1:K:23:ASP:OD2 | 1:K:28:LYS:N | 0.53 | 2.42 | 4 | 1 |
| 1:O:36:VAL:CG2 | 1:P:36:VAL:HG12 | 0.53 | 2.34 | 4 | 1 |
| 1:L:40:VAL:O | 1:Q:28:LYS:N | 0.53 | 2.41 | 4 | 1 |
| 1:H:15:GLN:HE21 | 1:H:17:LEU:HD11 | 0.53 | 1.63 | 6 | 1 |
| 1:D:12:VAL:CG1 | 1:E:13:HIS:CG | 0.53 | 2.92 | 8 | 1 |
| 1:C:19:PHE:CD1 | 1:E:32:ILE:HD13 | 0.53 | 2.39 | 10 | 2 |
| 1:N:19:PHE:CD1 | 1:O:19:PHE:CE1 | 0.53 | 2.97 | 10 | 1 |
| 1:O:29:GLY:CA | 1:P:27:ASN:HD21 | 0.53 | 2.17 | 10 | 1 |
| 1:Q:10:TYR:N | 1:R:11:GLU:OE2 | 0.53 | 2.42 | 10 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:K:12:VAL:O | 1:K:13:HIS:ND1 | 0.53 | 2.41 | 1 | 2 |
| 1:N:19:PHE:CD1 | 1:P:32:ILE:HD13 | 0.53 | 2.39 | 1 | 1 |
| 1:D:19:PHE:CD1 | 1:F:32:ILE:HD13 | 0.53 | 2.38 | 9 | 2 |
| 1:J:27:ASN:ND2 | 1:J:30:ALA:N | 0.53 | 2.56 | 3 | 1 |
| 1:N:23:ASP:CB | 1:O:24:VAL:H | 0.53 | 2.16 | 4 | 1 |
| 1:H:13:HIS:CD2 | 1:I:13:HIS:CE1 | 0.53 | 2.97 | 7 | 1 |
| 1:H:23:ASP:O | 1:I:26:SER:O | 0.52 | 2.27 | 1 | 1 |
| 1:K:23:ASP:OD2 | 1:L:27:ASN:O | 0.52 | 2.26 | 1 | 2 |
| 1:C:38:GLY:O | 1:D:39:VAL:CG2 | 0.52 | 2.57 | 2 | 1 |
| 1:K:14:HIS:CE1 | 1:L:13:HIS:CD2 | 0.52 | 2.96 | 2 | 1 |
| 1:J:38:GLY:O | 1:K:38:GLY:N | 0.52 | 2.42 | 8 | 2 |
| 1:B:13:HIS:CD2 | 1:D:40:VAL:O | 0.52 | 2.62 | 3 | 1 |
| 1:E:14:HIS:CE1 | 1:F:12:VAL:O | 0.52 | 2.61 | 4 | 2 |
| 1:H:16:LYS:C | 1:H:17:LEU:HD12 | 0.52 | 2.23 | 4 | 1 |
| 1:G:20:PHE:CD2 | 1:G:20:PHE:O | 0.52 | 2.62 | 8 | 2 |
| 1:Q:16:LYS:C | 1:Q:17:LEU:HD12 | 0.52 | 2.25 | 9 | 1 |
| 1:K:25:GLY:O | 1:K:26:SER:OG | 0.52 | 2.27 | 1 | 2 |
| 1:I:20:PHE:CZ | 1:J:20:PHE:CE1 | 0.52 | 2.97 | 3 | 2 |
| 1:J:23:ASP:O | 1:J:24:VAL:O | 0.52 | 2.26 | 10 | 2 |
| 1:I:14:HIS:N | 1:I:14:HIS:CD2 | 0.52 | 2.77 | 7 | 1 |
| 1:I:38:GLY:O | 1:J:39:VAL:N | 0.52 | 2.42 | 7 | 1 |
| 1:Q:27:ASN:N | 1:Q:27:ASN:OD1 | 0.52 | 2.41 | 7 | 1 |
| 1:I:14:HIS:CD2 | 1:I:15:GLN:N | 0.52 | 2.77 | 9 | 1 |
| 1:I:37:GLY:O | 1:I:39:VAL:N | 0.52 | 2.42 | 10 | 1 |
| 1:O:36:VAL:O | 1:O:36:VAL:HG23 | 0.52 | 2.04 | 1 | 1 |
| 1:F:39:VAL:HG21 | 1:K:31:ILE:HD11 | 0.52 | 1.81 | 2 | 1 |
| 1:K:34:LEU:O | 1:L:34:LEU:CB | 0.52 | 2.57 | 9 | 2 |
| 1:B:21:ALA:HB1 | 1:C:23:ASP:OD1 | 0.52 | 2.03 | 8 | 1 |
| 1:D:12:VAL:O | 1:D:14:HIS:CE1 | 0.52 | 2.62 | 10 | 1 |
| 1:D:14:HIS:CE1 | 1:E:14:HIS:H | 0.52 | 2.22 | 1 | 1 |
| 1:K:24:VAL:HG13 | 1:K:25:GLY:N | 0.52 | 2.20 | 1 | 1 |
| 1:D:34:LEU:HD23 | 1:D:34:LEU:N | 0.52 | 2.18 | 2 | 1 |
| 1:O:39:VAL:HG22 | 1:O:40:VAL:N | 0.52 | 2.19 | 2 | 4 |
| 1:K:17:LEU:C | 1:K:17:LEU:HD23 | 0.52 | 2.24 | 3 | 1 |
| 1:B:14:HIS:CD2 | 1:B:15:GLN:O | 0.52 | 2.62 | 4 | 1 |
| 1:K:20:PHE:CE1 | 1:L:20:PHE:CD1 | 0.52 | 2.98 | 4 | 1 |
| 1:R:15:GLN:CD | 1:R:15:GLN:H | 0.52 | 2.08 | 6 | 1 |
| 1:G:39:VAL:O | 1:H:39:VAL:HG12 | 0.52 | 2.05 | 9 | 1 |
| 1:N:27:ASN:CB | 1:O:27:ASN:HD21 | 0.52 | 2.17 | 9 | 1 |
| 1:P:14:HIS:CD2 | 1:P:15:GLN:O | 0.52 | 2.62 | 10 | 1 |
| 1:P:39:VAL:CG1 | 1:P:40:VAL:N | 0.52 | 2.73 | 10 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:19:PHE:CD2 | 1:B:19:PHE:CE1 | 0.52 | 2.98 | 2 | 3 |
| 1:D:14:HIS:HD1 | 1:E:14:HIS:C | 0.52 | 2.08 | 2 | 1 |
| 1:N:23:ASP:OD1 | 1:N:23:ASP:O | 0.52 | 2.28 | 3 | 1 |
| 1:J:23:ASP:O | 1:K:24:VAL:CG2 | 0.52 | 2.58 | 7 | 1 |
| 1:B:23:ASP:OD1 | 1:B:24:VAL:N | 0.52 | 2.42 | 8 | 1 |
| 1:B:23:ASP:O | 1:B:24:VAL:CB | 0.52 | 2.57 | 8 | 1 |
| 1:C:27:ASN:ND2 | 1:D:27:ASN:O | 0.52 | 2.42 | 10 | 1 |
| 1:R:14:HIS:ND1 | 1:R:15:GLN:O | 0.52 | 2.43 | 10 | 1 |
| 1:I:40:VAL:HG13 | 1:I:40:VAL:O | 0.52 | 2.05 | 1 | 1 |
| 1:D:11:GLU:OE1 | 1:D:11:GLU:N | 0.52 | 2.42 | 2 | 1 |
| 1:P:34:LEU:HD12 | 1:P:35:MET:H | 0.52 | 1.64 | 4 | 2 |
| 1:A:20:PHE:CD2 | 1:A:20:PHE:O | 0.52 | 2.63 | 4 | 1 |
| 1:H:13:HIS:O | 1:I:13:HIS:ND1 | 0.52 | 2.43 | 8 | 2 |
| 1:K:13:HIS:CD2 | 1:K:13:HIS:O | 0.52 | 2.62 | 2 | 1 |
| 1:N:12:VAL:O | 1:N:14:HIS:CE1 | 0.52 | 2.63 | 5 | 2 |
| 1:B:39:VAL:HG23 | 1:H:31:ILE:HD11 | 0.52 | 1.79 | 7 | 1 |
| 1:B:26:SER:OG | 1:C:27:ASN:ND2 | 0.52 | 2.43 | 7 | 2 |
| 1:A:14:HIS:CB | 1:B:14:HIS:O | 0.52 | 2.58 | 4 | 5 |
| 1:E:38:GLY:O | 1:L:31:ILE:HD12 | 0.52 | 2.04 | 4 | 1 |
| 1:M:20:PHE:O | 1:M:20:PHE:CD2 | 0.52 | 2.62 | 4 | 1 |
| 1:D:17:LEU:HD12 | 1:D:17:LEU:N | 0.52 | 2.20 | 5 | 1 |
| 1:K:21:ALA:O | 1:L:21:ALA:HB1 | 0.52 | 2.04 | 1 | 2 |
| 1:A:12:VAL:CB | 1:B:13:HIS:HD1 | 0.52 | 2.17 | 2 | 1 |
| 1:D:26:SER:O | 1:E:27:ASN:ND2 | 0.52 | 2.42 | 2 | 1 |
| 1:C:13:HIS:NE2 | 1:E:40:VAL:OXT | 0.52 | 2.43 | 2 | 1 |
| 1:K:17:LEU:HD23 | 1:K:18:VAL:N | 0.52 | 2.20 | 3 | 1 |
| 1:C:36:VAL:HG22 | 1:D:34:LEU:CD2 | 0.52 | 2.35 | 4 | 1 |
| 1:D:11:GLU:OE1 | 1:D:13:HIS:NE2 | 0.52 | 2.43 | 4 | 1 |
| 1:C:25:GLY:O | 1:D:27:ASN:ND2 | 0.52 | 2.43 | 7 | 1 |
| 1:L:13:HIS:O | 1:L:14:HIS:ND1 | 0.52 | 2.43 | 7 | 1 |
| 1:N:21:ALA:HA | 1:O:28:LYS:HZ3 | 0.52 | 1.63 | 7 | 1 |
| 1:H:13:HIS:NE2 | 1:I:13:HIS:NE2 | 0.52 | 2.57 | 10 | 1 |
| 1:I:13:HIS:ND1 | 1:J:11:GLU:OE1 | 0.52 | 2.43 | 10 | 1 |
| 1:J:10:TYR:CG | 1:K:10:TYR:CD1 | 0.52 | 2.98 | 10 | 1 |
| 1:O:15:GLN:OE1 | 1:P:15:GLN:NE2 | 0.52 | 2.43 | 6 | 2 |
| 1:A:20:PHE:CE1 | 1:B:20:PHE:CE1 | 0.52 | 2.98 | 2 | 1 |
| 1:I:22:GLU:CG | 1:I:23:ASP:N | 0.52 | 2.72 | 2 | 1 |
| 1:C:34:LEU:O | 1:D:34:LEU:HD23 | 0.52 | 2.05 | 4 | 1 |
| 1:D:23:ASP:N | 1:D:23:ASP:OD1 | 0.52 | 2.42 | 10 | 2 |
| 1:J:19:PHE:CD2 | 1:K:19:PHE:CD2 | 0.52 | 2.98 | 5 | 1 |
| 1:E:27:ASN:OD1 | 1:E:28:LYS:N | 0.52 | 2.43 | 7 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:H:13:HIS:O | 1:H:14:HIS:CG | 0.52 | 2.63 | 7 | 1 |
| 1:M:31:ILE:HG23 | 1:M:31:ILE:O | 0.52 | 2.05 | 7 | 1 |
| 1:C:34:LEU:H | 1:D:34:LEU:HD23 | 0.52 | 1.64 | 8 | 1 |
| 1:N:12:VAL:CG1 | 1:N:14:HIS:NE2 | 0.52 | 2.72 | 9 | 1 |
| 1:L:34:LEU:N | 1:L:34:LEU:HD23 | 0.52 | 2.20 | 10 | 1 |
| 1:N:22:GLU:O | 1:N:24:VAL:N | 0.51 | 2.43 | 8 | 2 |
| 1:B:17:LEU:HD12 | 1:C:17:LEU:HD22 | 0.51 | 1.80 | 2 | 1 |
| 1:Q:38:GLY:O | 1:R:38:GLY:N | 0.51 | 2.43 | 3 | 1 |
| 1:N:22:GLU:O | 1:O:27:ASN:ND2 | 0.51 | 2.42 | 4 | 1 |
| 1:P:19:PHE:CD1 | 1:R:32:ILE:HD13 | 0.51 | 2.40 | 5 | 1 |
| 1:N:39:VAL:HG22 | 1:O:39:VAL:CG1 | 0.51 | 2.35 | 6 | 1 |
| 1:D:13:HIS:O | 1:E:13:HIS:CD2 | 0.51 | 2.63 | 7 | 1 |
| 1:B:39:VAL:O | 1:C:39:VAL:HG21 | 0.51 | 2.04 | 1 | 1 |
| 1:C:13:HIS:O | 1:D:13:HIS:CG | 0.51 | 2.63 | 2 | 2 |
| 1:G:34:LEU:HD23 | 1:G:35:MET:H | 0.51 | 1.65 | 3 | 1 |
| 1:L:40:VAL:HG12 | 1:L:40:VAL:O | 0.51 | 2.04 | 3 | 1 |
| 1:O:24:VAL:CG1 | 1:O:25:GLY:N | 0.51 | 2.73 | 4 | 4 |
| 1:Q:14:HIS:CB | 1:R:14:HIS:O | 0.51 | 2.58 | 8 | 2 |
| 1:N:14:HIS:CB | 1:O:14:HIS:O | 0.51 | 2.58 | 5 | 3 |
| 1:A:36:VAL:HG12 | 1:A:37:GLY:N | 0.51 | 2.19 | 6 | 2 |
| 1:G:13:HIS:NE2 | 1:H:11:GLU:OE2 | 0.51 | 2.43 | 6 | 1 |
| 1:O:36:VAL:O | 1:O:36:VAL:CG1 | 0.51 | 2.59 | 6 | 1 |
| 1:P:24:VAL:HG22 | 1:Q:23:ASP:HA | 0.51 | 1.81 | 6 | 1 |
| 1:P:39:VAL:HG23 | 1:Q:39:VAL:O | 0.51 | 2.04 | 6 | 1 |
| 1:C:22:GLU:CD | 1:C:23:ASP:N | 0.51 | 2.63 | 9 | 1 |
| 1:J:36:VAL:O | 1:J:37:GLY:O | 0.51 | 2.28 | 1 | 1 |
| 1:M:14:HIS:HD1 | 1:N:14:HIS:CD2 | 0.51 | 2.22 | 1 | 1 |
| 1:G:13:HIS:O | 1:H:13:HIS:CG | 0.51 | 2.63 | 4 | 2 |
| 1:N:22:GLU:CG | 1:N:23:ASP:N | 0.51 | 2.74 | 10 | 3 |
| 1:H:13:HIS:C | 1:H:13:HIS:ND1 | 0.51 | 2.63 | 6 | 2 |
| 1:C:33:GLY:O | 1:C:34:LEU:HD12 | 0.51 | 2.05 | 9 | 2 |
| 1:I:16:LYS:C | 1:I:17:LEU:HD23 | 0.51 | 2.25 | 7 | 2 |
| 1:B:14:HIS:CD2 | 1:B:15:GLN:H | 0.51 | 2.23 | 8 | 2 |
| 1:C:38:GLY:O | 1:D:39:VAL:N | 0.51 | 2.43 | 8 | 1 |
| 1:N:31:ILE:CD1 | 1:O:31:ILE:HD12 | 0.51 | 2.36 | 8 | 1 |
| 1:J:10:TYR:CE2 | 1:K:10:TYR:O | 0.51 | 2.64 | 2 | 1 |
| 1:O:24:VAL:HG22 | 1:O:25:GLY:N | 0.51 | 2.21 | 2 | 1 |
| 1:B:36:VAL:O | 1:B:37:GLY:O | 0.51 | 2.28 | 3 | 2 |
| 1:D:27:ASN:N | 1:E:28:LYS:O | 0.51 | 2.43 | 4 | 1 |
| 1:N:12:VAL:O | 1:N:14:HIS:ND1 | 0.51 | 2.43 | 5 | 1 |
| 1:J:13:HIS:O | 1:K:13:HIS:CB | 0.51 | 2.58 | 8 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:C:28:LYS:O | 1:D:28:LYS:O | 0.51 | 2.28 | 8 | 1 |
| 1:G:20:PHE:O | 1:G:20:PHE:CG | 0.51 | 2.64 | 1 | 1 |
| 1:K:36:VAL:O | 1:L:35:MET:O | 0.51 | 2.28 | 6 | 5 |
| 1:D:14:HIS:CB | 1:E:14:HIS:O | 0.51 | 2.59 | 3 | 1 |
| 1:J:38:GLY:O | 1:P:31:ILE:CD1 | 0.51 | 2.59 | 10 | 1 |
| 1:Q:23:ASP:O | 1:R:26:SER:CB | 0.51 | 2.59 | 10 | 1 |
| 1:D:14:HIS:ND1 | 1:E:14:HIS:C | 0.51 | 2.64 | 2 | 1 |
| 1:R:24:VAL:CG1 | 1:R:25:GLY:N | 0.51 | 2.74 | 3 | 1 |
| 1:J:14:HIS:CD2 | 1:K:14:HIS:O | 0.51 | 2.64 | 4 | 2 |
| 1:G:13:HIS:ND1 | 1:G:14:HIS:N | 0.51 | 2.59 | 5 | 1 |
| 1:G:38:GLY:O | 1:M:31:ILE:HD11 | 0.51 | 2.05 | 5 | 1 |
| 1:G:13:HIS:CD2 | 1:H:11:GLU:OE2 | 0.51 | 2.64 | 6 | 1 |
| 1:N:27:ASN:ND2 | 1:O:27:ASN:O | 0.51 | 2.42 | 6 | 1 |
| 1:N:27:ASN:N | 1:O:27:ASN:OD1 | 0.51 | 2.43 | 9 | 1 |
| 1:Q:11:GLU:O | 1:R:11:GLU:O | 0.51 | 2.28 | 9 | 1 |
| 1:I:23:ASP:CB | 1:J:23:ASP:O | 0.51 | 2.59 | 10 | 1 |
| 1:B:17:LEU:HD21 | 1:D:36:VAL:HG11 | 0.51 | 1.83 | 1 | 3 |
| 1:D:39:VAL:HG22 | 1:J:31:ILE:HD13 | 0.51 | 1.82 | 2 | 1 |
| 1:M:12:VAL:CG1 | 1:N:12:VAL:O | 0.51 | 2.58 | 2 | 1 |
| 1:O:26:SER:O | 1:O:27:ASN:O | 0.51 | 2.28 | 3 | 3 |
| 1:I:12:VAL:CG1 | 1:I:14:HIS:NE2 | 0.51 | 2.74 | 4 | 2 |
| 1:E:21:ALA:O | 1:F:21:ALA:C | 0.51 | 2.49 | 6 | 1 |
| 1:O:16:LYS:C | 1:O:17:LEU:HD12 | 0.51 | 2.26 | 6 | 1 |
| 1:P:23:ASP:N | 1:Q:22:GLU:OE1 | 0.51 | 2.42 | 7 | 1 |
| 1:K:14:HIS:N | 1:K:14:HIS:CD2 | 0.51 | 2.79 | 2 | 1 |
| 1:M:37:GLY:O | 1:N:37:GLY:N | 0.51 | 2.44 | 2 | 1 |
| 1:P:15:GLN:OE1 | 1:R:36:VAL:HG12 | 0.51 | 2.05 | 3 | 1 |
| 1:O:15:GLN:NE2 | 1:Q:36:VAL:HG12 | 0.51 | 2.21 | 5 | 2 |
| 1:E:33:GLY:O | 1:E:34:LEU:HD12 | 0.51 | 2.06 | 4 | 2 |
| 1:J:27:ASN:N | 1:J:27:ASN:OD1 | 0.51 | 2.44 | 4 | 1 |
| 1:O:38:GLY:O | 1:P:39:VAL:N | 0.51 | 2.42 | 8 | 2 |
| 1:E:21:ALA:O | 1:F:21:ALA:CB | 0.51 | 2.58 | 6 | 1 |
| 1:H:12:VAL:O | 1:H:13:HIS:CD2 | 0.51 | 2.63 | 7 | 1 |
| 1:K:28:LYS:O | 1:L:30:ALA:CA | 0.51 | 2.59 | 8 | 1 |
| 1:E:28:LYS:O | 1:F:29:GLY:O | 0.51 | 2.29 | 10 | 1 |
| 1:N:35:MET:SD | 1:O:35:MET:CG | 0.51 | 2.98 | 10 | 1 |
| 1:I:39:VAL:CG2 | 1:P:31:ILE:HD12 | 0.51 | 2.35 | 1 | 1 |
| 1:H:13:HIS:C | 1:H:14:HIS:ND1 | 0.51 | 2.65 | 2 | 1 |
| 1:H:13:HIS:C | 1:I:13:HIS:ND1 | 0.51 | 2.64 | 3 | 1 |
| 1:P:27:ASN:OD1 | 1:Q:28:LYS:N | 0.51 | 2.43 | 3 | 1 |
| 1:C:38:GLY:O | 1:J:31:ILE:HD12 | 0.51 | 2.06 | 5 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:M:14:HIS:CB | 1:N:14:HIS:O | 0.51 | 2.58 | 8 | 2 |
| 1:B:14:HIS:CE1 | 1:C:14:HIS:CE1 | 0.51 | 2.99 | 8 | 1 |
| 1:D:27:ASN:HD22 | 1:D:30:ALA:N | 0.51 | 2.04 | 9 | 1 |
| 1:C:23:ASP:OD2 | 1:D:22:GLU:O | 0.51 | 2.29 | 1 | 1 |
| 1:N:12:VAL:CG1 | 1:N:13:HIS:N | 0.51 | 2.74 | 1 | 1 |
| 1:I:17:LEU:CD1 | 1:I:17:LEU:N | 0.51 | 2.65 | 2 | 3 |
| 1:B:13:HIS:CD2 | 1:J:28:LYS:NZ | 0.51 | 2.79 | 2 | 1 |
| 1:K:13:HIS:CG | 1:K:13:HIS:O | 0.51 | 2.64 | 2 | 1 |
| 1:K:37:GLY:O | 1:K:39:VAL:N | 0.51 | 2.44 | 3 | 1 |
| 1:O:25:GLY:CA | 1:P:28:LYS:HZ2 | 0.51 | 2.19 | 3 | 1 |
| 1:C:27:ASN:ND2 | 1:D:27:ASN:OD1 | 0.51 | 2.44 | 4 | 1 |
| 1:R:19:PHE:CD2 | 1:R:19:PHE:O | 0.51 | 2.64 | 6 | 2 |
| 1:G:14:HIS:CD2 | 1:H:14:HIS:O | 0.51 | 2.64 | 10 | 2 |
| 1:K:28:LYS:O | 1:L:30:ALA:CB | 0.51 | 2.59 | 8 | 1 |
| 1:O:14:HIS:CE1 | 1:P:12:VAL:O | 0.51 | 2.64 | 9 | 1 |
| 1:L:34:LEU:N | 1:L:34:LEU:CD2 | 0.51 | 2.73 | 10 | 1 |
| 1:Q:32:ILE:HG23 | 1:Q:34:LEU:HD13 | 0.51 | 1.83 | 10 | 1 |
| 1:H:38:GLY:O | 1:O:31:ILE:CD1 | 0.50 | 2.59 | 1 | 1 |
| 1:C:19:PHE:CD2 | 1:D:19:PHE:CD1 | 0.50 | 3.00 | 2 | 1 |
| 1:G:13:HIS:O | 1:H:13:HIS:CE1 | 0.50 | 2.63 | 2 | 1 |
| 1:R:13:HIS:O | 1:R:13:HIS:CG | 0.50 | 2.64 | 6 | 3 |
| 1:B:13:HIS:CE1 | 1:D:40:VAL:OXT | 0.50 | 2.63 | 8 | 2 |
| 1:R:25:GLY:O | 1:R:26:SER:CB | 0.50 | 2.59 | 7 | 1 |
| 1:B:13:HIS:ND1 | 1:D:40:VAL:O | 0.50 | 2.43 | 10 | 1 |
| 1:Q:18:VAL:CG2 | 1:Q:20:PHE:CE2 | 0.50 | 2.94 | 1 | 1 |
| 1:H:17:LEU:CD2 | 1:J:36:VAL:HG11 | 0.50 | 2.37 | 4 | 1 |
| 1:A:21:ALA:O | 1:B:22:GLU:O | 0.50 | 2.29 | 8 | 3 |
| 1:C:39:VAL:CG2 | 1:I:31:ILE:HD11 | 0.50 | 2.37 | 9 | 3 |
| 1:B:19:PHE:CE2 | 1:C:19:PHE:CE1 | 0.50 | 3.00 | 5 | 2 |
| 1:D:36:VAL:O | 1:D:37:GLY:O | 0.50 | 2.29 | 6 | 2 |
| 1:H:19:PHE:CD2 | 1:I:19:PHE:CE2 | 0.50 | 3.00 | 6 | 1 |
| 1:I:12:VAL:CG1 | 1:I:14:HIS:HE2 | 0.50 | 2.19 | 6 | 1 |
| 1:O:14:HIS:CE1 | 1:P:14:HIS:CE1 | 0.50 | 3.00 | 6 | 1 |
| 1:A:27:ASN:HD21 | 1:B:27:ASN:ND2 | 0.50 | 2.04 | 7 | 1 |
| 1:J:17:LEU:HD21 | 1:L:36:VAL:HG11 | 0.50 | 1.83 | 10 | 1 |
| 1:B:25:GLY:O | 1:B:26:SER:CB | 0.50 | 2.60 | 2 | 1 |
| 1:O:13:HIS:N | 1:P:13:HIS:ND1 | 0.50 | 2.59 | 2 | 1 |
| 1:C:17:LEU:H | 1:C:17:LEU:HD22 | 0.50 | 1.66 | 3 | 1 |
| 1:A:18:VAL:CG2 | 1:A:18:VAL:O | 0.50 | 2.59 | 6 | 2 |
| 1:C:17:LEU:HD21 | 1:E:36:VAL:CG1 | 0.50 | 2.31 | 4 | 1 |
| 1:Q:24:VAL:HG23 | 1:Q:24:VAL:O | 0.50 | 2.05 | 4 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:22:GLU:CG | 1:A:23:ASP:H | 0.50 | 2.19 | 8 | 1 |
| 1:B:14:HIS:CE1 | 1:C:14:HIS:H | 0.50 | 2.24 | 9 | 1 |
| 1:J:17:LEU:HD11 | 1:L:36:VAL:HG21 | 0.50 | 1.81 | 9 | 1 |
| 1:K:23:ASP:OD2 | 1:L:24:VAL:CG2 | 0.50 | 2.59 | 9 | 1 |
| 1:D:12:VAL:CG1 | 1:E:12:VAL:O | 0.50 | 2.59 | 10 | 1 |
| 1:N:24:VAL:H | 1:O:26:SER:CB | 0.50 | 2.19 | 1 | 1 |
| 1:J:17:LEU:CD1 | 1:J:17:LEU:N | 0.50 | 2.74 | 10 | 2 |
| 1:C:39:VAL:CG1 | 1:C:40:VAL:N | 0.50 | 2.73 | 5 | 5 |
| 1:O:28:LYS:N | 1:P:28:LYS:HB3 | 0.50 | 2.22 | 6 | 1 |
| 1:E:24:VAL:HG22 | 1:F:22:GLU:O | 0.50 | 2.07 | 8 | 1 |
| 1:E:14:HIS:CB | 1:F:14:HIS:O | 0.50 | 2.60 | 10 | 1 |
| 1:C:38:GLY:O | 1:J:31:ILE:HD11 | 0.50 | 2.06 | 10 | 1 |
| 1:H:35:MET:SD | 1:I:35:MET:CG | 0.50 | 2.98 | 1 | 2 |
| 1:K:21:ALA:O | 1:L:21:ALA:CB | 0.50 | 2.60 | 1 | 2 |
| 1:B:20:PHE:CE1 | 1:C:20:PHE:CD1 | 0.50 | 3.00 | 5 | 1 |
| 1:G:10:TYR:CE2 | 1:G:11:GLU:O | 0.50 | 2.64 | 6 | 1 |
| 1:C:22:GLU:O | 1:C:23:ASP:C | 0.50 | 2.50 | 7 | 1 |
| 1:E:26:SER:O | 1:E:27:ASN:O | 0.50 | 2.29 | 7 | 1 |
| 1:G:19:PHE:CZ | 1:I:34:LEU:CD1 | 0.50 | 2.95 | 9 | 1 |
| 1:A:31:ILE:CD1 | 1:M:39:VAL:O | 0.50 | 2.59 | 1 | 1 |
| 1:Q:24:VAL:CG1 | 1:Q:25:GLY:N | 0.50 | 2.75 | 9 | 5 |
| 1:R:24:VAL:HG23 | 1:R:26:SER:H | 0.50 | 1.67 | 5 | 1 |
| 1:Q:34:LEU:CD2 | 1:Q:34:LEU:N | 0.50 | 2.74 | 7 | 1 |
| 1:B:13:HIS:O | 1:C:13:HIS:ND1 | 0.50 | 2.45 | 9 | 1 |
| 1:G:14:HIS:NE2 | 1:G:16:LYS:NZ | 0.50 | 2.60 | 9 | 1 |
| 1:J:36:VAL:O | 1:K:35:MET:O | 0.50 | 2.29 | 10 | 1 |
| 1:C:14:HIS:CB | 1:D:14:HIS:O | 0.50 | 2.60 | 8 | 3 |
| 1:O:36:VAL:HG23 | 1:O:36:VAL:O | 0.50 | 2.07 | 4 | 1 |
| 1:K:13:HIS:O | 1:L:13:HIS:ND1 | 0.50 | 2.41 | 6 | 1 |
| 1:H:38:GLY:O | 1:I:39:VAL:CG1 | 0.50 | 2.59 | 7 | 1 |
| 1:O:14:HIS:CB | 1:P:14:HIS:O | 0.50 | 2.60 | 7 | 1 |
| 1:A:22:GLU:CG | 1:A:23:ASP:N | 0.50 | 2.74 | 8 | 1 |
| 1:C:17:LEU:N | 1:C:17:LEU:CD1 | 0.50 | 2.66 | 8 | 1 |
| 1:B:19:PHE:CD1 | 1:D:32:ILE:HD13 | 0.50 | 2.41 | 10 | 2 |
| 1:H:13:HIS:CE1 | 1:I:13:HIS:CD2 | 0.50 | 3.00 | 10 | 1 |
| 1:J:21:ALA:O | 1:K:21:ALA:CB | 0.50 | 2.60 | 1 | 1 |
| 1:K:32:ILE:HG23 | 1:K:34:LEU:HD13 | 0.50 | 1.83 | 1 | 3 |
| 1:Q:36:VAL:O | 1:Q:36:VAL:CG1 | 0.50 | 2.59 | 1 | 1 |
| 1:L:12:VAL:HG22 | 1:L:13:HIS:N | 0.50 | 2.20 | 6 | 2 |
| 1:D:27:ASN:N | 1:E:26:SER:OG | 0.50 | 2.45 | 3 | 1 |
| 1:B:15:GLN:NE2 | 1:D:36:VAL:HG22 | 0.50 | 2.22 | 4 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:M:18:VAL:O | 1:M:18:VAL:HG23 | 0.50 | 2.06 | 6 | 1 |
| 1:P:13:HIS:C | 1:P:13:HIS:ND1 | 0.50 | 2.64 | 6 | 1 |
| 1:F:19:PHE:O | 1:F:19:PHE:CD1 | 0.50 | 2.64 | 10 | 2 |
| 1:M:13:HIS:O | 1:N:14:HIS:O | 0.50 | 2.30 | 3 | 1 |
| 1:D:39:VAL:O | 1:D:39:VAL:HG13 | 0.50 | 2.07 | 5 | 1 |
| 1:G:15:GLN:HE22 | 1:J:36:VAL:HG23 | 0.50 | 1.67 | 5 | 1 |
| 1:Q:23:ASP:CG | 1:R:24:VAL:HG22 | 0.50 | 2.27 | 5 | 1 |
| 1:E:24:VAL:CG1 | 1:E:25:GLY:N | 0.49 | 2.75 | 2 | 1 |
| 1:Q:21:ALA:O | 1:R:21:ALA:HB1 | 0.49 | 2.07 | 3 | 3 |
| 1:C:13:HIS:CE1 | 1:E:40:VAL:OXT | 0.49 | 2.65 | 5 | 2 |
| 1:M:15:GLN:HE21 | 1:M:17:LEU:HD11 | 0.49 | 1.67 | 5 | 1 |
| 1:A:12:VAL:CG1 | 1:A:14:HIS:NE2 | 0.49 | 2.75 | 6 | 1 |
| 1:K:40:VAL:O | 1:Q:28:LYS:CE | 0.49 | 2.60 | 7 | 1 |
| 1:E:27:ASN:OD1 | 1:E:27:ASN:N | 0.49 | 2.44 | 2 | 1 |
| 1:N:24:VAL:CG1 | 1:N:25:GLY:N | 0.49 | 2.74 | 2 | 1 |
| 1:P:27:ASN:ND2 | 1:P:28:LYS:N | 0.49 | 2.60 | 2 | 1 |
| 1:M:13:HIS:C | 1:M:14:HIS:CD2 | 0.49 | 2.86 | 4 | 1 |
| 1:E:34:LEU:O | 1:F:34:LEU:HD12 | 0.49 | 2.07 | 9 | 1 |
| 1:I:23:ASP:OD1 | 1:I:23:ASP:N | 0.49 | 2.45 | 1 | 1 |
| 1:M:14:HIS:ND1 | 1:N:14:HIS:NE2 | 0.49 | 2.51 | 1 | 1 |
| 1:J:32:ILE:CG2 | 1:K:34:LEU:HD21 | 0.49 | 2.37 | 2 | 1 |
| 1:B:17:LEU:CD1 | 1:D:36:VAL:HG21 | 0.49 | 2.36 | 7 | 1 |
| 1:I:19:PHE:CE2 | 1:J:19:PHE:CE1 | 0.49 | 2.99 | 9 | 1 |
| 1:L:34:LEU:O | 1:L:34:LEU:HD12 | 0.49 | 2.07 | 9 | 1 |
| 1:N:32:ILE:HG22 | 1:O:34:LEU:HD11 | 0.49 | 1.84 | 9 | 1 |
| 1:H:15:GLN:OE1 | 1:J:36:VAL:CG1 | 0.49 | 2.61 | 10 | 1 |
| 1:D:15:GLN:OE1 | 1:E:17:LEU:HD11 | 0.49 | 2.06 | 2 | 1 |
| 1:R:16:LYS:C | 1:R:17:LEU:HD12 | 0.49 | 2.28 | 2 | 1 |
| 1:H:36:VAL:O | 1:H:37:GLY:O | 0.49 | 2.29 | 4 | 3 |
| 1:I:13:HIS:N | 1:J:13:HIS:CE1 | 0.49 | 2.80 | 3 | 1 |
| 1:E:28:LYS:NZ | 1:R:40:VAL:C | 0.49 | 2.66 | 3 | 1 |
| 1:G:20:PHE:O | 1:G:20:PHE:CD1 | 0.49 | 2.65 | 7 | 1 |
| 1:I:16:LYS:C | 1:I:17:LEU:HD12 | 0.49 | 2.27 | 8 | 1 |
| 1:O:29:GLY:HA2 | 1:P:30:ALA:HB2 | 0.49 | 1.84 | 10 | 1 |
| 1:B:39:VAL:O | 1:C:39:VAL:CG2 | 0.49 | 2.61 | 1 | 1 |
| 1:D:15:GLN:HE22 | 1:F:36:VAL:C | 0.49 | 2.11 | 1 | 1 |
| 1:H:21:ALA:O | 1:I:28:LYS:NZ | 0.49 | 2.45 | 2 | 1 |
| 1:C:27:ASN:ND2 | 1:D:27:ASN:CG | 0.49 | 2.65 | 4 | 1 |
| 1:M:17:LEU:HD11 | 1:O:36:VAL:HG21 | 0.49 | 1.83 | 6 | 1 |
| 1:O:13:HIS:C | 1:O:14:HIS:ND1 | 0.49 | 2.66 | 9 | 1 |
| 1:D:12:VAL:HG11 | 1:E:12:VAL:O | 0.49 | 2.08 | 10 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:I:20:PHE:CZ | 1:J:20:PHE:CD1 | 0.49 | 3.00 | 3 | 1 |
| 1:N:23:ASP:OD1 | 1:O:24:VAL:O | 0.49 | 2.31 | 3 | 1 |
| 1:A:36:VAL:O | 1:A:37:GLY:O | 0.49 | 2.30 | 5 | 3 |
| 1:M:18:VAL:HG23 | 1:M:18:VAL:O | 0.49 | 2.07 | 7 | 1 |
| 1:A:20:PHE:CZ | 1:B:20:PHE:CG | 0.49 | 3.00 | 8 | 1 |
| 1:C:22:GLU:CD | 1:C:23:ASP:H | 0.49 | 2.11 | 9 | 1 |
| 1:N:23:ASP:HA | 1:O:28:LYS:NZ | 0.49 | 2.21 | 10 | 1 |
| 1:M:15:GLN:NE2 | 1:O:36:VAL:CG1 | 0.49 | 2.76 | 2 | 1 |
| 1:B:12:VAL:C | 1:B:13:HIS:ND1 | 0.49 | 2.66 | 3 | 1 |
| 1:B:26:SER:O | 1:C:28:LYS:CD | 0.49 | 2.61 | 4 | 1 |
| 1:B:38:GLY:O | 1:I:31:ILE:CD1 | 0.49 | 2.60 | 6 | 2 |
| 1:F:19:PHE:O | 1:F:20:PHE:O | 0.49 | 2.31 | 6 | 1 |
| 1:K:23:ASP:O | 1:L:23:ASP:O | 0.49 | 2.30 | 6 | 1 |
| 1:R:17:LEU:C | 1:R:17:LEU:HD23 | 0.49 | 2.28 | 6 | 1 |
| 1:R:11:GLU:OE2 | 1:R:13:HIS:NE2 | 0.49 | 2.46 | 7 | 1 |
| 1:K:24:VAL:CG1 | 1:K:25:GLY:N | 0.49 | 2.75 | 8 | 2 |
| 1:F:12:VAL:HG22 | 1:F:13:HIS:N | 0.49 | 2.22 | 8 | 1 |
| 1:J:24:VAL:CG1 | 1:J:25:GLY:H | 0.49 | 2.21 | 9 | 1 |
| 1:N:25:GLY:C | 1:O:28:LYS:NZ | 0.49 | 2.66 | 2 | 1 |
| 1:D:39:VAL:CG1 | 1:D:40:VAL:N | 0.49 | 2.76 | 3 | 1 |
| 1:O:25:GLY:C | 1:P:28:LYS:NZ | 0.49 | 2.66 | 3 | 1 |
| 1:L:24:VAL:CG2 | 1:L:25:GLY:N | 0.49 | 2.76 | 5 | 1 |
| 1:D:13:HIS:O | 1:E:13:HIS:O | 0.49 | 2.30 | 6 | 2 |
| 1:M:23:ASP:N | 1:N:24:VAL:HG23 | 0.49 | 2.23 | 7 | 1 |
| 1:D:26:SER:O | 1:D:27:ASN:O | 0.49 | 2.30 | 8 | 1 |
| 1:D:12:VAL:CG1 | 1:D:13:HIS:N | 0.49 | 2.76 | 10 | 1 |
| 1:K:38:GLY:O | 1:L:39:VAL:N | 0.49 | 2.42 | 10 | 1 |
| 1:B:29:GLY:O | 1:B:30:ALA:HB2 | 0.49 | 2.08 | 3 | 1 |
| 1:Q:24:VAL:HG22 | 1:Q:25:GLY:N | 0.49 | 2.23 | 6 | 1 |
| 1:K:13:HIS:CE1 | 1:L:13:HIS:ND1 | 0.49 | 2.80 | 10 | 1 |
| 1:N:19:PHE:CD1 | 1:O:19:PHE:CD1 | 0.49 | 3.01 | 10 | 1 |
| 1:J:23:ASP:OD2 | 1:K:23:ASP:C | 0.48 | 2.51 | 5 | 1 |
| 1:C:17:LEU:HD12 | 1:D:17:LEU:CD2 | 0.48 | 2.38 | 9 | 2 |
| 1:I:20:PHE:C | 1:I:20:PHE:CD1 | 0.48 | 2.87 | 9 | 1 |
| 1:I:22:GLU:N | 1:I:28:LYS:HZ1 | 0.48 | 2.04 | 9 | 1 |
| 1:M:24:VAL:CG2 | 1:N:25:GLY:O | 0.48 | 2.61 | 10 | 1 |
| 1:N:13:HIS:CD2 | 1:N:14:HIS:O | 0.48 | 2.66 | 10 | 1 |
| 1:I:38:GLY:CA | 1:J:38:GLY:H | 0.48 | 2.20 | 2 | 1 |
| 1:O:27:ASN:H | 1:P:27:ASN:ND2 | 0.48 | 2.05 | 2 | 1 |
| 1:H:23:ASP:N | 1:I:23:ASP:O | 0.48 | 2.46 | 3 | 1 |
| 1:C:24:VAL:HG22 | 1:D:24:VAL:CG2 | 0.48 | 2.37 | 4 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:J:23:ASP:O | 1:K:23:ASP:OD1 | 0.48 | 2.31 | 4 | 1 |
| 1:P:19:PHE:CE1 | 1:Q:19:PHE:CE2 | 0.48 | 3.01 | 4 | 1 |
| 1:L:12:VAL:CG2 | 1:L:13:HIS:N | 0.48 | 2.76 | 6 | 1 |
| 1:J:25:GLY:O | 1:J:26:SER:OG | 0.48 | 2.31 | 7 | 1 |
| 1:N:36:VAL:O | 1:N:36:VAL:HG13 | 0.48 | 2.08 | 7 | 1 |
| 1:B:14:HIS:CE1 | 1:C:16:LYS:N | 0.48 | 2.81 | 10 | 1 |
| 1:D:13:HIS:O | 1:D:14:HIS:CD2 | 0.48 | 2.65 | 10 | 1 |
| 1:I:13:HIS:O | 1:J:13:HIS:CG | 0.48 | 2.66 | 1 | 1 |
| 1:B:13:HIS:ND1 | 1:D:40:VAL:C | 0.48 | 2.66 | 4 | 2 |
| 1:M:19:PHE:CD2 | 1:N:19:PHE:CE1 | 0.48 | 3.02 | 5 | 2 |
| 1:O:15:GLN:NE2 | 1:Q:36:VAL:CG1 | 0.48 | 2.76 | 5 | 1 |
| 1:E:36:VAL:O | 1:E:37:GLY:O | 0.48 | 2.31 | 8 | 2 |
| 1:F:12:VAL:C | 1:F:13:HIS:ND1 | 0.48 | 2.66 | 8 | 1 |
| 1:R:14:HIS:CG | 1:R:15:GLN:H | 0.48 | 2.26 | 9 | 1 |
| 1:C:14:HIS:CE1 | 1:D:15:GLN:CA | 0.48 | 2.96 | 10 | 1 |
| 1:J:13:HIS:ND1 | 1:J:13:HIS:C | 0.48 | 2.66 | 1 | 1 |
| 1:A:24:VAL:CG1 | 1:A:25:GLY:H | 0.48 | 2.19 | 5 | 3 |
| 1:J:34:LEU:HD23 | 1:J:34:LEU:N | 0.48 | 2.23 | 3 | 1 |
| 1:Q:21:ALA:O | 1:R:21:ALA:CB | 0.48 | 2.61 | 8 | 2 |
| 1:E:14:HIS:ND1 | 1:F:14:HIS:N | 0.48 | 2.60 | 4 | 2 |
| 1:Q:34:LEU:HG | 1:Q:36:VAL:HG23 | 0.48 | 1.86 | 4 | 1 |
| 1:E:22:GLU:O | 1:E:23:ASP:CB | 0.48 | 2.62 | 6 | 1 |
| 1:K:38:GLY:O | 1:L:39:VAL:CG1 | 0.48 | 2.61 | 6 | 1 |
| 1:O:13:HIS:O | 1:P:13:HIS:CE1 | 0.48 | 2.65 | 6 | 1 |
| 1:Q:35:MET:SD | 1:R:35:MET:CG | 0.48 | 3.00 | 6 | 2 |
| 1:B:39:VAL:CG2 | 1:H:31:ILE:HD11 | 0.48 | 2.39 | 7 | 1 |
| 1:I:12:VAL:HG23 | 1:I:14:HIS:NE2 | 0.48 | 2.24 | 7 | 1 |
| 1:A:12:VAL:HG13 | 1:B:12:VAL:C | 0.48 | 2.29 | 1 | 1 |
| 1:A:12:VAL:O | 1:A:14:HIS:NE2 | 0.48 | 2.46 | 2 | 1 |
| 1:F:34:LEU:C | 1:F:34:LEU:HD23 | 0.48 | 2.29 | 2 | 1 |
| 1:I:13:HIS:ND1 | 1:I:13:HIS:C | 0.48 | 2.67 | 2 | 2 |
| 1:R:24:VAL:CG1 | 1:R:25:GLY:H | 0.48 | 2.19 | 3 | 1 |
| 1:D:22:GLU:O | 1:D:23:ASP:C | 0.48 | 2.52 | 6 | 2 |
| 1:J:39:VAL:HG23 | 1:P:31:ILE:HD12 | 0.48 | 1.84 | 4 | 1 |
| 1:K:27:ASN:ND2 | 1:L:29:GLY:O | 0.48 | 2.47 | 4 | 1 |
| 1:L:40:VAL:HG12 | 1:L:40:VAL:OXT | 0.48 | 2.07 | 9 | 1 |
| 1:A:17:LEU:CD1 | 1:B:15:GLN:HE21 | 0.48 | 2.22 | 10 | 1 |
| 1:C:23:ASP:OD2 | 1:C:23:ASP:O | 0.48 | 2.32 | 10 | 1 |
| 1:D:12:VAL:CG1 | 1:D:13:HIS:H | 0.48 | 2.22 | 10 | 1 |
| 1:I:27:ASN:HD22 | 1:I:28:LYS:H | 0.48 | 1.51 | 1 | 1 |
| 1:K:34:LEU:O | 1:L:34:LEU:HD12 | 0.48 | 2.07 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:L:25:GLY:O | 1:L:26:SER:OG | 0.48 | 2.26 | 5 | 2 |
| 1:O:33:GLY:O | 1:O:34:LEU:HD12 | 0.48 | 2.08 | 7 | 3 |
| 1:C:15:GLN:HB3 | 1:C:17:LEU:HD21 | 0.48 | 1.84 | 3 | 1 |
| 1:O:23:ASP:CB | 1:P:23:ASP:O | 0.48 | 2.61 | 4 | 1 |
| 1:O:27:ASN:O | 1:O:28:LYS:CG | 0.48 | 2.62 | 10 | 2 |
| 1:E:21:ALA:HB3 | 1:F:21:ALA:O | 0.48 | 2.08 | 6 | 1 |
| 1:H:14:HIS:C | 1:H:14:HIS:CD2 | 0.48 | 2.86 | 8 | 1 |
| 1:N:24:VAL:CG2 | 1:N:25:GLY:H | 0.48 | 2.20 | 3 | 1 |
| 1:J:27:ASN:O | 1:J:28:LYS:C | 0.48 | 2.52 | 4 | 2 |
| 1:N:15:GLN:NE2 | 1:P:36:VAL:HG12 | 0.48 | 2.24 | 5 | 1 |
| 1:H:22:GLU:CG | 1:H:23:ASP:N | 0.48 | 2.76 | 7 | 2 |
| 1:F:13:HIS:ND1 | 1:F:14:HIS:O | 0.48 | 2.46 | 9 | 1 |
| 1:J:13:HIS:CE1 | 1:K:12:VAL:HG13 | 0.48 | 2.44 | 10 | 1 |
| 1:C:20:PHE:CE2 | 1:D:20:PHE:CE1 | 0.48 | 3.01 | 1 | 2 |
| 1:D:24:VAL:HG11 | 1:E:28:LYS:HG2 | 0.48 | 1.86 | 1 | 1 |
| 1:I:32:ILE:HG23 | 1:I:34:LEU:HD13 | 0.48 | 1.84 | 1 | 2 |
| 1:D:23:ASP:O | 1:E:24:VAL:O | 0.48 | 2.31 | 2 | 2 |
| 1:I:40:VAL:OXT | 1:I:40:VAL:HG22 | 0.48 | 2.09 | 3 | 1 |
| 1:F:14:HIS:CG | 1:F:15:GLN:N | 0.48 | 2.80 | 8 | 2 |
| 1:I:24:VAL:CG1 | 1:J:24:VAL:O | 0.48 | 2.62 | 4 | 1 |
| 1:I:27:ASN:CG | 1:I:28:LYS:N | 0.48 | 2.67 | 4 | 1 |
| 1:K:27:ASN:OD1 | 1:L:29:GLY:O | 0.48 | 2.31 | 4 | 2 |
| 1:B:17:LEU:HD11 | 1:D:36:VAL:HG21 | 0.48 | 1.83 | 7 | 2 |
| 1:B:23:ASP:OD2 | 1:C:24:VAL:N | 0.48 | 2.46 | 5 | 1 |
| 1:A:14:HIS:CE1 | 1:B:14:HIS:N | 0.48 | 2.82 | 6 | 1 |
| 1:C:36:VAL:O | 1:C:37:GLY:O | 0.48 | 2.32 | 6 | 2 |
| 1:F:21:ALA:O | 1:F:22:GLU:CB | 0.48 | 2.61 | 6 | 1 |
| 1:Q:12:VAL:CG1 | 1:Q:13:HIS:N | 0.48 | 2.76 | 6 | 1 |
| 1:O:12:VAL:CG1 | 1:O:13:HIS:H | 0.48 | 2.22 | 7 | 1 |
| 1:B:23:ASP:O | 1:B:24:VAL:CG2 | 0.48 | 2.62 | 8 | 1 |
| 1:F:12:VAL:CG2 | 1:F:13:HIS:N | 0.48 | 2.77 | 8 | 1 |
| 1:G:22:GLU:OE1 | 1:H:20:PHE:CE1 | 0.48 | 2.66 | 10 | 1 |
| 1:D:39:VAL:HG12 | 1:D:40:VAL:HG23 | 0.48 | 1.86 | 1 | 1 |
| 1:P:17:LEU:HD11 | 1:Q:15:GLN:NE2 | 0.48 | 2.23 | 1 | 1 |
| 1:I:14:HIS:CB | 1:J:14:HIS:O | 0.48 | 2.61 | 2 | 1 |
| 1:D:26:SER:O | 1:D:27:ASN:C | 0.48 | 2.52 | 3 | 1 |
| 1:F:14:HIS:ND1 | 1:F:15:GLN:O | 0.48 | 2.43 | 3 | 1 |
| 1:J:27:ASN:OD1 | 1:J:30:ALA:CA | 0.48 | 2.62 | 3 | 1 |
| 1:R:11:GLU:N | 1:R:11:GLU:OE1 | 0.48 | 2.45 | 3 | 1 |
| 1:R:13:HIS:ND1 | 1:R:13:HIS:N | 0.48 | 2.62 | 3 | 1 |
| 1:N:20:PHE:CD2 | 1:O:20:PHE:CD1 | 0.48 | 3.02 | 4 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:H:38:GLY:O | 1:I:39:VAL:HG23 | 0.48 | 2.08 | 5 | 1 |
| 1:C:38:GLY:O | 1:D:38:GLY:N | 0.48 | 2.43 | 6 | 1 |
| 1:D:15:GLN:CD | 1:F:36:VAL:HG22 | 0.48 | 2.28 | 7 | 1 |
| 1:D:26:SER:OG | 1:E:29:GLY:CA | 0.48 | 2.61 | 9 | 1 |
| 1:B:13:HIS:O | 1:C:13:HIS:NE2 | 0.48 | 2.47 | 2 | 1 |
| 1:F:31:ILE:HD12 | 1:Q:39:VAL:HG11 | 0.48 | 1.86 | 3 | 1 |
| 1:I:39:VAL:HG11 | 1:N:31:ILE:HD13 | 0.48 | 1.84 | 3 | 2 |
| 1:K:13:HIS:O | 1:L:13:HIS:CD2 | 0.48 | 2.67 | 5 | 1 |
| 1:N:15:GLN:HE22 | 1:P:36:VAL:C | 0.48 | 2.13 | 5 | 1 |
| 1:A:31:ILE:CD1 | 1:M:38:GLY:O | 0.48 | 2.61 | 6 | 2 |
| 1:B:24:VAL:HG21 | 1:C:25:GLY:H | 0.48 | 1.68 | 7 | 1 |
| 1:A:23:ASP:CG | 1:B:24:VAL:HG11 | 0.47 | 2.29 | 1 | 1 |
| 1:C:20:PHE:CD2 | 1:D:20:PHE:CD1 | 0.47 | 3.02 | 1 | 3 |
| 1:E:39:VAL:HG12 | 1:E:40:VAL:N | 0.47 | 2.23 | 1 | 1 |
| 1:K:23:ASP:OD1 | 1:L:27:ASN:O | 0.47 | 2.32 | 1 | 1 |
| 1:I:15:GLN:NE2 | 1:K:36:VAL:HG12 | 0.47 | 2.24 | 1 | 1 |
| 1:C:26:SER:O | 1:D:27:ASN:ND2 | 0.47 | 2.47 | 2 | 1 |
| 1:P:13:HIS:O | 1:Q:13:HIS:O | 0.47 | 2.32 | 6 | 3 |
| 1:E:23:ASP:N | 1:F:22:GLU:OE1 | 0.47 | 2.42 | 4 | 1 |
| 1:C:24:VAL:CG1 | 1:C:25:GLY:N | 0.47 | 2.76 | 5 | 2 |
| 1:K:24:VAL:HG22 | 1:K:25:GLY:N | 0.47 | 2.24 | 5 | 1 |
| 1:M:39:VAL:CG1 | 1:M:40:VAL:N | 0.47 | 2.76 | 5 | 1 |
| 1:Q:25:GLY:O | 1:Q:26:SER:CB | 0.47 | 2.61 | 9 | 3 |
| 1:J:13:HIS:C | 1:K:13:HIS:ND1 | 0.47 | 2.66 | 9 | 1 |
| 1:O:12:VAL:CG2 | 1:P:13:HIS:N | 0.47 | 2.77 | 9 | 1 |
| 1:K:38:GLY:O | 1:L:38:GLY:N | 0.47 | 2.47 | 2 | 1 |
| 1:M:12:VAL:O | 1:M:14:HIS:ND1 | 0.47 | 2.45 | 2 | 1 |
| 1:P:12:VAL:CG1 | 1:Q:13:HIS:CD2 | 0.47 | 2.97 | 3 | 1 |
| 1:B:23:ASP:CG | 1:C:24:VAL:O | 0.47 | 2.53 | 5 | 1 |
| 1:C:14:HIS:CD2 | 1:C:15:GLN:H | 0.47 | 2.27 | 10 | 2 |
| 1:I:12:VAL:O | 1:I:14:HIS:NE2 | 0.47 | 2.47 | 7 | 1 |
| 1:J:12:VAL:CG2 | 1:K:12:VAL:O | 0.47 | 2.62 | 7 | 1 |
| 1:I:20:PHE:CE2 | 1:J:20:PHE:CE1 | 0.47 | 3.03 | 7 | 1 |
| 1:O:32:ILE:HG23 | 1:O:34:LEU:HD13 | 0.47 | 1.86 | 7 | 1 |
| 1:O:39:VAL:O | 1:O:40:VAL:HG23 | 0.47 | 2.09 | 7 | 1 |
| 1:M:14:HIS:CG | 1:N:14:HIS:O | 0.47 | 2.67 | 9 | 1 |
| 1:O:39:VAL:HG12 | 1:P:39:VAL:H | 0.47 | 1.69 | 1 | 1 |
| 1:E:12:VAL:CG1 | 1:E:13:HIS:N | 0.47 | 2.77 | 3 | 1 |
| 1:H:20:PHE:CZ | 1:I:20:PHE:CG | 0.47 | 3.02 | 3 | 1 |
| 1:P:27:ASN:O | 1:P:28:LYS:CB | 0.47 | 2.62 | 3 | 1 |
| 1:N:23:ASP:HB2 | 1:O:24:VAL:H | 0.47 | 1.68 | 4 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:C:13:HIS:CB | 1:D:13:HIS:ND1 | 0.47 | 2.77 | 5 | 1 |
| 1:I:15:GLN:OE1 | 1:J:17:LEU:HD21 | 0.47 | 2.09 | 5 | 1 |
| 1:N:12:VAL:CG2 | 1:O:12:VAL:O | 0.47 | 2.62 | 5 | 1 |
| 1:E:30:ALA:O | 1:F:30:ALA:HB1 | 0.47 | 2.09 | 6 | 1 |
| 1:O:15:GLN:NE2 | 1:Q:37:GLY:O | 0.47 | 2.47 | 6 | 1 |
| 1:D:22:GLU:OE1 | 1:D:24:VAL:CG2 | 0.47 | 2.62 | 8 | 1 |
| 1:G:30:ALA:O | 1:H:29:GLY:O | 0.47 | 2.32 | 1 | 2 |
| 1:E:12:VAL:O | 1:E:14:HIS:ND1 | 0.47 | 2.43 | 3 | 1 |
| 1:R:32:ILE:HG23 | 1:R:34:LEU:CD1 | 0.47 | 2.39 | 3 | 1 |
| 1:H:17:LEU:HD12 | 1:I:17:LEU:HD22 | 0.47 | 1.87 | 9 | 2 |
| 1:M:17:LEU:CD1 | 1:O:36:VAL:HG21 | 0.47 | 2.40 | 4 | 1 |
| 1:Q:13:HIS:C | 1:Q:14:HIS:CD2 | 0.47 | 2.88 | 5 | 1 |
| 1:H:38:GLY:O | 1:H:39:VAL:C | 0.47 | 2.52 | 6 | 1 |
| 1:D:22:GLU:O | 1:D:24:VAL:HG23 | 0.47 | 2.09 | 10 | 1 |
| 1:B:31:ILE:HD12 | 1:N:39:VAL:O | 0.47 | 2.10 | 1 | 1 |
| 1:Q:24:VAL:CG1 | 1:Q:25:GLY:H | 0.47 | 2.21 | 1 | 3 |
| 1:G:19:PHE:CD2 | 1:H:19:PHE:CE1 | 0.47 | 3.02 | 7 | 3 |
| 1:O:23:ASP:OD2 | 1:P:27:ASN:ND2 | 0.47 | 2.48 | 5 | 1 |
| 1:D:13:HIS:CG | 1:F:40:VAL:CG2 | 0.47 | 2.97 | 6 | 1 |
| 1:Q:36:VAL:O | 1:R:35:MET:O | 0.47 | 2.32 | 8 | 2 |
| 1:N:37:GLY:O | 1:N:38:GLY:C | 0.47 | 2.52 | 8 | 1 |
| 1:N:23:ASP:H | 1:O:24:VAL:HG21 | 0.47 | 1.69 | 8 | 1 |
| 1:G:21:ALA:O | 1:H:22:GLU:O | 0.47 | 2.33 | 9 | 1 |
| 1:O:22:GLU:O | 1:O:23:ASP:OD1 | 0.47 | 2.33 | 10 | 1 |
| 1:C:13:HIS:ND1 | 1:F:40:VAL:O | 0.47 | 2.43 | 1 | 1 |
| 1:P:27:ASN:C | 1:P:27:ASN:HD22 | 0.47 | 2.13 | 5 | 2 |
| 1:J:26:SER:O | 1:K:27:ASN:O | 0.47 | 2.32 | 4 | 1 |
| 1:N:14:HIS:ND1 | 1:N:15:GLN:N | 0.47 | 2.62 | 4 | 1 |
| 1:C:24:VAL:CG1 | 1:D:24:VAL:O | 0.47 | 2.63 | 6 | 1 |
| 1:P:27:ASN:OD1 | 1:Q:27:ASN:ND2 | 0.47 | 2.47 | 6 | 1 |
| 1:O:12:VAL:CG1 | 1:O:13:HIS:N | 0.47 | 2.77 | 7 | 1 |
| 1:Q:33:GLY:O | 1:Q:34:LEU:HD12 | 0.47 | 2.08 | 10 | 1 |
| 1:L:23:ASP:O | 1:L:24:VAL:CG1 | 0.47 | 2.59 | 1 | 1 |
| 1:N:12:VAL:CG1 | 1:O:12:VAL:O | 0.47 | 2.62 | 1 | 1 |
| 1:I:34:LEU:O | 1:J:34:LEU:HD12 | 0.47 | 2.10 | 2 | 1 |
| 1:B:37:GLY:O | 1:C:37:GLY:O | 0.47 | 2.33 | 2 | 1 |
| 1:F:40:VAL:O | 1:F:40:VAL:HG22 | 0.47 | 2.10 | 2 | 1 |
| 1:I:11:GLU:OE1 | 1:I:11:GLU:N | 0.47 | 2.46 | 2 | 1 |
| 1:P:38:GLY:O | 1:Q:39:VAL:O | 0.47 | 2.31 | 2 | 1 |
| 1:O:19:PHE:CD2 | 1:P:19:PHE:CD1 | 0.47 | 3.02 | 10 | 2 |
| 1:E:29:GLY:O | 1:E:30:ALA:HB2 | 0.47 | 2.09 | 3 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:J:24:VAL:CG1 | 1:J:25:GLY:N | 0.47 | 2.77 | 3 | 2 |
| 1:A:22:GLU:O | 1:A:23:ASP:C | 0.47 | 2.53 | 6 | 2 |
| 1:E:12:VAL:O | 1:E:12:VAL:HG23 | 0.47 | 2.09 | 4 | 1 |
| 1:F:38:GLY:O | 1:F:39:VAL:O | 0.47 | 2.32 | 4 | 1 |
| 1:B:13:HIS:NE2 | 1:D:40:VAL:C | 0.47 | 2.68 | 5 | 1 |
| 1:O:13:HIS:CB | 1:P:13:HIS:HD1 | 0.47 | 2.22 | 5 | 1 |
| 1:I:40:VAL:HG12 | 1:I:40:VAL:O | 0.47 | 2.08 | 6 | 1 |
| 1:K:28:LYS:N | 1:L:29:GLY:O | 0.47 | 2.48 | 6 | 1 |
| 1:E:31:ILE:HD11 | 1:Q:39:VAL:HB | 0.47 | 1.87 | 6 | 1 |
| 1:I:15:GLN:CD | 1:J:15:GLN:NE2 | 0.47 | 2.68 | 7 | 1 |
| 1:C:17:LEU:HD21 | 1:E:36:VAL:HG21 | 0.47 | 1.86 | 7 | 1 |
| 1:H:12:VAL:O | 1:H:13:HIS:CG | 0.47 | 2.68 | 7 | 1 |
| 1:P:36:VAL:HG23 | 1:Q:36:VAL:HG22 | 0.47 | 1.87 | 7 | 1 |
| 1:G:15:GLN:HE21 | 1:G:17:LEU:HD11 | 0.47 | 1.68 | 8 | 1 |
| 1:L:24:VAL:CG1 | 1:L:25:GLY:N | 0.47 | 2.76 | 9 | 1 |
| 1:L:36:VAL:O | 1:L:36:VAL:CG1 | 0.47 | 2.61 | 9 | 1 |
| 1:P:14:HIS:ND1 | 1:Q:14:HIS:CG | 0.47 | 2.82 | 9 | 1 |
| 1:B:15:GLN:OE1 | 1:D:36:VAL:CG1 | 0.47 | 2.62 | 10 | 1 |
| 1:H:32:ILE:HG12 | 1:I:34:LEU:HD11 | 0.47 | 1.87 | 10 | 1 |
| 1:C:23:ASP:CG | 1:D:23:ASP:O | 0.47 | 2.53 | 1 | 1 |
| 1:L:12:VAL:HG23 | 1:L:12:VAL:O | 0.47 | 2.09 | 1 | 1 |
| 1:B:15:GLN:OE1 | 1:D:37:GLY:CA | 0.47 | 2.63 | 2 | 1 |
| 1:H:23:ASP:CB | 1:I:25:GLY:H | 0.47 | 2.23 | 2 | 1 |
| 1:B:39:VAL:O | 1:H:31:ILE:CD1 | 0.47 | 2.63 | 2 | 1 |
| 1:B:13:HIS:NE2 | 1:J:28:LYS:CE | 0.47 | 2.78 | 2 | 1 |
| 1:C:23:ASP:CB | 1:C:27:ASN:OD1 | 0.47 | 2.63 | 4 | 1 |
| 1:L:24:VAL:CG2 | 1:L:25:GLY:H | 0.47 | 2.19 | 5 | 1 |
| 1:C:27:ASN:O | 1:D:27:ASN:ND2 | 0.47 | 2.47 | 6 | 1 |
| 1:I:15:GLN:OE1 | 1:J:15:GLN:OE1 | 0.47 | 2.32 | 6 | 1 |
| 1:Q:22:GLU:O | 1:Q:23:ASP:OD1 | 0.47 | 2.33 | 7 | 1 |
| 1:E:34:LEU:HG | 1:E:36:VAL:HG23 | 0.47 | 1.87 | 9 | 1 |
| 1:G:15:GLN:OE1 | 1:J:36:VAL:CG2 | 0.47 | 2.63 | 9 | 1 |
| 1:L:27:ASN:O | 1:L:28:LYS:CG | 0.47 | 2.63 | 9 | 1 |
| 1:B:31:ILE:CD1 | 1:O:39:VAL:HG21 | 0.47 | 2.39 | 10 | 1 |
| 1:D:39:VAL:O | 1:D:40:VAL:OXT | 0.47 | 2.33 | 10 | 1 |
| 1:C:39:VAL:HG13 | 1:I:31:ILE:CD1 | 0.47 | 2.39 | 1 | 1 |
| 1:C:14:HIS:HD1 | 1:D:14:HIS:H | 0.47 | 1.50 | 1 | 2 |
| 1:K:31:ILE:HG23 | 1:K:31:ILE:O | 0.47 | 2.09 | 6 | 2 |
| 1:H:19:PHE:CD1 | 1:I:19:PHE:CD2 | 0.47 | 3.03 | 4 | 1 |
| 1:L:13:HIS:ND1 | 1:L:13:HIS:C | 0.47 | 2.67 | 5 | 1 |
| 1:O:13:HIS:O | 1:P:13:HIS:CD2 | 0.47 | 2.68 | 6 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:12:VAL:HG13 | 1:B:12:VAL:O | 0.47 | 2.10 | 7 | 1 |
| 1:I:13:HIS:C | 1:I:14:HIS:CD2 | 0.47 | 2.88 | 7 | 1 |
| 1:I:15:GLN:HE21 | 1:K:36:VAL:CG1 | 0.47 | 2.17 | 7 | 1 |
| 1:I:15:GLN:NE2 | 1:J:15:GLN:HE22 | 0.47 | 2.08 | 7 | 1 |
| 1:N:32:ILE:CG2 | 1:O:34:LEU:HD11 | 0.47 | 2.40 | 9 | 1 |
| 1:B:22:GLU:O | 1:C:23:ASP:OD1 | 0.47 | 2.33 | 10 | 1 |
| 1:I:27:ASN:ND2 | 1:I:30:ALA:HB2 | 0.47 | 2.25 | 10 | 1 |
| 1:I:27:ASN:OD1 | 1:I:29:GLY:N | 0.47 | 2.46 | 10 | 1 |
| 1:E:36:VAL:HG12 | 1:F:34:LEU:HD11 | 0.47 | 1.86 | 1 | 1 |
| 1:D:23:ASP:OD2 | 1:E:22:GLU:O | 0.47 | 2.31 | 2 | 2 |
| 1:N:13:HIS:CE1 | 1:O:13:HIS:CE1 | 0.47 | 3.03 | 3 | 1 |
| 1:O:22:GLU:O | 1:O:23:ASP:CG | 0.47 | 2.53 | 4 | 1 |
| 1:C:13:HIS:C | 1:C:14:HIS:CG | 0.47 | 2.88 | 6 | 2 |
| 1:R:24:VAL:HG23 | 1:R:25:GLY:N | 0.47 | 2.25 | 5 | 1 |
| 1:M:12:VAL:HG23 | 1:M:12:VAL:O | 0.47 | 2.08 | 9 | 2 |
| 1:P:25:GLY:O | 1:Q:27:ASN:ND2 | 0.47 | 2.48 | 10 | 1 |
| 1:O:23:ASP:OD2 | 1:O:27:ASN:OD1 | 0.46 | 2.33 | 2 | 1 |
| 1:Q:27:ASN:O | 1:Q:28:LYS:C | 0.46 | 2.54 | 3 | 1 |
| 1:L:21:ALA:O | 1:L:24:VAL:CG2 | 0.46 | 2.63 | 7 | 1 |
| 1:C:17:LEU:HD12 | 1:C:17:LEU:H | 0.46 | 1.67 | 8 | 1 |
| 1:P:15:GLN:NE2 | 1:R:36:VAL:O | 0.46 | 2.48 | 9 | 1 |
| 1:O:39:VAL:CG2 | 1:O:40:VAL:N | 0.46 | 2.77 | 2 | 4 |
| 1:H:14:HIS:CD2 | 1:H:15:GLN:N | 0.46 | 2.84 | 3 | 1 |
| 1:Q:23:ASP:C | 1:Q:24:VAL:O | 0.46 | 2.53 | 3 | 1 |
| 1:Q:23:ASP:OD1 | 1:R:22:GLU:O | 0.46 | 2.33 | 3 | 1 |
| 1:J:15:GLN:CD | 1:K:17:LEU:HD21 | 0.46 | 2.30 | 5 | 1 |
| 1:A:38:GLY:O | 1:H:31:ILE:HD13 | 0.46 | 2.10 | 6 | 1 |
| 1:M:23:ASP:O | 1:M:23:ASP:OD1 | 0.46 | 2.34 | 6 | 1 |
| 1:P:36:VAL:O | 1:P:37:GLY:O | 0.46 | 2.33 | 6 | 1 |
| 1:C:21:ALA:HB1 | 1:C:24:VAL:HG21 | 0.46 | 1.85 | 7 | 1 |
| 1:J:12:VAL:C | 1:J:13:HIS:CD2 | 0.46 | 2.88 | 9 | 1 |
| 1:I:21:ALA:HB3 | 1:J:28:LYS:NZ | 0.46 | 2.26 | 9 | 1 |
| 1:L:40:VAL:OXT | 1:L:40:VAL:CG1 | 0.46 | 2.63 | 9 | 1 |
| 1:N:25:GLY:O | 1:N:26:SER:CB | 0.46 | 2.64 | 9 | 1 |
| 1:C:26:SER:O | 1:C:27:ASN:O | 0.46 | 2.33 | 10 | 1 |
| 1:E:14:HIS:ND1 | 1:E:14:HIS:C | 0.46 | 2.69 | 10 | 1 |
| 1:E:24:VAL:CG1 | 1:E:25:GLY:H | 0.46 | 2.19 | 10 | 1 |
| 1:O:17:LEU:HD21 | 1:Q:36:VAL:CG2 | 0.46 | 2.38 | 1 | 1 |
| 1:B:31:ILE:CD1 | 1:N:39:VAL:HG22 | 0.46 | 2.40 | 2 | 1 |
| 1:Q:19:PHE:CZ | 1:Q:21:ALA:HB3 | 0.46 | 2.45 | 3 | 1 |
| 1:C:25:GLY:O | 1:C:26:SER:OG | 0.46 | 2.28 | 8 | 3 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:D:20:PHE:CZ | 1:E:20:PHE:CE2 | 0.46 | 3.04 | 4 | 1 |
| 1:H:13:HIS:CD2 | 1:J:40:VAL:HG13 | 0.46 | 2.45 | 4 | 1 |
| 1:J:14:HIS:CE1 | 1:J:15:GLN:O | 0.46 | 2.68 | 10 | 2 |
| 1:G:14:HIS:CE1 | 1:H:14:HIS:O | 0.46 | 2.68 | 5 | 1 |
| 1:G:14:HIS:CG | 1:H:14:HIS:CE1 | 0.46 | 3.03 | 5 | 1 |
| 1:G:14:HIS:CE1 | 1:H:14:HIS:CG | 0.46 | 3.04 | 5 | 1 |
| 1:I:36:VAL:CG2 | 1:J:34:LEU:HD21 | 0.46 | 2.39 | 5 | 1 |
| 1:R:15:GLN:NE2 | 1:R:15:GLN:H | 0.46 | 2.08 | 6 | 1 |
| 1:E:27:ASN:OD1 | 1:F:29:GLY:O | 0.46 | 2.34 | 8 | 2 |
| 1:I:27:ASN:HD21 | 1:J:29:GLY:C | 0.46 | 2.14 | 8 | 1 |
| 1:R:14:HIS:CD2 | 1:R:15:GLN:O | 0.46 | 2.69 | 8 | 1 |
| 1:C:19:PHE:CZ | 1:F:34:LEU:HD22 | 0.46 | 2.44 | 9 | 1 |
| 1:B:12:VAL:O | 1:B:14:HIS:CD2 | 0.46 | 2.69 | 1 | 1 |
| 1:I:24:VAL:CG1 | 1:I:25:GLY:N | 0.46 | 2.76 | 1 | 2 |
| 1:B:16:LYS:HZ3 | 1:B:18:VAL:CG2 | 0.46 | 2.23 | 2 | 1 |
| 1:P:23:ASP:O | 1:Q:23:ASP:O | 0.46 | 2.33 | 2 | 1 |
| 1:D:22:GLU:O | 1:D:24:VAL:N | 0.46 | 2.44 | 10 | 2 |
| 1:D:23:ASP:O | 1:E:22:GLU:O | 0.46 | 2.34 | 4 | 1 |
| 1:G:17:LEU:HD22 | 1:G:19:PHE:CZ | 0.46 | 2.45 | 4 | 1 |
| 1:F:12:VAL:O | 1:F:12:VAL:HG13 | 0.46 | 2.10 | 7 | 1 |
| 1:B:15:GLN:NE2 | 1:D:36:VAL:HG12 | 0.46 | 2.25 | 8 | 1 |
| 1:P:39:VAL:O | 1:P:40:VAL:O | 0.46 | 2.33 | 8 | 1 |
| 1:F:31:ILE:CD1 | 1:R:38:GLY:O | 0.46 | 2.63 | 1 | 1 |
| 1:B:24:VAL:CG1 | 1:B:25:GLY:N | 0.46 | 2.79 | 2 | 2 |
| 1:P:24:VAL:O | 1:Q:26:SER:OG | 0.46 | 2.34 | 2 | 1 |
| 1:H:34:LEU:O | 1:I:34:LEU:CB | 0.46 | 2.63 | 3 | 2 |
| 1:P:40:VAL:O | 1:P:40:VAL:CG1 | 0.46 | 2.63 | 3 | 1 |
| 1:D:23:ASP:OD1 | 1:D:24:VAL:N | 0.46 | 2.46 | 4 | 1 |
| 1:H:19:PHE:CE1 | 1:I:19:PHE:CE2 | 0.46 | 3.03 | 4 | 1 |
| 1:B:23:ASP:HB3 | 1:C:24:VAL:H | 0.46 | 1.71 | 5 | 1 |
| 1:P:24:VAL:HG22 | 1:P:25:GLY:H | 0.46 | 1.69 | 5 | 1 |
| 1:K:19:PHE:CD1 | 1:L:19:PHE:CD1 | 0.46 | 3.04 | 6 | 1 |
| 1:N:19:PHE:CD2 | 1:O:19:PHE:CD1 | 0.46 | 3.03 | 6 | 2 |
| 1:R:40:VAL:O | 1:R:40:VAL:HG22 | 0.46 | 2.09 | 7 | 1 |
| 1:B:21:ALA:C | 1:C:23:ASP:OD1 | 0.46 | 2.54 | 8 | 1 |
| 1:I:13:HIS:C | 1:I:13:HIS:CD2 | 0.46 | 2.89 | 8 | 1 |
| 1:C:20:PHE:CZ | 1:D:20:PHE:CG | 0.46 | 3.03 | 9 | 1 |
| 1:H:21:ALA:HB1 | 1:I:28:LYS:HD3 | 0.46 | 1.86 | 9 | 1 |
| 1:P:12:VAL:HG22 | 1:P:13:HIS:N | 0.46 | 2.25 | 9 | 1 |
| 1:B:31:ILE:HD13 | 1:O:39:VAL:HG21 | 0.46 | 1.86 | 10 | 1 |
| 1:J:38:GLY:O | 1:K:39:VAL:HG12 | 0.46 | 2.11 | 10 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:R:24:VAL:CG2 | 1:R:25:GLY:N | 0.46 | 2.78 | 2 | 1 |
| 1:D:39:VAL:HG13 | 1:D:40:VAL:N | 0.46 | 2.25 | 3 | 1 |
| 1:L:40:VAL:CG1 | 1:L:40:VAL:O | 0.46 | 2.63 | 3 | 1 |
| 1:B:13:HIS:C | 1:B:14:HIS:ND1 | 0.46 | 2.69 | 5 | 1 |
| 1:I:23:ASP:OD2 | 1:J:24:VAL:O | 0.46 | 2.33 | 6 | 1 |
| 1:E:14:HIS:HD1 | 1:F:14:HIS:N | 0.46 | 2.09 | 8 | 1 |
| 1:R:22:GLU:O | 1:R:23:ASP:C | 0.46 | 2.53 | 8 | 1 |
| 1:K:23:ASP:OD2 | 1:L:22:GLU:O | 0.46 | 2.34 | 9 | 1 |
| 1:C:22:GLU:O | 1:C:23:ASP:CG | 0.46 | 2.53 | 1 | 1 |
| 1:Q:39:VAL:CG1 | 1:Q:40:VAL:N | 0.46 | 2.78 | 1 | 1 |
| 1:L:39:VAL:O | 1:L:40:VAL:OXT | 0.46 | 2.34 | 3 | 2 |
| 1:C:39:VAL:O | 1:C:40:VAL:O | 0.46 | 2.34 | 2 | 4 |
| 1:N:24:VAL:CG2 | 1:O:27:ASN:OD1 | 0.46 | 2.64 | 2 | 1 |
| 1:J:19:PHE:CE1 | 1:K:19:PHE:CE2 | 0.46 | 3.04 | 4 | 1 |
| 1:O:27:ASN:O | 1:P:28:LYS:O | 0.46 | 2.33 | 8 | 1 |
| 1:O:17:LEU:CD1 | 1:Q:36:VAL:HG11 | 0.46 | 2.41 | 8 | 1 |
| 1:D:39:VAL:HG12 | 1:J:31:ILE:HD13 | 0.46 | 1.88 | 10 | 1 |
| 1:D:39:VAL:HG22 | 1:J:31:ILE:CD1 | 0.46 | 2.41 | 1 | 1 |
| 1:P:28:LYS:O | 1:Q:29:GLY:O | 0.46 | 2.33 | 1 | 1 |
| 1:A:13:HIS:O | 1:B:13:HIS:CB | 0.46 | 2.64 | 2 | 1 |
| 1:C:24:VAL:HG22 | 1:D:25:GLY:CA | 0.46 | 2.41 | 2 | 1 |
| 1:J:14:HIS:CG | 1:J:15:GLN:N | 0.46 | 2.83 | 2 | 1 |
| 1:P:27:ASN:O | 1:P:28:LYS:C | 0.46 | 2.54 | 2 | 2 |
| 1:P:36:VAL:O | 1:P:36:VAL:HG13 | 0.46 | 2.11 | 3 | 1 |
| 1:Q:27:ASN:ND2 | 1:R:29:GLY:O | 0.46 | 2.47 | 3 | 1 |
| 1:G:12:VAL:HG13 | 1:G:12:VAL:O | 0.46 | 2.10 | 7 | 1 |
| 1:B:14:HIS:ND1 | 1:C:14:HIS:CE1 | 0.46 | 2.84 | 8 | 1 |
| 1:I:25:GLY:O | 1:J:26:SER:OG | 0.46 | 2.34 | 8 | 1 |
| 1:A:17:LEU:HD21 | 1:C:36:VAL:HG21 | 0.46 | 1.88 | 10 | 1 |
| 1:H:13:HIS:CE1 | 1:I:13:HIS:NE2 | 0.46 | 2.84 | 10 | 1 |
| 1:O:13:HIS:C | 1:O:13:HIS:ND1 | 0.46 | 2.67 | 10 | 1 |
| 1:P:26:SER:OG | 1:Q:28:LYS:O | 0.46 | 2.31 | 1 | 1 |
| 1:P:25:GLY:O | 1:Q:28:LYS:O | 0.46 | 2.34 | 2 | 1 |
| 1:N:22:GLU:CG | 1:N:23:ASP:H | 0.46 | 2.23 | 3 | 1 |
| 1:H:22:GLU:O | 1:H:23:ASP:C | 0.46 | 2.54 | 4 | 1 |
| 1:P:13:HIS:ND1 | 1:P:14:HIS:N | 0.46 | 2.64 | 6 | 1 |
| 1:I:20:PHE:CE2 | 1:J:20:PHE:CG | 0.46 | 3.04 | 8 | 1 |
| 1:P:23:ASP:OD2 | 1:Q:22:GLU:O | 0.46 | 2.33 | 8 | 1 |
| 1:R:38:GLY:O | 1:R:39:VAL:O | 0.46 | 2.34 | 8 | 1 |
| 1:R:14:HIS:ND1 | 1:R:15:GLN:N | 0.46 | 2.63 | 10 | 1 |
| 1:B:12:VAL:CB | 1:C:12:VAL:O | 0.46 | 2.64 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:22:GLU:O | 1:B:24:VAL:CG1 | 0.46 | 2.63 | 2 | 1 |
| 1:L:36:VAL:O | 1:L:37:GLY:O | 0.46 | 2.33 | 2 | 1 |
| 1:H:14:HIS:CA | 1:I:13:HIS:CE1 | 0.46 | 2.99 | 3 | 1 |
| 1:I:13:HIS:N | 1:J:13:HIS:ND1 | 0.46 | 2.63 | 3 | 1 |
| 1:R:13:HIS:O | 1:R:14:HIS:CG | 0.46 | 2.69 | 3 | 1 |
| 1:E:38:GLY:O | 1:L:31:ILE:CD1 | 0.46 | 2.64 | 5 | 1 |
| 1:O:23:ASP:O | 1:P:25:GLY:CA | 0.46 | 2.64 | 5 | 1 |
| 1:K:40:VAL:O | 1:K:40:VAL:HG23 | 0.46 | 2.10 | 7 | 1 |
| 1:O:12:VAL:CG2 | 1:P:12:VAL:H | 0.46 | 2.22 | 7 | 1 |
| 1:C:22:GLU:OE1 | 1:D:22:GLU:OE1 | 0.46 | 2.34 | 10 | 2 |
| 1:F:31:ILE:HD12 | 1:R:39:VAL:CG2 | 0.45 | 2.40 | 1 | 1 |
| 1:G:18:VAL:HG13 | 1:G:18:VAL:O | 0.45 | 2.12 | 2 | 1 |
| 1:E:12:VAL:HG12 | 1:E:13:HIS:N | 0.45 | 2.25 | 3 | 1 |
| 1:D:11:GLU:CG | 1:D:13:HIS:HE2 | 0.45 | 2.24 | 4 | 1 |
| 1:B:13:HIS:C | 1:B:13:HIS:ND1 | 0.45 | 2.67 | 5 | 1 |
| 1:B:27:ASN:CG | 1:B:28:LYS:N | 0.45 | 2.69 | 5 | 1 |
| 1:D:22:GLU:O | 1:D:23:ASP:OD1 | 0.45 | 2.34 | 5 | 1 |
| 1:B:14:HIS:C | 1:B:14:HIS:ND1 | 0.45 | 2.70 | 6 | 1 |
| 1:H:15:GLN:NE2 | 1:H:17:LEU:HD11 | 0.45 | 2.25 | 6 | 1 |
| 1:C:22:GLU:O | 1:C:24:VAL:N | 0.45 | 2.49 | 7 | 1 |
| 1:C:26:SER:O | 1:C:27:ASN:CB | 0.45 | 2.64 | 7 | 1 |
| 1:H:34:LEU:HB3 | 1:I:34:LEU:HD22 | 0.45 | 1.86 | 8 | 1 |
| 1:J:36:VAL:HG12 | 1:K:34:LEU:HD11 | 0.45 | 1.87 | 9 | 1 |
| 1:C:27:ASN:ND2 | 1:C:28:LYS:H | 0.45 | 2.09 | 10 | 1 |
| 1:D:20:PHE:CD1 | 1:D:20:PHE:C | 0.45 | 2.90 | 1 | 2 |
| 1:H:39:VAL:O | 1:I:39:VAL:CG1 | 0.45 | 2.64 | 3 | 1 |
| 1:A:38:GLY:O | 1:A:39:VAL:O | 0.45 | 2.33 | 5 | 2 |
| 1:J:10:TYR:CE2 | 1:K:9:GLY:O | 0.45 | 2.70 | 4 | 1 |
| 1:A:14:HIS:CE1 | 1:A:16:LYS:NZ | 0.45 | 2.85 | 5 | 1 |
| 1:G:31:ILE:O | 1:G:31:ILE:HG23 | 0.45 | 2.10 | 6 | 1 |
| 1:K:32:ILE:HG22 | 1:L:34:LEU:HD21 | 0.45 | 1.87 | 6 | 1 |
| 1:C:38:GLY:O | 1:D:38:GLY:CA | 0.45 | 2.64 | 8 | 1 |
| 1:N:22:GLU:O | 1:N:23:ASP:C | 0.45 | 2.54 | 8 | 1 |
| 1:O:34:LEU:HD12 | 1:P:34:LEU:HD21 | 0.45 | 1.86 | 8 | 1 |
| 1:I:22:GLU:HG2 | 1:I:23:ASP:H | 0.45 | 1.71 | 10 | 1 |
| 1:K:14:HIS:CD2 | 1:L:13:HIS:O | 0.45 | 2.69 | 10 | 1 |
| 1:K:23:ASP:OD2 | 1:L:23:ASP:OD2 | 0.45 | 2.34 | 10 | 1 |
| 1:D:26:SER:O | 1:E:28:LYS:O | 0.45 | 2.34 | 1 | 1 |
| 1:E:39:VAL:CG1 | 1:E:40:VAL:N | 0.45 | 2.79 | 1 | 1 |
| 1:K:36:VAL:O | 1:K:37:GLY:O | 0.45 | 2.34 | 2 | 2 |
| 1:K:34:LEU:HD23 | 1:K:35:MET:H | 0.45 | 1.72 | 3 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:P:40:VAL:HG12 | 1:P:40:VAL:O | 0.45 | 2.10 | 3 | 1 |
| 1:F:13:HIS:H | 1:F:13:HIS:CD2 | 0.45 | 2.30 | 4 | 1 |
| 1:M:31:ILE:O | 1:M:31:ILE:HG23 | 0.45 | 2.10 | 4 | 1 |
| 1:C:23:ASP:OD2 | 1:D:24:VAL:N | 0.45 | 2.45 | 5 | 1 |
| 1:B:26:SER:CB | 1:C:26:SER:O | 0.45 | 2.64 | 6 | 1 |
| 1:K:24:VAL:O | 1:L:26:SER:OG | 0.45 | 2.33 | 6 | 2 |
| 1:Q:23:ASP:O | 1:R:23:ASP:O | 0.45 | 2.33 | 7 | 1 |
| 1:J:20:PHE:CD1 | 1:J:20:PHE:C | 0.45 | 2.90 | 8 | 1 |
| 1:O:12:VAL:O | 1:O:13:HIS:CD2 | 0.45 | 2.69 | 8 | 1 |
| 1:J:27:ASN:O | 1:K:28:LYS:O | 0.45 | 2.35 | 10 | 1 |
| 1:E:36:VAL:CG1 | 1:F:36:VAL:HG12 | 0.45 | 2.42 | 1 | 1 |
| 1:H:15:GLN:HE22 | 1:K:36:VAL:CG1 | 0.45 | 2.17 | 1 | 1 |
| 1:J:38:GLY:O | 1:K:39:VAL:O | 0.45 | 2.34 | 1 | 1 |
| 1:O:23:ASP:O | 1:P:24:VAL:O | 0.45 | 2.34 | 1 | 2 |
| 1:O:17:LEU:CD2 | 1:Q:36:VAL:HG21 | 0.45 | 2.38 | 1 | 1 |
| 1:C:40:VAL:HG13 | 1:C:40:VAL:OXT | 0.45 | 2.12 | 2 | 1 |
| 1:D:15:GLN:NE2 | 1:F:36:VAL:HG12 | 0.45 | 2.25 | 2 | 1 |
| 1:G:14:HIS:CE1 | 1:H:14:HIS:H | 0.45 | 2.28 | 2 | 1 |
| 1:K:26:SER:OG | 1:K:27:ASN:N | 0.45 | 2.48 | 2 | 1 |
| 1:D:36:VAL:HG13 | 1:E:36:VAL:HG12 | 0.45 | 1.83 | 4 | 1 |
| 1:F:31:ILE:CD1 | 1:R:39:VAL:HG22 | 0.45 | 2.40 | 5 | 1 |
| 1:A:14:HIS:ND1 | 1:B:14:HIS:N | 0.45 | 2.62 | 6 | 1 |
| 1:G:13:HIS:CE1 | 1:H:13:HIS:CE1 | 0.45 | 3.04 | 7 | 1 |
| 1:I:13:HIS:CD2 | 1:I:13:HIS:N | 0.45 | 2.84 | 7 | 1 |
| 1:I:23:ASP:O | 1:J:27:ASN:ND2 | 0.45 | 2.49 | 7 | 1 |
| 1:M:20:PHE:N | 1:M:20:PHE:CD1 | 0.45 | 2.84 | 9 | 1 |
| 1:O:12:VAL:O | 1:O:14:HIS:CE1 | 0.45 | 2.69 | 9 | 1 |
| 1:M:13:HIS:O | 1:N:13:HIS:CG | 0.45 | 2.69 | 10 | 1 |
| 1:O:24:VAL:O | 1:P:25:GLY:O | 0.45 | 2.34 | 1 | 2 |
| 1:J:34:LEU:N | 1:J:34:LEU:HD12 | 0.45 | 2.26 | 4 | 1 |
| 1:L:19:PHE:O | 1:L:19:PHE:CG | 0.45 | 2.70 | 5 | 2 |
| 1:G:10:TYR:CD2 | 1:G:11:GLU:O | 0.45 | 2.69 | 6 | 1 |
| 1:G:12:VAL:O | 1:G:12:VAL:CG2 | 0.45 | 2.65 | 6 | 1 |
| 1:I:23:ASP:O | 1:J:24:VAL:O | 0.45 | 2.33 | 6 | 1 |
| 1:P:20:PHE:CD1 | 1:P:20:PHE:C | 0.45 | 2.90 | 7 | 2 |
| 1:I:19:PHE:CD2 | 1:J:19:PHE:CD1 | 0.45 | 3.04 | 9 | 1 |
| 1:G:12:VAL:CG2 | 1:H:12:VAL:O | 0.45 | 2.64 | 10 | 1 |
| 1:F:39:VAL:CG1 | 1:L:29:GLY:H | 0.45 | 2.24 | 10 | 1 |
| 1:O:17:LEU:HD21 | 1:Q:36:VAL:HG11 | 0.45 | 1.89 | 10 | 1 |
| 1:D:26:SER:OG | 1:E:28:LYS:O | 0.45 | 2.31 | 1 | 2 |
| 1:F:13:HIS:O | 1:F:13:HIS:CD2 | 0.45 | 2.70 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:I:38:GLY:O | 1:I:39:VAL:O | 0.45 | 2.33 | 1 | 1 |
| 1:A:12:VAL:O | 1:A:14:HIS:CD2 | 0.45 | 2.69 | 2 | 1 |
| 1:J:38:GLY:O | 1:K:39:VAL:CG2 | 0.45 | 2.65 | 3 | 2 |
| 1:D:13:HIS:O | 1:D:14:HIS:ND1 | 0.45 | 2.49 | 4 | 1 |
| 1:D:32:ILE:HG22 | 1:E:34:LEU:HD11 | 0.45 | 1.86 | 4 | 1 |
| 1:G:38:GLY:O | 1:H:39:VAL:O | 0.45 | 2.34 | 4 | 2 |
| 1:E:28:LYS:O | 1:F:29:GLY:C | 0.45 | 2.55 | 6 | 1 |
| 1:H:14:HIS:CE1 | 1:H:15:GLN:O | 0.45 | 2.70 | 8 | 1 |
| 1:F:13:HIS:CG | 1:F:13:HIS:O | 0.45 | 2.70 | 3 | 2 |
| 1:C:36:VAL:HB | 1:D:36:VAL:HG22 | 0.45 | 1.88 | 2 | 1 |
| 1:D:15:GLN:NE2 | 1:F:36:VAL:CG1 | 0.45 | 2.79 | 2 | 1 |
| 1:B:17:LEU:HD23 | 1:C:17:LEU:CD1 | 0.45 | 2.41 | 3 | 1 |
| 1:C:13:HIS:CD2 | 1:K:28:LYS:HZ1 | 0.45 | 2.30 | 5 | 1 |
| 1:I:40:VAL:N | 1:J:39:VAL:CG1 | 0.45 | 2.79 | 6 | 1 |
| 1:A:15:GLN:HE22 | 1:C:36:VAL:C | 0.45 | 2.15 | 8 | 1 |
| 1:N:13:HIS:ND1 | 1:P:40:VAL:HG12 | 0.45 | 2.27 | 10 | 1 |
| 1:C:17:LEU:HD23 | 1:C:19:PHE:CZ | 0.45 | 2.46 | 1 | 1 |
| 1:J:40:VAL:H | 1:K:40:VAL:CG2 | 0.45 | 2.25 | 1 | 1 |
| 1:P:23:ASP:OD2 | 1:Q:26:SER:O | 0.45 | 2.34 | 1 | 1 |
| 1:D:17:LEU:HD12 | 1:E:17:LEU:HD22 | 0.45 | 1.89 | 3 | 1 |
| 1:L:21:ALA:O | 1:L:24:VAL:CG1 | 0.45 | 2.65 | 8 | 2 |
| 1:C:36:VAL:HG22 | 1:D:34:LEU:HD21 | 0.45 | 1.88 | 4 | 1 |
| 1:M:36:VAL:O | 1:M:37:GLY:C | 0.45 | 2.55 | 4 | 1 |
| 1:J:35:MET:SD | 1:K:35:MET:CG | 0.45 | 3.04 | 7 | 2 |
| 1:A:12:VAL:O | 1:A:12:VAL:HG12 | 0.45 | 2.12 | 7 | 1 |
| 1:O:23:ASP:OD2 | 1:Q:29:GLY:O | 0.45 | 2.35 | 7 | 1 |
| 1:A:39:VAL:HG11 | 1:B:37:GLY:O | 0.45 | 2.11 | 9 | 1 |
| 1:P:12:VAL:CG1 | 1:Q:12:VAL:O | 0.45 | 2.65 | 9 | 1 |
| 1:P:12:VAL:CG2 | 1:P:13:HIS:N | 0.45 | 2.80 | 9 | 1 |
| 1:E:23:ASP:O | 1:E:23:ASP:OD1 | 0.45 | 2.35 | 10 | 2 |
| 1:A:34:LEU:O | 1:B:34:LEU:HD12 | 0.45 | 2.12 | 10 | 1 |
| 1:N:12:VAL:HG23 | 1:O:13:HIS:N | 0.45 | 2.27 | 10 | 1 |
| 1:O:12:VAL:CG2 | 1:P:12:VAL:N | 0.45 | 2.79 | 10 | 1 |
| 1:B:31:ILE:HD11 | 1:N:39:VAL:HG13 | 0.45 | 1.88 | 2 | 1 |
| 1:G:38:GLY:CA | 1:H:37:GLY:O | 0.45 | 2.64 | 3 | 1 |
| 1:O:38:GLY:O | 1:P:38:GLY:N | 0.45 | 2.50 | 3 | 1 |
| 1:Q:27:ASN:HD21 | 1:R:29:GLY:C | 0.45 | 2.15 | 3 | 1 |
| 1:E:38:GLY:N | 1:F:38:GLY:CA | 0.45 | 2.80 | 4 | 1 |
| 1:P:22:GLU:O | 1:P:23:ASP:OD1 | 0.45 | 2.35 | 6 | 1 |
| 1:K:40:VAL:O | 1:L:40:VAL:OXT | 0.45 | 2.34 | 9 | 1 |
| 1:P:27:ASN:O | 1:Q:28:LYS:CD | 0.45 | 2.65 | 9 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:23:ASP:O | 1:C:23:ASP:OD1 | 0.45 | 2.35 | 10 | 1 |
| 1:B:35:MET:CE | 1:C:35:MET:SD | 0.45 | 3.05 | 10 | 1 |
| 1:K:39:VAL:O | 1:K:40:VAL:O | 0.45 | 2.35 | 1 | 2 |
| 1:G:32:ILE:CG1 | 1:G:33:GLY:N | 0.45 | 2.80 | 3 | 1 |
| 1:I:26:SER:O | 1:J:27:ASN:OD1 | 0.45 | 2.35 | 5 | 1 |
| 1:J:16:LYS:C | 1:J:17:LEU:HD23 | 0.45 | 2.32 | 5 | 1 |
| 1:N:23:ASP:O | 1:N:23:ASP:OD1 | 0.45 | 2.35 | 9 | 2 |
| 1:C:17:LEU:HD13 | 1:D:17:LEU:CD2 | 0.45 | 2.42 | 8 | 1 |
| 1:Q:19:PHE:CD1 | 1:Q:19:PHE:C | 0.45 | 2.89 | 9 | 1 |
| 1:C:39:VAL:CG2 | 1:C:40:VAL:N | 0.45 | 2.80 | 10 | 1 |
| 1:C:39:VAL:O | 1:C:40:VAL:OXT | 0.44 | 2.35 | 1 | 1 |
| 1:B:39:VAL:HG12 | 1:H:31:ILE:CD1 | 0.44 | 2.41 | 1 | 1 |
| 1:J:40:VAL:H | 1:K:40:VAL:HG23 | 0.44 | 1.72 | 1 | 1 |
| 1:E:36:VAL:O | 1:F:37:GLY:N | 0.44 | 2.50 | 3 | 1 |
| 1:M:13:HIS:C | 1:M:14:HIS:CG | 0.44 | 2.90 | 4 | 1 |
| 1:B:19:PHE:CD2 | 1:C:19:PHE:CD1 | 0.44 | 3.05 | 5 | 1 |
| 1:G:33:GLY:CA | 1:H:33:GLY:O | 0.44 | 2.65 | 5 | 1 |
| 1:O:13:HIS:CE1 | 1:Q:40:VAL:O | 0.44 | 2.70 | 5 | 1 |
| 1:E:40:VAL:O | 1:F:39:VAL:O | 0.44 | 2.34 | 6 | 1 |
| 1:Q:26:SER:O | 1:Q:27:ASN:O | 0.44 | 2.35 | 7 | 1 |
| 1:I:22:GLU:O | 1:I:23:ASP:CG | 0.44 | 2.56 | 10 | 2 |
| 1:H:37:GLY:O | 1:H:39:VAL:N | 0.44 | 2.50 | 8 | 1 |
| 1:A:14:HIS:HD1 | 1:A:14:HIS:N | 0.44 | 2.09 | 9 | 1 |
| 1:Q:12:VAL:CG1 | 1:R:13:HIS:CG | 0.44 | 3.00 | 9 | 1 |
| 1:Q:23:ASP:O | 1:R:27:ASN:OD1 | 0.44 | 2.34 | 9 | 1 |
| 1:H:38:GLY:O | 1:H:39:VAL:HG23 | 0.44 | 2.13 | 1 | 1 |
| 1:H:14:HIS:CE1 | 1:I:12:VAL:O | 0.44 | 2.70 | 2 | 1 |
| 1:L:13:HIS:CG | 1:L:13:HIS:O | 0.44 | 2.70 | 8 | 2 |
| 1:Q:29:GLY:O | 1:Q:30:ALA:HB2 | 0.44 | 2.11 | 4 | 1 |
| 1:B:13:HIS:CD2 | 1:D:40:VAL:C | 0.44 | 2.91 | 5 | 1 |
| 1:F:34:LEU:O | 1:F:34:LEU:HD12 | 0.44 | 2.11 | 5 | 2 |
| 1:H:15:GLN:CD | 1:I:15:GLN:HE21 | 0.44 | 2.15 | 6 | 1 |
| 1:Q:26:SER:O | 1:Q:27:ASN:C | 0.44 | 2.55 | 7 | 1 |
| 1:I:35:MET:CE | 1:J:35:MET:SD | 0.44 | 3.06 | 8 | 1 |
| 1:H:23:ASP:O | 1:I:24:VAL:CG2 | 0.44 | 2.65 | 10 | 1 |
| 1:G:15:GLN:NE2 | 1:I:36:VAL:HG13 | 0.44 | 2.27 | 10 | 1 |
| 1:O:12:VAL:HG11 | 1:P:13:HIS:NE2 | 0.44 | 2.27 | 10 | 1 |
| 1:O:19:PHE:CD1 | 1:Q:32:ILE:HD13 | 0.44 | 2.47 | 1 | 1 |
| 1:C:13:HIS:CE1 | 1:E:40:VAL:C | 0.44 | 2.90 | 2 | 1 |
| 1:E:39:VAL:O | 1:E:40:VAL:OXT | 0.44 | 2.35 | 3 | 1 |
| 1:I:39:VAL:C | 1:J:39:VAL:HG21 | 0.44 | 2.33 | 3 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:E:26:SER:OG | 1:E:27:ASN:N | 0.44 | 2.49 | 4 | 1 |
| 1:P:19:PHE:CD1 | 1:Q:19:PHE:CD2 | 0.44 | 3.04 | 4 | 1 |
| 1:Q:23:ASP:O | 1:R:26:SER:O | 0.44 | 2.35 | 5 | 1 |
| 1:E:40:VAL:OXT | 1:E:40:VAL:HG12 | 0.44 | 2.12 | 6 | 1 |
| 1:I:39:VAL:O | 1:I:40:VAL:OXT | 0.44 | 2.35 | 6 | 1 |
| 1:K:39:VAL:O | 1:K:40:VAL:OXT | 0.44 | 2.36 | 8 | 1 |
| 1:B:36:VAL:O | 1:C:35:MET:O | 0.44 | 2.35 | 10 | 1 |
| 1:P:13:HIS:CD2 | 1:Q:13:HIS:CE1 | 0.44 | 3.05 | 2 | 1 |
| 1:M:38:GLY:H | 1:N:37:GLY:H | 0.44 | 1.56 | 3 | 1 |
| 1:A:25:GLY:O | 1:A:26:SER:OG | 0.44 | 2.32 | 4 | 3 |
| 1:Q:40:VAL:O | 1:Q:40:VAL:HG12 | 0.44 | 2.13 | 4 | 1 |
| 1:H:32:ILE:HG22 | 1:I:34:LEU:HD11 | 0.44 | 1.88 | 6 | 1 |
| 1:O:12:VAL:HG11 | 1:P:13:HIS:CE1 | 0.44 | 2.47 | 7 | 1 |
| 1:I:23:ASP:CG | 1:J:24:VAL:HG13 | 0.44 | 2.33 | 8 | 1 |
| 1:L:14:HIS:CE1 | 1:L:16:LYS:HZ2 | 0.44 | 2.29 | 8 | 1 |
| 1:E:34:LEU:CG | 1:E:36:VAL:HG23 | 0.44 | 2.42 | 9 | 1 |
| 1:I:27:ASN:OD1 | 1:J:29:GLY:N | 0.44 | 2.48 | 9 | 1 |
| 1:O:25:GLY:H | 1:P:28:LYS:HZ2 | 0.44 | 1.54 | 3 | 1 |
| 1:D:27:ASN:O | 1:D:28:LYS:C | 0.44 | 2.56 | 4 | 1 |
| 1:Q:27:ASN:OD1 | 1:R:27:ASN:OD1 | 0.44 | 2.35 | 4 | 1 |
| 1:C:35:MET:CE | 1:D:35:MET:SD | 0.44 | 3.06 | 5 | 1 |
| 1:H:22:GLU:CG | 1:H:23:ASP:H | 0.44 | 2.25 | 5 | 1 |
| 1:J:39:VAL:O | 1:J:40:VAL:O | 0.44 | 2.35 | 5 | 2 |
| 1:I:34:LEU:O | 1:J:34:LEU:CD2 | 0.44 | 2.65 | 6 | 1 |
| 1:I:25:GLY:O | 1:I:26:SER:OG | 0.44 | 2.34 | 10 | 2 |
| 1:H:13:HIS:C | 1:H:14:HIS:CG | 0.44 | 2.91 | 7 | 1 |
| 1:I:15:GLN:CB | 1:J:15:GLN:NE2 | 0.44 | 2.81 | 7 | 1 |
| 1:F:14:HIS:CG | 1:F:15:GLN:H | 0.44 | 2.31 | 8 | 1 |
| 1:I:22:GLU:H | 1:I:28:LYS:HZ3 | 0.44 | 1.53 | 9 | 1 |
| 1:O:12:VAL:HG21 | 1:P:13:HIS:N | 0.44 | 2.28 | 9 | 1 |
| 1:I:12:VAL:HG23 | 1:J:12:VAL:O | 0.44 | 2.12 | 10 | 1 |
| 1:O:13:HIS:NE2 | 1:Q:40:VAL:HG12 | 0.44 | 2.28 | 10 | 1 |
| 1:O:38:GLY:O | 1:P:39:VAL:O | 0.44 | 2.35 | 10 | 1 |
| 1:B:38:GLY:HA2 | 1:C:39:VAL:H | 0.44 | 1.72 | 2 | 1 |
| 1:P:15:GLN:NE2 | 1:R:36:VAL:HG13 | 0.44 | 2.27 | 3 | 1 |
| 1:B:26:SER:O | 1:C:28:LYS:CB | 0.44 | 2.66 | 4 | 1 |
| 1:O:36:VAL:HG22 | 1:P:34:LEU:HD11 | 0.44 | 1.89 | 4 | 1 |
| 1:C:13:HIS:C | 1:D:13:HIS:ND1 | 0.44 | 2.71 | 5 | 1 |
| 1:J:36:VAL:CG1 | 1:J:36:VAL:O | 0.44 | 2.65 | 5 | 2 |
| 1:J:19:PHE:CE2 | 1:K:19:PHE:CE2 | 0.44 | 3.06 | 5 | 1 |
| 1:I:13:HIS:CG | 1:K:40:VAL:HG12 | 0.44 | 2.47 | 6 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:N:19:PHE:CE2 | 1:O:19:PHE:CE1 | 0.44 | 3.05 | 6 | 2 |
| 1:Q:36:VAL:CG1 | 1:Q:36:VAL:O | 0.44 | 2.65 | 6 | 1 |
| 1:N:13:HIS:C | 1:N:13:HIS:ND1 | 0.44 | 2.70 | 7 | 1 |
| 1:O:12:VAL:HG21 | 1:P:12:VAL:H | 0.44 | 1.72 | 7 | 1 |
| 1:G:20:PHE:CG | 1:G:20:PHE:O | 0.44 | 2.70 | 9 | 1 |
| 1:E:27:ASN:ND2 | 1:F:29:GLY:H | 0.44 | 2.10 | 7 | 2 |
| 1:J:14:HIS:C | 1:J:14:HIS:CD2 | 0.44 | 2.90 | 2 | 1 |
| 1:B:28:LYS:O | 1:C:29:GLY:O | 0.44 | 2.36 | 3 | 1 |
| 1:D:24:VAL:HG12 | 1:E:26:SER:OG | 0.44 | 2.12 | 3 | 1 |
| 1:J:11:GLU:O | 1:K:11:GLU:O | 0.44 | 2.35 | 4 | 1 |
| 1:K:14:HIS:ND1 | 1:K:14:HIS:N | 0.44 | 2.66 | 4 | 1 |
| 1:C:24:VAL:HG12 | 1:C:25:GLY:H | 0.44 | 1.70 | 5 | 1 |
| 1:D:36:VAL:O | 1:D:36:VAL:HG12 | 0.44 | 2.13 | 5 | 1 |
| 1:C:14:HIS:HD1 | 1:D:14:HIS:C | 0.44 | 2.13 | 6 | 1 |
| 1:H:32:ILE:CG2 | 1:I:34:LEU:HD11 | 0.44 | 2.43 | 6 | 1 |
| 1:R:19:PHE:CG | 1:R:19:PHE:O | 0.44 | 2.71 | 6 | 1 |
| 1:O:13:HIS:NE2 | 1:Q:40:VAL:C | 0.44 | 2.71 | 9 | 1 |
| 1:D:13:HIS:CD2 | 1:F:40:VAL:HG11 | 0.44 | 2.48 | 10 | 1 |
| 1:G:20:PHE:CE2 | 1:H:20:PHE:CB | 0.44 | 3.00 | 10 | 1 |
| 1:K:14:HIS:ND1 | 1:L:13:HIS:CD2 | 0.44 | 2.86 | 2 | 1 |
| 1:G:16:LYS:C | 1:G:17:LEU:HD22 | 0.44 | 2.33 | 3 | 1 |
| 1:E:23:ASP:O | 1:E:23:ASP:OD2 | 0.44 | 2.36 | 5 | 1 |
| 1:J:12:VAL:O | 1:J:13:HIS:CD2 | 0.44 | 2.71 | 6 | 1 |
| 1:K:23:ASP:O | 1:L:26:SER:OG | 0.44 | 2.36 | 6 | 1 |
| 1:K:27:ASN:CG | 1:L:29:GLY:O | 0.44 | 2.56 | 6 | 1 |
| 1:L:24:VAL:CG1 | 1:L:25:GLY:H | 0.44 | 2.24 | 9 | 1 |
| 1:G:37:GLY:O | 1:G:39:VAL:N | 0.44 | 2.51 | 10 | 1 |
| 1:P:27:ASN:O | 1:P:28:LYS:CG | 0.44 | 2.66 | 3 | 1 |
| 1:Q:36:VAL:O | 1:Q:37:GLY:O | 0.44 | 2.36 | 3 | 2 |
| 1:C:34:LEU:O | 1:D:34:LEU:CD2 | 0.44 | 2.66 | 4 | 1 |
| 1:E:23:ASP:OD1 | 1:F:22:GLU:OE1 | 0.44 | 2.36 | 4 | 1 |
| 1:F:13:HIS:CD2 | 1:F:13:HIS:H | 0.44 | 2.30 | 5 | 1 |
| 1:C:27:ASN:N | 1:C:27:ASN:OD1 | 0.44 | 2.49 | 7 | 1 |
| 1:E:13:HIS:CD2 | 1:E:13:HIS:C | 0.44 | 2.91 | 7 | 1 |
| 1:H:23:ASP:N | 1:I:22:GLU:OE1 | 0.44 | 2.46 | 8 | 1 |
| 1:D:12:VAL:CG1 | 1:E:13:HIS:CD2 | 0.44 | 3.01 | 9 | 1 |
| 1:A:23:ASP:OD1 | 1:A:23:ASP:O | 0.44 | 2.36 | 10 | 1 |
| 1:C:23:ASP:OD2 | 1:C:26:SER:O | 0.44 | 2.36 | 10 | 1 |
| 1:H:13:HIS:ND1 | 1:H:13:HIS:O | 0.44 | 2.51 | 10 | 1 |
| 1:C:22:GLU:O | 1:C:23:ASP:OD2 | 0.43 | 2.36 | 1 | 1 |
| 1:N:27:ASN:O | 1:N:28:LYS:C | 0.43 | 2.56 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:N:28:LYS:O | 1:O:29:GLY:O | 0.43 | 2.36 | 1 | 1 |
| 1:E:12:VAL:O | 1:E:13:HIS:CD2 | 0.43 | 2.71 | 2 | 1 |
| 1:E:40:VAL:O | 1:F:40:VAL:O | 0.43 | 2.35 | 2 | 2 |
| 1:P:23:ASP:C | 1:P:24:VAL:O | 0.43 | 2.56 | 2 | 2 |
| 1:D:17:LEU:HD12 | 1:E:17:LEU:CD2 | 0.43 | 2.43 | 3 | 2 |
| 1:M:22:GLU:OE1 | 1:N:22:GLU:OE1 | 0.43 | 2.36 | 3 | 1 |
| 1:B:23:ASP:O | 1:B:24:VAL:O | 0.43 | 2.36 | 4 | 1 |
| 1:Q:27:ASN:O | 1:Q:28:LYS:CB | 0.43 | 2.65 | 4 | 1 |
| 1:C:37:GLY:O | 1:C:39:VAL:N | 0.43 | 2.50 | 7 | 1 |
| 1:H:13:HIS:ND1 | 1:J:40:VAL:CG2 | 0.43 | 2.81 | 7 | 1 |
| 1:J:30:ALA:O | 1:K:29:GLY:O | 0.43 | 2.36 | 7 | 1 |
| 1:O:24:VAL:CG1 | 1:O:25:GLY:H | 0.43 | 2.09 | 7 | 1 |
| 1:C:24:VAL:CG1 | 1:D:26:SER:H | 0.43 | 2.26 | 8 | 1 |
| 1:G:12:VAL:HG23 | 1:G:12:VAL:O | 0.43 | 2.13 | 8 | 1 |
| 1:D:31:ILE:HD12 | 1:P:39:VAL:HG22 | 0.43 | 1.89 | 9 | 1 |
| 1:F:34:LEU:HD12 | 1:F:35:MET:N | 0.43 | 2.27 | 1 | 1 |
| 1:L:22:GLU:O | 1:L:23:ASP:CB | 0.43 | 2.66 | 1 | 1 |
| 1:K:40:VAL:N | 1:L:40:VAL:O | 0.43 | 2.47 | 1 | 1 |
| 1:P:23:ASP:OD1 | 1:P:23:ASP:O | 0.43 | 2.36 | 1 | 1 |
| 1:I:13:HIS:CD2 | 1:K:40:VAL:O | 0.43 | 2.70 | 2 | 1 |
| 1:O:24:VAL:CG2 | 1:O:25:GLY:N | 0.43 | 2.81 | 2 | 1 |
| 1:J:27:ASN:H | 1:J:27:ASN:HD22 | 0.43 | 1.55 | 3 | 1 |
| 1:L:36:VAL:HG13 | 1:L:36:VAL:O | 0.43 | 2.12 | 3 | 1 |
| 1:N:24:VAL:CG2 | 1:N:25:GLY:N | 0.43 | 2.81 | 3 | 1 |
| 1:D:36:VAL:O | 1:E:35:MET:O | 0.43 | 2.35 | 4 | 1 |
| 1:D:29:GLY:O | 1:P:39:VAL:HG22 | 0.43 | 2.14 | 7 | 2 |
| 1:K:39:VAL:HG22 | 1:K:40:VAL:N | 0.43 | 2.28 | 5 | 1 |
| 1:N:12:VAL:HG21 | 1:O:12:VAL:O | 0.43 | 2.13 | 5 | 1 |
| 1:I:12:VAL:HG21 | 1:J:12:VAL:O | 0.43 | 2.12 | 7 | 1 |
| 1:R:26:SER:O | 1:R:27:ASN:C | 0.43 | 2.57 | 8 | 1 |
| 1:R:27:ASN:OD1 | 1:R:30:ALA:O | 0.43 | 2.36 | 8 | 1 |
| 1:D:23:ASP:HA | 1:E:24:VAL:HG11 | 0.43 | 1.90 | 10 | 1 |
| 1:I:17:LEU:HD21 | 1:K:36:VAL:HG11 | 0.43 | 1.90 | 10 | 1 |
| 1:P:27:ASN:ND2 | 1:P:27:ASN:C | 0.43 | 2.69 | 3 | 1 |
| 1:D:26:SER:OG | 1:E:29:GLY:O | 0.43 | 2.31 | 6 | 1 |
| 1:I:36:VAL:O | 1:I:36:VAL:HG23 | 0.43 | 2.12 | 6 | 1 |
| 1:P:13:HIS:CD2 | 1:R:40:VAL:HG23 | 0.43 | 2.48 | 7 | 1 |
| 1:P:23:ASP:O | 1:P:23:ASP:OD1 | 0.43 | 2.36 | 10 | 2 |
| 1:J:10:TYR:CG | 1:K:10:TYR:CE1 | 0.43 | 3.06 | 10 | 1 |
| 1:F:13:HIS:N | 1:F:13:HIS:ND1 | 0.43 | 2.65 | 2 | 1 |
| 1:Q:39:VAL:O | 1:Q:40:VAL:OXT | 0.43 | 2.36 | 4 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:L:39:VAL:CG2 | 1:R:31:ILE:HD12 | 0.43 | 2.43 | 5 | 1 |
| 1:P:20:PHE:CZ | 1:Q:20:PHE:CE1 | 0.43 | 3.06 | 5 | 1 |
| 1:Q:23:ASP:O | 1:Q:23:ASP:OD1 | 0.43 | 2.36 | 5 | 2 |
| 1:D:23:ASP:H | 1:E:23:ASP:CB | 0.43 | 2.26 | 6 | 1 |
| 1:P:18:VAL:O | 1:P:18:VAL:HG13 | 0.43 | 2.14 | 6 | 1 |
| 1:N:22:GLU:N | 1:O:28:LYS:HZ2 | 0.43 | 2.11 | 7 | 1 |
| 1:A:24:VAL:O | 1:B:24:VAL:HG21 | 0.43 | 2.14 | 8 | 1 |
| 1:C:13:HIS:C | 1:C:13:HIS:CD2 | 0.43 | 2.92 | 9 | 1 |
| 1:C:26:SER:O | 1:C:27:ASN:C | 0.43 | 2.56 | 9 | 2 |
| 1:K:23:ASP:OD1 | 1:L:22:GLU:N | 0.43 | 2.51 | 9 | 1 |
| 1:I:14:HIS:CG | 1:I:15:GLN:N | 0.43 | 2.86 | 10 | 2 |
| 1:E:39:VAL:HB | 1:K:31:ILE:HD11 | 0.43 | 1.89 | 10 | 1 |
| 1:J:28:LYS:O | 1:K:27:ASN:OD1 | 0.43 | 2.37 | 1 | 1 |
| 1:P:25:GLY:C | 1:Q:27:ASN:O | 0.43 | 2.57 | 2 | 1 |
| 1:Q:10:TYR:O | 1:R:11:GLU:OE1 | 0.43 | 2.36 | 4 | 1 |
| 1:A:31:ILE:HG12 | 1:B:31:ILE:HD12 | 0.43 | 1.91 | 5 | 1 |
| 1:H:12:VAL:HG22 | 1:I:12:VAL:HG12 | 0.43 | 1.89 | 5 | 1 |
| 1:O:22:GLU:O | 1:O:23:ASP:C | 0.43 | 2.56 | 6 | 1 |
| 1:C:36:VAL:HG13 | 1:C:36:VAL:O | 0.43 | 2.13 | 7 | 1 |
| 1:I:11:GLU:OE2 | 1:J:11:GLU:OE2 | 0.43 | 2.36 | 7 | 1 |
| 1:D:25:GLY:O | 1:D:26:SER:OG | 0.43 | 2.36 | 8 | 1 |
| 1:D:21:ALA:HB3 | 1:E:28:LYS:NZ | 0.43 | 2.29 | 8 | 1 |
| 1:I:27:ASN:ND2 | 1:J:28:LYS:C | 0.43 | 2.72 | 8 | 1 |
| 1:L:40:VAL:OXT | 1:Q:27:ASN:OD1 | 0.43 | 2.36 | 8 | 1 |
| 1:D:11:GLU:O | 1:E:12:VAL:HG13 | 0.43 | 2.14 | 9 | 1 |
| 1:D:27:ASN:O | 1:E:28:LYS:O | 0.43 | 2.37 | 9 | 1 |
| 1:J:22:GLU:O | 1:J:23:ASP:CB | 0.43 | 2.67 | 10 | 1 |
| 1:P:25:GLY:O | 1:Q:27:ASN:CG | 0.43 | 2.56 | 10 | 1 |
| 1:M:22:GLU:O | 1:M:23:ASP:C | 0.43 | 2.57 | 1 | 1 |
| 1:N:20:PHE:C | 1:N:20:PHE:CD1 | 0.43 | 2.92 | 2 | 1 |
| 1:C:27:ASN:OD1 | 1:D:27:ASN:O | 0.43 | 2.36 | 3 | 1 |
| 1:O:12:VAL:CG2 | 1:O:14:HIS:NE2 | 0.43 | 2.81 | 3 | 1 |
| 1:Q:23:ASP:CG | 1:R:22:GLU:O | 0.43 | 2.57 | 3 | 2 |
| 1:D:25:GLY:O | 1:E:28:LYS:O | 0.43 | 2.36 | 4 | 1 |
| 1:E:40:VAL:O | 1:J:28:LYS:NZ | 0.43 | 2.49 | 4 | 1 |
| 1:K:23:ASP:OD2 | 1:K:23:ASP:O | 0.43 | 2.37 | 4 | 1 |
| 1:C:13:HIS:N | 1:C:13:HIS:CD2 | 0.43 | 2.87 | 8 | 1 |
| 1:C:20:PHE:CE2 | 1:D:20:PHE:CG | 0.43 | 3.06 | 9 | 1 |
| 1:A:14:HIS:CD2 | 1:B:14:HIS:H | 0.43 | 2.30 | 10 | 1 |
| 1:D:23:ASP:CB | 1:E:24:VAL:HG11 | 0.43 | 2.43 | 10 | 1 |
| 1:I:17:LEU:CD2 | 1:K:36:VAL:HG11 | 0.43 | 2.43 | 10 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:C:31:ILE:HG23 | 1:D:31:ILE:CG2 | 0.43 | 2.44 | 1 | 1 |
| 1:H:38:GLY:H | 1:I:38:GLY:HA2 | 0.43 | 1.74 | 1 | 1 |
| 1:K:33:GLY:O | 1:K:34:LEU:HD12 | 0.43 | 2.13 | 6 | 2 |
| 1:F:34:LEU:HD21 | 1:F:36:VAL:HG23 | 0.43 | 1.91 | 2 | 1 |
| 1:D:17:LEU:CD1 | 1:F:36:VAL:HG11 | 0.43 | 2.42 | 2 | 1 |
| 1:G:13:HIS:C | 1:G:13:HIS:ND1 | 0.43 | 2.72 | 5 | 1 |
| 1:H:23:ASP:CG | 1:H:23:ASP:O | 0.43 | 2.57 | 5 | 1 |
| 1:I:22:GLU:O | 1:I:23:ASP:C | 0.43 | 2.56 | 5 | 1 |
| 1:J:17:LEU:HD11 | 1:L:36:VAL:HG11 | 0.43 | 1.90 | 5 | 1 |
| 1:Q:13:HIS:O | 1:R:14:HIS:O | 0.43 | 2.36 | 5 | 1 |
| 1:E:36:VAL:O | 1:F:35:MET:O | 0.43 | 2.36 | 6 | 1 |
| 1:M:21:ALA:HB1 | 1:N:28:LYS:H | 0.43 | 1.74 | 6 | 1 |
| 1:O:23:ASP:OD2 | 1:P:22:GLU:OE2 | 0.43 | 2.36 | 6 | 1 |
| 1:O:27:ASN:O | 1:O:28:LYS:C | 0.43 | 2.56 | 8 | 1 |
| 1:C:31:ILE:HD11 | 1:P:39:VAL:HG21 | 0.43 | 1.90 | 10 | 1 |
| 1:P:25:GLY:O | 1:Q:27:ASN:OD1 | 0.43 | 2.36 | 10 | 1 |
| 1:C:39:VAL:HA | 1:D:39:VAL:HG21 | 0.43 | 1.91 | 1 | 1 |
| 1:O:23:ASP:N | 1:O:23:ASP:OD1 | 0.43 | 2.52 | 1 | 1 |
| 1:C:22:GLU:O | 1:C:23:ASP:OD1 | 0.43 | 2.36 | 2 | 1 |
| 1:M:35:MET:CE | 1:N:35:MET:SD | 0.43 | 3.06 | 2 | 1 |
| 1:J:39:VAL:O | 1:J:40:VAL:OXT | 0.43 | 2.36 | 3 | 1 |
| 1:K:27:ASN:OD1 | 1:L:29:GLY:C | 0.43 | 2.57 | 4 | 1 |
| 1:O:13:HIS:N | 1:O:13:HIS:CD2 | 0.43 | 2.87 | 4 | 1 |
| 1:O:17:LEU:N | 1:O:17:LEU:HD12 | 0.43 | 2.29 | 6 | 1 |
| 1:O:40:VAL:CG2 | 1:P:40:VAL:C | 0.43 | 2.87 | 6 | 1 |
| 1:C:13:HIS:CG | 1:E:40:VAL:OXT | 0.43 | 2.72 | 7 | 1 |
| 1:H:12:VAL:C | 1:H:13:HIS:CD2 | 0.43 | 2.92 | 7 | 1 |
| 1:C:34:LEU:N | 1:D:34:LEU:CD2 | 0.43 | 2.81 | 8 | 1 |
| 1:F:12:VAL:O | 1:F:13:HIS:ND1 | 0.43 | 2.51 | 8 | 1 |
| 1:J:34:LEU:N | 1:K:34:LEU:HD23 | 0.43 | 2.29 | 10 | 1 |
| 1:H:22:GLU:O | 1:H:23:ASP:OD1 | 0.43 | 2.36 | 1 | 1 |
| 1:E:17:LEU:HD12 | 1:E:17:LEU:N | 0.43 | 2.29 | 2 | 1 |
| 1:O:15:GLN:OE1 | 1:R:36:VAL:CG2 | 0.43 | 2.67 | 2 | 1 |
| 1:F:39:VAL:HB | 1:L:31:ILE:HD11 | 0.43 | 1.90 | 3 | 2 |
| 1:J:13:HIS:CD2 | 1:L:40:VAL:HG13 | 0.43 | 2.48 | 3 | 1 |
| 1:B:26:SER:O | 1:B:27:ASN:O | 0.43 | 2.36 | 5 | 1 |
| 1:I:23:ASP:CG | 1:J:22:GLU:OE1 | 0.43 | 2.58 | 5 | 1 |
| 1:I:40:VAL:OXT | 1:J:39:VAL:O | 0.43 | 2.37 | 5 | 1 |
| 1:L:34:LEU:HD12 | 1:L:35:MET:N | 0.43 | 2.29 | 5 | 1 |
| 1:M:15:GLN:HE21 | 1:M:17:LEU:CD1 | 0.43 | 2.26 | 5 | 1 |
| 1:R:15:GLN:CD | 1:R:15:GLN:N | 0.43 | 2.72 | 6 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:H:23:ASP:OD2 | 1:I:22:GLU:OE2 | 0.43 | 2.37 | 8 | 1 |
| 1:J:38:GLY:O | 1:K:38:GLY:CA | 0.43 | 2.66 | 8 | 1 |
| 1:K:13:HIS:C | 1:K:14:HIS:CD2 | 0.43 | 2.92 | 9 | 1 |
| 1:Q:26:SER:O | 1:Q:27:ASN:CB | 0.43 | 2.67 | 10 | 1 |
| 1:E:13:HIS:O | 1:F:13:HIS:CB | 0.43 | 2.67 | 2 | 1 |
| 1:G:13:HIS:O | 1:H:13:HIS:NE2 | 0.43 | 2.51 | 2 | 1 |
| 1:H:13:HIS:CE1 | 1:Q:28:LYS:HZ2 | 0.43 | 2.32 | 3 | 1 |
| 1:C:16:LYS:O | 1:C:17:LEU:HD12 | 0.43 | 2.14 | 4 | 1 |
| 1:F:39:VAL:O | 1:F:40:VAL:OXT | 0.43 | 2.37 | 4 | 1 |
| 1:C:14:HIS:CG | 1:C:15:GLN:N | 0.43 | 2.86 | 5 | 1 |
| 1:A:12:VAL:HG12 | 1:A:14:HIS:NE2 | 0.43 | 2.29 | 6 | 1 |
| 1:B:13:HIS:O | 1:B:14:HIS:ND1 | 0.43 | 2.52 | 9 | 1 |
| 1:B:30:ALA:HB3 | 1:C:30:ALA:HB2 | 0.43 | 1.90 | 9 | 1 |
| 1:I:21:ALA:HB3 | 1:J:28:LYS:HZ1 | 0.43 | 1.74 | 9 | 1 |
| 1:B:13:HIS:CE1 | 1:D:40:VAL:C | 0.43 | 2.92 | 10 | 1 |
| 1:H:38:GLY:O | 1:I:39:VAL:O | 0.43 | 2.37 | 10 | 1 |
| 1:G:15:GLN:OE1 | 1:I:36:VAL:CG1 | 0.43 | 2.67 | 10 | 1 |
| 1:G:15:GLN:HE22 | 1:I:36:VAL:HG13 | 0.43 | 1.73 | 10 | 1 |
| 1:N:33:GLY:HA2 | 1:O:33:GLY:O | 0.43 | 2.13 | 10 | 1 |
| 1:Q:29:GLY:HA3 | 1:R:30:ALA:HB2 | 0.43 | 1.90 | 10 | 1 |
| 1:H:13:HIS:HE2 | 1:Q:28:LYS:NZ | 0.42 | 2.13 | 3 | 1 |
| 1:C:23:ASP:OD1 | 1:C:23:ASP:O | 0.42 | 2.37 | 4 | 1 |
| 1:E:36:VAL:HG23 | 1:E:36:VAL:O | 0.42 | 2.13 | 4 | 1 |
| 1:O:17:LEU:HD12 | 1:O:17:LEU:H | 0.42 | 1.73 | 5 | 1 |
| 1:M:17:LEU:HD11 | 1:O:36:VAL:CG1 | 0.42 | 2.45 | 8 | 1 |
| 1:B:29:GLY:O | 1:N:39:VAL:CG2 | 0.42 | 2.67 | 8 | 1 |
| 1:D:36:VAL:HG11 | 1:E:36:VAL:HG22 | 0.42 | 1.91 | 9 | 1 |
| 1:J:25:GLY:O | 1:J:26:SER:HB3 | 0.42 | 2.14 | 9 | 1 |
| 1:J:26:SER:OG | 1:J:27:ASN:N | 0.42 | 2.52 | 9 | 1 |
| 1:M:38:GLY:O | 1:M:39:VAL:C | 0.42 | 2.57 | 9 | 1 |
| 1:A:31:ILE:O | 1:A:31:ILE:HD12 | 0.42 | 2.14 | 10 | 1 |
| 1:K:39:VAL:O | 1:K:40:VAL:C | 0.42 | 2.57 | 1 | 1 |
| 1:P:15:GLN:OE1 | 1:Q:15:GLN:NE2 | 0.42 | 2.52 | 1 | 1 |
| 1:C:15:GLN:OE1 | 1:F:36:VAL:HG13 | 0.42 | 2.14 | 2 | 1 |
| 1:C:40:VAL:H | 1:I:31:ILE:CD1 | 0.42 | 2.26 | 2 | 1 |
| 1:H:13:HIS:CD2 | 1:J:40:VAL:CG1 | 0.42 | 3.02 | 2 | 1 |
| 1:H:14:HIS:CD2 | 1:H:15:GLN:H | 0.42 | 2.31 | 3 | 1 |
| 1:I:40:VAL:OXT | 1:I:40:VAL:CG2 | 0.42 | 2.66 | 3 | 1 |
| 1:H:17:LEU:HB3 | 1:H:19:PHE:CE1 | 0.42 | 2.49 | 4 | 1 |
| 1:P:36:VAL:HG21 | 1:Q:36:VAL:HG22 | 0.42 | 1.90 | 4 | 1 |
| 1:G:14:HIS:NE2 | 1:G:15:GLN:O | 0.42 | 2.52 | 5 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:I:28:LYS:NZ | 1:J:28:LYS:HZ3 | 0.42 | 2.11 | 5 | 1 |
| 1:F:20:PHE:O | 1:F:21:ALA:CB | 0.42 | 2.66 | 6 | 1 |
| 1:C:17:LEU:CD2 | 1:E:36:VAL:HG21 | 0.42 | 2.44 | 7 | 1 |
| 1:E:40:VAL:N | 1:F:40:VAL:O | 0.42 | 2.43 | 7 | 1 |
| 1:C:15:GLN:HB3 | 1:C:17:LEU:HD11 | 0.42 | 1.89 | 8 | 1 |
| 1:R:39:VAL:HG12 | 1:R:40:VAL:N | 0.42 | 2.30 | 8 | 1 |
| 1:E:27:ASN:O | 1:E:28:LYS:C | 0.42 | 2.57 | 9 | 1 |
| 1:K:14:HIS:HE2 | 1:L:12:VAL:C | 0.42 | 2.18 | 9 | 1 |
| 1:K:14:HIS:NE2 | 1:L:12:VAL:O | 0.42 | 2.52 | 9 | 1 |
| 1:J:28:LYS:HB2 | 1:K:28:LYS:H | 0.42 | 1.74 | 9 | 1 |
| 1:J:40:VAL:HG22 | 1:J:40:VAL:OXT | 0.42 | 2.14 | 10 | 1 |
| 1:M:39:VAL:O | 1:M:40:VAL:O | 0.42 | 2.37 | 10 | 1 |
| 1:E:27:ASN:CG | 1:F:29:GLY:O | 0.42 | 2.57 | 1 | 2 |
| 1:Q:17:LEU:C | 1:Q:17:LEU:CD2 | 0.42 | 2.87 | 1 | 1 |
| 1:C:29:GLY:O | 1:C:30:ALA:HB2 | 0.42 | 2.15 | 2 | 1 |
| 1:J:23:ASP:OD2 | 1:K:22:GLU:O | 0.42 | 2.37 | 3 | 1 |
| 1:N:22:GLU:HG2 | 1:N:23:ASP:N | 0.42 | 2.29 | 3 | 1 |
| 1:O:17:LEU:HB3 | 1:O:19:PHE:CE2 | 0.42 | 2.49 | 3 | 1 |
| 1:A:12:VAL:HG23 | 1:A:12:VAL:O | 0.42 | 2.14 | 4 | 1 |
| 1:P:25:GLY:O | 1:Q:27:ASN:O | 0.42 | 2.38 | 4 | 1 |
| 1:H:23:ASP:CG | 1:I:23:ASP:O | 0.42 | 2.57 | 5 | 1 |
| 1:J:23:ASP:OD1 | 1:K:26:SER:O | 0.42 | 2.36 | 5 | 1 |
| 1:Q:23:ASP:OD1 | 1:Q:23:ASP:C | 0.42 | 2.58 | 5 | 1 |
| 1:Q:19:PHE:CZ | 1:R:19:PHE:CB | 0.42 | 3.02 | 6 | 1 |
| 1:P:27:ASN:OD1 | 1:Q:27:ASN:OD1 | 0.42 | 2.37 | 6 | 1 |
| 1:D:40:VAL:OXT | 1:D:40:VAL:HG13 | 0.42 | 2.13 | 8 | 1 |
| 1:O:25:GLY:O | 1:O:26:SER:OG | 0.42 | 2.37 | 9 | 1 |
| 1:J:17:LEU:HD13 | 1:K:17:LEU:CD2 | 0.42 | 2.44 | 10 | 1 |
| 1:A:14:HIS:CE1 | 1:B:14:HIS:CE1 | 0.42 | 3.06 | 1 | 1 |
| 1:D:38:GLY:O | 1:E:39:VAL:CG2 | 0.42 | 2.68 | 1 | 1 |
| 1:E:19:PHE:CE1 | 1:E:21:ALA:HB3 | 0.42 | 2.49 | 1 | 1 |
| 1:I:23:ASP:OD1 | 1:J:22:GLU:OE1 | 0.42 | 2.38 | 5 | 2 |
| 1:H:14:HIS:N | 1:I:13:HIS:CE1 | 0.42 | 2.88 | 3 | 1 |
| 1:J:27:ASN:CG | 1:J:30:ALA:HB2 | 0.42 | 2.35 | 3 | 1 |
| 1:N:12:VAL:C | 1:N:13:HIS:ND1 | 0.42 | 2.73 | 3 | 1 |
| 1:M:34:LEU:HG | 1:M:35:MET:N | 0.42 | 2.30 | 4 | 1 |
| 1:Q:17:LEU:CD2 | 1:Q:17:LEU:C | 0.42 | 2.88 | 5 | 1 |
| 1:A:13:HIS:O | 1:A:14:HIS:ND1 | 0.42 | 2.53 | 6 | 1 |
| 1:K:19:PHE:CD1 | 1:L:19:PHE:CD2 | 0.42 | 3.07 | 7 | 1 |
| 1:P:16:LYS:O | 1:P:17:LEU:HD23 | 0.42 | 2.13 | 7 | 1 |
| 1:P:15:GLN:HE22 | 1:R:37:GLY:H | 0.42 | 1.57 | 7 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:O:14:HIS:CE1 | 1:P:14:HIS:N | 0.42 | 2.87 | 8 | 1 |
| 1:D:23:ASP:CB | 1:E:22:GLU:OE1 | 0.42 | 2.68 | 9 | 1 |
| 1:Q:17:LEU:HD12 | 1:Q:17:LEU:N | 0.42 | 2.30 | 9 | 1 |
| 1:N:13:HIS:CD2 | 1:N:14:HIS:N | 0.42 | 2.88 | 10 | 1 |
| 1:H:34:LEU:HD23 | 1:H:35:MET:N | 0.42 | 2.30 | 1 | 1 |
| 1:D:22:GLU:OE1 | 1:E:22:GLU:CD | 0.42 | 2.58 | 2 | 1 |
| 1:D:20:PHE:CZ | 1:D:22:GLU:OE2 | 0.42 | 2.72 | 2 | 1 |
| 1:K:23:ASP:O | 1:K:24:VAL:O | 0.42 | 2.36 | 2 | 1 |
| 1:N:14:HIS:ND1 | 1:N:14:HIS:N | 0.42 | 2.67 | 2 | 2 |
| 1:A:38:GLY:O | 1:A:39:VAL:C | 0.42 | 2.58 | 3 | 1 |
| 1:B:17:LEU:HB3 | 1:B:19:PHE:CE2 | 0.42 | 2.49 | 3 | 1 |
| 1:E:40:VAL:HG22 | 1:F:38:GLY:O | 0.42 | 2.15 | 4 | 1 |
| 1:A:14:HIS:CE1 | 1:B:14:HIS:H | 0.42 | 2.32 | 6 | 1 |
| 1:H:38:GLY:O | 1:H:39:VAL:O | 0.42 | 2.38 | 6 | 1 |
| 1:I:21:ALA:CB | 1:K:28:LYS:NZ | 0.42 | 2.79 | 6 | 1 |
| 1:K:31:ILE:CG2 | 1:K:31:ILE:O | 0.42 | 2.67 | 6 | 1 |
| 1:C:17:LEU:CD1 | 1:E:36:VAL:HG11 | 0.42 | 2.43 | 7 | 1 |
| 1:I:17:LEU:CD1 | 1:K:36:VAL:HG11 | 0.42 | 2.42 | 7 | 1 |
| 1:E:39:VAL:CG2 | 1:K:31:ILE:HD11 | 0.42 | 2.37 | 7 | 1 |
| 1:C:32:ILE:HG22 | 1:D:34:LEU:HD21 | 0.42 | 1.90 | 8 | 1 |
| 1:I:39:VAL:O | 1:I:40:VAL:C | 0.42 | 2.57 | 9 | 1 |
| 1:P:27:ASN:O | 1:Q:28:LYS:CB | 0.42 | 2.68 | 9 | 1 |
| 1:A:36:VAL:CG1 | 1:A:37:GLY:N | 0.42 | 2.81 | 10 | 1 |
| 1:B:38:GLY:O | 1:H:31:ILE:CD1 | 0.42 | 2.67 | 10 | 1 |
| 1:K:40:VAL:HG12 | 1:L:40:VAL:O | 0.42 | 2.15 | 10 | 1 |
| 1:N:23:ASP:O | 1:N:24:VAL:HG13 | 0.42 | 2.14 | 10 | 1 |
| 1:A:29:GLY:O | 1:B:29:GLY:O | 0.42 | 2.36 | 1 | 1 |
| 1:B:22:GLU:O | 1:B:23:ASP:C | 0.42 | 2.57 | 2 | 2 |
| 1:F:36:VAL:O | 1:F:37:GLY:O | 0.42 | 2.36 | 3 | 1 |
| 1:K:14:HIS:CG | 1:K:15:GLN:N | 0.42 | 2.88 | 3 | 1 |
| 1:F:17:LEU:C | 1:F:17:LEU:HD23 | 0.42 | 2.35 | 4 | 1 |
| 1:D:11:GLU:OE1 | 1:F:40:VAL:CG1 | 0.42 | 2.68 | 4 | 1 |
| 1:R:36:VAL:O | 1:R:37:GLY:C | 0.42 | 2.58 | 4 | 1 |
| 1:L:17:LEU:HD23 | 1:L:18:VAL:N | 0.42 | 2.29 | 5 | 1 |
| 1:O:39:VAL:O | 1:O:40:VAL:O | 0.42 | 2.37 | 5 | 1 |
| 1:K:19:PHE:CE1 | 1:L:19:PHE:CZ | 0.42 | 3.07 | 6 | 1 |
| 1:D:36:VAL:CG2 | 1:E:34:LEU:HD21 | 0.42 | 2.45 | 7 | 1 |
| 1:P:23:ASP:OD2 | 1:P:26:SER:OG | 0.42 | 2.37 | 7 | 1 |
| 1:Q:17:LEU:CD1 | 1:Q:17:LEU:N | 0.42 | 2.83 | 8 | 1 |
| 1:G:14:HIS:H | 1:G:14:HIS:CD2 | 0.42 | 2.31 | 9 | 1 |
| 1:J:13:HIS:O | 1:K:13:HIS:O | 0.42 | 2.36 | 10 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:26:SER:O | 1:C:26:SER:OG | 0.42 | 2.36 | 1 | 1 |
| 1:C:31:ILE:HG23 | 1:D:31:ILE:HG23 | 0.42 | 1.92 | 1 | 1 |
| 1:D:40:VAL:HG22 | 1:J:28:LYS:NZ | 0.42 | 2.30 | 1 | 1 |
| 1:O:20:PHE:C | 1:O:20:PHE:CD1 | 0.42 | 2.92 | 4 | 1 |
| 1:C:27:ASN:CG | 1:C:28:LYS:H | 0.42 | 2.18 | 5 | 1 |
| 1:P:14:HIS:CD2 | 1:P:15:GLN:H | 0.42 | 2.33 | 5 | 1 |
| 1:A:22:GLU:O | 1:A:24:VAL:HG23 | 0.42 | 2.15 | 6 | 1 |
| 1:B:26:SER:OG | 1:C:26:SER:O | 0.42 | 2.34 | 6 | 1 |
| 1:P:39:VAL:HG22 | 1:P:40:VAL:O | 0.42 | 2.14 | 6 | 1 |
| 1:H:21:ALA:HB1 | 1:I:23:ASP:OD2 | 0.42 | 2.15 | 7 | 1 |
| 1:K:15:GLN:H | 1:K:15:GLN:NE2 | 0.42 | 2.11 | 7 | 1 |
| 1:K:19:PHE:CE1 | 1:K:21:ALA:HB3 | 0.42 | 2.49 | 7 | 1 |
| 1:N:27:ASN:OD1 | 1:N:28:LYS:N | 0.42 | 2.52 | 9 | 1 |
| 1:O:23:ASP:OD2 | 1:P:22:GLU:O | 0.42 | 2.36 | 10 | 1 |
| 1:I:38:GLY:O | 1:I:39:VAL:C | 0.42 | 2.58 | 1 | 1 |
| 1:M:14:HIS:CD2 | 1:M:14:HIS:N | 0.42 | 2.88 | 1 | 1 |
| 1:C:19:PHE:CD2 | 1:E:32:ILE:HD13 | 0.42 | 2.50 | 3 | 1 |
| 1:H:22:GLU:C | 1:I:23:ASP:O | 0.42 | 2.58 | 3 | 1 |
| 1:A:20:PHE:O | 1:A:20:PHE:CG | 0.42 | 2.73 | 4 | 1 |
| 1:R:13:HIS:CD2 | 1:R:13:HIS:O | 0.42 | 2.73 | 4 | 1 |
| 1:C:19:PHE:CZ | 1:E:34:LEU:CD2 | 0.42 | 3.03 | 6 | 1 |
| 1:F:12:VAL:O | 1:F:13:HIS:CD2 | 0.42 | 2.73 | 6 | 1 |
| 1:D:17:LEU:CD2 | 1:F:36:VAL:HG11 | 0.42 | 2.45 | 8 | 1 |
| 1:L:14:HIS:CD2 | 1:L:14:HIS:N | 0.42 | 2.87 | 8 | 1 |
| 1:M:14:HIS:O | 1:M:14:HIS:ND1 | 0.42 | 2.53 | 8 | 1 |
| 1:O:27:ASN:C | 1:P:28:LYS:O | 0.42 | 2.57 | 8 | 1 |
| 1:P:13:HIS:O | 1:Q:13:HIS:C | 0.42 | 2.58 | 8 | 1 |
| 1:R:23:ASP:OD1 | 1:R:23:ASP:O | 0.42 | 2.38 | 8 | 1 |
| 1:K:35:MET:SD | 1:L:35:MET:CG | 0.42 | 3.07 | 10 | 1 |
| 1:M:20:PHE:CZ | 1:N:20:PHE:CB | 0.42 | 3.03 | 10 | 1 |
| 1:Q:32:ILE:O | 1:R:33:GLY:O | 0.42 | 2.38 | 10 | 1 |
| 1:H:23:ASP:OD2 | 1:I:22:GLU:C | 0.42 | 2.58 | 1 | 1 |
| 1:J:34:LEU:HD23 | 1:J:35:MET:C | 0.42 | 2.35 | 1 | 1 |
| 1:O:24:VAL:C | 1:O:26:SER:H | 0.42 | 2.15 | 1 | 1 |
| 1:L:22:GLU:O | 1:L:24:VAL:HG23 | 0.42 | 2.15 | 2 | 1 |
| 1:K:34:LEU:CD2 | 1:K:36:VAL:HG13 | 0.42 | 2.35 | 3 | 1 |
| 1:M:17:LEU:HD12 | 1:N:17:LEU:CD2 | 0.42 | 2.45 | 3 | 1 |
| 1:N:22:GLU:O | 1:O:23:ASP:OD1 | 0.42 | 2.37 | 3 | 1 |
| 1:D:12:VAL:CG1 | 1:D:14:HIS:HE2 | 0.42 | 2.25 | 4 | 1 |
| 1:N:15:GLN:NE2 | 1:P:36:VAL:C | 0.42 | 2.74 | 5 | 1 |
| 1:O:26:SER:O | 1:O:27:ASN:C | 0.42 | 2.57 | 5 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:P:23:ASP:OD2 | 1:Q:22:GLU:C | 0.42 | 2.58 | 5 | 1 |
| 1:B:15:GLN:HE21 | 1:E:36:VAL:CG1 | 0.42 | 2.28 | 6 | 1 |
| 1:B:16:LYS:C | 1:B:17:LEU:HD12 | 0.42 | 2.35 | 6 | 1 |
| 1:D:19:PHE:CD1 | 1:D:19:PHE:N | 0.42 | 2.86 | 6 | 1 |
| 1:O:14:HIS:CE1 | 1:P:14:HIS:CD2 | 0.42 | 3.08 | 6 | 1 |
| 1:D:22:GLU:OE1 | 1:E:22:GLU:OE1 | 0.42 | 2.37 | 7 | 1 |
| 1:Q:38:GLY:O | 1:Q:39:VAL:C | 0.42 | 2.58 | 8 | 1 |
| 1:K:23:ASP:OD1 | 1:L:27:ASN:C | 0.42 | 2.58 | 1 | 1 |
| 1:B:15:GLN:HE22 | 1:D:37:GLY:H | 0.42 | 1.53 | 2 | 1 |
| 1:E:28:LYS:HZ2 | 1:R:39:VAL:C | 0.42 | 2.17 | 3 | 1 |
| 1:K:14:HIS:ND1 | 1:K:15:GLN:O | 0.42 | 2.53 | 3 | 1 |
| 1:P:23:ASP:OD1 | 1:Q:24:VAL:N | 0.42 | 2.53 | 3 | 1 |
| 1:Q:34:LEU:HD23 | 1:Q:35:MET:C | 0.42 | 2.34 | 3 | 1 |
| 1:C:13:HIS:CD2 | 1:E:40:VAL:OXT | 0.42 | 2.73 | 4 | 1 |
| 1:A:27:ASN:CG | 1:A:28:LYS:N | 0.42 | 2.74 | 5 | 1 |
| 1:C:39:VAL:O | 1:C:40:VAL:C | 0.42 | 2.58 | 5 | 1 |
| 1:M:12:VAL:HG11 | 1:N:13:HIS:N | 0.42 | 2.30 | 5 | 1 |
| 1:R:23:ASP:O | 1:R:23:ASP:OD1 | 0.42 | 2.38 | 6 | 1 |
| 1:C:12:VAL:O | 1:C:13:HIS:CD2 | 0.42 | 2.73 | 7 | 1 |
| 1:E:27:ASN:C | 1:F:28:LYS:O | 0.42 | 2.58 | 10 | 1 |
| 1:I:31:ILE:HD12 | 1:J:31:ILE:HD11 | 0.42 | 1.92 | 10 | 1 |
| 1:N:30:ALA:H | 1:P:28:LYS:CE | 0.42 | 2.26 | 10 | 1 |
| 1:O:17:LEU:CD2 | 1:Q:36:VAL:HG11 | 0.42 | 2.45 | 10 | 1 |
| 1:B:13:HIS:O | 1:C:13:HIS:CE1 | 0.41 | 2.73 | 2 | 1 |
| 1:B:26:SER:OG | 1:C:29:GLY:N | 0.41 | 2.53 | 2 | 1 |
| 1:F:31:ILE:HG22 | 1:F:32:ILE:N | 0.41 | 2.29 | 2 | 1 |
| 1:Q:39:VAL:HG12 | 1:Q:40:VAL:H | 0.41 | 1.75 | 2 | 1 |
| 1:K:23:ASP:OD1 | 1:L:28:LYS:O | 0.41 | 2.38 | 10 | 2 |
| 1:A:20:PHE:O | 1:A:28:LYS:NZ | 0.41 | 2.53 | 4 | 1 |
| 1:N:27:ASN:CG | 1:N:28:LYS:N | 0.41 | 2.73 | 4 | 1 |
| 1:D:13:HIS:CD2 | 1:D:13:HIS:C | 0.41 | 2.93 | 5 | 1 |
| 1:C:34:LEU:HD12 | 1:C:35:MET:H | 0.41 | 1.74 | 6 | 1 |
| 1:H:15:GLN:HE21 | 1:H:17:LEU:CD1 | 0.41 | 2.29 | 6 | 1 |
| 1:A:20:PHE:CD1 | 1:A:20:PHE:N | 0.41 | 2.88 | 7 | 1 |
| 1:M:12:VAL:HG12 | 1:N:12:VAL:O | 0.41 | 2.15 | 9 | 1 |
| 1:D:39:VAL:CG1 | 1:J:31:ILE:HD13 | 0.41 | 2.45 | 10 | 1 |
| 1:J:32:ILE:CG2 | 1:K:34:LEU:HD11 | 0.41 | 2.45 | 1 | 1 |
| 1:P:23:ASP:OD1 | 1:Q:26:SER:O | 0.41 | 2.38 | 1 | 1 |
| 1:A:12:VAL:HA | 1:B:13:HIS:HD1 | 0.41 | 1.75 | 2 | 1 |
| 1:B:15:GLN:NE2 | 1:D:37:GLY:N | 0.41 | 2.64 | 2 | 1 |
| 1:I:15:GLN:CG | 1:I:17:LEU:HD11 | 0.41 | 2.46 | 2 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:P:24:VAL:C | 1:Q:26:SER:OG | 0.41 | 2.59 | 2 | 1 |
| 1:E:19:PHE:C | 1:E:19:PHE:CD1 | 0.41 | 2.93 | 3 | 1 |
| 1:G:16:LYS:O | 1:G:17:LEU:HD22 | 0.41 | 2.15 | 3 | 1 |
| 1:J:40:VAL:HG12 | 1:J:40:VAL:O | 0.41 | 2.15 | 3 | 1 |
| 1:P:13:HIS:CE1 | 1:R:40:VAL:HG21 | 0.41 | 2.50 | 3 | 1 |
| 1:H:30:ALA:CA | 1:I:29:GLY:O | 0.41 | 2.68 | 5 | 1 |
| 1:B:21:ALA:HB1 | 1:C:23:ASP:CG | 0.41 | 2.36 | 8 | 1 |
| 1:D:36:VAL:CG1 | 1:E:36:VAL:HG22 | 0.41 | 2.45 | 9 | 1 |
| 1:K:36:VAL:O | 1:K:37:GLY:C | 0.41 | 2.58 | 9 | 1 |
| 1:E:38:GLY:O | 1:F:39:VAL:O | 0.41 | 2.39 | 10 | 1 |
| 1:P:13:HIS:O | 1:P:14:HIS:CD2 | 0.41 | 2.72 | 1 | 1 |
| 1:D:24:VAL:HG12 | 1:E:26:SER:CB | 0.41 | 2.45 | 3 | 1 |
| 1:P:36:VAL:HG12 | 1:Q:34:LEU:HD21 | 0.41 | 1.90 | 3 | 1 |
| 1:D:23:ASP:CG | 1:D:24:VAL:H | 0.41 | 2.18 | 4 | 1 |
| 1:K:24:VAL:CG2 | 1:K:25:GLY:N | 0.41 | 2.82 | 5 | 1 |
| 1:L:13:HIS:O | 1:L:14:HIS:CG | 0.41 | 2.74 | 5 | 1 |
| 1:G:22:GLU:OE1 | 1:H:22:GLU:OE2 | 0.41 | 2.37 | 6 | 1 |
| 1:Q:19:PHE:C | 1:Q:19:PHE:CD1 | 0.41 | 2.93 | 7 | 1 |
| 1:P:34:LEU:O | 1:Q:34:LEU:CB | 0.41 | 2.68 | 9 | 1 |
| 1:I:17:LEU:HD12 | 1:I:17:LEU:H | 0.41 | 1.72 | 10 | 1 |
| 1:O:29:GLY:H | 1:P:28:LYS:HB3 | 0.41 | 1.76 | 10 | 1 |
| 1:K:23:ASP:CG | 1:L:27:ASN:O | 0.41 | 2.58 | 1 | 1 |
| 1:P:14:HIS:CD2 | 1:P:14:HIS:C | 0.41 | 2.93 | 3 | 1 |
| 1:N:23:ASP:OD2 | 1:O:22:GLU:CG | 0.41 | 2.68 | 4 | 1 |
| 1:F:39:VAL:CG2 | 1:L:31:ILE:HD11 | 0.41 | 2.46 | 5 | 1 |
| 1:O:14:HIS:CD2 | 1:O:15:GLN:N | 0.41 | 2.88 | 5 | 1 |
| 1:K:23:ASP:OD1 | 1:L:26:SER:OG | 0.41 | 2.38 | 6 | 1 |
| 1:K:32:ILE:CG2 | 1:L:34:LEU:HD21 | 0.41 | 2.46 | 6 | 1 |
| 1:M:38:GLY:N | 1:N:37:GLY:H | 0.41 | 2.14 | 6 | 1 |
| 1:K:14:HIS:CD2 | 1:K:14:HIS:N | 0.41 | 2.88 | 8 | 1 |
| 1:D:13:HIS:O | 1:E:13:HIS:C | 0.41 | 2.58 | 9 | 1 |
| 1:I:22:GLU:O | 1:I:23:ASP:OD1 | 0.41 | 2.38 | 10 | 1 |
| 1:B:23:ASP:CG | 1:C:26:SER:O | 0.41 | 2.58 | 1 | 1 |
| 1:E:31:ILE:O | 1:E:31:ILE:CG2 | 0.41 | 2.68 | 1 | 1 |
| 1:H:15:GLN:NE2 | 1:J:36:VAL:HG11 | 0.41 | 2.30 | 1 | 1 |
| 1:I:26:SER:O | 1:I:27:ASN:OD1 | 0.41 | 2.37 | 3 | 1 |
| 1:K:36:VAL:HG23 | 1:L:35:MET:O | 0.41 | 2.15 | 3 | 1 |
| 1:P:34:LEU:HG | 1:P:36:VAL:HG13 | 0.41 | 1.91 | 4 | 1 |
| 1:Q:23:ASP:OD2 | 1:R:22:GLU:O | 0.41 | 2.37 | 5 | 2 |
| 1:I:20:PHE:CD1 | 1:I:20:PHE:C | 0.41 | 2.94 | 7 | 1 |
| 1:K:16:LYS:C | 1:K:17:LEU:HD12 | 0.41 | 2.36 | 7 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:N:23:ASP:O | 1:N:23:ASP:CG | 0.41 | 2.59 | 7 | 1 |
| 1:P:16:LYS:C | 1:P:17:LEU:HD23 | 0.41 | 2.35 | 7 | 1 |
| 1:L:26:SER:O | 1:L:27:ASN:C | 0.41 | 2.58 | 9 | 1 |
| 1:O:15:GLN:OE1 | 1:P:17:LEU:HD21 | 0.41 | 2.15 | 9 | 1 |
| 1:I:13:HIS:O | 1:J:13:HIS:CB | 0.41 | 2.69 | 10 | 1 |
| 1:C:12:VAL:HG23 | 1:C:14:HIS:ND1 | 0.41 | 2.31 | 2 | 1 |
| 1:D:22:GLU:C | 1:D:24:VAL:H | 0.41 | 2.18 | 2 | 1 |
| 1:D:29:GLY:O | 1:P:39:VAL:CG2 | 0.41 | 2.68 | 4 | 1 |
| 1:J:12:VAL:CG1 | 1:K:13:HIS:CG | 0.41 | 3.03 | 4 | 1 |
| 1:K:26:SER:O | 1:K:27:ASN:C | 0.41 | 2.58 | 4 | 1 |
| 1:G:15:GLN:HE22 | 1:J:36:VAL:CG2 | 0.41 | 2.29 | 5 | 1 |
| 1:C:31:ILE:HD11 | 1:P:39:VAL:HG23 | 0.41 | 1.91 | 5 | 1 |
| 1:K:13:HIS:N | 1:K:13:HIS:CD2 | 0.41 | 2.88 | 6 | 1 |
| 1:P:27:ASN:CG | 1:Q:27:ASN:HD21 | 0.41 | 2.19 | 6 | 1 |
| 1:Q:39:VAL:O | 1:Q:40:VAL:C | 0.41 | 2.58 | 6 | 1 |
| 1:P:39:VAL:O | 1:P:40:VAL:OXT | 0.41 | 2.39 | 9 | 1 |
| 1:C:27:ASN:HD22 | 1:D:27:ASN:N | 0.41 | 2.14 | 10 | 1 |
| 1:I:39:VAL:CG2 | 1:I:40:VAL:N | 0.41 | 2.84 | 10 | 1 |
| 1:Q:40:VAL:OXT | 1:R:40:VAL:O | 0.41 | 2.39 | 10 | 1 |
| 1:D:27:ASN:CG | 1:E:27:ASN:O | 0.41 | 2.59 | 3 | 1 |
| 1:J:17:LEU:N | 1:J:17:LEU:HD12 | 0.41 | 2.30 | 3 | 1 |
| 1:Q:27:ASN:O | 1:Q:29:GLY:N | 0.41 | 2.54 | 3 | 1 |
| 1:G:15:GLN:HE22 | 1:I:37:GLY:CA | 0.41 | 2.29 | 4 | 1 |
| 1:I:13:HIS:ND1 | 1:I:14:HIS:N | 0.41 | 2.69 | 6 | 1 |
| 1:H:23:ASP:OD1 | 1:I:22:GLU:O | 0.41 | 2.38 | 6 | 1 |
| 1:I:36:VAL:HG22 | 1:J:34:LEU:CD2 | 0.41 | 2.45 | 6 | 1 |
| 1:N:17:LEU:HD12 | 1:O:17:LEU:HG | 0.41 | 1.93 | 6 | 1 |
| 1:F:39:VAL:O | 1:F:40:VAL:O | 0.41 | 2.38 | 7 | 1 |
| 1:G:15:GLN:NE2 | 1:G:17:LEU:CD1 | 0.41 | 2.81 | 8 | 1 |
| 1:I:27:ASN:CG | 1:J:28:LYS:O | 0.41 | 2.59 | 8 | 1 |
| 1:M:39:VAL:O | 1:M:40:VAL:C | 0.41 | 2.59 | 8 | 1 |
| 1:K:39:VAL:HG21 | 1:Q:29:GLY:O | 0.41 | 2.16 | 9 | 1 |
| 1:M:24:VAL:H | 1:N:25:GLY:HA3 | 0.41 | 1.76 | 10 | 1 |
| 1:A:27:ASN:O | 1:A:28:LYS:C | 0.41 | 2.59 | 1 | 1 |
| 1:E:36:VAL:O | 1:E:36:VAL:HG13 | 0.41 | 2.15 | 1 | 1 |
| 1:R:31:ILE:O | 1:R:31:ILE:CG2 | 0.41 | 2.69 | 1 | 1 |
| 1:A:27:ASN:OD1 | 1:B:27:ASN:CG | 0.41 | 2.58 | 2 | 1 |
| 1:E:16:LYS:C | 1:E:17:LEU:HD12 | 0.41 | 2.36 | 2 | 1 |
| 1:I:19:PHE:CZ | 1:K:34:LEU:CD1 | 0.41 | 3.04 | 2 | 1 |
| 1:N:22:GLU:O | 1:N:23:ASP:OD1 | 0.41 | 2.39 | 2 | 1 |
| 1:I:26:SER:O | 1:I:27:ASN:C | 0.41 | 2.59 | 7 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:G:14:HIS:C | 1:G:14:HIS:ND1 | 0.41 | 2.74 | 3 | 1 |
| 1:G:14:HIS:O | 1:G:14:HIS:ND1 | 0.41 | 2.41 | 3 | 1 |
| 1:K:17:LEU:C | 1:K:17:LEU:CD2 | 0.41 | 2.88 | 3 | 1 |
| 1:L:34:LEU:HD23 | 1:L:34:LEU:C | 0.41 | 2.36 | 3 | 1 |
| 1:L:17:LEU:C | 1:L:17:LEU:CD2 | 0.41 | 2.89 | 5 | 1 |
| 1:O:14:HIS:CG | 1:O:15:GLN:N | 0.41 | 2.88 | 5 | 1 |
| 1:P:34:LEU:CD1 | 1:Q:34:LEU:HD13 | 0.41 | 2.46 | 6 | 1 |
| 1:B:25:GLY:O | 1:B:27:ASN:OD1 | 0.41 | 2.39 | 8 | 1 |
| 1:B:21:ALA:CB | 1:C:23:ASP:OD1 | 0.41 | 2.69 | 8 | 1 |
| 1:K:14:HIS:ND1 | 1:L:14:HIS:CD2 | 0.41 | 2.89 | 8 | 1 |
| 1:C:17:LEU:CD2 | 1:F:34:LEU:HD21 | 0.41 | 2.46 | 1 | 1 |
| 1:G:38:GLY:H | 1:H:37:GLY:HA3 | 0.41 | 1.76 | 2 | 1 |
| 1:L:23:ASP:C | 1:L:24:VAL:CG2 | 0.41 | 2.89 | 2 | 1 |
| 1:O:23:ASP:OD2 | 1:O:27:ASN:CG | 0.41 | 2.59 | 2 | 1 |
| 1:I:39:VAL:CG1 | 1:I:40:VAL:N | 0.41 | 2.84 | 3 | 1 |
| 1:N:20:PHE:CE1 | 1:O:20:PHE:CG | 0.41 | 3.08 | 5 | 1 |
| 1:E:32:ILE:CG2 | 1:E:34:LEU:HD21 | 0.41 | 2.46 | 5 | 1 |
| 1:I:27:ASN:C | 1:I:29:GLY:N | 0.41 | 2.74 | 5 | 1 |
| 1:C:23:ASP:OD1 | 1:D:25:GLY:CA | 0.41 | 2.68 | 6 | 1 |
| 1:D:31:ILE:HD11 | 1:P:39:VAL:HB | 0.41 | 1.92 | 6 | 1 |
| 1:I:40:VAL:CG1 | 1:I:40:VAL:O | 0.41 | 2.69 | 6 | 1 |
| 1:O:28:LYS:CG | 1:O:29:GLY:N | 0.41 | 2.84 | 6 | 1 |
| 1:Q:24:VAL:CG2 | 1:Q:25:GLY:N | 0.41 | 2.84 | 6 | 1 |
| 1:C:17:LEU:HD12 | 1:D:17:LEU:HD22 | 0.41 | 1.93 | 7 | 1 |
| 1:D:24:VAL:HG12 | 1:D:25:GLY:N | 0.41 | 2.31 | 7 | 1 |
| 1:E:22:GLU:O | 1:E:23:ASP:C | 0.41 | 2.59 | 7 | 1 |
| 1:O:15:GLN:NE2 | 1:Q:36:VAL:HG13 | 0.41 | 2.31 | 7 | 1 |
| 1:N:27:ASN:CG | 1:N:28:LYS:H | 0.41 | 2.18 | 8 | 1 |
| 1:R:34:LEU:O | 1:R:34:LEU:HD12 | 0.41 | 2.15 | 8 | 1 |
| 1:D:12:VAL:HG13 | 1:E:13:HIS:ND1 | 0.41 | 2.31 | 8 | 1 |
| 1:D:26:SER:C | 1:D:27:ASN:O | 0.41 | 2.59 | 8 | 1 |
| 1:G:15:GLN:NE2 | 1:G:17:LEU:HD11 | 0.41 | 2.30 | 8 | 1 |
| 1:J:22:GLU:O | 1:K:27:ASN:OD1 | 0.41 | 2.39 | 9 | 1 |
| 1:J:34:LEU:H | 1:K:34:LEU:HD23 | 0.41 | 1.76 | 10 | 1 |
| 1:O:22:GLU:CG | 1:O:24:VAL:HG13 | 0.41 | 2.46 | 10 | 1 |
| 1:E:36:VAL:O | 1:E:36:VAL:CG1 | 0.41 | 2.69 | 1 | 1 |
| 1:H:34:LEU:HD23 | 1:H:35:MET:H | 0.41 | 1.76 | 1 | 1 |
| 1:H:23:ASP:OD2 | 1:I:22:GLU:O | 0.41 | 2.38 | 2 | 1 |
| 1:D:39:VAL:O | 1:D:39:VAL:CG1 | 0.41 | 2.68 | 5 | 1 |
| 1:P:22:GLU:C | 1:P:24:VAL:H | 0.41 | 2.19 | 5 | 1 |
| 1:H:38:GLY:O | 1:I:39:VAL:CG2 | 0.41 | 2.69 | 8 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:J:32:ILE:CG2 | 1:J:34:LEU:CD1 | 0.41 | 2.98 | 9 | 1 |
| 1:P:15:GLN:O | 1:Q:16:LYS:CB | 0.41 | 2.69 | 9 | 1 |
| 1:C:14:HIS:CE1 | 1:D:15:GLN:HA | 0.41 | 2.51 | 10 | 1 |
| 1:H:11:GLU:OE2 | 1:I:11:GLU:OE2 | 0.40 | 2.38 | 1 | 1 |
| 1:J:34:LEU:HD22 | 1:J:36:VAL:HG22 | 0.40 | 1.93 | 1 | 1 |
| 1:O:23:ASP:CB | 1:P:24:VAL:O | 0.40 | 2.69 | 1 | 1 |
| 1:Q:21:ALA:CB | 1:Q:28:LYS:NZ | 0.40 | 2.85 | 1 | 1 |
| 1:R:13:HIS:CG | 1:R:13:HIS:O | 0.40 | 2.75 | 1 | 1 |
| 1:N:38:GLY:O | 1:O:39:VAL:O | 0.40 | 2.39 | 2 | 1 |
| 1:P:23:ASP:OD2 | 1:R:28:LYS:O | 0.40 | 2.38 | 2 | 1 |
| 1:A:27:ASN:OD1 | 1:B:26:SER:OG | 0.40 | 2.39 | 3 | 1 |
| 1:J:27:ASN:N | 1:J:27:ASN:HD22 | 0.40 | 2.14 | 3 | 1 |
| 1:N:38:GLY:O | 1:N:39:VAL:O | 0.40 | 2.40 | 4 | 1 |
| 1:N:22:GLU:C | 1:O:27:ASN:ND2 | 0.40 | 2.74 | 4 | 1 |
| 1:L:34:LEU:HG | 1:L:36:VAL:HG13 | 0.40 | 1.93 | 5 | 1 |
| 1:P:23:ASP:OD2 | 1:Q:22:GLU:CB | 0.40 | 2.70 | 5 | 1 |
| 1:Q:38:GLY:H | 1:R:37:GLY:HA2 | 0.40 | 1.75 | 6 | 1 |
| 1:E:26:SER:O | 1:E:27:ASN:C | 0.40 | 2.59 | 7 | 1 |
| 1:I:39:VAL:CG1 | 1:O:31:ILE:HD11 | 0.40 | 2.44 | 8 | 1 |
| 1:Q:36:VAL:HG12 | 1:R:36:VAL:HG12 | 0.40 | 1.92 | 8 | 1 |
| 1:B:24:VAL:CG1 | 1:C:26:SER:O | 0.40 | 2.68 | 9 | 1 |
| 1:I:39:VAL:O | 1:I:40:VAL:O | 0.40 | 2.39 | 9 | 1 |
| 1:L:23:ASP:OD1 | 1:L:24:VAL:N | 0.40 | 2.54 | 1 | 1 |
| 1:N:40:VAL:HG22 | 1:N:40:VAL:O | 0.40 | 2.15 | 1 | 1 |
| 1:P:15:GLN:NE2 | 1:P:17:LEU:HD11 | 0.40 | 2.32 | 2 | 1 |
| 1:R:12:VAL:CG1 | 1:R:13:HIS:N | 0.40 | 2.83 | 2 | 1 |
| 1:G:39:VAL:O | 1:M:31:ILE:CD1 | 0.40 | 2.70 | 3 | 1 |
| 1:J:40:VAL:CG1 | 1:J:40:VAL:O | 0.40 | 2.68 | 3 | 1 |
| 1:C:32:ILE:CG2 | 1:D:34:LEU:HD21 | 0.40 | 2.46 | 6 | 1 |
| 1:G:34:LEU:HG | 1:G:35:MET:N | 0.40 | 2.31 | 6 | 1 |
| 1:C:22:GLU:OE2 | 1:D:22:GLU:OE2 | 0.40 | 2.39 | 8 | 1 |
| 1:H:13:HIS:O | 1:I:13:HIS:CG | 0.40 | 2.74 | 8 | 1 |
| 1:B:14:HIS:CE1 | 1:C:14:HIS:N | 0.40 | 2.89 | 9 | 1 |
| 1:J:34:LEU:HB2 | 1:K:34:LEU:HD13 | 0.40 | 1.93 | 9 | 1 |
| 1:O:15:GLN:OE1 | 1:P:15:GLN:CG | 0.40 | 2.69 | 9 | 1 |
| 1:B:37:GLY:O | 1:B:38:GLY:C | 0.40 | 2.59 | 1 | 2 |
| 1:L:39:VAL:O | 1:L:40:VAL:C | 0.40 | 2.60 | 1 | 1 |
| 1:B:31:ILE:CD1 | 1:N:39:VAL:O | 0.40 | 2.68 | 1 | 1 |
| 1:C:13:HIS:H | 1:D:13:HIS:CD2 | 0.40 | 2.34 | 2 | 1 |
| 1:P:15:GLN:CD | 1:R:36:VAL:CG1 | 0.40 | 2.90 | 3 | 1 |
| 1:J:27:ASN:O | 1:J:29:GLY:N | 0.40 | 2.54 | 4 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:L:39:VAL:HG23 | 1:R:31:ILE:HD12 | 0.40 | 1.93 | 7 | 1 |
| 1:N:38:GLY:O | 1:N:39:VAL:C | 0.40 | 2.60 | 8 | 1 |
| 1:F:32:ILE:CG2 | 1:F:34:LEU:HD12 | 0.40 | 2.47 | 10 | 1 |
| 1:B:19:PHE:CZ | 1:D:34:LEU:CD1 | 0.40 | 3.05 | 1 | 1 |
| 1:R:31:ILE:O | 1:R:31:ILE:HG23 | 0.40 | 2.16 | 1 | 1 |
| 1:G:34:LEU:CD2 | 1:G:35:MET:H | 0.40 | 2.27 | 3 | 1 |
| 1:M:39:VAL:O | 1:M:40:VAL:OXT | 0.40 | 2.39 | 3 | 1 |
| 1:O:12:VAL:C | 1:O:13:HIS:CD2 | 0.40 | 2.95 | 3 | 1 |
| 1:G:37:GLY:O | 1:G:38:GLY:C | 0.40 | 2.59 | 4 | 1 |
| 1:P:38:GLY:CA | 1:Q:38:GLY:H | 0.40 | 2.28 | 4 | 1 |
| 1:P:12:VAL:HG23 | 1:Q:12:VAL:O | 0.40 | 2.16 | 5 | 1 |
| 1:Q:11:GLU:O | 1:R:11:GLU:OE1 | 0.40 | 2.39 | 5 | 1 |
| 1:G:22:GLU:CD | 1:H:22:GLU:OE1 | 0.40 | 2.60 | 7 | 1 |
| 1:Q:14:HIS:N | 1:Q:14:HIS:ND1 | 0.40 | 2.69 | 7 | 1 |
| 1:G:35:MET:CE | 1:H:35:MET:SD | 0.40 | 3.09 | 9 | 1 |
| 1:A:19:PHE:CD1 | 1:C:32:ILE:HD13 | 0.40 | 2.51 | 10 | 1 |
| 1:R:21:ALA:HB3 | 1:R:24:VAL:CG1 | 0.40 | 2.46 | 1 | 1 |
| 1:D:26:SER:OG | 1:E:27:ASN:CG | 0.40 | 2.60 | 2 | 1 |
| 1:H:13:HIS:CB | 1:I:13:HIS:ND1 | 0.40 | 2.85 | 3 | 1 |
| 1:I:17:LEU:CD2 | 1:K:36:VAL:HG21 | 0.40 | 2.46 | 4 | 1 |
| 1:P:34:LEU:HD12 | 1:Q:34:LEU:CD1 | 0.40 | 2.46 | 6 | 1 |
| 1:B:21:ALA:HB1 | 1:C:23:ASP:OD2 | 0.40 | 2.17 | 8 | 1 |
| 1:C:20:PHE:CE2 | 1:D:20:PHE:CD2 | 0.40 | 3.09 | 9 | 1 |
| 1:M:24:VAL:HG21 | 1:N:25:GLY:O | 0.40 | 2.16 | 10 | 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 | 29/40 (72%) | 22±2 (74±5%) | 5±1 (17±4%) | 3±1 (9±5%) | 1 | 11 |
| 1 | B | 29/40 (72%) | 23±2 (79±6%) | 4±1 (12±4%) | 3±2 (9±6%) | 1 | 12 |
| 1 | C | 28/40 (70%) | 22±2 (79±6%) | 4±1 (15±3%) | 2±1 (6±4%) | 3 | 19 |
| 1 | D | 30/40 (75%) | 23±2 (78±6%) | 4±1 (12±5%) | 3±2 (10±7%) | 1 | 9 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|--------------|-------------|-------------|-------------|----|
| 1 | E | 28/40 (70%) | 23±2 (80±6%) | 4±2 (14±6%) | 2±1 (6±4%) | 3 | 22 |
| 1 | F | 23/40 (58%) | 19±1 (82±5%) | 3±1 (13±4%) | 1±1 (5±5%) | 4 | 26 |
| 1 | G | 23/40 (58%) | 20±1 (85±4%) | 3±1 (13±4%) | 1±1 (2±3%) | 10 | 49 |
| 1 | H | 24/40 (60%) | 19±1 (79±5%) | 4±1 (17±6%) | 1±1 (4±4%) | 5 | 30 |
| 1 | I | 29/40 (72%) | 23±2 (79±6%) | 4±1 (13±4%) | 2±1 (8±5%) | 2 | 15 |
| 1 | J | 30/40 (75%) | 24±2 (80±5%) | 4±1 (12±4%) | 2±1 (8±4%) | 2 | 15 |
| 1 | K | 30/40 (75%) | 24±2 (80±6%) | 4±2 (13±5%) | 2±1 (7±4%) | 2 | 16 |
| 1 | L | 28/40 (70%) | 23±1 (81±5%) | 3±1 (12±5%) | 2±1 (6±5%) | 3 | 19 |
| 1 | M | 25/40 (62%) | 21±1 (83±4%) | 3±1 (12±5%) | 1±1 (5±4%) | 4 | 24 |
| 1 | N | 28/40 (70%) | 20±1 (72±5%) | 5±1 (17±5%) | 3±1 (11±5%) | 1 | 9 |
| 1 | O | 28/40 (70%) | 21±1 (76±4%) | 5±1 (17±3%) | 2±1 (7±3%) | 2 | 16 |
| 1 | P | 28/40 (70%) | 22±1 (78±5%) | 4±1 (13±5%) | 3±2 (9±6%) | 1 | 12 |
| 1 | Q | 30/40 (75%) | 24±1 (81±5%) | 4±2 (13±6%) | 2±1 (6±4%) | 3 | 19 |
| 1 | R | 30/40 (75%) | 24±1 (80±3%) | 4±1 (14±3%) | 2±1 (6±3%) | 3 | 22 |
| All | All | 5000/7200 (69%) | 3953 (79%) | 694 (14%) | 353 (7%) | 2 | 16 |

All 135 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | D | 24 | VAL | 8 |
| 1 | K | 24 | VAL | 7 |
| 1 | B | 24 | VAL | 7 |
| 1 | P | 28 | LYS | 7 |
| 1 | I | 24 | VAL | 7 |
| 1 | O | 24 | VAL | 6 |
| 1 | J | 24 | VAL | 6 |
| 1 | M | 37 | GLY | 6 |
| 1 | L | 26 | SER | 6 |
| 1 | D | 29 | GLY | 5 |
| 1 | E | 24 | VAL | 5 |
| 1 | N | 37 | GLY | 5 |
| 1 | N | 26 | SER | 5 |
| 1 | P | 24 | VAL | 5 |
| 1 | O | 26 | SER | 5 |
| 1 | K | 26 | SER | 4 |
| 1 | Q | 37 | GLY | 4 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | F | 28 | LYS | 4 |
| 1 | A | 23 | ASP | 4 |
| 1 | K | 27 | ASN | 4 |
| 1 | E | 28 | LYS | 4 |
| 1 | D | 37 | GLY | 4 |
| 1 | J | 26 | SER | 4 |
| 1 | A | 26 | SER | 4 |
| 1 | N | 29 | GLY | 4 |
| 1 | B | 38 | GLY | 4 |
| 1 | Q | 24 | VAL | 4 |
| 1 | A | 27 | ASN | 4 |
| 1 | Q | 23 | ASP | 4 |
| 1 | A | 24 | VAL | 4 |
| 1 | D | 23 | ASP | 4 |
| 1 | P | 37 | GLY | 4 |
| 1 | R | 37 | GLY | 4 |
| 1 | K | 37 | GLY | 3 |
| 1 | C | 23 | ASP | 3 |
| 1 | I | 27 | ASN | 3 |
| 1 | D | 25 | GLY | 3 |
| 1 | J | 28 | LYS | 3 |
| 1 | N | 38 | GLY | 3 |
| 1 | O | 27 | ASN | 3 |
| 1 | A | 38 | GLY | 3 |
| 1 | H | 29 | GLY | 3 |
| 1 | B | 25 | GLY | 3 |
| 1 | P | 29 | GLY | 3 |
| 1 | B | 37 | GLY | 3 |
| 1 | M | 24 | VAL | 3 |
| 1 | I | 26 | SER | 3 |
| 1 | C | 29 | GLY | 3 |
| 1 | L | 24 | VAL | 3 |
| 1 | A | 37 | GLY | 3 |
| 1 | Q | 26 | SER | 3 |
| 1 | L | 27 | ASN | 3 |
| 1 | H | 37 | GLY | 3 |
| 1 | G | 37 | GLY | 3 |
| 1 | C | 26 | SER | 3 |
| 1 | B | 26 | SER | 3 |
| 1 | N | 24 | VAL | 3 |
| 1 | R | 26 | SER | 3 |
| 1 | D | 28 | LYS | 3 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | J | 27 | ASN | 3 |
| 1 | O | 28 | LYS | 3 |
| 1 | C | 27 | ASN | 3 |
| 1 | R | 27 | ASN | 3 |
| 1 | J | 29 | GLY | 2 |
| 1 | D | 27 | ASN | 2 |
| 1 | A | 39 | VAL | 2 |
| 1 | O | 29 | GLY | 2 |
| 1 | N | 27 | ASN | 2 |
| 1 | I | 23 | ASP | 2 |
| 1 | K | 23 | ASP | 2 |
| 1 | L | 23 | ASP | 2 |
| 1 | P | 23 | ASP | 2 |
| 1 | R | 28 | LYS | 2 |
| 1 | H | 38 | GLY | 2 |
| 1 | E | 23 | ASP | 2 |
| 1 | B | 29 | GLY | 2 |
| 1 | P | 26 | SER | 2 |
| 1 | R | 23 | ASP | 2 |
| 1 | B | 23 | ASP | 2 |
| 1 | E | 37 | GLY | 2 |
| 1 | N | 39 | VAL | 2 |
| 1 | I | 28 | LYS | 2 |
| 1 | J | 37 | GLY | 2 |
| 1 | G | 38 | GLY | 2 |
| 1 | F | 37 | GLY | 2 |
| 1 | N | 25 | GLY | 2 |
| 1 | C | 37 | GLY | 2 |
| 1 | N | 23 | ASP | 2 |
| 1 | I | 29 | GLY | 2 |
| 1 | M | 38 | GLY | 2 |
| 1 | J | 23 | ASP | 2 |
| 1 | D | 26 | SER | 2 |
| 1 | H | 39 | VAL | 1 |
| 1 | I | 39 | VAL | 1 |
| 1 | B | 27 | ASN | 1 |
| 1 | O | 23 | ASP | 1 |
| 1 | L | 37 | GLY | 1 |
| 1 | A | 28 | LYS | 1 |
| 1 | N | 28 | LYS | 1 |
| 1 | R | 29 | GLY | 1 |
| 1 | R | 39 | VAL | 1 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | Q | 39 | VAL | 1 |
| 1 | F | 22 | GLU | 1 |
| 1 | C | 25 | GLY | 1 |
| 1 | R | 24 | VAL | 1 |
| 1 | C | 38 | GLY | 1 |
| 1 | Q | 28 | LYS | 1 |
| 1 | F | 38 | GLY | 1 |
| 1 | C | 24 | VAL | 1 |
| 1 | J | 38 | GLY | 1 |
| 1 | L | 38 | GLY | 1 |
| 1 | H | 23 | ASP | 1 |
| 1 | L | 25 | GLY | 1 |
| 1 | A | 25 | GLY | 1 |
| 1 | P | 39 | VAL | 1 |
| 1 | Q | 29 | GLY | 1 |
| 1 | F | 30 | ALA | 1 |
| 1 | I | 25 | GLY | 1 |
| 1 | A | 29 | GLY | 1 |
| 1 | N | 30 | ALA | 1 |
| 1 | F | 39 | VAL | 1 |
| 1 | M | 22 | GLU | 1 |
| 1 | E | 26 | SER | 1 |
| 1 | M | 39 | VAL | 1 |
| 1 | E | 30 | ALA | 1 |
| 1 | B | 22 | GLU | 1 |
| 1 | K | 28 | LYS | 1 |
| 1 | Q | 27 | ASN | 1 |
| 1 | E | 27 | ASN | 1 |
| 1 | I | 38 | GLY | 1 |
| 1 | C | 28 | LYS | 1 |
| 1 | F | 20 | PHE | 1 |
| 1 | L | 28 | LYS | 1 |
| 1 | P | 27 | ASN | 1 |
| 1 | K | 38 | GLY | 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 | 22/31 (71%) | 22±0 (99±2%) | 0±0 (1±2%) | 68 | 95 |
| 1 | B | 22/31 (71%) | 22±1 (98±3%) | 1±1 (2±3%) | 53 | 92 |
| 1 | C | 22/31 (71%) | 21±1 (95±5%) | 1±1 (5±5%) | 25 | 74 |
| 1 | D | 24/31 (77%) | 23±1 (95±3%) | 1±1 (5±3%) | 26 | 75 |
| 1 | E | 22/31 (71%) | 21±1 (96±4%) | 1±1 (4±4%) | 38 | 86 |
| 1 | F | 18/31 (58%) | 17±1 (96±4%) | 1±1 (4±4%) | 36 | 84 |
| 1 | G | 18/31 (58%) | 17±1 (94±5%) | 1±1 (6±5%) | 25 | 74 |
| 1 | H | 18/31 (58%) | 18±1 (97±4%) | 1±1 (3±4%) | 46 | 90 |
| 1 | I | 23/31 (74%) | 21±1 (93±4%) | 2±1 (7±4%) | 19 | 67 |
| 1 | J | 24/31 (77%) | 23±1 (95±3%) | 1±1 (5±3%) | 26 | 75 |
| 1 | K | 24/31 (77%) | 23±1 (96±3%) | 1±1 (4±3%) | 36 | 84 |
| 1 | L | 22/31 (71%) | 21±1 (95±5%) | 1±1 (5±5%) | 25 | 74 |
| 1 | M | 21/31 (68%) | 21±0 (100±1%) | 0±0 (0±1%) | 89 | 97 |
| 1 | N | 22/31 (71%) | 21±1 (95±5%) | 1±1 (5±5%) | 31 | 80 |
| 1 | O | 22/31 (71%) | 20±1 (92±3%) | 2±1 (8±3%) | 15 | 62 |
| 1 | P | 22/31 (71%) | 21±1 (94±5%) | 1±1 (6±5%) | 21 | 70 |
| 1 | Q | 24/31 (77%) | 24±0 (99±2%) | 0±0 (1±2%) | 70 | 96 |
| 1 | R | 24/31 (77%) | 23±1 (95±3%) | 1±1 (5±3%) | 28 | 77 |
| All | All | 3940/5580 (71%) | 3769 (96%) | 171 (4%) | 33 | 81 |

All 101 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 | O | 34 | LEU | 7 |
| 1 | R | 36 | VAL | 4 |
| 1 | C | 36 | VAL | 4 |
| 1 | F | 34 | LEU | 4 |
| 1 | I | 34 | LEU | 4 |
| 1 | L | 34 | LEU | 4 |
| 1 | J | 34 | LEU | 4 |
| 1 | O | 13 | HIS | 3 |
| 1 | I | 36 | VAL | 3 |
| 1 | I | 17 | LEU | 3 |
| 1 | G | 14 | HIS | 3 |
| 1 | G | 13 | HIS | 3 |
| 1 | R | 34 | LEU | 3 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | D | 14 | HIS | 3 |
| 1 | H | 14 | HIS | 3 |
| 1 | P | 26 | SER | 3 |
| 1 | C | 17 | LEU | 3 |
| 1 | J | 14 | HIS | 3 |
| 1 | N | 13 | HIS | 3 |
| 1 | N | 24 | VAL | 3 |
| 1 | P | 27 | ASN | 3 |
| 1 | R | 13 | HIS | 2 |
| 1 | O | 27 | ASN | 2 |
| 1 | Q | 36 | VAL | 2 |
| 1 | L | 23 | ASP | 2 |
| 1 | P | 23 | ASP | 2 |
| 1 | D | 27 | ASN | 2 |
| 1 | O | 36 | VAL | 2 |
| 1 | G | 34 | LEU | 2 |
| 1 | E | 36 | VAL | 2 |
| 1 | L | 24 | VAL | 2 |
| 1 | F | 36 | VAL | 2 |
| 1 | P | 34 | LEU | 2 |
| 1 | O | 23 | ASP | 2 |
| 1 | L | 13 | HIS | 2 |
| 1 | I | 14 | HIS | 2 |
| 1 | P | 36 | VAL | 2 |
| 1 | N | 20 | PHE | 2 |
| 1 | K | 36 | VAL | 2 |
| 1 | C | 34 | LEU | 1 |
| 1 | O | 24 | VAL | 1 |
| 1 | I | 15 | GLN | 1 |
| 1 | C | 23 | ASP | 1 |
| 1 | B | 35 | MET | 1 |
| 1 | J | 28 | LYS | 1 |
| 1 | E | 24 | VAL | 1 |
| 1 | J | 26 | SER | 1 |
| 1 | D | 12 | VAL | 1 |
| 1 | I | 39 | VAL | 1 |
| 1 | J | 27 | ASN | 1 |
| 1 | A | 24 | VAL | 1 |
| 1 | K | 23 | ASP | 1 |
| 1 | R | 15 | GLN | 1 |
| 1 | L | 36 | VAL | 1 |
| 1 | D | 40 | VAL | 1 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | E | 19 | PHE | 1 |
| 1 | P | 14 | HIS | 1 |
| 1 | H | 15 | GLN | 1 |
| 1 | K | 13 | HIS | 1 |
| 1 | F | 13 | HIS | 1 |
| 1 | H | 34 | LEU | 1 |
| 1 | C | 15 | GLN | 1 |
| 1 | B | 24 | VAL | 1 |
| 1 | L | 35 | MET | 1 |
| 1 | D | 24 | VAL | 1 |
| 1 | J | 13 | HIS | 1 |
| 1 | I | 12 | VAL | 1 |
| 1 | B | 23 | ASP | 1 |
| 1 | N | 12 | VAL | 1 |
| 1 | E | 34 | LEU | 1 |
| 1 | G | 18 | VAL | 1 |
| 1 | N | 14 | HIS | 1 |
| 1 | D | 35 | MET | 1 |
| 1 | K | 40 | VAL | 1 |
| 1 | C | 35 | MET | 1 |
| 1 | R | 26 | SER | 1 |
| 1 | P | 40 | VAL | 1 |
| 1 | E | 13 | HIS | 1 |
| 1 | E | 26 | SER | 1 |
| 1 | K | 14 | HIS | 1 |
| 1 | B | 15 | GLN | 1 |
| 1 | I | 23 | ASP | 1 |
| 1 | D | 23 | ASP | 1 |
| 1 | K | 35 | MET | 1 |
| 1 | M | 14 | HIS | 1 |
| 1 | K | 15 | GLN | 1 |
| 1 | D | 34 | LEU | 1 |
| 1 | B | 14 | HIS | 1 |
| 1 | K | 34 | LEU | 1 |
| 1 | R | 40 | VAL | 1 |
| 1 | Q | 27 | ASN | 1 |
| 1 | A | 18 | VAL | 1 |
| 1 | C | 27 | ASN | 1 |
| 1 | E | 27 | ASN | 1 |
| 1 | J | 39 | VAL | 1 |
| 1 | A | 14 | HIS | 1 |
| 1 | O | 17 | LEU | 1 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | G | 12 | VAL | 1 |
| 1 | J | 23 | ASP | 1 |
| 1 | D | 36 | VAL | 1 |
| 1 | D | 26 | SER | 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 carbohydrates 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

The completeness of assignment taking into account all chemical shift lists is 1% for the well-defined parts and 1% for the entire structure.

7.1 Chemical shift list 1

File name: input_cs.cif

Chemical shift list name: *assigned_chem_shift_list_1*

7.1.1 Bookkeeping

The following table shows the results of parsing the chemical shift list and reports the number of nuclei with statistically unusual chemical shifts.

| | |
|---|----|
| Total number of shifts | 90 |
| Number of shifts mapped to atoms | 90 |
| Number of unparsed shifts | 0 |
| Number of shifts with mapping errors | 0 |
| Number of shifts with mapping warnings | 0 |
| Number of shift outliers (ShiftChecker) | 0 |

7.1.2 Chemical shift referencing

The following table shows the suggested chemical shift referencing corrections.

| Nucleus | # values | Correction \pm precision, ppm | Suggested action |
|------------------------|----------|---------------------------------|----------------------------|
| $^{13}\text{C}_\alpha$ | 32 | 0.39 ± 0.29 | None needed (< 0.5 ppm) |
| $^{13}\text{C}_\beta$ | 26 | -0.83 ± 0.37 | Should be applied |
| $^{13}\text{C}'$ | 32 | 1.27 ± 0.22 | Should be applied |
| ^{15}N | 0 | — | None (insufficient data) |

7.1.3 Completeness of resonance assignments

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 1%, i.e. 82 atoms were assigned a chemical shift out of a possible 5960. 0 out of 137 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ^1H | ^{13}C | ^{15}N |
|-----------|--------------|--------------|-----------------|-----------------|
| Backbone | 58/2605 (2%) | 0/1042 (0%) | 58/1042 (6%) | 0/521 (0%) |
| Sidechain | 24/2723 (1%) | 0/1551 (0%) | 24/1107 (2%) | 0/65 (0%) |

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| | Total | ¹H | ¹³C | ¹⁵N |
|----------|--------------|----------------------|-----------------------|-----------------------|
| Aromatic | 0/632 (0%) | 0/352 (0%) | 0/244 (0%) | 0/36 (0%) |
| Overall | 82/5960 (1%) | 0/2945 (0%) | 82/2393 (3%) | 0/622 (0%) |

Note: This is a solid-state NMR structure, where hydrogen atoms are typically not assigned a chemical shift value, which may lead to lower completeness of assignment measure.

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 1%, i.e. 90 atoms were assigned a chemical shift out of a possible 6534. 0 out of 144 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ¹H | ¹³C | ¹⁵N |
|-----------|--------------|----------------------|-----------------------|-----------------------|
| Backbone | 64/2880 (2%) | 0/1152 (0%) | 64/1152 (6%) | 0/576 (0%) |
| Sidechain | 26/2934 (1%) | 0/1674 (0%) | 26/1188 (2%) | 0/72 (0%) |
| Aromatic | 0/720 (0%) | 0/396 (0%) | 0/288 (0%) | 0/36 (0%) |
| Overall | 90/6534 (1%) | 0/3222 (0%) | 90/2628 (3%) | 0/684 (0%) |

Note: This is a solid-state NMR structure, where hydrogen atoms are typically not assigned a chemical shift value, which may lead to lower completeness of assignment measure.

7.1.4 Statistically unusual chemical shifts [i](#)

There are no statistically unusual chemical shifts.

7.1.5 Random Coil Index (RCI) plots [i](#)

The image below reports *random coil index* values for the protein chains in the structure. The height of each bar gives a probability of a given residue to be disordered, as predicted from the available chemical shifts and the amino acid sequence. A value above 0.2 is an indication of significant predicted disorder. The colour of the bar shows whether the residue is in the well-defined core (black) or in the ill-defined residue ranges (cyan), as described in section 2 on ensemble composition.

Random coil index (RCI) for chain A:

