



Full wwPDB NMR Structure Validation Report ⓘ

Mar 10, 2026 – 10:59 AM UTC

PDB ID : 2LHE / pdb_00002lhe
BMRB ID : 17841
Title : Gb98-T25I,L20A
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Deposited on : 2011-08-08

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 types of validation reports are described at

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

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

MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
wwPDB-RCI : v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV : Wang et al. (2010)
wwPDB-ShiftChecker : v1.2
BMRB Restraints Analysis : v1.2
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

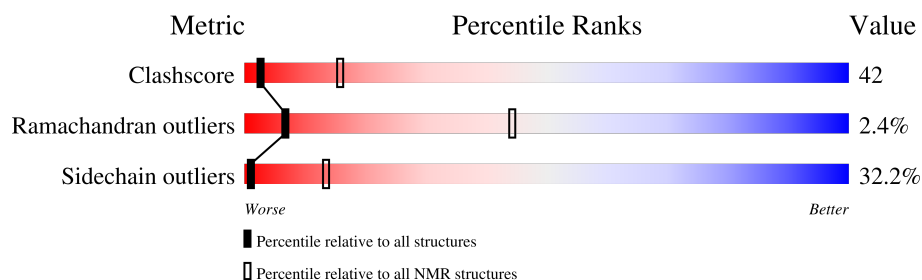
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR

The overall completeness of chemical shifts assignment is 84%.

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 | 229148 | 14424 |
| Ramachandran outliers | 224038 | 12848 |
| Sidechain outliers | 223484 | 12823 |

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 | 56 | <div> <div></div> <div>25%</div> <div>59%</div> <div>9%</div> <div>7%</div> </div> |

2 Ensemble composition and analysis

This entry contains 20 models. Model 14 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:2-A:9, A:13-A:56 (52) | 0.45 | 14 |

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

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

The models can be grouped into 5 clusters and 4 single-model clusters were found.

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

3 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 919 atoms, of which 469 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Gb98.

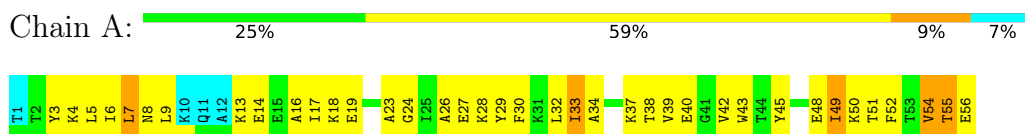
| Mol | Chain | Residues | Atoms | | | | | Trace |
|-----|-------|----------|-------|-----|-----|----|----|-------|
| 1 | A | 56 | Total | C | H | N | O | 0 |
| | | | 919 | 293 | 469 | 69 | 88 | |

4 Residue-property plots [i](#)

4.1 Average score per residue in the NMR ensemble

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

- Molecule 1: Gb98

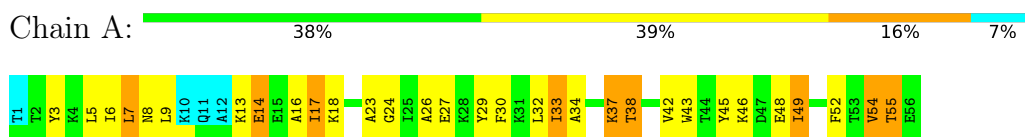


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

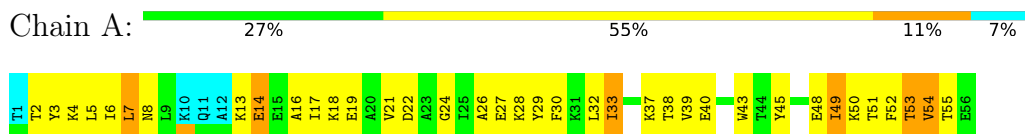
4.2.1 Score per residue for model 1

- Molecule 1: Gb98



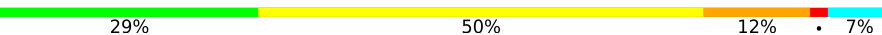
4.2.2 Score per residue for model 2

- Molecule 1: Gb98



4.2.3 Score per residue for model 3

- Molecule 1: Gb98

Chain A:  29% 50% 12% 7%



4.2.4 Score per residue for model 4

- Molecule 1: Gb98

Chain A:  32% 45% 14% 7%



4.2.5 Score per residue for model 5

- Molecule 1: Gb98

Chain A:  36% 43% 14% 7%



4.2.6 Score per residue for model 6

- Molecule 1: Gb98

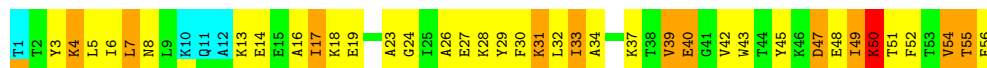
Chain A:  34% 46% 12% 7%



4.2.7 Score per residue for model 7

- Molecule 1: Gb98

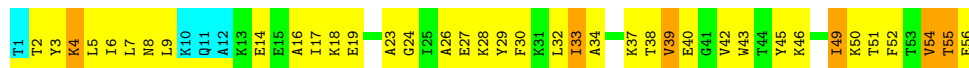
Chain A:  25% 46% 20% 7%



4.2.8 Score per residue for model 8

- Molecule 1: Gb98

Chain A:  25% 57% 11% 7%



4.2.9 Score per residue for model 9

- Molecule 1: Gb98

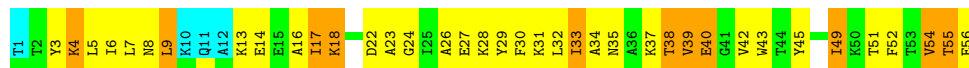
Chain A:  29% 46% 18% 7%



4.2.10 Score per residue for model 10

- Molecule 1: Gb98

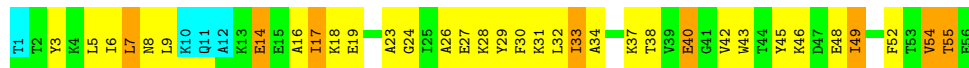
Chain A:  25% 48% 20% 7%



4.2.11 Score per residue for model 11

- Molecule 1: Gb98

Chain A:  32% 46% 14% 7%



4.2.12 Score per residue for model 12

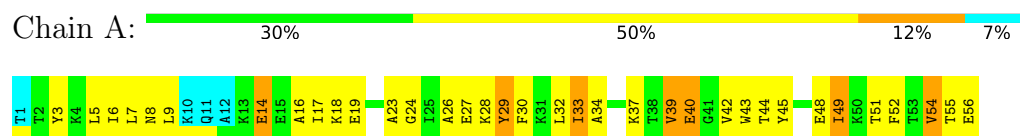
- Molecule 1: Gb98

Chain A:  30% 43% 20% 7%



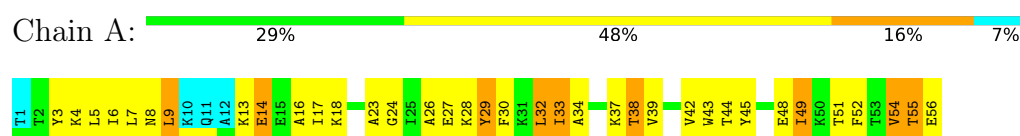
4.2.13 Score per residue for model 13

- Molecule 1: Gb98



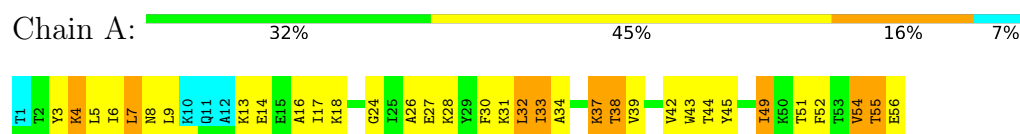
4.2.14 Score per residue for model 14 (medoid)

- Molecule 1: Gb98



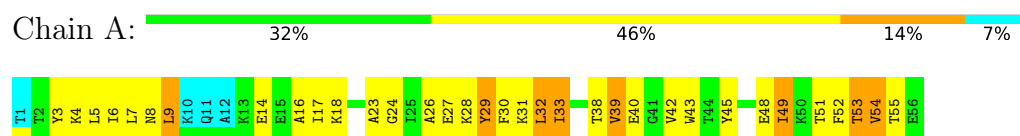
4.2.15 Score per residue for model 15

- Molecule 1: Gb98



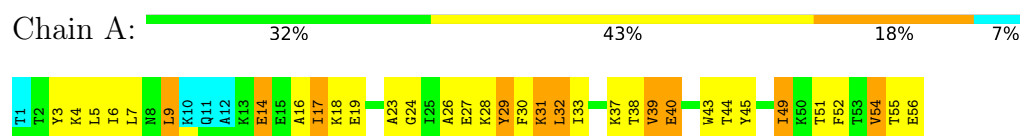
4.2.16 Score per residue for model 16

- Molecule 1: Gb98



4.2.17 Score per residue for model 17

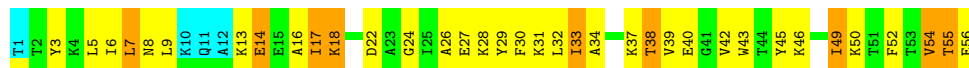
- Molecule 1: Gb98



4.2.18 Score per residue for model 18

- Molecule 1: Gb98

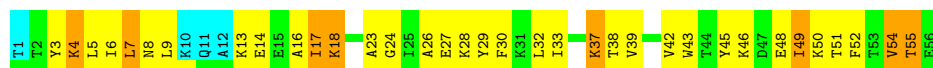
Chain A:  29% 48% 16% 7%



4.2.19 Score per residue for model 19

- Molecule 1: Gb98

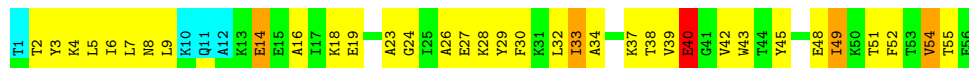
Chain A:  30% 48% 14% 7%



4.2.20 Score per residue for model 20

- Molecule 1: Gb98

Chain A:  30% 54% 7% 7%



5 Refinement protocol and experimental data overview

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

Of the 200 calculated structures, 20 were deposited, based on the following criterion: *structures with acceptable covalent geometry*.

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

| Software name | Classification | Version |
|---------------|----------------|---------|
| CNS | 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) | working_cs.cif |
| Number of chemical shift lists | 1 |
| Total number of shifts | 658 |
| Number of shifts mapped to atoms | 658 |
| Number of unparsed shifts | 0 |
| Number of shifts with mapping errors | 0 |
| Number of shifts with mapping warnings | 0 |
| Assignment completeness (well-defined parts) | 84% |

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 | 420 | 434 | 434 | 36±3 |
| All | All | 8400 | 8680 | 8680 | 714 |

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 42.

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

| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:5:LEU:HB3 | 1:A:16:ALA:HB3 | 0.82 | 1.52 | 8 | 20 |
| 1:A:42:VAL:HG22 | 1:A:55:THR:O | 0.81 | 1.76 | 14 | 10 |
| 1:A:9:LEU:CD1 | 1:A:38:THR:HG21 | 0.81 | 2.05 | 16 | 2 |
| 1:A:28:LYS:O | 1:A:32:LEU:HD13 | 0.79 | 1.78 | 12 | 3 |
| 1:A:5:LEU:HD12 | 1:A:52:PHE:O | 0.77 | 1.80 | 17 | 20 |
| 1:A:18:LYS:HG2 | 1:A:30:PHE:CE1 | 0.72 | 2.18 | 10 | 20 |
| 1:A:33:ILE:HD11 | 1:A:37:LYS:CG | 0.71 | 2.16 | 2 | 12 |
| 1:A:5:LEU:C | 1:A:6:ILE:HD12 | 0.71 | 2.11 | 11 | 6 |
| 1:A:9:LEU:HD22 | 1:A:38:THR:HG23 | 0.70 | 1.61 | 10 | 1 |
| 1:A:7:LEU:HD13 | 1:A:14:GLU:HB3 | 0.70 | 1.61 | 14 | 18 |
| 1:A:5:LEU:O | 1:A:6:ILE:HD13 | 0.70 | 1.85 | 3 | 14 |
| 1:A:9:LEU:HD11 | 1:A:38:THR:HG23 | 0.70 | 1.64 | 18 | 2 |
| 1:A:9:LEU:HD12 | 1:A:38:THR:HG21 | 0.68 | 1.66 | 6 | 2 |
| 1:A:3:TYR:O | 1:A:17:ILE:HG22 | 0.67 | 1.89 | 14 | 15 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:9:LEU:HD11 | 1:A:38:THR:HG21 | 0.66 | 1.65 | 16 | 2 |
| 1:A:49:ILE:N | 1:A:49:ILE:HD13 | 0.65 | 2.06 | 11 | 20 |
| 1:A:39:VAL:HG13 | 1:A:40:GLU:OE2 | 0.65 | 1.92 | 8 | 1 |
| 1:A:9:LEU:HD22 | 1:A:9:LEU:N | 0.64 | 2.08 | 14 | 4 |
| 1:A:39:VAL:HG13 | 1:A:40:GLU:CG | 0.63 | 2.23 | 6 | 1 |
| 1:A:29:TYR:CD1 | 1:A:32:LEU:HD23 | 0.62 | 2.30 | 18 | 6 |
| 1:A:39:VAL:HG13 | 1:A:40:GLU:HG3 | 0.62 | 1.71 | 6 | 1 |
| 1:A:9:LEU:HD22 | 1:A:38:THR:CG2 | 0.62 | 2.23 | 10 | 1 |
| 1:A:17:ILE:O | 1:A:17:ILE:HD12 | 0.62 | 1.94 | 7 | 3 |
| 1:A:7:LEU:HD12 | 1:A:7:LEU:N | 0.61 | 2.11 | 18 | 17 |
| 1:A:29:TYR:CD1 | 1:A:32:LEU:HD22 | 0.60 | 2.30 | 5 | 3 |
| 1:A:4:LYS:HB3 | 1:A:51:THR:HG22 | 0.60 | 1.73 | 12 | 1 |
| 1:A:5:LEU:HD22 | 1:A:30:PHE:CB | 0.60 | 2.25 | 20 | 20 |
| 1:A:17:ILE:HD13 | 1:A:17:ILE:N | 0.60 | 2.10 | 1 | 2 |
| 1:A:26:ALA:HB1 | 1:A:30:PHE:CE2 | 0.59 | 2.32 | 6 | 20 |
| 1:A:4:LYS:O | 1:A:51:THR:HG23 | 0.59 | 1.98 | 6 | 13 |
| 1:A:33:ILE:HD11 | 1:A:37:LYS:HG2 | 0.59 | 1.75 | 3 | 12 |
| 1:A:9:LEU:HD13 | 1:A:38:THR:HG23 | 0.58 | 1.75 | 15 | 1 |
| 1:A:38:THR:O | 1:A:39:VAL:HG13 | 0.57 | 1.99 | 10 | 1 |
| 1:A:39:VAL:HG22 | 1:A:39:VAL:O | 0.57 | 2.00 | 8 | 3 |
| 1:A:29:TYR:CE1 | 1:A:32:LEU:HD23 | 0.56 | 2.35 | 18 | 6 |
| 1:A:47:ASP:O | 1:A:49:ILE:N | 0.56 | 2.39 | 7 | 1 |
| 1:A:18:LYS:CG | 1:A:30:PHE:CE1 | 0.56 | 2.88 | 6 | 20 |
| 1:A:33:ILE:HD11 | 1:A:37:LYS:HG3 | 0.56 | 1.76 | 2 | 6 |
| 1:A:5:LEU:HD13 | 1:A:52:PHE:HB3 | 0.55 | 1.77 | 19 | 20 |
| 1:A:6:ILE:HD12 | 1:A:6:ILE:N | 0.55 | 2.16 | 11 | 6 |
| 1:A:28:LYS:O | 1:A:32:LEU:HD23 | 0.55 | 2.00 | 16 | 2 |
| 1:A:49:ILE:HD13 | 1:A:49:ILE:H | 0.55 | 1.62 | 18 | 18 |
| 1:A:5:LEU:CB | 1:A:16:ALA:HB3 | 0.55 | 2.28 | 12 | 20 |
| 1:A:7:LEU:HD22 | 1:A:37:LYS:HD3 | 0.53 | 1.78 | 19 | 1 |
| 1:A:45:TYR:CD1 | 1:A:52:PHE:CD1 | 0.53 | 2.97 | 6 | 12 |
| 1:A:3:TYR:OH | 1:A:23:ALA:HB2 | 0.53 | 2.03 | 20 | 17 |
| 1:A:33:ILE:HD12 | 1:A:33:ILE:O | 0.53 | 2.04 | 18 | 6 |
| 1:A:45:TYR:CD1 | 1:A:52:PHE:CD2 | 0.52 | 2.97 | 3 | 8 |
| 1:A:43:TRP:CD1 | 1:A:54:VAL:CG2 | 0.52 | 2.92 | 14 | 20 |
| 1:A:42:VAL:O | 1:A:42:VAL:HG23 | 0.52 | 2.05 | 4 | 8 |
| 1:A:28:LYS:O | 1:A:32:LEU:HB2 | 0.50 | 2.06 | 9 | 6 |
| 1:A:5:LEU:N | 1:A:16:ALA:O | 0.50 | 2.45 | 11 | 18 |
| 1:A:24:GLY:O | 1:A:27:GLU:HG2 | 0.50 | 2.07 | 7 | 20 |
| 1:A:7:LEU:HD23 | 1:A:38:THR:OG1 | 0.50 | 2.07 | 3 | 2 |
| 1:A:48:GLU:HG3 | 1:A:49:ILE:HD13 | 0.50 | 1.84 | 3 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:39:VAL:HG22 | 1:A:40:GLU:H | 0.50 | 1.67 | 6 | 3 |
| 1:A:42:VAL:HG23 | 1:A:55:THR:OG1 | 0.49 | 2.08 | 19 | 2 |
| 1:A:5:LEU:HD22 | 1:A:30:PHE:HB3 | 0.49 | 1.85 | 5 | 10 |
| 1:A:9:LEU:HD13 | 1:A:38:THR:HG21 | 0.49 | 1.83 | 6 | 1 |
| 1:A:42:VAL:HG23 | 1:A:55:THR:O | 0.49 | 2.08 | 9 | 1 |
| 1:A:30:PHE:O | 1:A:34:ALA:CB | 0.48 | 2.62 | 20 | 12 |
| 1:A:18:LYS:CE | 1:A:29:TYR:CD2 | 0.48 | 2.96 | 18 | 2 |
| 1:A:3:TYR:CD2 | 1:A:26:ALA:CB | 0.47 | 2.97 | 13 | 15 |
| 1:A:29:TYR:CD1 | 1:A:32:LEU:CD2 | 0.47 | 2.97 | 5 | 3 |
| 1:A:29:TYR:HA | 1:A:32:LEU:HB2 | 0.47 | 1.86 | 11 | 12 |
| 1:A:3:TYR:HB3 | 1:A:30:PHE:HZ | 0.47 | 1.70 | 5 | 15 |
| 1:A:6:ILE:HB | 1:A:53:THR:HG23 | 0.47 | 1.86 | 16 | 2 |
| 1:A:39:VAL:HG13 | 1:A:40:GLU:N | 0.47 | 2.23 | 20 | 2 |
| 1:A:5:LEU:HD22 | 1:A:30:PHE:CG | 0.46 | 2.45 | 13 | 13 |
| 1:A:18:LYS:HE3 | 1:A:29:TYR:CD2 | 0.46 | 2.46 | 6 | 5 |
| 1:A:9:LEU:N | 1:A:9:LEU:CD2 | 0.46 | 2.79 | 17 | 3 |
| 1:A:9:LEU:HD11 | 1:A:38:THR:CG2 | 0.45 | 2.40 | 18 | 1 |
| 1:A:33:ILE:O | 1:A:37:LYS:N | 0.45 | 2.50 | 20 | 4 |
| 1:A:28:LYS:O | 1:A:31:LYS:HG2 | 0.45 | 2.12 | 16 | 3 |
| 1:A:5:LEU:HD13 | 1:A:52:PHE:CB | 0.45 | 2.42 | 6 | 8 |
| 1:A:30:PHE:O | 1:A:34:ALA:HB2 | 0.45 | 2.12 | 10 | 5 |
| 1:A:28:LYS:O | 1:A:32:LEU:CD2 | 0.45 | 2.65 | 17 | 2 |
| 1:A:49:ILE:N | 1:A:49:ILE:CD1 | 0.45 | 2.76 | 11 | 15 |
| 1:A:18:LYS:HE2 | 1:A:29:TYR:CG | 0.44 | 2.47 | 9 | 3 |
| 1:A:17:ILE:N | 1:A:17:ILE:CD1 | 0.44 | 2.81 | 9 | 2 |
| 1:A:29:TYR:CE1 | 1:A:32:LEU:CD2 | 0.43 | 3.01 | 5 | 4 |
| 1:A:7:LEU:N | 1:A:7:LEU:CD1 | 0.43 | 2.81 | 18 | 11 |
| 1:A:33:ILE:CD1 | 1:A:37:LYS:CG | 0.43 | 2.94 | 2 | 10 |
| 1:A:18:LYS:CE | 1:A:29:TYR:CB | 0.43 | 2.97 | 19 | 4 |
| 1:A:45:TYR:CG | 1:A:52:PHE:CE1 | 0.43 | 3.07 | 8 | 1 |
| 1:A:7:LEU:HD13 | 1:A:14:GLU:CB | 0.43 | 2.43 | 15 | 3 |
| 1:A:39:VAL:O | 1:A:40:GLU:HB2 | 0.42 | 2.14 | 13 | 2 |
| 1:A:39:VAL:HG12 | 1:A:40:GLU:H | 0.42 | 1.73 | 17 | 1 |
| 1:A:3:TYR:HB3 | 1:A:30:PHE:CZ | 0.42 | 2.49 | 19 | 5 |
| 1:A:26:ALA:O | 1:A:30:PHE:CG | 0.42 | 2.73 | 18 | 1 |
| 1:A:9:LEU:HG | 1:A:38:THR:HG21 | 0.42 | 1.90 | 14 | 1 |
| 1:A:4:LYS:CB | 1:A:51:THR:HG22 | 0.42 | 2.42 | 12 | 1 |
| 1:A:7:LEU:HD21 | 1:A:34:ALA:HB2 | 0.42 | 1.90 | 8 | 1 |
| 1:A:38:THR:OG1 | 1:A:39:VAL:N | 0.42 | 2.51 | 20 | 1 |
| 1:A:9:LEU:H | 1:A:9:LEU:HD23 | 0.42 | 1.75 | 8 | 4 |
| 1:A:21:VAL:HG13 | 1:A:22:ASP:N | 0.41 | 2.31 | 2 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:43:TRP:CG | 1:A:54:VAL:HG23 | 0.41 | 2.51 | 5 | 3 |
| 1:A:5:LEU:HD12 | 1:A:52:PHE:C | 0.41 | 2.39 | 14 | 1 |
| 1:A:33:ILE:O | 1:A:33:ILE:HD12 | 0.41 | 2.15 | 20 | 1 |
| 1:A:43:TRP:HA | 1:A:54:VAL:HG23 | 0.41 | 1.93 | 7 | 1 |
| 1:A:39:VAL:O | 1:A:40:GLU:CB | 0.41 | 2.69 | 20 | 1 |
| 1:A:5:LEU:CD1 | 1:A:52:PHE:HB3 | 0.41 | 2.46 | 2 | 4 |
| 1:A:7:LEU:HB3 | 1:A:9:LEU:HD21 | 0.41 | 1.93 | 14 | 1 |
| 1:A:34:ALA:O | 1:A:38:THR:CB | 0.41 | 2.69 | 18 | 1 |
| 1:A:3:TYR:CE2 | 1:A:23:ALA:HA | 0.41 | 2.50 | 3 | 1 |
| 1:A:43:TRP:CD1 | 1:A:54:VAL:HG21 | 0.40 | 2.50 | 7 | 1 |
| 1:A:18:LYS:HD2 | 1:A:29:TYR:CB | 0.40 | 2.46 | 12 | 1 |
| 1:A:39:VAL:C | 1:A:40:GLU:CG | 0.40 | 2.94 | 16 | 1 |
| 1:A:42:VAL:CG2 | 1:A:55:THR:CB | 0.40 | 2.99 | 5 | 3 |
| 1:A:28:LYS:O | 1:A:32:LEU:N | 0.40 | 2.54 | 19 | 1 |
| 1:A:45:TYR:CE1 | 1:A:50:LYS:HA | 0.40 | 2.52 | 3 | 1 |
| 1:A:30:PHE:CD2 | 1:A:52:PHE:HB2 | 0.40 | 2.52 | 4 | 1 |
| 1:A:17:ILE:O | 1:A:18:LYS:HD2 | 0.40 | 2.16 | 9 | 1 |

6.3 Torsion angles

6.3.1 Protein backbone

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 | 51/56 (91%) | 44±1 (87±2%) | 5±1 (10±3%) | 1±1 (2±2%) | 7 | 44 |
| All | All | 1020/1120 (91%) | 889 (87%) | 107 (10%) | 24 (2%) | 7 | 44 |

All 6 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 40 | GLU | 10 |
| 1 | A | 39 | VAL | 9 |
| 1 | A | 50 | LYS | 2 |
| 1 | A | 49 | ILE | 1 |
| 1 | A | 47 | ASP | 1 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 48 | GLU | 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 | 44/47 (94%) | 30±2 (68±5%) | 14±2 (32±5%) | 1 | 13 |
| All | All | 880/940 (94%) | 597 (68%) | 283 (32%) | 1 | 13 |

All 33 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 33 | ILE | 20 |
| 1 | A | 49 | ILE | 20 |
| 1 | A | 54 | VAL | 20 |
| 1 | A | 8 | ASN | 18 |
| 1 | A | 55 | THR | 17 |
| 1 | A | 38 | THR | 14 |
| 1 | A | 13 | LYS | 12 |
| 1 | A | 19 | GLU | 12 |
| 1 | A | 7 | LEU | 11 |
| 1 | A | 14 | GLU | 11 |
| 1 | A | 56 | GLU | 11 |
| 1 | A | 17 | ILE | 10 |
| 1 | A | 48 | GLU | 10 |
| 1 | A | 37 | LYS | 9 |
| 1 | A | 28 | LYS | 9 |
| 1 | A | 50 | LYS | 7 |
| 1 | A | 4 | LYS | 7 |
| 1 | A | 46 | LYS | 6 |
| 1 | A | 29 | TYR | 6 |
| 1 | A | 32 | LEU | 6 |
| 1 | A | 31 | LYS | 6 |
| 1 | A | 9 | LEU | 6 |
| 1 | A | 2 | THR | 5 |
| 1 | A | 39 | VAL | 5 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 40 | GLU | 5 |
| 1 | A | 18 | LYS | 5 |
| 1 | A | 44 | THR | 4 |
| 1 | A | 51 | THR | 3 |
| 1 | A | 53 | THR | 2 |
| 1 | A | 15 | GLU | 2 |
| 1 | A | 22 | ASP | 2 |
| 1 | A | 42 | VAL | 1 |
| 1 | A | 35 | ASN | 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 oligosaccharides 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 84% for the well-defined parts and 84% for the entire structure.

7.1 Chemical shift list 1

File name: working_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 | 658 |
| Number of shifts mapped to atoms | 658 |
| Number of unparsed shifts | 0 |
| Number of shifts with mapping errors | 0 |
| Number of shifts with mapping warnings | 0 |
| Number of shift outliers (ShiftChecker) | 6 |

7.1.2 Chemical shift referencing

The following table shows the suggested chemical shift referencing corrections.

| Nucleus | # values | Correction \pm precision, ppm | Suggested action |
|------------------------|----------|---------------------------------|----------------------------|
| $^{13}\text{C}_\alpha$ | 56 | -0.07 ± 0.25 | None needed (< 0.5 ppm) |
| $^{13}\text{C}_\beta$ | 54 | 0.24 ± 0.29 | None needed (< 0.5 ppm) |
| $^{13}\text{C}'$ | 51 | 0.01 ± 0.16 | None needed (< 0.5 ppm) |
| ^{15}N | 55 | -0.07 ± 0.49 | None needed (< 0.5 ppm) |

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 84%, i.e. 612 atoms were assigned a chemical shift out of a possible 731. 0 out of 8 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ^1H | ^{13}C | ^{15}N |
|-----------|---------------|----------------|-----------------|-----------------|
| Backbone | 258/262 (98%) | 106/106 (100%) | 100/104 (96%) | 52/52 (100%) |
| Sidechain | 317/410 (77%) | 206/267 (77%) | 109/133 (82%) | 2/10 (20%) |

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| | Total | ¹ H | ¹³ C | ¹⁵ N |
|----------|---------------|----------------|-----------------|-----------------|
| Aromatic | 37/59 (63%) | 23/28 (82%) | 13/30 (43%) | 1/1 (100%) |
| Overall | 612/731 (84%) | 335/401 (84%) | 222/267 (83%) | 55/63 (87%) |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 84%, i.e. 658 atoms were assigned a chemical shift out of a possible 784. 0 out of 8 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ¹ H | ¹³ C | ¹⁵ N |
|-----------|---------------|----------------|-----------------|-----------------|
| Backbone | 275/282 (98%) | 113/114 (99%) | 107/112 (96%) | 55/56 (98%) |
| Sidechain | 346/443 (78%) | 225/288 (78%) | 118/143 (83%) | 3/12 (25%) |
| Aromatic | 37/59 (63%) | 23/28 (82%) | 13/30 (43%) | 1/1 (100%) |
| Overall | 658/784 (84%) | 361/430 (84%) | 238/285 (84%) | 59/69 (86%) |

7.1.4 Statistically unusual chemical shifts [i](#)

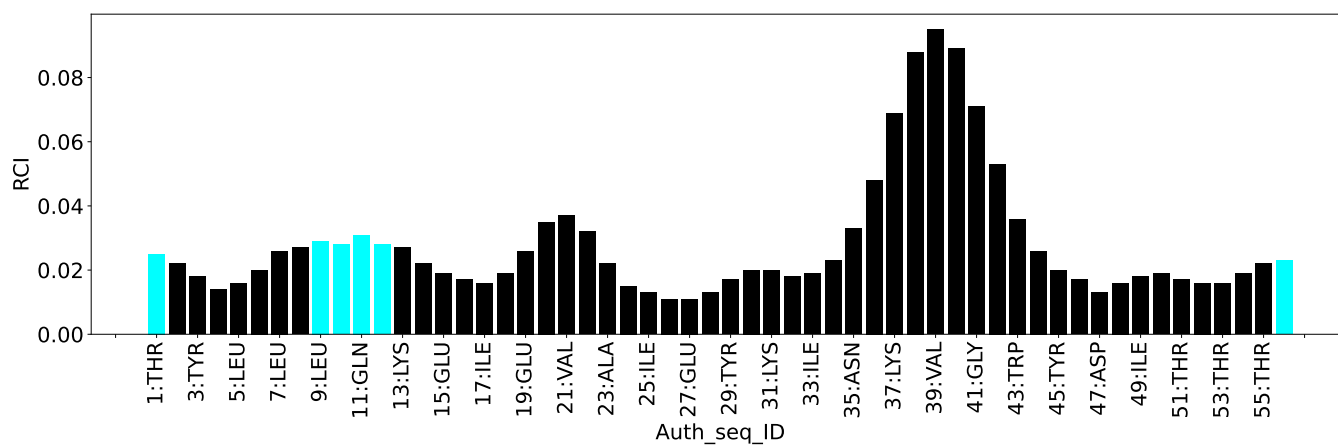
The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

| List Id | Chain | Res | Type | Atom | Shift, ppm | Expected range, ppm | Z-score |
|---------|-------|-----|------|------|------------|---------------------|---------|
| 1 | A | 50 | LYS | HE2 | 1.27 | 1.95 – 3.88 | -8.5 |
| 1 | A | 50 | LYS | HE3 | 1.27 | 1.92 – 3.89 | -8.3 |
| 1 | A | 5 | LEU | HB3 | -1.00 | -0.26 – 3.31 | -7.1 |
| 1 | A | 54 | VAL | HG21 | -0.69 | -0.58 – 2.19 | -5.4 |
| 1 | A | 54 | VAL | HG22 | -0.69 | -0.58 – 2.19 | -5.4 |
| 1 | A | 54 | VAL | HG23 | -0.69 | -0.58 – 2.19 | -5.4 |

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. If well-defined core and ill-defined regions are not identified then it is shown as gray bars.

Random coil index (RCI) for chain A:



8 NMR restraints analysis

8.1 Conformationally restricting restraints

The following table provides the summary of experimentally observed NMR restraints in different categories. Restraints are classified into different categories based on the sequence separation of the atoms involved.

| Description | Value |
|--|-------|
| Total distance restraints | 1135 |
| Intra-residue ($ i-j =0$) | 626 |
| Sequential ($ i-j =1$) | 213 |
| Medium range ($ i-j >1$ and $ i-j <5$) | 53 |
| Long range ($ i-j \geq 5$) | 179 |
| Inter-chain | 0 |
| Hydrogen bond restraints | 64 |
| Disulfide bond restraints | 0 |
| Total dihedral-angle restraints | 64 |
| Number of unmapped restraints | 0 |
| Number of restraints per residue | 21.4 |
| Number of long range restraints per residue ¹ | 3.9 |

¹Long range hydrogen bonds and disulfide bonds are counted as long range restraints while calculating the number of long range restraints per residue

8.2 Residual restraint violations

This section provides the overview of the restraint violations analysis. The violations are binned as small, medium and large violations based on its absolute value. Average number of violations per model is calculated by dividing the total number of violations in each bin by the size of the ensemble.

8.2.1 Average number of distance violations per model

Distance violations less than 0.1 Å are not included in the calculation.

| Bins (Å) | Average number of violations per model | Max (Å) |
|------------------|--|---------|
| 0.1-0.2 (Small) | 15.6 | 0.2 |
| 0.2-0.5 (Medium) | 25.9 | 0.5 |
| >0.5 (Large) | 15.8 | 2.22 |

8.2.2 Average number of dihedral-angle violations per model [i](#)

Dihedral-angle violations less than 1° are not included in the calculation.

| Bins (°) | Average number of violations per model | Max (°) |
|--------------------|--|---------|
| 1.0-10.0 (Small) | 2.5 | 1.47 |
| 10.0-20.0 (Medium) | None | None |
| >20.0 (Large) | None | None |

9 Distance violation analysis ⓘ

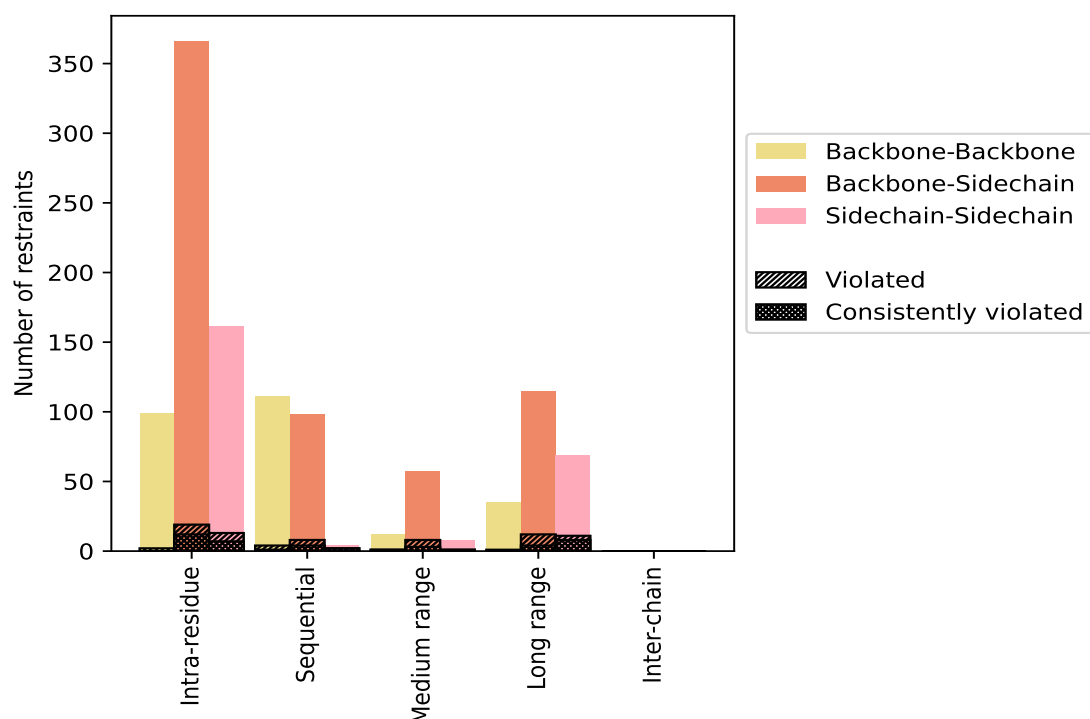
9.1 Summary of distance violations ⓘ

The following table shows the summary of distance violations in different restraint categories based on the sequence separation of the atoms involved. Each category is further sub-divided into three sub-categories based on the atoms involved. Violations less than 0.1 Å are not included in the statistics.

| Restrains type | Count | % ¹ | Violated ³ | | | Consistently Violated ⁴ | | |
|--|----------------------|-----------------------|-----------------------|----------------------|---------------------|------------------------------------|---------------------|---------------------|
| | | | Count | % ² | % ¹ | Count | % ² | % ¹ |
| Intra-residue (i-j =0) | 626 | 55.2 | 34 | 5.4 | 3.0 | 19 | 3.0 | 1.7 |
| Backbone-Backbone | 99 | 8.7 | 2 | 2.0 | 0.2 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 366 | 32.2 | 19 | 5.2 | 1.7 | 12 | 3.3 | 1.1 |
| Sidechain-Sidechain | 161 | 14.2 | 13 | 8.1 | 1.1 | 7 | 4.3 | 0.6 |
| Sequential (i-j =1) | 213 | 18.8 | 14 | 6.6 | 1.2 | 7 | 3.3 | 0.6 |
| Backbone-Backbone | 111 | 9.8 | 4 | 3.6 | 0.4 | 1 | 0.9 | 0.1 |
| Backbone-Sidechain | 98 | 8.6 | 8 | 8.2 | 0.7 | 4 | 4.1 | 0.4 |
| Sidechain-Sidechain | 4 | 0.4 | 2 | 50.0 | 0.2 | 2 | 50.0 | 0.2 |
| Medium range (i-j >1 & i-j <5) | 53 | 4.7 | 7 | 13.2 | 0.6 | 5 | 9.4 | 0.4 |
| Backbone-Backbone | 12 | 1.1 | 1 | 8.3 | 0.1 | 1 | 8.3 | 0.1 |
| Backbone-Sidechain | 33 | 2.9 | 5 | 15.2 | 0.4 | 3 | 9.1 | 0.3 |
| Sidechain-Sidechain | 8 | 0.7 | 1 | 12.5 | 0.1 | 1 | 12.5 | 0.1 |
| Long range (i-j ≥5) | 179 | 15.8 | 22 | 12.3 | 1.9 | 12 | 6.7 | 1.1 |
| Backbone-Backbone | 35 | 3.1 | 1 | 2.9 | 0.1 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 75 | 6.6 | 10 | 13.3 | 0.9 | 4 | 5.3 | 0.4 |
| Sidechain-Sidechain | 69 | 6.1 | 11 | 15.9 | 1.0 | 8 | 11.6 | 0.7 |
| Inter-chain | 0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Backbone | 0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Sidechain-Sidechain | 0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Hydrogen bond | 64 | 5.6 | 5 | 7.8 | 0.4 | 0 | 0.0 | 0.0 |
| Disulfide bond | 0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Total | 1135 | 100.0 | 82 | 7.2 | 7.2 | 43 | 3.8 | 3.8 |
| Backbone-Backbone | 257 | 22.6 | 8 | 3.1 | 0.7 | 2 | 0.8 | 0.2 |
| Backbone-Sidechain | 636 | 56.0 | 47 | 7.4 | 4.1 | 23 | 3.6 | 2.0 |
| Sidechain-Sidechain | 242 | 21.3 | 27 | 11.2 | 2.4 | 18 | 7.4 | 1.6 |

¹ percentage calculated with respect to the total number of distance restraints, ² percentage calculated with respect to the number of restraints in a particular restraint category, ³ violated in at least one model, ⁴ violated in all the models

9.1.1 Bar chart : Distribution of distance restraints and violations [i](#)



Violated and consistently violated restraints are shown using different hatch patterns in their respective categories. The hydrogen bonds and disulfied bonds are counted in their appropriate category on the x-axis

9.2 Distance violation statistics for each model [i](#)

The following table provides the distance violation statistics for each model in the ensemble. Violations less than 0.1 Å are not included in the statistics.

| Model ID | Number of violations | | | | | | Mean (Å) | Max (Å) | SD ⁶ (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
| | IR ¹ | SQ ² | MR ³ | LR ⁴ | IC ⁵ | Total | | | | |
| 1 | 25 | 9 | 6 | 13 | 0 | 53 | 0.5 | 2.1 | 0.48 | 0.33 |
| 2 | 25 | 9 | 6 | 15 | 0 | 55 | 0.48 | 2.03 | 0.47 | 0.32 |
| 3 | 24 | 9 | 7 | 13 | 0 | 53 | 0.5 | 2.12 | 0.48 | 0.35 |
| 4 | 29 | 9 | 6 | 19 | 0 | 63 | 0.44 | 2.07 | 0.46 | 0.28 |
| 5 | 26 | 11 | 8 | 18 | 0 | 63 | 0.45 | 2.07 | 0.46 | 0.3 |
| 6 | 25 | 11 | 7 | 16 | 0 | 59 | 0.45 | 2.22 | 0.46 | 0.3 |
| 7 | 28 | 10 | 6 | 15 | 0 | 59 | 0.46 | 2.12 | 0.46 | 0.32 |
| 8 | 28 | 9 | 7 | 18 | 0 | 62 | 0.47 | 2.1 | 0.46 | 0.33 |
| 9 | 25 | 9 | 7 | 18 | 0 | 59 | 0.46 | 2.22 | 0.47 | 0.28 |
| 10 | 26 | 10 | 6 | 15 | 0 | 57 | 0.46 | 2.22 | 0.46 | 0.32 |

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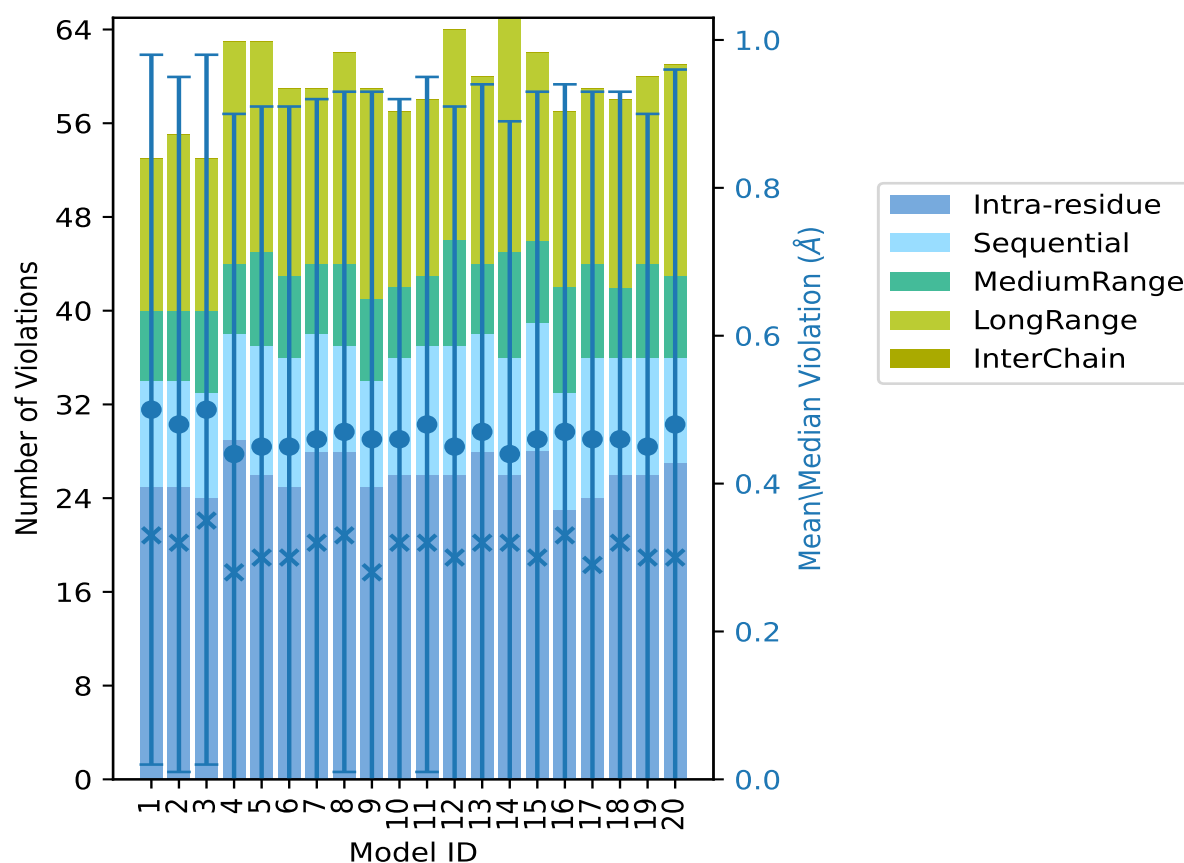
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| Model ID | Number of violations | | | | | | Mean (Å) | Max (Å) | SD ⁶ (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
| | IR ¹ | SQ ² | MR ³ | LR ⁴ | IC ⁵ | Total | | | | |
| 11 | 26 | 11 | 6 | 15 | 0 | 58 | 0.48 | 2.07 | 0.47 | 0.32 |
| 12 | 26 | 11 | 9 | 18 | 0 | 64 | 0.45 | 2.09 | 0.46 | 0.3 |
| 13 | 28 | 10 | 6 | 16 | 0 | 60 | 0.47 | 2.06 | 0.47 | 0.32 |
| 14 | 26 | 10 | 9 | 20 | 0 | 65 | 0.44 | 2.06 | 0.45 | 0.32 |
| 15 | 28 | 11 | 7 | 16 | 0 | 62 | 0.46 | 2.06 | 0.47 | 0.3 |
| 16 | 23 | 10 | 9 | 15 | 0 | 57 | 0.47 | 2.07 | 0.47 | 0.33 |
| 17 | 24 | 12 | 8 | 15 | 0 | 59 | 0.46 | 2.06 | 0.47 | 0.29 |
| 18 | 26 | 10 | 6 | 16 | 0 | 58 | 0.46 | 2.14 | 0.47 | 0.32 |
| 19 | 26 | 10 | 8 | 16 | 0 | 60 | 0.45 | 2.2 | 0.45 | 0.3 |
| 20 | 27 | 9 | 7 | 18 | 0 | 61 | 0.48 | 2.11 | 0.48 | 0.3 |

¹Intra-residue restraints, ²Sequential restraints, ³Medium range restraints, ⁴Long range restraints,

⁵Inter-chain restraints, ⁶Standard deviation

9.2.1 Bar graph : Distance Violation statistics for each model ⓘ



The mean(dot),median(x) and the standard deviation are shown in blue with respect to the y axis on the right

9.3 Distance violation statistics for the ensemble

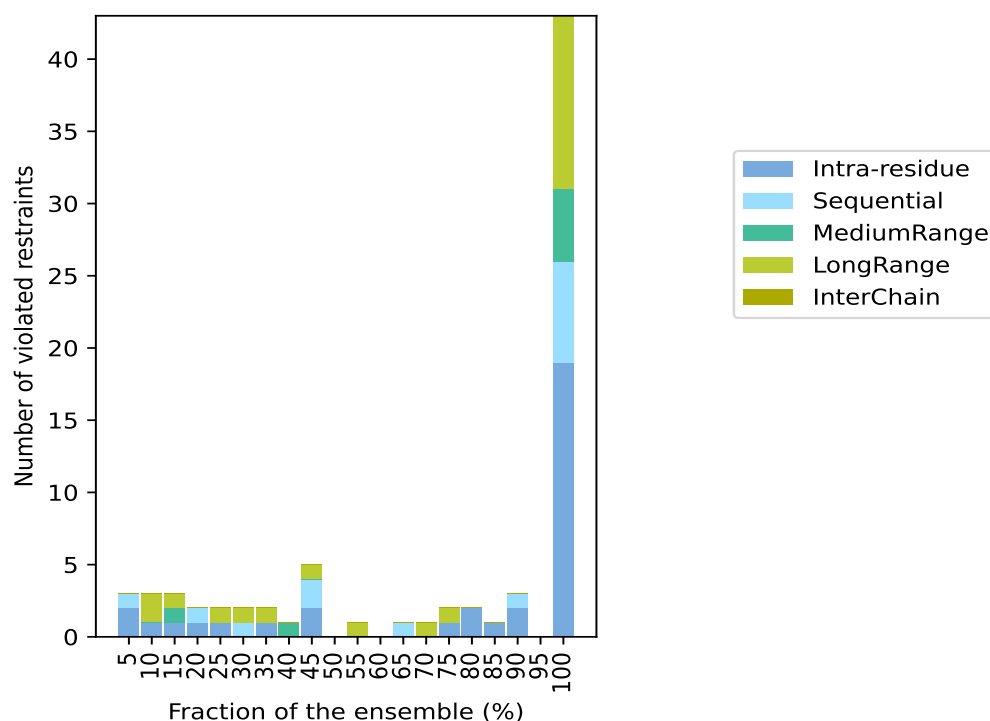
Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 994(IR:592, SQ:199, MR:46, LR:157, IC:0) restraints are not violated in the ensemble.

| Number of violated restraints | | | | | | Fraction of the ensemble | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-------|--------------------------|-------|
| IR ¹ | SQ ² | MR ³ | LR ⁴ | IC ⁵ | Total | Count ⁶ | % |
| 2 | 1 | 0 | 0 | 0 | 3 | 1 | 5.0 |
| 1 | 0 | 0 | 2 | 0 | 3 | 2 | 10.0 |
| 1 | 0 | 1 | 1 | 0 | 3 | 3 | 15.0 |
| 1 | 1 | 0 | 0 | 0 | 2 | 4 | 20.0 |
| 1 | 0 | 0 | 1 | 0 | 2 | 5 | 25.0 |
| 0 | 1 | 0 | 1 | 0 | 2 | 6 | 30.0 |
| 1 | 0 | 0 | 1 | 0 | 2 | 7 | 35.0 |
| 0 | 0 | 1 | 0 | 0 | 1 | 8 | 40.0 |
| 2 | 2 | 0 | 1 | 0 | 5 | 9 | 45.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50.0 |
| 0 | 0 | 0 | 1 | 0 | 1 | 11 | 55.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 12 | 60.0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 13 | 65.0 |
| 0 | 0 | 0 | 1 | 0 | 1 | 14 | 70.0 |
| 1 | 0 | 0 | 1 | 0 | 2 | 15 | 75.0 |
| 2 | 0 | 0 | 0 | 0 | 2 | 16 | 80.0 |
| 1 | 0 | 0 | 0 | 0 | 1 | 17 | 85.0 |
| 2 | 1 | 0 | 0 | 0 | 3 | 18 | 90.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 19 | 95.0 |
| 19 | 7 | 5 | 12 | 0 | 43 | 20 | 100.0 |

¹Intra-residue restraints, ²Sequential restraints, ³Medium range restraints, ⁴Long range restraints,

⁵Inter-chain restraints, ⁶ Number of models with violations

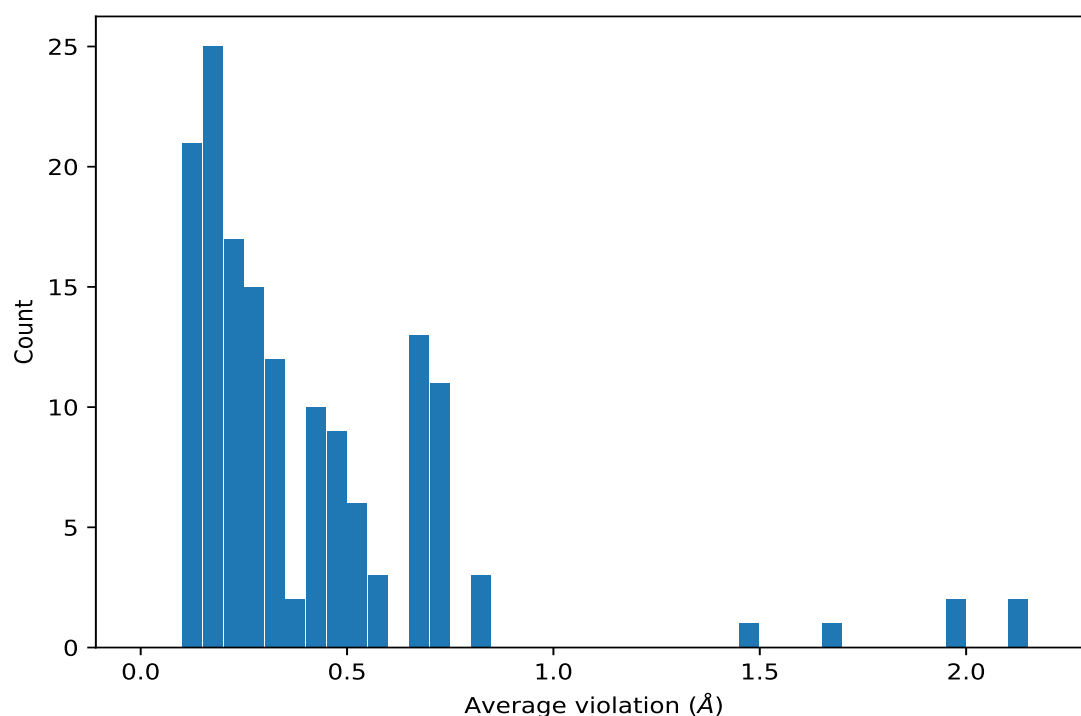
9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



9.4 Most violated distance restraints in the ensemble [i](#)

9.4.1 Histogram : Distribution of mean distance violations [i](#)

The following histogram shows the distribution of the average value of the violation. The average is calculated for each restraint that is violated in more than one model over all the violated models in the ensemble



9.4.2 Table: Most violated distance restraints [i](#)

The following table provides the mean and the standard deviation of the violation for each restraint sorted by number of violated models and the mean value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 20 | 2.11 | 0.06 | 2.09 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 20 | 2.11 | 0.06 | 2.09 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 20 | 1.97 | 0.03 | 1.97 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 20 | 1.97 | 0.03 | 1.97 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 20 | 1.69 | 0.05 | 1.71 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 20 | 1.48 | 0.18 | 1.54 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 20 | 0.82 | 0.04 | 0.83 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 20 | 0.82 | 0.04 | 0.83 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 20 | 0.82 | 0.04 | 0.83 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 20 | 0.72 | 0.0 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 20 | 0.72 | 0.0 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 20 | 0.72 | 0.0 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 20 | 0.72 | 0.0 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 20 | 0.72 | 0.0 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 20 | 0.72 | 0.0 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 20 | 0.72 | 0.0 | 0.72 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|---------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 20 | 0.72 | 0.0 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 20 | 0.72 | 0.0 | 0.72 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 20 | 0.71 | 0.11 | 0.76 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 20 | 0.71 | 0.11 | 0.76 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 20 | 0.67 | 0.01 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 20 | 0.67 | 0.01 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 20 | 0.67 | 0.01 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 20 | 0.67 | 0.01 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 20 | 0.67 | 0.0 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 20 | 0.67 | 0.0 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 20 | 0.67 | 0.0 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 20 | 0.66 | 0.0 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 20 | 0.66 | 0.0 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 20 | 0.66 | 0.0 | 0.66 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 20 | 0.65 | 0.0 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 20 | 0.65 | 0.0 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 20 | 0.65 | 0.0 | 0.65 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 20 | 0.6 | 0.01 | 0.61 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 20 | 0.59 | 0.0 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 20 | 0.59 | 0.0 | 0.59 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 20 | 0.52 | 0.01 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 20 | 0.52 | 0.01 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 20 | 0.52 | 0.01 | 0.52 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 20 | 0.49 | 0.01 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 20 | 0.49 | 0.01 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 20 | 0.49 | 0.01 | 0.49 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 20 | 0.46 | 0.02 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 20 | 0.46 | 0.02 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 20 | 0.46 | 0.02 | 0.47 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 20 | 0.43 | 0.04 | 0.45 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 20 | 0.43 | 0.04 | 0.45 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 20 | 0.43 | 0.02 | 0.42 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 20 | 0.41 | 0.02 | 0.41 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 20 | 0.41 | 0.02 | 0.41 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 20 | 0.37 | 0.01 | 0.37 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 20 | 0.37 | 0.01 | 0.37 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 20 | 0.35 | 0.01 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 20 | 0.35 | 0.01 | 0.35 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 20 | 0.33 | 0.01 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 20 | 0.33 | 0.01 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 20 | 0.33 | 0.01 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 20 | 0.32 | 0.01 | 0.32 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 20 | 0.32 | 0.01 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 20 | 0.32 | 0.01 | 0.32 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 20 | 0.3 | 0.03 | 0.3 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 20 | 0.3 | 0.03 | 0.3 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 20 | 0.3 | 0.03 | 0.3 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 20 | 0.29 | 0.02 | 0.3 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 20 | 0.29 | 0.02 | 0.3 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 20 | 0.29 | 0.01 | 0.29 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 20 | 0.28 | 0.02 | 0.28 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 20 | 0.28 | 0.02 | 0.28 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 20 | 0.26 | 0.01 | 0.26 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 20 | 0.24 | 0.01 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 20 | 0.24 | 0.01 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 20 | 0.24 | 0.01 | 0.24 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 20 | 0.23 | 0.0 | 0.23 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 20 | 0.23 | 0.02 | 0.22 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 20 | 0.23 | 0.02 | 0.22 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 20 | 0.23 | 0.01 | 0.23 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 20 | 0.22 | 0.0 | 0.22 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 20 | 0.22 | 0.06 | 0.21 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 20 | 0.2 | 0.04 | 0.19 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 20 | 0.18 | 0.01 | 0.18 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 20 | 0.17 | 0.02 | 0.17 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 20 | 0.17 | 0.02 | 0.17 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 20 | 0.17 | 0.01 | 0.18 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 20 | 0.16 | 0.02 | 0.16 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 20 | 0.16 | 0.02 | 0.15 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 20 | 0.15 | 0.02 | 0.15 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 19 | 0.12 | 0.01 | 0.11 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 18 | 0.45 | 0.06 | 0.46 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 18 | 0.45 | 0.06 | 0.46 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 18 | 0.45 | 0.06 | 0.46 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 18 | 0.22 | 0.07 | 0.22 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 18 | 0.22 | 0.07 | 0.22 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 18 | 0.11 | 0.01 | 0.11 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 17 | 0.43 | 0.06 | 0.45 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 17 | 0.43 | 0.06 | 0.45 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 17 | 0.43 | 0.06 | 0.45 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 16 | 0.5 | 0.05 | 0.48 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 16 | 0.5 | 0.05 | 0.48 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 16 | 0.5 | 0.05 | 0.48 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 16 | 0.1 | 0.0 | 0.1 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 15 | 0.42 | 0.01 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 15 | 0.42 | 0.01 | 0.42 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 15 | 0.11 | 0.01 | 0.11 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 14 | 0.12 | 0.02 | 0.12 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 13 | 0.13 | 0.01 | 0.14 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 11 | 0.23 | 0.07 | 0.2 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 11 | 0.23 | 0.07 | 0.2 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 10 | 0.12 | 0.01 | 0.11 |
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 9 | 0.23 | 0.08 | 0.26 |
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 9 | 0.23 | 0.08 | 0.26 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 9 | 0.15 | 0.05 | 0.12 |
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 9 | 0.11 | 0.01 | 0.11 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 9 | 0.11 | 0.01 | 0.11 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 9 | 0.11 | 0.01 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 9 | 0.1 | 0.0 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 9 | 0.1 | 0.0 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 9 | 0.1 | 0.0 | 0.1 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB2 | 8 | 0.19 | 0.07 | 0.17 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB3 | 8 | 0.19 | 0.07 | 0.17 |
| (1,817) | 1:20:A:ALA:H | 1:2:A:THR:HA | 7 | 0.24 | 0.08 | 0.24 |
| (1,480) | 1:41:A:GLY:HA2 | 1:41:A:GLY:H | 7 | 0.14 | 0.02 | 0.14 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD21 | 6 | 0.17 | 0.04 | 0.16 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD22 | 6 | 0.17 | 0.04 | 0.16 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD23 | 6 | 0.17 | 0.04 | 0.16 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD21 | 6 | 0.17 | 0.04 | 0.16 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD22 | 6 | 0.17 | 0.04 | 0.16 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD23 | 6 | 0.17 | 0.04 | 0.16 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD21 | 6 | 0.17 | 0.04 | 0.16 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD22 | 6 | 0.17 | 0.04 | 0.16 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD23 | 6 | 0.17 | 0.04 | 0.16 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG2 | 6 | 0.13 | 0.01 | 0.13 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG3 | 6 | 0.13 | 0.01 | 0.13 |
| (1,118) | 1:9:A:LEU:HB2 | 1:9:A:LEU:H | 5 | 0.19 | 0.05 | 0.15 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB1 | 5 | 0.16 | 0.04 | 0.17 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB2 | 5 | 0.16 | 0.04 | 0.17 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB3 | 5 | 0.16 | 0.04 | 0.17 |
| (1,465) | 1:39:A:VAL:HA | 1:40:A:GLU:H | 4 | 0.16 | 0.01 | 0.16 |
| (1,524) | 1:45:A:TYR:HB3 | 1:45:A:TYR:H | 4 | 0.1 | 0.0 | 0.1 |
| (1,127) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HE2 | 3 | 0.35 | 0.15 | 0.37 |
| (1,127) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HE3 | 3 | 0.35 | 0.15 | 0.37 |
| (1,127) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HE2 | 3 | 0.35 | 0.15 | 0.37 |
| (1,127) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HE3 | 3 | 0.35 | 0.15 | 0.37 |

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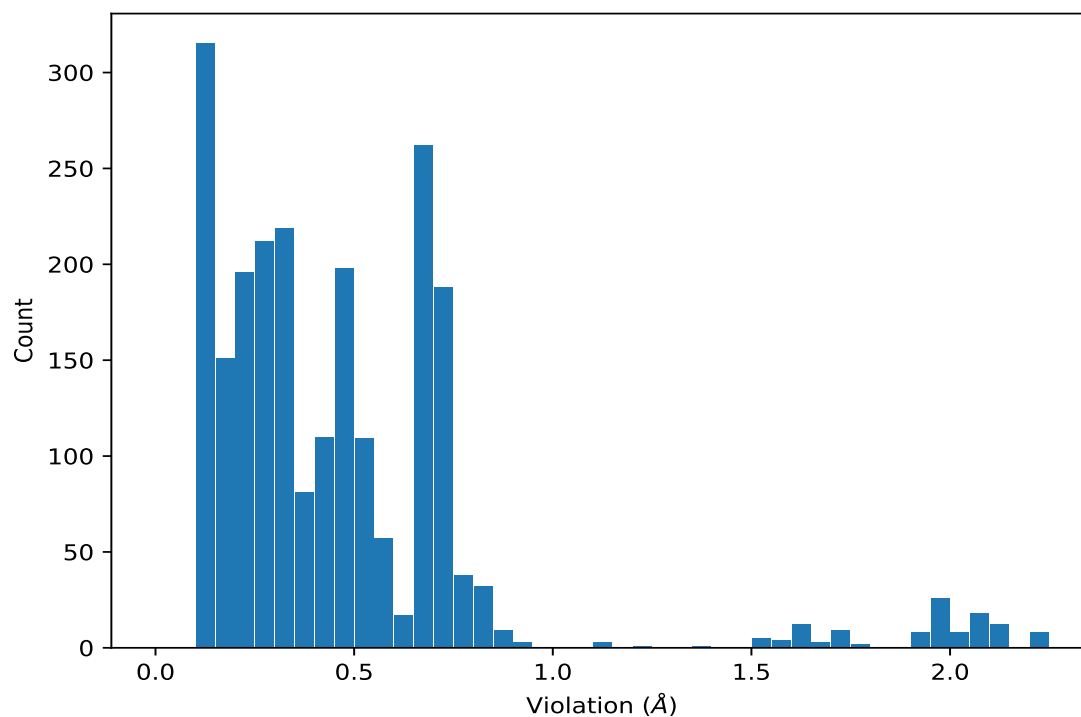
| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|---------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,651) | 1:54:A:VAL:HG21 | 1:41:A:GLY:HA3 | 3 | 0.16 | 0.04 | 0.16 |
| (1,651) | 1:54:A:VAL:HG22 | 1:41:A:GLY:HA3 | 3 | 0.16 | 0.04 | 0.16 |
| (1,651) | 1:54:A:VAL:HG23 | 1:41:A:GLY:HA3 | 3 | 0.16 | 0.04 | 0.16 |
| (1,358) | 1:29:A:TYR:HB2 | 1:26:A:ALA:HA | 3 | 0.11 | 0.0 | 0.11 |
| (1,484) | 1:41:A:GLY:HA3 | 1:54:A:VAL:HG11 | 2 | 0.26 | 0.07 | 0.26 |
| (1,484) | 1:41:A:GLY:HA3 | 1:54:A:VAL:HG12 | 2 | 0.26 | 0.07 | 0.26 |
| (1,484) | 1:41:A:GLY:HA3 | 1:54:A:VAL:HG13 | 2 | 0.26 | 0.07 | 0.26 |
| (1,643) | 1:54:A:VAL:HG11 | 1:41:A:GLY:HA3 | 2 | 0.26 | 0.07 | 0.26 |
| (1,643) | 1:54:A:VAL:HG12 | 1:41:A:GLY:HA3 | 2 | 0.26 | 0.07 | 0.26 |
| (1,643) | 1:54:A:VAL:HG13 | 1:41:A:GLY:HA3 | 2 | 0.26 | 0.07 | 0.26 |
| (1,479) | 1:41:A:GLY:HA3 | 1:41:A:GLY:H | 2 | 0.11 | 0.0 | 0.11 |

¹Number of violated models, ²Standard deviation

9.5 All violated distance restraints [i](#)

9.5.1 Histogram : Distribution of distance violations [i](#)

The following histogram shows the distribution of the absolute value of the violation for all violated restraints in the ensemble.



9.5.2 Table : All distance violations

The following table lists the absolute value of the violation for each restraint in the ensemble sorted by its value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|---------------|----------------|----------|---------------|
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 6 | 2.22 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 6 | 2.22 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 9 | 2.22 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 9 | 2.22 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 10 | 2.22 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 10 | 2.22 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 19 | 2.2 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 19 | 2.2 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 18 | 2.14 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 18 | 2.14 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 3 | 2.12 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 3 | 2.12 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 7 | 2.12 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 7 | 2.12 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 20 | 2.11 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 20 | 2.11 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 1 | 2.1 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 1 | 2.1 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 8 | 2.1 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 8 | 2.1 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 12 | 2.09 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 12 | 2.09 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 4 | 2.07 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 4 | 2.07 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 5 | 2.07 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 5 | 2.07 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 11 | 2.07 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 11 | 2.07 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 16 | 2.07 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 16 | 2.07 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 13 | 2.06 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 13 | 2.06 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 14 | 2.06 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 14 | 2.06 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 15 | 2.06 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 15 | 2.06 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 17 | 2.06 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|----------------|----------|---------------|
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 17 | 2.06 |
| (1,1058) | 1:3:A:TYR:HD1 | 1:30:A:PHE:HD1 | 2 | 2.03 |
| (1,1058) | 1:3:A:TYR:HD2 | 1:30:A:PHE:HD1 | 2 | 2.03 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 11 | 2.0 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 16 | 2.0 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 17 | 2.0 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 11 | 2.0 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 16 | 2.0 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 17 | 2.0 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 3 | 1.99 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 14 | 1.99 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 3 | 1.99 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 14 | 1.99 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 2 | 1.98 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 5 | 1.98 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 12 | 1.98 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 13 | 1.98 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 2 | 1.98 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 5 | 1.98 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 12 | 1.98 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 13 | 1.98 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 1 | 1.97 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 15 | 1.97 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 1 | 1.97 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 15 | 1.97 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 4 | 1.96 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 7 | 1.96 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 8 | 1.96 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 18 | 1.96 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 20 | 1.96 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 4 | 1.96 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 7 | 1.96 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 8 | 1.96 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 18 | 1.96 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 20 | 1.96 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 9 | 1.94 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 9 | 1.94 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 6 | 1.92 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 10 | 1.92 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 6 | 1.92 |
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 10 | 1.92 |
| (1,1055) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 19 | 1.91 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|----------------|----------|---------------|
| (1,681) | 1:30:A:PHE:HD2 | 1:29:A:TYR:HB2 | 19 | 1.91 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 9 | 1.75 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 18 | 1.75 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 6 | 1.74 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 10 | 1.73 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 14 | 1.73 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 19 | 1.73 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 4 | 1.71 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 5 | 1.71 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 11 | 1.71 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 12 | 1.71 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 15 | 1.71 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 13 | 1.7 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 20 | 1.69 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 16 | 1.67 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 8 | 1.65 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 17 | 1.64 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 20 | 1.64 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 3 | 1.63 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 11 | 1.62 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 12 | 1.62 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 13 | 1.62 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 1 | 1.6 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 2 | 1.6 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 4 | 1.6 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 5 | 1.6 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 15 | 1.6 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 2 | 1.57 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 1 | 1.56 |
| (1,1049) | 1:30:A:PHE:HD2 | 1:18:A:LYS:HB3 | 7 | 1.55 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 14 | 1.55 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 7 | 1.54 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 17 | 1.54 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 16 | 1.52 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 3 | 1.51 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 8 | 1.5 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 18 | 1.4 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 9 | 1.23 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 6 | 1.11 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 10 | 1.11 |
| (1,811) | 1:18:A:LYS:H | 1:30:A:PHE:HD2 | 19 | 1.11 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 1 | 0.9 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 1 | 0.9 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 1 | 0.9 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 4 | 0.88 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 4 | 0.88 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 4 | 0.88 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 2 | 0.86 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 2 | 0.86 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 2 | 0.86 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 6 | 0.86 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 6 | 0.86 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 6 | 0.86 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 19 | 0.85 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 19 | 0.85 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 19 | 0.85 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 20 | 0.85 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 20 | 0.85 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 20 | 0.85 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 7 | 0.84 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 7 | 0.84 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 7 | 0.84 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 9 | 0.84 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 9 | 0.84 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 9 | 0.84 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 13 | 0.84 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 13 | 0.84 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 13 | 0.84 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 3 | 0.83 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 3 | 0.83 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 3 | 0.83 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 10 | 0.83 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 10 | 0.83 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 10 | 0.83 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 8 | 0.82 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 8 | 0.82 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 8 | 0.82 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 18 | 0.82 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 18 | 0.82 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 18 | 0.82 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 14 | 0.8 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 14 | 0.8 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 16 | 0.8 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 16 | 0.8 |

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Continued from previous page...

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 16 | 0.8 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 4 | 0.79 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 4 | 0.79 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 13 | 0.78 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 13 | 0.78 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 15 | 0.78 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 15 | 0.78 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 17 | 0.78 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 17 | 0.78 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 14 | 0.78 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 14 | 0.78 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 14 | 0.78 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 1 | 0.77 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 1 | 0.77 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 16 | 0.77 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 16 | 0.77 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 2 | 0.76 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 2 | 0.76 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 5 | 0.76 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 5 | 0.76 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 11 | 0.76 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 11 | 0.76 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 12 | 0.76 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 12 | 0.76 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 5 | 0.76 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 5 | 0.76 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 5 | 0.76 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 11 | 0.76 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 11 | 0.76 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 11 | 0.76 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 17 | 0.76 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 17 | 0.76 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 17 | 0.76 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 12 | 0.75 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 12 | 0.75 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 12 | 0.75 |
| (1,197) | 1:16:A:ALA:HB1 | 1:30:A:PHE:HD1 | 15 | 0.75 |
| (1,197) | 1:16:A:ALA:HB2 | 1:30:A:PHE:HD1 | 15 | 0.75 |
| (1,197) | 1:16:A:ALA:HB3 | 1:30:A:PHE:HD1 | 15 | 0.75 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 8 | 0.74 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 8 | 0.74 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 3 | 0.73 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 3 | 0.73 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 20 | 0.73 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 20 | 0.73 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 1 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 1 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 1 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 1 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 1 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 1 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 1 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 1 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 1 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 2 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 2 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 2 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 2 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 2 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 2 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 2 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 2 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 2 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 3 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 3 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 3 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 3 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 3 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 3 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 3 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 3 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 3 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 4 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 4 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 4 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 4 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 4 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 4 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 4 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 4 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 4 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 5 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 5 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 5 | 0.72 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 5 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 5 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 5 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 5 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 5 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 5 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 6 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 6 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 6 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 6 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 6 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 6 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 6 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 6 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 6 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 8 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 8 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 8 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 8 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 8 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 8 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 8 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 8 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 8 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 9 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 9 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 9 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 9 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 9 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 9 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 9 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 9 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 9 | 0.72 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 10 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 10 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 10 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 10 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 10 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 10 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 10 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 10 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 10 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 11 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 11 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 11 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 11 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 11 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 11 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 11 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 11 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 11 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 12 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 12 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 12 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 12 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 12 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 12 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 12 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 12 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 12 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 13 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 13 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 13 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 13 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 13 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 13 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 13 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 13 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 13 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 18 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 18 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 18 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 18 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 18 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 18 | 0.72 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 18 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 18 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 18 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 19 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 19 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 19 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 19 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 19 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 19 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 19 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 19 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 19 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 20 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 20 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 20 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 20 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 20 | 0.72 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 20 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 20 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 20 | 0.72 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 20 | 0.72 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 7 | 0.72 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 7 | 0.72 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 14 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 14 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 14 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 14 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 14 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 14 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 14 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 14 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 14 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 15 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 15 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 15 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 15 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 15 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 15 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 15 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 15 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 15 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 16 | 0.71 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 16 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 16 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 16 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 16 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 16 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 16 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 16 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 16 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG11 | 17 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG12 | 17 | 0.71 |
| (1,657) | 1:54:A:VAL:HG21 | 1:54:A:VAL:HG13 | 17 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG11 | 17 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG12 | 17 | 0.71 |
| (1,657) | 1:54:A:VAL:HG22 | 1:54:A:VAL:HG13 | 17 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG11 | 17 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG12 | 17 | 0.71 |
| (1,657) | 1:54:A:VAL:HG23 | 1:54:A:VAL:HG13 | 17 | 0.71 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 6 | 0.69 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 6 | 0.69 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 6 | 0.69 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 6 | 0.69 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 18 | 0.69 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 18 | 0.69 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 2 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 2 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 2 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 2 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 3 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 3 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 3 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 3 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 8 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 8 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 8 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 8 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 10 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 10 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 10 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 10 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 12 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 12 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 12 | 0.68 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 12 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 14 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 14 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 14 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 14 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 17 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 17 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 17 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 17 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 19 | 0.68 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 19 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 19 | 0.68 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 19 | 0.68 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 6 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 6 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 6 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 7 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 7 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 7 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 9 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 9 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 9 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 19 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 19 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 19 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 1 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 1 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 1 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 1 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 5 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 5 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 5 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 5 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 7 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 7 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 7 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 7 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 9 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 9 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 9 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 9 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 13 | 0.67 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 13 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 13 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 13 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 20 | 0.67 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 20 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 20 | 0.67 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 20 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 1 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 1 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 1 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 2 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 2 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 2 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 3 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 3 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 3 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 4 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 4 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 4 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 5 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 5 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 5 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 6 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 6 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 6 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 7 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 7 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 7 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 8 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 8 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 8 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 9 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 9 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 9 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 10 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 10 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 10 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 11 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 11 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 11 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 12 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 12 | 0.67 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|---------------|-----------------|----------|---------------|
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 12 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 13 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 13 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 13 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 14 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 14 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 14 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 15 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 15 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 15 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 16 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 16 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 16 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 17 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 17 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 17 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 18 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 18 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 18 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 19 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 19 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 19 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB1 | 20 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB2 | 20 | 0.67 |
| (1,191) | 1:16:A:ALA:HA | 1:16:A:ALA:HB3 | 20 | 0.67 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 1 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 1 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 1 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 2 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 2 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 2 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 3 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 3 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 3 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 4 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 4 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 4 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 5 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 5 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 5 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 8 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 8 | 0.66 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 8 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 10 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 10 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 10 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 11 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 11 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 11 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 12 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 12 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 12 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 13 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 13 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 13 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 14 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 14 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 14 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 15 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 15 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 15 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 16 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 16 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 16 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 17 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 17 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 17 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 18 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 18 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 18 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG21 | 20 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG22 | 20 | 0.66 |
| (1,641) | 1:54:A:VAL:HB | 1:54:A:VAL:HG23 | 20 | 0.66 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 4 | 0.66 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 4 | 0.66 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 4 | 0.66 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 4 | 0.66 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 11 | 0.66 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 11 | 0.66 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 11 | 0.66 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 11 | 0.66 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 15 | 0.66 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 15 | 0.66 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 15 | 0.66 |

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Continued from previous page...

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 15 | 0.66 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 16 | 0.66 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 16 | 0.66 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 16 | 0.66 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 16 | 0.66 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 1 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 1 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 1 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 2 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 2 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 2 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 3 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 3 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 3 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 4 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 4 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 4 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 5 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 5 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 5 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 6 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 6 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 6 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 7 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 7 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 7 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 8 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 8 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 8 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 9 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 9 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 9 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 10 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 10 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 10 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 11 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 11 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 11 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 12 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 12 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 12 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 13 | 0.65 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 13 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 13 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 14 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 14 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 14 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 15 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 15 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 15 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 16 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 16 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 16 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 17 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 17 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 17 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 18 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 18 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 18 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 19 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 19 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 19 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG11 | 20 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG12 | 20 | 0.65 |
| (1,640) | 1:54:A:VAL:HB | 1:54:A:VAL:HG13 | 20 | 0.65 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG2 | 18 | 0.65 |
| (1,287) | 1:24:A:GLY:HA2 | 1:27:A:GLU:HG3 | 18 | 0.65 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG2 | 18 | 0.65 |
| (1,287) | 1:24:A:GLY:HA3 | 1:27:A:GLU:HG3 | 18 | 0.65 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 1 | 0.62 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 4 | 0.62 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 13 | 0.62 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 2 | 0.61 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 5 | 0.61 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 11 | 0.61 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 12 | 0.61 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 14 | 0.61 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 15 | 0.61 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 16 | 0.61 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 20 | 0.61 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 10 | 0.61 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 10 | 0.61 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 10 | 0.61 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 13 | 0.61 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 13 | 0.61 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 13 | 0.61 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 3 | 0.6 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 7 | 0.6 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 8 | 0.6 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 17 | 0.6 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 18 | 0.6 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 9 | 0.59 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 10 | 0.59 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 19 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 1 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 1 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 2 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 2 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 3 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 3 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 4 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 4 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 5 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 5 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 6 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 6 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 7 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 7 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 8 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 8 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 9 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 9 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 10 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 10 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 11 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 11 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 12 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 12 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 13 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 13 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 14 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 14 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 15 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 15 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 16 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 16 | 0.59 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 17 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 17 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 18 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 18 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 19 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 19 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB2 | 20 | 0.59 |
| (1,156) | 1:13:A:LYS:HA | 1:13:A:LYS:HB3 | 20 | 0.59 |
| (1,369) | 1:30:A:PHE:HA | 1:30:A:PHE:HD2 | 6 | 0.58 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 18 | 0.57 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 18 | 0.57 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 18 | 0.57 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 9 | 0.55 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 9 | 0.55 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 11 | 0.55 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 11 | 0.55 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 11 | 0.55 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 8 | 0.54 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 8 | 0.54 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 8 | 0.54 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 10 | 0.54 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 10 | 0.54 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 10 | 0.54 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 6 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 6 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 6 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 7 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 7 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 7 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 9 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 9 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 9 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 19 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 19 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 19 | 0.53 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 18 | 0.53 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 18 | 0.53 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 18 | 0.53 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 1 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 1 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 1 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 3 | 0.52 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 3 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 3 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 4 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 4 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 4 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 14 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 14 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 14 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 17 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 17 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 17 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 18 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 18 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 18 | 0.52 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 12 | 0.52 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 12 | 0.52 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 12 | 0.52 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 13 | 0.52 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 13 | 0.52 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 13 | 0.52 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 17 | 0.52 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 17 | 0.52 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 17 | 0.52 |
| (1,127) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HE2 | 8 | 0.52 |
| (1,127) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HE3 | 8 | 0.52 |
| (1,127) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HE2 | 8 | 0.52 |
| (1,127) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HE3 | 8 | 0.52 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 1 | 0.52 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 1 | 0.52 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 1 | 0.52 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 2 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 2 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 2 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 5 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 5 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 5 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 11 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 11 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 11 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 12 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 12 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 12 | 0.51 |

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Continued from previous page...

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 13 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 13 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 13 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 15 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 15 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 15 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 16 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 16 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 16 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD11 | 20 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD12 | 20 | 0.51 |
| (1,607) | 1:52:A:PHE:HB2 | 1:5:A:LEU:HD13 | 20 | 0.51 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 11 | 0.51 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 11 | 0.51 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 11 | 0.51 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 8 | 0.5 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 8 | 0.5 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 8 | 0.5 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 12 | 0.5 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 12 | 0.5 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 12 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 3 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 3 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 3 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 4 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 4 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 4 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 6 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 6 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 6 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 7 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 7 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 7 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 8 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 8 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 8 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 16 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 16 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 16 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 19 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 19 | 0.5 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 19 | 0.5 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 15 | 0.49 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 15 | 0.49 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 15 | 0.49 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 6 | 0.49 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 6 | 0.49 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 10 | 0.49 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 10 | 0.49 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 7 | 0.49 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 7 | 0.49 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 7 | 0.49 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 19 | 0.49 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 19 | 0.49 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 19 | 0.49 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 6 | 0.49 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 6 | 0.49 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 6 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 1 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 1 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 1 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 2 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 2 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 2 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 9 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 9 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 9 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 10 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 10 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 10 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 14 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 14 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 14 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 15 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 15 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 15 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 17 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 17 | 0.49 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 17 | 0.49 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 1 | 0.48 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 1 | 0.48 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 1 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 2 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 2 | 0.48 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 2 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 4 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 4 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 4 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 5 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 5 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 5 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 7 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 7 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 7 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 12 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 12 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 12 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 13 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 13 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 13 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 17 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 17 | 0.48 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 17 | 0.48 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 10 | 0.48 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 10 | 0.48 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 10 | 0.48 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 2 | 0.48 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 2 | 0.48 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 2 | 0.48 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 15 | 0.48 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 15 | 0.48 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 15 | 0.48 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 19 | 0.48 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 19 | 0.48 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 19 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 5 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 5 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 5 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 11 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 11 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 11 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 13 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 13 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 13 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 18 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 18 | 0.48 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 18 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 20 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 20 | 0.48 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 20 | 0.48 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 12 | 0.47 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 12 | 0.47 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 2 | 0.47 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 2 | 0.47 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 2 | 0.47 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 4 | 0.47 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 4 | 0.47 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 4 | 0.47 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 8 | 0.47 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 8 | 0.47 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 8 | 0.47 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 13 | 0.47 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 13 | 0.47 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 13 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 1 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 1 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 1 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 3 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 3 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 3 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 8 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 8 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 8 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 11 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 11 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 11 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 14 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 14 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 14 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 16 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 16 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 16 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 20 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 20 | 0.47 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 20 | 0.47 |
| (1,251) | 1:18:A:LYS:HG2 | 1:30:A:PHE:HD2 | 19 | 0.47 |
| (1,251) | 1:18:A:LYS:HG3 | 1:30:A:PHE:HD2 | 19 | 0.47 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 16 | 0.47 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 16 | 0.47 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 16 | 0.47 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 4 | 0.47 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 4 | 0.47 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 4 | 0.47 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 7 | 0.47 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 7 | 0.47 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 7 | 0.47 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 9 | 0.47 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 9 | 0.47 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 9 | 0.47 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG11 | 12 | 0.47 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG12 | 12 | 0.47 |
| (1,77) | 1:7:A:LEU:HA | 1:54:A:VAL:HG13 | 12 | 0.47 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 5 | 0.46 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 12 | 0.46 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 1 | 0.46 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 1 | 0.46 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 2 | 0.46 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 2 | 0.46 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 4 | 0.46 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 4 | 0.46 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 8 | 0.46 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 8 | 0.46 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 13 | 0.46 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 13 | 0.46 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 18 | 0.46 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 18 | 0.46 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 7 | 0.46 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 7 | 0.46 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 7 | 0.46 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 10 | 0.46 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 10 | 0.46 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 10 | 0.46 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 10 | 0.46 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 10 | 0.46 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 10 | 0.46 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 5 | 0.46 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 5 | 0.46 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 5 | 0.46 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 16 | 0.45 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 17 | 0.45 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 3 | 0.45 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 3 | 0.45 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 7 | 0.45 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 7 | 0.45 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 10 | 0.45 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 10 | 0.45 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 11 | 0.45 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 11 | 0.45 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 15 | 0.45 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 15 | 0.45 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 9 | 0.45 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 9 | 0.45 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 9 | 0.45 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 11 | 0.45 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 11 | 0.45 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 11 | 0.45 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 20 | 0.45 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 20 | 0.45 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 20 | 0.45 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 3 | 0.45 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 3 | 0.45 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 9 | 0.45 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 9 | 0.45 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 9 | 0.45 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 18 | 0.45 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 18 | 0.45 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 18 | 0.45 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 3 | 0.45 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 3 | 0.45 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 3 | 0.45 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 3 | 0.44 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 3 | 0.44 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 3 | 0.44 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 6 | 0.44 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 6 | 0.44 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 6 | 0.44 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 19 | 0.44 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 19 | 0.44 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 19 | 0.44 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 8 | 0.44 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 8 | 0.44 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 3 | 0.44 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 3 | 0.44 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 3 | 0.44 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 1 | 0.43 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 6 | 0.43 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 8 | 0.43 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 9 | 0.43 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 13 | 0.43 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 2 | 0.43 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 2 | 0.43 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 6 | 0.43 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 6 | 0.43 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 16 | 0.43 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 16 | 0.43 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 17 | 0.43 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 17 | 0.43 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 3 | 0.43 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 3 | 0.43 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 8 | 0.43 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 8 | 0.43 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 20 | 0.43 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 20 | 0.43 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 20 | 0.43 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 20 | 0.43 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 20 | 0.43 |
| (1,121) | 1:9:A:LEU:HD11 | 1:9:A:LEU:HB2 | 5 | 0.43 |
| (1,121) | 1:9:A:LEU:HD12 | 1:9:A:LEU:HB2 | 5 | 0.43 |
| (1,121) | 1:9:A:LEU:HD13 | 1:9:A:LEU:HB2 | 5 | 0.43 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 2 | 0.42 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 4 | 0.42 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 11 | 0.42 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 14 | 0.42 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 1 | 0.42 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 1 | 0.42 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 12 | 0.42 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 12 | 0.42 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 19 | 0.42 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 19 | 0.42 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 19 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 1 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 1 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 2 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 2 | 0.42 |

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Continued from previous page...

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 4 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 4 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 7 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 7 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 11 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 11 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 13 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 13 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 14 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 14 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 15 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 15 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 16 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 16 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 17 | 0.42 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 17 | 0.42 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 14 | 0.42 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 14 | 0.42 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 14 | 0.42 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 3 | 0.41 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 7 | 0.41 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 10 | 0.41 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 15 | 0.41 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 18 | 0.41 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 19 | 0.41 |
| (1,887) | 1:30:A:PHE:H | 1:32:A:LEU:H | 20 | 0.41 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 5 | 0.41 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 5 | 0.41 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 6 | 0.41 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 6 | 0.41 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 20 | 0.41 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 20 | 0.41 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 18 | 0.41 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 18 | 0.41 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 18 | 0.41 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 5 | 0.41 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 5 | 0.41 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 7 | 0.41 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 7 | 0.41 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 11 | 0.41 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 11 | 0.41 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 20 | 0.41 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|-----------------|----------|---------------|
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 20 | 0.41 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 5 | 0.41 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 5 | 0.41 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD2 | 12 | 0.41 |
| (1,231) | 1:18:A:LYS:HB3 | 1:18:A:LYS:HD3 | 12 | 0.41 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 15 | 0.41 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 15 | 0.41 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 15 | 0.41 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 14 | 0.4 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 14 | 0.4 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 14 | 0.4 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 14 | 0.4 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 8 | 0.4 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 8 | 0.4 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 9 | 0.39 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 9 | 0.39 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 10 | 0.39 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 10 | 0.39 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 13 | 0.39 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 13 | 0.39 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 15 | 0.39 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 15 | 0.39 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 7 | 0.39 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 7 | 0.39 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 10 | 0.39 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 10 | 0.39 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 8 | 0.39 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 8 | 0.39 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 8 | 0.39 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 9 | 0.38 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 9 | 0.38 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 17 | 0.38 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 17 | 0.38 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 4 | 0.38 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 4 | 0.38 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 19 | 0.38 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 19 | 0.38 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD11 | 6 | 0.38 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD12 | 6 | 0.38 |
| (1,372) | 1:30:A:PHE:HB3 | 1:5:A:LEU:HD13 | 6 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 3 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 3 | 0.38 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 6 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 6 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 11 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 11 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 16 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 16 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 19 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 19 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 20 | 0.38 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 20 | 0.38 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 19 | 0.37 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 19 | 0.37 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG2 | 18 | 0.37 |
| (1,395) | 1:31:A:LYS:HB3 | 1:31:A:LYS:HG3 | 18 | 0.37 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 1 | 0.37 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 1 | 0.37 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 2 | 0.37 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 2 | 0.37 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 5 | 0.37 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 5 | 0.37 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 12 | 0.37 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 12 | 0.37 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 4 | 0.37 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 4 | 0.37 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 4 | 0.37 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 6 | 0.37 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 6 | 0.37 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 6 | 0.37 |
| (1,127) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HE2 | 15 | 0.37 |
| (1,127) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HE3 | 15 | 0.37 |
| (1,127) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HE2 | 15 | 0.37 |
| (1,127) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HE3 | 15 | 0.37 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 8 | 0.36 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 8 | 0.36 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 8 | 0.36 |
| (1,457) | 1:37:A:LYS:HB2 | 1:37:A:LYS:H | 16 | 0.36 |
| (1,457) | 1:37:A:LYS:HB3 | 1:37:A:LYS:H | 16 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 4 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 4 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 9 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 9 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 13 | 0.36 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|----------------|----------|---------------|
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 13 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 14 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 14 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 15 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 15 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 17 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 17 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG2 | 18 | 0.36 |
| (1,308) | 1:26:A:ALA:HA | 1:18:A:LYS:HG3 | 18 | 0.36 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 11 | 0.36 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 11 | 0.36 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 2 | 0.35 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 3 | 0.35 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 13 | 0.35 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 15 | 0.35 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 20 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 1 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 1 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 2 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 2 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 3 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 3 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 6 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 6 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 7 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 7 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 9 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 9 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 10 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 10 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 16 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 16 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 18 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 18 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 19 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 19 | 0.35 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 20 | 0.35 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 20 | 0.35 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 16 | 0.35 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 2 | 0.35 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 2 | 0.35 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 2 | 0.35 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|----------------|----------|---------------|
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 8 | 0.35 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 8 | 0.35 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 8 | 0.35 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 1 | 0.34 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 11 | 0.34 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 16 | 0.34 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 3 | 0.34 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 3 | 0.34 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 3 | 0.34 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 10 | 0.34 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 10 | 0.34 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 10 | 0.34 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 14 | 0.34 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 14 | 0.34 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 14 | 0.34 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 4 | 0.34 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 4 | 0.34 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 5 | 0.34 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 5 | 0.34 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 8 | 0.34 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 8 | 0.34 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 12 | 0.34 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 12 | 0.34 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 13 | 0.34 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 13 | 0.34 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 14 | 0.34 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 14 | 0.34 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 15 | 0.34 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 15 | 0.34 |
| (1,305) | 1:25:A:ILE:HG12 | 1:25:A:ILE:H | 17 | 0.34 |
| (1,305) | 1:25:A:ILE:HG13 | 1:25:A:ILE:H | 17 | 0.34 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 3 | 0.34 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 3 | 0.34 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 18 | 0.34 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 18 | 0.34 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 19 | 0.34 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 19 | 0.34 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 14 | 0.34 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 16 | 0.34 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 16 | 0.34 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 16 | 0.34 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 18 | 0.34 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 18 | 0.34 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 18 | 0.34 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 4 | 0.33 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 5 | 0.33 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 8 | 0.33 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 12 | 0.33 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 14 | 0.33 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 18 | 0.33 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 10 | 0.33 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 10 | 0.33 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 14 | 0.33 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 14 | 0.33 |
| (1,817) | 1:20:A:ALA:H | 1:2:A:THR:HA | 19 | 0.33 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 18 | 0.33 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 18 | 0.33 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 18 | 0.33 |
| (1,643) | 1:54:A:VAL:HG11 | 1:41:A:GLY:HA3 | 8 | 0.33 |
| (1,643) | 1:54:A:VAL:HG12 | 1:41:A:GLY:HA3 | 8 | 0.33 |
| (1,643) | 1:54:A:VAL:HG13 | 1:41:A:GLY:HA3 | 8 | 0.33 |
| (1,484) | 1:41:A:GLY:HA3 | 1:54:A:VAL:HG11 | 8 | 0.33 |
| (1,484) | 1:41:A:GLY:HA3 | 1:54:A:VAL:HG12 | 8 | 0.33 |
| (1,484) | 1:41:A:GLY:HA3 | 1:54:A:VAL:HG13 | 8 | 0.33 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 16 | 0.33 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 16 | 0.33 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 17 | 0.33 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 17 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 1 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 1 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 4 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 4 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 5 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 5 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 7 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 7 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 9 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 9 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 10 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 10 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 11 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 11 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 13 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 13 | 0.33 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|----------------|----------|---------------|
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 14 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 14 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 16 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 16 | 0.33 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 20 | 0.33 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 20 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 1 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 1 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 1 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 3 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 3 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 3 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 4 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 4 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 4 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 7 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 7 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 7 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 13 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 13 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 13 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 20 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 20 | 0.33 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 20 | 0.33 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 7 | 0.32 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 10 | 0.32 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 17 | 0.32 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 4 | 0.32 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 4 | 0.32 |
| (1,817) | 1:20:A:ALA:H | 1:2:A:THR:HA | 7 | 0.32 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 1 | 0.32 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 1 | 0.32 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 1 | 0.32 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 6 | 0.32 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 6 | 0.32 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 6 | 0.32 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 12 | 0.32 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 12 | 0.32 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 14 | 0.32 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 14 | 0.32 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 2 | 0.32 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 2 | 0.32 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|----------------|----------|---------------|
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 6 | 0.32 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 6 | 0.32 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 12 | 0.32 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 12 | 0.32 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 15 | 0.32 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 15 | 0.32 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 17 | 0.32 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 17 | 0.32 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 14 | 0.32 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 14 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 6 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 6 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 6 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 9 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 9 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 9 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 14 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 14 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 14 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 15 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 15 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 15 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 17 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 17 | 0.32 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 17 | 0.32 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 9 | 0.31 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 19 | 0.31 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 12 | 0.31 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 12 | 0.31 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 12 | 0.31 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 3 | 0.31 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 3 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 1 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 1 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 13 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 13 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 15 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 15 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 16 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 16 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 18 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 18 | 0.31 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 20 | 0.31 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 20 | 0.31 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD11 | 2 | 0.31 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD12 | 2 | 0.31 |
| (1,208) | 1:17:A:ILE:HB | 1:17:A:ILE:HD13 | 2 | 0.31 |
| (1,185) | 1:15:A:GLU:HB2 | 1:16:A:ALA:H | 8 | 0.31 |
| (1,185) | 1:15:A:GLU:HB3 | 1:16:A:ALA:H | 8 | 0.31 |
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 17 | 0.31 |
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 17 | 0.31 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 1 | 0.31 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 1 | 0.31 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 10 | 0.31 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 10 | 0.31 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 10 | 0.31 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 12 | 0.31 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 12 | 0.31 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 12 | 0.31 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 19 | 0.31 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 19 | 0.31 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 19 | 0.31 |
| (1,936) | 1:43:A:TRP:H | 1:43:A:TRP:HB3 | 6 | 0.3 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 19 | 0.3 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 19 | 0.3 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 9 | 0.3 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 9 | 0.3 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 9 | 0.3 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 16 | 0.3 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 16 | 0.3 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 16 | 0.3 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 19 | 0.3 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 19 | 0.3 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 19 | 0.3 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB2 | 5 | 0.3 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB3 | 5 | 0.3 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 5 | 0.3 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 5 | 0.3 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 5 | 0.3 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 12 | 0.3 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 12 | 0.3 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 12 | 0.3 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 6 | 0.3 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 6 | 0.3 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|----------------|----------|---------------|
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 3 | 0.3 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 3 | 0.3 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 7 | 0.3 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 7 | 0.3 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 11 | 0.3 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 11 | 0.3 |
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 5 | 0.3 |
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 5 | 0.3 |
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 12 | 0.3 |
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 12 | 0.3 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 11 | 0.3 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 11 | 0.3 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 20 | 0.3 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 20 | 0.3 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 20 | 0.3 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 11 | 0.3 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 5 | 0.3 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 5 | 0.3 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 5 | 0.3 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 17 | 0.29 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 17 | 0.29 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 17 | 0.29 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 20 | 0.29 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 20 | 0.29 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 20 | 0.29 |
| (1,420) | 1:32:A:LEU:HD11 | 1:32:A:LEU:HB2 | 14 | 0.29 |
| (1,420) | 1:32:A:LEU:HD12 | 1:32:A:LEU:HB2 | 14 | 0.29 |
| (1,420) | 1:32:A:LEU:HD13 | 1:32:A:LEU:HB2 | 14 | 0.29 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 18 | 0.29 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 19 | 0.29 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 5 | 0.29 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 5 | 0.29 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 10 | 0.29 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 10 | 0.29 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 19 | 0.29 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 19 | 0.29 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 2 | 0.29 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 2 | 0.29 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 5 | 0.29 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 5 | 0.29 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 7 | 0.29 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 7 | 0.29 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 18 | 0.29 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 18 | 0.29 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 17 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 1 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 2 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 3 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 4 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 7 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 10 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 12 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 14 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 16 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 17 | 0.29 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 19 | 0.29 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD11 | 11 | 0.29 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD12 | 11 | 0.29 |
| (1,51) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HD13 | 11 | 0.29 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 3 | 0.28 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 12 | 0.28 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 12 | 0.28 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 14 | 0.28 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 14 | 0.28 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 2 | 0.28 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 2 | 0.28 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 2 | 0.28 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 4 | 0.28 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 4 | 0.28 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 4 | 0.28 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 11 | 0.28 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 11 | 0.28 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 11 | 0.28 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 13 | 0.28 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 13 | 0.28 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 13 | 0.28 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB2 | 20 | 0.28 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB3 | 20 | 0.28 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 9 | 0.28 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 9 | 0.28 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 17 | 0.28 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 17 | 0.28 |
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 11 | 0.28 |
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 11 | 0.28 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 3 | 0.28 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 3 | 0.28 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 16 | 0.28 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 16 | 0.28 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 5 | 0.28 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 6 | 0.28 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 8 | 0.28 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 9 | 0.28 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 13 | 0.28 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 15 | 0.28 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 18 | 0.28 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 1 | 0.27 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 1 | 0.27 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 1 | 0.27 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 1 | 0.27 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 4 | 0.27 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 8 | 0.27 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 10 | 0.27 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 12 | 0.27 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 18 | 0.27 |
| (1,817) | 1:20:A:ALA:H | 1:2:A:THR:HA | 13 | 0.27 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 5 | 0.27 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 5 | 0.27 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 5 | 0.27 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 2 | 0.27 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 2 | 0.27 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 4 | 0.27 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 4 | 0.27 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 6 | 0.27 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 6 | 0.27 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 8 | 0.27 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 8 | 0.27 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 10 | 0.27 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 10 | 0.27 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 12 | 0.27 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 12 | 0.27 |
| (1,62) | 1:6:A:ILE:HA | 1:5:A:LEU:HB3 | 20 | 0.27 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 8 | 0.26 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 8 | 0.26 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 8 | 0.26 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 2 | 0.26 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 6 | 0.26 |

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Continued from previous page...

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 9 | 0.26 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 11 | 0.26 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 13 | 0.26 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 14 | 0.26 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 15 | 0.26 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 16 | 0.26 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 17 | 0.26 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 20 | 0.26 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 5 | 0.26 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 5 | 0.26 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 12 | 0.26 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 12 | 0.26 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 20 | 0.26 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 20 | 0.26 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 7 | 0.26 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 7 | 0.26 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 7 | 0.26 |
| (1,653) | 1:54:A:VAL:HG21 | 1:43:A:TRP:HD1 | 15 | 0.26 |
| (1,653) | 1:54:A:VAL:HG22 | 1:43:A:TRP:HD1 | 15 | 0.26 |
| (1,653) | 1:54:A:VAL:HG23 | 1:43:A:TRP:HD1 | 15 | 0.26 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 7 | 0.26 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 7 | 0.26 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 14 | 0.26 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 14 | 0.26 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 4 | 0.26 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 4 | 0.26 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 6 | 0.26 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 6 | 0.26 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB2 | 8 | 0.26 |
| (1,253) | 1:19:A:GLU:HA | 1:19:A:GLU:HB3 | 8 | 0.26 |
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 13 | 0.26 |
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 13 | 0.26 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 9 | 0.26 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 9 | 0.26 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 13 | 0.26 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 13 | 0.26 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 15 | 0.26 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 15 | 0.26 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 17 | 0.26 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 17 | 0.26 |
| (1,126) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HA | 19 | 0.26 |
| (1,126) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HA | 19 | 0.26 |

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Continued from previous page...

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|----------------|----------|---------------|
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 7 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 7 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 7 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 10 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 10 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 10 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 11 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 11 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 11 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 19 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 19 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 19 | 0.25 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 5 | 0.25 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 7 | 0.25 |
| (1,1016) | 1:53:A:THR:H | 1:52:A:PHE:HB2 | 19 | 0.25 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 19 | 0.25 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 19 | 0.25 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 20 | 0.25 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 19 | 0.25 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 19 | 0.25 |
| (1,118) | 1:9:A:LEU:HB2 | 1:9:A:LEU:H | 17 | 0.25 |
| (1,118) | 1:9:A:LEU:HB2 | 1:9:A:LEU:H | 20 | 0.25 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 2 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 2 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 2 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 3 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 3 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 3 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 4 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 4 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 4 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 5 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 5 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 5 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 6 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 6 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 6 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 9 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 9 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 9 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 12 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 12 | 0.24 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|----------------|----------|---------------|
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 12 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 14 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 14 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 14 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 16 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 16 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 16 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 17 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 17 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 17 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 18 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 18 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 18 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 20 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 20 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 20 | 0.24 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 15 | 0.24 |
| (1,817) | 1:20:A:ALA:H | 1:2:A:THR:HA | 6 | 0.24 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 6 | 0.24 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 6 | 0.24 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 8 | 0.24 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 8 | 0.24 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 11 | 0.24 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 11 | 0.24 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 18 | 0.24 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 18 | 0.24 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 1 | 0.24 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 4 | 0.24 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 5 | 0.24 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 11 | 0.24 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 12 | 0.24 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 13 | 0.24 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 14 | 0.24 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 16 | 0.24 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 1 | 0.24 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 1 | 0.24 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 2 | 0.24 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 18 | 0.24 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 13 | 0.23 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 13 | 0.23 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 13 | 0.23 |
| (1,817) | 1:20:A:ALA:H | 1:2:A:THR:HA | 4 | 0.23 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 10 | 0.23 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 10 | 0.23 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD21 | 12 | 0.23 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD22 | 12 | 0.23 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD23 | 12 | 0.23 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD21 | 12 | 0.23 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD22 | 12 | 0.23 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD23 | 12 | 0.23 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD21 | 12 | 0.23 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD22 | 12 | 0.23 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD23 | 12 | 0.23 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 10 | 0.23 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 2 | 0.23 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 3 | 0.23 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 7 | 0.23 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 8 | 0.23 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 15 | 0.23 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 17 | 0.23 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 20 | 0.23 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 8 | 0.23 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 8 | 0.23 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 10 | 0.23 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 10 | 0.23 |
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 18 | 0.23 |
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 18 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 3 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 4 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 5 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 6 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 7 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 8 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 9 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 10 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 11 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 12 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 13 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 14 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 15 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 16 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 17 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 19 | 0.23 |
| (1,46) | 1:5:A:LEU:HB2 | 1:5:A:LEU:HA | 20 | 0.23 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB1 | 15 | 0.22 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB2 | 15 | 0.22 |
| (1,1050) | 1:30:A:PHE:HD1 | 1:26:A:ALA:HB3 | 15 | 0.22 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB1 | 20 | 0.22 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB2 | 20 | 0.22 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB3 | 20 | 0.22 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 2 | 0.22 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 2 | 0.22 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 3 | 0.22 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 3 | 0.22 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 7 | 0.22 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 7 | 0.22 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 19 | 0.22 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 19 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 1 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 2 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 3 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 4 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 5 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 6 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 7 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 8 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 9 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 10 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 11 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 12 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 13 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 14 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 15 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 17 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 19 | 0.22 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 20 | 0.22 |
| (1,651) | 1:54:A:VAL:HG21 | 1:41:A:GLY:HA3 | 17 | 0.22 |
| (1,651) | 1:54:A:VAL:HG22 | 1:41:A:GLY:HA3 | 17 | 0.22 |
| (1,651) | 1:54:A:VAL:HG23 | 1:41:A:GLY:HA3 | 17 | 0.22 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD21 | 20 | 0.22 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD22 | 20 | 0.22 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD23 | 20 | 0.22 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD21 | 20 | 0.22 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD22 | 20 | 0.22 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD23 | 20 | 0.22 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD21 | 20 | 0.22 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD22 | 20 | 0.22 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD23 | 20 | 0.22 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB2 | 12 | 0.22 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB3 | 12 | 0.22 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 6 | 0.22 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 9 | 0.22 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 9 | 0.22 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 8 | 0.22 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 12 | 0.22 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 19 | 0.21 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 1 | 0.21 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 1 | 0.21 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 4 | 0.21 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 4 | 0.21 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 13 | 0.21 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 13 | 0.21 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 16 | 0.21 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 16 | 0.21 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 17 | 0.21 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 17 | 0.21 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 6 | 0.21 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 6 | 0.21 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 18 | 0.21 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 18 | 0.21 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 16 | 0.21 |
| (1,696) | 1:43:A:TRP:HZ2 | 1:43:A:TRP:HZ3 | 18 | 0.21 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 8 | 0.21 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 9 | 0.21 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 15 | 0.21 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 9 | 0.21 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 10 | 0.21 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 18 | 0.21 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 2 | 0.21 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 2 | 0.21 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 2 | 0.21 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 4 | 0.21 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 6 | 0.21 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 18 | 0.21 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 19 | 0.21 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 2 | 0.2 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 6 | 0.2 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 6 | 0.2 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 9 | 0.2 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 9 | 0.2 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 10 | 0.2 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 6 | 0.2 |
| (1,375) | 1:30:A:PHE:HB3 | 1:30:A:PHE:HA | 19 | 0.2 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 20 | 0.2 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 20 | 0.2 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 9 | 0.2 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB1 | 11 | 0.19 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB2 | 11 | 0.19 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB3 | 11 | 0.19 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 15 | 0.19 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 15 | 0.19 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 1 | 0.19 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 10 | 0.19 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 10 | 0.19 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 18 | 0.19 |
| (1,704) | 1:29:A:TYR:HE1 | 1:32:A:LEU:HA | 15 | 0.19 |
| (1,704) | 1:29:A:TYR:HE2 | 1:32:A:LEU:HA | 15 | 0.19 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 8 | 0.19 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 8 | 0.19 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 9 | 0.19 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 9 | 0.19 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 20 | 0.19 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 20 | 0.19 |
| (1,643) | 1:54:A:VAL:HG11 | 1:41:A:GLY:HA3 | 4 | 0.19 |
| (1,643) | 1:54:A:VAL:HG12 | 1:41:A:GLY:HA3 | 4 | 0.19 |
| (1,643) | 1:54:A:VAL:HG13 | 1:41:A:GLY:HA3 | 4 | 0.19 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 18 | 0.19 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 10 | 0.19 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 13 | 0.19 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 18 | 0.19 |
| (1,484) | 1:41:A:GLY:HA3 | 1:54:A:VAL:HG11 | 4 | 0.19 |
| (1,484) | 1:41:A:GLY:HA3 | 1:54:A:VAL:HG12 | 4 | 0.19 |
| (1,484) | 1:41:A:GLY:HA3 | 1:54:A:VAL:HG13 | 4 | 0.19 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 1 | 0.19 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 2 | 0.19 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 13 | 0.19 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 7 | 0.19 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 5 | 0.18 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 5 | 0.18 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 5 | 0.18 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 9 | 0.18 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 9 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 2 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 3 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 4 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 5 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 9 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 11 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 12 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 13 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 17 | 0.18 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 18 | 0.18 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 1 | 0.18 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 5 | 0.18 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 10 | 0.18 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 10 | 0.18 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 6 | 0.18 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 9 | 0.18 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 19 | 0.18 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 1 | 0.18 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 2 | 0.18 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 3 | 0.18 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 9 | 0.18 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 12 | 0.18 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 14 | 0.18 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 16 | 0.18 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 19 | 0.18 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 20 | 0.18 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB2 | 14 | 0.18 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB3 | 14 | 0.18 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 3 | 0.18 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 7 | 0.18 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 16 | 0.18 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 10 | 0.18 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 16 | 0.18 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 3 | 0.18 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 10 | 0.18 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 15 | 0.18 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB1 | 2 | 0.17 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB2 | 2 | 0.17 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB3 | 2 | 0.17 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 6 | 0.17 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 7 | 0.17 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 14 | 0.17 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 15 | 0.17 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 16 | 0.17 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 20 | 0.17 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 8 | 0.17 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 13 | 0.17 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 1 | 0.17 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 1 | 0.17 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 2 | 0.17 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 2 | 0.17 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 4 | 0.17 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 4 | 0.17 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 7 | 0.17 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 7 | 0.17 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 15 | 0.17 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 15 | 0.17 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 16 | 0.17 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 16 | 0.17 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 17 | 0.17 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 17 | 0.17 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 1 | 0.17 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 7 | 0.17 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 5 | 0.17 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 6 | 0.17 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 8 | 0.17 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 11 | 0.17 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 15 | 0.17 |
| (1,480) | 1:41:A:GLY:HA2 | 1:41:A:GLY:H | 7 | 0.17 |
| (1,465) | 1:39:A:VAL:HA | 1:40:A:GLU:H | 4 | 0.17 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD21 | 14 | 0.17 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD22 | 14 | 0.17 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD23 | 14 | 0.17 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD21 | 14 | 0.17 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD22 | 14 | 0.17 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD23 | 14 | 0.17 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD21 | 14 | 0.17 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD22 | 14 | 0.17 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD23 | 14 | 0.17 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 4 | 0.17 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 17 | 0.17 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 4 | 0.17 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 5 | 0.17 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 13 | 0.17 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 19 | 0.16 |
| (1,898) | 1:32:A:LEU:H | 1:32:A:LEU:HD11 | 15 | 0.16 |
| (1,898) | 1:32:A:LEU:H | 1:32:A:LEU:HD12 | 15 | 0.16 |
| (1,898) | 1:32:A:LEU:H | 1:32:A:LEU:HD13 | 15 | 0.16 |
| (1,798) | 1:17:A:ILE:H | 1:16:A:ALA:H | 8 | 0.16 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 6 | 0.16 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 11 | 0.16 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 12 | 0.16 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 14 | 0.16 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 3 | 0.16 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 3 | 0.16 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 13 | 0.16 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 13 | 0.16 |
| (1,651) | 1:54:A:VAL:HG21 | 1:41:A:GLY:HA3 | 14 | 0.16 |
| (1,651) | 1:54:A:VAL:HG22 | 1:41:A:GLY:HA3 | 14 | 0.16 |
| (1,651) | 1:54:A:VAL:HG23 | 1:41:A:GLY:HA3 | 14 | 0.16 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 5 | 0.16 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 7 | 0.16 |
| (1,480) | 1:41:A:GLY:HA2 | 1:41:A:GLY:H | 4 | 0.16 |
| (1,465) | 1:39:A:VAL:HA | 1:40:A:GLU:H | 7 | 0.16 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB2 | 16 | 0.16 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB3 | 16 | 0.16 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 5 | 0.16 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 11 | 0.16 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 15 | 0.16 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 15 | 0.16 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 11 | 0.16 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 12 | 0.16 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 15 | 0.16 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 19 | 0.16 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 5 | 0.16 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 16 | 0.15 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG2 | 15 | 0.15 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG3 | 15 | 0.15 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG2 | 19 | 0.15 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG3 | 19 | 0.15 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 14 | 0.15 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 2 | 0.15 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 3 | 0.15 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 9 | 0.15 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 15 | 0.15 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 16 | 0.15 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 19 | 0.15 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 20 | 0.15 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 5 | 0.15 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 5 | 0.15 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 11 | 0.15 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 11 | 0.15 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 14 | 0.15 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 14 | 0.15 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 2 | 0.15 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 8 | 0.15 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 12 | 0.15 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 13 | 0.15 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 14 | 0.15 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 16 | 0.15 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 20 | 0.15 |
| (1,465) | 1:39:A:VAL:HA | 1:40:A:GLU:H | 17 | 0.15 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD21 | 4 | 0.15 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD22 | 4 | 0.15 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD23 | 4 | 0.15 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD21 | 4 | 0.15 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD22 | 4 | 0.15 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD23 | 4 | 0.15 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD21 | 4 | 0.15 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD22 | 4 | 0.15 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD23 | 4 | 0.15 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB2 | 19 | 0.15 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB3 | 19 | 0.15 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 8 | 0.15 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 9 | 0.15 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 18 | 0.15 |
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 8 | 0.15 |
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 8 | 0.15 |
| (1,127) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HE2 | 19 | 0.15 |
| (1,127) | 1:10:A:LYS:HB2 | 1:10:A:LYS:HE3 | 19 | 0.15 |
| (1,127) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HE2 | 19 | 0.15 |
| (1,127) | 1:10:A:LYS:HB3 | 1:10:A:LYS:HE3 | 19 | 0.15 |
| (1,118) | 1:9:A:LEU:HB2 | 1:9:A:LEU:H | 16 | 0.15 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 11 | 0.15 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 6 | 0.14 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 20 | 0.14 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 8 | 0.14 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 4 | 0.14 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 6 | 0.14 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 8 | 0.14 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 12 | 0.14 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 13 | 0.14 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 17 | 0.14 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 13 | 0.14 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 13 | 0.14 |
| (1,817) | 1:20:A:ALA:H | 1:2:A:THR:HA | 14 | 0.14 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 7 | 0.14 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 17 | 0.14 |
| (1,703) | 1:29:A:TYR:HE1 | 1:33:A:ILE:H | 12 | 0.14 |
| (1,703) | 1:29:A:TYR:HE2 | 1:33:A:ILE:H | 12 | 0.14 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 3 | 0.14 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 11 | 0.14 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 15 | 0.14 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 4 | 0.14 |
| (1,508) | 1:43:A:TRP:HB3 | 1:43:A:TRP:HE3 | 17 | 0.14 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 4 | 0.14 |
| (1,480) | 1:41:A:GLY:HA2 | 1:41:A:GLY:H | 9 | 0.14 |
| (1,480) | 1:41:A:GLY:HA2 | 1:41:A:GLY:H | 15 | 0.14 |
| (1,465) | 1:39:A:VAL:HA | 1:40:A:GLU:H | 6 | 0.14 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD21 | 5 | 0.14 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD22 | 5 | 0.14 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD23 | 5 | 0.14 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD21 | 5 | 0.14 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD22 | 5 | 0.14 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD23 | 5 | 0.14 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD21 | 5 | 0.14 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD22 | 5 | 0.14 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD23 | 5 | 0.14 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 14 | 0.14 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 1 | 0.14 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 1 | 0.14 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 12 | 0.14 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 12 | 0.14 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 14 | 0.14 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 20 | 0.14 |
| (1,118) | 1:9:A:LEU:HB2 | 1:9:A:LEU:H | 1 | 0.14 |
| (1,118) | 1:9:A:LEU:HB2 | 1:9:A:LEU:H | 14 | 0.14 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 10 | 0.13 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 19 | 0.13 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 7 | 0.13 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 14 | 0.13 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 17 | 0.13 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 6 | 0.13 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 14 | 0.13 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 17 | 0.13 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG2 | 14 | 0.13 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG3 | 14 | 0.13 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG2 | 16 | 0.13 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG3 | 16 | 0.13 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 10 | 0.13 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 15 | 0.13 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 16 | 0.13 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 19 | 0.13 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD1 | 20 | 0.13 |
| (1,818) | 1:20:A:ALA:H | 1:3:A:TYR:HD2 | 20 | 0.13 |
| (1,749) | 1:8:A:ASN:H | 1:54:A:VAL:HB | 4 | 0.13 |
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 10 | 0.13 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 10 | 0.13 |
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 19 | 0.13 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 19 | 0.13 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 4 | 0.13 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 7 | 0.13 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 17 | 0.13 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD21 | 9 | 0.13 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD22 | 9 | 0.13 |
| (1,440) | 1:34:A:ALA:HB1 | 1:5:A:LEU:HD23 | 9 | 0.13 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD21 | 9 | 0.13 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD22 | 9 | 0.13 |
| (1,440) | 1:34:A:ALA:HB2 | 1:5:A:LEU:HD23 | 9 | 0.13 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD21 | 9 | 0.13 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD22 | 9 | 0.13 |
| (1,440) | 1:34:A:ALA:HB3 | 1:5:A:LEU:HD23 | 9 | 0.13 |
| (1,417) | 1:32:A:LEU:HB3 | 1:33:A:ILE:H | 12 | 0.13 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 5 | 0.13 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 5 | 0.13 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 18 | 0.13 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 18 | 0.13 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 1 | 0.13 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 2 | 0.13 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 6 | 0.13 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|----------------|----------|---------------|
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 17 | 0.13 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 15 | 0.12 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 3 | 0.12 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 6 | 0.12 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 9 | 0.12 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 15 | 0.12 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 16 | 0.12 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 19 | 0.12 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 5 | 0.12 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 14 | 0.12 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 15 | 0.12 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 12 | 0.12 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 13 | 0.12 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 4 | 0.12 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 7 | 0.12 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 9 | 0.12 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 18 | 0.12 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG2 | 7 | 0.12 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG3 | 7 | 0.12 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG2 | 17 | 0.12 |
| (1,875) | 1:29:A:TYR:H | 1:28:A:LYS:HG3 | 17 | 0.12 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB1 | 1 | 0.12 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB2 | 1 | 0.12 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB3 | 1 | 0.12 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB1 | 18 | 0.12 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB2 | 18 | 0.12 |
| (1,850) | 1:26:A:ALA:H | 1:20:A:ALA:HB3 | 18 | 0.12 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 5 | 0.12 |
| (1,817) | 1:20:A:ALA:H | 1:2:A:THR:HA | 9 | 0.12 |
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 6 | 0.12 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 6 | 0.12 |
| (1,512) | 1:43:A:TRP:HB2 | 1:54:A:VAL:HB | 17 | 0.12 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 6 | 0.12 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 11 | 0.12 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 15 | 0.12 |
| (1,480) | 1:41:A:GLY:HA2 | 1:41:A:GLY:H | 6 | 0.12 |
| (1,349) | 1:28:A:LYS:HB2 | 1:29:A:TYR:H | 11 | 0.12 |
| (1,349) | 1:28:A:LYS:HB3 | 1:29:A:TYR:H | 11 | 0.12 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 7 | 0.12 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 6 | 0.12 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 9 | 0.12 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 18 | 0.12 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 19 | 0.12 |
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 19 | 0.12 |
| (2,32) | 1:18:A:LYS:N | 1:3:A:TYR:O | 2 | 0.11 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 8 | 0.11 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 12 | 0.11 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 14 | 0.11 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 16 | 0.11 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 17 | 0.11 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 1 | 0.11 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 2 | 0.11 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 4 | 0.11 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 5 | 0.11 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 11 | 0.11 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 12 | 0.11 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 18 | 0.11 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 20 | 0.11 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 3 | 0.11 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 7 | 0.11 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 8 | 0.11 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 11 | 0.11 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 12 | 0.11 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 13 | 0.11 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 17 | 0.11 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 18 | 0.11 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 20 | 0.11 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 3 | 0.11 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 18 | 0.11 |
| (1,924) | 1:41:A:GLY:H | 1:40:A:GLU:HB2 | 5 | 0.11 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 5 | 0.11 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 10 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 4 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 4 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 4 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 7 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 7 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 7 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 8 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 8 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 8 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 9 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 9 | 0.11 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 9 | 0.11 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|----------------|----------|---------------|
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 5 | 0.11 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 5 | 0.11 |
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 9 | 0.11 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 9 | 0.11 |
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 15 | 0.11 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 15 | 0.11 |
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 16 | 0.11 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 16 | 0.11 |
| (1,651) | 1:54:A:VAL:HG21 | 1:41:A:GLY:HA3 | 8 | 0.11 |
| (1,651) | 1:54:A:VAL:HG22 | 1:41:A:GLY:HA3 | 8 | 0.11 |
| (1,651) | 1:54:A:VAL:HG23 | 1:41:A:GLY:HA3 | 8 | 0.11 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 1 | 0.11 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 2 | 0.11 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 8 | 0.11 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 11 | 0.11 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 13 | 0.11 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 20 | 0.11 |
| (1,524) | 1:45:A:TYR:HB3 | 1:45:A:TYR:H | 18 | 0.11 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 2 | 0.11 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 5 | 0.11 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 8 | 0.11 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 9 | 0.11 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 12 | 0.11 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 14 | 0.11 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 16 | 0.11 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 19 | 0.11 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 20 | 0.11 |
| (1,480) | 1:41:A:GLY:HA2 | 1:41:A:GLY:H | 10 | 0.11 |
| (1,480) | 1:41:A:GLY:HA2 | 1:41:A:GLY:H | 14 | 0.11 |
| (1,479) | 1:41:A:GLY:HA3 | 1:41:A:GLY:H | 20 | 0.11 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB2 | 9 | 0.11 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB3 | 9 | 0.11 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB2 | 17 | 0.11 |
| (1,437) | 1:34:A:ALA:HA | 1:37:A:LYS:HB3 | 17 | 0.11 |
| (1,358) | 1:29:A:TYR:HB2 | 1:26:A:ALA:HA | 14 | 0.11 |
| (1,358) | 1:29:A:TYR:HB2 | 1:26:A:ALA:HA | 16 | 0.11 |
| (1,330) | 1:27:A:GLU:HB3 | 1:27:A:GLU:H | 3 | 0.11 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 1 | 0.11 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 12 | 0.11 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 13 | 0.11 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 17 | 0.11 |
| (1,184) | 1:15:A:GLU:HB2 | 1:15:A:GLU:H | 14 | 0.11 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,184) | 1:15:A:GLU:HB3 | 1:15:A:GLU:H | 14 | 0.11 |
| (2,20) | 1:32:A:LEU:O | 1:36:A:ALA:N | 3 | 0.1 |
| (2,6) | 1:25:A:ILE:O | 1:29:A:TYR:N | 5 | 0.1 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 8 | 0.1 |
| (2,4) | 1:24:A:GLY:O | 1:28:A:LYS:N | 13 | 0.1 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 2 | 0.1 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 4 | 0.1 |
| (1,1066) | 1:30:A:PHE:HD1 | 1:52:A:PHE:HB3 | 16 | 0.1 |
| (1,925) | 1:41:A:GLY:H | 1:40:A:GLU:H | 11 | 0.1 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 12 | 0.1 |
| (1,908) | 1:34:A:ALA:H | 1:43:A:TRP:HZ2 | 20 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 10 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 10 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 10 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 13 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 13 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 13 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 15 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 15 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 15 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 18 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 18 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 18 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD11 | 20 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD12 | 20 | 0.1 |
| (1,903) | 1:33:A:ILE:H | 1:33:A:ILE:HD13 | 20 | 0.1 |
| (1,837) | 1:23:A:ALA:H | 1:22:A:ASP:H | 11 | 0.1 |
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 12 | 0.1 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 12 | 0.1 |
| (1,697) | 1:52:A:PHE:HD1 | 1:30:A:PHE:HD1 | 14 | 0.1 |
| (1,697) | 1:52:A:PHE:HD2 | 1:30:A:PHE:HD1 | 14 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 3 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 4 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 5 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 6 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 7 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 10 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 12 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 15 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 18 | 0.1 |
| (1,642) | 1:54:A:VAL:HB | 1:54:A:VAL:H | 19 | 0.1 |
| (1,524) | 1:45:A:TYR:HB3 | 1:45:A:TYR:H | 4 | 0.1 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,524) | 1:45:A:TYR:HB3 | 1:45:A:TYR:H | 7 | 0.1 |
| (1,524) | 1:45:A:TYR:HB3 | 1:45:A:TYR:H | 9 | 0.1 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 1 | 0.1 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 10 | 0.1 |
| (1,507) | 1:43:A:TRP:HB2 | 1:43:A:TRP:HD1 | 13 | 0.1 |
| (1,479) | 1:41:A:GLY:HA3 | 1:41:A:GLY:H | 13 | 0.1 |
| (1,358) | 1:29:A:TYR:HB2 | 1:26:A:ALA:HA | 12 | 0.1 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 10 | 0.1 |
| (1,221) | 1:18:A:LYS:HA | 1:17:A:ILE:HB | 11 | 0.1 |
| (1,147) | 1:11:A:GLN:HG2 | 1:11:A:GLN:H | 4 | 0.1 |
| (1,147) | 1:11:A:GLN:HG3 | 1:11:A:GLN:H | 4 | 0.1 |
| (1,109) | 1:9:A:LEU:HB3 | 1:9:A:LEU:HA | 13 | 0.1 |

10 Dihedral-angle violation analysis [i](#)

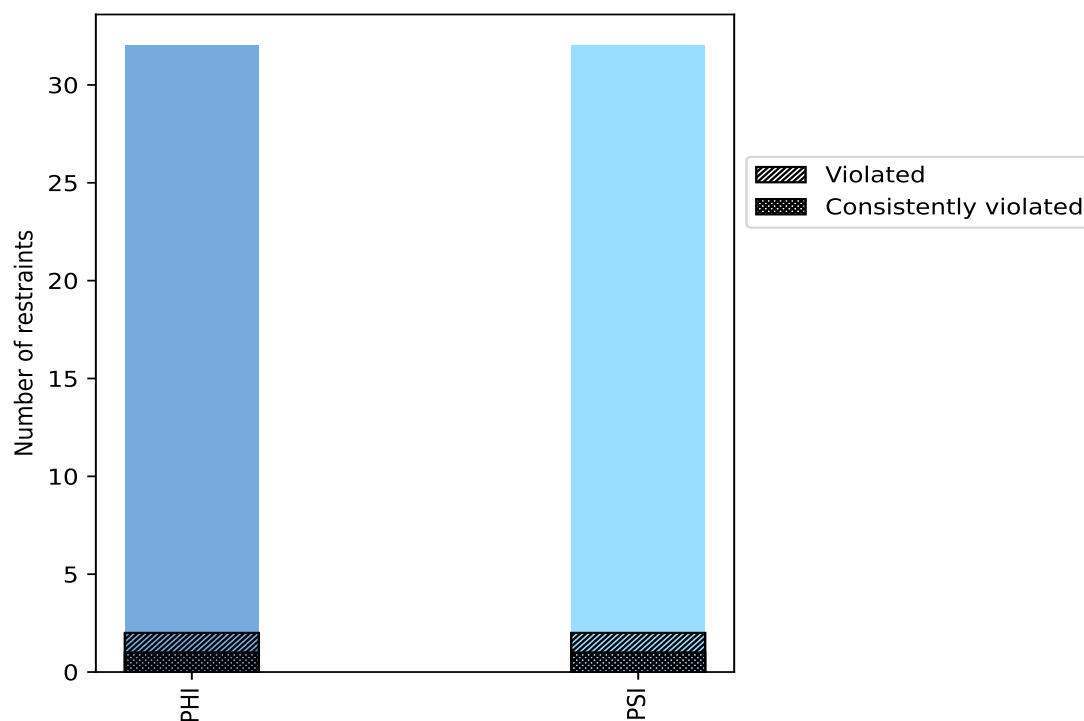
10.1 Summary of dihedral-angle violations [i](#)

The following table provides the summary of dihedral-angle violations in different dihedral-angle types. Violations less than 1° are not included in the calculation.

| Angle type | Count | % ¹ | Violated ³ | | | Consistently Violated ⁴ | | |
|------------|-------|----------------|-----------------------|----------------|----------------|------------------------------------|----------------|----------------|
| | | | Count | % ² | % ¹ | Count | % ² | % ¹ |
| PHI | 32 | 50.0 | 2 | 6.2 | 3.1 | 1 | 3.1 | 1.6 |
| PSI | 32 | 50.0 | 2 | 6.2 | 3.1 | 1 | 3.1 | 1.6 |
| Total | 64 | 100.0 | 4 | 6.2 | 6.2 | 2 | 3.1 | 3.1 |

¹ percentage calculated with respect to total number of dihedral-angle restraints, ² percentage calculated with respect to number of restraints in a particular dihedral-angle type, ³ violated in at least one model, ⁴ violated in all the models

10.1.1 Bar chart : Distribution of dihedral-angles and violations [i](#)



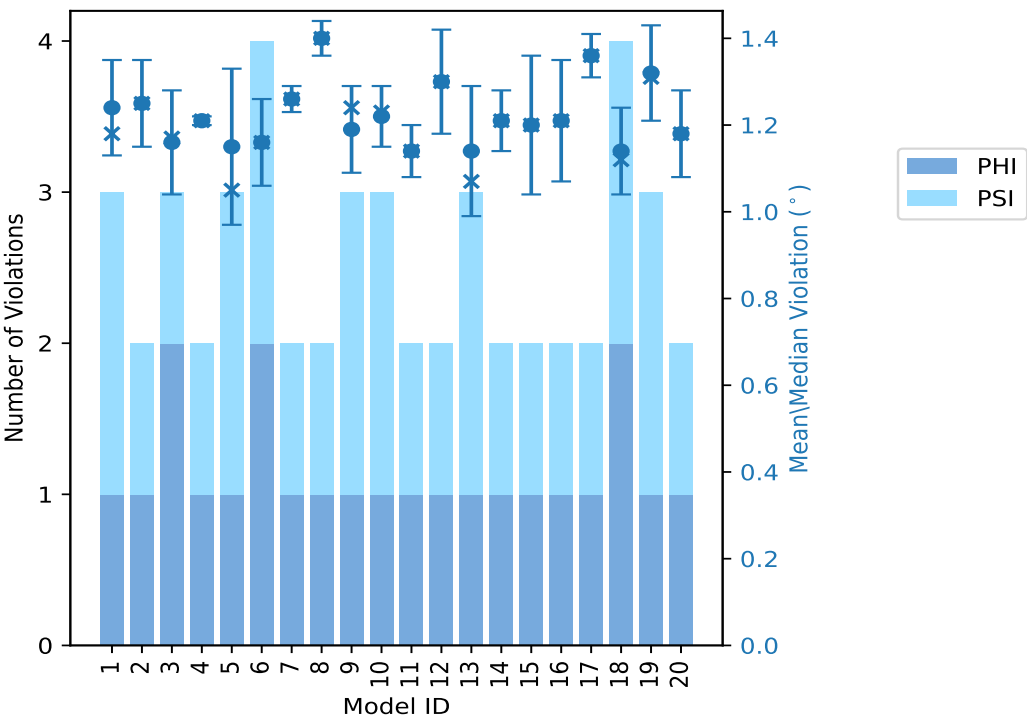
Violated and consistently violated restraints are shown using different hatch patterns in their respective categories

10.2 Dihedral-angle violation statistics for each model

The following table provides the dihedral-angle violation statistics for each model in the ensemble. Violations less than 1° are not included in the statistics.

| Model ID | Number of violations | | | Mean (°) | Max (°) | SD (°) | Median (°) |
|----------|----------------------|-----|-------|----------|---------|--------|------------|
| | PHI | PSI | Total | | | | |
| 1 | 1 | 2 | 3 | 1.24 | 1.39 | 0.11 | 1.18 |
| 2 | 1 | 1 | 2 | 1.25 | 1.34 | 0.1 | 1.25 |
| 3 | 2 | 1 | 3 | 1.16 | 1.31 | 0.12 | 1.17 |
| 4 | 1 | 1 | 2 | 1.21 | 1.22 | 0.01 | 1.21 |
| 5 | 1 | 2 | 3 | 1.15 | 1.41 | 0.18 | 1.05 |
| 6 | 2 | 2 | 4 | 1.16 | 1.29 | 0.1 | 1.16 |
| 7 | 1 | 1 | 2 | 1.26 | 1.29 | 0.03 | 1.26 |
| 8 | 1 | 1 | 2 | 1.4 | 1.44 | 0.04 | 1.4 |
| 9 | 1 | 2 | 3 | 1.19 | 1.28 | 0.1 | 1.24 |
| 10 | 1 | 2 | 3 | 1.22 | 1.3 | 0.07 | 1.23 |
| 11 | 1 | 1 | 2 | 1.14 | 1.2 | 0.06 | 1.14 |
| 12 | 1 | 1 | 2 | 1.3 | 1.42 | 0.12 | 1.3 |
| 13 | 1 | 2 | 3 | 1.14 | 1.35 | 0.15 | 1.07 |
| 14 | 1 | 1 | 2 | 1.21 | 1.28 | 0.07 | 1.21 |
| 15 | 1 | 1 | 2 | 1.2 | 1.36 | 0.16 | 1.2 |
| 16 | 1 | 1 | 2 | 1.21 | 1.35 | 0.14 | 1.21 |
| 17 | 1 | 1 | 2 | 1.36 | 1.41 | 0.05 | 1.36 |
| 18 | 2 | 2 | 4 | 1.14 | 1.28 | 0.1 | 1.12 |
| 19 | 1 | 2 | 3 | 1.32 | 1.47 | 0.11 | 1.31 |
| 20 | 1 | 1 | 2 | 1.18 | 1.29 | 0.1 | 1.18 |

10.2.1 Bar graph : Dihedral violation statistics for each model [i](#)



The mean(dot),median(x) and the standard deviation are shown in blue with respect to the y axis on the right

10.3 Dihedral-angle violation statistics for the ensemble [i](#)

Violation analysis may find that some restraints are violated in very few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of ensemble.

| Number of violated restraints | | | Fraction of the ensemble | |
|-------------------------------|-----|-------|--------------------------|------|
| PHI | PSI | Total | Count ¹ | % |
| 0 | 0 | 0 | 1 | 5.0 |
| 0 | 0 | 0 | 2 | 10.0 |
| 1 | 0 | 1 | 3 | 15.0 |
| 0 | 0 | 0 | 4 | 20.0 |
| 0 | 0 | 0 | 5 | 25.0 |
| 0 | 0 | 0 | 6 | 30.0 |
| 0 | 0 | 0 | 7 | 35.0 |
| 0 | 1 | 1 | 8 | 40.0 |
| 0 | 0 | 0 | 9 | 45.0 |
| 0 | 0 | 0 | 10 | 50.0 |
| 0 | 0 | 0 | 11 | 55.0 |

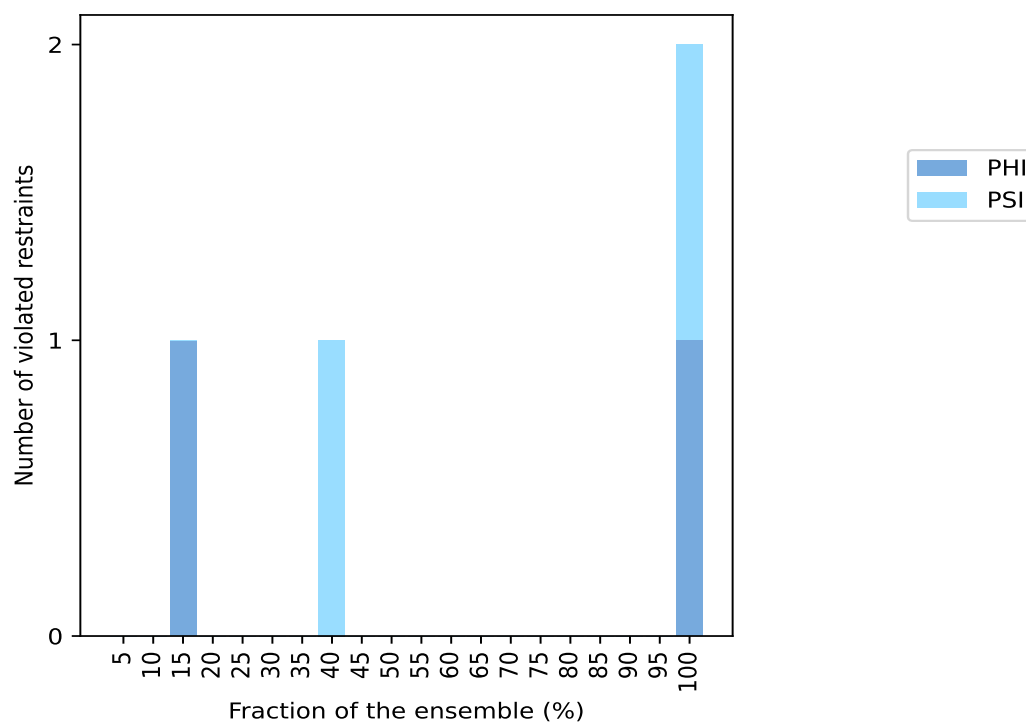
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| Number of violated restraints | | | Fraction of the ensemble | |
|-------------------------------|-----|-------|--------------------------|-------|
| PHI | PSI | Total | Count ¹ | % |
| 0 | 0 | 0 | 12 | 60.0 |
| 0 | 0 | 0 | 13 | 65.0 |
| 0 | 0 | 0 | 14 | 70.0 |
| 0 | 0 | 0 | 15 | 75.0 |
| 0 | 0 | 0 | 16 | 80.0 |
| 0 | 0 | 0 | 17 | 85.0 |
| 0 | 0 | 0 | 18 | 90.0 |
| 0 | 0 | 0 | 19 | 95.0 |
| 1 | 1 | 2 | 20 | 100.0 |

¹ Number of models with violations

10.3.1 Bar graph : Dihedral-angle Violation statistics for the ensemble ⓘ

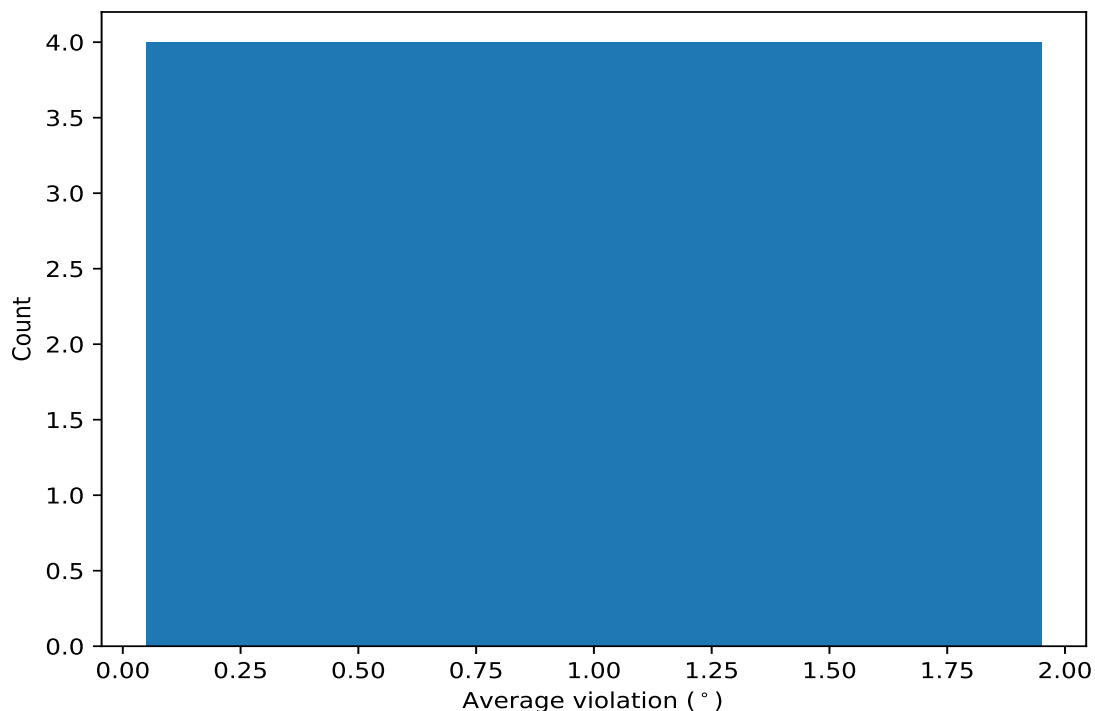


10.4 Most violated dihedral-angle restraints in the ensemble ⓘ

10.4.1 Histogram : Distribution of mean dihedral-angle violations ⓘ

The following histogram shows the distribution of the average value of the violation. The average is calculated for each restraint that is violated in more than one model over all the violated models

in the ensemble



10.4.2 Table: Most violated dihedral-angle restraints [i](#)

The following table provides the mean and the standard deviation of the violation for each restraint sorted by number of violated models and the mean value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint.

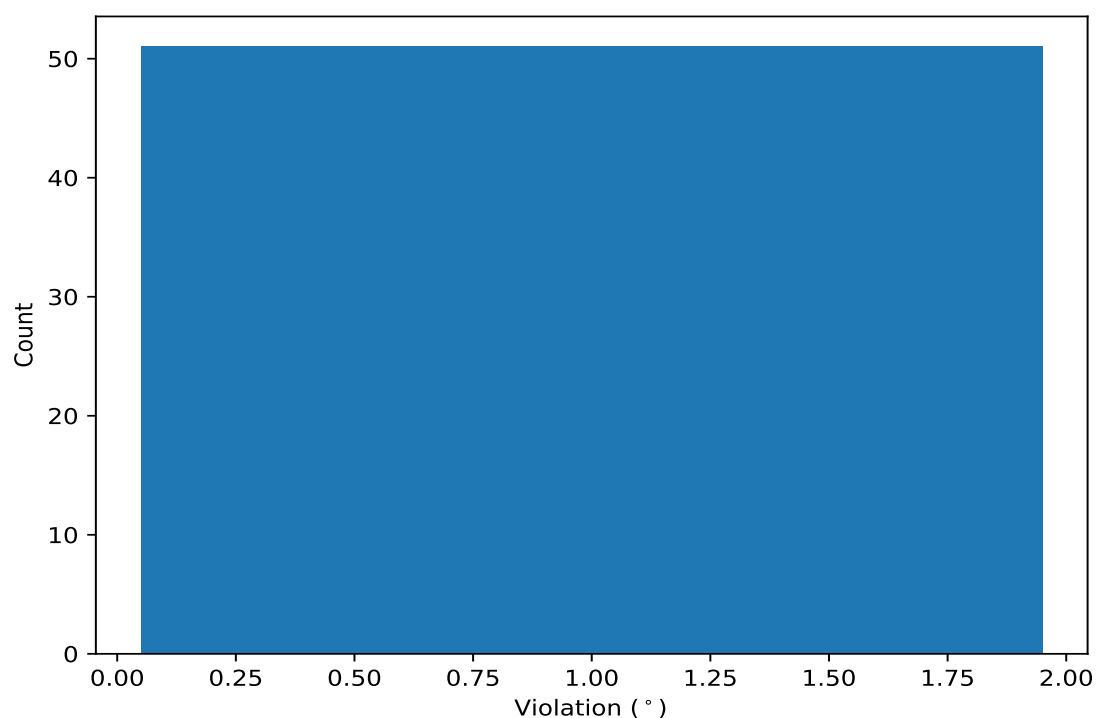
| Key | Atom-1 | Atom-2 | Atom-3 | Atom-4 | Models ¹ | Mean | SD ² | Median |
|--------|--------------|--------------|---------------|--------------|---------------------|------|-----------------|--------|
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 20 | 1.31 | 0.09 | 1.32 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 20 | 1.2 | 0.11 | 1.19 |
| (1,6) | 1:6:A:ILE:N | 1:6:A:ILE:CA | 1:6:A:ILE:C | 1:7:A:LEU:N | 8 | 1.09 | 0.06 | 1.09 |
| (1,61) | 1:53:A:THR:C | 1:54:A:VAL:N | 1:54:A:VAL:CA | 1:54:A:VAL:C | 3 | 1.02 | 0.01 | 1.01 |

¹ Number of violated models, ²Standard deviation, All angle values are in degree (°)

10.5 All violated dihedral-angle restraints [i](#)

10.5.1 Histogram : Distribution of violations [i](#)

The following histogram shows the distribution of the absolute value of the violation for all violated restraints in the ensemble.



10.5.2 Table: All violated dihedral-angle restraints [i](#)

The following table lists the absolute value of the violation for each restraint in the ensemble sorted by its value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint.

| Key | Atom-1 | Atom-2 | Atom-3 | Atom-4 | Model ID | Violation (°) |
|--------|--------------|--------------|---------------|--------------|----------|---------------|
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 19 | 1.47 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 8 | 1.44 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 12 | 1.42 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 5 | 1.41 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 17 | 1.41 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 1 | 1.39 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 15 | 1.36 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 8 | 1.35 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 13 | 1.35 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 16 | 1.35 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 2 | 1.34 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 3 | 1.31 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 17 | 1.31 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 19 | 1.31 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 10 | 1.3 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 6 | 1.29 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 7 | 1.29 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 20 | 1.29 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 14 | 1.28 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 9 | 1.28 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 18 | 1.28 |

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| Key | Atom-1 | Atom-2 | Atom-3 | Atom-4 | Model ID | Violation (°) |
|--------|--------------|--------------|---------------|--------------|----------|---------------|
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 9 | 1.24 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 7 | 1.23 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 10 | 1.23 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 4 | 1.22 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 6 | 1.22 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 4 | 1.21 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 11 | 1.2 |
| (1,6) | 1:6:A:ILE:N | 1:6:A:ILE:CA | 1:6:A:ILE:C | 1:7:A:LEU:N | 19 | 1.19 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 1 | 1.18 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 12 | 1.18 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 3 | 1.17 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 18 | 1.16 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 2 | 1.15 |
| (1,4) | 1:5:A:LEU:N | 1:5:A:LEU:CA | 1:5:A:LEU:C | 1:6:A:ILE:N | 14 | 1.15 |
| (1,6) | 1:6:A:ILE:N | 1:6:A:ILE:CA | 1:6:A:ILE:C | 1:7:A:LEU:N | 1 | 1.14 |
| (1,6) | 1:6:A:ILE:N | 1:6:A:ILE:CA | 1:6:A:ILE:C | 1:7:A:LEU:N | 10 | 1.13 |
| (1,6) | 1:6:A:ILE:N | 1:6:A:ILE:CA | 1:6:A:ILE:C | 1:7:A:LEU:N | 6 | 1.09 |
| (1,6) | 1:6:A:ILE:N | 1:6:A:ILE:CA | 1:6:A:ILE:C | 1:7:A:LEU:N | 18 | 1.09 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 20 | 1.08 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 11 | 1.07 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 13 | 1.07 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 16 | 1.07 |
| (1,6) | 1:6:A:ILE:N | 1:6:A:ILE:CA | 1:6:A:ILE:C | 1:7:A:LEU:N | 5 | 1.05 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 15 | 1.04 |
| (1,6) | 1:6:A:ILE:N | 1:6:A:ILE:CA | 1:6:A:ILE:C | 1:7:A:LEU:N | 9 | 1.04 |
| (1,61) | 1:53:A:THR:C | 1:54:A:VAL:N | 1:54:A:VAL:CA | 1:54:A:VAL:C | 6 | 1.03 |
| (1,61) | 1:53:A:THR:C | 1:54:A:VAL:N | 1:54:A:VAL:CA | 1:54:A:VAL:C | 3 | 1.01 |
| (1,61) | 1:53:A:THR:C | 1:54:A:VAL:N | 1:54:A:VAL:CA | 1:54:A:VAL:C | 18 | 1.01 |
| (1,6) | 1:6:A:ILE:N | 1:6:A:ILE:CA | 1:6:A:ILE:C | 1:7:A:LEU:N | 13 | 1.01 |
| (1,59) | 1:52:A:PHE:C | 1:53:A:THR:N | 1:53:A:THR:CA | 1:53:A:THR:C | 5 | 1.0 |