



Full wwPDB NMR Structure Validation Report ⓘ

Jun 4, 2023 – 04:19 AM EDT

PDB ID : 2LHS
BMRB ID : 17160
Title : Structure of the chitin binding protein 21 (CBP21)
Authors : Aachmann, F.L.; Eijsink, V.G.; Vaaje-Kolstad, G.
Deposited on : 2011-08-15

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with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
wwPDB-RCI : v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV : Wang et al. (2010)
wwPDB-ShiftChecker : v1.2
BMRB Restraints Analysis : v1.2
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.33

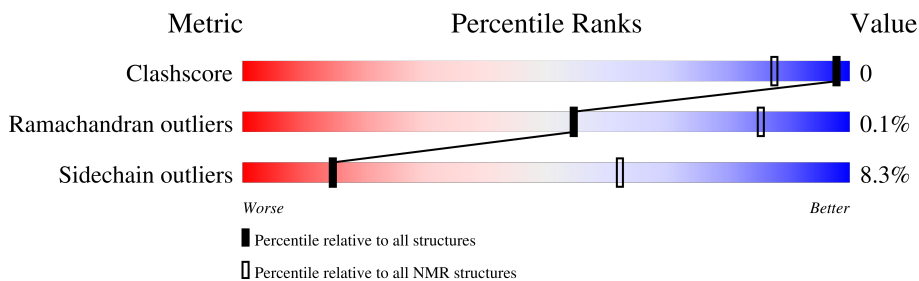
1 Overall quality at a glance

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 | 158937 | 12864 |
| Ramachandran outliers | 154571 | 11451 |
| Sidechain outliers | 154315 | 11428 |

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

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 170 | 91% 9% |

2 Ensemble composition and analysis

This entry contains 20 models. Model 5 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *fewest violations*.

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:1-A:170 (170) | 0.30 | 5 |

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

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

The models can be grouped into 2 clusters and 5 single-model clusters were found.

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

3 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 2593 atoms, of which 1264 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called CBP21.

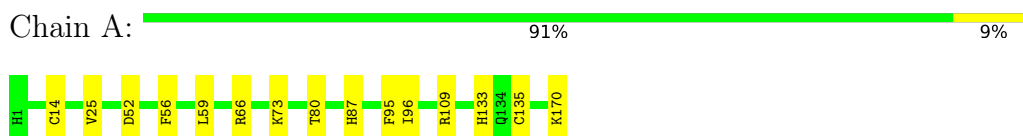
| Mol | Chain | Residues | Atoms | | | | | | Trace |
|-----|-------|----------|-------|-----|------|-----|-----|---|-------|
| | | | Total | C | H | N | O | S | |
| 1 | A | 170 | 2593 | 838 | 1264 | 233 | 254 | 4 | 0 |

4 Residue-property plots

4.1 Average score per residue in the NMR ensemble

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

- Molecule 1: CBP21

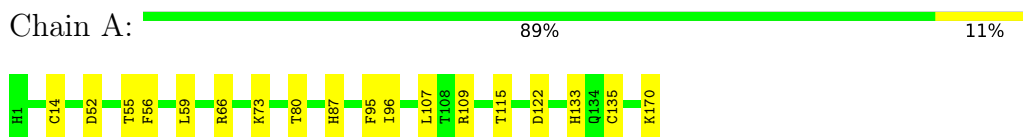


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

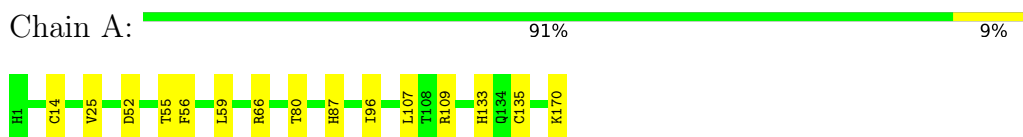
4.2.1 Score per residue for model 1

- Molecule 1: CBP21



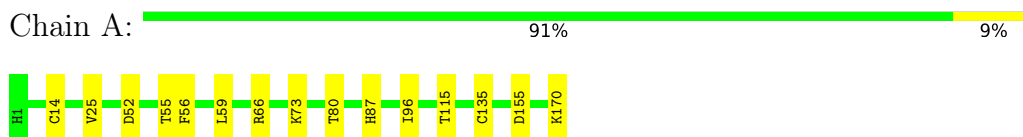
4.2.2 Score per residue for model 2

- Molecule 1: CBP21



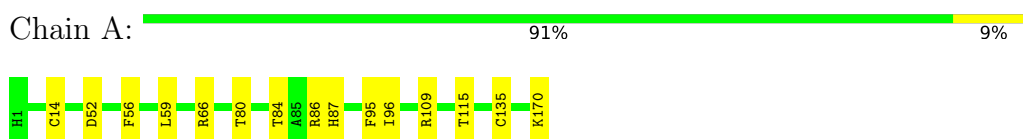
4.2.3 Score per residue for model 3

- Molecule 1: CBP21



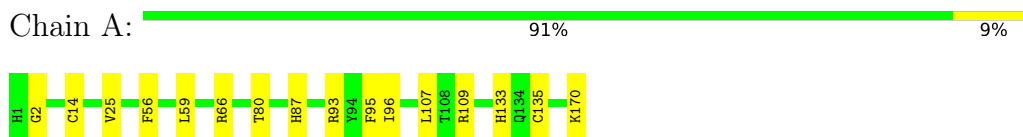
4.2.4 Score per residue for model 4

- Molecule 1: CBP21



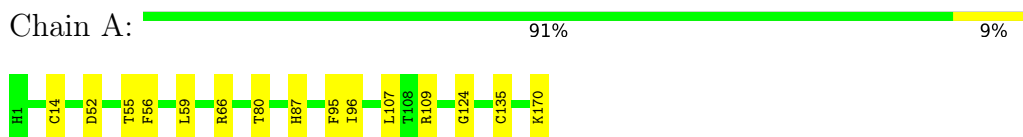
4.2.5 Score per residue for model 5 (medoid)

- Molecule 1: CBP21



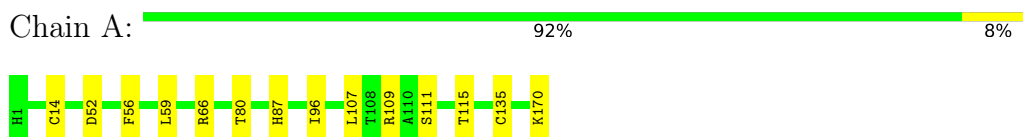
4.2.6 Score per residue for model 6

- Molecule 1: CBP21



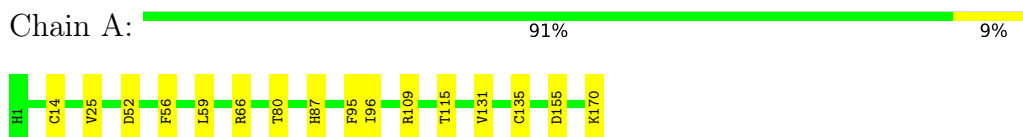
4.2.7 Score per residue for model 7

- Molecule 1: CBP21



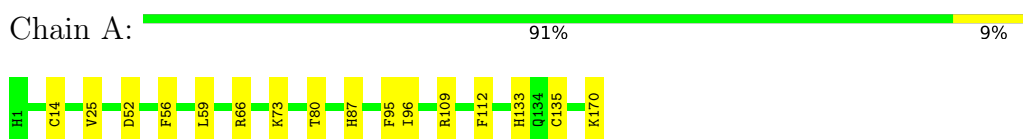
4.2.8 Score per residue for model 8

- Molecule 1: CBP21



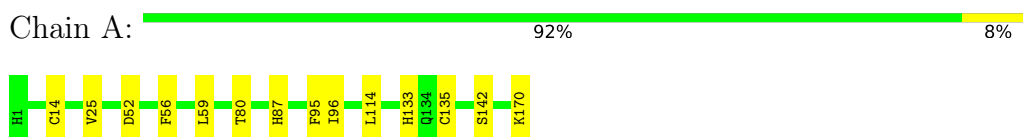
4.2.9 Score per residue for model 9

- Molecule 1: CBP21



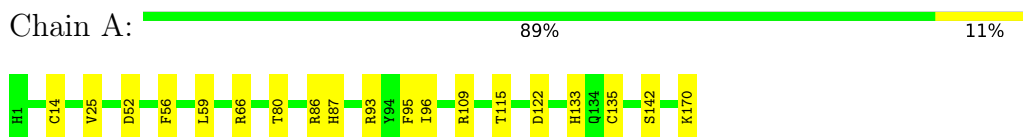
4.2.10 Score per residue for model 10

- Molecule 1: CBP21



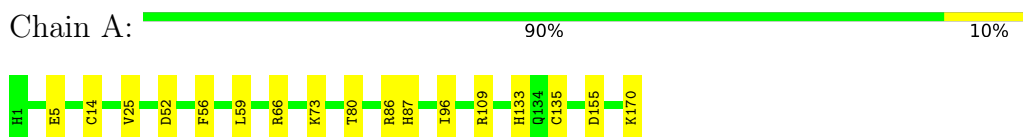
4.2.11 Score per residue for model 11

- Molecule 1: CBP21



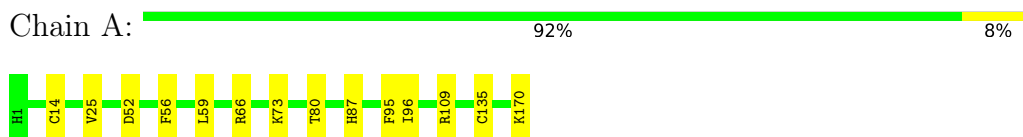
4.2.12 Score per residue for model 12

- Molecule 1: CBP21



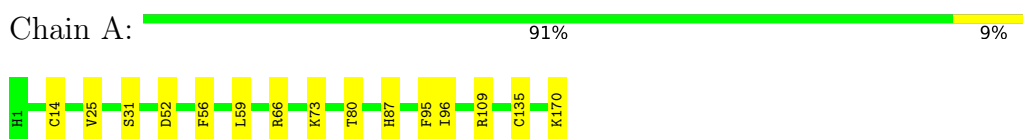
4.2.13 Score per residue for model 13

- Molecule 1: CBP21



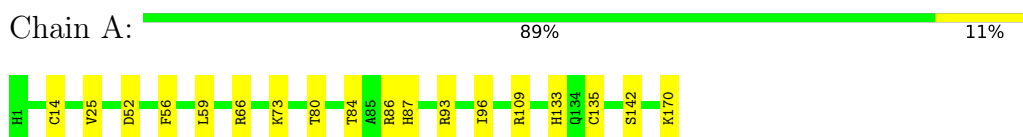
4.2.14 Score per residue for model 14

- Molecule 1: CBP21



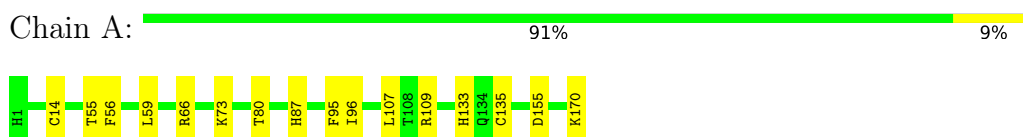
4.2.15 Score per residue for model 15

- Molecule 1: CBP21



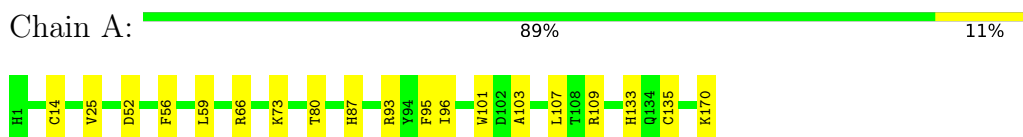
4.2.16 Score per residue for model 16

- Molecule 1: CBP21



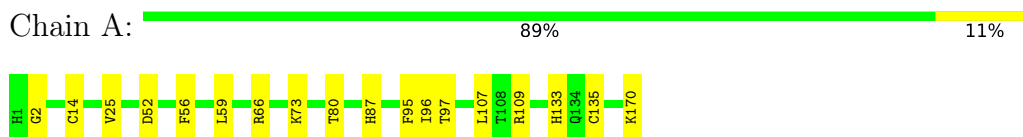
4.2.17 Score per residue for model 17

- Molecule 1: CBP21



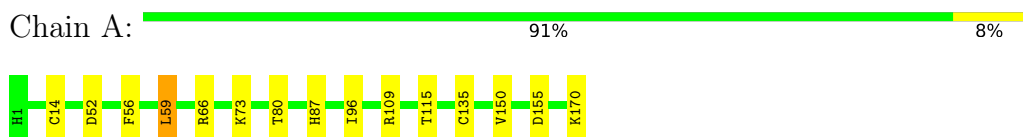
4.2.18 Score per residue for model 18

- Molecule 1: CBP21



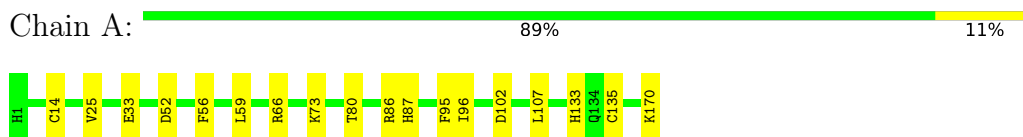
4.2.19 Score per residue for model 19

- Molecule 1: CBP21



4.2.20 Score per residue for model 20

- Molecule 1: CBP21



5 Refinement protocol and experimental data overview

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

Of the 256 calculated structures, 20 were deposited, based on the following criterion: *target function*.

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

| Software name | Classification | Version |
|---------------|--------------------|---------|
| CYANA | structure solution | 3.0 |
| YASARA | refinement | |
| CYANA | 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 | 1871 |
| Number of shifts mapped to atoms | 1871 |
| 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](#)

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|-----------------------|-------------|-----------------------|
| | | RMSZ | #Z>5 | RMSZ | #Z>5 |
| 1 | A | 0.68±0.00 | 0±0/1368 (0.0± 0.0%) | 0.77±0.01 | 3±1/1866 (0.1± 0.1%) |
| All | All | 0.68 | 0/27360 (0.0%) | 0.77 | 55/37320 (0.1%) |

There are no bond-length outliers.

All unique angle outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) | Models | |
|-----|-------|-----|------|-----------|-------|-------------|----------|--------|-------|
| | | | | | | | | Worst | Total |
| 1 | A | 109 | ARG | NE-CZ-NH1 | 6.08 | 123.34 | 120.30 | 9 | 17 |
| 1 | A | 109 | ARG | NE-CZ-NH2 | -5.92 | 117.34 | 120.30 | 9 | 10 |
| 1 | A | 66 | ARG | NE-CZ-NH1 | 5.90 | 123.25 | 120.30 | 9 | 18 |
| 1 | A | 93 | ARG | NE-CZ-NH1 | 5.47 | 123.03 | 120.30 | 11 | 3 |
| 1 | A | 86 | ARG | NE-CZ-NH1 | 5.38 | 122.99 | 120.30 | 11 | 5 |
| 1 | A | 2 | GLY | N-CA-C | -5.28 | 99.90 | 113.10 | 18 | 2 |

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 | 1329 | 1264 | 1259 | 1±0 |
| All | All | 26580 | 25280 | 25180 | 21 |

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 0.

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

| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:56:PHE:HA | 1:A:59:LEU:HD13 | 0.53 | 1.79 | 2 | 20 |
| 1:A:101:TRP:CZ3 | 1:A:103:ALA:HA | 0.40 | 2.51 | 17 | 1 |

6.3 Torsion angles [i](#)

6.3.1 Protein backbone [i](#)

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|---------------|------------|------------|-------------|----|
| 1 | A | 168/170 (99%) | 160±1 (95±0%) | 8±1 (5±1%) | 0±0 (0±0%) | 54 | 85 |
| All | All | 3360/3400 (99%) | 3196 (95%) | 162 (5%) | 2 (0%) | 54 | 85 |

All 2 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 | 124 | GLY | 1 |
| 1 | A | 114 | LEU | 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 | 142/142 (100%) | 130±1 (92±1%) | 12±1 (8±1%) | 15 | 62 |
| All | All | 2840/2840 (100%) | 2605 (92%) | 235 (8%) | 15 | 62 |

All 30 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 | 14 | CYS | 20 |
| 1 | A | 80 | THR | 20 |
| 1 | A | 87 | HIS | 20 |
| 1 | A | 96 | ILE | 20 |
| 1 | A | 135 | CYS | 20 |
| 1 | A | 170 | LYS | 20 |
| 1 | A | 52 | ASP | 18 |
| 1 | A | 95 | PHE | 14 |
| 1 | A | 25 | VAL | 14 |
| 1 | A | 73 | LYS | 12 |
| 1 | A | 133 | HIS | 12 |
| 1 | A | 107 | LEU | 9 |
| 1 | A | 115 | THR | 7 |
| 1 | A | 55 | THR | 5 |
| 1 | A | 155 | ASP | 5 |
| 1 | A | 142 | SER | 3 |
| 1 | A | 122 | ASP | 2 |
| 1 | A | 84 | THR | 2 |
| 1 | A | 93 | ARG | 1 |
| 1 | A | 111 | SER | 1 |
| 1 | A | 131 | VAL | 1 |
| 1 | A | 112 | PHE | 1 |
| 1 | A | 5 | GLU | 1 |
| 1 | A | 31 | SER | 1 |
| 1 | A | 97 | THR | 1 |
| 1 | A | 59 | LEU | 1 |
| 1 | A | 66 | ARG | 1 |
| 1 | A | 150 | VAL | 1 |
| 1 | A | 33 | GLU | 1 |
| 1 | A | 102 | ASP | 1 |

6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

6.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.6 Ligand geometry [i](#)

There are no ligands in this entry.

6.7 Other polymers [i](#)

There are no such molecules in this entry.

6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

7 Chemical shift validation [i](#)

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 [i](#)

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 | 1871 |
| Number of shifts mapped to atoms | 1871 |
| Number of unparsed shifts | 0 |
| Number of shifts with mapping errors | 0 |
| Number of shifts with mapping warnings | 0 |
| Number of shift outliers (ShiftChecker) | 15 |

7.1.2 Chemical shift referencing [i](#)

The following table shows the suggested chemical shift referencing corrections.

| Nucleus | # values | Correction \pm precision, ppm | Suggested action |
|------------------------|----------|---------------------------------|-------------------------|
| $^{13}\text{C}_\alpha$ | 169 | 0.20 ± 0.09 | None needed (< 0.5 ppm) |
| $^{13}\text{C}_\beta$ | 159 | 0.19 ± 0.17 | None needed (< 0.5 ppm) |
| $^{13}\text{C}'$ | 168 | 0.41 ± 0.14 | None needed (< 0.5 ppm) |
| ^{15}N | 153 | -0.96 ± 0.34 | Should be applied |

7.1.3 Completeness of resonance assignments [i](#)

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. 1871 atoms were assigned a chemical shift out of a possible 2231. 0 out of 18 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ^1H | ^{13}C | ^{15}N |
|-----------|----------------|---------------|-----------------|-----------------|
| Backbone | 822/838 (98%) | 332/339 (98%) | 337/340 (99%) | 153/159 (96%) |
| Sidechain | 984/1158 (85%) | 651/751 (87%) | 311/359 (87%) | 22/48 (46%) |

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| | Total | ¹ H | ¹³ C | ¹⁵ N |
|----------|-----------------|-----------------|-----------------|-----------------|
| Aromatic | 65/235 (28%) | 53/115 (46%) | 7/105 (7%) | 5/15 (33%) |
| Overall | 1871/2231 (84%) | 1036/1205 (86%) | 655/804 (81%) | 180/222 (81%) |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 84%, i.e. 1871 atoms were assigned a chemical shift out of a possible 2231. 0 out of 18 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ¹ H | ¹³ C | ¹⁵ N |
|-----------|-----------------|-----------------|-----------------|-----------------|
| Backbone | 822/838 (98%) | 332/339 (98%) | 337/340 (99%) | 153/159 (96%) |
| Sidechain | 984/1158 (85%) | 651/751 (87%) | 311/359 (87%) | 22/48 (46%) |
| Aromatic | 65/235 (28%) | 53/115 (46%) | 7/105 (7%) | 5/15 (33%) |
| Overall | 1871/2231 (84%) | 1036/1205 (86%) | 655/804 (81%) | 180/222 (81%) |

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.

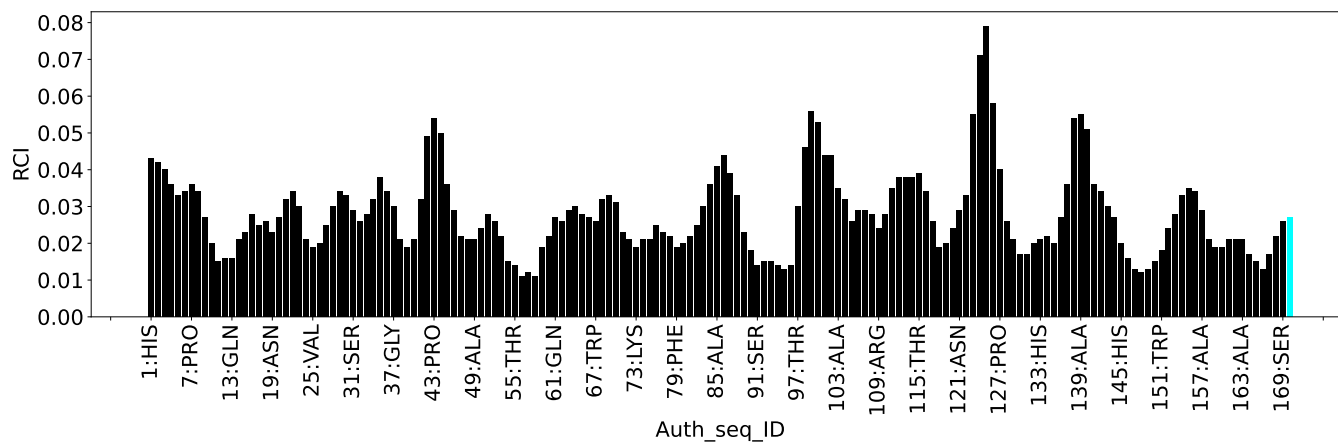
| List Id | Chain | Res | Type | Atom | Shift, ppm | Expected range, ppm | Z-score |
|---------|-------|-----|------|------|------------|---------------------|---------|
| 1 | A | 66 | ARG | HG3 | -1.08 | 0.15 – 2.94 | -9.4 |
| 1 | A | 164 | ILE | CD1 | 28.60 | 5.18 – 21.60 | 9.3 |
| 1 | A | 30 | GLN | CG | 42.80 | 28.36 – 39.21 | 8.3 |
| 1 | A | 97 | THR | HG21 | -0.43 | 0.08 – 2.19 | -7.4 |
| 1 | A | 97 | THR | HG22 | -0.43 | 0.08 – 2.19 | -7.4 |
| 1 | A | 97 | THR | HG23 | -0.43 | 0.08 – 2.19 | -7.4 |
| 1 | A | 54 | SER | HA | 1.58 | 2.50 – 6.44 | -7.3 |
| 1 | A | 29 | PRO | CD | 44.30 | 45.11 – 55.58 | -5.8 |
| 1 | A | 58 | GLU | H | 11.40 | 5.45 – 11.20 | 5.3 |
| 1 | A | 4 | VAL | HG21 | -0.66 | -0.58 – 2.19 | -5.3 |
| 1 | A | 4 | VAL | HG22 | -0.66 | -0.58 – 2.19 | -5.3 |
| 1 | A | 4 | VAL | HG23 | -0.66 | -0.58 – 2.19 | -5.3 |
| 1 | A | 153 | ILE | HD11 | -0.74 | -0.72 – 2.09 | -5.1 |
| 1 | A | 153 | ILE | HD12 | -0.74 | -0.72 – 2.09 | -5.1 |
| 1 | A | 153 | ILE | HD13 | -0.74 | -0.72 – 2.09 | -5.1 |

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 | 3242 |
| Intra-residue ($ i-j =0$) | 1901 |
| Sequential ($ i-j =1$) | 633 |
| Medium range ($ i-j >1$ and $ i-j <5$) | 172 |
| Long range ($ i-j \geq 5$) | 536 |
| Inter-chain | 0 |
| Hydrogen bond restraints | 0 |
| Disulfide bond restraints | 0 |
| Total dihedral-angle restraints | 0 |
| Number of unmapped restraints | 0 |
| Number of restraints per residue | 19.1 |
| Number of long range restraints per residue ¹ | 3.2 |

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) | 24.0 | 0.2 |
| 0.2-0.5 (Medium) | 28.1 | 0.5 |
| >0.5 (Large) | 41.3 | 1.74 |

8.2.2 Average number of dihedral-angle violations per model

Dihedral-angle violations less than 1° are not included in the calculation. There are no dihedral-angle violations

9 Distance violation analysis

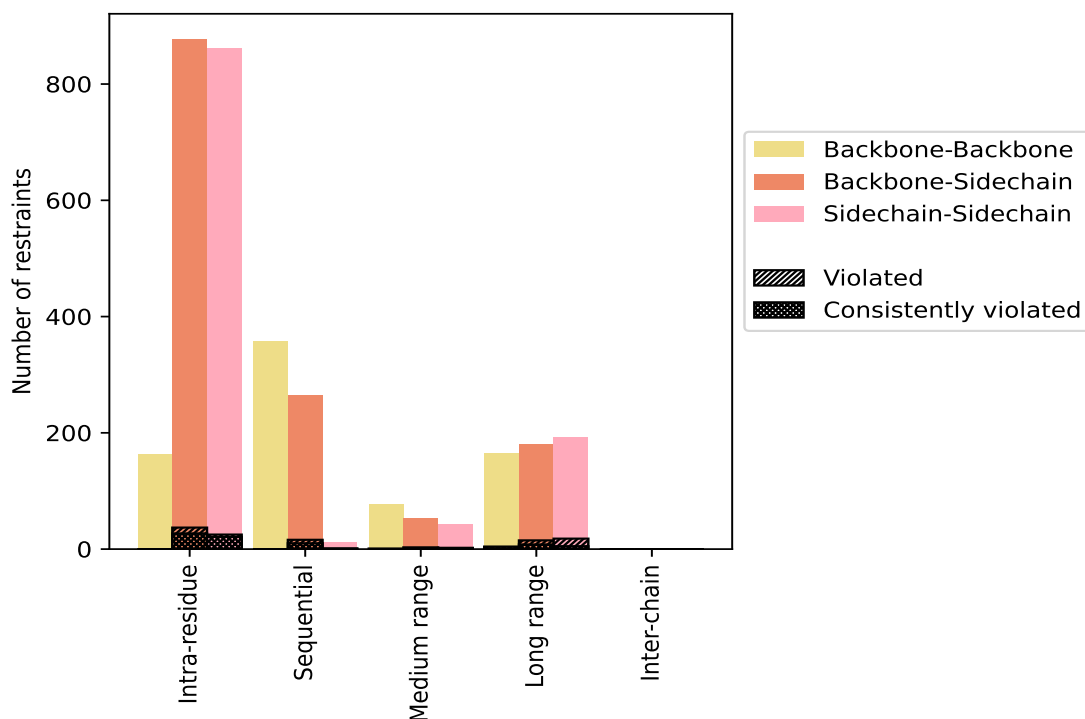
9.1 Summary of distance violations

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 ($i-j =0$) | 1901 | 58.6 | 62 | 3.3 | 1.9 | 48 | 2.5 | 1.5 |
| Backbone-Backbone | 163 | 5.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 877 | 27.1 | 37 | 4.2 | 1.1 | 27 | 3.1 | 0.8 |
| Sidechain-Sidechain | 861 | 26.6 | 25 | 2.9 | 0.8 | 21 | 2.4 | 0.6 |
| Sequential ($i-j =1$) | 633 | 19.5 | 17 | 2.7 | 0.5 | 11 | 1.7 | 0.3 |
| Backbone-Backbone | 357 | 11.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 264 | 8.1 | 16 | 6.1 | 0.5 | 10 | 3.8 | 0.3 |
| Sidechain-Sidechain | 12 | 0.4 | 1 | 8.3 | 0.0 | 1 | 8.3 | 0.0 |
| Medium range ($i-j >1$ & $i-j <5$) | 172 | 5.3 | 6 | 3.5 | 0.2 | 2 | 1.2 | 0.1 |
| Backbone-Backbone | 77 | 2.4 | 1 | 1.3 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 53 | 1.6 | 3 | 5.7 | 0.1 | 0 | 0.0 | 0.0 |
| Sidechain-Sidechain | 42 | 1.3 | 2 | 4.8 | 0.1 | 2 | 4.8 | 0.1 |
| Long range ($i-j \geq 5$) | 536 | 16.5 | 37 | 6.9 | 1.1 | 17 | 3.2 | 0.5 |
| Backbone-Backbone | 164 | 5.1 | 4 | 2.4 | 0.1 | 4 | 2.4 | 0.1 |
| Backbone-Sidechain | 180 | 5.6 | 15 | 8.3 | 0.5 | 8 | 4.4 | 0.2 |
| Sidechain-Sidechain | 192 | 5.9 | 18 | 9.4 | 0.6 | 5 | 2.6 | 0.2 |
| 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 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Disulfide bond | 0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Total | 3242 | 100.0 | 122 | 3.8 | 3.8 | 78 | 2.4 | 2.4 |
| Backbone-Backbone | 761 | 23.5 | 5 | 0.7 | 0.2 | 4 | 0.5 | 0.1 |
| Backbone-Sidechain | 1374 | 42.4 | 71 | 5.2 | 2.2 | 45 | 3.3 | 1.4 |
| Sidechain-Sidechain | 1107 | 34.1 | 46 | 4.2 | 1.4 | 29 | 2.6 | 0.9 |

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 disulfid 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 | 51 | 13 | 3 | 21 | 0 | 88 | 0.52 | 1.74 | 0.34 | 0.5 |
| 2 | 54 | 15 | 2 | 22 | 0 | 93 | 0.5 | 1.63 | 0.34 | 0.47 |
| 3 | 54 | 14 | 3 | 23 | 0 | 94 | 0.51 | 1.61 | 0.35 | 0.45 |
| 4 | 54 | 15 | 3 | 20 | 0 | 92 | 0.51 | 1.68 | 0.35 | 0.49 |
| 5 | 55 | 14 | 3 | 20 | 0 | 92 | 0.51 | 1.7 | 0.35 | 0.46 |
| 6 | 56 | 15 | 4 | 21 | 0 | 96 | 0.5 | 1.62 | 0.35 | 0.46 |
| 7 | 55 | 14 | 4 | 24 | 0 | 97 | 0.49 | 1.74 | 0.34 | 0.45 |
| 8 | 52 | 15 | 3 | 25 | 0 | 95 | 0.49 | 1.73 | 0.34 | 0.43 |
| 9 | 52 | 13 | 4 | 25 | 0 | 94 | 0.51 | 1.73 | 0.36 | 0.48 |
| 10 | 58 | 16 | 4 | 22 | 0 | 100 | 0.48 | 1.62 | 0.34 | 0.46 |
| 11 | 57 | 13 | 3 | 21 | 0 | 94 | 0.49 | 1.73 | 0.35 | 0.4 |

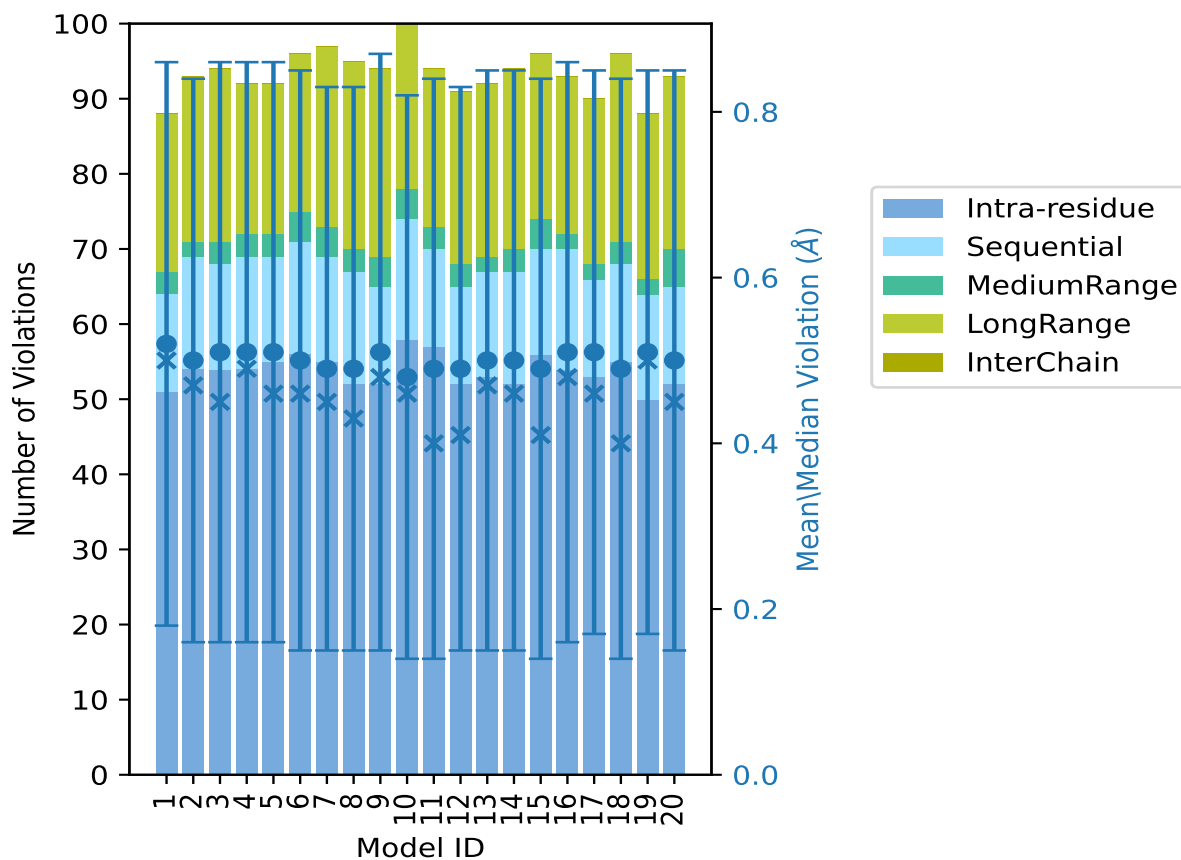
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| Model ID | Number of violations | | | | | Total | Mean (Å) | Max (Å) | SD ⁶ (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
| | IR ¹ | SQ ² | MR ³ | LR ⁴ | IC ⁵ | | | | | |
| 12 | 52 | 13 | 3 | 23 | 0 | 91 | 0.49 | 1.65 | 0.34 | 0.41 |
| 13 | 53 | 14 | 2 | 23 | 0 | 92 | 0.5 | 1.64 | 0.35 | 0.47 |
| 14 | 52 | 15 | 3 | 24 | 0 | 94 | 0.5 | 1.65 | 0.35 | 0.46 |
| 15 | 56 | 14 | 4 | 22 | 0 | 96 | 0.49 | 1.7 | 0.35 | 0.41 |
| 16 | 54 | 16 | 2 | 21 | 0 | 93 | 0.51 | 1.69 | 0.35 | 0.48 |
| 17 | 53 | 13 | 2 | 22 | 0 | 90 | 0.51 | 1.64 | 0.34 | 0.46 |
| 18 | 55 | 13 | 3 | 25 | 0 | 96 | 0.49 | 1.63 | 0.35 | 0.4 |
| 19 | 50 | 14 | 2 | 22 | 0 | 88 | 0.51 | 1.6 | 0.34 | 0.5 |
| 20 | 52 | 13 | 5 | 23 | 0 | 93 | 0.5 | 1.7 | 0.35 | 0.45 |

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 [\(i\)](#)



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

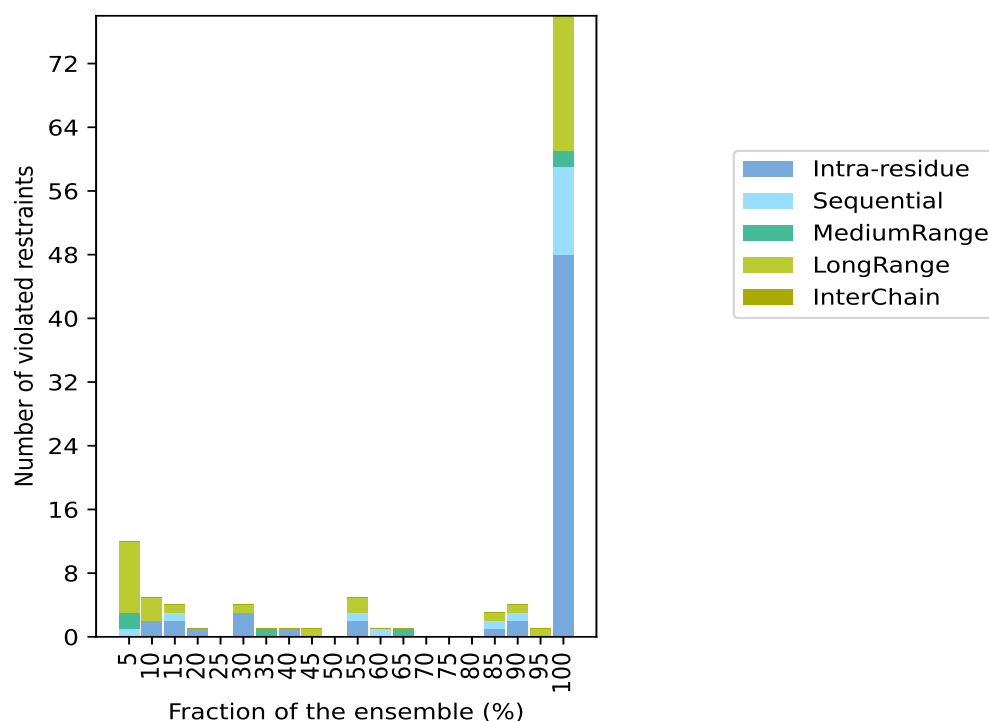
9.3 Distance violation statistics for the ensemble

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, 3120(IR:1839, SQ:616, MR:166, LR:499, 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 | % |
| 0 | 1 | 2 | 9 | 0 | 12 | 1 | 5.0 |
| 2 | 0 | 0 | 3 | 0 | 5 | 2 | 10.0 |
| 2 | 1 | 0 | 1 | 0 | 4 | 3 | 15.0 |
| 1 | 0 | 0 | 0 | 0 | 1 | 4 | 20.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 5 | 25.0 |
| 3 | 0 | 0 | 1 | 0 | 4 | 6 | 30.0 |
| 0 | 0 | 1 | 0 | 0 | 1 | 7 | 35.0 |
| 1 | 0 | 0 | 0 | 0 | 1 | 8 | 40.0 |
| 0 | 0 | 0 | 1 | 0 | 1 | 9 | 45.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50.0 |
| 2 | 1 | 0 | 2 | 0 | 5 | 11 | 55.0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 12 | 60.0 |
| 0 | 0 | 1 | 0 | 0 | 1 | 13 | 65.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 14 | 70.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 15 | 75.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 16 | 80.0 |
| 1 | 1 | 0 | 1 | 0 | 3 | 17 | 85.0 |
| 2 | 1 | 0 | 1 | 0 | 4 | 18 | 90.0 |
| 0 | 0 | 0 | 1 | 0 | 1 | 19 | 95.0 |
| 48 | 11 | 2 | 17 | 0 | 78 | 20 | 100.0 |

¹Intra-residue restraints, ²Sequential restraints, ³Medium range restraints, ⁴Long range restraints, ⁵Inter-chain restraints, ⁶ Number of models with violations

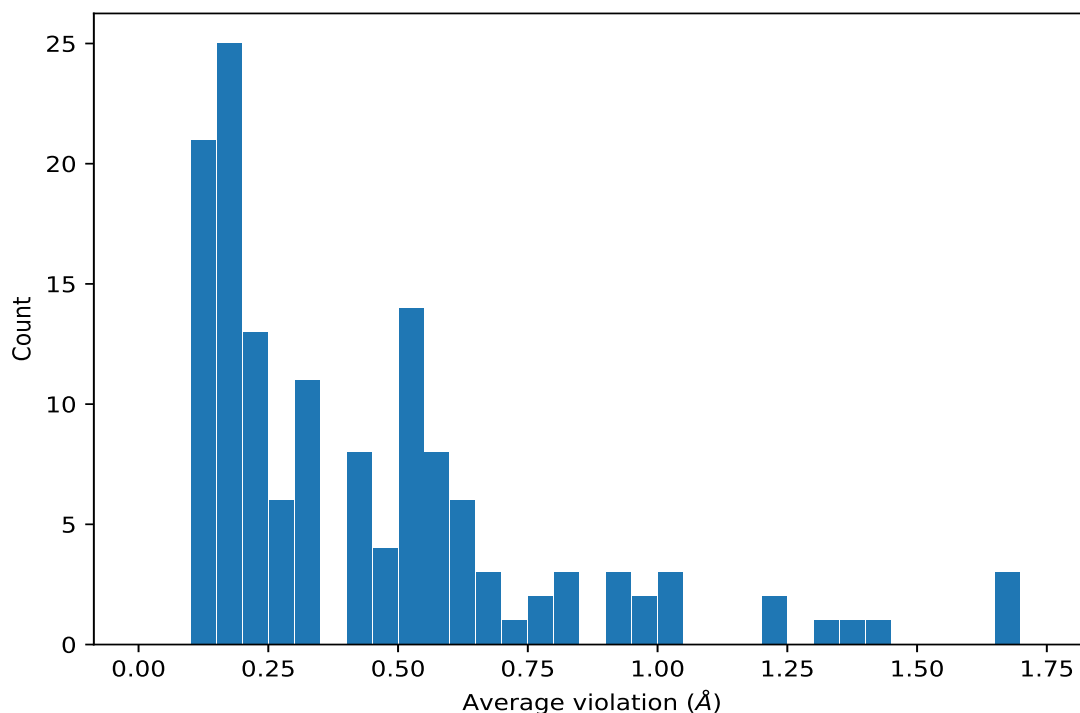
9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



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) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 20 | 1.67 | 0.05 | 1.66 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 20 | 1.67 | 0.05 | 1.66 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 20 | 1.67 | 0.05 | 1.66 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 20 | 1.45 | 0.01 | 1.45 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 20 | 1.37 | 0.05 | 1.35 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 20 | 1.34 | 0.01 | 1.34 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 20 | 1.24 | 0.01 | 1.24 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 20 | 1.23 | 0.11 | 1.26 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 20 | 1.04 | 0.16 | 1.02 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 20 | 1.0 | 0.13 | 1.02 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 20 | 1.0 | 0.13 | 1.02 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 20 | 0.96 | 0.01 | 0.96 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 20 | 0.94 | 0.05 | 0.96 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 20 | 0.92 | 0.03 | 0.93 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 20 | 0.92 | 0.02 | 0.92 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 20 | 0.85 | 0.05 | 0.83 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|-----------------|------------------|---------------------|----------|---------------------|------------|
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 20 | 0.82 | 0.02 | 0.82 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 20 | 0.82 | 0.02 | 0.82 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 20 | 0.78 | 0.02 | 0.79 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 20 | 0.75 | 0.11 | 0.74 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 20 | 0.7 | 0.01 | 0.7 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 20 | 0.69 | 0.01 | 0.7 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 20 | 0.66 | 0.04 | 0.66 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 20 | 0.63 | 0.0 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 20 | 0.63 | 0.0 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 20 | 0.63 | 0.0 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 20 | 0.63 | 0.0 | 0.63 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 20 | 0.61 | 0.0 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 20 | 0.61 | 0.0 | 0.61 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 20 | 0.6 | 0.0 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 20 | 0.6 | 0.0 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 20 | 0.6 | 0.0 | 0.6 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 20 | 0.6 | 0.03 | 0.6 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 20 | 0.55 | 0.1 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 20 | 0.55 | 0.0 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 20 | 0.55 | 0.0 | 0.55 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 20 | 0.54 | 0.02 | 0.55 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 20 | 0.53 | 0.01 | 0.53 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 20 | 0.53 | 0.08 | 0.56 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 20 | 0.51 | 0.04 | 0.5 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 20 | 0.51 | 0.01 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 20 | 0.51 | 0.01 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 20 | 0.51 | 0.01 | 0.51 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 20 | 0.51 | 0.03 | 0.5 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 20 | 0.51 | 0.09 | 0.51 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 20 | 0.51 | 0.09 | 0.51 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 20 | 0.51 | 0.09 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 20 | 0.51 | 0.0 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 20 | 0.51 | 0.0 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 20 | 0.51 | 0.0 | 0.51 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 20 | 0.49 | 0.0 | 0.49 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 20 | 0.47 | 0.0 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 20 | 0.47 | 0.0 | 0.47 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 20 | 0.44 | 0.14 | 0.43 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 20 | 0.44 | 0.15 | 0.42 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 20 | 0.42 | 0.04 | 0.42 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 20 | 0.41 | 0.0 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 20 | 0.41 | 0.0 | 0.41 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 20 | 0.4 | 0.1 | 0.4 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 20 | 0.34 | 0.0 | 0.34 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 20 | 0.34 | 0.02 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 20 | 0.33 | 0.02 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 20 | 0.33 | 0.02 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 20 | 0.33 | 0.02 | 0.34 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 20 | 0.32 | 0.01 | 0.32 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 20 | 0.31 | 0.0 | 0.31 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 20 | 0.28 | 0.03 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 20 | 0.27 | 0.02 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 20 | 0.27 | 0.02 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 20 | 0.27 | 0.02 | 0.26 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 20 | 0.27 | 0.02 | 0.28 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 20 | 0.27 | 0.03 | 0.28 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 20 | 0.22 | 0.01 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 20 | 0.22 | 0.0 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 20 | 0.22 | 0.01 | 0.22 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 20 | 0.21 | 0.01 | 0.21 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 20 | 0.2 | 0.01 | 0.2 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 20 | 0.19 | 0.03 | 0.2 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 20 | 0.19 | 0.03 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 20 | 0.19 | 0.0 | 0.19 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 20 | 0.18 | 0.0 | 0.18 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 20 | 0.18 | 0.02 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 20 | 0.17 | 0.01 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 20 | 0.17 | 0.01 | 0.17 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 20 | 0.17 | 0.01 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 20 | 0.17 | 0.0 | 0.17 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 20 | 0.17 | 0.01 | 0.17 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 20 | 0.16 | 0.06 | 0.15 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 20 | 0.16 | 0.01 | 0.16 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 20 | 0.14 | 0.01 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 20 | 0.14 | 0.0 | 0.14 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 20 | 0.12 | 0.0 | 0.12 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 19 | 0.44 | 0.12 | 0.44 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 18 | 0.74 | 0.02 | 0.74 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 18 | 0.4 | 0.03 | 0.4 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 18 | 0.32 | 0.14 | 0.26 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 18 | 0.32 | 0.14 | 0.26 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 18 | 0.32 | 0.14 | 0.26 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 18 | 0.18 | 0.03 | 0.17 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 17 | 0.97 | 0.37 | 1.01 |

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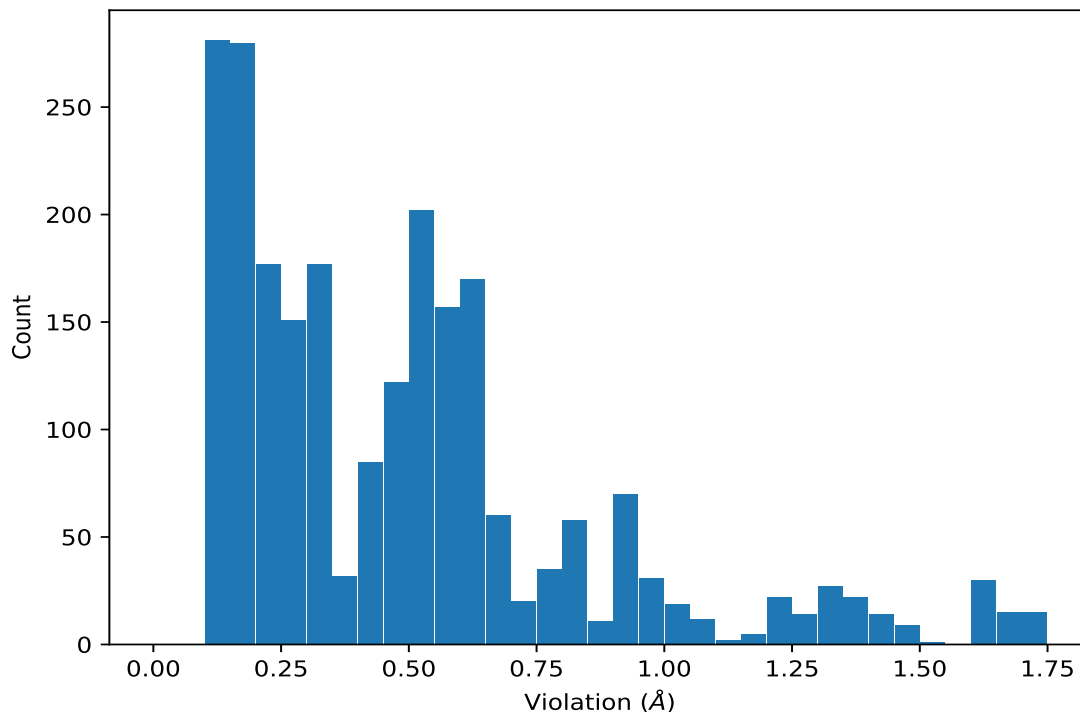
| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|-----------------|------------------|---------------------|----------|---------------------|------------|
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 17 | 0.17 | 0.03 | 0.17 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 17 | 0.16 | 0.02 | 0.16 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 13 | 0.13 | 0.02 | 0.12 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 13 | 0.13 | 0.02 | 0.12 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 13 | 0.13 | 0.02 | 0.12 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 12 | 0.21 | 0.07 | 0.2 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 11 | 0.2 | 0.08 | 0.19 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 11 | 0.2 | 0.08 | 0.19 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 11 | 0.2 | 0.08 | 0.19 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 11 | 0.19 | 0.05 | 0.19 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 11 | 0.19 | 0.05 | 0.19 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 11 | 0.19 | 0.05 | 0.19 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 11 | 0.15 | 0.03 | 0.13 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 11 | 0.14 | 0.01 | 0.13 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 11 | 0.11 | 0.01 | 0.11 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 11 | 0.11 | 0.01 | 0.11 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 9 | 0.18 | 0.05 | 0.18 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 9 | 0.18 | 0.05 | 0.18 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 9 | 0.18 | 0.05 | 0.18 |
| (1,451) | 1:A:116:PRO:HD2 | 1:A:116:PRO:HA | 8 | 0.11 | 0.0 | 0.11 |
| (1,451) | 1:A:116:PRO:HD3 | 1:A:116:PRO:HA | 8 | 0.11 | 0.0 | 0.11 |
| (1,2448) | 1:A:108:THR:H | 1:A:111:SER:HB3 | 7 | 0.55 | 0.25 | 0.51 |
| (1,782) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 6 | 0.17 | 0.06 | 0.15 |
| (1,1703) | 1:A:96:ILE:HG21 | 1:A:138:PRO:HD3 | 6 | 0.15 | 0.06 | 0.12 |
| (1,1703) | 1:A:96:ILE:HG22 | 1:A:138:PRO:HD3 | 6 | 0.15 | 0.06 | 0.12 |
| (1,1703) | 1:A:96:ILE:HG23 | 1:A:138:PRO:HD3 | 6 | 0.15 | 0.06 | 0.12 |
| (1,649) | 1:A:40:GLN:HA | 1:A:40:GLN:HG3 | 6 | 0.13 | 0.02 | 0.12 |
| (1,789) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 6 | 0.12 | 0.0 | 0.12 |
| (1,789) | 1:A:73:LYS:HB3 | 1:A:73:LYS:HG2 | 6 | 0.12 | 0.0 | 0.12 |
| (1,307) | 1:A:142:SER:HA | 1:A:142:SER:HB2 | 4 | 0.34 | 0.12 | 0.4 |
| (1,458) | 1:A:86:ARG:HD2 | 1:A:129:ALA:HA | 3 | 0.47 | 0.21 | 0.61 |
| (1,158) | 1:A:142:SER:HA | 1:A:142:SER:HB2 | 3 | 0.22 | 0.01 | 0.22 |
| (1,2727) | 1:A:36:LYS:HD2 | 1:A:37:GLY:H | 3 | 0.14 | 0.05 | 0.11 |
| (1,723) | 1:A:61:GLN:HA | 1:A:61:GLN:HG3 | 3 | 0.13 | 0.02 | 0.14 |
| (1,2888) | 1:A:3:TYR:H | 1:A:82:LYS:HG2 | 2 | 0.22 | 0.11 | 0.22 |
| (1,574) | 1:A:26:GLN:HA | 1:A:26:GLN:HG3 | 2 | 0.22 | 0.01 | 0.22 |
| (1,378) | 1:A:14:CYS:HB2 | 1:A:26:GLN:HA | 2 | 0.2 | 0.08 | 0.2 |
| (1,1380) | 1:A:11:ALA:HA | 1:A:59:LEU:HD11 | 2 | 0.18 | 0.06 | 0.18 |
| (1,1380) | 1:A:11:ALA:HA | 1:A:59:LEU:HD12 | 2 | 0.18 | 0.06 | 0.18 |
| (1,1380) | 1:A:11:ALA:HA | 1:A:59:LEU:HD13 | 2 | 0.18 | 0.06 | 0.18 |
| (1,255) | 1:A:78:SER:HA | 1:A:78:SER:HB2 | 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 [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. 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) |
|----------|----------------|-----------------|----------|---------------|
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 1 | 1.74 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 1 | 1.74 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 1 | 1.74 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 7 | 1.74 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 7 | 1.74 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 7 | 1.74 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 8 | 1.73 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 8 | 1.73 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 8 | 1.73 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 9 | 1.73 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 9 | 1.73 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 9 | 1.73 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 11 | 1.73 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 11 | 1.73 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 11 | 1.73 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 5 | 1.7 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 5 | 1.7 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 5 | 1.7 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 15 | 1.7 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 15 | 1.7 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 15 | 1.7 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 20 | 1.7 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 20 | 1.7 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 20 | 1.7 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 16 | 1.69 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 16 | 1.69 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 16 | 1.69 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 4 | 1.68 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 4 | 1.68 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 4 | 1.68 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 12 | 1.65 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 12 | 1.65 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 12 | 1.65 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 14 | 1.65 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 14 | 1.65 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 14 | 1.65 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 13 | 1.64 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 13 | 1.64 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 13 | 1.64 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 17 | 1.64 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 17 | 1.64 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 17 | 1.64 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 2 | 1.63 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 2 | 1.63 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 2 | 1.63 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 18 | 1.63 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 18 | 1.63 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 18 | 1.63 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 6 | 1.62 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 6 | 1.62 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 6 | 1.62 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 10 | 1.62 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 10 | 1.62 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 10 | 1.62 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 3 | 1.61 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 3 | 1.61 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 3 | 1.61 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD21 | 19 | 1.6 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD22 | 19 | 1.6 |
| (1,1617) | 1:A:13:GLN:HG3 | 1:A:16:LEU:HD23 | 19 | 1.6 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 16 | 1.5 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 1 | 1.47 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 5 | 1.47 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 8 | 1.47 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 16 | 1.47 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 19 | 1.47 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 2 | 1.46 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 7 | 1.46 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 12 | 1.46 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 13 | 1.46 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 5 | 1.45 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 6 | 1.45 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 9 | 1.45 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 10 | 1.45 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 14 | 1.45 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 15 | 1.45 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 18 | 1.45 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 20 | 1.45 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 18 | 1.44 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 3 | 1.44 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 4 | 1.44 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 11 | 1.44 |
| (1,1045) | 1:A:71:ASN:HA | 1:A:167:ASN:HB2 | 17 | 1.44 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 17 | 1.42 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 13 | 1.4 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 16 | 1.4 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 1 | 1.39 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 6 | 1.38 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 7 | 1.38 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 11 | 1.38 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 4 | 1.37 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 9 | 1.37 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 20 | 1.37 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 4 | 1.36 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 10 | 1.36 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 2 | 1.36 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 5 | 1.35 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 7 | 1.35 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 14 | 1.35 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 17 | 1.35 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 20 | 1.35 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 7 | 1.35 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 1 | 1.35 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 6 | 1.35 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 10 | 1.35 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 12 | 1.35 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 2 | 1.34 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 8 | 1.34 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 11 | 1.34 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 13 | 1.34 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 15 | 1.34 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 16 | 1.34 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 3 | 1.34 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 14 | 1.34 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 19 | 1.33 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 1 | 1.33 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 3 | 1.33 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 9 | 1.33 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 12 | 1.33 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 18 | 1.33 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 19 | 1.33 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 4 | 1.33 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 8 | 1.33 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 19 | 1.33 |
| (1,160) | 1:A:143:GLY:HA3 | 1:A:168:LEU:HA | 6 | 1.32 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 15 | 1.32 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 3 | 1.31 |
| (1,1103) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 13 | 1.31 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 11 | 1.3 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 18 | 1.3 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 20 | 1.3 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 9 | 1.3 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 9 | 1.3 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 3 | 1.29 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 10 | 1.29 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 2 | 1.28 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 4 | 1.28 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 12 | 1.27 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 15 | 1.27 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 19 | 1.27 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 9 | 1.26 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 10 | 1.26 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 14 | 1.26 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 13 | 1.26 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 13 | 1.25 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 1 | 1.25 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 3 | 1.25 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 4 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 7 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 8 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 9 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 10 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 11 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 12 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 13 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 15 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 19 | 1.24 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 20 | 1.24 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 14 | 1.24 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 3 | 1.23 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 5 | 1.23 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 14 | 1.23 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 16 | 1.23 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 17 | 1.23 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 18 | 1.23 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 2 | 1.22 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 8 | 1.21 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 17 | 1.21 |
| (1,2743) | 1:A:53:LYS:H | 1:A:53:LYS:HD2 | 6 | 1.21 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 17 | 1.2 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 5 | 1.17 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 2 | 1.17 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 2 | 1.17 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 18 | 1.17 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 6 | 1.12 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 8 | 1.1 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 12 | 1.09 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 11 | 1.07 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|------------------|----------|---------------|
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 14 | 1.07 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 18 | 1.07 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 11 | 1.07 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 14 | 1.07 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 18 | 1.07 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 10 | 1.05 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 17 | 1.05 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 10 | 1.05 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 17 | 1.05 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 15 | 1.05 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 8 | 1.04 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 8 | 1.04 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 11 | 1.04 |
| (1,678) | 1:A:50:SER:HB3 | 1:A:56:PHE:HB3 | 3 | 1.03 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 6 | 1.03 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 20 | 1.03 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 6 | 1.03 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 20 | 1.03 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 5 | 1.02 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 19 | 1.02 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 5 | 1.01 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 5 | 1.01 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 9 | 1.01 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 3 | 1.0 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 15 | 1.0 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 3 | 1.0 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 15 | 1.0 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 6 | 1.0 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 9 | 1.0 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 1 | 0.99 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 16 | 0.99 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 18 | 0.99 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 13 | 0.98 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 13 | 0.98 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 2 | 0.98 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 5 | 0.98 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 7 | 0.98 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 16 | 0.98 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 4 | 0.98 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 5 | 0.98 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 20 | 0.97 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 12 | 0.97 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 8 | 0.97 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 11 | 0.97 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 12 | 0.97 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 13 | 0.97 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 15 | 0.97 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 16 | 0.97 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 19 | 0.97 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 20 | 0.97 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 1 | 0.97 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 12 | 0.96 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 12 | 0.96 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 4 | 0.96 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 14 | 0.96 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 20 | 0.96 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 1 | 0.96 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 3 | 0.96 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 10 | 0.96 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 14 | 0.96 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 6 | 0.95 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 11 | 0.95 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 2 | 0.95 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 4 | 0.95 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 5 | 0.95 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 6 | 0.95 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 9 | 0.95 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 17 | 0.95 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 14 | 0.95 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 16 | 0.94 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 5 | 0.94 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 7 | 0.94 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 15 | 0.94 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 18 | 0.94 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 20 | 0.94 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 18 | 0.94 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 1 | 0.94 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 10 | 0.94 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 12 | 0.94 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 15 | 0.94 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 19 | 0.94 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 7 | 0.94 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 6 | 0.94 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 1 | 0.93 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 12 | 0.93 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 14 | 0.93 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 16 | 0.93 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 9 | 0.93 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 19 | 0.93 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 5 | 0.93 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 2 | 0.93 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 5 | 0.93 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 6 | 0.93 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 7 | 0.93 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 9 | 0.93 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 11 | 0.93 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 14 | 0.93 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 17 | 0.93 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 20 | 0.93 |
| (1,1094) | 1:A:39:PRO:HD3 | 1:A:39:PRO:HA | 18 | 0.93 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 8 | 0.92 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 10 | 0.92 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 17 | 0.92 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 7 | 0.92 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 7 | 0.92 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 15 | 0.92 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 18 | 0.92 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 4 | 0.92 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 8 | 0.92 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 18 | 0.92 |
| (1,532) | 1:A:15:LYS:HB3 | 1:A:26:GLN:HB2 | 7 | 0.91 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 11 | 0.91 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 1 | 0.91 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 1 | 0.91 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 3 | 0.91 |
| (1,2448) | 1:A:108:THR:H | 1:A:111:SER:HB3 | 15 | 0.91 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 13 | 0.91 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 16 | 0.91 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 16 | 0.91 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 2 | 0.9 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 4 | 0.9 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 9 | 0.9 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 13 | 0.9 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 19 | 0.9 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 4 | 0.9 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 16 | 0.9 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 4 | 0.9 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 16 | 0.9 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 17 | 0.9 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 2 | 0.9 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 11 | 0.89 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 8 | 0.89 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 17 | 0.88 |
| (1,442) | 1:A:105:GLN:HA | 1:A:105:GLN:HG2 | 3 | 0.87 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 3 | 0.87 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 3 | 0.87 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 20 | 0.87 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 3 | 0.86 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 13 | 0.86 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 7 | 0.86 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 11 | 0.86 |
| (1,2448) | 1:A:108:THR:H | 1:A:111:SER:HB3 | 6 | 0.85 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 9 | 0.85 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 20 | 0.85 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 2 | 0.84 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 15 | 0.84 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 20 | 0.84 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 20 | 0.84 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 12 | 0.83 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 10 | 0.83 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 1 | 0.83 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 6 | 0.83 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 10 | 0.83 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 12 | 0.83 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 5 | 0.83 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 4 | 0.83 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 4 | 0.83 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 5 | 0.83 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 5 | 0.83 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 8 | 0.83 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 8 | 0.83 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 9 | 0.83 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 9 | 0.83 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 9 | 0.82 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 18 | 0.82 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 8 | 0.82 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 14 | 0.82 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 6 | 0.82 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 6 | 0.82 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 7 | 0.82 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 7 | 0.82 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 10 | 0.82 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 10 | 0.82 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 15 | 0.82 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 15 | 0.82 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 8 | 0.81 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 6 | 0.81 |
| (1,2776) | 1:A:69:LYS:HD2 | 1:A:70:LEU:H | 10 | 0.81 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 4 | 0.81 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 8 | 0.81 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 19 | 0.81 |
| (1,1113) | 1:A:76:PRO:HA | 1:A:136:ASN:HB2 | 3 | 0.81 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 1 | 0.81 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 1 | 0.81 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 17 | 0.81 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 17 | 0.81 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 18 | 0.81 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 18 | 0.81 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 4 | 0.8 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 10 | 0.8 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 20 | 0.8 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 19 | 0.8 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 15 | 0.8 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 2 | 0.8 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 2 | 0.8 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 12 | 0.8 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 12 | 0.8 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 19 | 0.8 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 19 | 0.8 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 11 | 0.79 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 13 | 0.79 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 17 | 0.79 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 19 | 0.79 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 3 | 0.79 |
| (1,1191) | 1:A:43:PRO:HA | 1:A:52:ASP:HB3 | 13 | 0.79 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 11 | 0.79 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 11 | 0.79 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 13 | 0.79 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 13 | 0.79 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 14 | 0.79 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 14 | 0.79 |
| (1,1104) | 1:A:43:PRO:HB2 | 1:A:52:ASP:HB3 | 16 | 0.79 |
| (1,1104) | 1:A:43:PRO:HB3 | 1:A:52:ASP:HB3 | 16 | 0.79 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 5 | 0.78 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 2 | 0.78 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 16 | 0.78 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 2 | 0.78 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 7 | 0.77 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 14 | 0.77 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 13 | 0.77 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 1 | 0.76 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 6 | 0.76 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 15 | 0.76 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 16 | 0.76 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 7 | 0.76 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 9 | 0.76 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 11 | 0.76 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 2 | 0.75 |
| (1,688) | 1:A:56:PHE:HB2 | 1:A:59:LEU:HG | 3 | 0.75 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 2 | 0.75 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 15 | 0.75 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 6 | 0.75 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 8 | 0.75 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 20 | 0.75 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 4 | 0.74 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 12 | 0.74 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 1 | 0.74 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 4 | 0.74 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 5 | 0.74 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 18 | 0.74 |
| (1,1041) | 1:A:69:LYS:HA | 1:A:165:ASP:HB2 | 7 | 0.74 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 2 | 0.73 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 3 | 0.73 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 15 | 0.73 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 7 | 0.72 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 17 | 0.72 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 8 | 0.72 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 1 | 0.71 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 16 | 0.71 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 8 | 0.71 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 10 | 0.71 |
| (1,2701) | 1:A:21:GLN:H | 1:A:21:GLN:HG2 | 14 | 0.71 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|----------------|----------|---------------|
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 11 | 0.71 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 16 | 0.71 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 2 | 0.7 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 4 | 0.7 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 5 | 0.7 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 9 | 0.7 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 13 | 0.7 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 14 | 0.7 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 15 | 0.7 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 17 | 0.7 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 2 | 0.7 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 3 | 0.7 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 6 | 0.7 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 12 | 0.7 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 13 | 0.7 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 14 | 0.7 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 15 | 0.7 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 18 | 0.7 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 20 | 0.7 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 6 | 0.69 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 8 | 0.69 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 12 | 0.69 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 19 | 0.69 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 9 | 0.69 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 13 | 0.69 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 3 | 0.69 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 15 | 0.69 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 1 | 0.69 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 9 | 0.69 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 17 | 0.69 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 19 | 0.69 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 3 | 0.68 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 10 | 0.68 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 11 | 0.68 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 1 | 0.68 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 10 | 0.68 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 13 | 0.68 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 4 | 0.68 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 7 | 0.68 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 20 | 0.67 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 7 | 0.67 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 16 | 0.67 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 19 | 0.67 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 5 | 0.67 |
| (1,1962) | 1:A:78:SER:H | 1:A:78:SER:HB2 | 10 | 0.67 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 12 | 0.67 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 7 | 0.66 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 15 | 0.66 |
| (1,527) | 1:A:15:LYS:HB2 | 1:A:15:LYS:HD2 | 18 | 0.66 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 10 | 0.66 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 17 | 0.66 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 1 | 0.66 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 6 | 0.66 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 19 | 0.66 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 14 | 0.65 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 17 | 0.65 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 5 | 0.65 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 12 | 0.65 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 14 | 0.65 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 10 | 0.65 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 10 | 0.65 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 10 | 0.65 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 9 | 0.64 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 10 | 0.64 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 12 | 0.64 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 13 | 0.64 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 14 | 0.64 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 15 | 0.64 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 17 | 0.64 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 20 | 0.64 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 4 | 0.64 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 9 | 0.64 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 16 | 0.64 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 2 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 3 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 4 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 8 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 9 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 10 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 12 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 13 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 14 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 15 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 16 | 0.63 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 19 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 20 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 1 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 2 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 4 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 7 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 8 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 9 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 11 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 16 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 17 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 18 | 0.63 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 20 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 1 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 2 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 3 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 4 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 5 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 6 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 7 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 8 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 9 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 10 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 11 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 13 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 14 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 15 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 17 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 18 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 19 | 0.63 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 20 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 1 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 2 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 3 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 4 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 5 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 6 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 7 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 8 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 11 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 16 | 0.63 |
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 18 | 0.63 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,798) | 1:A:76:PRO:HA | 1:A:76:PRO:HG2 | 19 | 0.63 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 13 | 0.63 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 18 | 0.63 |
| (1,458) | 1:A:86:ARG:HD2 | 1:A:129:ALA:HA | 18 | 0.63 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 5 | 0.63 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 14 | 0.63 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 7 | 0.63 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 6 | 0.63 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 9 | 0.63 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 20 | 0.63 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 6 | 0.63 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 6 | 0.63 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 6 | 0.63 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 1 | 0.62 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 5 | 0.62 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 6 | 0.62 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 7 | 0.62 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 11 | 0.62 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 17 | 0.62 |
| (1,980) | 1:A:134:GLN:HB2 | 1:A:134:GLN:HG2 | 18 | 0.62 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 3 | 0.62 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 5 | 0.62 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 6 | 0.62 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 10 | 0.62 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 12 | 0.62 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 13 | 0.62 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 14 | 0.62 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 15 | 0.62 |
| (1,971) | 1:A:130:GLN:HB3 | 1:A:130:GLN:HG3 | 19 | 0.62 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 12 | 0.62 |
| (1,861) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HD2 | 16 | 0.62 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 12 | 0.62 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 20 | 0.62 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 3 | 0.62 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 8 | 0.62 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 10 | 0.62 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 12 | 0.62 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 13 | 0.62 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 16 | 0.62 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 18 | 0.62 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 19 | 0.62 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 9 | 0.62 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 5 | 0.62 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 17 | 0.62 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 18 | 0.62 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 4 | 0.62 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 4 | 0.62 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 4 | 0.62 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 4 | 0.61 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 19 | 0.61 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 1 | 0.61 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 4 | 0.61 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 5 | 0.61 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 10 | 0.61 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 12 | 0.61 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 13 | 0.61 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 14 | 0.61 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 15 | 0.61 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 18 | 0.61 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 1 | 0.61 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 3 | 0.61 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 17 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 1 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 2 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 3 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 4 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 5 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 7 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 8 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 9 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 10 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 11 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 12 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 13 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 14 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 15 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 16 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 17 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 18 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 19 | 0.61 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 20 | 0.61 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 1 | 0.61 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 2 | 0.61 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 5 | 0.61 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 7 | 0.61 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 9 | 0.61 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 12 | 0.61 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 13 | 0.61 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 16 | 0.61 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 17 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 1 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 2 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 4 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 5 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 6 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 7 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 9 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 11 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 14 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 15 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 17 | 0.61 |
| (1,558) | 1:A:21:GLN:HB2 | 1:A:21:GLN:HG2 | 20 | 0.61 |
| (1,458) | 1:A:86:ARG:HD2 | 1:A:129:ALA:HA | 8 | 0.61 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 7 | 0.61 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 7 | 0.61 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 7 | 0.61 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 1 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 2 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 3 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 5 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 6 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 7 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 8 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 9 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 10 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 11 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 12 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 13 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 14 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 15 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 16 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 17 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 18 | 0.6 |
| (1,997) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HB3 | 20 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 2 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 3 | 0.6 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 6 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 7 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 8 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 9 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 11 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 16 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 17 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 19 | 0.6 |
| (1,894) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HB3 | 20 | 0.6 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 9 | 0.6 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 14 | 0.6 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 16 | 0.6 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 19 | 0.6 |
| (1,686) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HD2 | 6 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 3 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 4 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 6 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 8 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 10 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 11 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 14 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 15 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 18 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 19 | 0.6 |
| (1,685) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HG2 | 20 | 0.6 |
| (1,2448) | 1:A:108:THR:H | 1:A:111:SER:HB3 | 20 | 0.6 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 2 | 0.59 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 6 | 0.59 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 10 | 0.59 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 12 | 0.59 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 20 | 0.59 |
| (1,361) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 19 | 0.59 |
| (1,330) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HA | 19 | 0.59 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 16 | 0.59 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 17 | 0.59 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 17 | 0.59 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 17 | 0.59 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 1 | 0.58 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 19 | 0.58 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 4 | 0.58 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 7 | 0.58 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 9 | 0.58 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 6 | 0.58 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 6 | 0.58 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 6 | 0.58 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 10 | 0.58 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 10 | 0.58 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 10 | 0.58 |
| (1,1487) | 1:A:101:TRP:HH2 | 1:A:146:VAL:HG11 | 19 | 0.58 |
| (1,1487) | 1:A:101:TRP:HH2 | 1:A:146:VAL:HG12 | 19 | 0.58 |
| (1,1487) | 1:A:101:TRP:HH2 | 1:A:146:VAL:HG13 | 19 | 0.58 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 18 | 0.58 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 5 | 0.57 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 11 | 0.57 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 14 | 0.57 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 15 | 0.57 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 16 | 0.57 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 19 | 0.57 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 20 | 0.57 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 6 | 0.57 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 7 | 0.57 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 5 | 0.57 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 11 | 0.57 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 17 | 0.57 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 1 | 0.57 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 1 | 0.57 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 1 | 0.57 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 20 | 0.57 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 20 | 0.57 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 20 | 0.57 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 3 | 0.56 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 19 | 0.56 |
| (1,2745) | 1:A:53:LYS:HD2 | 1:A:54:SER:H | 11 | 0.56 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 1 | 0.56 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 8 | 0.56 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 10 | 0.56 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 11 | 0.56 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 12 | 0.56 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 1 | 0.56 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 3 | 0.56 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 6 | 0.56 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 16 | 0.56 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 17 | 0.56 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 6 | 0.55 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 2 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 1 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 2 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 3 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 4 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 5 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 6 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 7 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 8 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 9 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 10 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 11 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 12 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 13 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 14 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 15 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 16 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 17 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 18 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 19 | 0.55 |
| (1,764) | 1:A:69:LYS:HG2 | 1:A:69:LYS:HD2 | 20 | 0.55 |
| (1,371) | 1:A:15:LYS:HA | 1:A:15:LYS:HD2 | 16 | 0.55 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 7 | 0.55 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 9 | 0.55 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 2 | 0.55 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 5 | 0.55 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 7 | 0.55 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 9 | 0.55 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 13 | 0.55 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 2 | 0.55 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 13 | 0.55 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 19 | 0.55 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 20 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 1 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 3 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 5 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 6 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 7 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 8 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 9 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 10 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 14 | 0.55 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 15 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 16 | 0.55 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 20 | 0.55 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 9 | 0.55 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 9 | 0.55 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 9 | 0.55 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 16 | 0.55 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 16 | 0.55 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 16 | 0.55 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 8 | 0.55 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 10 | 0.55 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 14 | 0.54 |
| (1,790) | 1:A:73:LYS:HG2 | 1:A:73:LYS:HE2 | 8 | 0.54 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 16 | 0.54 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 1 | 0.54 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 5 | 0.54 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 8 | 0.54 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 11 | 0.54 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 16 | 0.54 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 20 | 0.54 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 4 | 0.54 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 5 | 0.54 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 19 | 0.54 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 7 | 0.54 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 14 | 0.54 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 15 | 0.54 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 3 | 0.54 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 17 | 0.54 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 19 | 0.54 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 2 | 0.54 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 4 | 0.54 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 11 | 0.54 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 12 | 0.54 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 13 | 0.54 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 17 | 0.54 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 18 | 0.54 |
| (1,1875) | 1:A:54:SER:H | 1:A:54:SER:HB2 | 19 | 0.54 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 4 | 0.53 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 9 | 0.53 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 16 | 0.53 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 2 | 0.53 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 4 | 0.53 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 12 | 0.53 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 14 | 0.53 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 15 | 0.53 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 19 | 0.53 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 3 | 0.53 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 17 | 0.53 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 18 | 0.53 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 12 | 0.53 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 16 | 0.53 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 1 | 0.53 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 1 | 0.53 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 1 | 0.53 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 19 | 0.52 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 4 | 0.52 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 6 | 0.52 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 10 | 0.52 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 13 | 0.52 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 17 | 0.52 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 18 | 0.52 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 2 | 0.52 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 3 | 0.52 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 8 | 0.52 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 18 | 0.52 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 8 | 0.52 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 8 | 0.52 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 8 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 2 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 2 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 2 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 4 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 4 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 4 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 6 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 6 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 6 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 11 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 11 | 0.52 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 11 | 0.52 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 2 | 0.51 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 7 | 0.51 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 4 | 0.51 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 12 | 0.51 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 4 | 0.51 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 8 | 0.51 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 9 | 0.51 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 18 | 0.51 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 1 | 0.51 |
| (1,2448) | 1:A:108:THR:H | 1:A:111:SER:HB3 | 18 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 1 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 1 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 1 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 3 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 3 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 3 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 5 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 5 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 5 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 7 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 7 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 7 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 8 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 8 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 8 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 9 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 9 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 9 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 10 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 10 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 10 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 14 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 14 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 14 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 16 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 16 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 16 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 17 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 17 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 17 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 18 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 18 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 18 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 19 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 19 | 0.51 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 19 | 0.51 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 2 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 2 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 2 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 4 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 4 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 4 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 5 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 5 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 5 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 6 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 6 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 6 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 9 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 9 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 9 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 10 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 10 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 10 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 12 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 12 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 12 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 14 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 14 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 14 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 16 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 16 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 16 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 18 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 18 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 18 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 20 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 20 | 0.51 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 20 | 0.51 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 4 | 0.51 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 1 | 0.5 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 10 | 0.5 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 15 | 0.5 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 19 | 0.5 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 1 | 0.5 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 1 | 0.5 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 8 | 0.5 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 11 | 0.5 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 13 | 0.5 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 14 | 0.5 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 15 | 0.5 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 10 | 0.5 |
| (1,2668) | 1:A:10:ARG:HG2 | 1:A:11:ALA:H | 12 | 0.5 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 10 | 0.5 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 11 | 0.5 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 13 | 0.5 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 14 | 0.5 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 2 | 0.5 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 2 | 0.5 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 2 | 0.5 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 12 | 0.5 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 12 | 0.5 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 12 | 0.5 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 13 | 0.5 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 13 | 0.5 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 13 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 1 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 1 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 1 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 3 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 3 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 3 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 7 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 7 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 7 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 8 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 8 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 8 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 11 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 11 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 11 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 13 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 13 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 13 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 15 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 15 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 15 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 17 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 17 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 17 | 0.5 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD11 | 19 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD12 | 19 | 0.5 |
| (1,1328) | 1:A:16:LEU:HA | 1:A:16:LEU:HD13 | 19 | 0.5 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 4 | 0.49 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 9 | 0.49 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 12 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 2 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 3 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 4 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 5 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 6 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 7 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 8 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 9 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 11 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 12 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 13 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 14 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 16 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 17 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 18 | 0.49 |
| (1,463) | 1:A:138:PRO:HG2 | 1:A:138:PRO:HA | 20 | 0.49 |
| (1,369) | 1:A:13:GLN:HA | 1:A:13:GLN:HE22 | 3 | 0.49 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 4 | 0.49 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 10 | 0.49 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 4 | 0.49 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 6 | 0.49 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 15 | 0.49 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 20 | 0.49 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 15 | 0.49 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 15 | 0.49 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 15 | 0.49 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 10 | 0.49 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 7 | 0.48 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 15 | 0.48 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 16 | 0.48 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 19 | 0.48 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 7 | 0.48 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 9 | 0.48 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 2 | 0.48 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 5 | 0.48 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 13 | 0.48 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 13 | 0.48 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 13 | 0.48 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD11 | 20 | 0.48 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD12 | 20 | 0.48 |
| (1,1396) | 1:A:72:LEU:HA | 1:A:72:LEU:HD13 | 20 | 0.48 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 2 | 0.48 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 13 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 1 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 2 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 3 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 4 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 5 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 6 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 8 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 9 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 10 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 11 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 12 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 13 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 14 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 17 | 0.47 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 18 | 0.47 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 10 | 0.47 |
| (1,2448) | 1:A:108:THR:H | 1:A:111:SER:HB3 | 10 | 0.47 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 4 | 0.47 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 4 | 0.47 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 4 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 2 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 3 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 7 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 8 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 9 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 10 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 11 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 13 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 15 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 17 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 18 | 0.47 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 20 | 0.47 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 13 | 0.47 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 14 | 0.47 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 19 | 0.47 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 14 | 0.46 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 13 | 0.46 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 18 | 0.46 |
| (1,443) | 1:A:106:PRO:HG2 | 1:A:106:PRO:HA | 20 | 0.46 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 6 | 0.46 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 9 | 0.46 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 20 | 0.46 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 17 | 0.46 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 3 | 0.46 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 3 | 0.46 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 3 | 0.46 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 5 | 0.46 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 5 | 0.46 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 5 | 0.46 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 10 | 0.46 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 1 | 0.46 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 4 | 0.46 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 5 | 0.46 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 6 | 0.46 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 12 | 0.46 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 14 | 0.46 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 16 | 0.46 |
| (1,1206) | 1:A:64:PRO:HB3 | 1:A:64:PRO:HD2 | 19 | 0.46 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 1 | 0.46 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 5 | 0.45 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 10 | 0.45 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 7 | 0.45 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 16 | 0.45 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 17 | 0.45 |
| (1,2670) | 1:A:13:GLN:H | 1:A:13:GLN:HE22 | 20 | 0.45 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 7 | 0.45 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 7 | 0.45 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 7 | 0.45 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 14 | 0.45 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 14 | 0.45 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 14 | 0.45 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 15 | 0.45 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 1 | 0.45 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 6 | 0.45 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 11 | 0.45 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 20 | 0.45 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 7 | 0.44 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|------------------|----------|---------------|
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 8 | 0.44 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 13 | 0.44 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 3 | 0.44 |
| (1,2503) | 1:A:75:GLY:HA3 | 1:A:137:ILE:H | 7 | 0.44 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 15 | 0.43 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 1 | 0.43 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 11 | 0.43 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 20 | 0.43 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 1 | 0.43 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 18 | 0.43 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 18 | 0.43 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 18 | 0.43 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 19 | 0.43 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 19 | 0.43 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 19 | 0.43 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 16 | 0.43 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 8 | 0.43 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 5 | 0.42 |
| (1,307) | 1:A:142:SER:HA | 1:A:142:SER:HB2 | 10 | 0.42 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 2 | 0.42 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 14 | 0.42 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 3 | 0.42 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 17 | 0.42 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 15 | 0.41 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 11 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 1 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 1 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 2 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 2 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 3 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 3 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 4 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 4 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 5 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 5 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 6 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 6 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 7 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 7 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 8 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 8 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 9 | 0.41 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|------------------|----------|---------------|
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 9 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 10 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 10 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 11 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 11 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 12 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 12 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 13 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 13 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 14 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 14 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 15 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 15 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 16 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 16 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 17 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 17 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 18 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 18 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 19 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 19 | 0.41 |
| (1,797) | 1:A:76:PRO:HD2 | 1:A:76:PRO:HB3 | 20 | 0.41 |
| (1,797) | 1:A:76:PRO:HD3 | 1:A:76:PRO:HB3 | 20 | 0.41 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 8 | 0.41 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 6 | 0.41 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 8 | 0.41 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 12 | 0.41 |
| (1,307) | 1:A:142:SER:HA | 1:A:142:SER:HB2 | 15 | 0.41 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 19 | 0.41 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 12 | 0.41 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 12 | 0.41 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 12 | 0.41 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 7 | 0.41 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 12 | 0.41 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 12 | 0.4 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 5 | 0.4 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 9 | 0.4 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 17 | 0.4 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 11 | 0.4 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 18 | 0.4 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 5 | 0.4 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 15 | 0.4 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 2 | 0.39 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 13 | 0.39 |
| (1,307) | 1:A:142:SER:HA | 1:A:142:SER:HB2 | 11 | 0.39 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 20 | 0.38 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 3 | 0.38 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 6 | 0.38 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 17 | 0.38 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 4 | 0.38 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 15 | 0.38 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 6 | 0.38 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 7 | 0.38 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 8 | 0.38 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 3 | 0.37 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 3 | 0.37 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 18 | 0.37 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 12 | 0.37 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 2 | 0.37 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 11 | 0.37 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 4 | 0.37 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 18 | 0.37 |
| (1,1154) | 1:A:120:PHE:HZ | 1:A:133:HIS:HB2 | 20 | 0.37 |
| (1,456) | 1:A:91:SER:HB3 | 1:A:121:ASN:HA | 11 | 0.36 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 2 | 0.36 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 18 | 0.36 |
| (1,2448) | 1:A:108:THR:H | 1:A:111:SER:HB3 | 7 | 0.36 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 17 | 0.36 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 19 | 0.36 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 16 | 0.36 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 16 | 0.36 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 16 | 0.36 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 11 | 0.36 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 9 | 0.36 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 2 | 0.35 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 14 | 0.35 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 13 | 0.35 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 3 | 0.35 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 9 | 0.35 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 12 | 0.35 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 18 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 4 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 4 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 4 | 0.35 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 5 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 5 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 5 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 7 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 7 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 7 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 10 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 10 | 0.35 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 10 | 0.35 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 1 | 0.35 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 3 | 0.35 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 12 | 0.35 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 14 | 0.35 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 16 | 0.34 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 18 | 0.34 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 16 | 0.34 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 1 | 0.34 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 8 | 0.34 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 10 | 0.34 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 20 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 1 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 1 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 1 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 6 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 6 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 6 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 9 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 9 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 9 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 14 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 14 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 14 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 15 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 15 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 15 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 17 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 17 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 17 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 18 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 18 | 0.34 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 18 | 0.34 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 11 | 0.34 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 11 | 0.34 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 11 | 0.34 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB1 | 15 | 0.34 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB2 | 15 | 0.34 |
| (1,1647) | 1:A:64:PRO:HG2 | 1:A:103:ALA:HB3 | 15 | 0.34 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 11 | 0.34 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 11 | 0.34 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 11 | 0.34 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 10 | 0.34 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 10 | 0.34 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 10 | 0.34 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 13 | 0.34 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 14 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 1 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 2 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 3 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 4 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 5 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 6 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 7 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 8 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 9 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 10 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 11 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 13 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 15 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 16 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 17 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 18 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 19 | 0.34 |
| (1,1011) | 1:A:141:ARG:HG2 | 1:A:141:ARG:HD2 | 20 | 0.34 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 1 | 0.33 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 5 | 0.33 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 15 | 0.33 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 17 | 0.33 |
| (1,377) | 1:A:21:GLN:HA | 1:A:21:GLN:HG2 | 10 | 0.33 |
| (1,2888) | 1:A:3:TYR:H | 1:A:82:LYS:HG2 | 20 | 0.33 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 3 | 0.33 |
| (1,2060) | 1:A:102:ASP:HB3 | 1:A:105:GLN:H | 20 | 0.33 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 4 | 0.33 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 7 | 0.33 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 16 | 0.33 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 9 | 0.33 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 9 | 0.33 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 9 | 0.33 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 18 | 0.33 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 18 | 0.33 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 18 | 0.33 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 2 | 0.33 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 2 | 0.33 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 2 | 0.33 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 3 | 0.33 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 3 | 0.33 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 3 | 0.33 |
| (1,1180) | 1:A:19:ASN:HB2 | 1:A:67:TRP:HZ3 | 2 | 0.33 |
| (2,56) | 1:A:38:PHE:HE1 | 1:A:114:LEU:HD11 | 17 | 0.32 |
| (2,56) | 1:A:38:PHE:HE1 | 1:A:114:LEU:HD12 | 17 | 0.32 |
| (2,56) | 1:A:38:PHE:HE1 | 1:A:114:LEU:HD13 | 17 | 0.32 |
| (2,56) | 1:A:38:PHE:HE2 | 1:A:114:LEU:HD11 | 17 | 0.32 |
| (2,56) | 1:A:38:PHE:HE2 | 1:A:114:LEU:HD12 | 17 | 0.32 |
| (2,56) | 1:A:38:PHE:HE2 | 1:A:114:LEU:HD13 | 17 | 0.32 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 16 | 0.32 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 17 | 0.32 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 4 | 0.32 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 8 | 0.32 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 11 | 0.32 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 12 | 0.32 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 13 | 0.32 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 19 | 0.32 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 20 | 0.32 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 8 | 0.32 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 2 | 0.32 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 12 | 0.32 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 6 | 0.32 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 14 | 0.32 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 2 | 0.32 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 2 | 0.32 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 2 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 11 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 11 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 11 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 12 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 12 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 12 | 0.32 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 13 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 13 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 13 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 19 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 19 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 19 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 20 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 20 | 0.32 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 20 | 0.32 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 1 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 1 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 2 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 3 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 4 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 7 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 8 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 9 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 10 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 11 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 12 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 13 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 14 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 15 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 17 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 18 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 19 | 0.31 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 20 | 0.31 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 3 | 0.31 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 7 | 0.31 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 9 | 0.31 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 10 | 0.31 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 18 | 0.31 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 4 | 0.31 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 11 | 0.31 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 14 | 0.31 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 18 | 0.31 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 16 | 0.31 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 3 | 0.31 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 3 | 0.31 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 3 | 0.31 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 6 | 0.31 |
| (1,782) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 2 | 0.3 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 5 | 0.3 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 6 | 0.3 |
| (1,491) | 1:A:7:PRO:HD2 | 1:A:7:PRO:HB2 | 16 | 0.3 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 14 | 0.3 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 7 | 0.3 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 1 | 0.3 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 13 | 0.3 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 14 | 0.3 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 17 | 0.3 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 7 | 0.3 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 10 | 0.3 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 11 | 0.3 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 5 | 0.3 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 13 | 0.3 |
| (1,1870) | 1:A:50:SER:HB2 | 1:A:51:ALA:H | 15 | 0.3 |
| (1,1660) | 1:A:137:ILE:HD11 | 1:A:138:PRO:HD3 | 8 | 0.3 |
| (1,1660) | 1:A:137:ILE:HD12 | 1:A:138:PRO:HD3 | 8 | 0.3 |
| (1,1660) | 1:A:137:ILE:HD13 | 1:A:138:PRO:HD3 | 8 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 3 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 3 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 3 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 13 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 13 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 13 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 14 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 14 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 14 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 17 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 17 | 0.3 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 17 | 0.3 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 1 | 0.29 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 2 | 0.29 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 5 | 0.29 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 6 | 0.29 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 9 | 0.29 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 18 | 0.29 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 20 | 0.29 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 20 | 0.29 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 20 | 0.29 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 5 | 0.29 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 8 | 0.28 |
| (1,396) | 1:A:53:LYS:HA | 1:A:53:LYS:HD2 | 6 | 0.28 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,378) | 1:A:14:CYS:HB2 | 1:A:26:GLN:HA | 16 | 0.28 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 3 | 0.28 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 4 | 0.28 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 5 | 0.28 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 4 | 0.28 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 12 | 0.28 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 16 | 0.28 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 19 | 0.28 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 3 | 0.28 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 4 | 0.28 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 5 | 0.28 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 8 | 0.28 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 9 | 0.28 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 14 | 0.28 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 5 | 0.28 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 9 | 0.28 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 9 | 0.28 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 9 | 0.28 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 20 | 0.28 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 20 | 0.28 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 20 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 12 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 12 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 12 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 15 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 15 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 15 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 18 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 18 | 0.28 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 18 | 0.28 |
| (1,2837) | 1:A:119:GLN:H | 1:A:119:GLN:HE22 | 15 | 0.27 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 6 | 0.27 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 8 | 0.27 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 16 | 0.27 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 17 | 0.27 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 19 | 0.27 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 10 | 0.27 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 15 | 0.27 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 13 | 0.27 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 16 | 0.27 |
| (1,1703) | 1:A:96:ILE:HG21 | 1:A:138:PRO:HD3 | 11 | 0.27 |
| (1,1703) | 1:A:96:ILE:HG22 | 1:A:138:PRO:HD3 | 11 | 0.27 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1703) | 1:A:96:ILE:HG23 | 1:A:138:PRO:HD3 | 11 | 0.27 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 4 | 0.27 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 4 | 0.27 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 4 | 0.27 |
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 18 | 0.26 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 18 | 0.26 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 8 | 0.26 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 9 | 0.26 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 10 | 0.26 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 20 | 0.26 |
| (1,2735) | 1:A:40:GLN:HA | 1:A:40:GLN:HE22 | 6 | 0.26 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 3 | 0.26 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 8 | 0.26 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 1 | 0.26 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 2 | 0.26 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 6 | 0.26 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 17 | 0.26 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 19 | 0.26 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 5 | 0.26 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 5 | 0.26 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 5 | 0.26 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 17 | 0.26 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 17 | 0.26 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 17 | 0.26 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 14 | 0.26 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 14 | 0.26 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 14 | 0.26 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 18 | 0.26 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 18 | 0.26 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 18 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 1 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 1 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 1 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 5 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 5 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 5 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 7 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 7 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 7 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 8 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 8 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 8 | 0.26 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|------------------|----------|---------------|
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 11 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 11 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 11 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 19 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 19 | 0.26 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 19 | 0.26 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 15 | 0.25 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 5 | 0.25 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 7 | 0.25 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 12 | 0.25 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 15 | 0.25 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 15 | 0.25 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 15 | 0.25 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 15 | 0.25 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 2 | 0.25 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 2 | 0.25 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 2 | 0.25 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 6 | 0.25 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 6 | 0.25 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 6 | 0.25 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 16 | 0.25 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 16 | 0.25 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 16 | 0.25 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 10 | 0.25 |
| (1,884) | 1:A:63:THR:HA | 1:A:104:SER:HB3 | 3 | 0.24 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 18 | 0.24 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 1 | 0.24 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 16 | 0.24 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 13 | 0.24 |
| (1,2768) | 1:A:68:ASN:H | 1:A:68:ASN:HD22 | 15 | 0.24 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 16 | 0.24 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 17 | 0.24 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 12 | 0.24 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 12 | 0.24 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 12 | 0.24 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 15 | 0.24 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 15 | 0.24 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 15 | 0.24 |
| (1,1380) | 1:A:11:ALA:HA | 1:A:59:LEU:HD11 | 12 | 0.24 |
| (1,1380) | 1:A:11:ALA:HA | 1:A:59:LEU:HD12 | 12 | 0.24 |
| (1,1380) | 1:A:11:ALA:HA | 1:A:59:LEU:HD13 | 12 | 0.24 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 3 | 0.24 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 13 | 0.24 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 5 | 0.23 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 8 | 0.23 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 16 | 0.23 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 17 | 0.23 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 7 | 0.23 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 2 | 0.23 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 6 | 0.23 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 11 | 0.23 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 12 | 0.23 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 13 | 0.23 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 14 | 0.23 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 15 | 0.23 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 11 | 0.23 |
| (1,1964) | 1:A:77:ASN:HB2 | 1:A:78:SER:H | 20 | 0.23 |
| (1,158) | 1:A:142:SER:HA | 1:A:142:SER:HB2 | 10 | 0.23 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 6 | 0.23 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 6 | 0.23 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 6 | 0.23 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD21 | 9 | 0.23 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD22 | 9 | 0.23 |
| (1,1392) | 1:A:70:LEU:HA | 1:A:70:LEU:HD23 | 9 | 0.23 |
| (2,51) | 1:A:2:GLY:HA2 | 1:A:83:LEU:HD21 | 7 | 0.22 |
| (2,51) | 1:A:2:GLY:HA2 | 1:A:83:LEU:HD22 | 7 | 0.22 |
| (2,51) | 1:A:2:GLY:HA2 | 1:A:83:LEU:HD23 | 7 | 0.22 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 1 | 0.22 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 3 | 0.22 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 5 | 0.22 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 10 | 0.22 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 14 | 0.22 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 12 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 1 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 2 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 3 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 4 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 11 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 12 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 15 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 19 | 0.22 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 20 | 0.22 |
| (1,574) | 1:A:26:GLN:HA | 1:A:26:GLN:HG3 | 7 | 0.22 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 7 | 0.22 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 19 | 0.22 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 2 | 0.22 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 20 | 0.22 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 3 | 0.22 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 4 | 0.22 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 10 | 0.22 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 19 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 2 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 3 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 4 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 5 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 6 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 7 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 8 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 9 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 10 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 11 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 12 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 13 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 14 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 16 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 17 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 18 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 19 | 0.22 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 20 | 0.22 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 14 | 0.22 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 14 | 0.22 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 14 | 0.22 |
| (1,158) | 1:A:142:SER:HA | 1:A:142:SER:HB2 | 15 | 0.22 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 5 | 0.22 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 2 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 6 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 7 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 8 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 9 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 11 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 12 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 13 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 15 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 16 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 17 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 19 | 0.21 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 20 | 0.21 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 6 | 0.21 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 9 | 0.21 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 10 | 0.21 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 13 | 0.21 |
| (1,574) | 1:A:26:GLN:HA | 1:A:26:GLN:HG3 | 16 | 0.21 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 4 | 0.21 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 11 | 0.21 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 13 | 0.21 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 6 | 0.21 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 9 | 0.21 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 14 | 0.21 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 16 | 0.21 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 20 | 0.21 |
| (1,2727) | 1:A:36:LYS:HD2 | 1:A:37:GLY:H | 12 | 0.21 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 1 | 0.21 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 8 | 0.21 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 18 | 0.21 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 20 | 0.21 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 20 | 0.21 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 1 | 0.21 |
| (1,267) | 1:A:91:SER:HA | 1:A:91:SER:HB3 | 15 | 0.21 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 7 | 0.21 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 11 | 0.21 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 11 | 0.21 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 11 | 0.21 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 20 | 0.21 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 20 | 0.21 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 20 | 0.21 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 9 | 0.21 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 9 | 0.21 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 9 | 0.21 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 16 | 0.21 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 16 | 0.21 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 16 | 0.21 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 17 | 0.21 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 17 | 0.21 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 17 | 0.21 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 18 | 0.21 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 18 | 0.21 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 18 | 0.21 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 6 | 0.21 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 8 | 0.21 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 14 | 0.21 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 15 | 0.21 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 4 | 0.2 |
| (1,963) | 1:A:127:PRO:HG2 | 1:A:127:PRO:HB3 | 18 | 0.2 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 16 | 0.2 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 7 | 0.2 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 6 | 0.2 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 8 | 0.2 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 8 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 1 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 3 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 4 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 5 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 7 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 10 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 12 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 13 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 15 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 17 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 18 | 0.2 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 19 | 0.2 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 2 | 0.2 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 7 | 0.2 |
| (1,2711) | 1:A:26:GLN:H | 1:A:26:GLN:HE21 | 9 | 0.2 |
| (1,2682) | 1:A:15:LYS:HG2 | 1:A:16:LEU:H | 18 | 0.2 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 6 | 0.2 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 14 | 0.2 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 18 | 0.2 |
| (1,158) | 1:A:142:SER:HA | 1:A:142:SER:HB2 | 11 | 0.2 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 17 | 0.2 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 18 | 0.2 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 19 | 0.2 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 5 | 0.19 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 1 | 0.19 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 3 | 0.19 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 7 | 0.19 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 8 | 0.19 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 10 | 0.19 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 14 | 0.19 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 15 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 1 | 0.19 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 2 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 3 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 5 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 6 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 7 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 8 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 9 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 10 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 11 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 13 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 14 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 15 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 19 | 0.19 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 20 | 0.19 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 10 | 0.19 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 15 | 0.19 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 1 | 0.19 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 2 | 0.19 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 9 | 0.19 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 10 | 0.19 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 11 | 0.19 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 13 | 0.19 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 7 | 0.19 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 17 | 0.19 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 8 | 0.19 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 8 | 0.19 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 8 | 0.19 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 2 | 0.19 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 2 | 0.19 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 2 | 0.19 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 8 | 0.19 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 8 | 0.19 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 8 | 0.19 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 19 | 0.19 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 19 | 0.19 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 19 | 0.19 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 10 | 0.19 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 10 | 0.19 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 10 | 0.19 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 1 | 0.19 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 2 | 0.19 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 12 | 0.19 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,983) | 1:A:78:SER:HB2 | 1:A:134:GLN:HB3 | 11 | 0.18 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 1 | 0.18 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 6 | 0.18 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 11 | 0.18 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 16 | 0.18 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 17 | 0.18 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 19 | 0.18 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 20 | 0.18 |
| (1,682) | 1:A:53:LYS:HB3 | 1:A:53:LYS:HD2 | 14 | 0.18 |
| (1,676) | 1:A:50:SER:HB2 | 1:A:56:PHE:HB3 | 3 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 2 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 4 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 10 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 11 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 12 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 13 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 17 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 18 | 0.18 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 19 | 0.18 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 3 | 0.18 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 17 | 0.18 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 11 | 0.18 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 13 | 0.18 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 15 | 0.18 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 2 | 0.18 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 2 | 0.18 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 8 | 0.18 |
| (1,2794) | 1:A:76:PRO:HD3 | 1:A:77:ASN:H | 11 | 0.18 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 12 | 0.18 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 13 | 0.18 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 19 | 0.18 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 4 | 0.18 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 12 | 0.18 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 16 | 0.18 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 17 | 0.18 |
| (1,273) | 1:A:98:LYS:HA | 1:A:98:LYS:HB2 | 18 | 0.18 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 2 | 0.18 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 7 | 0.18 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 8 | 0.18 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 9 | 0.18 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 11 | 0.18 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 14 | 0.18 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 18 | 0.18 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 20 | 0.18 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 9 | 0.18 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 2 | 0.18 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 4 | 0.18 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 10 | 0.18 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 11 | 0.18 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 12 | 0.18 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 13 | 0.18 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 17 | 0.18 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 18 | 0.18 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 19 | 0.18 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 4 | 0.18 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 17 | 0.18 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 20 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 1 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 2 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 3 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 4 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 5 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 6 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 8 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 9 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 10 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 11 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 12 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 13 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 14 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 15 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 16 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 18 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 19 | 0.18 |
| (1,179) | 1:A:160:PHE:HA | 1:A:160:PHE:HB3 | 20 | 0.18 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 1 | 0.18 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 1 | 0.18 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 1 | 0.18 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 14 | 0.18 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 14 | 0.18 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 14 | 0.18 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 20 | 0.18 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 20 | 0.18 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 20 | 0.18 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|------------------|----------|---------------|
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 16 | 0.18 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 15 | 0.18 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 18 | 0.18 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 9 | 0.17 |
| (1,782) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 10 | 0.17 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 2 | 0.17 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 5 | 0.17 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 7 | 0.17 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 8 | 0.17 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 9 | 0.17 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 10 | 0.17 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 13 | 0.17 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 14 | 0.17 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 3 | 0.17 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 5 | 0.17 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 6 | 0.17 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 7 | 0.17 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 8 | 0.17 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 9 | 0.17 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 14 | 0.17 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 15 | 0.17 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 16 | 0.17 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 20 | 0.17 |
| (1,458) | 1:A:86:ARG:HD2 | 1:A:129:ALA:HA | 7 | 0.17 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 2 | 0.17 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 5 | 0.17 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 13 | 0.17 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 15 | 0.17 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 20 | 0.17 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 8 | 0.17 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 16 | 0.17 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 9 | 0.17 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 14 | 0.17 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 18 | 0.17 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 4 | 0.17 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 9 | 0.17 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 16 | 0.17 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 20 | 0.17 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 4 | 0.17 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 5 | 0.17 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 12 | 0.17 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 13 | 0.17 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 15 | 0.17 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 16 | 0.17 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 17 | 0.17 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 19 | 0.17 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 2 | 0.17 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 3 | 0.17 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 4 | 0.17 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 5 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 5 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 6 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 7 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 8 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 9 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 14 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 15 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 16 | 0.17 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 20 | 0.17 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 8 | 0.17 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 12 | 0.17 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 15 | 0.17 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 19 | 0.17 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 13 | 0.17 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 13 | 0.17 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 13 | 0.17 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 12 | 0.17 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 12 | 0.17 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 12 | 0.17 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 20 | 0.17 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 20 | 0.17 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 20 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 1 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 2 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 3 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 4 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 5 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 6 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 7 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 8 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 9 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 10 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 11 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 12 | 0.17 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|----------------|------------------|----------|---------------|
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 13 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 14 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 16 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 17 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 19 | 0.17 |
| (1,1021) | 1:A:147:ILE:HB | 1:A:147:ILE:HG12 | 20 | 0.17 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 17 | 0.16 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 3 | 0.16 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 4 | 0.16 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 15 | 0.16 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 18 | 0.16 |
| (1,726) | 1:A:62:GLN:HB2 | 1:A:67:TRP:HZ2 | 9 | 0.16 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 6 | 0.16 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 11 | 0.16 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 19 | 0.16 |
| (1,649) | 1:A:40:GLN:HA | 1:A:40:GLN:HG3 | 18 | 0.16 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 1 | 0.16 |
| (1,53) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 3 | 0.16 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 16 | 0.16 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 18 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 1 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 2 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 3 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 4 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 7 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 8 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 10 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 11 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 12 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 13 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 14 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 15 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 16 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 17 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 19 | 0.16 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 20 | 0.16 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 4 | 0.16 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 6 | 0.16 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 7 | 0.16 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 9 | 0.16 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 12 | 0.16 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 1 | 0.16 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 5 | 0.16 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 8 | 0.16 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 5 | 0.16 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 6 | 0.16 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 1 | 0.16 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 3 | 0.16 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 6 | 0.16 |
| (1,2666) | 1:A:7:PRO:HD2 | 1:A:8:ALA:H | 10 | 0.16 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 6 | 0.16 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 8 | 0.16 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 13 | 0.16 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 16 | 0.16 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 20 | 0.16 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 1 | 0.16 |
| (1,232) | 1:A:54:SER:HA | 1:A:54:SER:HB2 | 3 | 0.16 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 7 | 0.16 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 7 | 0.16 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 7 | 0.16 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 7 | 0.16 |
| (1,905) | 1:A:45:ASP:HB2 | 1:A:108:THR:HB | 10 | 0.15 |
| (1,782) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 4 | 0.15 |
| (1,782) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 6 | 0.15 |
| (1,733) | 1:A:62:GLN:HA | 1:A:62:GLN:HG3 | 12 | 0.15 |
| (1,723) | 1:A:61:GLN:HA | 1:A:61:GLN:HG3 | 8 | 0.15 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 1 | 0.15 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 7 | 0.15 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 14 | 0.15 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 20 | 0.15 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 6 | 0.15 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 5 | 0.15 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 9 | 0.15 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 18 | 0.15 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 3 | 0.15 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 11 | 0.15 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 17 | 0.15 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 18 | 0.15 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 16 | 0.15 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 17 | 0.15 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 17 | 0.15 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 18 | 0.15 |
| (1,2482) | 1:A:123:GLY:HA2 | 1:A:125:ALA:H | 6 | 0.15 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 12 | 0.15 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 19 | 0.15 |
| (1,1873) | 1:A:52:ASP:HB2 | 1:A:53:LYS:H | 3 | 0.15 |
| (1,1703) | 1:A:96:ILE:HG21 | 1:A:138:PRO:HD3 | 13 | 0.15 |
| (1,1703) | 1:A:96:ILE:HG22 | 1:A:138:PRO:HD3 | 13 | 0.15 |
| (1,1703) | 1:A:96:ILE:HG23 | 1:A:138:PRO:HD3 | 13 | 0.15 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD11 | 19 | 0.15 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD12 | 19 | 0.15 |
| (1,1675) | 1:A:87:HIS:HB3 | 1:A:153:ILE:HD13 | 19 | 0.15 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 12 | 0.15 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 12 | 0.15 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 12 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 1 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 1 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 1 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 8 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 8 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 8 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 11 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 11 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 11 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 20 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 20 | 0.15 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 20 | 0.15 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 4 | 0.15 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 20 | 0.15 |
| (1,782) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 7 | 0.14 |
| (1,723) | 1:A:61:GLN:HA | 1:A:61:GLN:HG3 | 10 | 0.14 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 4 | 0.14 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 8 | 0.14 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 9 | 0.14 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 10 | 0.14 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 12 | 0.14 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 13 | 0.14 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 15 | 0.14 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 17 | 0.14 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 18 | 0.14 |
| (1,649) | 1:A:40:GLN:HA | 1:A:40:GLN:HG3 | 3 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 1 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 2 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 3 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 4 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 6 | 0.14 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 8 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 9 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 10 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 11 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 12 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 13 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 14 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 15 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 16 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 17 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 18 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 19 | 0.14 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 20 | 0.14 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 10 | 0.14 |
| (1,449) | 1:A:115:THR:HA | 1:A:116:PRO:HD3 | 14 | 0.14 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 1 | 0.14 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 5 | 0.14 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 13 | 0.14 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 3 | 0.14 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 14 | 0.14 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 4 | 0.14 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 7 | 0.14 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 11 | 0.14 |
| (1,2744) | 1:A:53:LYS:HG2 | 1:A:54:SER:H | 11 | 0.14 |
| (1,2683) | 1:A:15:LYS:HD2 | 1:A:16:LEU:H | 16 | 0.14 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 14 | 0.14 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 9 | 0.14 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 9 | 0.14 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 9 | 0.14 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 15 | 0.14 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 15 | 0.14 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 15 | 0.14 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 11 | 0.14 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 4 | 0.13 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 7 | 0.13 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 11 | 0.13 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 13 | 0.13 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 18 | 0.13 |
| (1,782) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 11 | 0.13 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 6 | 0.13 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 6 | 0.13 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 5 | 0.13 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 16 | 0.13 |
| (1,649) | 1:A:40:GLN:HA | 1:A:40:GLN:HG3 | 17 | 0.13 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 5 | 0.13 |
| (1,551) | 1:A:18:LEU:HB3 | 1:A:18:LEU:HG | 7 | 0.13 |
| (1,378) | 1:A:14:CYS:HB2 | 1:A:26:GLN:HA | 7 | 0.13 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 2 | 0.13 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 10 | 0.13 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 14 | 0.13 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 15 | 0.13 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 19 | 0.13 |
| (1,363) | 1:A:5:GLU:HA | 1:A:5:GLU:HG2 | 20 | 0.13 |
| (1,307) | 1:A:142:SER:HA | 1:A:142:SER:HB2 | 3 | 0.13 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 19 | 0.13 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 9 | 0.13 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 10 | 0.13 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 14 | 0.13 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 16 | 0.13 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 17 | 0.13 |
| (1,2475) | 1:A:122:ASP:HB3 | 1:A:123:GLY:H | 18 | 0.13 |
| (1,2448) | 1:A:108:THR:H | 1:A:111:SER:HB3 | 9 | 0.13 |
| (1,1703) | 1:A:96:ILE:HG21 | 1:A:138:PRO:HD3 | 9 | 0.13 |
| (1,1703) | 1:A:96:ILE:HG22 | 1:A:138:PRO:HD3 | 9 | 0.13 |
| (1,1703) | 1:A:96:ILE:HG23 | 1:A:138:PRO:HD3 | 9 | 0.13 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 13 | 0.13 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 13 | 0.13 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 13 | 0.13 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 14 | 0.13 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 14 | 0.13 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 14 | 0.13 |
| (1,1048) | 1:A:142:SER:HA | 1:A:168:LEU:HB2 | 9 | 0.13 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 15 | 0.12 |
| (1,789) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 4 | 0.12 |
| (1,789) | 1:A:73:LYS:HB3 | 1:A:73:LYS:HG2 | 4 | 0.12 |
| (1,789) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 5 | 0.12 |
| (1,789) | 1:A:73:LYS:HB3 | 1:A:73:LYS:HG2 | 5 | 0.12 |
| (1,789) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 7 | 0.12 |
| (1,789) | 1:A:73:LYS:HB3 | 1:A:73:LYS:HG2 | 7 | 0.12 |
| (1,789) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 10 | 0.12 |
| (1,789) | 1:A:73:LYS:HB3 | 1:A:73:LYS:HG2 | 10 | 0.12 |
| (1,789) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 11 | 0.12 |
| (1,789) | 1:A:73:LYS:HB3 | 1:A:73:LYS:HG2 | 11 | 0.12 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 2 | 0.12 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 2 | 0.12 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 5 | 0.12 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 5 | 0.12 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 18 | 0.12 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 18 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 1 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 2 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 3 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 4 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 5 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 6 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 7 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 8 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 9 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 10 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 11 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 12 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 13 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 14 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 15 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 16 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 17 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 18 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 19 | 0.12 |
| (1,674) | 1:A:48:ILE:HB | 1:A:48:ILE:HG12 | 20 | 0.12 |
| (1,649) | 1:A:40:GLN:HA | 1:A:40:GLN:HG3 | 4 | 0.12 |
| (1,649) | 1:A:40:GLN:HA | 1:A:40:GLN:HG3 | 13 | 0.12 |
| (1,451) | 1:A:116:PRO:HD2 | 1:A:116:PRO:HA | 6 | 0.12 |
| (1,451) | 1:A:116:PRO:HD3 | 1:A:116:PRO:HA | 6 | 0.12 |
| (1,451) | 1:A:116:PRO:HD2 | 1:A:116:PRO:HA | 10 | 0.12 |
| (1,451) | 1:A:116:PRO:HD3 | 1:A:116:PRO:HA | 10 | 0.12 |
| (1,395) | 1:A:53:LYS:HA | 1:A:53:LYS:HG2 | 6 | 0.12 |
| (1,2888) | 1:A:3:TYR:H | 1:A:82:LYS:HG2 | 18 | 0.12 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 10 | 0.12 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 6 | 0.12 |
| (1,2791) | 1:A:73:LYS:HG2 | 1:A:74:THR:H | 19 | 0.12 |
| (1,1703) | 1:A:96:ILE:HG21 | 1:A:138:PRO:HD3 | 8 | 0.12 |
| (1,1703) | 1:A:96:ILE:HG22 | 1:A:138:PRO:HD3 | 8 | 0.12 |
| (1,1703) | 1:A:96:ILE:HG23 | 1:A:138:PRO:HD3 | 8 | 0.12 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 15 | 0.12 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 15 | 0.12 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 15 | 0.12 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1619) | 1:A:14:CYS:HB2 | 1:A:25:VAL:HG11 | 8 | 0.12 |
| (1,1619) | 1:A:14:CYS:HB2 | 1:A:25:VAL:HG12 | 8 | 0.12 |
| (1,1619) | 1:A:14:CYS:HB2 | 1:A:25:VAL:HG13 | 8 | 0.12 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 5 | 0.12 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 5 | 0.12 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 5 | 0.12 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 7 | 0.12 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 7 | 0.12 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 7 | 0.12 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 2 | 0.12 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 2 | 0.12 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 2 | 0.12 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG21 | 17 | 0.12 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG22 | 17 | 0.12 |
| (1,1440) | 1:A:45:ASP:HB2 | 1:A:108:THR:HG23 | 17 | 0.12 |
| (2,109) | 1:A:92:TRP:HD1 | 1:A:131:VAL:HG21 | 8 | 0.11 |
| (2,109) | 1:A:92:TRP:HD1 | 1:A:131:VAL:HG22 | 8 | 0.11 |
| (2,109) | 1:A:92:TRP:HD1 | 1:A:131:VAL:HG23 | 8 | 0.11 |
| (1,862) | 1:A:98:LYS:HG2 | 1:A:98:LYS:HE2 | 6 | 0.11 |
| (1,789) | 1:A:73:LYS:HB2 | 1:A:73:LYS:HG2 | 6 | 0.11 |
| (1,789) | 1:A:73:LYS:HB3 | 1:A:73:LYS:HG2 | 6 | 0.11 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 1 | 0.11 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 1 | 0.11 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 3 | 0.11 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 3 | 0.11 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 7 | 0.11 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 7 | 0.11 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 11 | 0.11 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 11 | 0.11 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 12 | 0.11 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 12 | 0.11 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 16 | 0.11 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 16 | 0.11 |
| (1,763) | 1:A:69:LYS:HB2 | 1:A:69:LYS:HG2 | 19 | 0.11 |
| (1,763) | 1:A:69:LYS:HB3 | 1:A:69:LYS:HG2 | 19 | 0.11 |
| (1,723) | 1:A:61:GLN:HA | 1:A:61:GLN:HG3 | 15 | 0.11 |
| (1,687) | 1:A:53:LYS:HG2 | 1:A:53:LYS:HE2 | 2 | 0.11 |
| (1,649) | 1:A:40:GLN:HA | 1:A:40:GLN:HG3 | 5 | 0.11 |
| (1,451) | 1:A:116:PRO:HD2 | 1:A:116:PRO:HA | 2 | 0.11 |
| (1,451) | 1:A:116:PRO:HD3 | 1:A:116:PRO:HA | 2 | 0.11 |
| (1,451) | 1:A:116:PRO:HD2 | 1:A:116:PRO:HA | 12 | 0.11 |
| (1,451) | 1:A:116:PRO:HD3 | 1:A:116:PRO:HA | 12 | 0.11 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,451) | 1:A:116:PRO:HD2 | 1:A:116:PRO:HA | 14 | 0.11 |
| (1,451) | 1:A:116:PRO:HD3 | 1:A:116:PRO:HA | 14 | 0.11 |
| (1,451) | 1:A:116:PRO:HD2 | 1:A:116:PRO:HA | 15 | 0.11 |
| (1,451) | 1:A:116:PRO:HD3 | 1:A:116:PRO:HA | 15 | 0.11 |
| (1,451) | 1:A:116:PRO:HD2 | 1:A:116:PRO:HA | 18 | 0.11 |
| (1,451) | 1:A:116:PRO:HD3 | 1:A:116:PRO:HA | 18 | 0.11 |
| (1,451) | 1:A:116:PRO:HD2 | 1:A:116:PRO:HA | 20 | 0.11 |
| (1,451) | 1:A:116:PRO:HD3 | 1:A:116:PRO:HA | 20 | 0.11 |
| (1,2854) | 1:A:134:GLN:H | 1:A:134:GLN:HG2 | 10 | 0.11 |
| (1,2805) | 1:A:82:LYS:HD2 | 1:A:83:LEU:H | 15 | 0.11 |
| (1,2727) | 1:A:36:LYS:HD2 | 1:A:37:GLY:H | 2 | 0.11 |
| (1,2727) | 1:A:36:LYS:HD2 | 1:A:37:GLY:H | 10 | 0.11 |
| (1,255) | 1:A:78:SER:HA | 1:A:78:SER:HB2 | 5 | 0.11 |
| (1,255) | 1:A:78:SER:HA | 1:A:78:SER:HB2 | 10 | 0.11 |
| (1,1703) | 1:A:96:ILE:HG21 | 1:A:138:PRO:HD3 | 12 | 0.11 |
| (1,1703) | 1:A:96:ILE:HG22 | 1:A:138:PRO:HD3 | 12 | 0.11 |
| (1,1703) | 1:A:96:ILE:HG23 | 1:A:138:PRO:HD3 | 12 | 0.11 |
| (1,1703) | 1:A:96:ILE:HG21 | 1:A:138:PRO:HD3 | 14 | 0.11 |
| (1,1703) | 1:A:96:ILE:HG22 | 1:A:138:PRO:HD3 | 14 | 0.11 |
| (1,1703) | 1:A:96:ILE:HG23 | 1:A:138:PRO:HD3 | 14 | 0.11 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 10 | 0.11 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 10 | 0.11 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 10 | 0.11 |
| (1,1639) | 1:A:96:ILE:HD11 | 1:A:138:PRO:HD3 | 18 | 0.11 |
| (1,1639) | 1:A:96:ILE:HD12 | 1:A:138:PRO:HD3 | 18 | 0.11 |
| (1,1639) | 1:A:96:ILE:HD13 | 1:A:138:PRO:HD3 | 18 | 0.11 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD11 | 13 | 0.11 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD12 | 13 | 0.11 |
| (1,1631) | 1:A:73:LYS:HA | 1:A:168:LEU:HD13 | 13 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 3 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 3 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 3 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 4 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 4 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 4 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 10 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 10 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 10 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 12 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 12 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 12 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD21 | 14 | 0.11 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|------------|----------------|-----------------|-----------------|----------------------|
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD22 | 14 | 0.11 |
| (1,1616) | 1:A:13:GLN:HA | 1:A:16:LEU:HD23 | 14 | 0.11 |
| (1,1380) | 1:A:11:ALA:HA | 1:A:59:LEU:HD11 | 9 | 0.11 |
| (1,1380) | 1:A:11:ALA:HA | 1:A:59:LEU:HD12 | 9 | 0.11 |
| (1,1380) | 1:A:11:ALA:HA | 1:A:59:LEU:HD13 | 9 | 0.11 |
| (1,1240) | 1:A:46:GLY:HA3 | 1:A:106:PRO:HG2 | 20 | 0.11 |

10 Dihedral-angle violation analysis

No dihedral-angle restraints found