



Full wwPDB NMR Structure Validation Report ⓘ

Jun 6, 2023 – 06:45 pm BST

PDB ID : 4A4E
BMRB ID : 18005
Title : Solution structure of SMN Tudor domain in complex with symmetrically dimethylated arginine
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Deposited on : 2011-10-12

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A user guide is available at

<https://www.wwpdb.org/validation/2017/NMRValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.4, CSD as541be (2020)
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

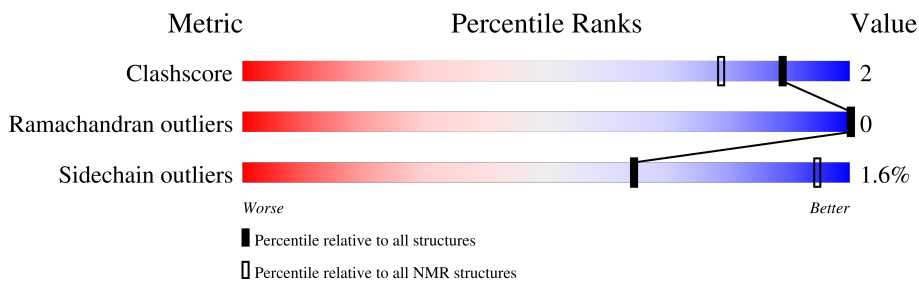
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR

The overall completeness of chemical shifts assignment is 86%.

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 | 64 | |

2 Ensemble composition and analysis

This entry contains 20 models. Model 11 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative.

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:92-A:143 (52) | 0.16 | 11 |

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. No single-model clusters were found.

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

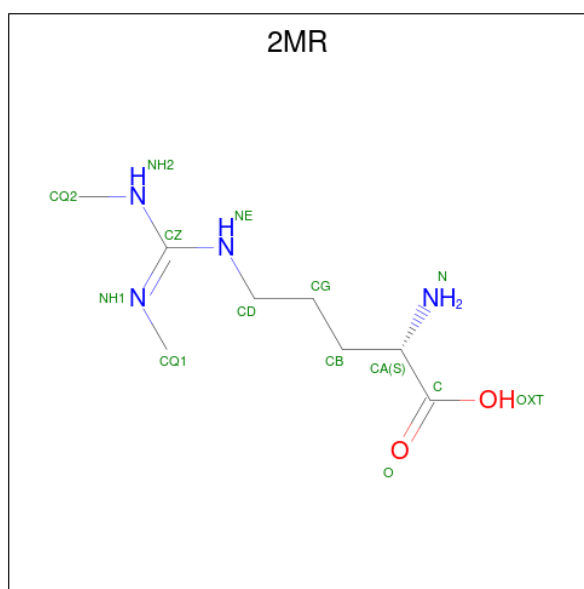
3 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 1004 atoms, of which 494 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called SURVIVAL MOTOR NEURON PROTEIN.

| Mol | Chain | Residues | Atoms | | | | | Trace | |
|-----|-------|----------|-------|-----|-----|----|-----|-------|---|
| | | | Total | C | H | N | O | | S |
| 1 | A | 64 | 971 | 309 | 475 | 81 | 102 | 4 | 0 |

- Molecule 2 is N3, N4-DIMETHYLARGININE (three-letter code: 2MR) (formula: $C_8H_{18}N_4O_2$).



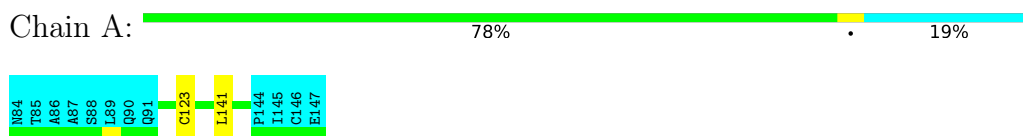
| Mol | Chain | Residues | Atoms | | | | |
|-----|-------|----------|-------|---|----|---|---|
| | | | Total | C | H | N | O |
| 2 | A | 1 | 33 | 8 | 19 | 4 | 2 |

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: SURVIVAL MOTOR NEURON PROTEIN

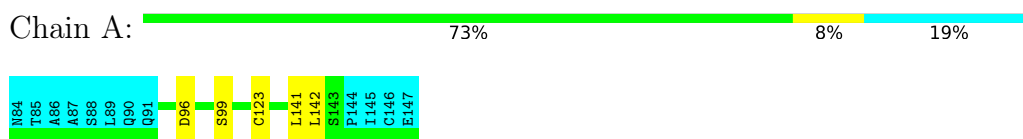


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

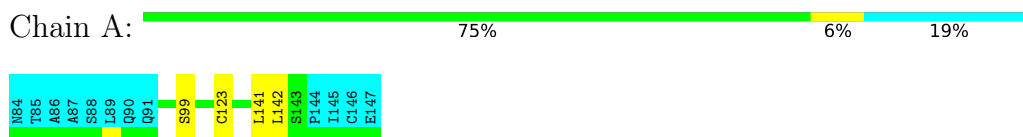
4.2.1 Score per residue for model 1

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



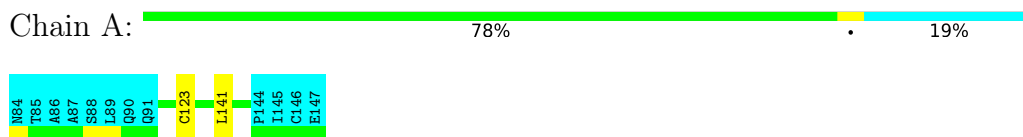
4.2.2 Score per residue for model 2

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



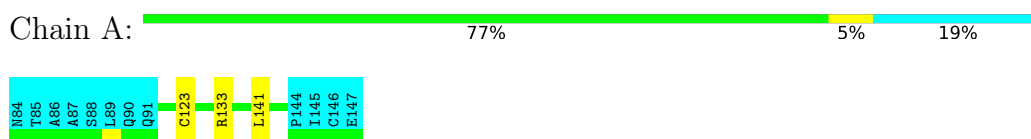
4.2.3 Score per residue for model 3

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



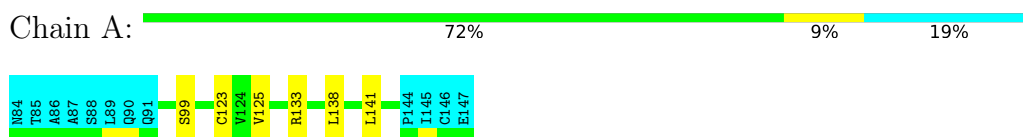
4.2.4 Score per residue for model 4

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



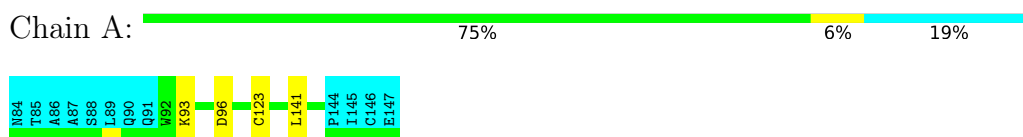
4.2.5 Score per residue for model 5

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



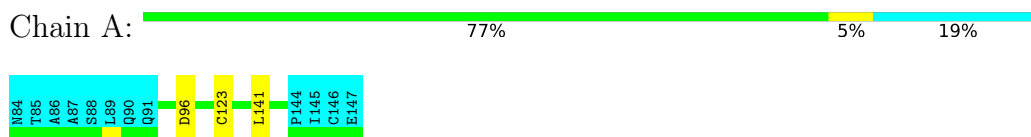
4.2.6 Score per residue for model 6

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



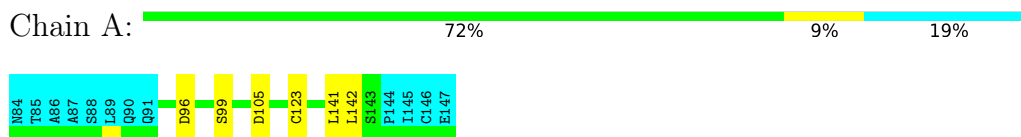
4.2.7 Score per residue for model 7

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



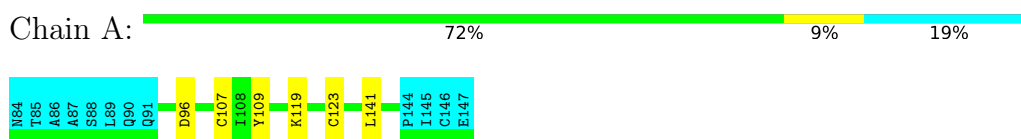
4.2.8 Score per residue for model 8

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



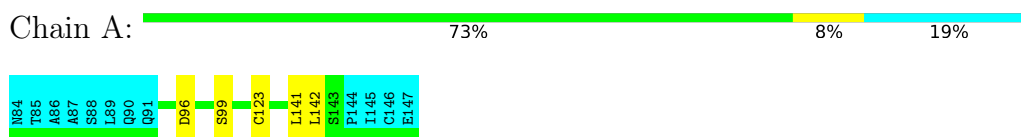
4.2.9 Score per residue for model 9

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



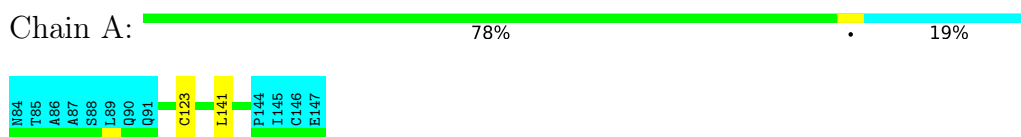
4.2.10 Score per residue for model 10

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



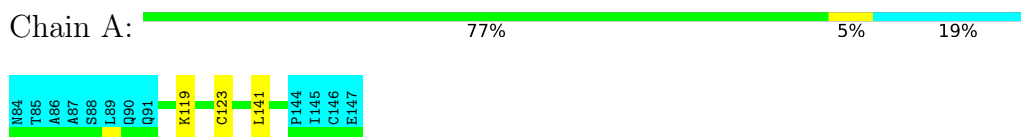
4.2.11 Score per residue for model 11 (medoid)

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



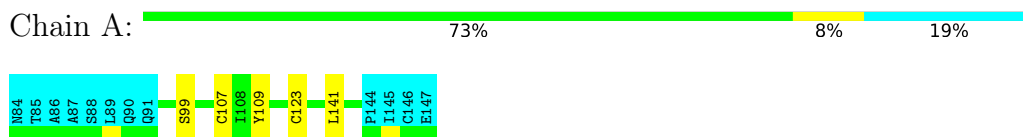
4.2.12 Score per residue for model 12

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



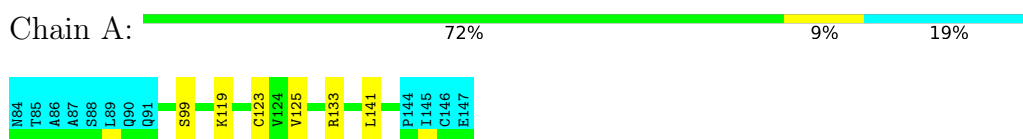
4.2.13 Score per residue for model 13

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



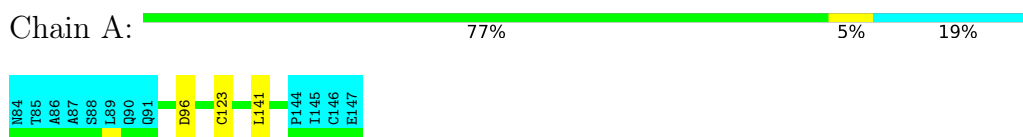
4.2.14 Score per residue for model 14

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



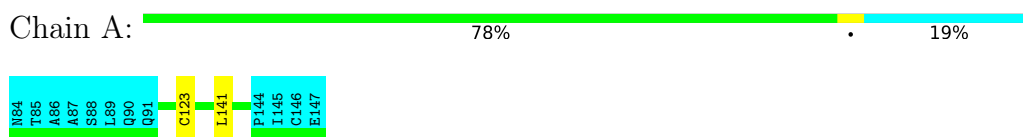
4.2.15 Score per residue for model 15

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



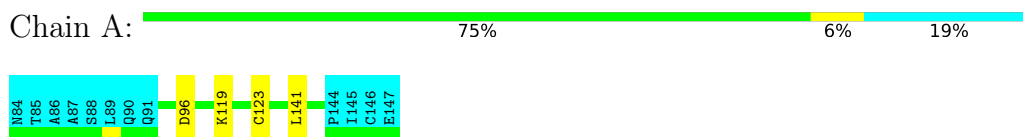
4.2.16 Score per residue for model 16

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



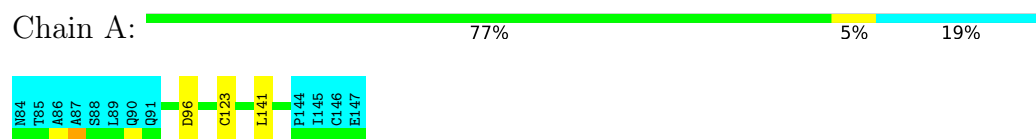
4.2.17 Score per residue for model 17

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



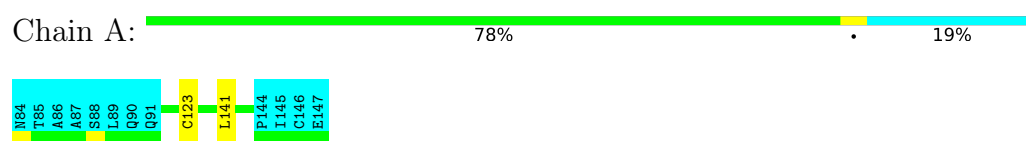
4.2.18 Score per residue for model 18

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



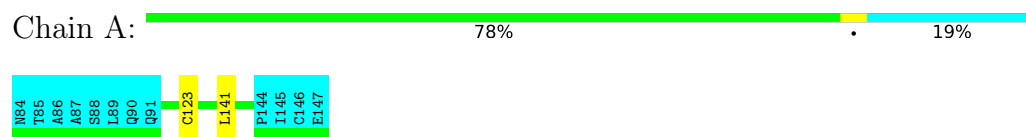
4.2.19 Score per residue for model 19

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



4.2.20 Score per residue for model 20

- Molecule 1: SURVIVAL MOTOR NEURON PROTEIN



5 Refinement protocol and experimental data overview

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

Of the 200 calculated structures, 20 were deposited, based on the following criterion: *LOWEST ENERGY*.

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

| Software name | Classification | Version |
|---------------|--------------------|---------|
| CNS | refinement | |
| TALOS | structure solution | |
| CYANA | structure solution | |
| CNS | structure solution | |

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 | 805 |
| Number of shifts mapped to atoms | 805 |
| Number of unparsed shifts | 0 |
| Number of shifts with mapping errors | 0 |
| Number of shifts with mapping warnings | 0 |
| Assignment completeness (well-defined parts) | 86% |

6 Model quality [i](#)

6.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section:
2MR

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

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

6.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in each chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes averaged over the ensemble.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes |
|-----|-------|-------|----------|----------|---------|
| 1 | A | 408 | 389 | 389 | 1±0 |
| 2 | A | 14 | 19 | 17 | 0±0 |
| All | All | 8440 | 8160 | 8120 | 30 |

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 2.

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

| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:123:CYS:SG | 1:A:141:LEU:HD11 | 0.56 | 2.40 | 9 | 20 |
| 1:A:93:LYS:HG2 | 1:A:96:ASP:OD2 | 0.51 | 2.06 | 6 | 1 |
| 2:A:1148:2MR:HA | 2:A:1148:2MR:HE | 0.48 | 1.67 | 17 | 1 |
| 1:A:107:CYS:HB2 | 1:A:109:TYR:CE2 | 0.46 | 2.45 | 9 | 1 |
| 1:A:99:SER:HB2 | 1:A:142:LEU:HB2 | 0.43 | 1.90 | 8 | 4 |
| 1:A:125:VAL:O | 1:A:133:ARG:HA | 0.40 | 2.17 | 14 | 2 |
| 1:A:107:CYS:HB2 | 1:A:109:TYR:CE1 | 0.40 | 2.51 | 13 | 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 | 52/64 (81%) | 52±0 (100±1%) | 0±0 (0±1%) | 0±0 (0±0%) | 100 | 100 |
| All | All | 1040/1280 (81%) | 1036 (100%) | 4 (0%) | 0 (0%) | 100 | 100 |

There are no Ramachandran outliers.

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 | 45/55 (82%) | 44±1 (98±2%) | 1±1 (2±2%) | 64 | 94 |
| All | All | 900/1100 (82%) | 886 (98%) | 14 (2%) | 64 | 94 |

All 4 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 | 96 | ASP | 8 |
| 1 | A | 119 | LYS | 4 |
| 1 | A | 133 | ARG | 1 |
| 1 | A | 105 | 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](#)

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds for which Mogul statistics could be retrieved, the number of bonds that are observed in the model and the number of bonds that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length is the number of standard deviations the observed value is removed from the expected value. A bond length with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the average root-mean-square of all Z scores of the bond lengths.

| Mol | Type | Chain | Res | Link | Bond lengths | | |
|-----|------|-------|------|------|--------------|-----------|------------|
| | | | | | Counts | RMSZ | #Z>2 |
| 2 | 2MR | A | 1148 | - | 11,13,13 | 0.78±0.05 | 0±0 (4±4%) |

In the following table, the Counts columns list the number of angles for which Mogul statistics could be retrieved, the number of angles that are observed in the model and the number of angles that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond angle is the number of standard deviations the observed value is removed from the expected value. A bond angle with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the average root-mean-square of all Z scores of the bond angles.

| Mol | Type | Chain | Res | Link | Bond angles | | |
|-----|------|-------|------|------|-------------|-----------|-------------|
| | | | | | Counts | RMSZ | #Z>2 |
| 2 | 2MR | A | 1148 | - | 11,15,15 | 1.46±0.07 | 2±0 (18±0%) |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|------|---------|--------------|-------|
| 2 | 2MR | A | 1148 | - | - | 0±0,13,15,15 | - |

All unique bond outliers are listed below.

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) | Models | |
|-----|-------|------|------|-------|------|-------------|----------|--------|-------|
| | | | | | | | | Worst | Total |
| 2 | A | 1148 | 2MR | OXT-C | 2.25 | 1.23 | 1.30 | 19 | 10 |

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 |
| 2 | A | 1148 | 2MR | CQ2-NH2-CZ | 3.34 | 131.24 | 123.86 | 5 | 20 |
| 2 | A | 1148 | 2MR | NE-CZ-NH2 | 3.14 | 116.60 | 119.48 | 9 | 20 |

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

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 86% for the well-defined parts and 86% for the entire structure.

7.1 Chemical shift list 1

File name: working_cs.cif

Chemical shift list name: *assigned_chem_shift_list*

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 | 805 |
| Number of shifts mapped to atoms | 805 |
| Number of unparsed shifts | 0 |
| Number of shifts with mapping errors | 0 |
| Number of shifts with mapping warnings | 0 |
| Number of shift outliers (ShiftChecker) | 4 |

The following errors were found when reading this chemical shift list.

- Chemical shift has been reported more than once. All 74 occurrences are reported below.

| List ID | Chain | Res | Type | Atom | Shift Data | | |
|---------|-------|-----|------|------|------------|-------------|-----------|
| | | | | | Value | Uncertainty | Ambiguity |
| 1 | A | 85 | THR | HG22 | 1.196 | 0.001 | 1 |
| 1 | A | 85 | THR | HG23 | 1.196 | 0.001 | 1 |
| 1 | A | 86 | ALA | HB2 | 1.388 | 0.020 | 1 |
| 1 | A | 86 | ALA | HB3 | 1.388 | 0.020 | 1 |
| 1 | A | 87 | ALA | HB2 | 1.384 | 0.020 | 1 |
| 1 | A | 87 | ALA | HB3 | 1.384 | 0.020 | 1 |
| 1 | A | 89 | LEU | HD12 | 0.905 | 0.001 | 2 |
| 1 | A | 89 | LEU | HD13 | 0.905 | 0.001 | 2 |
| 1 | A | 89 | LEU | HD22 | 0.863 | 0.020 | 2 |
| 1 | A | 89 | LEU | HD23 | 0.863 | 0.020 | 2 |
| 1 | A | 94 | VAL | HG12 | 0.879 | 0.001 | 2 |
| 1 | A | 94 | VAL | HG13 | 0.879 | 0.001 | 2 |
| 1 | A | 94 | VAL | HG22 | 0.974 | 0.020 | 2 |
| 1 | A | 94 | VAL | HG23 | 0.974 | 0.020 | 2 |
| 1 | A | 100 | ALA | HB2 | 1.171 | 0.020 | 1 |

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| List ID | Chain | Res | Type | Atom | Shift Data | | |
|---------|-------|-----|------|------|------------|-------------|-----------|
| | | | | | Value | Uncertainty | Ambiguity |
| 1 | A | 100 | ALA | HB3 | 1.171 | 0.020 | 1 |
| 1 | A | 101 | ILE | HG22 | 0.614 | 0.011 | 1 |
| 1 | A | 101 | ILE | HG23 | 0.614 | 0.011 | 1 |
| 1 | A | 101 | ILE | HD12 | 0.851 | 0.020 | 1 |
| 1 | A | 101 | ILE | HD13 | 0.851 | 0.020 | 1 |
| 1 | A | 108 | ILE | HG22 | 0.748 | 0.001 | 1 |
| 1 | A | 108 | ILE | HG23 | 0.748 | 0.001 | 1 |
| 1 | A | 108 | ILE | HD12 | 0.808 | 0.003 | 1 |
| 1 | A | 108 | ILE | HD13 | 0.808 | 0.003 | 1 |
| 1 | A | 111 | ALA | HB2 | 0.876 | 0.020 | 1 |
| 1 | A | 111 | ALA | HB3 | 0.876 | 0.020 | 1 |
| 1 | A | 112 | THR | HG22 | 1.067 | 0.001 | 1 |
| 1 | A | 112 | THR | HG23 | 1.067 | 0.001 | 1 |
| 1 | A | 113 | ILE | HG22 | 0.596 | 0.013 | 1 |
| 1 | A | 113 | ILE | HG23 | 0.596 | 0.013 | 1 |
| 1 | A | 113 | ILE | HD12 | 0.566 | 0.001 | 1 |
| 1 | A | 113 | ILE | HD13 | 0.566 | 0.001 | 1 |
| 1 | A | 114 | ALA | HB2 | 1.233 | 0.020 | 1 |
| 1 | A | 114 | ALA | HB3 | 1.233 | 0.020 | 1 |
| 1 | A | 116 | ILE | HG22 | 0.033 | 0.003 | 1 |
| 1 | A | 116 | ILE | HG23 | 0.033 | 0.003 | 1 |
| 1 | A | 116 | ILE | HD12 | 0.656 | 0.012 | 1 |
| 1 | A | 116 | ILE | HD13 | 0.656 | 0.012 | 1 |
| 1 | A | 122 | THR | HG22 | 1.075 | 0.003 | 1 |
| 1 | A | 122 | THR | HG23 | 1.075 | 0.003 | 1 |
| 1 | A | 124 | VAL | HG12 | 0.674 | 0.008 | 2 |
| 1 | A | 124 | VAL | HG13 | 0.674 | 0.008 | 2 |
| 1 | A | 124 | VAL | HG22 | 0.764 | 0.001 | 2 |
| 1 | A | 124 | VAL | HG23 | 0.764 | 0.001 | 2 |
| 1 | A | 125 | VAL | HG12 | 0.435 | 0.002 | 2 |
| 1 | A | 125 | VAL | HG13 | 0.435 | 0.002 | 2 |
| 1 | A | 125 | VAL | HG22 | 0.226 | 0.012 | 2 |
| 1 | A | 125 | VAL | HG23 | 0.226 | 0.012 | 2 |
| 1 | A | 126 | VAL | HG12 | 0.678 | 0.002 | 2 |
| 1 | A | 126 | VAL | HG13 | 0.678 | 0.002 | 2 |
| 1 | A | 126 | VAL | HG22 | 0.702 | 0.001 | 2 |
| 1 | A | 126 | VAL | HG23 | 0.702 | 0.001 | 2 |
| 1 | A | 128 | THR | HG22 | 1.239 | 0.020 | 1 |
| 1 | A | 128 | THR | HG23 | 1.239 | 0.020 | 1 |
| 1 | A | 138 | LEU | HD12 | 0.790 | 0.005 | 2 |
| 1 | A | 138 | LEU | HD13 | 0.790 | 0.005 | 2 |

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| List ID | Chain | Res | Type | Atom | Shift Data | | |
|---------|-------|------|------|------|------------|-------------|-----------|
| | | | | | Value | Uncertainty | Ambiguity |
| 1 | A | 138 | LEU | HD22 | 0.664 | 0.008 | 2 |
| 1 | A | 138 | LEU | HD23 | 0.664 | 0.008 | 2 |
| 1 | A | 141 | LEU | HD12 | -0.256 | 0.006 | 2 |
| 1 | A | 141 | LEU | HD13 | -0.256 | 0.006 | 2 |
| 1 | A | 141 | LEU | HD22 | 0.260 | 0.002 | 2 |
| 1 | A | 141 | LEU | HD23 | 0.260 | 0.002 | 2 |
| 1 | A | 142 | LEU | HD12 | 0.850 | 0.020 | 2 |
| 1 | A | 142 | LEU | HD13 | 0.850 | 0.020 | 2 |
| 1 | A | 142 | LEU | HD22 | 0.905 | 0.013 | 2 |
| 1 | A | 142 | LEU | HD23 | 0.905 | 0.013 | 2 |
| 1 | A | 145 | ILE | HG22 | 0.895 | 0.020 | 1 |
| 1 | A | 145 | ILE | HG23 | 0.895 | 0.020 | 1 |
| 1 | A | 145 | ILE | HD12 | 0.832 | 0.002 | 1 |
| 1 | A | 145 | ILE | HD13 | 0.832 | 0.002 | 1 |
| 1 | A | 1148 | 2MR | HQ12 | 2.415 | 0.020 | 1 |
| 1 | A | 1148 | 2MR | HQ13 | 2.415 | 0.020 | 1 |
| 1 | A | 1148 | 2MR | HQ22 | 2.415 | 0.020 | 1 |
| 1 | A | 1148 | 2MR | HQ23 | 2.415 | 0.020 | 1 |

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 |
|------------------------|----------|---------------------------------|----------------------------|
| $^{13}\text{C}_\alpha$ | 61 | -0.30 ± 0.23 | None needed (< 0.5 ppm) |
| $^{13}\text{C}_\beta$ | 60 | -0.01 ± 0.17 | None needed (< 0.5 ppm) |
| $^{13}\text{C}'$ | 0 | — | None (insufficient data) |
| ^{15}N | 60 | 0.60 ± 0.33 | None needed (imprecise) |

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 86%, i.e. 585 atoms were assigned a chemical shift out of a possible 678. 0 out of 7 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ^1H | ^{13}C | ^{15}N |
|-----------|---------------|----------------|-----------------|-----------------|
| Backbone | 207/262 (79%) | 107/107 (100%) | 50/104 (48%) | 50/51 (98%) |
| Sidechain | 320/355 (90%) | 218/230 (95%) | 99/113 (88%) | 3/12 (25%) |
| Aromatic | 58/61 (95%) | 29/29 (100%) | 27/30 (90%) | 2/2 (100%) |
| Overall | 585/678 (86%) | 354/366 (97%) | 176/247 (71%) | 55/65 (85%) |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 86%, i.e. 713 atoms were assigned a chemical shift out of a possible 825. 0 out of 8 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ¹ H | ¹³ C | ¹⁵ N |
|-----------|---------------|----------------|-----------------|-----------------|
| Backbone | 250/320 (78%) | 129/130 (99%) | 61/128 (48%) | 60/62 (97%) |
| Sidechain | 405/444 (91%) | 276/288 (96%) | 123/141 (87%) | 6/15 (40%) |
| Aromatic | 58/61 (95%) | 29/29 (100%) | 27/30 (90%) | 2/2 (100%) |
| Overall | 713/825 (86%) | 434/447 (97%) | 211/299 (71%) | 68/79 (86%) |

7.1.4 Statistically unusual chemical shifts [i](#)

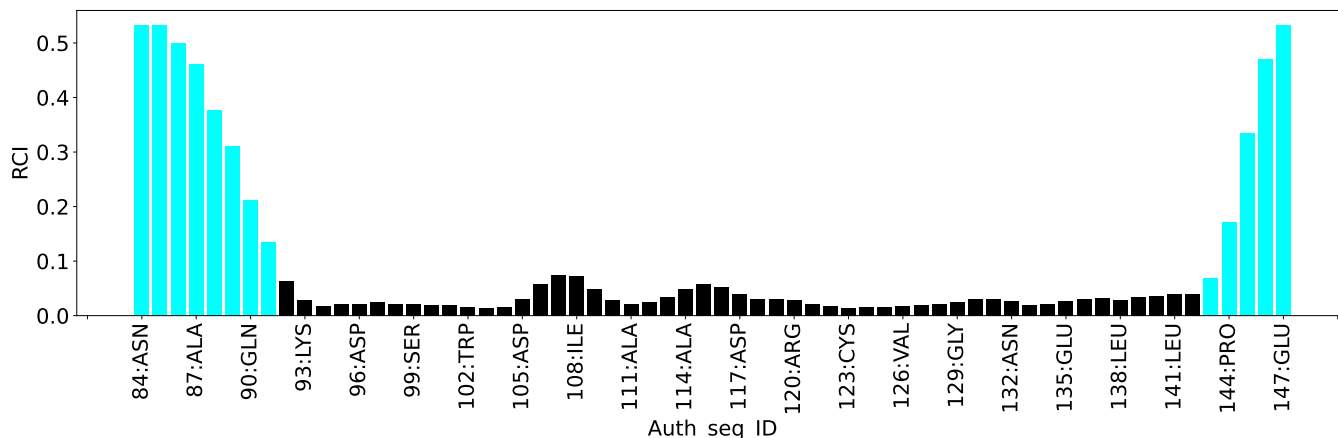
The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

| List Id | Chain | Res | Type | Atom | Shift, ppm | Expected range, ppm | Z-score |
|---------|-------|-----|------|------|------------|---------------------|---------|
| 1 | A | 104 | GLU | HB2 | -0.50 | 1.00 – 3.05 | -12.3 |
| 1 | A | 104 | GLU | HB3 | 0.09 | 0.95 – 3.05 | -9.1 |
| 1 | A | 132 | ASN | HD22 | 4.15 | 4.69 – 9.61 | -6.1 |
| 1 | A | 104 | GLU | H | 4.92 | 5.45 – 11.20 | -5.9 |

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 | 1863 |
| Intra-residue ($ i-j =0$) | 393 |
| Sequential ($ i-j =1$) | 435 |
| Medium range ($ i-j >1$ and $ i-j <5$) | 235 |
| Long range ($ i-j \geq 5$) | 800 |
| 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 | 29.1 |
| Number of long range restraints per residue ¹ | 12.5 |

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) | 14.7 | 0.2 |
| 0.2-0.5 (Medium) | 36.5 | 0.5 |
| >0.5 (Large) | 44.8 | 2.36 |

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 [i](#)

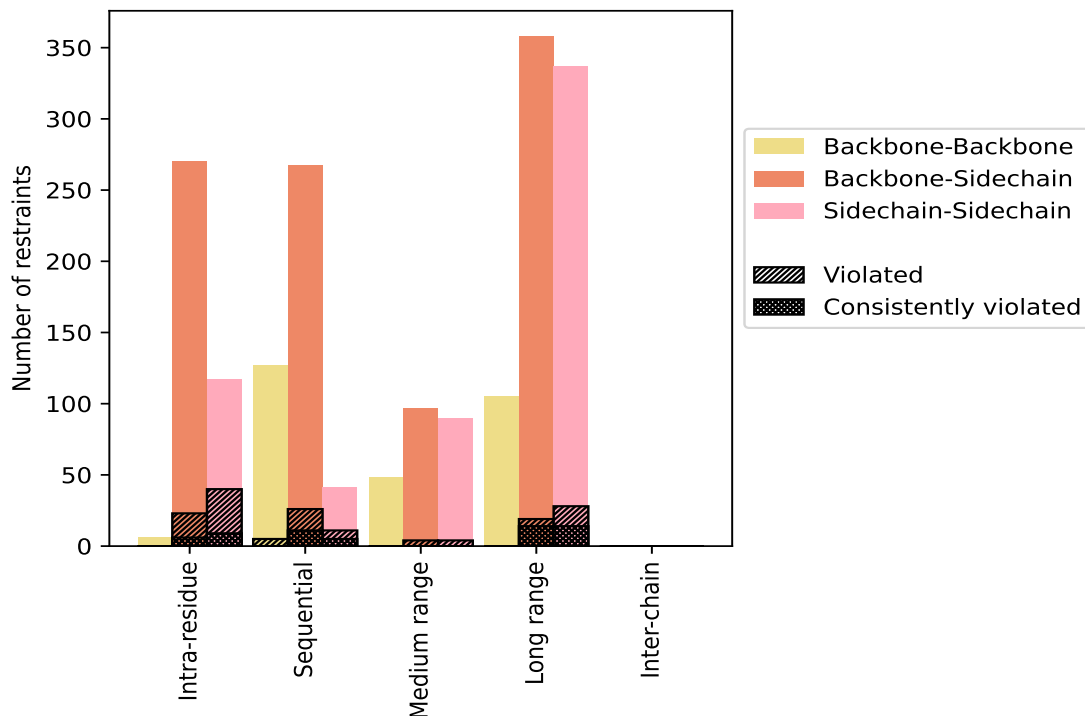
9.1 Summary of distance violations [i](#)

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 ($i-j =0$) | 393 | 21.1 | 63 | 16.0 | 3.4 | 15 | 3.8 | 0.8 |
| Backbone-Backbone | 6 | 0.3 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 270 | 14.5 | 23 | 8.5 | 1.2 | 6 | 2.2 | 0.3 |
| Sidechain-Sidechain | 117 | 6.3 | 40 | 34.2 | 2.1 | 9 | 7.7 | 0.5 |
| Sequential ($i-j =1$) | 435 | 23.3 | 42 | 9.7 | 2.3 | 16 | 3.7 | 0.9 |
| Backbone-Backbone | 127 | 6.8 | 5 | 3.9 | 0.3 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 267 | 14.3 | 26 | 9.7 | 1.4 | 11 | 4.1 | 0.6 |
| Sidechain-Sidechain | 41 | 2.2 | 11 | 26.8 | 0.6 | 5 | 12.2 | 0.3 |
| Medium range ($i-j >1$ & $i-j <5$) | 235 | 12.6 | 8 | 3.4 | 0.4 | 0 | 0.0 | 0.0 |
| Backbone-Backbone | 48 | 2.6 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 97 | 5.2 | 4 | 4.1 | 0.2 | 0 | 0.0 | 0.0 |
| Sidechain-Sidechain | 90 | 4.8 | 4 | 4.4 | 0.2 | 0 | 0.0 | 0.0 |
| Long range ($i-j \geq 5$) | 800 | 42.9 | 47 | 5.9 | 2.5 | 28 | 3.5 | 1.5 |
| Backbone-Backbone | 105 | 5.6 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 358 | 19.2 | 19 | 5.3 | 1.0 | 14 | 3.9 | 0.8 |
| Sidechain-Sidechain | 337 | 18.1 | 28 | 8.3 | 1.5 | 14 | 4.2 | 0.8 |
| 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 | 1863 | 100.0 | 160 | 8.6 | 8.6 | 59 | 3.2 | 3.2 |
| Backbone-Backbone | 286 | 15.4 | 5 | 1.7 | 0.3 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 992 | 53.2 | 72 | 7.3 | 3.9 | 31 | 3.1 | 1.7 |
| Sidechain-Sidechain | 585 | 31.4 | 83 | 14.2 | 4.5 | 28 | 4.8 | 1.5 |

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 | 38 | 22 | 5 | 34 | 0 | 99 | 0.61 | 2.19 | 0.46 | 0.45 |
| 2 | 31 | 21 | 4 | 39 | 0 | 95 | 0.65 | 2.26 | 0.49 | 0.49 |
| 3 | 38 | 27 | 2 | 39 | 0 | 106 | 0.58 | 2.3 | 0.46 | 0.4 |
| 4 | 37 | 22 | 4 | 36 | 0 | 99 | 0.63 | 2.29 | 0.48 | 0.47 |
| 5 | 31 | 21 | 2 | 37 | 0 | 91 | 0.62 | 2.16 | 0.46 | 0.48 |
| 6 | 40 | 20 | 3 | 34 | 0 | 97 | 0.62 | 2.32 | 0.45 | 0.46 |
| 7 | 37 | 21 | 1 | 35 | 0 | 94 | 0.6 | 2.24 | 0.46 | 0.4 |
| 8 | 32 | 25 | 2 | 36 | 0 | 95 | 0.65 | 2.19 | 0.48 | 0.51 |
| 9 | 33 | 24 | 2 | 38 | 0 | 97 | 0.6 | 2.29 | 0.47 | 0.4 |
| 10 | 31 | 24 | 2 | 37 | 0 | 94 | 0.63 | 2.34 | 0.5 | 0.47 |
| 11 | 33 | 22 | 2 | 34 | 0 | 91 | 0.65 | 2.36 | 0.49 | 0.46 |

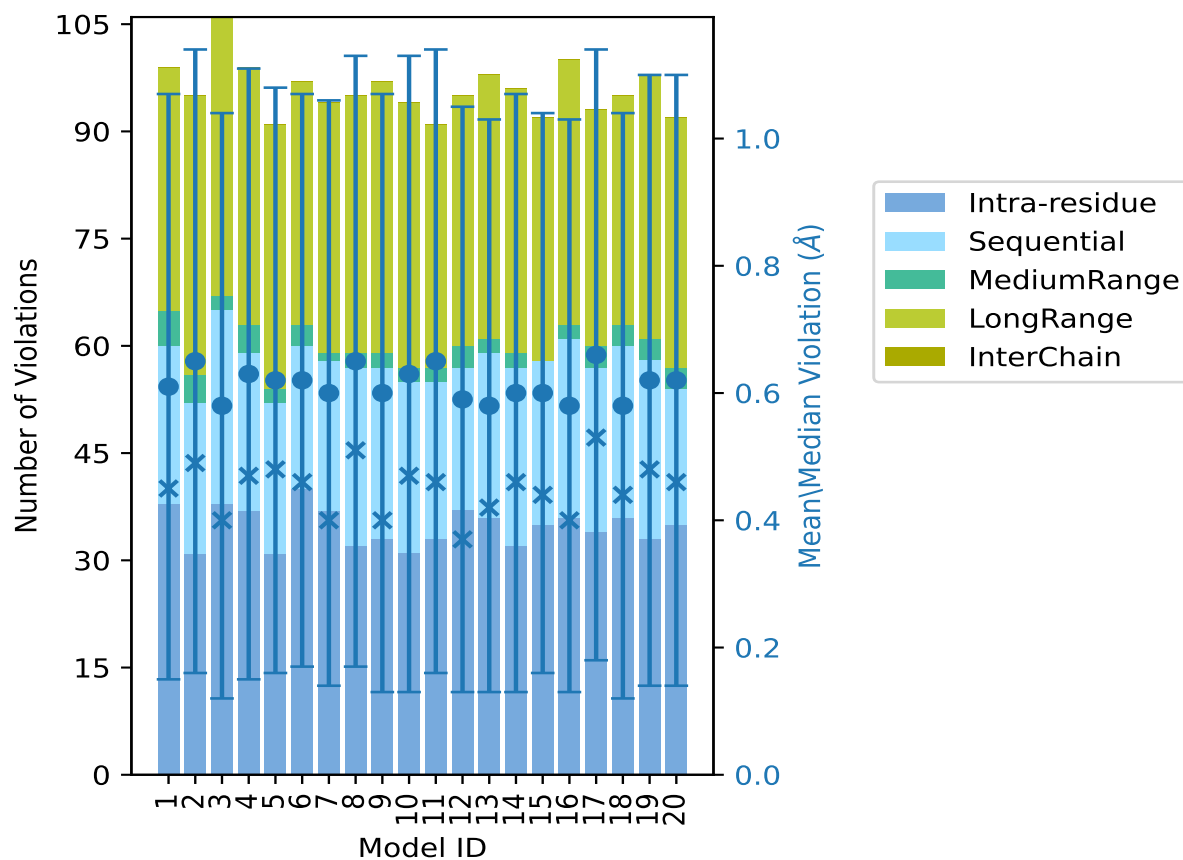
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| Model ID | Number of violations | | | | | | Mean (Å) | Max (Å) | SD ⁶ (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
| | IR ¹ | SQ ² | MR ³ | LR ⁴ | IC ⁵ | Total | | | | |
| 12 | 37 | 20 | 3 | 35 | 0 | 95 | 0.59 | 2.32 | 0.46 | 0.37 |
| 13 | 36 | 23 | 2 | 37 | 0 | 98 | 0.58 | 2.27 | 0.45 | 0.42 |
| 14 | 32 | 25 | 2 | 37 | 0 | 96 | 0.6 | 2.31 | 0.47 | 0.46 |
| 15 | 35 | 23 | 0 | 34 | 0 | 92 | 0.6 | 2.17 | 0.44 | 0.44 |
| 16 | 36 | 25 | 2 | 37 | 0 | 100 | 0.58 | 2.25 | 0.45 | 0.4 |
| 17 | 34 | 23 | 3 | 33 | 0 | 93 | 0.66 | 2.23 | 0.48 | 0.53 |
| 18 | 36 | 24 | 3 | 32 | 0 | 95 | 0.58 | 2.27 | 0.46 | 0.44 |
| 19 | 33 | 25 | 3 | 37 | 0 | 98 | 0.62 | 2.26 | 0.48 | 0.48 |
| 20 | 35 | 19 | 3 | 35 | 0 | 92 | 0.62 | 2.19 | 0.48 | 0.46 |

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

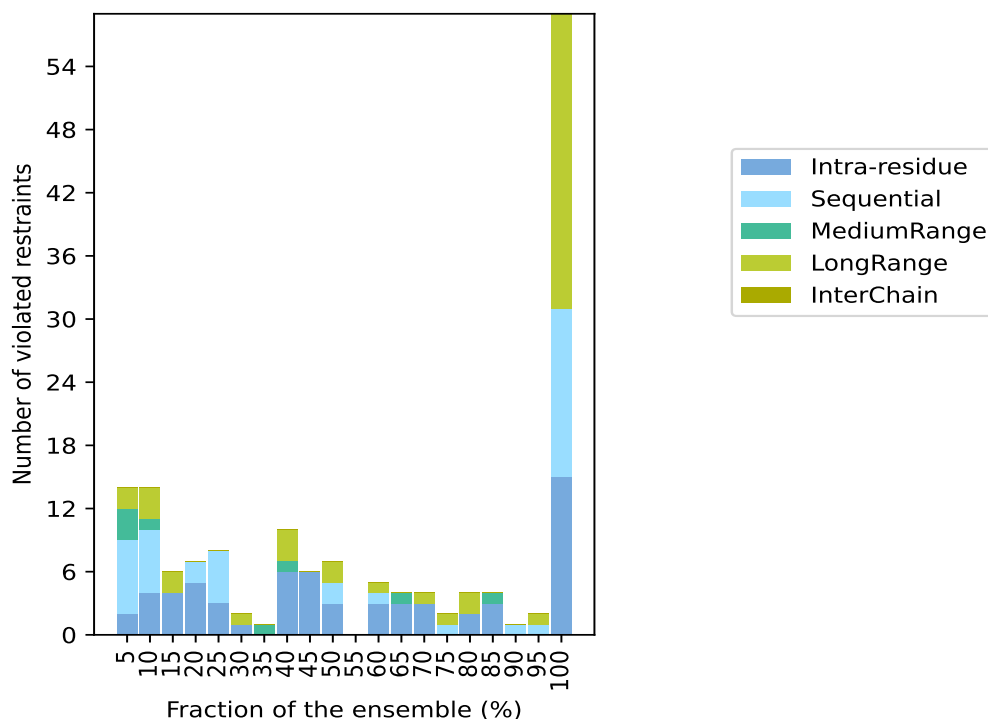
9.3 Distance violation statistics for the ensemble

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, 1703(IR:330, SQ:393, MR:227, LR:753, IC:0) restraints are not violated in the ensemble.

| Number of violated restraints | | | | | | Fraction of the ensemble | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-------|--------------------------|-------|
| IR ¹ | SQ ² | MR ³ | LR ⁴ | IC ⁵ | Total | Count ⁶ | % |
| 2 | 7 | 3 | 2 | 0 | 14 | 1 | 5.0 |
| 4 | 6 | 1 | 3 | 0 | 14 | 2 | 10.0 |
| 4 | 0 | 0 | 2 | 0 | 6 | 3 | 15.0 |
| 5 | 2 | 0 | 0 | 0 | 7 | 4 | 20.0 |
| 3 | 5 | 0 | 0 | 0 | 8 | 5 | 25.0 |
| 1 | 0 | 0 | 1 | 0 | 2 | 6 | 30.0 |
| 0 | 0 | 1 | 0 | 0 | 1 | 7 | 35.0 |
| 6 | 0 | 1 | 3 | 0 | 10 | 8 | 40.0 |
| 6 | 0 | 0 | 0 | 0 | 6 | 9 | 45.0 |
| 3 | 2 | 0 | 2 | 0 | 7 | 10 | 50.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 11 | 55.0 |
| 3 | 1 | 0 | 1 | 0 | 5 | 12 | 60.0 |
| 3 | 0 | 1 | 0 | 0 | 4 | 13 | 65.0 |
| 3 | 0 | 0 | 1 | 0 | 4 | 14 | 70.0 |
| 0 | 1 | 0 | 1 | 0 | 2 | 15 | 75.0 |
| 2 | 0 | 0 | 2 | 0 | 4 | 16 | 80.0 |
| 3 | 0 | 1 | 0 | 0 | 4 | 17 | 85.0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 18 | 90.0 |
| 0 | 1 | 0 | 1 | 0 | 2 | 19 | 95.0 |
| 15 | 16 | 0 | 28 | 0 | 59 | 20 | 100.0 |

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

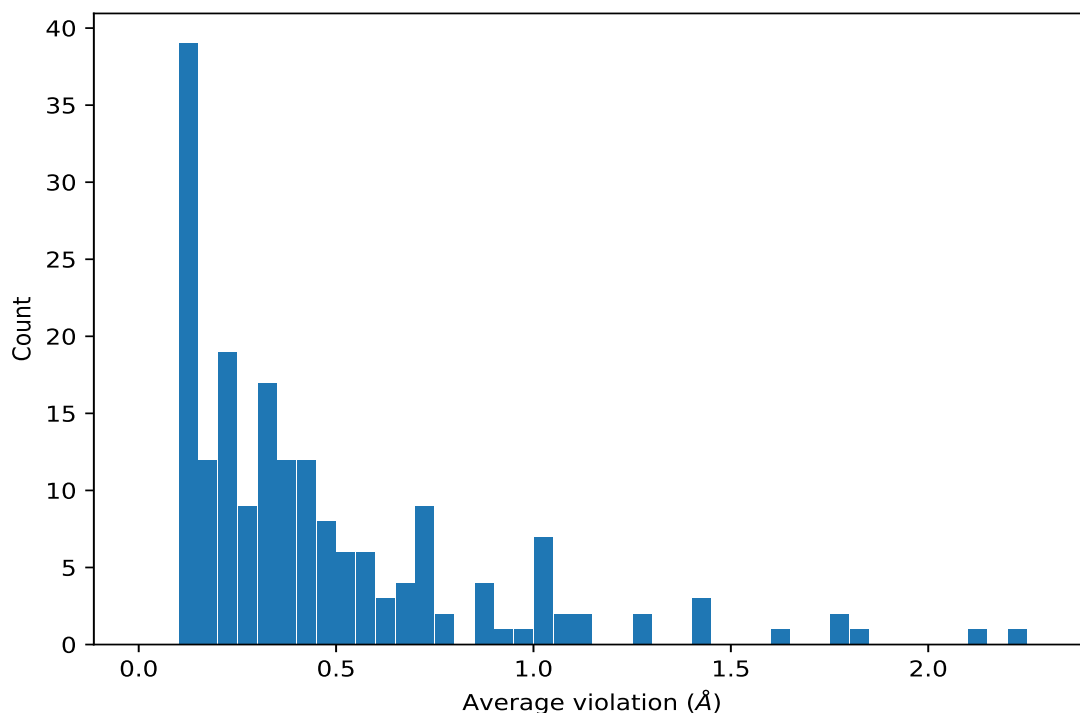
9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



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) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 20 | 2.24 | 0.05 | 2.25 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 20 | 2.11 | 0.42 | 2.24 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 20 | 1.78 | 0.08 | 1.8 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 20 | 1.44 | 0.04 | 1.42 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 20 | 1.42 | 0.1 | 1.45 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 20 | 1.42 | 0.03 | 1.41 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 20 | 1.29 | 0.09 | 1.28 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 20 | 1.29 | 0.06 | 1.29 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 20 | 1.12 | 0.03 | 1.12 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 20 | 1.11 | 0.1 | 1.1 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 20 | 1.08 | 0.08 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 20 | 1.08 | 0.08 | 1.08 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 20 | 1.04 | 0.31 | 0.98 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 20 | 1.04 | 0.12 | 1.02 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 20 | 1.03 | 0.06 | 1.04 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 20 | 1.03 | 0.03 | 1.02 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 20 | 1.01 | 0.07 | 1.02 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 20 | 1.01 | 0.07 | 1.02 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 20 | 1.0 | 0.06 | 1.01 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 20 | 0.99 | 0.02 | 0.99 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 20 | 0.92 | 0.02 | 0.92 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 20 | 0.88 | 0.08 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 20 | 0.88 | 0.08 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 20 | 0.88 | 0.08 | 0.89 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 20 | 0.88 | 0.08 | 0.86 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 20 | 0.79 | 0.03 | 0.79 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 20 | 0.78 | 0.12 | 0.78 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 20 | 0.73 | 0.08 | 0.73 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 20 | 0.73 | 0.02 | 0.73 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 20 | 0.72 | 0.03 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 20 | 0.72 | 0.04 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 20 | 0.72 | 0.04 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 20 | 0.72 | 0.04 | 0.72 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 20 | 0.72 | 0.03 | 0.72 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 20 | 0.71 | 0.14 | 0.7 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 20 | 0.65 | 0.27 | 0.67 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 20 | 0.65 | 0.25 | 0.66 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 20 | 0.65 | 0.06 | 0.66 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 20 | 0.64 | 0.25 | 0.66 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 20 | 0.59 | 0.12 | 0.57 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 20 | 0.59 | 0.21 | 0.66 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 20 | 0.56 | 0.23 | 0.72 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 20 | 0.53 | 0.01 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 20 | 0.53 | 0.01 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 20 | 0.53 | 0.01 | 0.54 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 20 | 0.49 | 0.18 | 0.48 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 20 | 0.47 | 0.1 | 0.48 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 20 | 0.45 | 0.12 | 0.47 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 20 | 0.45 | 0.12 | 0.47 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 20 | 0.45 | 0.12 | 0.47 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 20 | 0.42 | 0.1 | 0.45 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 20 | 0.41 | 0.05 | 0.4 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 20 | 0.4 | 0.17 | 0.44 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 20 | 0.36 | 0.03 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 20 | 0.36 | 0.03 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 20 | 0.36 | 0.03 | 0.36 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 20 | 0.35 | 0.32 | 0.29 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 20 | 0.35 | 0.03 | 0.35 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 20 | 0.35 | 0.06 | 0.34 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 20 | 0.32 | 0.01 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 20 | 0.32 | 0.01 | 0.32 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 20 | 0.31 | 0.11 | 0.29 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 20 | 0.31 | 0.04 | 0.3 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 20 | 0.27 | 0.07 | 0.28 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 20 | 0.27 | 0.01 | 0.27 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 20 | 0.25 | 0.0 | 0.25 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 20 | 0.24 | 0.05 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 20 | 0.24 | 0.0 | 0.24 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 20 | 0.21 | 0.04 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 20 | 0.2 | 0.01 | 0.2 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 20 | 0.19 | 0.04 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 20 | 0.19 | 0.04 | 0.18 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 19 | 1.77 | 0.05 | 1.77 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 19 | 0.7 | 0.45 | 0.61 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 18 | 0.44 | 0.17 | 0.4 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 17 | 0.67 | 0.41 | 0.52 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 17 | 0.33 | 0.26 | 0.19 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 17 | 0.23 | 0.01 | 0.23 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 17 | 0.19 | 0.04 | 0.19 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 16 | 0.32 | 0.16 | 0.24 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 16 | 0.29 | 0.15 | 0.24 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 16 | 0.29 | 0.15 | 0.24 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 16 | 0.25 | 0.09 | 0.24 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 16 | 0.25 | 0.09 | 0.24 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 16 | 0.11 | 0.0 | 0.11 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 15 | 0.47 | 0.17 | 0.53 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 15 | 0.22 | 0.08 | 0.2 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 14 | 0.58 | 0.15 | 0.54 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 14 | 0.24 | 0.01 | 0.24 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 14 | 0.18 | 0.06 | 0.16 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 14 | 0.15 | 0.02 | 0.15 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 13 | 0.63 | 0.19 | 0.65 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 13 | 0.44 | 0.25 | 0.63 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 13 | 0.44 | 0.25 | 0.63 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 13 | 0.4 | 0.18 | 0.37 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 12 | 0.45 | 0.02 | 0.46 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 12 | 0.41 | 0.17 | 0.42 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 12 | 0.4 | 0.02 | 0.39 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 12 | 0.24 | 0.02 | 0.24 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 12 | 0.23 | 0.07 | 0.24 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|-----------------|------------------|---------------------|----------|---------------------|------------|
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 10 | 0.52 | 0.26 | 0.56 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 10 | 0.45 | 0.2 | 0.54 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 10 | 0.44 | 0.02 | 0.44 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 10 | 0.36 | 0.0 | 0.36 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 10 | 0.32 | 0.05 | 0.32 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 10 | 0.23 | 0.01 | 0.24 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 10 | 0.23 | 0.06 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 10 | 0.23 | 0.06 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 10 | 0.23 | 0.06 | 0.2 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 9 | 0.64 | 0.0 | 0.64 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 9 | 0.44 | 0.0 | 0.44 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 9 | 0.36 | 0.03 | 0.34 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 9 | 0.32 | 0.2 | 0.28 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 9 | 0.3 | 0.01 | 0.3 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 9 | 0.2 | 0.0 | 0.2 |
| (2,1) | 1:A:127:TYR:OH | 1:A:134:GLU:OE1 | 8 | 1.83 | 0.13 | 1.86 |
| (2,3) | 1:A:134:GLU:OE1 | 1:A:136:GLN:NE2 | 8 | 1.6 | 0.07 | 1.61 |
| (1,1231) | 1:A:90:GLN:HB2 | 1:A:139:SER:HA | 8 | 0.56 | 0.29 | 0.52 |
| (1,1813) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE21 | 8 | 0.35 | 0.02 | 0.34 |
| (1,1816) | 1:A:91:GLN:HE21 | 1:A:91:GLN:HG3 | 8 | 0.35 | 0.03 | 0.34 |
| (1,10) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 8 | 0.3 | 0.02 | 0.29 |
| (1,9) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 8 | 0.29 | 0.01 | 0.29 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD1 | 8 | 0.2 | 0.06 | 0.2 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD2 | 8 | 0.2 | 0.06 | 0.2 |
| (1,1025) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 8 | 0.2 | 0.0 | 0.2 |
| (1,1040) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 8 | 0.2 | 0.0 | 0.2 |
| (1,1426) | 1:A:92:TRP:HE1 | 1:A:90:GLN:HB3 | 7 | 0.3 | 0.12 | 0.28 |
| (1,540) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 6 | 0.34 | 0.25 | 0.25 |
| (1,1452) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB2 | 6 | 0.15 | 0.05 | 0.14 |
| (1,503) | 1:A:90:GLN:HG2 | 1:A:89:LEU:H | 5 | 0.57 | 0.22 | 0.65 |
| (1,1022) | 1:A:97:LYS:HB2 | 1:A:97:LYS:HD3 | 5 | 0.41 | 0.01 | 0.41 |
| (1,510) | 1:A:88:SER:HB2 | 1:A:88:SER:H | 5 | 0.37 | 0.06 | 0.35 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE21 | 5 | 0.33 | 0.1 | 0.3 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 5 | 0.33 | 0.1 | 0.3 |
| (1,496) | 1:A:88:SER:HB2 | 1:A:89:LEU:H | 5 | 0.24 | 0.06 | 0.23 |
| (1,477) | 1:A:104:GLU:H | 1:A:103:SER:HB3 | 5 | 0.12 | 0.01 | 0.12 |
| (1,551) | 1:A:134:GLU:HB2 | 1:A:133:ARG:H | 5 | 0.12 | 0.02 | 0.12 |
| (1,1686) | 1:A:102:TRP:HD1 | 1:A:103:SER:HB3 | 5 | 0.12 | 0.01 | 0.12 |
| (1,1858) | 1:A:147:GLU:HB2 | 1:A:147:GLU:HG3 | 4 | 0.5 | 0.23 | 0.62 |
| (1,1808) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HG3 | 4 | 0.33 | 0.02 | 0.33 |
| (1,385) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 4 | 0.3 | 0.0 | 0.3 |
| (1,59) | 1:A:97:LYS:H | 1:A:97:LYS:HG2 | 4 | 0.15 | 0.01 | 0.16 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,1799) | 1:A:84:ASN:HB3 | 1:A:84:ASN:HD22 | 4 | 0.14 | 0.01 | 0.14 |
| (1,1799) | 1:A:84:ASN:HB2 | 1:A:84:ASN:HD22 | 4 | 0.14 | 0.01 | 0.14 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG21 | 4 | 0.12 | 0.01 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG22 | 4 | 0.12 | 0.01 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG23 | 4 | 0.12 | 0.01 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG21 | 4 | 0.12 | 0.01 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG22 | 4 | 0.12 | 0.01 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG23 | 4 | 0.12 | 0.01 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG21 | 4 | 0.12 | 0.01 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG22 | 4 | 0.12 | 0.01 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG23 | 4 | 0.12 | 0.01 | 0.11 |
| (1,2) | 1:A:90:GLN:H | 1:A:89:LEU:HA | 4 | 0.11 | 0.0 | 0.11 |
| (1,1801) | 1:A:84:ASN:HB2 | 1:A:84:ASN:HD21 | 3 | 0.31 | 0.0 | 0.31 |
| (1,1026) | 1:A:147:GLU:HB2 | 1:A:147:GLU:HG3 | 3 | 0.19 | 0.01 | 0.19 |
| (1,356) | 1:A:133:ARG:H | 1:A:133:ARG:HB3 | 3 | 0.14 | 0.02 | 0.15 |
| (1,1336) | 1:A:112:THR:HG21 | 1:A:97:LYS:HE3 | 3 | 0.13 | 0.02 | 0.13 |
| (1,1336) | 1:A:112:THR:HG22 | 1:A:97:LYS:HE3 | 3 | 0.13 | 0.02 | 0.13 |
| (1,1336) | 1:A:112:THR:HG23 | 1:A:97:LYS:HE3 | 3 | 0.13 | 0.02 | 0.13 |
| (1,1336) | 1:A:112:THR:HG21 | 1:A:97:LYS:HE2 | 3 | 0.13 | 0.02 | 0.13 |
| (1,1336) | 1:A:112:THR:HG22 | 1:A:97:LYS:HE2 | 3 | 0.13 | 0.02 | 0.13 |
| (1,1336) | 1:A:112:THR:HG23 | 1:A:97:LYS:HE2 | 3 | 0.13 | 0.02 | 0.13 |
| (1,1484) | 1:A:112:THR:HA | 1:A:97:LYS:HE3 | 3 | 0.13 | 0.01 | 0.12 |
| (1,1484) | 1:A:112:THR:HA | 1:A:97:LYS:HE2 | 3 | 0.13 | 0.01 | 0.12 |
| (1,1831) | 1:A:119:LYS:HG3 | 1:A:119:LYS:HD3 | 3 | 0.13 | 0.0 | 0.13 |
| (1,1831) | 1:A:119:LYS:HG3 | 1:A:119:LYS:HD2 | 3 | 0.13 | 0.0 | 0.13 |
| (1,1842) | 1:A:143:SER:HB2 | 1:A:142:LEU:HB3 | 2 | 0.52 | 0.01 | 0.52 |
| (1,1230) | 1:A:139:SER:HA | 1:A:90:GLN:HB3 | 2 | 0.39 | 0.13 | 0.39 |
| (1,1148) | 1:A:88:SER:HA | 1:A:88:SER:HB3 | 2 | 0.26 | 0.0 | 0.26 |
| (1,1109) | 1:A:121:GLU:HG2 | 1:A:118:PHE:HA | 2 | 0.18 | 0.02 | 0.18 |
| (1,539) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 2 | 0.16 | 0.04 | 0.16 |
| (1,492) | 1:A:89:LEU:H | 1:A:88:SER:HA | 2 | 0.16 | 0.04 | 0.16 |
| (1,1631) | 1:A:134:GLU:HB2 | 1:A:102:TRP:HD1 | 2 | 0.15 | 0.01 | 0.15 |
| (1,504) | 1:A:85:THR:HA | 1:A:86:ALA:H | 2 | 0.14 | 0.01 | 0.14 |
| (1,507) | 1:A:87:ALA:H | 1:A:86:ALA:H | 2 | 0.13 | 0.0 | 0.13 |
| (1,700) | 1:A:98:CYS:H | 1:A:97:LYS:HE3 | 2 | 0.12 | 0.01 | 0.12 |
| (1,700) | 1:A:98:CYS:H | 1:A:97:LYS:HE2 | 2 | 0.12 | 0.01 | 0.12 |
| (1,543) | 1:A:134:GLU:H | 1:A:134:GLU:HG2 | 2 | 0.12 | 0.01 | 0.12 |
| (1,896) | 1:A:133:ARG:HD3 | 1:A:126:VAL:HG21 | 2 | 0.12 | 0.0 | 0.12 |
| (1,896) | 1:A:133:ARG:HD3 | 1:A:126:VAL:HG22 | 2 | 0.12 | 0.0 | 0.12 |
| (1,896) | 1:A:133:ARG:HD3 | 1:A:126:VAL:HG23 | 2 | 0.12 | 0.0 | 0.12 |
| (1,1525) | 1:A:97:LYS:HB3 | 1:A:98:CYS:HA | 2 | 0.12 | 0.0 | 0.12 |
| (1,970) | 1:A:85:THR:HA | 1:A:85:THR:HG21 | 2 | 0.11 | 0.0 | 0.11 |

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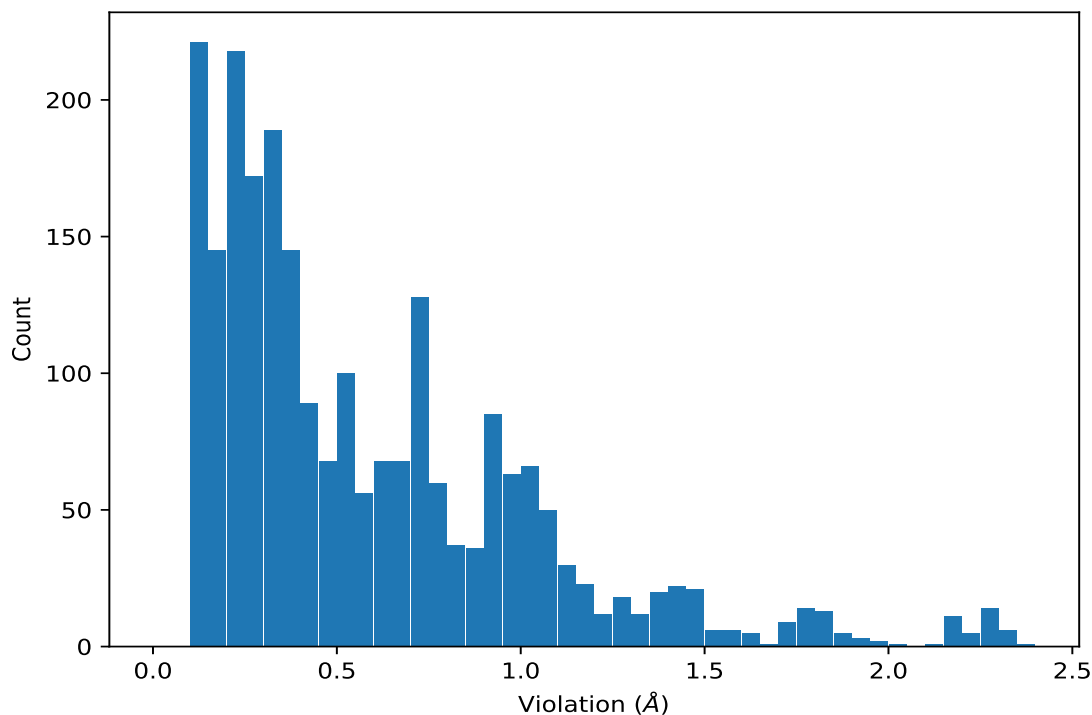
| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|---------|---------------|-----------------|---------------------|----------|---------------------|------------|
| (1,970) | 1:A:85:THR:HA | 1:A:85:THR:HG22 | 2 | 0.11 | 0.0 | 0.11 |
| (1,970) | 1:A:85:THR:HA | 1:A:85:THR:HG23 | 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) |
|----------|-----------------|------------------|----------|---------------|
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 11 | 2.36 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 10 | 2.34 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 6 | 2.32 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 12 | 2.32 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 14 | 2.31 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 3 | 2.3 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 12 | 2.3 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 9 | 2.29 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 4 | 2.29 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 4 | 2.28 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 9 | 2.28 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 18 | 2.27 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 13 | 2.27 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 2 | 2.26 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 19 | 2.26 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 2 | 2.26 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 18 | 2.26 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 19 | 2.26 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 16 | 2.25 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 3 | 2.25 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 16 | 2.25 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 7 | 2.24 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 11 | 2.24 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 17 | 2.23 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 13 | 2.2 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 10 | 2.2 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 17 | 2.19 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 20 | 2.19 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 1 | 2.19 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 8 | 2.19 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 20 | 2.19 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 14 | 2.18 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 7 | 2.18 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 6 | 2.17 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 15 | 2.17 |
| (1,1798) | 1:A:132:ASN:H | 2:A:1148:2MR:HH2 | 5 | 2.16 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 15 | 2.15 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 1 | 2.14 |
| (2,1) | 1:A:127:TYR:OH | 1:A:134:GLU:OE1 | 2 | 2.01 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 8 | 1.99 |
| (2,1) | 1:A:127:TYR:OH | 1:A:134:GLU:OE1 | 1 | 1.96 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 5 | 1.94 |
| (2,1) | 1:A:127:TYR:OH | 1:A:134:GLU:OE1 | 4 | 1.92 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 5 | 1.91 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 9 | 1.88 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 14 | 1.87 |
| (2,1) | 1:A:127:TYR:OH | 1:A:134:GLU:OE1 | 10 | 1.86 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 4 | 1.86 |
| (2,1) | 1:A:127:TYR:OH | 1:A:134:GLU:OE1 | 8 | 1.85 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 13 | 1.84 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 3 | 1.83 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 2 | 1.82 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 7 | 1.81 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 8 | 1.81 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 1 | 1.8 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 5 | 1.8 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 6 | 1.8 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 15 | 1.8 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 20 | 1.8 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 4 | 1.8 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 11 | 1.8 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 17 | 1.8 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 16 | 1.79 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 6 | 1.79 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 13 | 1.78 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 19 | 1.78 |
| (2,1) | 1:A:127:TYR:OH | 1:A:134:GLU:OE1 | 17 | 1.77 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 9 | 1.77 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 7 | 1.77 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 8 | 1.76 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 11 | 1.76 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 10 | 1.76 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 17 | 1.75 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 18 | 1.75 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 18 | 1.75 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 20 | 1.75 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 10 | 1.74 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 19 | 1.74 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 12 | 1.74 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 2 | 1.73 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 3 | 1.73 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 16 | 1.71 |
| (2,3) | 1:A:134:GLU:OE1 | 1:A:136:GLN:NE2 | 10 | 1.7 |
| (2,1) | 1:A:127:TYR:OH | 1:A:134:GLU:OE1 | 20 | 1.7 |
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 12 | 1.7 |
| (2,3) | 1:A:134:GLU:OE1 | 1:A:136:GLN:NE2 | 8 | 1.65 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1777) | 1:A:102:TRP:HZ2 | 2:A:1148:2MR:HB2 | 14 | 1.64 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 15 | 1.64 |
| (2,3) | 1:A:134:GLU:OE1 | 1:A:136:GLN:NE2 | 20 | 1.63 |
| (2,3) | 1:A:134:GLU:OE1 | 1:A:136:GLN:NE2 | 19 | 1.62 |
| (2,3) | 1:A:134:GLU:OE1 | 1:A:136:GLN:NE2 | 4 | 1.6 |
| (1,1451) | 1:A:142:LEU:HB2 | 1:A:98:CYS:HB3 | 1 | 1.59 |
| (2,1) | 1:A:127:TYR:OH | 1:A:134:GLU:OE1 | 19 | 1.58 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 11 | 1.58 |
| (2,3) | 1:A:134:GLU:OE1 | 1:A:136:GLN:NE2 | 17 | 1.56 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 5 | 1.56 |
| (2,3) | 1:A:134:GLU:OE1 | 1:A:136:GLN:NE2 | 2 | 1.55 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 8 | 1.54 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 17 | 1.54 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 3 | 1.52 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 19 | 1.51 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 1 | 1.51 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 9 | 1.51 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 10 | 1.49 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 13 | 1.49 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 6 | 1.48 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 12 | 1.48 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 8 | 1.46 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 14 | 1.46 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 3 | 1.46 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 5 | 1.46 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 6 | 1.46 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 2 | 1.46 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 4 | 1.46 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 5 | 1.46 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 11 | 1.46 |
| (2,3) | 1:A:134:GLU:OE1 | 1:A:136:GLN:NE2 | 1 | 1.45 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 2 | 1.45 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 17 | 1.45 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 20 | 1.45 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 17 | 1.45 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 15 | 1.45 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 16 | 1.45 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 20 | 1.45 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 8 | 1.44 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 13 | 1.44 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 16 | 1.44 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 11 | 1.43 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 12 | 1.43 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 6 | 1.43 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 7 | 1.42 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 7 | 1.42 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 14 | 1.42 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 10 | 1.41 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 2 | 1.41 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 4 | 1.41 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 18 | 1.41 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 19 | 1.41 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 18 | 1.41 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 20 | 1.41 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 4 | 1.4 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 1 | 1.4 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 3 | 1.4 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 12 | 1.4 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 19 | 1.4 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 5 | 1.4 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 7 | 1.39 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 9 | 1.39 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 10 | 1.39 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 8 | 1.39 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 11 | 1.39 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 9 | 1.38 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 14 | 1.38 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 20 | 1.38 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 5 | 1.38 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 17 | 1.38 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 9 | 1.38 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 11 | 1.38 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 18 | 1.37 |
| (1,636) | 1:A:98:CYS:HB2 | 1:A:113:ILE:H | 15 | 1.37 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 14 | 1.37 |
| (1,1797) | 1:A:132:ASN:HD21 | 2:A:1148:2MR:HH2 | 17 | 1.37 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 14 | 1.37 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 1 | 1.36 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 8 | 1.35 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 19 | 1.35 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 3 | 1.34 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 13 | 1.34 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 18 | 1.34 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 16 | 1.33 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 16 | 1.33 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 20 | 1.33 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 1 | 1.32 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 19 | 1.32 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 9 | 1.32 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 3 | 1.32 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 6 | 1.31 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 19 | 1.3 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 11 | 1.29 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 15 | 1.29 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 17 | 1.29 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 18 | 1.28 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 12 | 1.28 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 10 | 1.27 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 7 | 1.27 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 7 | 1.26 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 2 | 1.26 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 4 | 1.26 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 2 | 1.25 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 6 | 1.25 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 8 | 1.25 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 2 | 1.25 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 2 | 1.25 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 9 | 1.25 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 8 | 1.25 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 13 | 1.25 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 11 | 1.24 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 5 | 1.24 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 6 | 1.24 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 4 | 1.23 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 7 | 1.23 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 16 | 1.23 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 13 | 1.22 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 12 | 1.22 |
| (1,1231) | 1:A:90:GLN:HB2 | 1:A:139:SER:HA | 2 | 1.21 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 18 | 1.2 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 18 | 1.2 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 1 | 1.2 |
| (1,91) | 1:A:100:ALA:H | 1:A:142:LEU:HB3 | 15 | 1.19 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 15 | 1.19 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 10 | 1.19 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 15 | 1.19 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 13 | 1.19 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 10 | 1.19 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 7 | 1.18 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 4 | 1.18 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 3 | 1.18 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 3 | 1.18 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 3 | 1.17 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 4 | 1.17 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 16 | 1.16 |
| (1,436) | 1:A:142:LEU:H | 1:A:98:CYS:HB3 | 1 | 1.16 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 5 | 1.16 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 5 | 1.16 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 5 | 1.16 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 5 | 1.16 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 20 | 1.15 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 2 | 1.15 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 8 | 1.15 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 10 | 1.15 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 10 | 1.15 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 11 | 1.14 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 16 | 1.14 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 9 | 1.14 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 6 | 1.14 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 6 | 1.14 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 11 | 1.14 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 14 | 1.13 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 17 | 1.13 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 18 | 1.13 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 17 | 1.12 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 1 | 1.12 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 3 | 1.12 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 7 | 1.12 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 12 | 1.12 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 14 | 1.12 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 1 | 1.12 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 1 | 1.12 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 8 | 1.12 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 8 | 1.12 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 8 | 1.11 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 13 | 1.11 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 9 | 1.11 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 9 | 1.11 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 2 | 1.11 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 5 | 1.1 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 6 | 1.1 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 11 | 1.1 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 19 | 1.1 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 13 | 1.1 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 11 | 1.1 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 19 | 1.09 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 9 | 1.09 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 3 | 1.09 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 18 | 1.09 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 6 | 1.09 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 9 | 1.09 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 16 | 1.09 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 5 | 1.08 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 10 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 9 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 9 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 11 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 11 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 14 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 14 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 15 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 15 | 1.08 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 12 | 1.08 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 19 | 1.08 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 11 | 1.08 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 10 | 1.07 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 10 | 1.07 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 13 | 1.07 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 13 | 1.07 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 19 | 1.07 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 19 | 1.07 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 8 | 1.07 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 18 | 1.06 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 18 | 1.06 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 19 | 1.06 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 2 | 1.06 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 2 | 1.06 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 3 | 1.06 |
| (1,1388) | 1:A:99:SER:HA | 1:A:142:LEU:HB3 | 15 | 1.06 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 2 | 1.06 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 1 | 1.05 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 14 | 1.05 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 15 | 1.05 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 16 | 1.05 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 11 | 1.05 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 12 | 1.05 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 7 | 1.05 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 20 | 1.05 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 7 | 1.05 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 7 | 1.05 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 19 | 1.05 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 19 | 1.05 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 1 | 1.05 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 10 | 1.05 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 15 | 1.05 |
| (1,449) | 1:A:142:LEU:HB2 | 1:A:143:SER:H | 20 | 1.04 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 7 | 1.04 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 4 | 1.04 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 4 | 1.04 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 12 | 1.04 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 12 | 1.04 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 2 | 1.04 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 5 | 1.04 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 17 | 1.04 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 3 | 1.04 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 8 | 1.04 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 17 | 1.04 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 14 | 1.03 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 2 | 1.03 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 6 | 1.03 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 6 | 1.03 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 11 | 1.03 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 20 | 1.03 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 10 | 1.03 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 14 | 1.03 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 20 | 1.03 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 20 | 1.03 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 12 | 1.03 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 16 | 1.03 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 3 | 1.03 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 3 | 1.03 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 11 | 1.03 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 11 | 1.03 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 18 | 1.03 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 18 | 1.03 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 19 | 1.03 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 7 | 1.02 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 7 | 1.02 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 5 | 1.02 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 12 | 1.02 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 18 | 1.02 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 7 | 1.02 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 7 | 1.02 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 4 | 1.02 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 10 | 1.02 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 4 | 1.02 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 4 | 1.02 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 14 | 1.02 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 14 | 1.02 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 10 | 1.01 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 5 | 1.01 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 9 | 1.01 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 9 | 1.01 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 13 | 1.01 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 8 | 1.01 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 8 | 1.01 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 14 | 1.01 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 4 | 1.01 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 12 | 1.01 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 10 | 1.0 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 2 | 1.0 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 3 | 1.0 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 6 | 1.0 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 16 | 1.0 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 2 | 1.0 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 16 | 1.0 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 16 | 1.0 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 1 | 1.0 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 3 | 1.0 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 13 | 1.0 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 13 | 1.0 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 5 | 0.99 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 13 | 0.99 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 4 | 0.99 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 8 | 0.99 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 12 | 0.99 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 15 | 0.99 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 17 | 0.99 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 18 | 0.99 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 11 | 0.99 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 11 | 0.99 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 14 | 0.99 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 17 | 0.99 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 10 | 0.99 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 10 | 0.99 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 20 | 0.99 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 20 | 0.99 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 1 | 0.99 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 18 | 0.99 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 3 | 0.98 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 3 | 0.98 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 3 | 0.98 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 17 | 0.98 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 13 | 0.98 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 8 | 0.98 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 12 | 0.98 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 12 | 0.98 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 17 | 0.98 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 17 | 0.98 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 16 | 0.98 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 3 | 0.97 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 14 | 0.97 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 16 | 0.97 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 19 | 0.97 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 15 | 0.97 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 10 | 0.97 |
| (1,1536) | 1:A:99:SER:HB2 | 1:A:98:CYS:HB3 | 15 | 0.97 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 6 | 0.97 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 6 | 0.97 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 16 | 0.97 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 20 | 0.97 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 9 | 0.96 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 9 | 0.96 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 9 | 0.96 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 15 | 0.96 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 15 | 0.96 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 15 | 0.96 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 2 | 0.96 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 1 | 0.96 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 20 | 0.96 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 8 | 0.96 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 17 | 0.96 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 4 | 0.96 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 11 | 0.96 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 6 | 0.96 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 5 | 0.95 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 5 | 0.95 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 5 | 0.95 |
| (1,79) | 1:A:99:SER:H | 1:A:98:CYS:HB3 | 11 | 0.95 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 8 | 0.95 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 4 | 0.95 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 6 | 0.95 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 2 | 0.95 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 14 | 0.95 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 16 | 0.94 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 16 | 0.94 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 16 | 0.94 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 18 | 0.94 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 18 | 0.94 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 18 | 0.94 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 16 | 0.94 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 17 | 0.94 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 3 | 0.94 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 12 | 0.94 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 18 | 0.94 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 16 | 0.94 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 16 | 0.94 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 20 | 0.94 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 17 | 0.94 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 3 | 0.94 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 13 | 0.94 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 1 | 0.93 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 1 | 0.93 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 1 | 0.93 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 10 | 0.93 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 10 | 0.93 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 10 | 0.93 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 14 | 0.93 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 14 | 0.93 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 14 | 0.93 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 4 | 0.93 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 2 | 0.93 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 7 | 0.93 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 13 | 0.93 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 11 | 0.93 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 7 | 0.93 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 14 | 0.93 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 7 | 0.93 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 11 | 0.93 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 14 | 0.93 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 1 | 0.93 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 2 | 0.93 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 10 | 0.93 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 12 | 0.93 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 13 | 0.93 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 14 | 0.93 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 6 | 0.92 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 12 | 0.92 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 6 | 0.92 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 3 | 0.92 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 8 | 0.92 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 13 | 0.92 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 20 | 0.92 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 1 | 0.92 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 8 | 0.92 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 16 | 0.92 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 9 | 0.92 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 17 | 0.92 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 19 | 0.92 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 10 | 0.92 |
| (1,1400) | 1:A:144:PRO:HD2 | 1:A:98:CYS:HB3 | 15 | 0.92 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 3 | 0.92 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 6 | 0.92 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 8 | 0.92 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 11 | 0.92 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 15 | 0.92 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 10 | 0.92 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 5 | 0.92 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 7 | 0.92 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 1 | 0.91 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 2 | 0.91 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 17 | 0.91 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 18 | 0.91 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 5 | 0.91 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 6 | 0.91 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 10 | 0.91 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 18 | 0.91 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 15 | 0.91 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 3 | 0.91 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 16 | 0.91 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 5 | 0.91 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 16 | 0.91 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 4 | 0.9 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 15 | 0.9 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 12 | 0.9 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 15 | 0.9 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 4 | 0.9 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 18 | 0.9 |
| (1,1110) | 1:A:145:ILE:HA | 1:A:144:PRO:HB3 | 9 | 0.9 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 7 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 7 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 7 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 12 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 12 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 12 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 13 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 13 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 13 | 0.89 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 9 | 0.89 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 4 | 0.89 |
| (1,306) | 1:A:134:GLU:HB2 | 1:A:125:VAL:H | 19 | 0.89 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 19 | 0.89 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 9 | 0.89 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 19 | 0.89 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 20 | 0.89 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 6 | 0.88 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 6 | 0.88 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 6 | 0.88 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 14 | 0.88 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 15 | 0.88 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 15 | 0.88 |
| (1,1390) | 1:A:99:SER:HA | 1:A:98:CYS:HB3 | 7 | 0.88 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,540) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 3 | 0.87 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 20 | 0.87 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 4 | 0.87 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 1 | 0.87 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 2 | 0.86 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 2 | 0.86 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 2 | 0.86 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 17 | 0.86 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 14 | 0.86 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 17 | 0.85 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 18 | 0.85 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 15 | 0.85 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 19 | 0.85 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 11 | 0.84 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 11 | 0.84 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 11 | 0.84 |
| (1,82) | 1:A:144:PRO:HB2 | 1:A:99:SER:H | 18 | 0.84 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 19 | 0.84 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 14 | 0.84 |
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 20 | 0.84 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 19 | 0.84 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 13 | 0.84 |
| (1,1710) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HD2 | 17 | 0.84 |
| (1,1710) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HD2 | 17 | 0.84 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 20 | 0.83 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 20 | 0.83 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 20 | 0.83 |
| (1,1450) | 1:A:98:CYS:HB3 | 1:A:142:LEU:HB3 | 1 | 0.83 |
| (1,1450) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB3 | 1 | 0.83 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 8 | 0.82 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 8 | 0.82 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 8 | 0.82 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 9 | 0.82 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 9 | 0.82 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 15 | 0.82 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 4 | 0.81 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 8 | 0.81 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 6 | 0.81 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 16 | 0.81 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 7 | 0.81 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 1 | 0.8 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 6 | 0.8 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 12 | 0.8 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 20 | 0.8 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 12 | 0.8 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 16 | 0.8 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 8 | 0.8 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 6 | 0.8 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 19 | 0.8 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 8 | 0.8 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 7 | 0.79 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 8 | 0.79 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 11 | 0.79 |
| (1,1849) | 1:A:143:SER:HB2 | 1:A:144:PRO:HG3 | 5 | 0.79 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 9 | 0.79 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 1 | 0.79 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 7 | 0.79 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 13 | 0.79 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 9 | 0.79 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 9 | 0.79 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 9 | 0.79 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 13 | 0.79 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 13 | 0.79 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 13 | 0.79 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 19 | 0.79 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 4 | 0.79 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 2 | 0.78 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 13 | 0.78 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 9 | 0.78 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 7 | 0.78 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 17 | 0.78 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 4 | 0.78 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 4 | 0.78 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 3 | 0.77 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 9 | 0.77 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 14 | 0.77 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 19 | 0.77 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 14 | 0.77 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 20 | 0.77 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 2 | 0.77 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 9 | 0.77 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 5 | 0.76 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 16 | 0.76 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 6 | 0.76 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 4 | 0.76 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 13 | 0.76 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 17 | 0.76 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 10 | 0.76 |
| (1,1764) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ3 | 5 | 0.76 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 17 | 0.76 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 18 | 0.76 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 18 | 0.76 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 18 | 0.76 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 17 | 0.75 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 17 | 0.75 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 17 | 0.75 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 6 | 0.75 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 5 | 0.75 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 6 | 0.75 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 4 | 0.75 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 6 | 0.75 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 10 | 0.75 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 11 | 0.75 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 10 | 0.75 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 19 | 0.75 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 17 | 0.75 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 17 | 0.75 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 2 | 0.75 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 12 | 0.75 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 9 | 0.75 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 15 | 0.74 |
| (1,503) | 1:A:90:GLN:HG2 | 1:A:89:LEU:H | 1 | 0.74 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 1 | 0.74 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 5 | 0.74 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 13 | 0.74 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 14 | 0.74 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 16 | 0.74 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 3 | 0.74 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 8 | 0.74 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 11 | 0.74 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 13 | 0.74 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 2 | 0.74 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 9 | 0.74 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 12 | 0.74 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 19 | 0.74 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 19 | 0.74 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1848) | 1:A:144:PRO:HG3 | 1:A:143:SER:HB3 | 1 | 0.74 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 14 | 0.74 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 1 | 0.74 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 4 | 0.74 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 5 | 0.74 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 6 | 0.74 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 2 | 0.74 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 3 | 0.74 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 3 | 0.74 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 3 | 0.74 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 15 | 0.74 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 15 | 0.74 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 15 | 0.74 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 19 | 0.73 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 19 | 0.73 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 19 | 0.73 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 4 | 0.73 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 12 | 0.73 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 17 | 0.73 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 9 | 0.73 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 3 | 0.73 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 7 | 0.73 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 14 | 0.73 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 15 | 0.73 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 8 | 0.73 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 13 | 0.73 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 15 | 0.73 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 18 | 0.73 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 3 | 0.73 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 11 | 0.73 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 13 | 0.73 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 19 | 0.73 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 9 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 5 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 5 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 5 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 6 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 6 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 6 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 11 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 11 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 11 | 0.73 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 16 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 16 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 16 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 20 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 20 | 0.73 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 20 | 0.73 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 5 | 0.72 |
| (1,550) | 1:A:133:ARG:H | 1:A:134:GLU:HB3 | 10 | 0.72 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 10 | 0.72 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 18 | 0.72 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 19 | 0.72 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 7 | 0.72 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 12 | 0.72 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 17 | 0.72 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 20 | 0.72 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 11 | 0.72 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 18 | 0.72 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 20 | 0.72 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 12 | 0.72 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 17 | 0.72 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 3 | 0.72 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 7 | 0.72 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 11 | 0.72 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 20 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 1 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 1 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 1 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 7 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 7 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 7 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 14 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 14 | 0.72 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 14 | 0.72 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 6 | 0.72 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 13 | 0.71 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 13 | 0.71 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 13 | 0.71 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG21 | 4 | 0.71 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG22 | 4 | 0.71 |
| (1,833) | 1:A:134:GLU:HB2 | 1:A:125:VAL:HG23 | 4 | 0.71 |
| (1,503) | 1:A:90:GLN:HG2 | 1:A:89:LEU:H | 4 | 0.71 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 3 | 0.71 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 15 | 0.71 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 2 | 0.71 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 1 | 0.71 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 8 | 0.71 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 9 | 0.71 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 6 | 0.71 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 5 | 0.71 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 12 | 0.71 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 12 | 0.71 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 12 | 0.71 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 17 | 0.71 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 17 | 0.71 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 17 | 0.71 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 5 | 0.71 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 12 | 0.71 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 2 | 0.7 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 2 | 0.7 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 7 | 0.7 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 9 | 0.7 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 1 | 0.7 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 18 | 0.7 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 19 | 0.7 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 5 | 0.7 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 8 | 0.7 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 12 | 0.7 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 4 | 0.7 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 5 | 0.7 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 3 | 0.7 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 8 | 0.69 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 10 | 0.69 |
| (1,357) | 1:A:133:ARG:HB2 | 1:A:133:ARG:H | 16 | 0.69 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 5 | 0.69 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 7 | 0.69 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 15 | 0.69 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 4 | 0.69 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 20 | 0.69 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 10 | 0.69 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 15 | 0.69 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 8 | 0.69 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 8 | 0.69 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 8 | 0.69 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 10 | 0.69 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 10 | 0.69 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 10 | 0.69 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 15 | 0.68 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 2 | 0.68 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 4 | 0.68 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 14 | 0.68 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 16 | 0.68 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 3 | 0.68 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 14 | 0.68 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 8 | 0.68 |
| (1,1231) | 1:A:90:GLN:HB2 | 1:A:139:SER:HA | 5 | 0.68 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 14 | 0.68 |
| (1,438) | 1:A:142:LEU:H | 1:A:142:LEU:HB3 | 16 | 0.67 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 4 | 0.67 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 13 | 0.67 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 15 | 0.67 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 19 | 0.67 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 15 | 0.67 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 2 | 0.67 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 2 | 0.67 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 2 | 0.67 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 10 | 0.66 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 2 | 0.66 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 10 | 0.66 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 14 | 0.66 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 2 | 0.66 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 4 | 0.66 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 9 | 0.66 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 20 | 0.66 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 19 | 0.66 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 2 | 0.66 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 17 | 0.66 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 5 | 0.66 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 4 | 0.66 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 4 | 0.66 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 4 | 0.66 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 20 | 0.66 |
| (1,503) | 1:A:90:GLN:HG2 | 1:A:89:LEU:H | 13 | 0.65 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 2 | 0.65 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 20 | 0.65 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 3 | 0.65 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 18 | 0.65 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1858) | 1:A:147:GLU:HB2 | 1:A:147:GLU:HG3 | 5 | 0.65 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 16 | 0.65 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 11 | 0.65 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 12 | 0.65 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 3 | 0.65 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 13 | 0.65 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 20 | 0.65 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 2 | 0.65 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG11 | 19 | 0.65 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG12 | 19 | 0.65 |
| (1,1283) | 1:A:134:GLU:HB2 | 1:A:124:VAL:HG13 | 19 | 0.65 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 13 | 0.65 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 3 | 0.64 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 20 | 0.64 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 1 | 0.64 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 6 | 0.64 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 7 | 0.64 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 12 | 0.64 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 16 | 0.64 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 2 | 0.64 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 4 | 0.64 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 9 | 0.64 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 10 | 0.64 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 11 | 0.64 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 14 | 0.64 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 20 | 0.64 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 1 | 0.64 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 3 | 0.64 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 6 | 0.64 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 15 | 0.64 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 16 | 0.64 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 5 | 0.64 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 13 | 0.64 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 9 | 0.64 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 19 | 0.64 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 6 | 0.64 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 10 | 0.64 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 2 | 0.64 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 9 | 0.64 |
| (1,452) | 1:A:145:ILE:H | 1:A:144:PRO:HB3 | 11 | 0.63 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 12 | 0.63 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 9 | 0.63 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 3 | 0.63 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 8 | 0.63 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 15 | 0.63 |
| (1,1859) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 19 | 0.63 |
| (1,1858) | 1:A:147:GLU:HB2 | 1:A:147:GLU:HG3 | 17 | 0.63 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 7 | 0.63 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 8 | 0.63 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 12 | 0.63 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 6 | 0.63 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 18 | 0.63 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 4 | 0.63 |
| (1,1231) | 1:A:90:GLN:HB2 | 1:A:139:SER:HA | 6 | 0.63 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 16 | 0.62 |
| (1,1858) | 1:A:147:GLU:HB2 | 1:A:147:GLU:HG3 | 13 | 0.62 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 1 | 0.62 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 3 | 0.62 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 8 | 0.62 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 13 | 0.62 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 11 | 0.62 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 2 | 0.62 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 7 | 0.62 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 1 | 0.62 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 14 | 0.61 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 14 | 0.61 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 14 | 0.61 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 2 | 0.61 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 15 | 0.61 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 6 | 0.61 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 7 | 0.61 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 20 | 0.61 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 17 | 0.61 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 18 | 0.6 |
| (1,503) | 1:A:90:GLN:HG2 | 1:A:89:LEU:H | 8 | 0.6 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 1 | 0.6 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 20 | 0.6 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 15 | 0.6 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 3 | 0.6 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 19 | 0.6 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 4 | 0.59 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 14 | 0.59 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 11 | 0.59 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 9 | 0.59 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 15 | 0.59 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 7 | 0.59 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 11 | 0.59 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 19 | 0.59 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 5 | 0.59 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 11 | 0.59 |
| (1,1231) | 1:A:90:GLN:HB2 | 1:A:139:SER:HA | 3 | 0.59 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 7 | 0.59 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 16 | 0.59 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 17 | 0.58 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 13 | 0.58 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 8 | 0.58 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 8 | 0.58 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 4 | 0.58 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 3 | 0.57 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 10 | 0.57 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 6 | 0.57 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 17 | 0.57 |
| (1,322) | 1:A:133:ARG:HB2 | 1:A:127:TYR:H | 18 | 0.57 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 13 | 0.57 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 6 | 0.57 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 9 | 0.57 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 1 | 0.57 |
| (1,1195) | 1:A:144:PRO:HB2 | 1:A:98:CYS:HA | 18 | 0.57 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 8 | 0.57 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 12 | 0.57 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 17 | 0.57 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 18 | 0.57 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 19 | 0.57 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 17 | 0.56 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 19 | 0.56 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 17 | 0.56 |
| (1,1775) | 2:A:1148:2MR:HD3 | 1:A:102:TRP:HZ2 | 18 | 0.56 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 4 | 0.56 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 13 | 0.56 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 5 | 0.56 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 17 | 0.55 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 17 | 0.55 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 17 | 0.55 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 18 | 0.55 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 18 | 0.55 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 18 | 0.55 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 20 | 0.55 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 20 | 0.55 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 20 | 0.55 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 14 | 0.55 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 4 | 0.55 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 1 | 0.55 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 20 | 0.55 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 5 | 0.55 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 18 | 0.55 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 20 | 0.55 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 2 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 2 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 2 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 3 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 3 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 3 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 6 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 6 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 6 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 7 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 7 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 7 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 10 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 10 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 10 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 12 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 12 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 12 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 13 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 13 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 13 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 19 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 19 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 19 | 0.54 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 7 | 0.54 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 7 | 0.54 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 7 | 0.54 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 19 | 0.54 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 19 | 0.54 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 19 | 0.54 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 1 | 0.54 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 4 | 0.54 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 18 | 0.54 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 18 | 0.54 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 9 | 0.53 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 9 | 0.53 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 9 | 0.53 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 11 | 0.53 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 11 | 0.53 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 11 | 0.53 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 15 | 0.53 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 15 | 0.53 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 15 | 0.53 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 7 | 0.53 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 8 | 0.53 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 12 | 0.53 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 13 | 0.53 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 1 | 0.53 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 17 | 0.53 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 20 | 0.53 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 9 | 0.53 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 14 | 0.53 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 1 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 1 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 1 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 5 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 5 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 5 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 8 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 8 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 8 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 14 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 14 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 14 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 16 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 16 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 16 | 0.52 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 18 | 0.52 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 1 | 0.52 |
| (1,1842) | 1:A:143:SER:HB2 | 1:A:142:LEU:HB3 | 5 | 0.52 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE21 | 3 | 0.52 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 3 | 0.52 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 10 | 0.52 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 1 | 0.52 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1230) | 1:A:139:SER:HA | 1:A:90:GLN:HB3 | 6 | 0.52 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 16 | 0.52 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 6 | 0.52 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD21 | 4 | 0.51 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD22 | 4 | 0.51 |
| (1,955) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HD23 | 4 | 0.51 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 3 | 0.51 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 3 | 0.51 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 3 | 0.51 |
| (1,1842) | 1:A:143:SER:HB2 | 1:A:142:LEU:HB3 | 8 | 0.51 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 17 | 0.51 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 14 | 0.51 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 14 | 0.51 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 1 | 0.51 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 10 | 0.51 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 7 | 0.51 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 5 | 0.5 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 5 | 0.5 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 5 | 0.5 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 11 | 0.5 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 11 | 0.5 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 11 | 0.5 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 7 | 0.5 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 10 | 0.5 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 12 | 0.5 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 19 | 0.5 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 1 | 0.49 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 1 | 0.49 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 1 | 0.49 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 10 | 0.49 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 10 | 0.49 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 10 | 0.49 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 14 | 0.49 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 2 | 0.49 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 8 | 0.49 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 14 | 0.49 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 10 | 0.49 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 16 | 0.49 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 6 | 0.49 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 3 | 0.49 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 11 | 0.48 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 5 | 0.48 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 15 | 0.48 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 18 | 0.48 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 16 | 0.48 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 13 | 0.48 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 16 | 0.47 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 16 | 0.47 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 16 | 0.47 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 20 | 0.47 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 20 | 0.47 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 20 | 0.47 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 16 | 0.47 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 14 | 0.47 |
| (1,1426) | 1:A:92:TRP:HE1 | 1:A:90:GLN:HB3 | 2 | 0.47 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 2 | 0.47 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 3 | 0.47 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 4 | 0.47 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 12 | 0.47 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 8 | 0.47 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 13 | 0.47 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 9 | 0.47 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 2 | 0.46 |
| (1,510) | 1:A:88:SER:HB2 | 1:A:88:SER:H | 15 | 0.46 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 6 | 0.46 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 11 | 0.46 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 6 | 0.46 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 16 | 0.46 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 5 | 0.46 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 7 | 0.46 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 17 | 0.46 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 20 | 0.46 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 5 | 0.46 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 8 | 0.46 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 19 | 0.46 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 2 | 0.46 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 9 | 0.46 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 18 | 0.46 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 18 | 0.46 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 14 | 0.46 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 20 | 0.46 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 1 | 0.45 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 1 | 0.45 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 10 | 0.45 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 18 | 0.45 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 14 | 0.45 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 17 | 0.45 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 11 | 0.45 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 15 | 0.45 |
| (1,1446) | 1:A:144:PRO:HA | 1:A:98:CYS:HB3 | 1 | 0.45 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 1 | 0.45 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 1 | 0.45 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 13 | 0.45 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 17 | 0.45 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 9 | 0.44 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 9 | 0.44 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 9 | 0.44 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 18 | 0.44 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 18 | 0.44 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 18 | 0.44 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 8 | 0.44 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 11 | 0.44 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 3 | 0.44 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 13 | 0.44 |
| (1,1231) | 1:A:90:GLN:HB2 | 1:A:139:SER:HA | 4 | 0.44 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 4 | 0.44 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 5 | 0.44 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 6 | 0.44 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 11 | 0.44 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 15 | 0.44 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 17 | 0.44 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 6 | 0.44 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 11 | 0.44 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 16 | 0.44 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 12 | 0.44 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 18 | 0.44 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 14 | 0.43 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 14 | 0.43 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 16 | 0.43 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 1 | 0.43 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 2 | 0.43 |
| (1,1154) | 1:A:115:SER:HB2 | 1:A:115:SER:HA | 20 | 0.43 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 15 | 0.43 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 13 | 0.43 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 15 | 0.43 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 15 | 0.42 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,510) | 1:A:88:SER:HB2 | 1:A:88:SER:H | 13 | 0.42 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 5 | 0.42 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 16 | 0.42 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 13 | 0.42 |
| (1,1426) | 1:A:92:TRP:HE1 | 1:A:90:GLN:HB3 | 6 | 0.42 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 12 | 0.42 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 20 | 0.42 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 10 | 0.42 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 3 | 0.42 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 1 | 0.42 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 4 | 0.42 |
| (1,1022) | 1:A:97:LYS:HB2 | 1:A:97:LYS:HD3 | 3 | 0.42 |
| (1,1022) | 1:A:97:LYS:HB2 | 1:A:97:LYS:HD3 | 6 | 0.42 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 17 | 0.41 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 17 | 0.41 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 17 | 0.41 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 8 | 0.41 |
| (1,509) | 1:A:88:SER:H | 1:A:88:SER:HB3 | 16 | 0.41 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 11 | 0.41 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 7 | 0.41 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 10 | 0.41 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 17 | 0.41 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 16 | 0.41 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 1 | 0.41 |
| (1,1141) | 1:A:91:GLN:HA | 1:A:91:GLN:HG3 | 6 | 0.41 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 15 | 0.41 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 15 | 0.41 |
| (1,1023) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HB2 | 8 | 0.41 |
| (1,1022) | 1:A:97:LYS:HB2 | 1:A:97:LYS:HD3 | 5 | 0.41 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 12 | 0.4 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 12 | 0.4 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 12 | 0.4 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 9 | 0.4 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 7 | 0.4 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 12 | 0.4 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 9 | 0.4 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 4 | 0.4 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 15 | 0.4 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 20 | 0.4 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 7 | 0.4 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 11 | 0.4 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 20 | 0.4 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 9 | 0.4 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 9 | 0.4 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 9 | 0.4 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 13 | 0.4 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 13 | 0.4 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 13 | 0.4 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 18 | 0.4 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 18 | 0.4 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 18 | 0.4 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 4 | 0.4 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 6 | 0.4 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 20 | 0.4 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 3 | 0.4 |
| (1,1022) | 1:A:97:LYS:HB2 | 1:A:97:LYS:HD3 | 16 | 0.4 |
| (1,1022) | 1:A:97:LYS:HB2 | 1:A:97:LYS:HD3 | 19 | 0.4 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 9 | 0.39 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 19 | 0.39 |
| (1,1816) | 1:A:91:GLN:HE21 | 1:A:91:GLN:HG3 | 16 | 0.39 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 5 | 0.39 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 6 | 0.39 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 2 | 0.39 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 17 | 0.39 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 17 | 0.39 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 18 | 0.39 |
| (1,1398) | 1:A:141:LEU:HA | 1:A:98:CYS:HB3 | 2 | 0.39 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 3 | 0.39 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 3 | 0.39 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 3 | 0.39 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 15 | 0.39 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 15 | 0.39 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 15 | 0.39 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 3 | 0.39 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 13 | 0.39 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 16 | 0.39 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 17 | 0.39 |
| (1,1816) | 1:A:91:GLN:HE21 | 1:A:91:GLN:HG3 | 13 | 0.38 |
| (1,1813) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE21 | 4 | 0.38 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 14 | 0.38 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 4 | 0.38 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 10 | 0.38 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 2 | 0.38 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 4 | 0.38 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 19 | 0.38 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 16 | 0.38 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 16 | 0.38 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 16 | 0.38 |
| (1,1231) | 1:A:90:GLN:HB2 | 1:A:139:SER:HA | 1 | 0.38 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 9 | 0.38 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 18 | 0.38 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 5 | 0.38 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 15 | 0.37 |
| (1,1816) | 1:A:91:GLN:HE21 | 1:A:91:GLN:HG3 | 14 | 0.37 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 7 | 0.37 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 8 | 0.37 |
| (1,1813) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE21 | 3 | 0.37 |
| (1,1813) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE21 | 6 | 0.37 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 17 | 0.37 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 7 | 0.37 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 20 | 0.37 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 20 | 0.37 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 18 | 0.37 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 18 | 0.37 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 4 | 0.37 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 12 | 0.37 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 9 | 0.37 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 12 | 0.37 |
| (1,1426) | 1:A:92:TRP:HE1 | 1:A:90:GLN:HB3 | 3 | 0.37 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 3 | 0.37 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 10 | 0.37 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 10 | 0.37 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 10 | 0.37 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 2 | 0.37 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 3 | 0.37 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 8 | 0.37 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 11 | 0.37 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 17 | 0.37 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 4 | 0.37 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 17 | 0.37 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 19 | 0.37 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 14 | 0.37 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 16 | 0.37 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 13 | 0.36 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 13 | 0.36 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 13 | 0.36 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,496) | 1:A:88:SER:HB2 | 1:A:89:LEU:H | 17 | 0.36 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 3 | 0.36 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 11 | 0.36 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 17 | 0.36 |
| (1,1808) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HG3 | 7 | 0.36 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 5 | 0.36 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 15 | 0.36 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 19 | 0.36 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 16 | 0.36 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 16 | 0.36 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 7 | 0.36 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 8 | 0.36 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 6 | 0.36 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 12 | 0.36 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 6 | 0.36 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 15 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 1 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 1 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 1 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 5 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 5 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 5 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 6 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 6 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 6 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 7 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 7 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 7 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 8 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 8 | 0.36 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 8 | 0.36 |
| (1,1142) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HA | 12 | 0.36 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 14 | 0.36 |
| (1,1069) | 1:A:93:LYS:HD2 | 1:A:93:LYS:HE2 | 16 | 0.36 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 1 | 0.36 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 5 | 0.36 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 7 | 0.36 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 13 | 0.36 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 14 | 0.36 |
| (1,1068) | 1:A:93:LYS:HE2 | 1:A:93:LYS:HD3 | 15 | 0.36 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 8 | 0.36 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 10 | 0.36 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 7 | 0.36 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 9 | 0.36 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 2 | 0.35 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 2 | 0.35 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 2 | 0.35 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 4 | 0.35 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 5 | 0.35 |
| (1,510) | 1:A:88:SER:HB2 | 1:A:88:SER:H | 12 | 0.35 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 6 | 0.35 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 9 | 0.35 |
| (1,1816) | 1:A:91:GLN:HE21 | 1:A:91:GLN:HG3 | 12 | 0.35 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 20 | 0.35 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 1 | 0.35 |
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 10 | 0.35 |
| (1,1813) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE21 | 8 | 0.35 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 3 | 0.35 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 6 | 0.35 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 10 | 0.35 |
| (1,1806) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 18 | 0.35 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 1 | 0.35 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 12 | 0.35 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 16 | 0.35 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 20 | 0.35 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 1 | 0.35 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 9 | 0.35 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 17 | 0.35 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 17 | 0.35 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 17 | 0.35 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 12 | 0.35 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 2 | 0.35 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 6 | 0.35 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 8 | 0.35 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 10 | 0.35 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 13 | 0.35 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 1 | 0.34 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 10 | 0.34 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 15 | 0.34 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 9 | 0.34 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 12 | 0.34 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 15 | 0.34 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 18 | 0.34 |
| (1,1815) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 19 | 0.34 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,1814) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 2 | 0.34 |
| (1,1813) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE21 | 11 | 0.34 |
| (1,1813) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE21 | 17 | 0.34 |
| (1,1808) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HG3 | 1 | 0.34 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 5 | 0.34 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 6 | 0.34 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 17 | 0.34 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 4 | 0.34 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 8 | 0.34 |
| (1,1800) | 1:A:84:ASN:HD21 | 1:A:84:ASN:HB3 | 7 | 0.34 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 9 | 0.34 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 19 | 0.34 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 16 | 0.34 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 7 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 11 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 11 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 11 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 12 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 12 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 12 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 14 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 14 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 14 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 20 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 20 | 0.34 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 20 | 0.34 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 12 | 0.34 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 18 | 0.34 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 5 | 0.34 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 16 | 0.34 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 13 | 0.33 |
| (1,540) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 2 | 0.33 |
| (1,510) | 1:A:88:SER:HB2 | 1:A:88:SER:H | 18 | 0.33 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 11 | 0.33 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 2 | 0.33 |
| (1,1816) | 1:A:91:GLN:HE21 | 1:A:91:GLN:HG3 | 7 | 0.33 |
| (1,1813) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE21 | 1 | 0.33 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 10 | 0.33 |
| (1,1807) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE21 | 18 | 0.33 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 3 | 0.33 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 10 | 0.33 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 11 | 0.33 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 19 | 0.33 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 3 | 0.33 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 3 | 0.33 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 11 | 0.33 |
| (1,1440) | 1:A:143:SER:H | 1:A:144:PRO:HD3 | 18 | 0.33 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 14 | 0.33 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 16 | 0.33 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 4 | 0.33 |
| (1,1231) | 1:A:90:GLN:HB2 | 1:A:139:SER:HA | 16 | 0.33 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 7 | 0.33 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 1 | 0.33 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 11 | 0.33 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 19 | 0.33 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 2 | 0.33 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 3 | 0.33 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 4 | 0.33 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 10 | 0.33 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 12 | 0.33 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 13 | 0.33 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 16 | 0.33 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 10 | 0.33 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 11 | 0.33 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 8 | 0.32 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 8 | 0.32 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 8 | 0.32 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 18 | 0.32 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 16 | 0.32 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 20 | 0.32 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 17 | 0.32 |
| (1,1816) | 1:A:91:GLN:HE21 | 1:A:91:GLN:HG3 | 15 | 0.32 |
| (1,1816) | 1:A:91:GLN:HE21 | 1:A:91:GLN:HG3 | 20 | 0.32 |
| (1,1808) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HG3 | 8 | 0.32 |
| (1,1805) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 13 | 0.32 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE21 | 4 | 0.32 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 4 | 0.32 |
| (1,1801) | 1:A:84:ASN:HB2 | 1:A:84:ASN:HD21 | 1 | 0.32 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 4 | 0.32 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 6 | 0.32 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 15 | 0.32 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 13 | 0.32 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 13 | 0.32 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 20 | 0.32 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 20 | 0.32 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 9 | 0.32 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 12 | 0.32 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 20 | 0.32 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD1 | 3 | 0.32 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD2 | 3 | 0.32 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 10 | 0.32 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 2 | 0.32 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 2 | 0.32 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 2 | 0.32 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 2 | 0.32 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 16 | 0.32 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 20 | 0.32 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 20 | 0.32 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 1 | 0.32 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 6 | 0.32 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 9 | 0.32 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 11 | 0.32 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 14 | 0.32 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 15 | 0.32 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 17 | 0.32 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 18 | 0.32 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 19 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 2 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 3 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 4 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 5 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 7 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 9 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 12 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 13 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 14 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 15 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 16 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 17 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 18 | 0.32 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 20 | 0.32 |
| (1,10) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 4 | 0.32 |
| (1,10) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 6 | 0.32 |
| (1,9) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 16 | 0.31 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 14 | 0.31 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 17 | 0.31 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 12 | 0.31 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 11 | 0.31 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 14 | 0.31 |
| (1,385) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 7 | 0.31 |
| (1,1816) | 1:A:91:GLN:HE21 | 1:A:91:GLN:HG3 | 18 | 0.31 |
| (1,1813) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE21 | 2 | 0.31 |
| (1,1808) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HG3 | 16 | 0.31 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 12 | 0.31 |
| (1,1801) | 1:A:84:ASN:HB2 | 1:A:84:ASN:HD21 | 19 | 0.31 |
| (1,1801) | 1:A:84:ASN:HB2 | 1:A:84:ASN:HD21 | 20 | 0.31 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 5 | 0.31 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 17 | 0.31 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 10 | 0.31 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 4 | 0.31 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 4 | 0.31 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 4 | 0.31 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 6 | 0.31 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 4 | 0.31 |
| (1,1046) | 1:A:135:GLU:H | 1:A:134:GLU:HB3 | 17 | 0.31 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 5 | 0.31 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 7 | 0.31 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 8 | 0.31 |
| (1,1035) | 1:A:91:GLN:HB3 | 1:A:91:GLN:HG3 | 20 | 0.31 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 1 | 0.31 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 8 | 0.31 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 19 | 0.31 |
| (1,9) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 7 | 0.3 |
| (1,9) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 14 | 0.3 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 13 | 0.3 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 11 | 0.3 |
| (1,510) | 1:A:88:SER:HB2 | 1:A:88:SER:H | 4 | 0.3 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 13 | 0.3 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 9 | 0.3 |
| (1,385) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 1 | 0.3 |
| (1,385) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 8 | 0.3 |
| (1,385) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HG3 | 16 | 0.3 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 12 | 0.3 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE21 | 12 | 0.3 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 12 | 0.3 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 7 | 0.3 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 11 | 0.3 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 16 | 0.3 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 16 | 0.3 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 13 | 0.3 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 2 | 0.3 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 19 | 0.3 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 9 | 0.3 |
| (1,1282) | 1:A:124:VAL:HG11 | 1:A:134:GLU:HB3 | 19 | 0.3 |
| (1,1282) | 1:A:124:VAL:HG12 | 1:A:134:GLU:HB3 | 19 | 0.3 |
| (1,1282) | 1:A:124:VAL:HG13 | 1:A:134:GLU:HB3 | 19 | 0.3 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 20 | 0.3 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 15 | 0.3 |
| (1,1018) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HB2 | 6 | 0.3 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 19 | 0.3 |
| (1,10) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 11 | 0.3 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 7 | 0.29 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 7 | 0.29 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 7 | 0.29 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 6 | 0.29 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 6 | 0.29 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 6 | 0.29 |
| (1,9) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 13 | 0.29 |
| (1,9) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 20 | 0.29 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 4 | 0.29 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 4 | 0.29 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 8 | 0.29 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 10 | 0.29 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 14 | 0.29 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 5 | 0.29 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 6 | 0.29 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 10 | 0.29 |
| (1,386) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HE22 | 18 | 0.29 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 1 | 0.29 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 8 | 0.29 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 13 | 0.29 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 16 | 0.29 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 8 | 0.29 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 8 | 0.29 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 12 | 0.29 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 12 | 0.29 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 6 | 0.29 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 15 | 0.29 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 19 | 0.29 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 2 | 0.29 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 16 | 0.29 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 5 | 0.29 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 2 | 0.29 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 15 | 0.29 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 3 | 0.29 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 11 | 0.29 |
| (1,10) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 3 | 0.29 |
| (1,10) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 8 | 0.29 |
| (1,9) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 18 | 0.28 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 15 | 0.28 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 7 | 0.28 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 5 | 0.28 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 19 | 0.28 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 17 | 0.28 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 3 | 0.28 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 4 | 0.28 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 2 | 0.28 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 3 | 0.28 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 18 | 0.28 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 12 | 0.28 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 12 | 0.28 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 13 | 0.28 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 13 | 0.28 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 14 | 0.28 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD1 | 15 | 0.28 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD2 | 15 | 0.28 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 5 | 0.28 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 3 | 0.28 |
| (1,1426) | 1:A:92:TRP:HE1 | 1:A:90:GLN:HB3 | 1 | 0.28 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 7 | 0.28 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 10 | 0.28 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 17 | 0.28 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 18 | 0.28 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 18 | 0.28 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 19 | 0.28 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 1 | 0.28 |
| (1,1057) | 1:A:143:SER:HA | 1:A:98:CYS:HB3 | 14 | 0.28 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 12 | 0.28 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 13 | 0.28 |
| (1,10) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 1 | 0.28 |
| (1,10) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 2 | 0.28 |
| (1,10) | 1:A:91:GLN:HG2 | 1:A:91:GLN:HE22 | 17 | 0.28 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,9) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 12 | 0.27 |
| (1,9) | 1:A:91:GLN:HE22 | 1:A:91:GLN:HG3 | 15 | 0.27 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 12 | 0.27 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 6 | 0.27 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 3 | 0.27 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 3 | 0.27 |
| (1,540) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 4 | 0.27 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 3 | 0.27 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 20 | 0.27 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE21 | 13 | 0.27 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 13 | 0.27 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 9 | 0.27 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 4 | 0.27 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 4 | 0.27 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 11 | 0.27 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 14 | 0.27 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 6 | 0.27 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 10 | 0.27 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 11 | 0.27 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 9 | 0.27 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 13 | 0.27 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 1 | 0.27 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 5 | 0.27 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 12 | 0.27 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 14 | 0.27 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 20 | 0.27 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 12 | 0.27 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 9 | 0.27 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 3 | 0.27 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 14 | 0.27 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 16 | 0.26 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 16 | 0.26 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 16 | 0.26 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 3 | 0.26 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 12 | 0.26 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 9 | 0.26 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 19 | 0.26 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 20 | 0.26 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 8 | 0.26 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 8 | 0.26 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 3 | 0.26 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 3 | 0.26 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 4 | 0.26 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 8 | 0.26 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 11 | 0.26 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 13 | 0.26 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 16 | 0.26 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 19 | 0.26 |
| (1,1230) | 1:A:139:SER:HA | 1:A:90:GLN:HB3 | 2 | 0.26 |
| (1,1148) | 1:A:88:SER:HA | 1:A:88:SER:HB3 | 17 | 0.26 |
| (1,1148) | 1:A:88:SER:HA | 1:A:88:SER:HB3 | 20 | 0.26 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 11 | 0.26 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 18 | 0.26 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 4 | 0.25 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 4 | 0.25 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 4 | 0.25 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 2 | 0.25 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 2 | 0.25 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 17 | 0.25 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 17 | 0.25 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 3 | 0.25 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 9 | 0.25 |
| (1,496) | 1:A:88:SER:HB2 | 1:A:89:LEU:H | 8 | 0.25 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 1 | 0.25 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 5 | 0.25 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 19 | 0.25 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 12 | 0.25 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 19 | 0.25 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 19 | 0.25 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 3 | 0.25 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 6 | 0.25 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 2 | 0.25 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 6 | 0.25 |
| (1,1403) | 1:A:97:LYS:HD3 | 1:A:97:LYS:HE3 | 9 | 0.25 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 3 | 0.25 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 5 | 0.25 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 14 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 1 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 2 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 3 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 5 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 7 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 8 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 9 | 0.25 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 10 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 11 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 13 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 19 | 0.25 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 20 | 0.25 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 2 | 0.25 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 5 | 0.25 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 6 | 0.25 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 8 | 0.25 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 10 | 0.25 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 11 | 0.25 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 10 | 0.25 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 15 | 0.25 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 17 | 0.25 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 7 | 0.25 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 5 | 0.25 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 9 | 0.25 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 6 | 0.24 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 6 | 0.24 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 5 | 0.24 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 15 | 0.24 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 7 | 0.24 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 16 | 0.24 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 4 | 0.24 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 4 | 0.24 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 9 | 0.24 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 9 | 0.24 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 17 | 0.24 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 1 | 0.24 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 14 | 0.24 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 7 | 0.24 |
| (1,1452) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB2 | 5 | 0.24 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 13 | 0.24 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 20 | 0.24 |
| (1,1426) | 1:A:92:TRP:HE1 | 1:A:90:GLN:HB3 | 4 | 0.24 |
| (1,1319) | 1:A:115:SER:HB2 | 1:A:124:VAL:HB | 19 | 0.24 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 13 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 2 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 4 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 6 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 7 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 8 | 0.24 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 9 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 10 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 11 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 12 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 13 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 15 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 16 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 17 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 18 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 19 | 0.24 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 20 | 0.24 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 4 | 0.24 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 6 | 0.24 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 12 | 0.24 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 14 | 0.24 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 15 | 0.24 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 16 | 0.24 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 17 | 0.24 |
| (1,1169) | 1:A:134:GLU:HA | 1:A:134:GLU:HB3 | 18 | 0.24 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 1 | 0.24 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 7 | 0.24 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 14 | 0.24 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 16 | 0.24 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 19 | 0.24 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 7 | 0.24 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 12 | 0.24 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 15 | 0.24 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 17 | 0.24 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 18 | 0.24 |
| (1,1047) | 1:A:134:GLU:HB2 | 1:A:135:GLU:H | 1 | 0.24 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 2 | 0.24 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 9 | 0.24 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 4 | 0.24 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 13 | 0.24 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 18 | 0.24 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 20 | 0.24 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 9 | 0.23 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 9 | 0.23 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 9 | 0.23 |
| (1,540) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 12 | 0.23 |
| (1,496) | 1:A:88:SER:HB2 | 1:A:89:LEU:H | 16 | 0.23 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 10 | 0.23 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 17 | 0.23 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE21 | 20 | 0.23 |
| (1,1803) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 20 | 0.23 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 10 | 0.23 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 19 | 0.23 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 19 | 0.23 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 1 | 0.23 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 8 | 0.23 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 9 | 0.23 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 13 | 0.23 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 6 | 0.23 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 9 | 0.23 |
| (1,1177) | 1:A:142:LEU:HB2 | 1:A:142:LEU:HA | 1 | 0.23 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 3 | 0.23 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 18 | 0.23 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 6 | 0.23 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 12 | 0.23 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 1 | 0.23 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 3 | 0.23 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 5 | 0.23 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 7 | 0.23 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 14 | 0.23 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 16 | 0.23 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 20 | 0.23 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 11 | 0.23 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 1 | 0.23 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 12 | 0.23 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 16 | 0.22 |
| (1,639) | 1:A:111:ALA:H | 1:A:98:CYS:HB3 | 3 | 0.22 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 6 | 0.22 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 13 | 0.22 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 14 | 0.22 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 17 | 0.22 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 16 | 0.22 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 18 | 0.22 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 9 | 0.22 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 6 | 0.22 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 12 | 0.22 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 18 | 0.22 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 2 | 0.22 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 11 | 0.22 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 11 | 0.22 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 2 | 0.22 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 2 | 0.22 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 11 | 0.22 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 11 | 0.22 |
| (1,1635) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HD1 | 13 | 0.22 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 15 | 0.22 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 18 | 0.22 |
| (1,1618) | 1:A:92:TRP:HZ2 | 1:A:98:CYS:HB3 | 4 | 0.22 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 10 | 0.22 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 4 | 0.22 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 14 | 0.22 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 6 | 0.22 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 9 | 0.22 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 11 | 0.22 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 10 | 0.22 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 4 | 0.22 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 6 | 0.22 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 10 | 0.22 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 12 | 0.22 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 13 | 0.22 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 15 | 0.22 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 18 | 0.22 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 8 | 0.22 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 10 | 0.21 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 10 | 0.21 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 10 | 0.21 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 20 | 0.21 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 8 | 0.21 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 11 | 0.21 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 1 | 0.21 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 1 | 0.21 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 14 | 0.21 |
| (1,540) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 13 | 0.21 |
| (1,496) | 1:A:88:SER:HB2 | 1:A:89:LEU:H | 6 | 0.21 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 11 | 0.21 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 10 | 0.21 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 16 | 0.21 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 2 | 0.21 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 2 | 0.21 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 3 | 0.21 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 3 | 0.21 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 20 | 0.21 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD1 | 5 | 0.21 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD2 | 5 | 0.21 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 8 | 0.21 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 16 | 0.21 |
| (1,1149) | 1:A:88:SER:HB2 | 1:A:88:SER:HA | 4 | 0.21 |
| (1,1121) | 1:A:90:GLN:HG2 | 1:A:90:GLN:HA | 19 | 0.21 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 2 | 0.21 |
| (1,1120) | 1:A:90:GLN:HA | 1:A:90:GLN:HG3 | 9 | 0.21 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 18 | 0.21 |
| (1,1038) | 1:A:121:GLU:HG2 | 1:A:121:GLU:HB2 | 19 | 0.21 |
| (1,1026) | 1:A:147:GLU:HB2 | 1:A:147:GLU:HG3 | 5 | 0.21 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 3 | 0.21 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 7 | 0.21 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 10 | 0.21 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 15 | 0.21 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 9 | 0.21 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 14 | 0.21 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 14 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 14 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 14 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 18 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 18 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 18 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 19 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 19 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 19 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 1 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 3 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 4 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 5 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 9 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 12 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 15 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 16 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 18 | 0.2 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 20 | 0.2 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 1 | 0.2 |
| (1,539) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 15 | 0.2 |
| (1,1778) | 2:A:1148:2MR:HB3 | 1:A:102:TRP:HZ2 | 14 | 0.2 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 9 | 0.2 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 9 | 0.2 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 5 | 0.2 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 7 | 0.2 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD1 | 9 | 0.2 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD2 | 9 | 0.2 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 2 | 0.2 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 12 | 0.2 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 12 | 0.2 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 18 | 0.2 |
| (1,1040) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 1 | 0.2 |
| (1,1040) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 6 | 0.2 |
| (1,1040) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 7 | 0.2 |
| (1,1040) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 12 | 0.2 |
| (1,1040) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 16 | 0.2 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 2 | 0.2 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 4 | 0.2 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 9 | 0.2 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 10 | 0.2 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 11 | 0.2 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 14 | 0.2 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 20 | 0.2 |
| (1,1025) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 1 | 0.2 |
| (1,1025) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 3 | 0.2 |
| (1,1025) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 6 | 0.2 |
| (1,1025) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 15 | 0.2 |
| (1,1025) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 16 | 0.2 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 17 | 0.2 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 3 | 0.19 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 3 | 0.19 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 3 | 0.19 |
| (1,913) | 1:A:124:VAL:HG21 | 1:A:115:SER:HB3 | 15 | 0.19 |
| (1,913) | 1:A:124:VAL:HG22 | 1:A:115:SER:HB3 | 15 | 0.19 |
| (1,913) | 1:A:124:VAL:HG23 | 1:A:115:SER:HB3 | 15 | 0.19 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 19 | 0.19 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 2 | 0.19 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 7 | 0.19 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 10 | 0.19 |
| (1,635) | 1:A:113:ILE:H | 1:A:98:CYS:HB3 | 19 | 0.19 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 18 | 0.19 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 18 | 0.19 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 6 | 0.19 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 13 | 0.19 |
| (1,492) | 1:A:89:LEU:H | 1:A:88:SER:HA | 18 | 0.19 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 15 | 0.19 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 19 | 0.19 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 1 | 0.19 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 5 | 0.19 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 8 | 0.19 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 5 | 0.19 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 16 | 0.19 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD1 | 14 | 0.19 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD2 | 14 | 0.19 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 5 | 0.19 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 17 | 0.19 |
| (1,1109) | 1:A:121:GLU:HG2 | 1:A:118:PHE:HA | 17 | 0.19 |
| (1,1040) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 3 | 0.19 |
| (1,1040) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 8 | 0.19 |
| (1,1040) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 15 | 0.19 |
| (1,1039) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB3 | 19 | 0.19 |
| (1,1026) | 1:A:147:GLU:HB2 | 1:A:147:GLU:HG3 | 17 | 0.19 |
| (1,1025) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 7 | 0.19 |
| (1,1025) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 8 | 0.19 |
| (1,1025) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 12 | 0.19 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 6 | 0.19 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 7 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 7 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 8 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 8 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 9 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 9 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 10 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 10 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 12 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 12 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 14 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 14 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 15 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 15 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 20 | 0.18 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 20 | 0.18 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 4 | 0.18 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 4 | 0.18 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 15 | 0.18 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 19 | 0.18 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 5 | 0.18 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 5 | 0.18 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1452) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB2 | 9 | 0.18 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 4 | 0.18 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 14 | 0.18 |
| (1,1231) | 1:A:90:GLN:HB2 | 1:A:139:SER:HA | 8 | 0.18 |
| (1,1026) | 1:A:147:GLU:HB2 | 1:A:147:GLU:HG3 | 13 | 0.18 |
| (1,1015) | 1:A:97:LYS:HD2 | 1:A:97:LYS:HA | 2 | 0.18 |
| (1,772) | 1:A:147:GLU:H | 1:A:145:ILE:HG21 | 18 | 0.17 |
| (1,772) | 1:A:147:GLU:H | 1:A:145:ILE:HG22 | 18 | 0.17 |
| (1,772) | 1:A:147:GLU:H | 1:A:145:ILE:HG23 | 18 | 0.17 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 9 | 0.17 |
| (1,727) | 1:A:92:TRP:HE1 | 1:A:91:GLN:HG3 | 20 | 0.17 |
| (1,59) | 1:A:97:LYS:H | 1:A:97:LYS:HG2 | 19 | 0.17 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 13 | 0.17 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 13 | 0.17 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 7 | 0.17 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 10 | 0.17 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 12 | 0.17 |
| (1,496) | 1:A:88:SER:HB2 | 1:A:89:LEU:H | 15 | 0.17 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 3 | 0.17 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 17 | 0.17 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 2 | 0.17 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 13 | 0.17 |
| (1,1830) | 1:A:119:LYS:HD2 | 1:A:119:LYS:HG2 | 14 | 0.17 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 5 | 0.17 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD1 | 10 | 0.17 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD2 | 10 | 0.17 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 8 | 0.17 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 15 | 0.17 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 7 | 0.17 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 20 | 0.17 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 18 | 0.17 |
| (1,1108) | 1:A:118:PHE:HA | 1:A:121:GLU:HG3 | 2 | 0.17 |
| (1,59) | 1:A:97:LYS:H | 1:A:97:LYS:HG2 | 16 | 0.16 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 4 | 0.16 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 4 | 0.16 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 11 | 0.16 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 11 | 0.16 |
| (1,551) | 1:A:134:GLU:HB2 | 1:A:133:ARG:H | 3 | 0.16 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 3 | 0.16 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 13 | 0.16 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 9 | 0.16 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 1 | 0.16 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,356) | 1:A:133:ARG:H | 1:A:133:ARG:HB3 | 14 | 0.16 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 8 | 0.16 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 4 | 0.16 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 13 | 0.16 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 2 | 0.16 |
| (1,1799) | 1:A:84:ASN:HB3 | 1:A:84:ASN:HD22 | 7 | 0.16 |
| (1,1799) | 1:A:84:ASN:HB2 | 1:A:84:ASN:HD22 | 7 | 0.16 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 10 | 0.16 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 10 | 0.16 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 3 | 0.16 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 3 | 0.16 |
| (1,1631) | 1:A:134:GLU:HB2 | 1:A:102:TRP:HD1 | 10 | 0.16 |
| (1,1630) | 1:A:102:TRP:HD1 | 1:A:134:GLU:HB3 | 6 | 0.16 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 9 | 0.16 |
| (1,1452) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB2 | 14 | 0.16 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 2 | 0.16 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 15 | 0.16 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 19 | 0.16 |
| (1,1336) | 1:A:112:THR:HG21 | 1:A:97:LYS:HE3 | 9 | 0.16 |
| (1,1336) | 1:A:112:THR:HG22 | 1:A:97:LYS:HE3 | 9 | 0.16 |
| (1,1336) | 1:A:112:THR:HG23 | 1:A:97:LYS:HE3 | 9 | 0.16 |
| (1,1336) | 1:A:112:THR:HG21 | 1:A:97:LYS:HE2 | 9 | 0.16 |
| (1,1336) | 1:A:112:THR:HG22 | 1:A:97:LYS:HE2 | 9 | 0.16 |
| (1,1336) | 1:A:112:THR:HG23 | 1:A:97:LYS:HE2 | 9 | 0.16 |
| (1,1109) | 1:A:121:GLU:HG2 | 1:A:118:PHE:HA | 11 | 0.16 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG21 | 12 | 0.15 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG22 | 12 | 0.15 |
| (1,914) | 1:A:115:SER:HB2 | 1:A:124:VAL:HG23 | 12 | 0.15 |
| (1,59) | 1:A:97:LYS:H | 1:A:97:LYS:HG2 | 5 | 0.15 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 5 | 0.15 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 5 | 0.15 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 16 | 0.15 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 16 | 0.15 |
| (1,504) | 1:A:85:THR:HA | 1:A:86:ALA:H | 16 | 0.15 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 10 | 0.15 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 12 | 0.15 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 18 | 0.15 |
| (1,356) | 1:A:133:ARG:H | 1:A:133:ARG:HB3 | 6 | 0.15 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 6 | 0.15 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 16 | 0.15 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 7 | 0.15 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 7 | 0.15 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 9 | 0.15 |
| (1,1426) | 1:A:92:TRP:HE1 | 1:A:90:GLN:HB3 | 5 | 0.15 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD3 | 19 | 0.14 |
| (1,58) | 1:A:97:LYS:H | 1:A:97:LYS:HD2 | 19 | 0.14 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 11 | 0.14 |
| (1,503) | 1:A:90:GLN:HG2 | 1:A:89:LEU:H | 14 | 0.14 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 7 | 0.14 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 14 | 0.14 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 16 | 0.14 |
| (1,477) | 1:A:104:GLU:H | 1:A:103:SER:HB3 | 10 | 0.14 |
| (1,453) | 1:A:144:PRO:HB2 | 1:A:145:ILE:H | 20 | 0.14 |
| (1,19) | 1:A:91:GLN:HG2 | 1:A:92:TRP:H | 10 | 0.14 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 2 | 0.14 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 10 | 0.14 |
| (1,1799) | 1:A:84:ASN:HB3 | 1:A:84:ASN:HD22 | 1 | 0.14 |
| (1,1799) | 1:A:84:ASN:HB2 | 1:A:84:ASN:HD22 | 1 | 0.14 |
| (1,1799) | 1:A:84:ASN:HB3 | 1:A:84:ASN:HD22 | 20 | 0.14 |
| (1,1799) | 1:A:84:ASN:HB2 | 1:A:84:ASN:HD22 | 20 | 0.14 |
| (1,1686) | 1:A:102:TRP:HD1 | 1:A:103:SER:HB3 | 16 | 0.14 |
| (1,1686) | 1:A:102:TRP:HD1 | 1:A:103:SER:HB3 | 18 | 0.14 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 12 | 0.14 |
| (1,1631) | 1:A:134:GLU:HB2 | 1:A:102:TRP:HD1 | 3 | 0.14 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD1 | 13 | 0.14 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD2 | 13 | 0.14 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 12 | 0.14 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 18 | 0.14 |
| (1,1484) | 1:A:112:THR:HA | 1:A:97:LYS:HE3 | 19 | 0.14 |
| (1,1484) | 1:A:112:THR:HA | 1:A:97:LYS:HE2 | 19 | 0.14 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 8 | 0.14 |
| (1,1441) | 1:A:144:PRO:HD2 | 1:A:143:SER:H | 1 | 0.14 |
| (1,1427) | 1:A:90:GLN:HB2 | 1:A:92:TRP:HE1 | 14 | 0.14 |
| (1,1426) | 1:A:92:TRP:HE1 | 1:A:90:GLN:HB3 | 12 | 0.14 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG21 | 1 | 0.13 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG22 | 1 | 0.13 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG23 | 1 | 0.13 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG21 | 1 | 0.13 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG22 | 1 | 0.13 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG23 | 1 | 0.13 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG21 | 1 | 0.13 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG22 | 1 | 0.13 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG23 | 1 | 0.13 |
| (1,700) | 1:A:98:CYS:H | 1:A:97:LYS:HE3 | 11 | 0.13 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,700) | 1:A:98:CYS:H | 1:A:97:LYS:HE2 | 11 | 0.13 |
| (1,59) | 1:A:97:LYS:H | 1:A:97:LYS:HG2 | 6 | 0.13 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 2 | 0.13 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 8 | 0.13 |
| (1,545) | 1:A:134:GLU:HB2 | 1:A:134:GLU:H | 20 | 0.13 |
| (1,543) | 1:A:134:GLU:H | 1:A:134:GLU:HG2 | 4 | 0.13 |
| (1,539) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 19 | 0.13 |
| (1,507) | 1:A:87:ALA:H | 1:A:86:ALA:H | 3 | 0.13 |
| (1,507) | 1:A:87:ALA:H | 1:A:86:ALA:H | 19 | 0.13 |
| (1,504) | 1:A:85:THR:HA | 1:A:86:ALA:H | 3 | 0.13 |
| (1,502) | 1:A:89:LEU:H | 1:A:90:GLN:HG3 | 3 | 0.13 |
| (1,499) | 1:A:87:ALA:H | 1:A:86:ALA:HB1 | 3 | 0.13 |
| (1,499) | 1:A:87:ALA:H | 1:A:86:ALA:HB2 | 3 | 0.13 |
| (1,499) | 1:A:87:ALA:H | 1:A:86:ALA:HB3 | 3 | 0.13 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 1 | 0.13 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 7 | 0.13 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 8 | 0.13 |
| (1,477) | 1:A:104:GLU:H | 1:A:103:SER:HB3 | 19 | 0.13 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 11 | 0.13 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 11 | 0.13 |
| (1,1832) | 1:A:119:LYS:HD3 | 1:A:119:LYS:HG2 | 7 | 0.13 |
| (1,1831) | 1:A:119:LYS:HG3 | 1:A:119:LYS:HD3 | 3 | 0.13 |
| (1,1831) | 1:A:119:LYS:HG3 | 1:A:119:LYS:HD2 | 3 | 0.13 |
| (1,1831) | 1:A:119:LYS:HG3 | 1:A:119:LYS:HD3 | 20 | 0.13 |
| (1,1831) | 1:A:119:LYS:HG3 | 1:A:119:LYS:HD2 | 20 | 0.13 |
| (1,1804) | 1:A:90:GLN:HE21 | 1:A:90:GLN:HB3 | 6 | 0.13 |
| (1,18) | 1:A:92:TRP:H | 1:A:91:GLN:HG3 | 16 | 0.13 |
| (1,1799) | 1:A:84:ASN:HB3 | 1:A:84:ASN:HD22 | 19 | 0.13 |
| (1,1799) | 1:A:84:ASN:HB2 | 1:A:84:ASN:HD22 | 19 | 0.13 |
| (1,1706) | 1:A:130:TYR:HE1 | 2:A:1148:2MR:HB2 | 15 | 0.13 |
| (1,1706) | 1:A:130:TYR:HE2 | 2:A:1148:2MR:HB2 | 15 | 0.13 |
| (1,1702) | 1:A:109:TYR:HD1 | 2:A:1148:2MR:HB2 | 17 | 0.13 |
| (1,1702) | 1:A:109:TYR:HD2 | 2:A:1148:2MR:HB2 | 17 | 0.13 |
| (1,1702) | 1:A:109:TYR:HD1 | 2:A:1148:2MR:HB3 | 17 | 0.13 |
| (1,1702) | 1:A:109:TYR:HD2 | 2:A:1148:2MR:HB3 | 17 | 0.13 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 7 | 0.13 |
| (1,1336) | 1:A:112:THR:HG21 | 1:A:97:LYS:HE3 | 8 | 0.13 |
| (1,1336) | 1:A:112:THR:HG22 | 1:A:97:LYS:HE3 | 8 | 0.13 |
| (1,1336) | 1:A:112:THR:HG23 | 1:A:97:LYS:HE3 | 8 | 0.13 |
| (1,1336) | 1:A:112:THR:HG21 | 1:A:97:LYS:HE2 | 8 | 0.13 |
| (1,1336) | 1:A:112:THR:HG22 | 1:A:97:LYS:HE2 | 8 | 0.13 |
| (1,1336) | 1:A:112:THR:HG23 | 1:A:97:LYS:HE2 | 8 | 0.13 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,896) | 1:A:133:ARG:HD3 | 1:A:126:VAL:HG21 | 4 | 0.12 |
| (1,896) | 1:A:133:ARG:HD3 | 1:A:126:VAL:HG22 | 4 | 0.12 |
| (1,896) | 1:A:133:ARG:HD3 | 1:A:126:VAL:HG23 | 4 | 0.12 |
| (1,896) | 1:A:133:ARG:HD3 | 1:A:126:VAL:HG21 | 16 | 0.12 |
| (1,896) | 1:A:133:ARG:HD3 | 1:A:126:VAL:HG22 | 16 | 0.12 |
| (1,896) | 1:A:133:ARG:HD3 | 1:A:126:VAL:HG23 | 16 | 0.12 |
| (1,81) | 1:A:99:SER:H | 1:A:144:PRO:HB3 | 1 | 0.12 |
| (1,700) | 1:A:98:CYS:H | 1:A:97:LYS:HE3 | 10 | 0.12 |
| (1,700) | 1:A:98:CYS:H | 1:A:97:LYS:HE2 | 10 | 0.12 |
| (1,551) | 1:A:134:GLU:HB2 | 1:A:133:ARG:H | 5 | 0.12 |
| (1,551) | 1:A:134:GLU:HB2 | 1:A:133:ARG:H | 9 | 0.12 |
| (1,492) | 1:A:89:LEU:H | 1:A:88:SER:HA | 14 | 0.12 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 13 | 0.12 |
| (1,478) | 1:A:104:GLU:H | 1:A:104:GLU:HG3 | 19 | 0.12 |
| (1,477) | 1:A:104:GLU:H | 1:A:103:SER:HB3 | 12 | 0.12 |
| (1,477) | 1:A:104:GLU:H | 1:A:103:SER:HB3 | 17 | 0.12 |
| (1,2) | 1:A:90:GLN:H | 1:A:89:LEU:HA | 4 | 0.12 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 9 | 0.12 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 10 | 0.12 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 9 | 0.12 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 13 | 0.12 |
| (1,1831) | 1:A:119:LYS:HG3 | 1:A:119:LYS:HD3 | 18 | 0.12 |
| (1,1831) | 1:A:119:LYS:HG3 | 1:A:119:LYS:HD2 | 18 | 0.12 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 7 | 0.12 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 7 | 0.12 |
| (1,1686) | 1:A:102:TRP:HD1 | 1:A:103:SER:HB3 | 14 | 0.12 |
| (1,1634) | 1:A:92:TRP:HD1 | 1:A:91:GLN:HG3 | 13 | 0.12 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD1 | 2 | 0.12 |
| (1,1629) | 1:A:134:GLU:HB2 | 1:A:127:TYR:HD2 | 2 | 0.12 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 11 | 0.12 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 19 | 0.12 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 1 | 0.12 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 6 | 0.12 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 7 | 0.12 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 15 | 0.12 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 16 | 0.12 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 19 | 0.12 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 20 | 0.12 |
| (1,1525) | 1:A:97:LYS:HB3 | 1:A:98:CYS:HA | 13 | 0.12 |
| (1,1525) | 1:A:97:LYS:HB3 | 1:A:98:CYS:HA | 17 | 0.12 |
| (1,1484) | 1:A:112:THR:HA | 1:A:97:LYS:HE3 | 5 | 0.12 |
| (1,1484) | 1:A:112:THR:HA | 1:A:97:LYS:HE2 | 5 | 0.12 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1484) | 1:A:112:THR:HA | 1:A:97:LYS:HE3 | 16 | 0.12 |
| (1,1484) | 1:A:112:THR:HA | 1:A:97:LYS:HE2 | 16 | 0.12 |
| (1,1452) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB2 | 2 | 0.12 |
| (1,970) | 1:A:85:THR:HA | 1:A:85:THR:HG21 | 4 | 0.11 |
| (1,970) | 1:A:85:THR:HA | 1:A:85:THR:HG22 | 4 | 0.11 |
| (1,970) | 1:A:85:THR:HA | 1:A:85:THR:HG23 | 4 | 0.11 |
| (1,970) | 1:A:85:THR:HA | 1:A:85:THR:HG21 | 11 | 0.11 |
| (1,970) | 1:A:85:THR:HA | 1:A:85:THR:HG22 | 11 | 0.11 |
| (1,970) | 1:A:85:THR:HA | 1:A:85:THR:HG23 | 11 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG21 | 13 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG22 | 13 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG23 | 13 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG21 | 13 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG22 | 13 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG23 | 13 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG21 | 13 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG22 | 13 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG23 | 13 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG21 | 16 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG22 | 16 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG23 | 16 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG21 | 16 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG22 | 16 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG23 | 16 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG21 | 16 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG22 | 16 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG23 | 16 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG21 | 19 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG22 | 19 | 0.11 |
| (1,862) | 1:A:113:ILE:HD11 | 1:A:112:THR:HG23 | 19 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG21 | 19 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG22 | 19 | 0.11 |
| (1,862) | 1:A:113:ILE:HD12 | 1:A:112:THR:HG23 | 19 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG21 | 19 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG22 | 19 | 0.11 |
| (1,862) | 1:A:113:ILE:HD13 | 1:A:112:THR:HG23 | 19 | 0.11 |
| (1,728) | 1:A:91:GLN:HG2 | 1:A:92:TRP:HE1 | 13 | 0.11 |
| (1,551) | 1:A:134:GLU:HB2 | 1:A:133:ARG:H | 14 | 0.11 |
| (1,551) | 1:A:134:GLU:HB2 | 1:A:133:ARG:H | 18 | 0.11 |
| (1,543) | 1:A:134:GLU:H | 1:A:134:GLU:HG2 | 17 | 0.11 |
| (1,540) | 1:A:90:GLN:HB2 | 1:A:90:GLN:HE22 | 20 | 0.11 |
| (1,512) | 1:A:87:ALA:HB1 | 1:A:88:SER:H | 10 | 0.11 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,512) | 1:A:87:ALA:HB2 | 1:A:88:SER:H | 10 | 0.11 |
| (1,512) | 1:A:87:ALA:HB3 | 1:A:88:SER:H | 10 | 0.11 |
| (1,498) | 1:A:89:LEU:H | 1:A:87:ALA:HB1 | 1 | 0.11 |
| (1,498) | 1:A:89:LEU:H | 1:A:87:ALA:HB2 | 1 | 0.11 |
| (1,498) | 1:A:89:LEU:H | 1:A:87:ALA:HB3 | 1 | 0.11 |
| (1,495) | 1:A:89:LEU:H | 1:A:88:SER:HB3 | 11 | 0.11 |
| (1,491) | 1:A:90:GLN:H | 1:A:89:LEU:H | 9 | 0.11 |
| (1,477) | 1:A:104:GLU:H | 1:A:103:SER:HB3 | 8 | 0.11 |
| (1,459) | 1:A:145:ILE:HB | 1:A:146:CYS:H | 14 | 0.11 |
| (1,448) | 1:A:143:SER:H | 1:A:142:LEU:HB3 | 16 | 0.11 |
| (1,356) | 1:A:133:ARG:H | 1:A:133:ARG:HB3 | 17 | 0.11 |
| (1,2) | 1:A:90:GLN:H | 1:A:89:LEU:HA | 8 | 0.11 |
| (1,2) | 1:A:90:GLN:H | 1:A:89:LEU:HA | 15 | 0.11 |
| (1,2) | 1:A:90:GLN:H | 1:A:89:LEU:HA | 18 | 0.11 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 13 | 0.11 |
| (1,1860) | 1:A:147:GLU:HB3 | 1:A:147:GLU:HG3 | 18 | 0.11 |
| (1,1858) | 1:A:147:GLU:HB2 | 1:A:147:GLU:HG3 | 7 | 0.11 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 10 | 0.11 |
| (1,1857) | 1:A:147:GLU:HG2 | 1:A:147:GLU:HB2 | 18 | 0.11 |
| (1,1802) | 1:A:90:GLN:HE22 | 1:A:90:GLN:HB3 | 7 | 0.11 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE1 | 5 | 0.11 |
| (1,1707) | 2:A:1148:2MR:HB3 | 1:A:130:TYR:HE2 | 5 | 0.11 |
| (1,1690) | 1:A:109:TYR:HD1 | 1:A:108:ILE:HG12 | 14 | 0.11 |
| (1,1690) | 1:A:109:TYR:HD2 | 1:A:108:ILE:HG12 | 14 | 0.11 |
| (1,1686) | 1:A:102:TRP:HD1 | 1:A:103:SER:HB3 | 3 | 0.11 |
| (1,1686) | 1:A:102:TRP:HD1 | 1:A:103:SER:HB3 | 9 | 0.11 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 14 | 0.11 |
| (1,1616) | 1:A:92:TRP:HH2 | 1:A:98:CYS:HB3 | 15 | 0.11 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 3 | 0.11 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 4 | 0.11 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 5 | 0.11 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 8 | 0.11 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 12 | 0.11 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 13 | 0.11 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 14 | 0.11 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 17 | 0.11 |
| (1,153) | 1:A:107:CYS:H | 1:A:107:CYS:HB3 | 18 | 0.11 |
| (1,1459) | 1:A:138:LEU:HD11 | 1:A:137:ASN:HA | 3 | 0.11 |
| (1,1459) | 1:A:138:LEU:HD12 | 1:A:137:ASN:HA | 3 | 0.11 |
| (1,1459) | 1:A:138:LEU:HD13 | 1:A:137:ASN:HA | 3 | 0.11 |
| (1,1452) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB2 | 3 | 0.11 |
| (1,1452) | 1:A:98:CYS:HB2 | 1:A:142:LEU:HB2 | 13 | 0.11 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|------------|------------------|------------------|-----------------|----------------------|
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 1 | 0.11 |
| (1,1447) | 1:A:98:CYS:HB2 | 1:A:144:PRO:HA | 20 | 0.11 |
| (1,1336) | 1:A:112:THR:HG21 | 1:A:97:LYS:HE3 | 20 | 0.11 |
| (1,1336) | 1:A:112:THR:HG22 | 1:A:97:LYS:HE3 | 20 | 0.11 |
| (1,1336) | 1:A:112:THR:HG23 | 1:A:97:LYS:HE3 | 20 | 0.11 |
| (1,1336) | 1:A:112:THR:HG21 | 1:A:97:LYS:HE2 | 20 | 0.11 |
| (1,1336) | 1:A:112:THR:HG22 | 1:A:97:LYS:HE2 | 20 | 0.11 |
| (1,1336) | 1:A:112:THR:HG23 | 1:A:97:LYS:HE2 | 20 | 0.11 |
| (1,1318) | 1:A:124:VAL:HB | 1:A:115:SER:HB3 | 3 | 0.11 |
| (1,1270) | 1:A:128:THR:HB | 1:A:126:VAL:HG11 | 19 | 0.11 |
| (1,1270) | 1:A:128:THR:HB | 1:A:126:VAL:HG12 | 19 | 0.11 |
| (1,1270) | 1:A:128:THR:HB | 1:A:126:VAL:HG13 | 19 | 0.11 |
| (1,1014) | 1:A:97:LYS:HA | 1:A:97:LYS:HD3 | 11 | 0.11 |

10 Dihedral-angle violation analysis

Dihedral angle analysis failed due to data error in the dihedral angle restraints, possibly missing target value