



Full wwPDB NMR Structure Validation Report ⓘ

Feb 28, 2024 – 03:22 pm GMT

PDB ID : 6R28
BMRB ID : 34380
Title : Structure of peptide P7, which binds Cdc42 and inhibits effector interactions.
Authors : Murphy, N.P.; Mott, H.R.; Owen, D.
Deposited on : 2019-03-15

This is a Full wwPDB NMR Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

Cyrange : Kirchner and Güntert (2011)
NmrClust : Kelley et al. (1996)
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) : 2.36

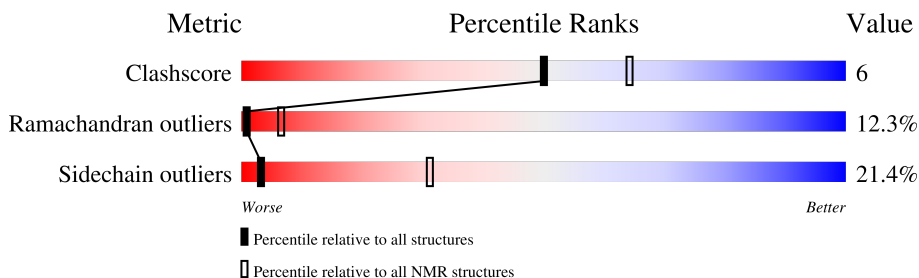
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR

The overall completeness of chemical shifts assignment is 48%.

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 | 16 | |

2 Ensemble composition and analysis i

This entry contains 35 models. Model 15 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *closest to the average*.

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:6-A:15 (10) | 0.13 | 15 |

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 6 clusters. No single-model clusters were found.

| Cluster number | Models |
|----------------|---|
| 1 | 1, 2, 7, 14, 15, 18, 22, 24, 26, 28, 30, 31, 32, 33, 34 |
| 2 | 9, 10, 13, 17, 23, 27, 35 |
| 3 | 6, 8, 11, 21 |
| 4 | 4, 5, 20 |
| 5 | 3, 12, 19 |
| 6 | 16, 25, 29 |

3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 278 atoms, of which 133 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called peptide P7.

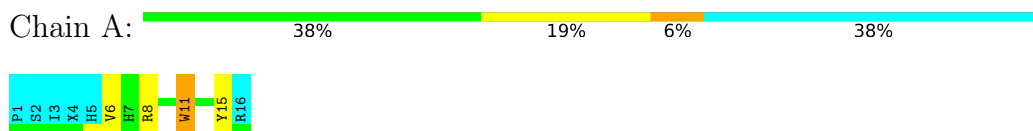
| Mol | Chain | Residues | Atoms | | | | | Trace | |
|-----|-------|----------|-------|----|-----|----|----|-------|---|
| | | | Total | C | H | N | O | | S |
| 1 | A | 16 | 278 | 95 | 133 | 28 | 20 | 2 | 0 |

4 Residue-property plots [i](#)

4.1 Average score per residue in the NMR ensemble

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

- Molecule 1: peptide P7

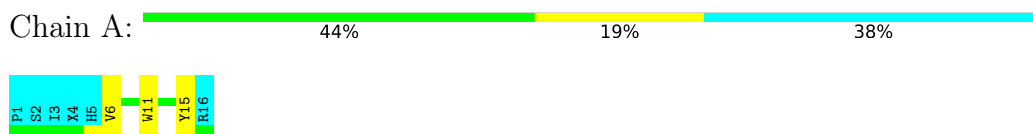


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

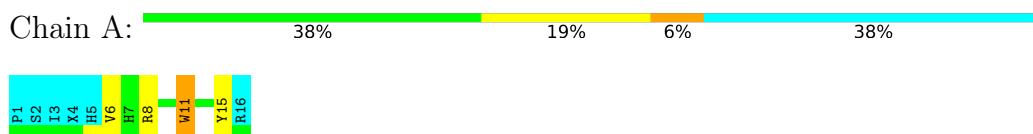
4.2.1 Score per residue for model 1

- Molecule 1: peptide P7



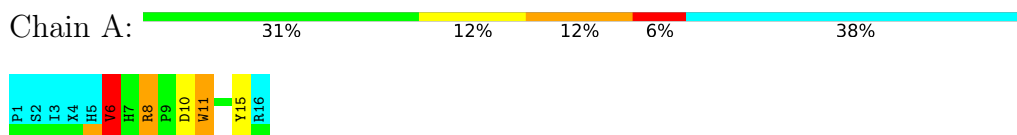
4.2.2 Score per residue for model 2

- Molecule 1: peptide P7



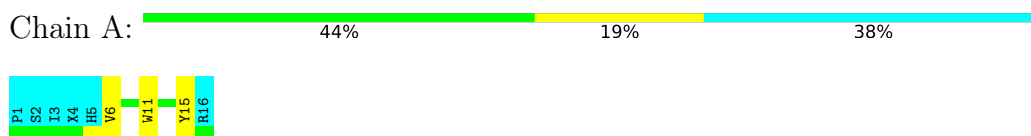
4.2.3 Score per residue for model 3

- Molecule 1: peptide P7



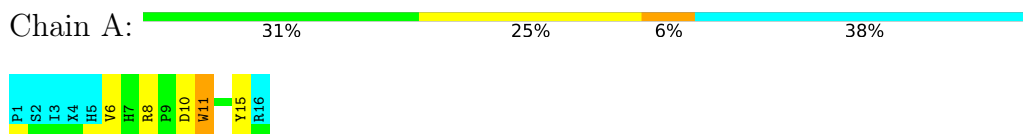
4.2.4 Score per residue for model 4

- Molecule 1: peptide P7



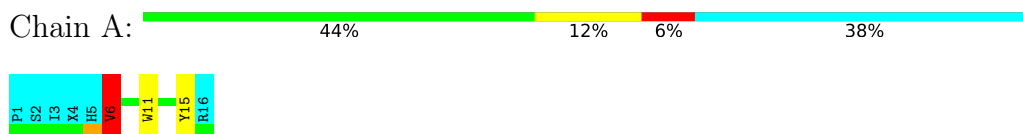
4.2.5 Score per residue for model 5

- Molecule 1: peptide P7



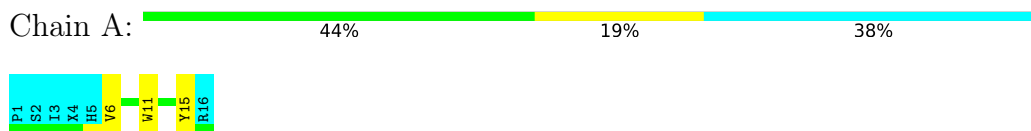
4.2.6 Score per residue for model 6

- Molecule 1: peptide P7



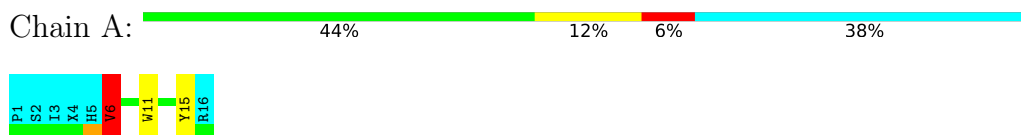
4.2.7 Score per residue for model 7

- Molecule 1: peptide P7



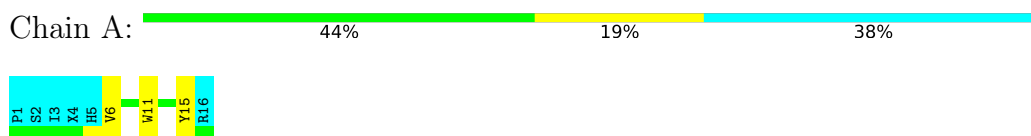
4.2.8 Score per residue for model 8

- Molecule 1: peptide P7



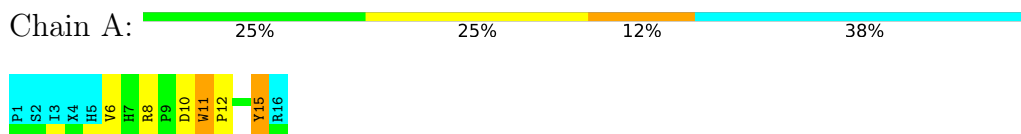
4.2.9 Score per residue for model 9

- Molecule 1: peptide P7



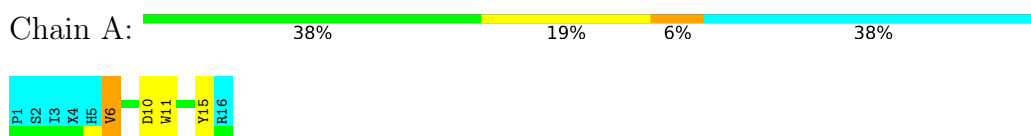
4.2.10 Score per residue for model 10

- Molecule 1: peptide P7



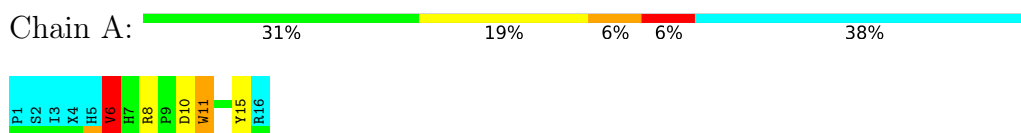
4.2.11 Score per residue for model 11

- Molecule 1: peptide P7



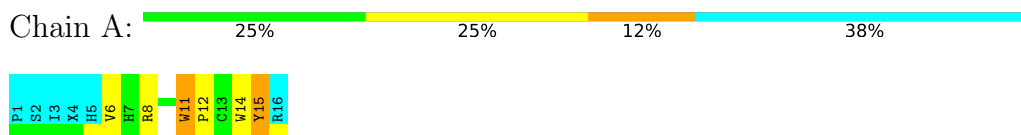
4.2.12 Score per residue for model 12

- Molecule 1: peptide P7



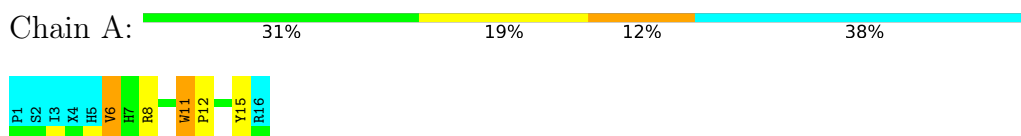
4.2.13 Score per residue for model 13

- Molecule 1: peptide P7



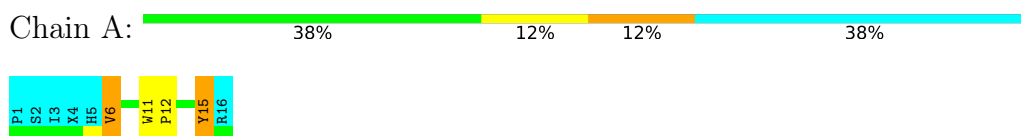
4.2.14 Score per residue for model 14

- Molecule 1: peptide P7



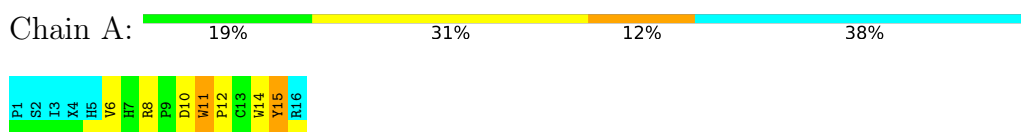
4.2.15 Score per residue for model 15 (medoid)

- Molecule 1: peptide P7



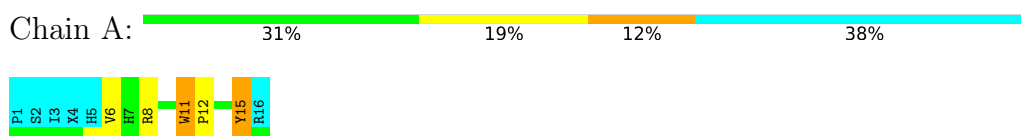
4.2.16 Score per residue for model 16

- Molecule 1: peptide P7



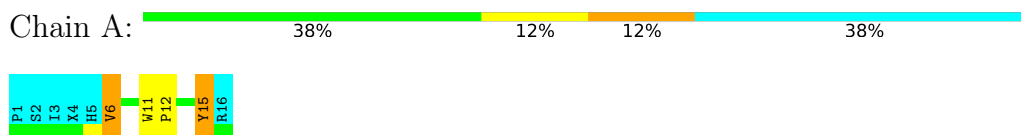
4.2.17 Score per residue for model 17

- Molecule 1: peptide P7



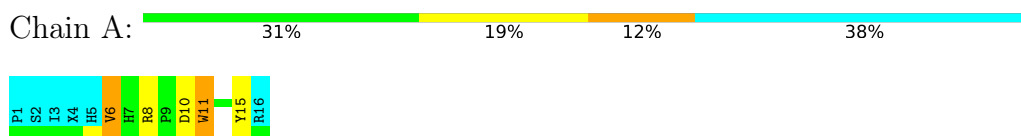
4.2.18 Score per residue for model 18

- Molecule 1: peptide P7



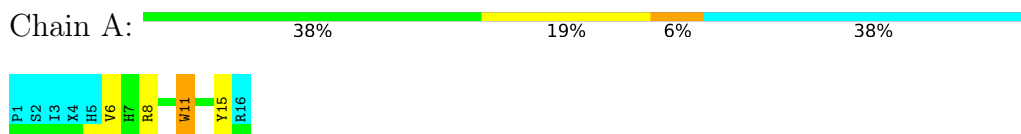
4.2.19 Score per residue for model 19

- Molecule 1: peptide P7



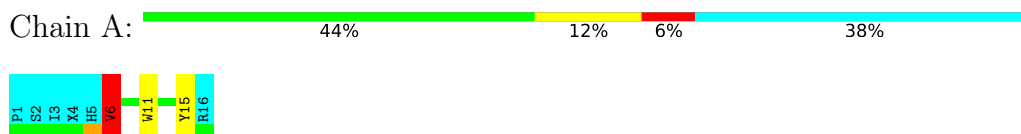
4.2.20 Score per residue for model 20

- Molecule 1: peptide P7



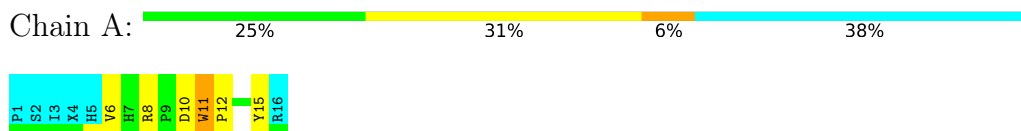
4.2.21 Score per residue for model 21

- Molecule 1: peptide P7



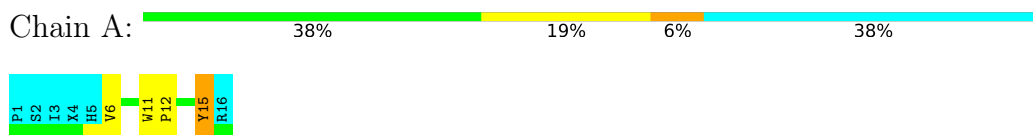
4.2.22 Score per residue for model 22

- Molecule 1: peptide P7



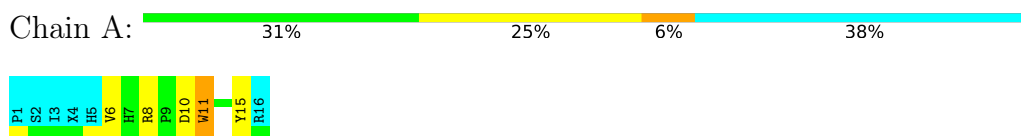
4.2.23 Score per residue for model 23

- Molecule 1: peptide P7



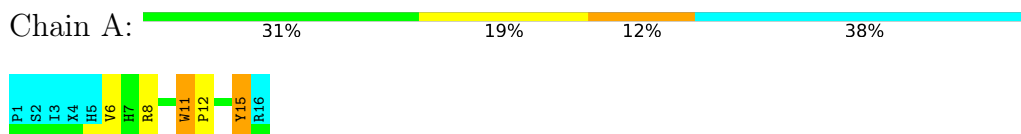
4.2.24 Score per residue for model 24

- Molecule 1: peptide P7



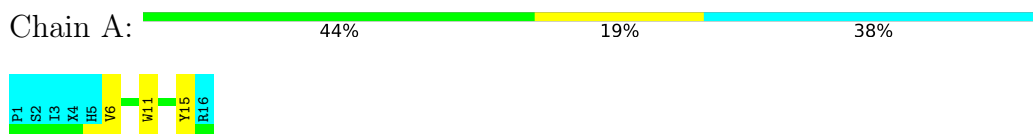
4.2.25 Score per residue for model 25

- Molecule 1: peptide P7



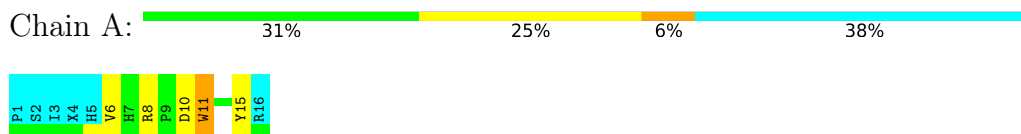
4.2.26 Score per residue for model 26

- Molecule 1: peptide P7



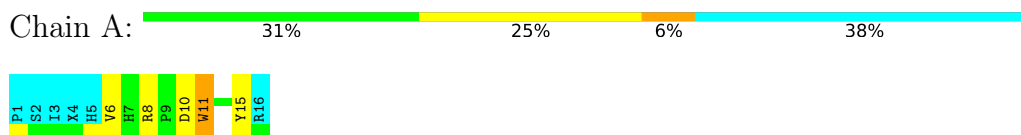
4.2.27 Score per residue for model 27

- Molecule 1: peptide P7



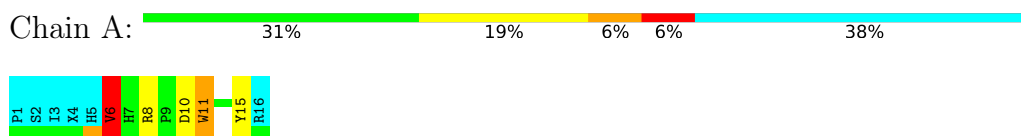
4.2.28 Score per residue for model 28

- Molecule 1: peptide P7



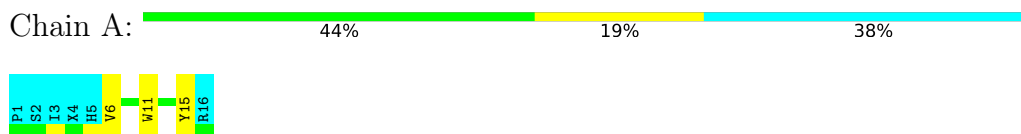
4.2.29 Score per residue for model 29

- Molecule 1: peptide P7



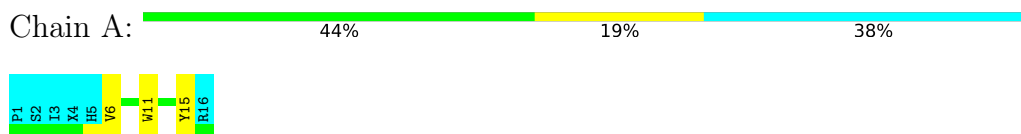
4.2.30 Score per residue for model 30

- Molecule 1: peptide P7



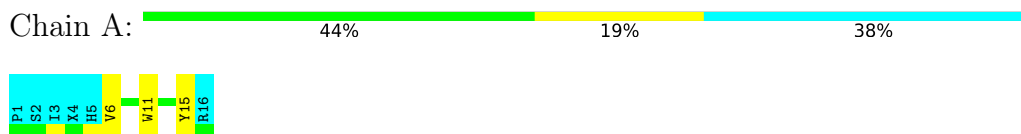
4.2.31 Score per residue for model 31

- Molecule 1: peptide P7



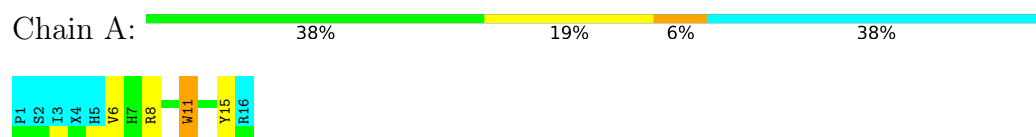
4.2.32 Score per residue for model 32

- Molecule 1: peptide P7



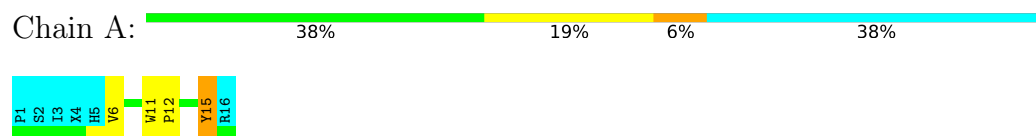
4.2.33 Score per residue for model 33

- Molecule 1: peptide P7



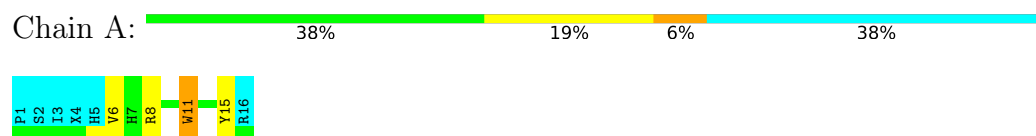
4.2.34 Score per residue for model 34

- Molecule 1: peptide P7



4.2.35 Score per residue for model 35

- Molecule 1: peptide P7



5 Refinement protocol and experimental data overview

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

Of the 100 calculated structures, 35 were deposited, based on the following criterion: *structures with the lowest energy*.

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

| Software name | Classification | Version |
|---------------|-----------------------|---------|
| ARIA | structure calculation | 1.2 |
| CNS | structure calculation | |
| CNS | refinement | |

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

| Chemical shift file(s) | working_cs.cif |
|--|----------------|
| Number of chemical shift lists | 1 |
| Total number of shifts | 112 |
| Number of shifts mapped to atoms | 112 |
| Number of unparsed shifts | 0 |
| Number of shifts with mapping errors | 0 |
| Number of shifts with mapping warnings | 0 |
| Assignment completeness (well-defined parts) | 48% |

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:
HCS

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 | 96 | 81 | 80 | 1±1 |
| All | All | 3360 | 2835 | 2800 | 37 |

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 6.

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

| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|----------------|----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:8:ARG:HB2 | 1:A:11:TRP:CD1 | 0.61 | 2.31 | 16 | 18 |
| 1:A:8:ARG:HG3 | 1:A:11:TRP:CD2 | 0.57 | 2.35 | 3 | 1 |
| 1:A:8:ARG:HB3 | 1:A:10:ASP:OD1 | 0.47 | 2.09 | 19 | 5 |
| 1:A:12:PRO:HG2 | 1:A:15:TYR:H | 0.44 | 1.72 | 25 | 9 |
| 1:A:6:VAL:HG11 | 1:A:12:PRO:O | 0.43 | 2.14 | 14 | 3 |
| 1:A:11:TRP:HB2 | 1:A:12:PRO:HD2 | 0.41 | 1.92 | 22 | 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 | 10/16 (62%) | 5±1 (53±7%) | 3±1 (35±6%) | 1±0 (12±4%) | 1 6 |
| All | All | 350/560 (62%) | 186 (53%) | 121 (35%) | 43 (12%) | 1 6 |

All 2 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 15 | TYR | 35 |
| 1 | A | 6 | VAL | 8 |

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 | 10/15 (67%) | 8±0 (79±4%) | 2±0 (21±4%) | 3 31 |
| All | All | 350/525 (67%) | 275 (79%) | 75 (21%) | 3 31 |

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 | 6 | VAL | 35 |
| 1 | A | 11 | TRP | 35 |
| 1 | A | 10 | ASP | 4 |
| 1 | A | 8 | ARG | 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](#)

1 non-standard protein/DNA/RNA residue 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 |
| 1 | HCS | A | 4 | 1 | 5,6,7 | 0.58±0.03 | 0±0 (0±0%) |

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 |
| 1 | HCS | A | 4 | 1 | 2,6,8 | 0.69±0.23 | 0±0 (0±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 |
|-----|------|-------|-----|------|---------|-----------|-------|
| 1 | HCS | A | 4 | 1 | - | 0±0,4,5,7 | - |

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

6.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.6 Ligand geometry [i](#)

There are no ligands in this entry.

6.7 Other polymers [i](#)

There are no such molecules in this entry.

6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

7 Chemical shift validation [i](#)

The completeness of assignment taking into account all chemical shift lists is 48% for the well-defined parts and 46% for the entire structure.

7.1 Chemical shift list 1

File name: working_cs.cif

Chemical shift list name: *peptide7.csv4*

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 | 112 |
| Number of shifts mapped to atoms | 112 |
| Number of unparsed shifts | 0 |
| Number of shifts with mapping errors | 0 |
| Number of shifts with mapping warnings | 0 |
| Number of shift outliers (ShiftChecker) | 0 |

7.1.2 Chemical shift referencing [i](#)

No chemical shift referencing corrections were calculated (not enough data).

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 48%, i.e. 73 atoms were assigned a chemical shift out of a possible 152. 0 out of 1 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ¹ H | ¹³ C | ¹⁵ N |
|-----------|--------------|----------------|-----------------|-----------------|
| Backbone | 18/46 (39%) | 18/18 (100%) | 0/20 (0%) | 0/8 (0%) |
| Sidechain | 37/65 (57%) | 37/42 (88%) | 0/20 (0%) | 0/3 (0%) |
| Aromatic | 18/41 (44%) | 18/20 (90%) | 0/17 (0%) | 0/4 (0%) |
| Overall | 73/152 (48%) | 73/80 (91%) | 0/57 (0%) | 0/15 (0%) |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 46%, i.e. 106 atoms were assigned a chemical shift out of a possible 229. 0 out of 1 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

| | Total | ¹ H | ¹³ C | ¹⁵ N |
|-----------|---------------|----------------|-----------------|-----------------|
| Backbone | 26/69 (38%) | 26/27 (96%) | 0/30 (0%) | 0/12 (0%) |
| Sidechain | 60/111 (54%) | 60/72 (83%) | 0/33 (0%) | 0/6 (0%) |
| Aromatic | 20/49 (41%) | 20/24 (83%) | 0/19 (0%) | 0/6 (0%) |
| Overall | 106/229 (46%) | 106/123 (86%) | 0/82 (0%) | 0/24 (0%) |

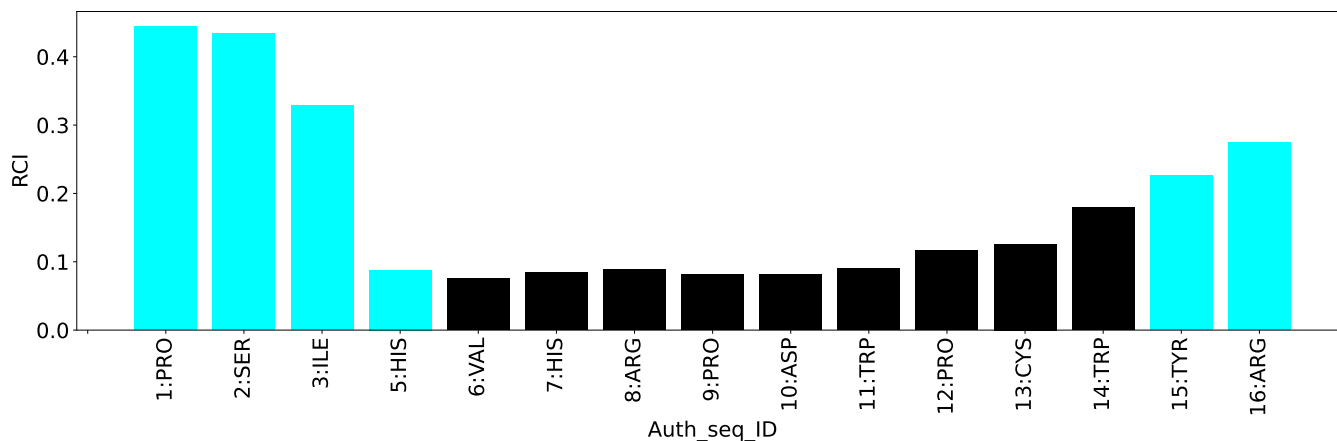
7.1.4 Statistically unusual chemical shifts [i](#)

There are no statistically unusual chemical shifts.

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

The image below reports *random coil index* values for the protein chains in the structure. The height of each bar gives a probability of a given residue to be disordered, as predicted from the available chemical shifts and the amino acid sequence. A value above 0.2 is an indication of significant predicted disorder. The colour of the bar shows whether the residue is in the well-defined core (black) or in the ill-defined residue ranges (cyan), as described in section 2 on ensemble composition. 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 | 440 |
| Intra-residue ($ i-j =0$) | 170 |
| Sequential ($ i-j =1$) | 114 |
| Medium range ($ i-j >1$ and $ i-j <5$) | 108 |
| Long range ($ i-j \geq 5$) | 48 |
| 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 | 27.5 |
| Number of long range restraints per residue ¹ | 3.0 |

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) | 9.0 | 0.2 |
| 0.2-0.5 (Medium) | 20.4 | 0.5 |
| >0.5 (Large) | 23.9 | 2.4 |

8.2.2 Average number of dihedral-angle violations per model

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

9 Distance violation analysis

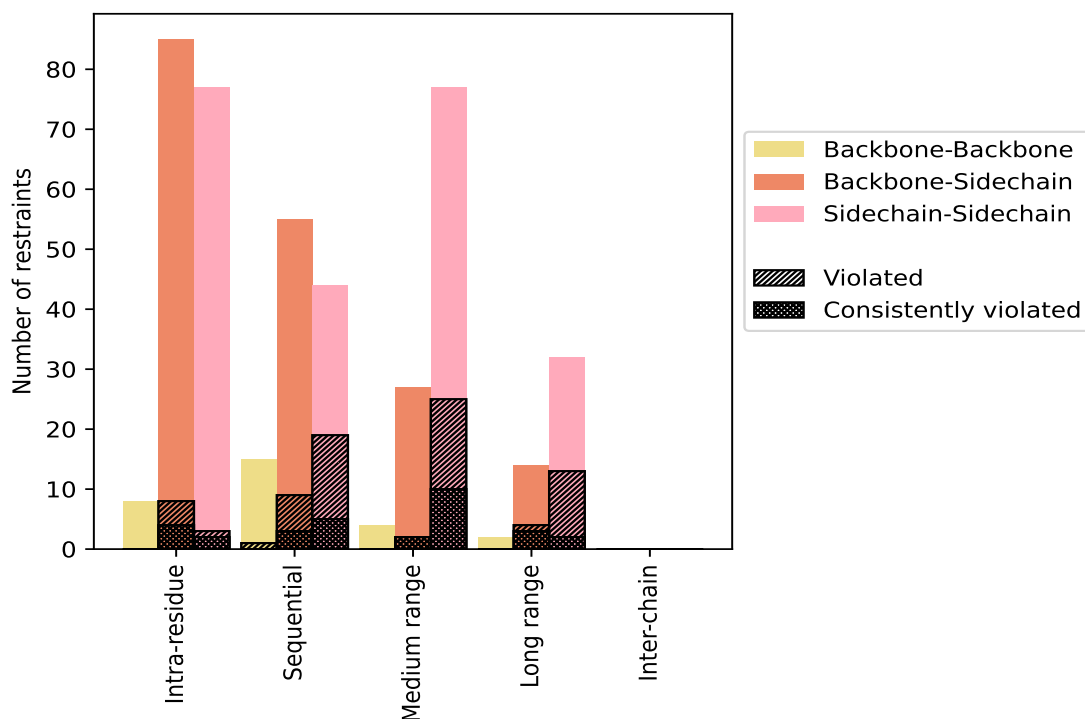
9.1 Summary of distance violations

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

| Restrains type | Count | % ¹ | Violated ³ | | | Consistently Violated ⁴ | | |
|---|------------|----------------|-----------------------|----------------|----------------|------------------------------------|----------------|----------------|
| | | | Count | % ² | % ¹ | Count | % ² | % ¹ |
| Intra-residue ($i-j =0$) | 170 | 38.6 | 11 | 6.5 | 2.5 | 6 | 3.5 | 1.4 |
| Backbone-Backbone | 8 | 1.8 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 85 | 19.3 | 8 | 9.4 | 1.8 | 4 | 4.7 | 0.9 |
| Sidechain-Sidechain | 77 | 17.5 | 3 | 3.9 | 0.7 | 2 | 2.6 | 0.5 |
| Sequential ($i-j =1$) | 114 | 25.9 | 29 | 25.4 | 6.6 | 8 | 7.0 | 1.8 |
| Backbone-Backbone | 15 | 3.4 | 1 | 6.7 | 0.2 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 55 | 12.5 | 9 | 16.4 | 2.0 | 3 | 5.5 | 0.7 |
| Sidechain-Sidechain | 44 | 10.0 | 19 | 43.2 | 4.3 | 5 | 11.4 | 1.1 |
| Medium range ($i-j >1$ & $i-j <5$) | 108 | 24.5 | 27 | 25.0 | 6.1 | 12 | 11.1 | 2.7 |
| Backbone-Backbone | 4 | 0.9 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 27 | 6.1 | 2 | 7.4 | 0.5 | 2 | 7.4 | 0.5 |
| Sidechain-Sidechain | 77 | 17.5 | 25 | 32.5 | 5.7 | 10 | 13.0 | 2.3 |
| Long range ($i-j \geq 5$) | 48 | 10.9 | 17 | 35.4 | 3.9 | 5 | 10.4 | 1.1 |
| Backbone-Backbone | 2 | 0.5 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 14 | 3.2 | 4 | 28.6 | 0.9 | 3 | 21.4 | 0.7 |
| Sidechain-Sidechain | 32 | 7.3 | 13 | 40.6 | 3.0 | 2 | 6.2 | 0.5 |
| 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 | 440 | 100.0 | 84 | 19.1 | 19.1 | 31 | 7.0 | 7.0 |
| Backbone-Backbone | 29 | 6.6 | 1 | 3.4 | 0.2 | 0 | 0.0 | 0.0 |
| Backbone-Sidechain | 181 | 41.1 | 23 | 12.7 | 5.2 | 12 | 6.6 | 2.7 |
| Sidechain-Sidechain | 230 | 52.3 | 60 | 26.1 | 13.6 | 19 | 8.3 | 4.3 |

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 | 7 | 17 | 24 | 10 | 0 | 58 | 0.58 | 1.74 | 0.42 | 0.49 |
| 2 | 6 | 14 | 19 | 9 | 0 | 48 | 0.53 | 1.56 | 0.37 | 0.44 |
| 3 | 7 | 14 | 19 | 11 | 0 | 51 | 0.65 | 2.4 | 0.52 | 0.46 |
| 4 | 8 | 15 | 23 | 8 | 0 | 54 | 0.62 | 1.83 | 0.44 | 0.51 |
| 5 | 8 | 16 | 24 | 9 | 0 | 57 | 0.63 | 1.72 | 0.44 | 0.51 |
| 6 | 8 | 18 | 21 | 10 | 0 | 57 | 0.6 | 1.86 | 0.43 | 0.5 |
| 7 | 8 | 16 | 25 | 10 | 0 | 59 | 0.61 | 1.86 | 0.46 | 0.51 |
| 8 | 7 | 17 | 22 | 12 | 0 | 58 | 0.62 | 1.75 | 0.43 | 0.48 |
| 9 | 7 | 16 | 21 | 9 | 0 | 53 | 0.63 | 1.71 | 0.43 | 0.49 |
| 10 | 7 | 17 | 17 | 8 | 0 | 49 | 0.55 | 1.48 | 0.36 | 0.45 |
| 11 | 7 | 16 | 22 | 11 | 0 | 56 | 0.6 | 1.82 | 0.45 | 0.48 |

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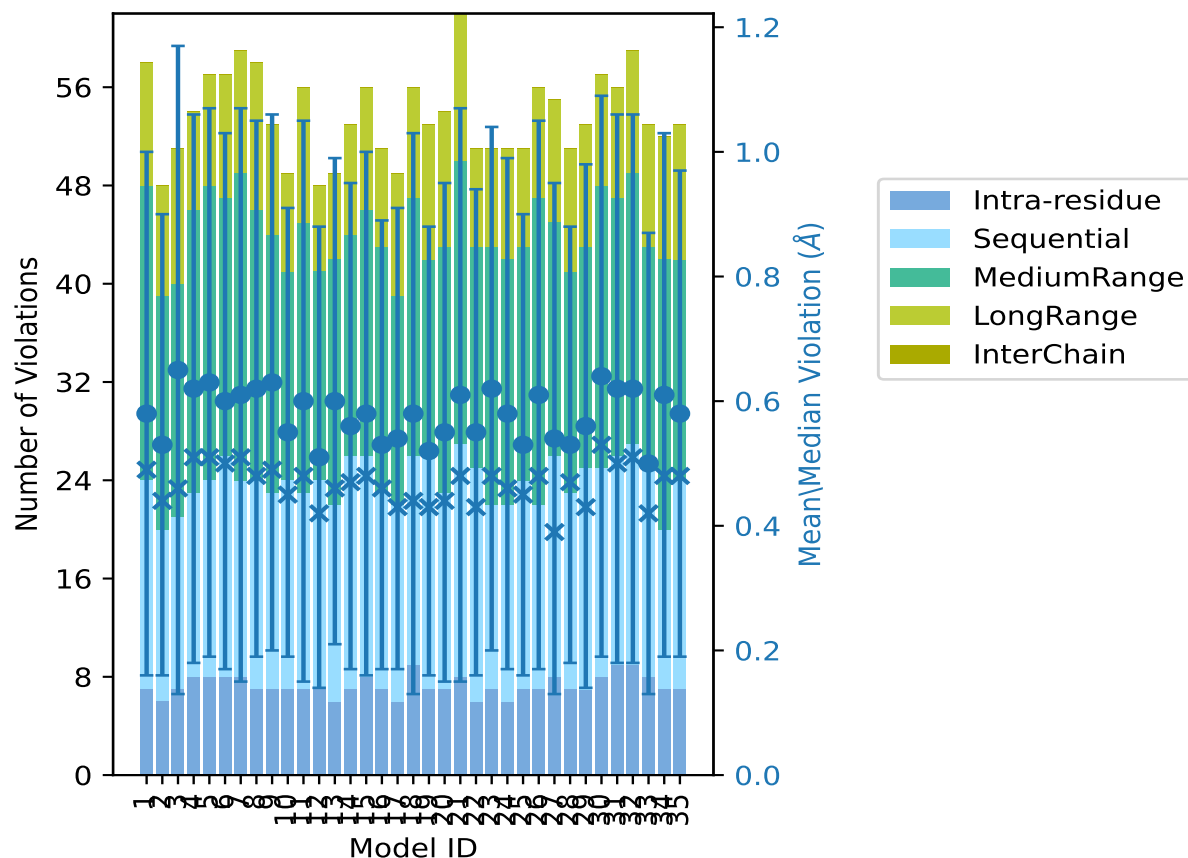
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| Model ID | Number of violations | | | | | | Mean (Å) | Max (Å) | SD ⁶ (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
| | IR ¹ | SQ ² | MR ³ | LR ⁴ | IC ⁵ | Total | | | | |
| 12 | 7 | 17 | 17 | 7 | 0 | 48 | 0.51 | 1.59 | 0.37 | 0.42 |
| 13 | 6 | 16 | 20 | 7 | 0 | 49 | 0.6 | 1.59 | 0.39 | 0.46 |
| 14 | 7 | 19 | 18 | 9 | 0 | 53 | 0.56 | 1.62 | 0.39 | 0.47 |
| 15 | 8 | 18 | 20 | 10 | 0 | 56 | 0.58 | 1.67 | 0.42 | 0.48 |
| 16 | 7 | 16 | 20 | 8 | 0 | 51 | 0.53 | 1.5 | 0.36 | 0.46 |
| 17 | 6 | 16 | 17 | 10 | 0 | 49 | 0.54 | 1.61 | 0.37 | 0.43 |
| 18 | 9 | 17 | 21 | 9 | 0 | 56 | 0.58 | 1.96 | 0.45 | 0.44 |
| 19 | 7 | 19 | 16 | 11 | 0 | 53 | 0.52 | 1.56 | 0.36 | 0.43 |
| 20 | 7 | 16 | 20 | 11 | 0 | 54 | 0.55 | 1.75 | 0.4 | 0.44 |
| 21 | 8 | 19 | 23 | 12 | 0 | 62 | 0.61 | 1.88 | 0.46 | 0.48 |
| 22 | 6 | 19 | 18 | 8 | 0 | 51 | 0.55 | 1.61 | 0.39 | 0.43 |
| 23 | 7 | 15 | 21 | 8 | 0 | 51 | 0.62 | 1.7 | 0.42 | 0.48 |
| 24 | 6 | 16 | 20 | 9 | 0 | 51 | 0.58 | 1.7 | 0.41 | 0.46 |
| 25 | 7 | 17 | 19 | 8 | 0 | 51 | 0.53 | 1.6 | 0.37 | 0.45 |
| 26 | 7 | 15 | 25 | 9 | 0 | 56 | 0.61 | 1.76 | 0.44 | 0.48 |
| 27 | 8 | 18 | 19 | 10 | 0 | 55 | 0.54 | 1.72 | 0.41 | 0.39 |
| 28 | 7 | 16 | 18 | 10 | 0 | 51 | 0.53 | 1.62 | 0.35 | 0.47 |
| 29 | 7 | 18 | 18 | 10 | 0 | 53 | 0.56 | 1.77 | 0.42 | 0.43 |
| 30 | 8 | 17 | 23 | 9 | 0 | 57 | 0.64 | 1.89 | 0.45 | 0.53 |
| 31 | 9 | 17 | 21 | 9 | 0 | 56 | 0.62 | 1.91 | 0.44 | 0.5 |
| 32 | 9 | 18 | 22 | 10 | 0 | 59 | 0.62 | 1.89 | 0.44 | 0.51 |
| 33 | 8 | 18 | 17 | 10 | 0 | 53 | 0.5 | 1.55 | 0.37 | 0.42 |
| 34 | 7 | 13 | 22 | 10 | 0 | 52 | 0.61 | 1.66 | 0.42 | 0.48 |
| 35 | 7 | 17 | 18 | 11 | 0 | 53 | 0.58 | 1.68 | 0.39 | 0.48 |

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 [i](#)

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, 356(IR:159, SQ:85, MR:81, LR:31, IC:0) restraints are not violated in the ensemble.

| Number of violated restraints | | | | | | Fraction of the ensemble | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-------|--------------------------|------|
| IR ¹ | SQ ² | MR ³ | LR ⁴ | IC ⁵ | Total | Count ⁶ | % |
| 0 | 3 | 1 | 3 | 0 | 7 | 1 | 2.9 |
| 1 | 2 | 1 | 1 | 0 | 5 | 2 | 5.7 |
| 0 | 1 | 0 | 0 | 0 | 1 | 3 | 8.6 |
| 0 | 1 | 0 | 0 | 0 | 1 | 4 | 11.4 |
| 2 | 0 | 0 | 2 | 0 | 4 | 5 | 14.3 |
| 0 | 0 | 0 | 0 | 0 | 0 | 6 | 17.1 |

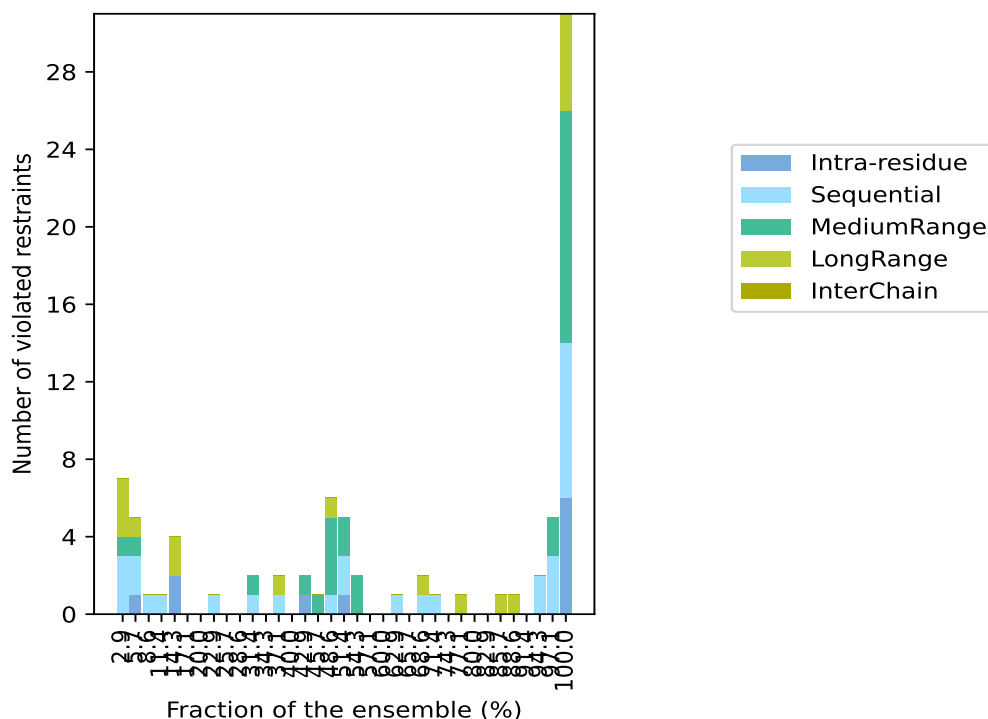
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| Number of violated restraints | | | | | | Fraction of the ensemble | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-------|--------------------------|-------|
| IR ¹ | SQ ² | MR ³ | LR ⁴ | IC ⁵ | Total | Count ⁶ | % |
| 0 | 0 | 0 | 0 | 0 | 0 | 7 | 20.0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 8 | 22.9 |
| 0 | 0 | 0 | 0 | 0 | 0 | 9 | 25.7 |
| 0 | 0 | 0 | 0 | 0 | 0 | 10 | 28.6 |
| 0 | 1 | 1 | 0 | 0 | 2 | 11 | 31.4 |
| 0 | 0 | 0 | 0 | 0 | 0 | 12 | 34.3 |
| 0 | 1 | 0 | 1 | 0 | 2 | 13 | 37.1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 14 | 40.0 |
| 1 | 0 | 1 | 0 | 0 | 2 | 15 | 42.9 |
| 0 | 0 | 1 | 0 | 0 | 1 | 16 | 45.7 |
| 0 | 1 | 4 | 1 | 0 | 6 | 17 | 48.6 |
| 1 | 2 | 2 | 0 | 0 | 5 | 18 | 51.4 |
| 0 | 0 | 2 | 0 | 0 | 2 | 19 | 54.3 |
| 0 | 0 | 0 | 0 | 0 | 0 | 20 | 57.1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 21 | 60.0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 22 | 62.9 |
| 0 | 0 | 0 | 0 | 0 | 0 | 23 | 65.7 |
| 0 | 1 | 0 | 1 | 0 | 2 | 24 | 68.6 |
| 0 | 1 | 0 | 0 | 0 | 1 | 25 | 71.4 |
| 0 | 0 | 0 | 0 | 0 | 0 | 26 | 74.3 |
| 0 | 0 | 0 | 1 | 0 | 1 | 27 | 77.1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 28 | 80.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 29 | 82.9 |
| 0 | 0 | 0 | 1 | 0 | 1 | 30 | 85.7 |
| 0 | 0 | 0 | 1 | 0 | 1 | 31 | 88.6 |
| 0 | 0 | 0 | 0 | 0 | 0 | 32 | 91.4 |
| 0 | 2 | 0 | 0 | 0 | 2 | 33 | 94.3 |
| 0 | 3 | 2 | 0 | 0 | 5 | 34 | 97.1 |
| 6 | 8 | 12 | 5 | 0 | 31 | 35 | 100.0 |

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

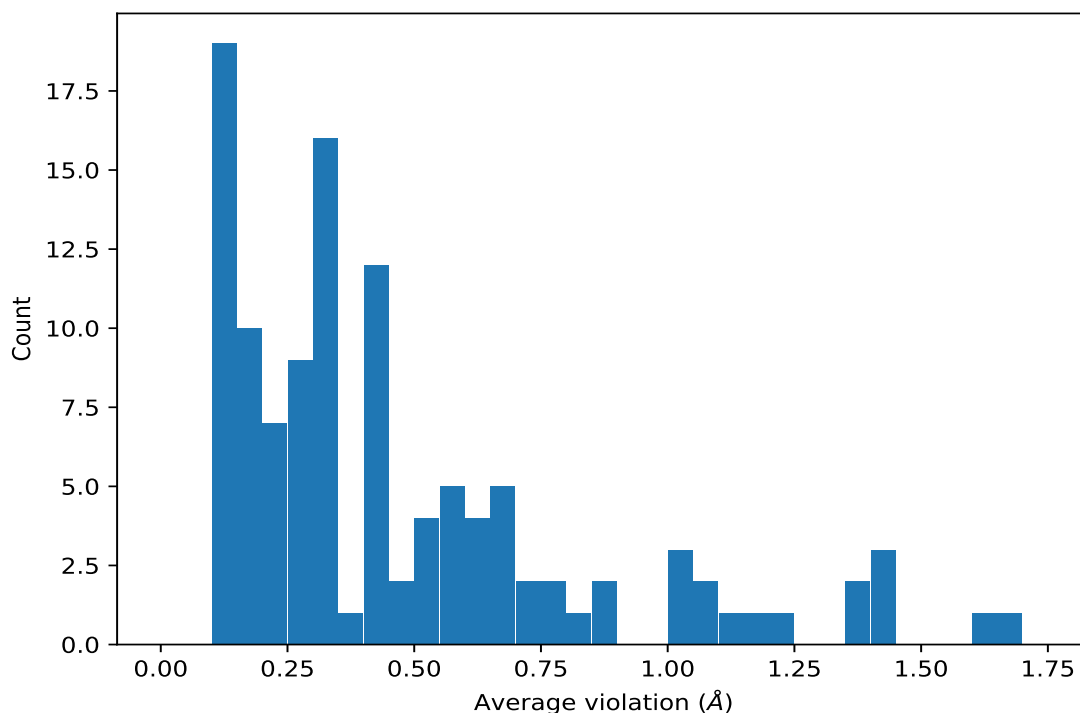
9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



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) |
|---------|----------------|----------------|---------------------|----------|---------------------|------------|
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 35 | 1.61 | 0.05 | 1.62 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 35 | 1.44 | 0.07 | 1.46 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 35 | 1.44 | 0.07 | 1.46 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 35 | 1.44 | 0.07 | 1.46 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 35 | 1.35 | 0.09 | 1.36 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 35 | 1.24 | 0.05 | 1.24 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 35 | 1.2 | 0.02 | 1.2 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 35 | 1.13 | 0.01 | 1.13 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 35 | 1.03 | 0.74 | 1.66 |
| (2,16) | 1:11:A:TRP:HD1 | 1:8:A:ARG:HD2 | 35 | 1.03 | 0.74 | 1.66 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 35 | 0.89 | 0.04 | 0.88 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 35 | 0.81 | 0.07 | 0.82 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 35 | 0.73 | 0.05 | 0.73 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 35 | 0.7 | 0.11 | 0.73 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 35 | 0.69 | 0.06 | 0.69 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 35 | 0.69 | 0.06 | 0.69 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|---------|----------------|----------------|---------------------|----------|---------------------|------------|
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 35 | 0.69 | 0.06 | 0.69 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 35 | 0.66 | 0.03 | 0.65 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 35 | 0.63 | 0.07 | 0.62 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 35 | 0.63 | 0.07 | 0.62 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 35 | 0.56 | 0.08 | 0.56 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 35 | 0.55 | 0.04 | 0.55 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 35 | 0.53 | 0.09 | 0.56 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 35 | 0.51 | 0.03 | 0.51 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 35 | 0.5 | 0.02 | 0.5 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 35 | 0.46 | 0.01 | 0.46 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 35 | 0.41 | 0.04 | 0.42 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 35 | 0.41 | 0.04 | 0.42 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 35 | 0.4 | 0.03 | 0.41 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 35 | 0.4 | 0.03 | 0.41 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 35 | 0.4 | 0.04 | 0.42 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 35 | 0.38 | 0.07 | 0.4 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 35 | 0.32 | 0.03 | 0.33 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 35 | 0.25 | 0.04 | 0.26 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 35 | 0.22 | 0.04 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 35 | 0.22 | 0.0 | 0.22 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 35 | 0.22 | 0.03 | 0.21 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 35 | 0.19 | 0.02 | 0.19 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 35 | 0.14 | 0.01 | 0.14 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 34 | 0.88 | 0.27 | 0.88 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 34 | 0.52 | 0.06 | 0.52 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 34 | 0.44 | 0.08 | 0.45 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 34 | 0.35 | 0.09 | 0.34 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 34 | 0.35 | 0.09 | 0.34 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 34 | 0.35 | 0.09 | 0.34 |
| (1,21) | 1:4:A:HCS:HG3 | 1:6:A:VAL:HG11 | 34 | 0.35 | 0.09 | 0.34 |
| (1,21) | 1:4:A:HCS:HG3 | 1:6:A:VAL:HG12 | 34 | 0.35 | 0.09 | 0.34 |
| (1,21) | 1:4:A:HCS:HG3 | 1:6:A:VAL:HG13 | 34 | 0.35 | 0.09 | 0.34 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 34 | 0.29 | 0.07 | 0.3 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 34 | 0.29 | 0.07 | 0.3 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 33 | 0.17 | 0.04 | 0.17 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 33 | 0.13 | 0.02 | 0.13 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 31 | 0.42 | 0.09 | 0.43 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 31 | 0.42 | 0.09 | 0.43 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 30 | 0.78 | 0.4 | 0.69 |
| (1,29) | 1:11:A:TRP:HD1 | 1:4:A:HCS:HB2 | 30 | 0.78 | 0.4 | 0.69 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 27 | 0.12 | 0.01 | 0.12 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 25 | 0.27 | 0.09 | 0.28 |

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| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|---------|----------------|----------------|---------------------|----------|---------------------|------------|
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 25 | 0.27 | 0.09 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 25 | 0.27 | 0.09 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 25 | 0.27 | 0.09 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 25 | 0.27 | 0.09 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 25 | 0.27 | 0.09 | 0.28 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 24 | 0.6 | 0.19 | 0.59 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 24 | 0.6 | 0.19 | 0.59 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 24 | 0.42 | 0.1 | 0.46 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 22 | 0.61 | 0.19 | 0.64 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 22 | 0.61 | 0.19 | 0.64 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 19 | 1.38 | 0.66 | 1.7 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 19 | 1.01 | 0.25 | 1.09 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 18 | 1.7 | 0.29 | 1.83 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 18 | 1.08 | 0.03 | 1.07 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 18 | 0.73 | 0.08 | 0.73 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 18 | 0.6 | 0.21 | 0.68 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 18 | 0.48 | 0.06 | 0.49 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 17 | 0.4 | 0.05 | 0.41 |
| (1,7) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD3 | 17 | 0.4 | 0.05 | 0.41 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 17 | 0.4 | 0.04 | 0.39 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 17 | 0.34 | 0.06 | 0.36 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 17 | 0.33 | 0.08 | 0.35 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 17 | 0.32 | 0.04 | 0.33 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 17 | 0.15 | 0.03 | 0.16 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 17 | 0.15 | 0.03 | 0.16 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 16 | 0.18 | 0.05 | 0.16 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 15 | 1.05 | 0.17 | 1.09 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 15 | 0.18 | 0.04 | 0.17 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD11 | 13 | 0.32 | 0.11 | 0.31 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD12 | 13 | 0.32 | 0.11 | 0.31 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD13 | 13 | 0.32 | 0.11 | 0.31 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG21 | 13 | 0.32 | 0.11 | 0.31 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG22 | 13 | 0.32 | 0.11 | 0.31 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG23 | 13 | 0.32 | 0.11 | 0.31 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 13 | 0.14 | 0.02 | 0.13 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 11 | 0.19 | 0.07 | 0.16 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 11 | 0.19 | 0.07 | 0.16 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 11 | 0.13 | 0.02 | 0.14 |
| (2,60) | 1:6:A:VAL:H | 1:5:A:HIS:HA | 8 | 0.2 | 0.01 | 0.2 |
| (1,32) | 1:3:A:ILE:HD11 | 1:9:A:PRO:HD3 | 5 | 0.24 | 0.13 | 0.2 |
| (1,32) | 1:3:A:ILE:HD12 | 1:9:A:PRO:HD3 | 5 | 0.24 | 0.13 | 0.2 |
| (1,32) | 1:3:A:ILE:HD13 | 1:9:A:PRO:HD3 | 5 | 0.24 | 0.13 | 0.2 |

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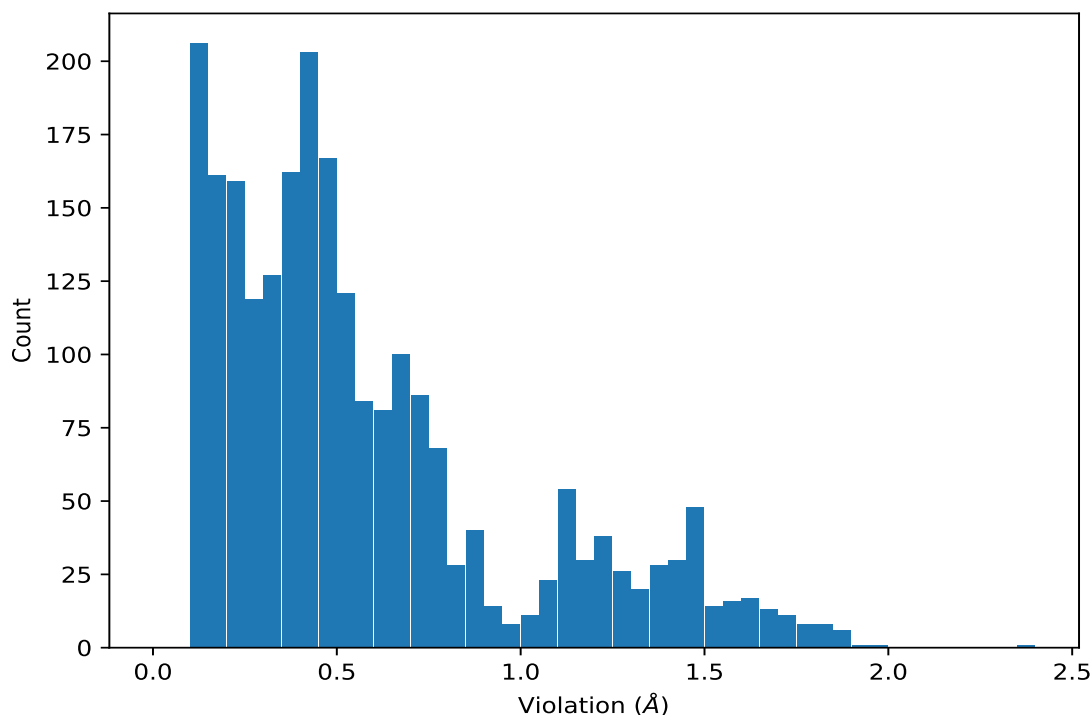
| Key | Atom-1 | Atom-2 | Models ¹ | Mean (Å) | SD ¹ (Å) | Median (Å) |
|---------|----------------|----------------|---------------------|----------|---------------------|------------|
| (2,354) | 1:16:A:ARG:HG3 | 1:16:A:ARG:HB2 | 5 | 0.16 | 0.04 | 0.16 |
| (2,100) | 1:8:A:ARG:H | 1:8:A:ARG:HD3 | 5 | 0.11 | 0.01 | 0.11 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG11 | 5 | 0.11 | 0.01 | 0.11 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG12 | 5 | 0.11 | 0.01 | 0.11 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG13 | 5 | 0.11 | 0.01 | 0.11 |
| (2,139) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HA | 4 | 0.11 | 0.01 | 0.11 |
| (3,24) | 1:14:A:TRP:HD1 | 1:15:A:TYR:HA | 3 | 0.11 | 0.0 | 0.11 |
| (1,25) | 1:9:A:PRO:HD2 | 1:3:A:ILE:HD11 | 2 | 0.16 | 0.05 | 0.16 |
| (1,25) | 1:9:A:PRO:HD2 | 1:3:A:ILE:HD12 | 2 | 0.16 | 0.05 | 0.16 |
| (1,25) | 1:9:A:PRO:HD2 | 1:3:A:ILE:HD13 | 2 | 0.16 | 0.05 | 0.16 |
| (1,24) | 1:6:A:VAL:HA | 1:7:A:HIS:HB2 | 2 | 0.12 | 0.0 | 0.12 |
| (2,237) | 1:6:A:VAL:HA | 1:6:A:VAL:HG21 | 2 | 0.11 | 0.0 | 0.11 |
| (2,237) | 1:6:A:VAL:HA | 1:6:A:VAL:HG22 | 2 | 0.11 | 0.0 | 0.11 |
| (2,237) | 1:6:A:VAL:HA | 1:6:A:VAL:HG23 | 2 | 0.11 | 0.0 | 0.11 |
| (2,342) | 1:4:A:HCS:H | 1:3:A:ILE:HB | 2 | 0.11 | 0.0 | 0.11 |
| (2,37) | 1:7:A:HIS:HD2 | 1:11:A:TRP:HZ2 | 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) |
|--------|----------------|----------------|----------|---------------|
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 3 | 2.4 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 18 | 1.96 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 31 | 1.91 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 30 | 1.89 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 32 | 1.89 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 21 | 1.88 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 6 | 1.86 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 7 | 1.86 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 21 | 1.85 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 4 | 1.83 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 11 | 1.82 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 7 | 1.82 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 18 | 1.82 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 32 | 1.82 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 30 | 1.81 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 11 | 1.8 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 31 | 1.8 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 4 | 1.79 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 6 | 1.78 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 3 | 1.77 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 29 | 1.77 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 26 | 1.76 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 8 | 1.75 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 20 | 1.75 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 21 | 1.75 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 7 | 1.74 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 1 | 1.74 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 3 | 1.74 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 26 | 1.74 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 5 | 1.72 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 27 | 1.72 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 9 | 1.71 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 24 | 1.7 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 30 | 1.7 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 11 | 1.7 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 23 | 1.7 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 35 | 1.68 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 3 | 1.68 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 8 | 1.68 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 6 | 1.67 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 15 | 1.67 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 8 | 1.66 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 18 | 1.66 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 5 | 1.66 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 34 | 1.66 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 1 | 1.65 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 15 | 1.65 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 21 | 1.65 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 32 | 1.65 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 9 | 1.64 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 31 | 1.64 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 34 | 1.64 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 4 | 1.63 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 30 | 1.63 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 7 | 1.62 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 14 | 1.62 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 23 | 1.62 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 26 | 1.62 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 28 | 1.62 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 14 | 1.61 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 17 | 1.61 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 22 | 1.61 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 32 | 1.6 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 24 | 1.6 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 25 | 1.6 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 27 | 1.6 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 13 | 1.59 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 5 | 1.59 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 12 | 1.59 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 20 | 1.59 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 15 | 1.59 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 15 | 1.59 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 15 | 1.59 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 35 | 1.58 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 13 | 1.57 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 2 | 1.56 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 19 | 1.56 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 19 | 1.56 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 33 | 1.55 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 34 | 1.55 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 34 | 1.55 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 34 | 1.55 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 29 | 1.52 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 9 | 1.52 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 4 | 1.52 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 14 | 1.52 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 14 | 1.52 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 14 | 1.52 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 4 | 1.51 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 4 | 1.51 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 4 | 1.51 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 20 | 1.51 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 20 | 1.51 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 20 | 1.51 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 16 | 1.5 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 5 | 1.5 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 23 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 1 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 1 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 1 | 1.49 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 16 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 16 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 16 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 25 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 25 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 25 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 26 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 26 | 1.49 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 26 | 1.49 |
| (2,225) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB3 | 10 | 1.48 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 17 | 1.48 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 27 | 1.48 |
| (1,29) | 1:11:A:TRP:HD1 | 1:4:A:HCS:HB2 | 21 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 5 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 5 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 5 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 9 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 9 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 9 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 13 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 13 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 13 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 18 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 18 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 18 | 1.48 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 7 | 1.47 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 7 | 1.47 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 7 | 1.47 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 24 | 1.47 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 24 | 1.47 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 24 | 1.47 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 30 | 1.47 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 30 | 1.47 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 30 | 1.47 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 8 | 1.46 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 17 | 1.46 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 17 | 1.46 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 17 | 1.46 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 22 | 1.46 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 22 | 1.46 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 22 | 1.46 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 28 | 1.45 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 28 | 1.45 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 28 | 1.45 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 31 | 1.44 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 31 | 1.44 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 31 | 1.44 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 34 | 1.43 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 9 | 1.42 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 10 | 1.42 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 10 | 1.42 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 10 | 1.42 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 32 | 1.42 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 32 | 1.42 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 32 | 1.42 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 33 | 1.42 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 33 | 1.42 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 33 | 1.42 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 8 | 1.41 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 12 | 1.41 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 1 | 1.41 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 26 | 1.41 |
| (1,29) | 1:11:A:TRP:HD1 | 1:4:A:HCS:HB2 | 29 | 1.41 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 35 | 1.4 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 23 | 1.4 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 11 | 1.4 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 11 | 1.4 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 11 | 1.4 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 23 | 1.4 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 23 | 1.4 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 23 | 1.4 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 27 | 1.4 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 27 | 1.4 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 27 | 1.4 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 13 | 1.39 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 15 | 1.39 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 2 | 1.39 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 2 | 1.39 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 2 | 1.39 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 12 | 1.39 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 12 | 1.39 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 12 | 1.39 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 35 | 1.39 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 35 | 1.39 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 35 | 1.39 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 11 | 1.38 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 15 | 1.38 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 6 | 1.37 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 10 | 1.37 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 24 | 1.37 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 31 | 1.37 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 34 | 1.37 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 3 | 1.36 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 22 | 1.36 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 29 | 1.36 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 32 | 1.36 |
| (2,95) | 1:8:A:ARG:HD2 | 1:11:A:TRP:HB2 | 5 | 1.36 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 1 | 1.35 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 14 | 1.35 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 3 | 1.35 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 3 | 1.35 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 3 | 1.35 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 3 | 1.34 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 21 | 1.33 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 25 | 1.33 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 30 | 1.33 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 11 | 1.32 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 33 | 1.32 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 29 | 1.32 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 29 | 1.32 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 29 | 1.32 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 18 | 1.31 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 6 | 1.31 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 6 | 1.31 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 6 | 1.31 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 21 | 1.31 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 21 | 1.31 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 21 | 1.31 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 27 | 1.3 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 2 | 1.3 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 3 | 1.3 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 22 | 1.3 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 8 | 1.29 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 34 | 1.29 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 7 | 1.29 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 10 | 1.29 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 8 | 1.29 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 8 | 1.29 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 8 | 1.29 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG21 | 19 | 1.29 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG22 | 19 | 1.29 |
| (1,20) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG23 | 19 | 1.29 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 1 | 1.28 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 23 | 1.28 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 9 | 1.27 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 26 | 1.27 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 4 | 1.27 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 12 | 1.26 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 29 | 1.26 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 30 | 1.26 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 16 | 1.26 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 6 | 1.25 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 15 | 1.25 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 17 | 1.25 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 19 | 1.25 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 21 | 1.25 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 26 | 1.25 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 13 | 1.25 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 13 | 1.24 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 25 | 1.24 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 31 | 1.24 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 32 | 1.24 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 2 | 1.23 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 25 | 1.23 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 26 | 1.23 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 28 | 1.23 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 7 | 1.23 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 18 | 1.23 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 28 | 1.23 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 16 | 1.23 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 22 | 1.23 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 11 | 1.22 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 17 | 1.22 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 20 | 1.22 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 27 | 1.22 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 11 | 1.22 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 8 | 1.21 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 10 | 1.21 |

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Continued from previous page...

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 13 | 1.21 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 24 | 1.21 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 33 | 1.21 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 35 | 1.21 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 5 | 1.21 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 5 | 1.21 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 7 | 1.21 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 1 | 1.2 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 5 | 1.2 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 12 | 1.2 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 14 | 1.2 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 16 | 1.2 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 19 | 1.2 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 29 | 1.2 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 34 | 1.2 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 2 | 1.2 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 20 | 1.2 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 35 | 1.2 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 3 | 1.19 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 7 | 1.19 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 21 | 1.19 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 22 | 1.19 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 23 | 1.19 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 30 | 1.19 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 4 | 1.19 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 16 | 1.19 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 24 | 1.19 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 33 | 1.19 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 33 | 1.19 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 24 | 1.19 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 1 | 1.19 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 6 | 1.18 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 32 | 1.18 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 28 | 1.18 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 4 | 1.17 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 9 | 1.17 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 15 | 1.17 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 18 | 1.17 |
| (3,15) | 1:11:A:TRP:HE1 | 1:12:A:PRO:HD3 | 31 | 1.17 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 10 | 1.17 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 14 | 1.17 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 20 | 1.17 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 19 | 1.17 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 2 | 1.16 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 26 | 1.16 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 23 | 1.16 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 26 | 1.16 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 9 | 1.15 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 33 | 1.14 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 1 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 2 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 3 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 4 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 6 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 7 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 8 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 9 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 11 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 12 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 13 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 15 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 16 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 18 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 20 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 21 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 23 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 24 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 25 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 26 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 27 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 29 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 30 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 34 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 35 | 1.13 |
| (2,310) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HD3 | 22 | 1.13 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 27 | 1.13 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 29 | 1.13 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 5 | 1.12 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 10 | 1.12 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 17 | 1.12 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 19 | 1.12 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 31 | 1.12 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 32 | 1.12 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 15 | 1.12 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 23 | 1.12 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 11 | 1.12 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 22 | 1.11 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 28 | 1.11 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 31 | 1.11 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 31 | 1.11 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 9 | 1.11 |
| (2,136) | 1:15:A:TYR:HB2 | 1:12:A:PRO:HB3 | 5 | 1.11 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 24 | 1.11 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 27 | 1.11 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 30 | 1.11 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 5 | 1.11 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 31 | 1.1 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 31 | 1.1 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 5 | 1.1 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 32 | 1.1 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 8 | 1.1 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 15 | 1.1 |
| (2,325) | 1:5:A:HIS:HD2 | 1:5:A:HIS:HB2 | 14 | 1.09 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 4 | 1.09 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 11 | 1.09 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 26 | 1.09 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 20 | 1.09 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 4 | 1.09 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 30 | 1.09 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 3 | 1.09 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 29 | 1.08 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 7 | 1.07 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 18 | 1.07 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 31 | 1.07 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 34 | 1.07 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 7 | 1.07 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 32 | 1.07 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 6 | 1.06 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 21 | 1.06 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 30 | 1.06 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 35 | 1.06 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 6 | 1.06 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 34 | 1.06 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 1 | 1.05 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 23 | 1.05 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 8 | 1.04 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 8 | 1.04 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 31 | 1.04 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 20 | 1.03 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 25 | 1.03 |
| (2,295) | 1:9:A:PRO:HD3 | 1:8:A:ARG:HD3 | 3 | 1.02 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 21 | 1.02 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 6 | 1.01 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 18 | 1.01 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 13 | 1.01 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 35 | 1.0 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 17 | 0.98 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 3 | 0.97 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 12 | 0.97 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 8 | 0.96 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 14 | 0.96 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 28 | 0.96 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 35 | 0.96 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 21 | 0.95 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 3 | 0.94 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 11 | 0.94 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 13 | 0.93 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 9 | 0.92 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 27 | 0.92 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 29 | 0.92 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 12 | 0.91 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 14 | 0.91 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 22 | 0.91 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 11 | 0.9 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 16 | 0.9 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 18 | 0.9 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 32 | 0.9 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 21 | 0.9 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 6 | 0.89 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 1 | 0.89 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 1 | 0.89 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 4 | 0.89 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 17 | 0.89 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 24 | 0.89 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 7 | 0.88 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 9 | 0.88 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 15 | 0.88 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 19 | 0.88 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 20 | 0.88 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 25 | 0.88 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 35 | 0.88 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 9 | 0.88 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 23 | 0.87 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 26 | 0.87 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 27 | 0.87 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 28 | 0.87 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 30 | 0.87 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 31 | 0.87 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 33 | 0.87 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 34 | 0.87 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 14 | 0.87 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 8 | 0.86 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 15 | 0.86 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 32 | 0.86 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 9 | 0.86 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 9 | 0.86 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 13 | 0.86 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 9 | 0.85 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 9 | 0.85 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 10 | 0.85 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 10 | 0.85 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 19 | 0.85 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 23 | 0.85 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 30 | 0.85 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 31 | 0.85 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 5 | 0.85 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 10 | 0.85 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 6 | 0.85 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 12 | 0.84 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 14 | 0.84 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 14 | 0.84 |
| (2,251) | 1:5:A:HIS:HB2 | 1:4:A:HCS:HA | 2 | 0.84 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 1 | 0.83 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 17 | 0.83 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 21 | 0.83 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 26 | 0.83 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 34 | 0.83 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 20 | 0.83 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 24 | 0.82 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 29 | 0.82 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 15 | 0.82 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 33 | 0.82 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 9 | 0.82 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 9 | 0.82 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 9 | 0.82 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 18 | 0.82 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 34 | 0.81 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 34 | 0.8 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 5 | 0.8 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 26 | 0.8 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 34 | 0.8 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 35 | 0.8 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 15 | 0.8 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 15 | 0.8 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 18 | 0.8 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 23 | 0.8 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 13 | 0.79 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 25 | 0.79 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 22 | 0.79 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 31 | 0.79 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 16 | 0.79 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 14 | 0.78 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 14 | 0.78 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 16 | 0.78 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 24 | 0.78 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 4 | 0.78 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 22 | 0.78 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 4 | 0.78 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 30 | 0.78 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 1 | 0.78 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 8 | 0.78 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 8 | 0.78 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 8 | 0.78 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 25 | 0.78 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 25 | 0.78 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 25 | 0.78 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 34 | 0.78 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 34 | 0.78 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 34 | 0.78 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 2 | 0.77 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 14 | 0.77 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 18 | 0.77 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 5 | 0.77 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 32 | 0.77 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 5 | 0.77 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 6 | 0.76 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 6 | 0.76 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 1 | 0.76 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 7 | 0.76 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 8 | 0.76 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 20 | 0.76 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 23 | 0.76 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 25 | 0.76 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 27 | 0.76 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 35 | 0.76 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 7 | 0.76 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 10 | 0.76 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 10 | 0.76 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 32 | 0.76 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 32 | 0.76 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 7 | 0.76 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 21 | 0.76 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 24 | 0.76 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 35 | 0.76 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 3 | 0.76 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 3 | 0.76 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 3 | 0.76 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 31 | 0.76 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 18 | 0.76 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 9 | 0.76 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 4 | 0.75 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 9 | 0.75 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 18 | 0.75 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 25 | 0.75 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 25 | 0.75 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 10 | 0.75 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 17 | 0.75 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 20 | 0.75 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 29 | 0.75 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 24 | 0.75 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 24 | 0.75 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 24 | 0.75 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 30 | 0.75 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 32 | 0.75 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 22 | 0.74 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 28 | 0.74 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 2 | 0.74 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 20 | 0.74 |
| (3,4) | 1:14:A:TRP:HZ2 | 1:1:A:PRO:HB3 | 5 | 0.74 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 24 | 0.74 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 7 | 0.74 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 6 | 0.74 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 6 | 0.74 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 9 | 0.74 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 30 | 0.74 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 30 | 0.74 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 30 | 0.74 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 35 | 0.74 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 35 | 0.74 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 35 | 0.74 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 7 | 0.74 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 32 | 0.73 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 32 | 0.73 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 5 | 0.73 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 18 | 0.73 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 26 | 0.73 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 30 | 0.73 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 31 | 0.73 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 1 | 0.73 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 6 | 0.73 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 19 | 0.73 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 27 | 0.73 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 1 | 0.73 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 1 | 0.73 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 1 | 0.73 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 27 | 0.73 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 27 | 0.73 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 27 | 0.73 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 22 | 0.72 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 22 | 0.72 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 3 | 0.72 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 17 | 0.72 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 32 | 0.72 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 10 | 0.72 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 16 | 0.72 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 33 | 0.72 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 13 | 0.72 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 14 | 0.72 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 15 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 2 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 2 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 2 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 7 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 7 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 7 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 13 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 13 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 13 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 17 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 17 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 17 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 23 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 23 | 0.72 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 23 | 0.72 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 1 | 0.71 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 1 | 0.71 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 13 | 0.71 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 1 | 0.71 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 14 | 0.71 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 4 | 0.71 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 12 | 0.71 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 9 | 0.71 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 8 | 0.71 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 5 | 0.71 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 20 | 0.71 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 33 | 0.7 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 18 | 0.7 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 6 | 0.7 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 9 | 0.7 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 23 | 0.7 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 32 | 0.7 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 22 | 0.7 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 22 | 0.7 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 3 | 0.7 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 8 | 0.7 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 3 | 0.7 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 27 | 0.7 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 21 | 0.7 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 21 | 0.7 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 21 | 0.7 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 22 | 0.69 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 23 | 0.69 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 1 | 0.69 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 16 | 0.69 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 23 | 0.69 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 25 | 0.69 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 33 | 0.69 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 4 | 0.69 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 29 | 0.69 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 29 | 0.69 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 29 | 0.69 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 31 | 0.69 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 31 | 0.69 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 31 | 0.69 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 6 | 0.69 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 21 | 0.69 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 31 | 0.69 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 34 | 0.69 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 6 | 0.69 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 28 | 0.68 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 28 | 0.68 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 29 | 0.68 |
| (3,12) | 1:11:A:TRP:HE3 | 1:12:A:PRO:HG3 | 28 | 0.68 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 10 | 0.68 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 25 | 0.68 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 10 | 0.68 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 12 | 0.68 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 19 | 0.68 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 22 | 0.68 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 24 | 0.68 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 29 | 0.68 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 26 | 0.68 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 4 | 0.68 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 25 | 0.68 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 35 | 0.67 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 35 | 0.67 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 10 | 0.67 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 33 | 0.67 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 7 | 0.67 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 30 | 0.67 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 32 | 0.67 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 21 | 0.67 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 1 | 0.67 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 1 | 0.67 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 5 | 0.67 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 16 | 0.67 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 26 | 0.67 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 28 | 0.67 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 17 | 0.67 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 26 | 0.67 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 9 | 0.67 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 4 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 11 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 11 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 11 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 12 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 12 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 12 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 20 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 20 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 20 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 22 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 22 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 22 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 33 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 33 | 0.67 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 33 | 0.67 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 11 | 0.67 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 25 | 0.67 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 14 | 0.66 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 15 | 0.66 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 2 | 0.66 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 13 | 0.66 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 28 | 0.66 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 28 | 0.66 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 28 | 0.66 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 28 | 0.66 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 8 | 0.66 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 30 | 0.65 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 4 | 0.65 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 9 | 0.65 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 20 | 0.65 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 28 | 0.65 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 28 | 0.65 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 2 | 0.65 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 5 | 0.65 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 11 | 0.65 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 14 | 0.65 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 15 | 0.65 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 18 | 0.65 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 35 | 0.65 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 11 | 0.65 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 16 | 0.65 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 16 | 0.65 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 16 | 0.65 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 26 | 0.65 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 26 | 0.65 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 26 | 0.65 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 5 | 0.65 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 24 | 0.65 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 21 | 0.64 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 21 | 0.64 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 11 | 0.64 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 19 | 0.64 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 23 | 0.64 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 31 | 0.64 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 8 | 0.64 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 11 | 0.64 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 21 | 0.64 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 31 | 0.64 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 19 | 0.64 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 19 | 0.64 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 19 | 0.64 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 28 | 0.64 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 8 | 0.64 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 3 | 0.64 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 31 | 0.64 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 19 | 0.63 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 19 | 0.63 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 34 | 0.63 |
| (2,161) | 1:4:A:HCS:HB3 | 1:13:A:CYS:HA | 11 | 0.63 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 6 | 0.63 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 8 | 0.63 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 30 | 0.63 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 6 | 0.63 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 6 | 0.63 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 6 | 0.63 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 10 | 0.63 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 10 | 0.63 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 10 | 0.63 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 15 | 0.63 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 15 | 0.63 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 15 | 0.63 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 2 | 0.63 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 32 | 0.62 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 13 | 0.62 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 16 | 0.62 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 17 | 0.62 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 27 | 0.62 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 21 | 0.62 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 21 | 0.62 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 7 | 0.62 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 28 | 0.62 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 32 | 0.62 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 34 | 0.62 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 21 | 0.62 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 2 | 0.62 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 4 | 0.62 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 4 | 0.62 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 4 | 0.62 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 5 | 0.62 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 5 | 0.62 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 5 | 0.62 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 5 | 0.61 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 35 | 0.61 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 35 | 0.61 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 35 | 0.61 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 4 | 0.61 |
| (2,146) | 1:11:A:TRP:H | 1:11:A:TRP:HB2 | 20 | 0.61 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 34 | 0.61 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 21 | 0.61 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 28 | 0.61 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 33 | 0.61 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 1 | 0.61 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 24 | 0.61 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 13 | 0.61 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 26 | 0.61 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 30 | 0.61 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 11 | 0.6 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 6 | 0.6 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 31 | 0.6 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB3 | 2 | 0.6 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 25 | 0.6 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 26 | 0.6 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 6 | 0.6 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 14 | 0.6 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 24 | 0.6 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 20 | 0.6 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 27 | 0.6 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 15 | 0.6 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 27 | 0.6 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 6 | 0.59 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 8 | 0.59 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 31 | 0.59 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 28 | 0.59 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 6 | 0.59 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 14 | 0.59 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 35 | 0.59 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 15 | 0.58 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 15 | 0.58 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 4 | 0.58 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 9 | 0.58 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 15 | 0.58 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 30 | 0.58 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 18 | 0.58 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 30 | 0.58 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 32 | 0.58 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 14 | 0.58 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 14 | 0.58 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 14 | 0.58 |
| (2,23) | 1:14:A:TRP:HZ3 | 1:16:A:ARG:HD3 | 32 | 0.58 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 17 | 0.58 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 24 | 0.58 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 4 | 0.58 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 21 | 0.58 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 28 | 0.57 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 34 | 0.57 |
| (2,318) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HD3 | 3 | 0.57 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 24 | 0.57 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 24 | 0.57 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 3 | 0.57 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 26 | 0.57 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 6 | 0.57 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 10 | 0.57 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 21 | 0.57 |
| (1,21) | 1:4:A:HCS:HG3 | 1:6:A:VAL:HG11 | 30 | 0.57 |
| (1,21) | 1:4:A:HCS:HG3 | 1:6:A:VAL:HG12 | 30 | 0.57 |
| (1,21) | 1:4:A:HCS:HG3 | 1:6:A:VAL:HG13 | 30 | 0.57 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 20 | 0.57 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 35 | 0.57 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 5 | 0.56 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 7 | 0.56 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 21 | 0.56 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 6 | 0.56 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 8 | 0.56 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 30 | 0.56 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 30 | 0.56 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 7 | 0.56 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 32 | 0.56 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 7 | 0.56 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 11 | 0.56 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 29 | 0.56 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 35 | 0.56 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 8 | 0.56 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 19 | 0.56 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 25 | 0.56 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 26 | 0.56 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 30 | 0.56 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 7 | 0.56 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 11 | 0.56 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 17 | 0.56 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 23 | 0.55 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 26 | 0.55 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 15 | 0.55 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 15 | 0.55 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 12 | 0.55 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 34 | 0.55 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 31 | 0.55 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 18 | 0.55 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 18 | 0.55 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 18 | 0.55 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG11 | 32 | 0.55 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG12 | 32 | 0.55 |
| (2,41) | 1:15:A:TYR:HB2 | 1:6:A:VAL:HG13 | 32 | 0.55 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 1 | 0.55 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 4 | 0.55 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 7 | 0.55 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 12 | 0.55 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 13 | 0.55 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 16 | 0.55 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 22 | 0.55 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 29 | 0.55 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 1 | 0.55 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 14 | 0.55 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 34 | 0.55 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 16 | 0.54 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 11 | 0.54 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 21 | 0.54 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 2 | 0.54 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 7 | 0.54 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 15 | 0.54 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 31 | 0.54 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 33 | 0.54 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 30 | 0.54 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 7 | 0.54 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 22 | 0.54 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 3 | 0.54 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 5 | 0.54 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 32 | 0.54 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 33 | 0.54 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 7 | 0.54 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 1 | 0.53 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 29 | 0.53 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 33 | 0.53 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 19 | 0.53 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 19 | 0.53 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 19 | 0.53 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 30 | 0.53 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 1 | 0.53 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 4 | 0.53 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 14 | 0.53 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 20 | 0.53 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 27 | 0.53 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 31 | 0.53 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 34 | 0.53 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 28 | 0.53 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 32 | 0.53 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 3 | 0.53 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 16 | 0.53 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 18 | 0.53 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 26 | 0.53 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 8 | 0.52 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 8 | 0.52 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 14 | 0.52 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 2 | 0.52 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 10 | 0.52 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 19 | 0.52 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 25 | 0.52 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 28 | 0.52 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 35 | 0.52 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 12 | 0.52 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 19 | 0.52 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 29 | 0.52 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 32 | 0.52 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 33 | 0.52 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 16 | 0.52 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 22 | 0.52 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 2 | 0.52 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 11 | 0.52 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 19 | 0.52 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 4 | 0.52 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 5 | 0.52 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 11 | 0.52 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 30 | 0.52 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 17 | 0.51 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 20 | 0.51 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 29 | 0.51 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 35 | 0.51 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 13 | 0.51 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 20 | 0.51 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 22 | 0.51 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 3 | 0.51 |
| (2,337) | 1:6:A:VAL:HA | 1:13:A:CYS:HB2 | 29 | 0.51 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 1 | 0.51 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 5 | 0.51 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 9 | 0.51 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 17 | 0.51 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 18 | 0.51 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 20 | 0.51 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 23 | 0.51 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 26 | 0.51 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 27 | 0.51 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 35 | 0.51 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 6 | 0.51 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 32 | 0.51 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 1 | 0.51 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 11 | 0.51 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 1 | 0.51 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 18 | 0.51 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 23 | 0.51 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 31 | 0.51 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 31 | 0.51 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 31 | 0.51 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 23 | 0.51 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 13 | 0.51 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 16 | 0.51 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 7 | 0.51 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 13 | 0.51 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 20 | 0.51 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 22 | 0.51 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 29 | 0.51 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 34 | 0.51 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 30 | 0.5 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 30 | 0.5 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 17 | 0.5 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 4 | 0.5 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 21 | 0.5 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 22 | 0.5 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 24 | 0.5 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 7 | 0.5 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 30 | 0.5 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 31 | 0.5 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 12 | 0.5 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 35 | 0.5 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 9 | 0.5 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 17 | 0.5 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 19 | 0.5 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 30 | 0.5 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 15 | 0.5 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 6 | 0.5 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 8 | 0.5 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 15 | 0.5 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 23 | 0.5 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 25 | 0.5 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 28 | 0.5 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 31 | 0.5 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 24 | 0.49 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 24 | 0.49 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 25 | 0.49 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 25 | 0.49 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 12 | 0.49 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 18 | 0.49 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 25 | 0.49 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 14 | 0.49 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 8 | 0.49 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 8 | 0.49 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 10 | 0.49 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 11 | 0.49 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 25 | 0.49 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 28 | 0.49 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 5 | 0.49 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 9 | 0.49 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 15 | 0.49 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 21 | 0.49 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 26 | 0.49 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 31 | 0.49 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 34 | 0.49 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 10 | 0.49 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 15 | 0.49 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 9 | 0.49 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 9 | 0.49 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 2 | 0.49 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 16 | 0.49 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 33 | 0.49 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 2 | 0.49 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 24 | 0.49 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 27 | 0.49 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 2 | 0.48 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 19 | 0.48 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 12 | 0.48 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 27 | 0.48 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 34 | 0.48 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 35 | 0.48 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 8 | 0.48 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 10 | 0.48 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 20 | 0.48 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 21 | 0.48 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 28 | 0.48 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 13 | 0.48 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 16 | 0.48 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 32 | 0.48 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 11 | 0.48 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 18 | 0.48 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 23 | 0.48 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 35 | 0.48 |
| (2,61) | 1:4:A:HCS:H | 1:3:A:ILE:HG13 | 12 | 0.48 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 9 | 0.48 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 16 | 0.48 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 16 | 0.48 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 14 | 0.48 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 14 | 0.48 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 14 | 0.48 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 33 | 0.48 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 33 | 0.48 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 33 | 0.48 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 33 | 0.48 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 10 | 0.48 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 12 | 0.48 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 33 | 0.48 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 24 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 4 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 11 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 12 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 14 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 16 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 19 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 27 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 29 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 32 | 0.47 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 35 | 0.47 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 3 | 0.47 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 8 | 0.47 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 2 | 0.47 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 16 | 0.47 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 28 | 0.47 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 30 | 0.47 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD11 | 15 | 0.47 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD12 | 15 | 0.47 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD13 | 15 | 0.47 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 32 | 0.47 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 32 | 0.47 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 32 | 0.47 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 10 | 0.47 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 10 | 0.47 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 1 | 0.47 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 9 | 0.47 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 14 | 0.47 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 19 | 0.47 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 21 | 0.47 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 32 | 0.47 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 35 | 0.47 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 17 | 0.46 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 17 | 0.46 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 16 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 2 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 3 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 5 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 6 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 7 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 13 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 17 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 18 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 23 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 24 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 30 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 31 | 0.46 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 33 | 0.46 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 13 | 0.46 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 14 | 0.46 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 23 | 0.46 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 24 | 0.46 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 34 | 0.46 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 8 | 0.46 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 4 | 0.46 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 4 | 0.46 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD11 | 34 | 0.46 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD12 | 34 | 0.46 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD13 | 34 | 0.46 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 15 | 0.46 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 15 | 0.46 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 15 | 0.46 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 25 | 0.46 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 25 | 0.46 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 26 | 0.46 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 26 | 0.46 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 31 | 0.46 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 31 | 0.46 |
| (1,6) | 1:14:A:TRP:HH2 | 1:12:A:PRO:HG2 | 17 | 0.46 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 29 | 0.46 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 24 | 0.45 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 27 | 0.45 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 15 | 0.45 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 22 | 0.45 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 25 | 0.45 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 34 | 0.45 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 16 | 0.45 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 20 | 0.45 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 22 | 0.45 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 8 | 0.45 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 7 | 0.45 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 13 | 0.45 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 25 | 0.45 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 10 | 0.45 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 21 | 0.45 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 29 | 0.45 |
| (2,18) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HG3 | 3 | 0.45 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG21 | 8 | 0.45 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG22 | 8 | 0.45 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG23 | 8 | 0.45 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 5 | 0.45 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 5 | 0.45 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 5 | 0.45 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 10 | 0.45 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 10 | 0.45 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 10 | 0.45 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 17 | 0.45 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 17 | 0.45 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 17 | 0.45 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 6 | 0.45 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 6 | 0.45 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 12 | 0.45 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 10 | 0.45 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 16 | 0.45 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 33 | 0.44 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 15 | 0.44 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 6 | 0.44 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 15 | 0.44 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 24 | 0.44 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 9 | 0.44 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 26 | 0.44 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 4 | 0.44 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 5 | 0.44 |
| (2,182) | 1:5:A:HIS:H | 1:5:A:HIS:HB2 | 6 | 0.44 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 19 | 0.44 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 18 | 0.44 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 25 | 0.44 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 34 | 0.44 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 12 | 0.44 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 34 | 0.44 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 13 | 0.44 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 13 | 0.44 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 20 | 0.44 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 20 | 0.44 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG21 | 6 | 0.44 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG22 | 6 | 0.44 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG23 | 6 | 0.44 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 3 | 0.44 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 3 | 0.44 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 32 | 0.44 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 32 | 0.44 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 30 | 0.43 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 21 | 0.43 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 17 | 0.43 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 17 | 0.43 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 20 | 0.43 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 20 | 0.43 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 18 | 0.43 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 20 | 0.43 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 33 | 0.43 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 15 | 0.43 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 19 | 0.43 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 29 | 0.43 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 17 | 0.43 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 24 | 0.43 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 25 | 0.43 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 31 | 0.43 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 26 | 0.43 |
| (1,32) | 1:3:A:ILE:HD11 | 1:9:A:PRO:HD3 | 29 | 0.43 |
| (1,32) | 1:3:A:ILE:HD12 | 1:9:A:PRO:HD3 | 29 | 0.43 |
| (1,32) | 1:3:A:ILE:HD13 | 1:9:A:PRO:HD3 | 29 | 0.43 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 7 | 0.43 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 7 | 0.43 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 22 | 0.43 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 22 | 0.43 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 4 | 0.43 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 4 | 0.43 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 10 | 0.43 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 10 | 0.43 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 11 | 0.43 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 11 | 0.43 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 23 | 0.43 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 23 | 0.43 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 35 | 0.43 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 35 | 0.43 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 22 | 0.43 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 19 | 0.43 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 25 | 0.43 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 27 | 0.43 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 2 | 0.43 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 6 | 0.42 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 21 | 0.42 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 27 | 0.42 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 27 | 0.42 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 10 | 0.42 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 13 | 0.42 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 5 | 0.42 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 8 | 0.42 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 9 | 0.42 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 2 | 0.42 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 13 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 3 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 12 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 14 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 17 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 18 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 21 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 24 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 28 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 29 | 0.42 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 33 | 0.42 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 11 | 0.42 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 4 | 0.42 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 5 | 0.42 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 5 | 0.42 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 12 | 0.42 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 12 | 0.42 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 23 | 0.42 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 23 | 0.42 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 28 | 0.42 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 28 | 0.42 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 29 | 0.42 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 29 | 0.42 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 34 | 0.42 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 34 | 0.42 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 13 | 0.42 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 5 | 0.42 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 5 | 0.42 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 8 | 0.42 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 8 | 0.42 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 14 | 0.42 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 14 | 0.42 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 27 | 0.42 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 27 | 0.42 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 30 | 0.42 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 30 | 0.42 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 34 | 0.42 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 34 | 0.42 |
| (1,7) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD3 | 12 | 0.42 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 29 | 0.42 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 33 | 0.42 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 35 | 0.42 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 4 | 0.41 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 11 | 0.41 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 32 | 0.41 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 34 | 0.41 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 7 | 0.41 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 9 | 0.41 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 14 | 0.41 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 22 | 0.41 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 28 | 0.41 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 2 | 0.41 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 10 | 0.41 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 11 | 0.41 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 13 | 0.41 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 1 | 0.41 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 2 | 0.41 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 2 | 0.41 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 6 | 0.41 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 6 | 0.41 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 15 | 0.41 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 15 | 0.41 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 17 | 0.41 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 17 | 0.41 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 24 | 0.41 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 24 | 0.41 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 26 | 0.41 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 26 | 0.41 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG21 | 21 | 0.41 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG22 | 21 | 0.41 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG23 | 21 | 0.41 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 1 | 0.41 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 1 | 0.41 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 13 | 0.41 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 13 | 0.41 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 15 | 0.41 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 15 | 0.41 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 17 | 0.41 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 17 | 0.41 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 24 | 0.41 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 24 | 0.41 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 18 | 0.41 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 2 | 0.41 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 10 | 0.41 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 1 | 0.4 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 23 | 0.4 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 13 | 0.4 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 13 | 0.4 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 1 | 0.4 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 10 | 0.4 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 17 | 0.4 |
| (2,266) | 1:9:A:PRO:HG2 | 1:9:A:PRO:HB3 | 1 | 0.4 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 6 | 0.4 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 8 | 0.4 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 32 | 0.4 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 9 | 0.4 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 19 | 0.4 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 8 | 0.4 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 34 | 0.4 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 10 | 0.4 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 10 | 0.4 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 18 | 0.4 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 18 | 0.4 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 30 | 0.4 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 30 | 0.4 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 32 | 0.4 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 32 | 0.4 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 3 | 0.4 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 32 | 0.4 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 32 | 0.4 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 32 | 0.4 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 22 | 0.4 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 2 | 0.4 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 2 | 0.4 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 7 | 0.4 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 7 | 0.4 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 18 | 0.4 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 18 | 0.4 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 28 | 0.4 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 28 | 0.4 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 19 | 0.4 |
| (1,8) | 1:11:A:TRP:HH2 | 1:15:A:TYR:HB2 | 29 | 0.4 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 17 | 0.4 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 28 | 0.4 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 35 | 0.4 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 19 | 0.4 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 28 | 0.4 |
| (3,29) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG2 | 22 | 0.39 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 23 | 0.39 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 26 | 0.39 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 4 | 0.39 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 25 | 0.39 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 7 | 0.39 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 26 | 0.39 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 3 | 0.39 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 14 | 0.39 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 23 | 0.39 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 9 | 0.39 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 1 | 0.39 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 1 | 0.39 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 3 | 0.39 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 3 | 0.39 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 25 | 0.39 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 25 | 0.39 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 27 | 0.39 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 27 | 0.39 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 31 | 0.39 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 31 | 0.39 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 29 | 0.39 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 29 | 0.39 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 29 | 0.39 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 14 | 0.39 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 14 | 0.39 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 14 | 0.39 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 21 | 0.39 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 21 | 0.39 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 13 | 0.39 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 7 | 0.38 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 31 | 0.38 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 12 | 0.38 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 21 | 0.38 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 27 | 0.38 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 30 | 0.38 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 31 | 0.38 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 25 | 0.38 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 26 | 0.38 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 8 | 0.38 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 8 | 0.38 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 14 | 0.38 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 14 | 0.38 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 28 | 0.38 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 28 | 0.38 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 28 | 0.38 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 35 | 0.38 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 35 | 0.38 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 35 | 0.38 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 17 | 0.38 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 17 | 0.38 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 17 | 0.38 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 30 | 0.38 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 30 | 0.38 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 30 | 0.38 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 19 | 0.38 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 14 | 0.38 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 17 | 0.38 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 20 | 0.38 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 22 | 0.38 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 20 | 0.37 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 20 | 0.37 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 4 | 0.37 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 11 | 0.37 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 16 | 0.37 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 16 | 0.37 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 27 | 0.37 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 27 | 0.37 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 33 | 0.37 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 33 | 0.37 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 4 | 0.37 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 8 | 0.37 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 30 | 0.37 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 31 | 0.37 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 21 | 0.37 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 32 | 0.37 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 8 | 0.37 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 20 | 0.37 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 28 | 0.37 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 15 | 0.37 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 23 | 0.37 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 11 | 0.37 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 11 | 0.37 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 19 | 0.37 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 19 | 0.37 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 18 | 0.37 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 18 | 0.37 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 18 | 0.37 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 2 | 0.37 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 16 | 0.37 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 20 | 0.37 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 20 | 0.37 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 18 | 0.36 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 32 | 0.36 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 9 | 0.36 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 11 | 0.36 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 26 | 0.36 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 1 | 0.36 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 6 | 0.36 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 30 | 0.36 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 31 | 0.36 |
| (2,312) | 1:15:A:TYR:HD1 | 1:16:A:ARG:HG2 | 5 | 0.36 |
| (2,312) | 1:15:A:TYR:HD2 | 1:16:A:ARG:HG2 | 5 | 0.36 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 2 | 0.36 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 18 | 0.36 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 31 | 0.36 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 23 | 0.36 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 34 | 0.36 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 27 | 0.36 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 9 | 0.36 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 9 | 0.36 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 21 | 0.36 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 21 | 0.36 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 33 | 0.36 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 33 | 0.36 |
| (1,30) | 1:15:A:TYR:HE1 | 1:12:A:PRO:HG3 | 35 | 0.36 |
| (1,30) | 1:15:A:TYR:HE2 | 1:12:A:PRO:HG3 | 35 | 0.36 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG21 | 19 | 0.36 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG22 | 19 | 0.36 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG23 | 19 | 0.36 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 4 | 0.36 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 4 | 0.36 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 4 | 0.36 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 25 | 0.36 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 25 | 0.36 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 25 | 0.36 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 13 | 0.36 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 13 | 0.36 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 13 | 0.36 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 31 | 0.36 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 31 | 0.36 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 31 | 0.36 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 27 | 0.36 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 12 | 0.36 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 12 | 0.36 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 16 | 0.36 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 16 | 0.36 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 29 | 0.36 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 29 | 0.36 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 33 | 0.36 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 33 | 0.36 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 22 | 0.36 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 24 | 0.36 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 25 | 0.36 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 27 | 0.36 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 10 | 0.35 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 33 | 0.35 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 23 | 0.35 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 17 | 0.35 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 31 | 0.35 |
| (2,47) | 1:7:A:HIS:HB2 | 1:8:A:ARG:HG2 | 18 | 0.35 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 27 | 0.35 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 32 | 0.35 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 19 | 0.35 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 19 | 0.35 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 19 | 0.35 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 35 | 0.35 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 35 | 0.35 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 35 | 0.35 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 29 | 0.35 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 14 | 0.35 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 20 | 0.35 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 5 | 0.34 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 30 | 0.34 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 7 | 0.34 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 19 | 0.34 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 32 | 0.34 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 19 | 0.34 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 32 | 0.34 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 1 | 0.34 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 9 | 0.34 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 35 | 0.34 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 11 | 0.34 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 28 | 0.34 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 18 | 0.34 |
| (2,15) | 1:11:A:TRP:HE3 | 1:8:A:ARG:HD2 | 5 | 0.34 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 10 | 0.34 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 26 | 0.34 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 26 | 0.34 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 26 | 0.34 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 27 | 0.34 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 27 | 0.34 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 27 | 0.34 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 22 | 0.34 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 22 | 0.34 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 4 | 0.33 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 8 | 0.33 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 5 | 0.33 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 6 | 0.33 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 8 | 0.33 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 12 | 0.33 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 13 | 0.33 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 16 | 0.33 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 20 | 0.33 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 21 | 0.33 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 30 | 0.33 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 8 | 0.33 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 10 | 0.33 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 23 | 0.33 |
| (2,46) | 1:11:A:TRP:HB3 | 1:15:A:TYR:HB3 | 23 | 0.33 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 27 | 0.33 |
| (1,32) | 1:3:A:ILE:HD11 | 1:9:A:PRO:HD3 | 19 | 0.33 |
| (1,32) | 1:3:A:ILE:HD12 | 1:9:A:PRO:HD3 | 19 | 0.33 |
| (1,32) | 1:3:A:ILE:HD13 | 1:9:A:PRO:HD3 | 19 | 0.33 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 26 | 0.33 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 1 | 0.33 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 1 | 0.33 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 1 | 0.33 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 9 | 0.33 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 9 | 0.33 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 9 | 0.33 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 13 | 0.33 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 13 | 0.33 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 13 | 0.33 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 33 | 0.33 |
| (1,2) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD3 | 12 | 0.33 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 1 | 0.32 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 6 | 0.32 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 15 | 0.32 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 7 | 0.32 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 21 | 0.32 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 14 | 0.32 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 17 | 0.32 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 24 | 0.32 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 25 | 0.32 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 28 | 0.32 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 29 | 0.32 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 34 | 0.32 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 5 | 0.32 |
| (2,64) | 1:2:A:SER:HB2 | 1:13:A:CYS:HB3 | 17 | 0.32 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 6 | 0.32 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 6 | 0.32 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 6 | 0.32 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 10 | 0.32 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 10 | 0.32 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 10 | 0.32 |
| (1,14) | 1:15:A:TYR:HD1 | 1:11:A:TRP:HH2 | 19 | 0.32 |
| (1,14) | 1:15:A:TYR:HD2 | 1:11:A:TRP:HH2 | 19 | 0.32 |
| (1,7) | 1:14:A:TRP:HH2 | 1:15:A:TYR:HB3 | 24 | 0.32 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 23 | 0.31 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 26 | 0.31 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 27 | 0.31 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 35 | 0.31 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 12 | 0.31 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 29 | 0.31 |
| (2,192) | 1:15:A:TYR:HB2 | 1:11:A:TRP:HA | 27 | 0.31 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 14 | 0.31 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 16 | 0.31 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 30 | 0.31 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 16 | 0.31 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 16 | 0.31 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 20 | 0.31 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 20 | 0.31 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 13 | 0.31 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD11 | 11 | 0.31 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD12 | 11 | 0.31 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD13 | 11 | 0.31 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 11 | 0.31 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 11 | 0.31 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 11 | 0.31 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 16 | 0.31 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 16 | 0.31 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 16 | 0.31 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 33 | 0.3 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 33 | 0.3 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 7 | 0.3 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 21 | 0.3 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 1 | 0.3 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 22 | 0.3 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 26 | 0.3 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 29 | 0.3 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 22 | 0.3 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 18 | 0.3 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 3 | 0.3 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 4 | 0.3 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 12 | 0.3 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 22 | 0.3 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 26 | 0.3 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 27 | 0.3 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 27 | 0.3 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB3 | 3 | 0.3 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 16 | 0.3 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 22 | 0.3 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 22 | 0.3 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 22 | 0.3 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 9 | 0.3 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 9 | 0.3 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 9 | 0.3 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 24 | 0.3 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 9 | 0.29 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 15 | 0.29 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 23 | 0.29 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 11 | 0.29 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 16 | 0.29 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 1 | 0.29 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 5 | 0.29 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 28 | 0.29 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 13 | 0.29 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 5 | 0.29 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 26 | 0.29 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD11 | 7 | 0.29 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD12 | 7 | 0.29 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD13 | 7 | 0.29 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 23 | 0.29 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 23 | 0.29 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 23 | 0.29 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 25 | 0.29 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 28 | 0.29 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 8 | 0.28 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 26 | 0.28 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 32 | 0.28 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 3 | 0.28 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 11 | 0.28 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 21 | 0.28 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 2 | 0.28 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 4 | 0.28 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 11 | 0.28 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 30 | 0.28 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 28 | 0.28 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 2 | 0.28 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 4 | 0.28 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 4 | 0.28 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 10 | 0.28 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 14 | 0.28 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 19 | 0.28 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 28 | 0.28 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG21 | 3 | 0.28 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG22 | 3 | 0.28 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG23 | 3 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 4 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 4 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 4 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 5 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 5 | 0.28 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 5 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 23 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 23 | 0.28 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 23 | 0.28 |
| (3,43) | 1:15:A:TYR:HE1 | 1:16:A:ARG:HG2 | 5 | 0.27 |
| (3,43) | 1:15:A:TYR:HE2 | 1:16:A:ARG:HG2 | 5 | 0.27 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 31 | 0.27 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 34 | 0.27 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 7 | 0.27 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 8 | 0.27 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 21 | 0.27 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 26 | 0.27 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 3 | 0.27 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 11 | 0.27 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 8 | 0.27 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 16 | 0.27 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 29 | 0.27 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 6 | 0.27 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 16 | 0.27 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 17 | 0.27 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 20 | 0.27 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 24 | 0.27 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 2 | 0.27 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 2 | 0.27 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 2 | 0.27 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 8 | 0.27 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 8 | 0.27 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 8 | 0.27 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 5 | 0.26 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 16 | 0.26 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 19 | 0.26 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 20 | 0.26 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 23 | 0.26 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 25 | 0.26 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 13 | 0.26 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 27 | 0.26 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 3 | 0.26 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 19 | 0.26 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 32 | 0.26 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 12 | 0.26 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 29 | 0.26 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 33 | 0.26 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 7 | 0.26 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 7 | 0.26 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 7 | 0.26 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 35 | 0.26 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 2 | 0.26 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 15 | 0.25 |
| (2,304) | 1:9:A:PRO:HG2 | 1:8:A:ARG:HA | 9 | 0.25 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 3 | 0.25 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 17 | 0.25 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 31 | 0.25 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 16 | 0.25 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 19 | 0.25 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 4 | 0.25 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 15 | 0.25 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 33 | 0.25 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 25 | 0.25 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 20 | 0.25 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 12 | 0.25 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 12 | 0.25 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 12 | 0.25 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 27 | 0.25 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 27 | 0.25 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 27 | 0.25 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 15 | 0.25 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 15 | 0.25 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 15 | 0.25 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 22 | 0.25 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 22 | 0.25 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 22 | 0.25 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 20 | 0.25 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 6 | 0.25 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 6 | 0.25 |
| (3,48) | 1:11:A:TRP:HE1 | 1:8:A:ARG:HD2 | 34 | 0.24 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 6 | 0.24 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 13 | 0.24 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 25 | 0.24 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 8 | 0.24 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 13 | 0.24 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 33 | 0.24 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 14 | 0.24 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 22 | 0.24 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 15 | 0.24 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 33 | 0.24 |
| (2,98) | 1:8:A:ARG:HA | 1:8:A:ARG:HD3 | 3 | 0.24 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 1 | 0.24 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 33 | 0.24 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 13 | 0.24 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 13 | 0.24 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG21 | 33 | 0.24 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG22 | 33 | 0.24 |
| (1,18) | 1:5:A:HIS:HB3 | 1:6:A:VAL:HG23 | 33 | 0.24 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 17 | 0.24 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 14 | 0.24 |
| (3,3) | 1:11:A:TRP:HZ2 | 1:8:A:ARG:HD2 | 18 | 0.23 |
| (2,354) | 1:16:A:ARG:HG3 | 1:16:A:ARG:HB2 | 25 | 0.23 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 24 | 0.23 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 27 | 0.23 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 34 | 0.23 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 15 | 0.23 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 21 | 0.23 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 2 | 0.23 |
| (2,16) | 1:11:A:TRP:HD1 | 1:8:A:ARG:HD2 | 22 | 0.23 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 25 | 0.23 |
| (2,16) | 1:11:A:TRP:HZ3 | 1:8:A:ARG:HD2 | 35 | 0.23 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD11 | 33 | 0.23 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD12 | 33 | 0.23 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD13 | 33 | 0.23 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD11 | 35 | 0.23 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD12 | 35 | 0.23 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD13 | 35 | 0.23 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 21 | 0.23 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 21 | 0.23 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 21 | 0.23 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 1 | 0.23 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 1 | 0.23 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 1 | 0.23 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 12 | 0.23 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 10 | 0.22 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 14 | 0.22 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 18 | 0.22 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 22 | 0.22 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 6 | 0.22 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 12 | 0.22 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 29 | 0.22 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 32 | 0.22 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 7 | 0.22 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 26 | 0.22 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 27 | 0.22 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 31 | 0.22 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 34 | 0.22 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 35 | 0.22 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 26 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 1 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 2 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 3 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 5 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 6 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 7 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 8 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 9 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 10 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 11 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 12 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 13 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 15 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 17 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 19 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 20 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 21 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 22 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 23 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 25 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 26 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 27 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 30 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 31 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 32 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 34 | 0.22 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 35 | 0.22 |
| (2,35) | 1:5:A:HIS:HD2 | 1:13:A:CYS:HB2 | 5 | 0.22 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 32 | 0.21 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 4 | 0.21 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 16 | 0.21 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 17 | 0.21 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 18 | 0.21 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 20 | 0.21 |

Continued on next page...

Continued from previous page...

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 25 | 0.21 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 28 | 0.21 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 31 | 0.21 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 34 | 0.21 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 2 | 0.21 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 10 | 0.21 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 21 | 0.21 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 7 | 0.21 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 16 | 0.21 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 28 | 0.21 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 4 | 0.21 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 14 | 0.21 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 16 | 0.21 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 18 | 0.21 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 24 | 0.21 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 28 | 0.21 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 29 | 0.21 |
| (2,88) | 1:7:A:HIS:HB3 | 1:7:A:HIS:HA | 33 | 0.21 |
| (2,60) | 1:6:A:VAL:H | 1:5:A:HIS:HA | 8 | 0.21 |
| (2,60) | 1:6:A:VAL:H | 1:5:A:HIS:HA | 21 | 0.21 |
| (1,25) | 1:9:A:PRO:HD2 | 1:3:A:ILE:HD11 | 19 | 0.21 |
| (1,25) | 1:9:A:PRO:HD2 | 1:3:A:ILE:HD12 | 19 | 0.21 |
| (1,25) | 1:9:A:PRO:HD2 | 1:3:A:ILE:HD13 | 19 | 0.21 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 24 | 0.21 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 24 | 0.21 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 24 | 0.21 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 14 | 0.21 |
| (1,16) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HD3 | 28 | 0.21 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 4 | 0.21 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 20 | 0.21 |
| (2,348) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HG3 | 18 | 0.2 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 6 | 0.2 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 33 | 0.2 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 3 | 0.2 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 12 | 0.2 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 17 | 0.2 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 5 | 0.2 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 7 | 0.2 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 9 | 0.2 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 10 | 0.2 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 24 | 0.2 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 30 | 0.2 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 1 | 0.2 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB2 | 1 | 0.2 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 8 | 0.2 |
| (2,60) | 1:6:A:VAL:H | 1:5:A:HIS:HA | 3 | 0.2 |
| (2,60) | 1:6:A:VAL:H | 1:5:A:HIS:HA | 11 | 0.2 |
| (2,60) | 1:6:A:VAL:H | 1:5:A:HIS:HA | 12 | 0.2 |
| (2,60) | 1:6:A:VAL:H | 1:5:A:HIS:HA | 19 | 0.2 |
| (2,60) | 1:6:A:VAL:H | 1:5:A:HIS:HA | 29 | 0.2 |
| (1,32) | 1:3:A:ILE:HD11 | 1:9:A:PRO:HD3 | 8 | 0.2 |
| (1,32) | 1:3:A:ILE:HD12 | 1:9:A:PRO:HD3 | 8 | 0.2 |
| (1,32) | 1:3:A:ILE:HD13 | 1:9:A:PRO:HD3 | 8 | 0.2 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 3 | 0.2 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 3 | 0.2 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 3 | 0.2 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 2 | 0.2 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 2 | 0.2 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 2 | 0.2 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 21 | 0.2 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 21 | 0.2 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 6 | 0.2 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 10 | 0.2 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 17 | 0.2 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 35 | 0.2 |
| (3,25) | 1:5:A:HIS:H | 1:3:A:ILE:HG13 | 12 | 0.19 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 5 | 0.19 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 4 | 0.19 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 5 | 0.19 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 30 | 0.19 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 35 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 1 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 7 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 9 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 11 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 18 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 19 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 23 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 26 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 27 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 28 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 29 | 0.19 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 34 | 0.19 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 1 | 0.19 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 14 | 0.19 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 5 | 0.19 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 9 | 0.19 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 13 | 0.19 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 20 | 0.19 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 9 | 0.19 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 18 | 0.19 |
| (2,60) | 1:6:A:VAL:H | 1:5:A:HIS:HA | 6 | 0.19 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 18 | 0.19 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 18 | 0.19 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 18 | 0.19 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 21 | 0.19 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 24 | 0.19 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 30 | 0.19 |
| (2,354) | 1:16:A:ARG:HG3 | 1:16:A:ARG:HB2 | 31 | 0.18 |
| (2,300) | 1:11:A:TRP:HD1 | 1:13:A:CYS:HB3 | 3 | 0.18 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 7 | 0.18 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 33 | 0.18 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 9 | 0.18 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 4 | 0.18 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 5 | 0.18 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 8 | 0.18 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 15 | 0.18 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 20 | 0.18 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 30 | 0.18 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 31 | 0.18 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 35 | 0.18 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 2 | 0.18 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 23 | 0.18 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 26 | 0.18 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 6 | 0.18 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 17 | 0.18 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 23 | 0.18 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 18 | 0.18 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 16 | 0.18 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 35 | 0.18 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 20 | 0.18 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 20 | 0.18 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 20 | 0.18 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 28 | 0.18 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 28 | 0.18 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 28 | 0.18 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 14 | 0.18 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 14 | 0.18 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 22 | 0.18 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 32 | 0.18 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 12 | 0.17 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 31 | 0.17 |
| (2,264) | 1:13:A:CYS:HB3 | 1:4:A:HCS:HA | 15 | 0.17 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 2 | 0.17 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 6 | 0.17 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 10 | 0.17 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 14 | 0.17 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 22 | 0.17 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 24 | 0.17 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 32 | 0.17 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 33 | 0.17 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 11 | 0.17 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 30 | 0.17 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 18 | 0.17 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 12 | 0.17 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 16 | 0.17 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 34 | 0.17 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 2 | 0.17 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 3 | 0.17 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 32 | 0.17 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 7 | 0.17 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 7 | 0.17 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG21 | 24 | 0.17 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG22 | 24 | 0.17 |
| (1,21) | 1:4:A:HCS:HG3 | 1:3:A:ILE:HG23 | 24 | 0.17 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 3 | 0.17 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 3 | 0.17 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 24 | 0.17 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 24 | 0.17 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 31 | 0.17 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 31 | 0.17 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 8 | 0.17 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 13 | 0.17 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 19 | 0.17 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 25 | 0.17 |
| (2,354) | 1:16:A:ARG:HG3 | 1:16:A:ARG:HB2 | 27 | 0.16 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 18 | 0.16 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 19 | 0.16 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 29 | 0.16 |
| (2,243) | 1:15:A:TYR:H | 1:15:A:TYR:HB2 | 21 | 0.16 |
| (2,228) | 1:11:A:TRP:HB2 | 1:8:A:ARG:HB2 | 35 | 0.16 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 12 | 0.16 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 24 | 0.16 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 31 | 0.16 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 3 | 0.16 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 27 | 0.16 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 13 | 0.16 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 21 | 0.16 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 24 | 0.16 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 7 | 0.16 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 19 | 0.16 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 29 | 0.16 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 35 | 0.16 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 1 | 0.16 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 1 | 0.16 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 24 | 0.16 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 24 | 0.16 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 17 | 0.16 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 8 | 0.16 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 8 | 0.16 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 11 | 0.16 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 11 | 0.16 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 32 | 0.16 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 32 | 0.16 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 7 | 0.16 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 12 | 0.16 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 16 | 0.16 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 26 | 0.16 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 31 | 0.16 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 33 | 0.16 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 10 | 0.15 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 32 | 0.15 |
| (2,198) | 1:8:A:ARG:H | 1:7:A:HIS:HB2 | 25 | 0.15 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 7 | 0.15 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 30 | 0.15 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 32 | 0.15 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 1 | 0.15 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 2 | 0.15 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 3 | 0.15 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 17 | 0.15 |

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Continued from previous page...

| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 26 | 0.15 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 30 | 0.15 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 33 | 0.15 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 35 | 0.15 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 33 | 0.15 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 11 | 0.15 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 10 | 0.15 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 17 | 0.15 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 21 | 0.15 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 26 | 0.15 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG21 | 29 | 0.15 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG22 | 29 | 0.15 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HG23 | 29 | 0.15 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 35 | 0.15 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 35 | 0.15 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 29 | 0.15 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 12 | 0.14 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 21 | 0.14 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 32 | 0.14 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 34 | 0.14 |
| (2,294) | 1:10:A:ASP:H | 1:10:A:ASP:HB2 | 16 | 0.14 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 11 | 0.14 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 23 | 0.14 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 26 | 0.14 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 5 | 0.14 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 6 | 0.14 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 8 | 0.14 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 18 | 0.14 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 20 | 0.14 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 23 | 0.14 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 25 | 0.14 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 28 | 0.14 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 32 | 0.14 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 8 | 0.14 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 11 | 0.14 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 14 | 0.14 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 28 | 0.14 |
| (2,66) | 1:2:A:SER:HB3 | 1:13:A:CYS:HB3 | 21 | 0.14 |
| (2,48) | 1:13:A:CYS:HB3 | 1:2:A:SER:HB2 | 20 | 0.14 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 22 | 0.14 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 22 | 0.14 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD11 | 30 | 0.14 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD12 | 30 | 0.14 |
| (1,26) | 1:9:A:PRO:HD3 | 1:3:A:ILE:HD13 | 30 | 0.14 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 25 | 0.14 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 25 | 0.14 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 25 | 0.14 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 30 | 0.14 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 30 | 0.14 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 11 | 0.14 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 7 | 0.13 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 14 | 0.13 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 15 | 0.13 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 18 | 0.13 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 20 | 0.13 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 22 | 0.13 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 35 | 0.13 |
| (3,10) | 1:11:A:TRP:HE3 | 1:7:A:HIS:HD2 | 6 | 0.13 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 7 | 0.13 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 13 | 0.13 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 29 | 0.13 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 34 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 4 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 7 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 9 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 10 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 14 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 15 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 22 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 27 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 29 | 0.13 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 31 | 0.13 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 13 | 0.13 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 21 | 0.13 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 25 | 0.13 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 34 | 0.13 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 3 | 0.13 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 4 | 0.13 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 6 | 0.13 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 7 | 0.13 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 12 | 0.13 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 27 | 0.13 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 30 | 0.13 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 31 | 0.13 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 34 | 0.13 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 34 | 0.13 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 5 | 0.13 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 15 | 0.13 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 18 | 0.13 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 23 | 0.13 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 1 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 3 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 4 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 8 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 9 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 11 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 17 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 26 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 27 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 28 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 29 | 0.12 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 16 | 0.12 |
| (2,354) | 1:16:A:ARG:HG3 | 1:16:A:ARG:HB2 | 32 | 0.12 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 21 | 0.12 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 19 | 0.12 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 11 | 0.12 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 24 | 0.12 |
| (2,142) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HB3 | 20 | 0.12 |
| (2,139) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HA | 19 | 0.12 |
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 1 | 0.12 |
| (2,100) | 1:8:A:ARG:H | 1:8:A:ARG:HD3 | 28 | 0.12 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 5 | 0.12 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 16 | 0.12 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 20 | 0.12 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 22 | 0.12 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 23 | 0.12 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 24 | 0.12 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 25 | 0.12 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 25 | 0.12 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG11 | 1 | 0.12 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG12 | 1 | 0.12 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG13 | 1 | 0.12 |
| (1,24) | 1:6:A:VAL:HA | 1:7:A:HIS:HB2 | 29 | 0.12 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 7 | 0.12 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 7 | 0.12 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 7 | 0.12 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 16 | 0.12 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 16 | 0.12 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 16 | 0.12 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG21 | 26 | 0.12 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG22 | 26 | 0.12 |
| (1,18) | 1:5:A:HIS:HB3 | 1:3:A:ILE:HG23 | 26 | 0.12 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 5 | 0.12 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 5 | 0.12 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 9 | 0.12 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 9 | 0.12 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 17 | 0.12 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 17 | 0.12 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 27 | 0.12 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 27 | 0.12 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 28 | 0.12 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 28 | 0.12 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 27 | 0.12 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 34 | 0.12 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 6 | 0.11 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 10 | 0.11 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 19 | 0.11 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 31 | 0.11 |
| (3,24) | 1:14:A:TRP:HD1 | 1:15:A:TYR:HA | 1 | 0.11 |
| (3,24) | 1:14:A:TRP:HD1 | 1:15:A:TYR:HA | 14 | 0.11 |
| (3,24) | 1:14:A:TRP:HD1 | 1:15:A:TYR:HA | 33 | 0.11 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 22 | 0.11 |
| (2,354) | 1:16:A:ARG:HG3 | 1:16:A:ARG:HB2 | 14 | 0.11 |
| (2,342) | 1:4:A:HCS:H | 1:3:A:ILE:HB | 12 | 0.11 |
| (2,342) | 1:4:A:HCS:H | 1:3:A:ILE:HB | 14 | 0.11 |
| (2,340) | 1:9:A:PRO:HD2 | 1:8:A:ARG:HB2 | 22 | 0.11 |
| (2,237) | 1:6:A:VAL:HA | 1:6:A:VAL:HG21 | 15 | 0.11 |
| (2,237) | 1:6:A:VAL:HA | 1:6:A:VAL:HG22 | 15 | 0.11 |
| (2,237) | 1:6:A:VAL:HA | 1:6:A:VAL:HG23 | 15 | 0.11 |
| (2,237) | 1:6:A:VAL:HA | 1:6:A:VAL:HG21 | 18 | 0.11 |
| (2,237) | 1:6:A:VAL:HA | 1:6:A:VAL:HG22 | 18 | 0.11 |
| (2,237) | 1:6:A:VAL:HA | 1:6:A:VAL:HG23 | 18 | 0.11 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 4 | 0.11 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 6 | 0.11 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 34 | 0.11 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 25 | 0.11 |
| (2,179) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HB3 | 19 | 0.11 |
| (2,139) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HA | 29 | 0.11 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|---------|----------------|----------------|----------|---------------|
| (2,128) | 1:14:A:TRP:HD1 | 1:12:A:PRO:HG3 | 4 | 0.11 |
| (2,100) | 1:8:A:ARG:H | 1:8:A:ARG:HD3 | 33 | 0.11 |
| (2,100) | 1:8:A:ARG:H | 1:8:A:ARG:HD3 | 35 | 0.11 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 2 | 0.11 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 9 | 0.11 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 15 | 0.11 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 25 | 0.11 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 33 | 0.11 |
| (2,37) | 1:7:A:HIS:HD2 | 1:11:A:TRP:HZ2 | 10 | 0.11 |
| (2,21) | 1:11:A:TRP:HH2 | 1:8:A:ARG:HD2 | 27 | 0.11 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG11 | 2 | 0.11 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG12 | 2 | 0.11 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG13 | 2 | 0.11 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG11 | 20 | 0.11 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG12 | 20 | 0.11 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG13 | 20 | 0.11 |
| (1,32) | 1:3:A:ILE:HD11 | 1:9:A:PRO:HD3 | 6 | 0.11 |
| (1,32) | 1:3:A:ILE:HD12 | 1:9:A:PRO:HD3 | 6 | 0.11 |
| (1,32) | 1:3:A:ILE:HD13 | 1:9:A:PRO:HD3 | 6 | 0.11 |
| (1,32) | 1:3:A:ILE:HD11 | 1:9:A:PRO:HD3 | 21 | 0.11 |
| (1,32) | 1:3:A:ILE:HD12 | 1:9:A:PRO:HD3 | 21 | 0.11 |
| (1,32) | 1:3:A:ILE:HD13 | 1:9:A:PRO:HD3 | 21 | 0.11 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 2 | 0.11 |
| (1,29) | 1:11:A:TRP:HD1 | 1:1:A:PRO:HG3 | 32 | 0.11 |
| (1,25) | 1:9:A:PRO:HD2 | 1:3:A:ILE:HD11 | 15 | 0.11 |
| (1,25) | 1:9:A:PRO:HD2 | 1:3:A:ILE:HD12 | 15 | 0.11 |
| (1,25) | 1:9:A:PRO:HD2 | 1:3:A:ILE:HD13 | 15 | 0.11 |
| (1,24) | 1:6:A:VAL:HA | 1:7:A:HIS:HB2 | 22 | 0.11 |
| (1,19) | 1:7:A:HIS:HB2 | 1:6:A:VAL:HG11 | 15 | 0.11 |
| (1,19) | 1:7:A:HIS:HB2 | 1:6:A:VAL:HG12 | 15 | 0.11 |
| (1,19) | 1:7:A:HIS:HB2 | 1:6:A:VAL:HG13 | 15 | 0.11 |
| (1,10) | 1:15:A:TYR:HD1 | 1:8:A:ARG:HB2 | 15 | 0.11 |
| (1,10) | 1:15:A:TYR:HD2 | 1:8:A:ARG:HB2 | 15 | 0.11 |
| (3,45) | 1:13:A:CYS:HA | 1:4:A:HCS:HG2 | 33 | 0.1 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 1 | 0.1 |
| (3,6) | 1:14:A:TRP:HD1 | 1:16:A:ARG:HD3 | 11 | 0.1 |
| (2,193) | 1:7:A:HIS:HD2 | 1:8:A:ARG:HB3 | 9 | 0.1 |
| (2,180) | 1:14:A:TRP:HZ3 | 1:15:A:TYR:HB3 | 12 | 0.1 |
| (2,139) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HA | 18 | 0.1 |
| (2,139) | 1:14:A:TRP:HD1 | 1:13:A:CYS:HA | 21 | 0.1 |
| (2,100) | 1:8:A:ARG:H | 1:8:A:ARG:HD3 | 20 | 0.1 |
| (2,100) | 1:8:A:ARG:H | 1:8:A:ARG:HD3 | 27 | 0.1 |

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| Key | Atom-1 | Atom-2 | Model ID | Violation (Å) |
|------------|----------------|----------------|-----------------|----------------------|
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 1 | 0.1 |
| (2,99) | 1:14:A:TRP:H | 1:13:A:CYS:HB2 | 18 | 0.1 |
| (2,37) | 1:7:A:HIS:HD2 | 1:11:A:TRP:HZ2 | 2 | 0.1 |
| (2,30) | 1:15:A:TYR:HE1 | 1:13:A:CYS:HB2 | 26 | 0.1 |
| (2,30) | 1:15:A:TYR:HE2 | 1:13:A:CYS:HB2 | 26 | 0.1 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG11 | 15 | 0.1 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG12 | 15 | 0.1 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG13 | 15 | 0.1 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG11 | 33 | 0.1 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG12 | 33 | 0.1 |
| (2,13) | 1:11:A:TRP:HH2 | 1:6:A:VAL:HG13 | 33 | 0.1 |
| (1,5) | 1:11:A:TRP:HD1 | 1:12:A:PRO:HB2 | 1 | 0.1 |

10 Dihedral-angle violation analysis

No dihedral-angle restraints found