



# Full wwPDB NMR Structure Validation Report ⓘ

Dec 24, 2024 – 05:28 PM EST

PDB ID : 2LRI  
BMRB ID : 18374  
Title : NMR structure of the second PHD finger of AIRE (AIRE-PHD2)  
Authors : Gaetani, M.; Chignola, F.; Mollica, L.; Quilici, G.; Mannella, V.; Spiliotopoulos, D.; Musco, G.  
Deposited on : 2012-04-03

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

We welcome your comments at [validation@mail.wwpdb.org](mailto: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>.

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

MolProbity : 4.02b-467  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
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) : 2.40

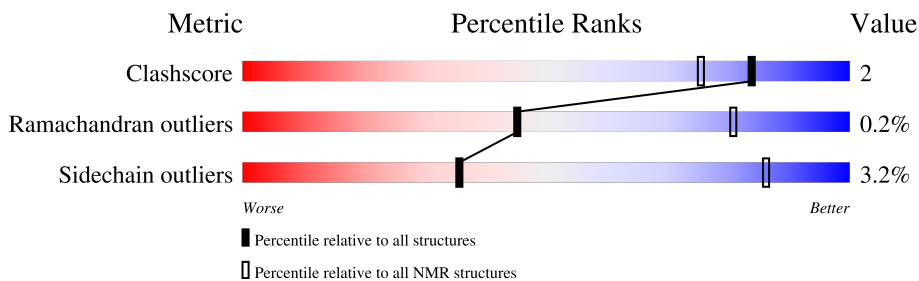
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 80%.

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<br>(#Entries) | NMR archive<br>(#Entries) |
|-----------------------|-----------------------------|---------------------------|
| Clashscore            | 210492                      | 14027                     |
| Ramachandran outliers | 207382                      | 12486                     |
| Sidechain outliers    | 206894                      | 12463                     |

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  $\geq 3$ , 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   | C     | 66     |                  |

## 2 Ensemble composition and analysis i

This entry contains 50 models. Model 23 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

The following residues are included in the computation of the global validation metrics.

| Well-defined (core) protein residues |                       |                   |              |
|--------------------------------------|-----------------------|-------------------|--------------|
| Well-defined core                    | Residue range (total) | Backbone RMSD (Å) | Medoid model |
| 1                                    | C:14-C:58 (45)        | 0.81              | 23           |

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

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

The models can be grouped into 5 clusters and 1 single-model cluster was found.

| Cluster number        | Models  |
|-----------------------|---|
| 1                     | 3, 5, 7, 8, 9, 11, 14, 15, 16, 18, 23, 25, 26, 27, 33, 35, 36, 37, 39, 40, 42, 43, 44, 45, 47, 48, 49, 50 |
| 2                     | 1, 4, 20, 24, 28, 32, 34, 46  |
| 3                     | 13, 19, 22, 29, 41  |
| 4                     | 2, 10, 31, 38   |
| 5                     | 6, 12, 17, 21   |
| Single-model clusters | 30  |

### 3 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 911 atoms, of which 438 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Autoimmune regulator.

| Mol | Chain | Residues | Atoms |     |     |    |    |   | Trace |
|-----|-------|----------|-------|-----|-----|----|----|---|-------|
|     |       |          | Total | C   | H   | N  | O  | S |       |
| 1   | C     | 66       | 909   | 281 | 438 | 94 | 88 | 8 | 0     |

There are 3 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| C     | 1       | GLY      | -      | expression tag | UNP O43918 |
| C     | 2       | ALA      | -      | expression tag | UNP O43918 |
| C     | 3       | MET      | -      | expression tag | UNP O43918 |

- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

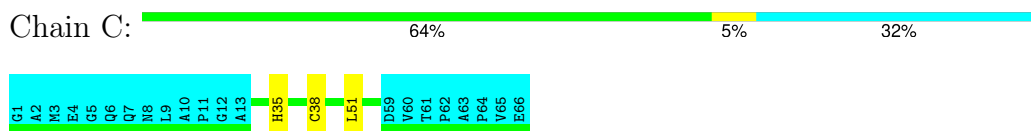
| Mol | Chain | Residues | Atoms |    |
|-----|-------|----------|-------|----|
|     |       |          | Total | Zn |
| 2   | C     | 2        | 2     | 2  |

## 4 Residue-property plots

### 4.1 Average score per residue in the NMR ensemble

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

- Molecule 1: Autoimmune regulator

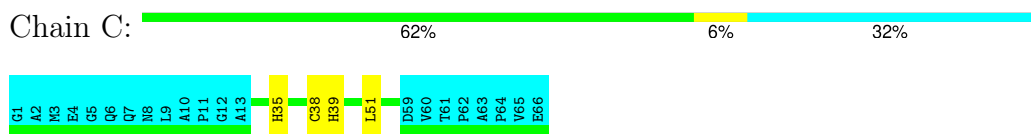


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

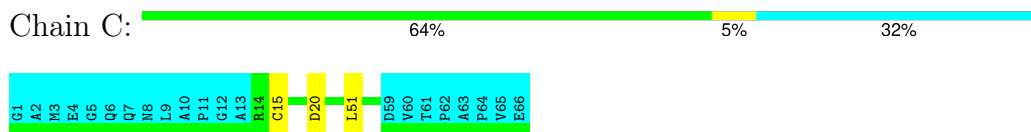
#### 4.2.1 Score per residue for model 1

- Molecule 1: Autoimmune regulator



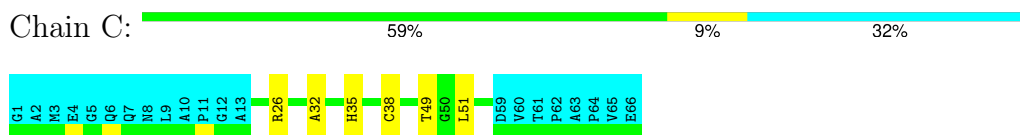
#### 4.2.2 Score per residue for model 2

- Molecule 1: Autoimmune regulator



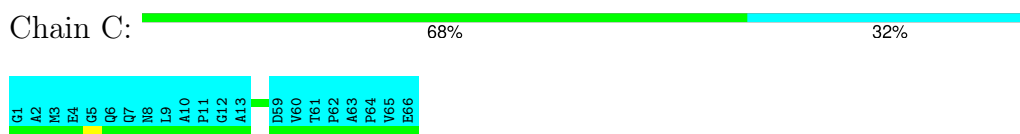
### 4.2.3 Score per residue for model 3

- Molecule 1: Autoimmune regulator



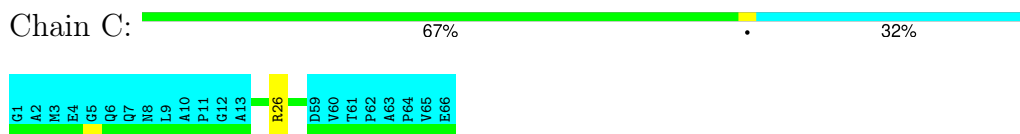
### 4.2.4 Score per residue for model 4

- Molecule 1: Autoimmune regulator



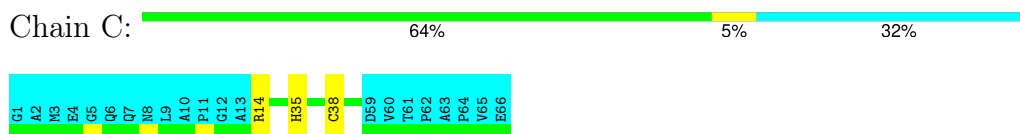
### 4.2.5 Score per residue for model 5

- Molecule 1: Autoimmune regulator



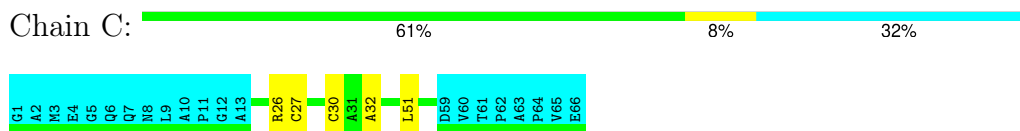
### 4.2.6 Score per residue for model 6

- Molecule 1: Autoimmune regulator



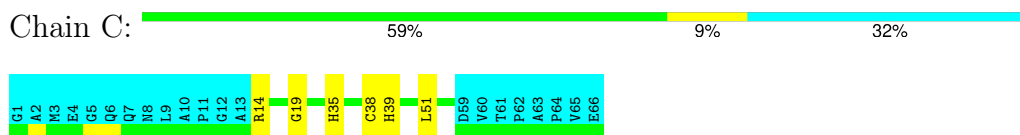
### 4.2.7 Score per residue for model 7

- Molecule 1: Autoimmune regulator



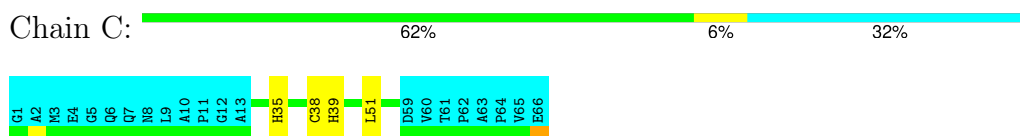
### 4.2.8 Score per residue for model 8

- Molecule 1: Autoimmune regulator



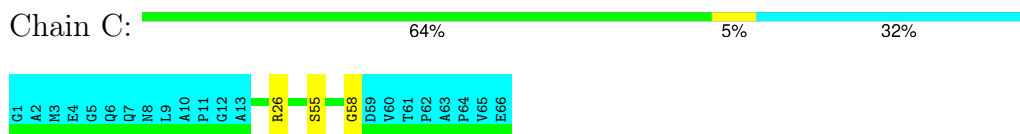
### 4.2.9 Score per residue for model 9

- Molecule 1: Autoimmune regulator



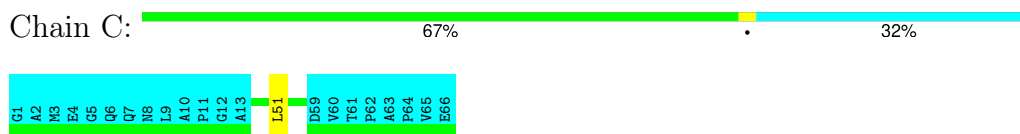
### 4.2.10 Score per residue for model 10

- Molecule 1: Autoimmune regulator



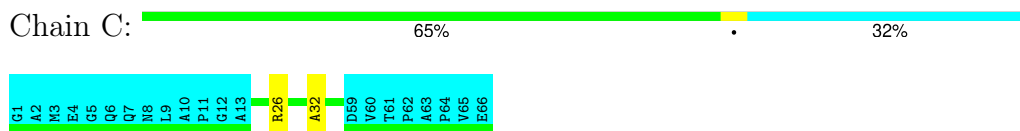
### 4.2.11 Score per residue for model 11

- Molecule 1: Autoimmune regulator



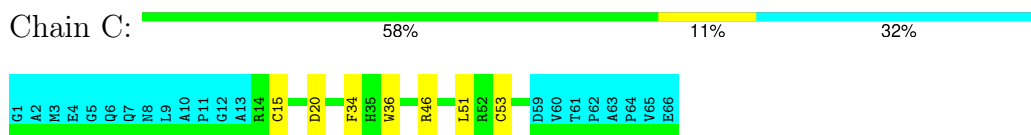
### 4.2.12 Score per residue for model 12

- Molecule 1: Autoimmune regulator



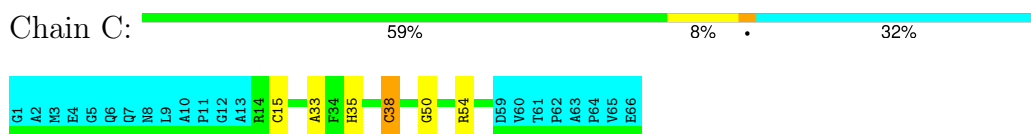
#### 4.2.13 Score per residue for model 13

- Molecule 1: Autoimmune regulator



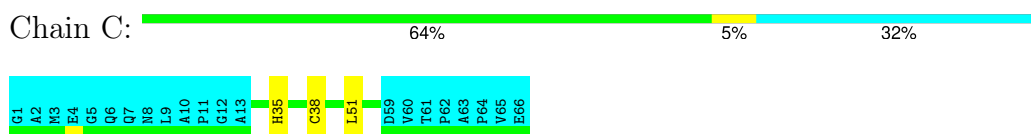
#### 4.2.14 Score per residue for model 14

- Molecule 1: Autoimmune regulator



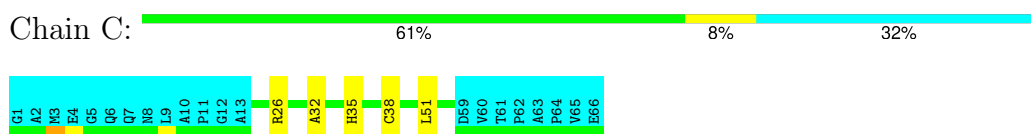
#### 4.2.15 Score per residue for model 15

- Molecule 1: Autoimmune regulator



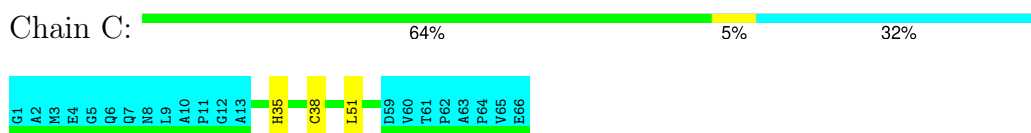
#### 4.2.16 Score per residue for model 16

- Molecule 1: Autoimmune regulator



#### 4.2.17 Score per residue for model 17

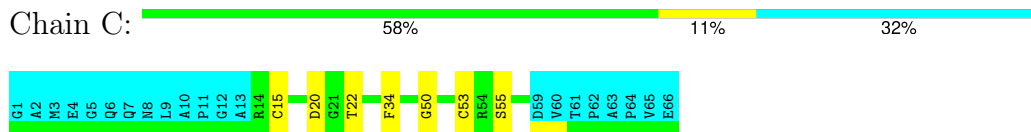
- Molecule 1: Autoimmune regulator





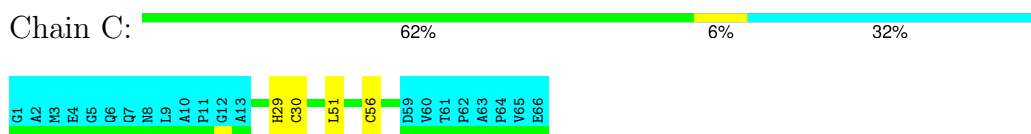
#### 4.2.18 Score per residue for model 18

- Molecule 1: Autoimmune regulator



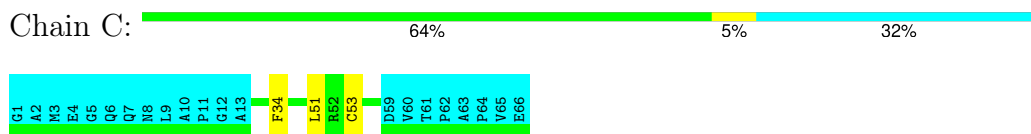
#### 4.2.19 Score per residue for model 19

- Molecule 1: Autoimmune regulator



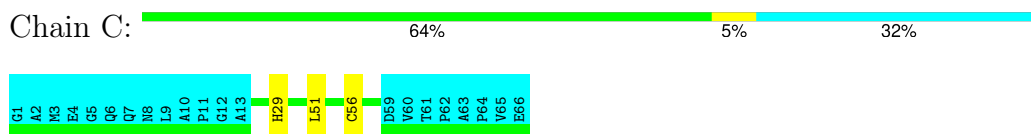
#### 4.2.20 Score per residue for model 20

- Molecule 1: Autoimmune regulator



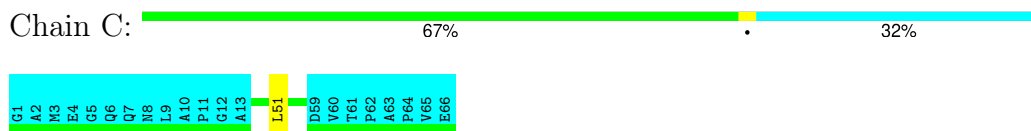
#### 4.2.21 Score per residue for model 21

- Molecule 1: Autoimmune regulator



#### 4.2.22 Score per residue for model 22

- Molecule 1: Autoimmune regulator



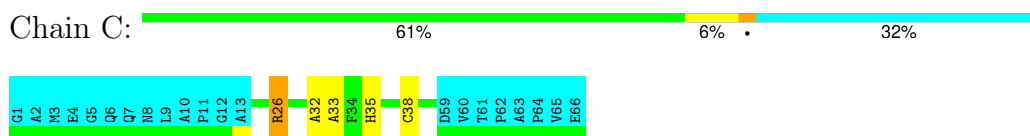
#### 4.2.23 Score per residue for model 23 (medoid)

- Molecule 1: Autoimmune regulator



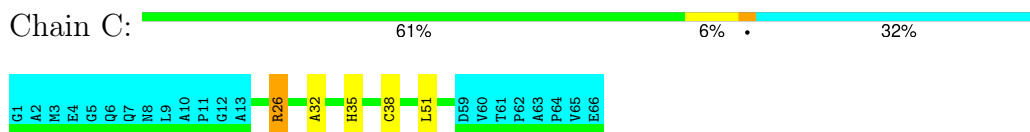
#### 4.2.24 Score per residue for model 24

- Molecule 1: Autoimmune regulator



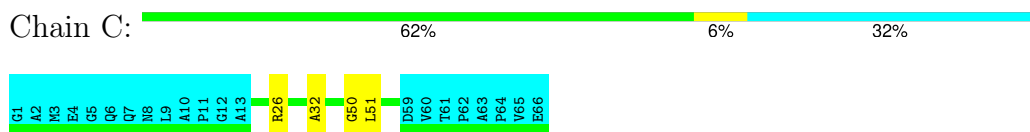
#### 4.2.25 Score per residue for model 25

- Molecule 1: Autoimmune regulator



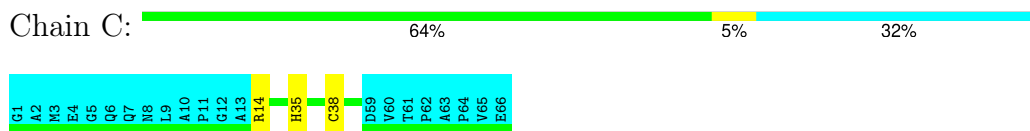
#### 4.2.26 Score per residue for model 26

- Molecule 1: Autoimmune regulator



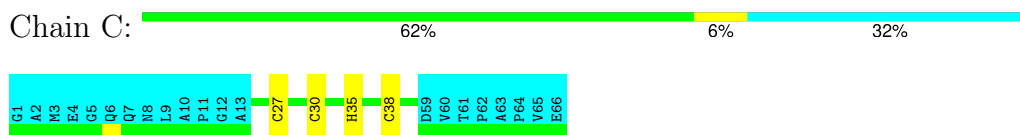
#### 4.2.27 Score per residue for model 27

- Molecule 1: Autoimmune regulator



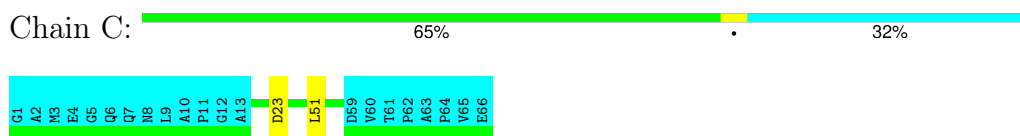
#### 4.2.28 Score per residue for model 28

- Molecule 1: Autoimmune regulator



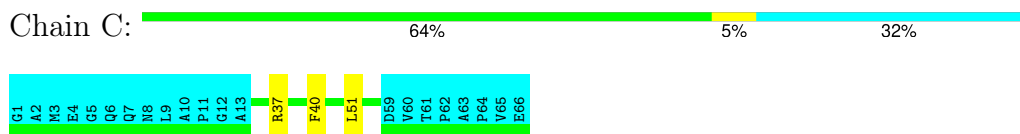
#### 4.2.29 Score per residue for model 29

- Molecule 1: Autoimmune regulator



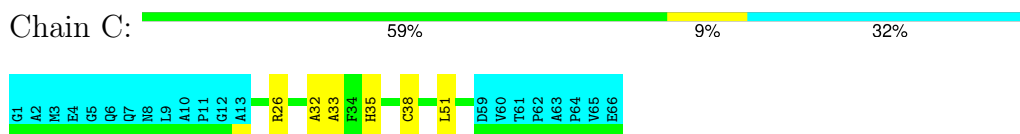
#### 4.2.30 Score per residue for model 30

- Molecule 1: Autoimmune regulator



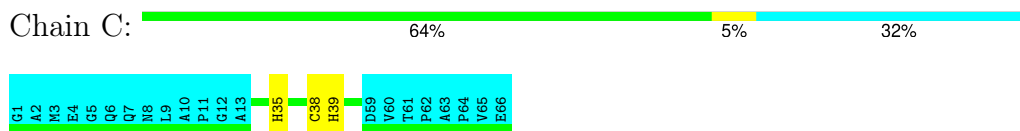
#### 4.2.31 Score per residue for model 31

- Molecule 1: Autoimmune regulator



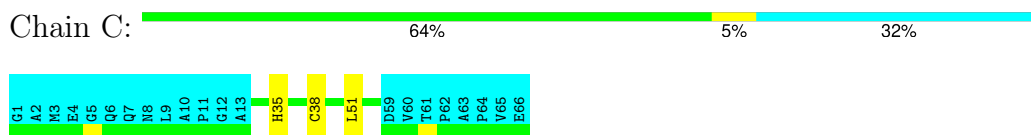
#### 4.2.32 Score per residue for model 32

- Molecule 1: Autoimmune regulator



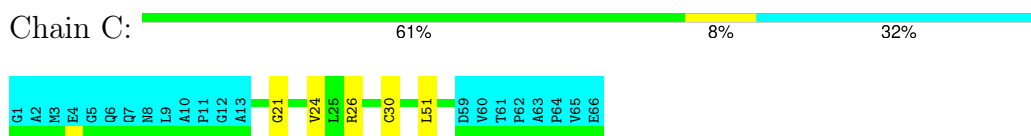
#### 4.2.33 Score per residue for model 33

- Molecule 1: Autoimmune regulator



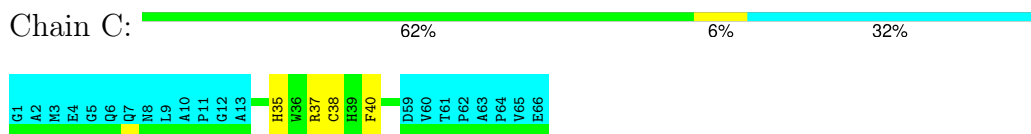
#### 4.2.34 Score per residue for model 34

- Molecule 1: Autoimmune regulator



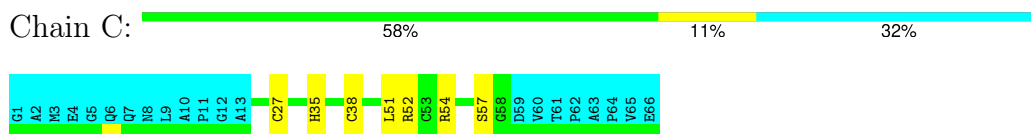
#### 4.2.35 Score per residue for model 35

- Molecule 1: Autoimmune regulator



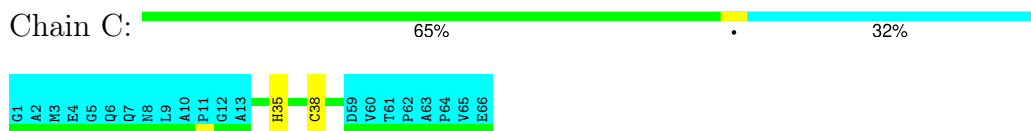
#### 4.2.36 Score per residue for model 36

- Molecule 1: Autoimmune regulator



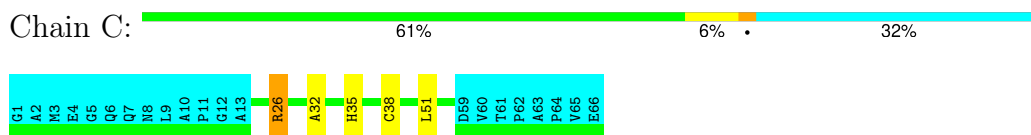
#### 4.2.37 Score per residue for model 37

- Molecule 1: Autoimmune regulator



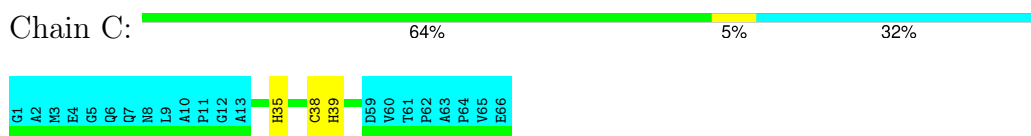
#### 4.2.38 Score per residue for model 38

- Molecule 1: Autoimmune regulator



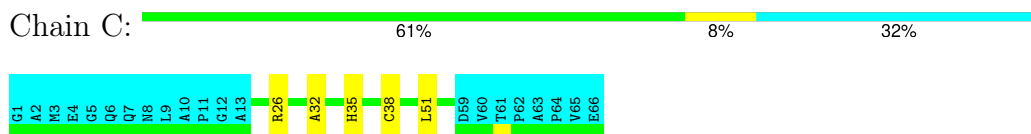
#### 4.2.39 Score per residue for model 39

- Molecule 1: Autoimmune regulator



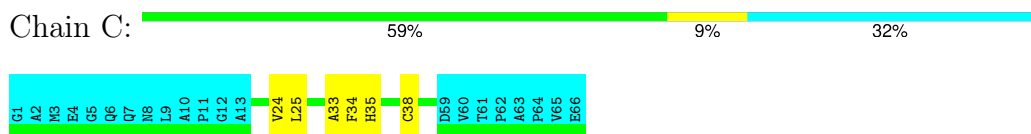
#### 4.2.40 Score per residue for model 40

- Molecule 1: Autoimmune regulator



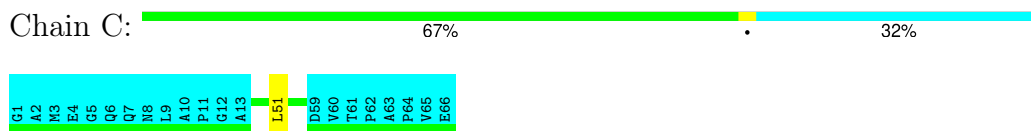
#### 4.2.41 Score per residue for model 41

- Molecule 1: Autoimmune regulator



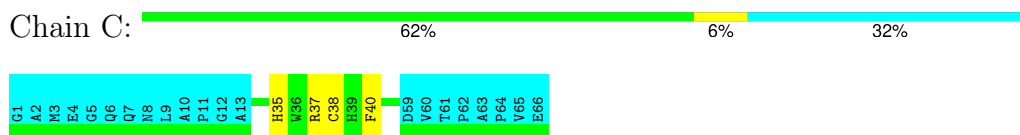
#### 4.2.42 Score per residue for model 42

- Molecule 1: Autoimmune regulator



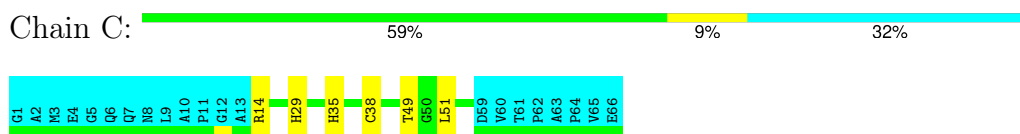
#### 4.2.43 Score per residue for model 43

- Molecule 1: Autoimmune regulator



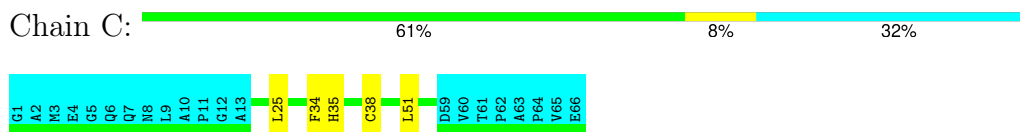
#### 4.2.44 Score per residue for model 44

- Molecule 1: Autoimmune regulator



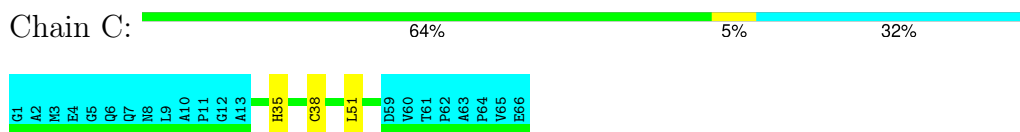
#### 4.2.45 Score per residue for model 45

- Molecule 1: Autoimmune regulator



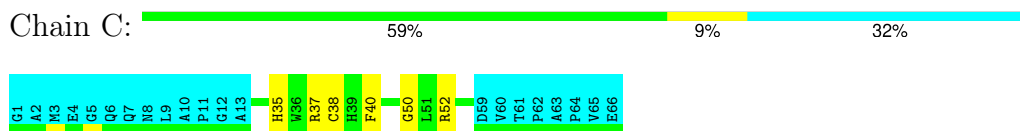
#### 4.2.46 Score per residue for model 46

- Molecule 1: Autoimmune regulator



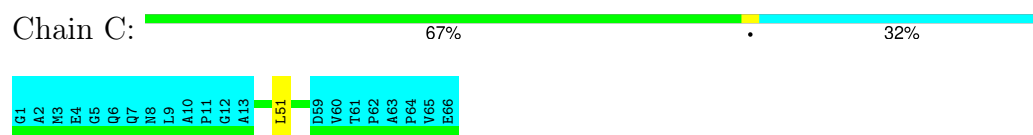
#### 4.2.47 Score per residue for model 47

- Molecule 1: Autoimmune regulator



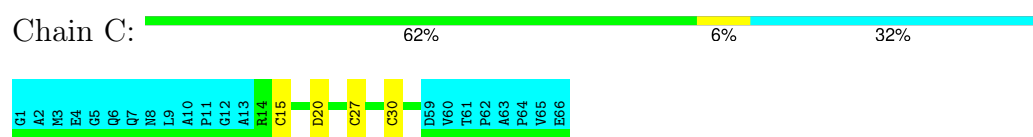
#### 4.2.48 Score per residue for model 48

- Molecule 1: Autoimmune regulator



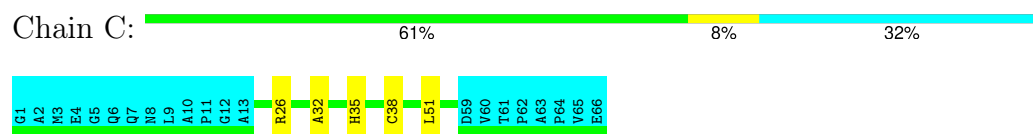
#### 4.2.49 Score per residue for model 49

- Molecule 1: Autoimmune regulator



#### 4.2.50 Score per residue for model 50

- Molecule 1: Autoimmune regulator



## 5 Refinement protocol and experimental data overview

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

Of the 50 calculated structures, 50 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 solution | 2.3     |
| ARIA          | refinement         | 2.3     |

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                       | 635            |
| Number of shifts mapped to atoms             | 635            |
| Number of unparsed shifts                    | 0              |
| Number of shifts with mapping errors         | 0              |
| Number of shifts with mapping warnings       | 0              |
| Assignment completeness (well-defined parts) | 80%            |



## 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:  
ZN

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   | C     | 328   | 303      | 301      | 1±1     |
| All | All   | 16500 | 15150    | 15050    | 68      |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.

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

| Atom-1         | Atom-2         | Clash(Å) | Distance(Å) | Models |       |
|----------------|----------------|----------|-------------|--------|-------|
|                |                |          |             | Worst  | Total |
| 1:C:35:HIS:HB2 | 1:C:38:CYS:SG  | 0.79     | 2.18        | 43     | 29    |
| 1:C:26:ARG:HA  | 1:C:32:ALA:O   | 0.57     | 1.99        | 31     | 10    |
| 1:C:14:ARG:HD3 | 1:C:19:GLY:O   | 0.54     | 2.02        | 8      | 1     |
| 1:C:29:HIS:HD2 | 1:C:56:CYS:SG  | 0.52     | 2.27        | 19     | 1     |
| 1:C:37:ARG:HA  | 1:C:40:PHE:O   | 0.49     | 2.08        | 30     | 4     |
| 1:C:36:TRP:CD1 | 1:C:46:ARG:HG2 | 0.47     | 2.44        | 13     | 1     |
| 1:C:29:HIS:HB2 | 1:C:56:CYS:SG  | 0.47     | 2.50        | 21     | 1     |
| 1:C:54:ARG:HA  | 1:C:57:SER:OG  | 0.46     | 2.11        | 36     | 1     |
| 1:C:27:CYS:HB3 | 1:C:30:CYS:O   | 0.46     | 2.11        | 28     | 3     |
| 1:C:26:ARG:HD2 | 1:C:32:ALA:O   | 0.45     | 2.11        | 16     | 1     |
| 1:C:27:CYS:SG  | 1:C:52:ARG:HA  | 0.44     | 2.52        | 36     | 1     |
| 1:C:15:CYS:HB3 | 1:C:20:ASP:O   | 0.44     | 2.13        | 49     | 4     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:C:55:SER:HA   | 1:C:58:GLY:O    | 0.44     | 2.13        | 10     | 1     |
| 1:C:25:LEU:HB2  | 1:C:34:PHE:O    | 0.43     | 2.12        | 41     | 2     |
| 1:C:20:ASP:OD2  | 1:C:22:THR:HG22 | 0.43     | 2.13        | 18     | 1     |
| 1:C:50:GLY:O    | 1:C:52:ARG:HG3  | 0.43     | 2.14        | 47     | 1     |
| 1:C:15:CYS:HA   | 1:C:33:ALA:O    | 0.42     | 2.13        | 14     | 1     |
| 1:C:34:PHE:CZ   | 1:C:53:CYS:HA   | 0.42     | 2.50        | 20     | 3     |
| 1:C:24:VAL:HG11 | 1:C:33:ALA:HB1  | 0.41     | 1.92        | 41     | 1     |
| 1:C:21:GLY:O    | 1:C:24:VAL:HB   | 0.40     | 2.16        | 34     | 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   | C     | 45/66 (68%)     | 43±1 (95±3%) | 2±1 (5±3%) | 0±0 (0±1%) | 45          | 81 |
| All | All   | 2250/3300 (68%) | 2140 (95%)   | 106 (5%)   | 4 (0%)     | 45          | 81 |

All 1 unique Ramachandran outliers are listed below.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | C     | 50  | GLY  | 4              |

### 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   | C     | 34/48 (71%)     | 33±1 (97±2%) | 1±1 (3±2%) | 36          | 86 |
| All | All   | 1700/2400 (71%) | 1645 (97%)   | 55 (3%)    | 36          | 86 |

All 10 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   | C     | 51  | LEU  | 32             |
| 1   | C     | 26  | ARG  | 6              |
| 1   | C     | 39  | HIS  | 5              |
| 1   | C     | 49  | THR  | 3              |
| 1   | C     | 14  | ARG  | 3              |
| 1   | C     | 30  | CYS  | 2              |
| 1   | C     | 38  | CYS  | 1              |
| 1   | C     | 54  | ARG  | 1              |
| 1   | C     | 23  | ASP  | 1              |
| 1   | C     | 29  | HIS  | 1              |

### 6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 6.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 6.6 Ligand geometry [i](#)

Of 2 ligands modelled in this entry, 2 are monoatomic - leaving 0 for Mogul analysis.

## 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 80% for the well-defined parts and 80% for the entire structure.

### 7.1 Chemical shift list 1

File name: working\_cs.cif

Chemical shift list name: *assigned\_chem\_shift\_list\_1*

#### 7.1.1 Bookkeeping i

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

|   |     |
|---|-----|
| Total number of shifts                  | 635 |
| Number of shifts mapped to atoms        | 635 |
| 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

The following table shows the suggested chemical shift referencing corrections.

| Nucleus                      | # values | Correction $\pm$ precision, ppm | Suggested action         |
|------------------------------|----------|---------------------------------|--------------------------|
| <sup>13</sup> C <sub>α</sub> | 66       | -0.24 $\pm$ 0.46                | None needed (< 0.5 ppm)  |
| <sup>13</sup> C <sub>β</sub> | 56       | 0.29 $\pm$ 0.20                 | None needed (< 0.5 ppm)  |
| <sup>13</sup> C'             | 0        | —                               | None (insufficient data) |
| <sup>15</sup> N              | 60       | -0.79 $\pm$ 0.37                | Should be applied        |

#### 7.1.3 Completeness of resonance assignments i

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 80%, i.e. 441 atoms were assigned a chemical shift out of a possible 551. 0 out of 4 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total         | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|-----------|---------------|----------------|-----------------|-----------------|
| Backbone  | 183/228 (80%) | 95/95 (100%)   | 45/90 (50%)     | 43/43 (100%)    |
| Sidechain | 212/268 (79%) | 144/174 (83%)  | 68/76 (89%)     | 0/18 (0%)       |

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|          | Total         | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|----------|---------------|----------------|-----------------|-----------------|
| Aromatic | 46/55 (84%)   | 23/28 (82%)    | 21/21 (100%)    | 2/6 (33%)       |
| Overall  | 441/551 (80%) | 262/297 (88%)  | 134/187 (72%)   | 45/67 (67%)     |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 80%, i.e. 635 atoms were assigned a chemical shift out of a possible 790. 0 out of 7 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total         | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|-----------|---------------|----------------|-----------------|-----------------|
| Backbone  | 259/330 (78%) | 133/137 (97%)  | 66/132 (50%)    | 60/61 (98%)     |
| Sidechain | 330/405 (81%) | 225/264 (85%)  | 105/120 (88%)   | 0/21 (0%)       |
| Aromatic  | 46/55 (84%)   | 23/28 (82%)    | 21/21 (100%)    | 2/6 (33%)       |
| Overall   | 635/790 (80%) | 381/429 (89%)  | 192/273 (70%)   | 62/88 (70%)     |

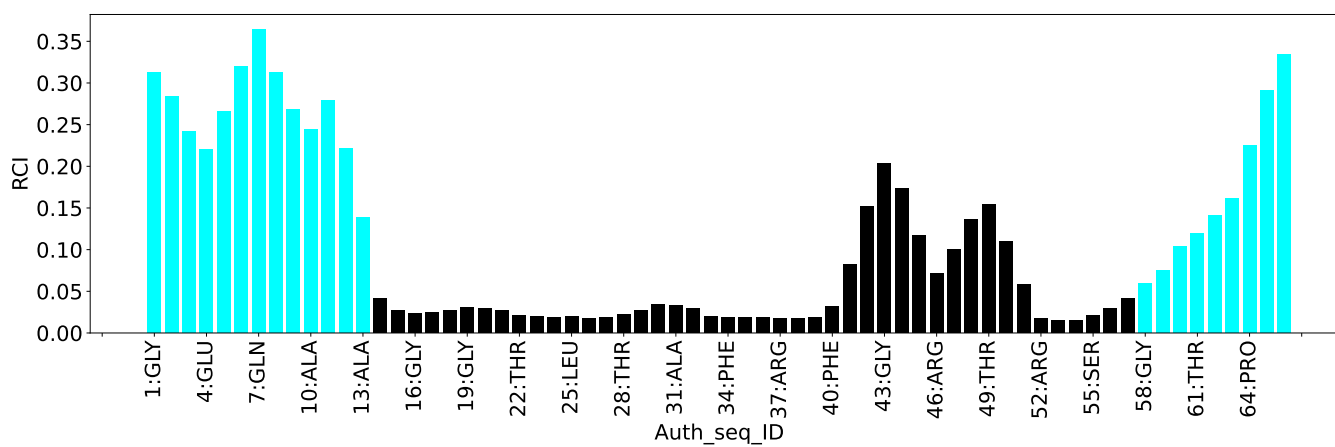
#### 7.1.4 Statistically unusual chemical shifts [i](#)

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 C:



## 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                                | 787   |
| Intra-residue ( $ i-j =0$ )                              | 365   |
| Sequential ( $ i-j =1$ )                                 | 180   |
| Medium range ( $ i-j >1$ and $ i-j <5$ )                 | 61    |
| Long range ( $ i-j \geq 5$ )                             | 178   |
| Inter-chain  | 0     |
| Hydrogen bond restraints                                 | 3     |
| Disulfide bond restraints                                | 0     |
| Total dihedral-angle restraints                          | 78    |
| Number of unmapped restraints                            | 0     |
| Number of restraints per residue                         | 12.7  |
| Number of long range restraints per residue <sup>1</sup> | 2.7   |

<sup>1</sup>Long 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)  | 10.1                                   | 0.2     |
| 0.2-0.5 (Medium) | 13.9                                   | 0.5     |
| >0.5 (Large)     | 28.3                                   | 3.0     |

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

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

| Bins (°)           | Average number of violations per model | Max (°) |
|--------------------|--|---------|
| 1.0-10.0 (Small)   | 5.3                                    | 5.08    |
| 10.0-20.0 (Medium) | None                                   | None    |
| >20.0 (Large)      | None                                   | None    |

## 9 Distance violation analysis i

### 9.1 Summary of distance violations i

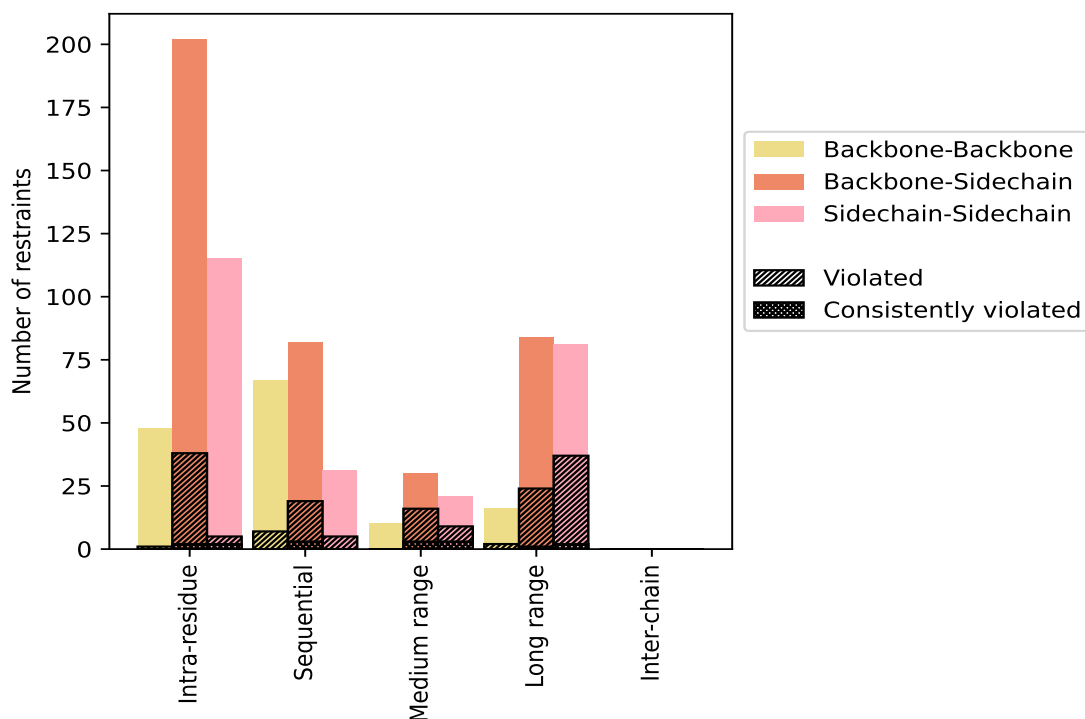
The following table shows the summary of distance violations in different restraint categories based on the sequence separation of the atoms involved. Each category is further sub-divided into three sub-categories based on the atoms involved. Violations less than 0.1 Å are not included in the statistics.

| Restrains type  | Count      | % <sup>1</sup> | Violated <sup>3</sup> |                |                | Consistently Violated <sup>4</sup> |                |                |
|---|------------|----------------|-----------------------|----------------|----------------|------------------------------------|----------------|----------------|
|   |            |                | Count                 | % <sup>2</sup> | % <sup>1</sup> | Count                              | % <sup>2</sup> | % <sup>1</sup> |
| <b>Intra-residue (<math> i-j =0</math>)</b>                                 | <b>365</b> | <b>46.4</b>    | <b>44</b>             | <b>12.1</b>    | <b>5.6</b>     | <b>4</b>                           | <b>1.1</b>     | <b>0.5</b>     |
| Backbone-Backbone   | 48         | 6.1            | 1                     | 2.1            | 0.1            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 202        | 25.7           | 38                    | 18.8           | 4.8            | 2                                  | 1.0            | 0.3            |
| Sidechain-Sidechain   | 115        | 14.6           | 5                     | 4.3            | 0.6            | 2                                  | 1.7            | 0.3            |
| <b>Sequential (<math> i-j =1</math>)</b>                                    | <b>180</b> | <b>22.9</b>    | <b>31</b>             | <b>17.2</b>    | <b>3.9</b>     | <b>3</b>                           | <b>1.7</b>     | <b>0.4</b>     |
| Backbone-Backbone   | 67         | 8.5            | 7                     | 10.4           | 0.9            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 82         | 10.4           | 19                    | 23.2           | 2.4            | 3                                  | 3.7            | 0.4            |
| Sidechain-Sidechain   | 31         | 3.9            | 5                     | 16.1           | 0.6            | 0                                  | 0.0            | 0.0            |
| <b>Medium range (<math> i-j &gt;1</math> &amp; <math> i-j &lt;5</math>)</b> | <b>61</b>  | <b>7.8</b>     | <b>25</b>             | <b>41.0</b>    | <b>3.2</b>     | <b>6</b>                           | <b>9.8</b>     | <b>0.8</b>     |
| Backbone-Backbone   | 10         | 1.3            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 30         | 3.8            | 16                    | 53.3           | 2.0            | 3                                  | 10.0           | 0.4            |
| Sidechain-Sidechain   | 21         | 2.7            | 9                     | 42.9           | 1.1            | 3                                  | 14.3           | 0.4            |
| <b>Long range (<math> i-j \geq 5</math>)</b>                                | <b>178</b> | <b>22.6</b>    | <b>63</b>             | <b>35.4</b>    | <b>8.0</b>     | <b>3</b>                           | <b>1.7</b>     | <b>0.4</b>     |
| Backbone-Backbone   | 16         | 2.0            | 2                     | 12.5           | 0.3            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 81         | 10.3           | 24                    | 29.6           | 3.0            | 1                                  | 1.2            | 0.1            |
| Sidechain-Sidechain   | 81         | 10.3           | 37                    | 45.7           | 4.7            | 2                                  | 2.5            | 0.3            |
| <b>Inter-chain</b>  | <b>0</b>   | <b>0.0</b>     | <b>0</b>              | <b>0.0</b>     | <b>0.0</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| 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            |
| <b>Hydrogen bond</b>  | <b>3</b>   | <b>0.4</b>     | <b>0</b>              | <b>0.0</b>     | <b>0.0</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| <b>Disulfide bond</b>   | <b>0</b>   | <b>0.0</b>     | <b>0</b>              | <b>0.0</b>     | <b>0.0</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| <b>Total</b>  | <b>787</b> | <b>100.0</b>   | <b>163</b>            | <b>20.7</b>    | <b>20.7</b>    | <b>16</b>                          | <b>2.0</b>     | <b>2.0</b>     |
| Backbone-Backbone   | 141        | 17.9           | 10                    | 7.1            | 1.3            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 398        | 50.6           | 97                    | 24.4           | 12.3           | 9                                  | 2.3            | 1.1            |
| Sidechain-Sidechain   | 248        | 31.5           | 56                    | 22.6           | 7.1            | 7                                  | 2.8            | 0.9            |

<sup>1</sup> percentage calculated with respect to the total number of distance restraints, <sup>2</sup> percentage calculated with respect to the number of restraints in a particular restraint category, <sup>3</sup> violated in at least one model, <sup>4</sup> 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 <sup>6</sup> (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
|          | IR <sup>1</sup>      | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> | Total |          |         |                     |            |
| 1        | 11                   | 5               | 15              | 12              | 0               | 43    | 0.72     | 2.36    | 0.54                | 0.59       |
| 2        | 16                   | 7               | 13              | 18              | 0               | 54    | 0.62     | 2.36    | 0.5                 | 0.44       |
| 3        | 13                   | 8               | 12              | 17              | 0               | 50    | 0.7      | 1.87    | 0.51                | 0.6        |
| 4        | 14                   | 4               | 12              | 16              | 0               | 46    | 0.7      | 2.31    | 0.54                | 0.52       |
| 5        | 16                   | 12              | 14              | 25              | 0               | 67    | 0.74     | 2.53    | 0.57                | 0.62       |
| 6        | 16                   | 6               | 16              | 16              | 0               | 54    | 0.7      | 2.62    | 0.6                 | 0.53       |
| 7        | 11                   | 8               | 15              | 23              | 0               | 57    | 0.8      | 2.36    | 0.58                | 0.61       |
| 8        | 10                   | 7               | 12              | 12              | 0               | 41    | 0.7      | 2.44    | 0.54                | 0.52       |
| 9        | 15                   | 7               | 12              | 17              | 0               | 51    | 0.64     | 2.31    | 0.53                | 0.52       |
| 10       | 12                   | 6               | 13              | 29              | 0               | 60    | 0.92     | 2.31    | 0.57                | 0.76       |

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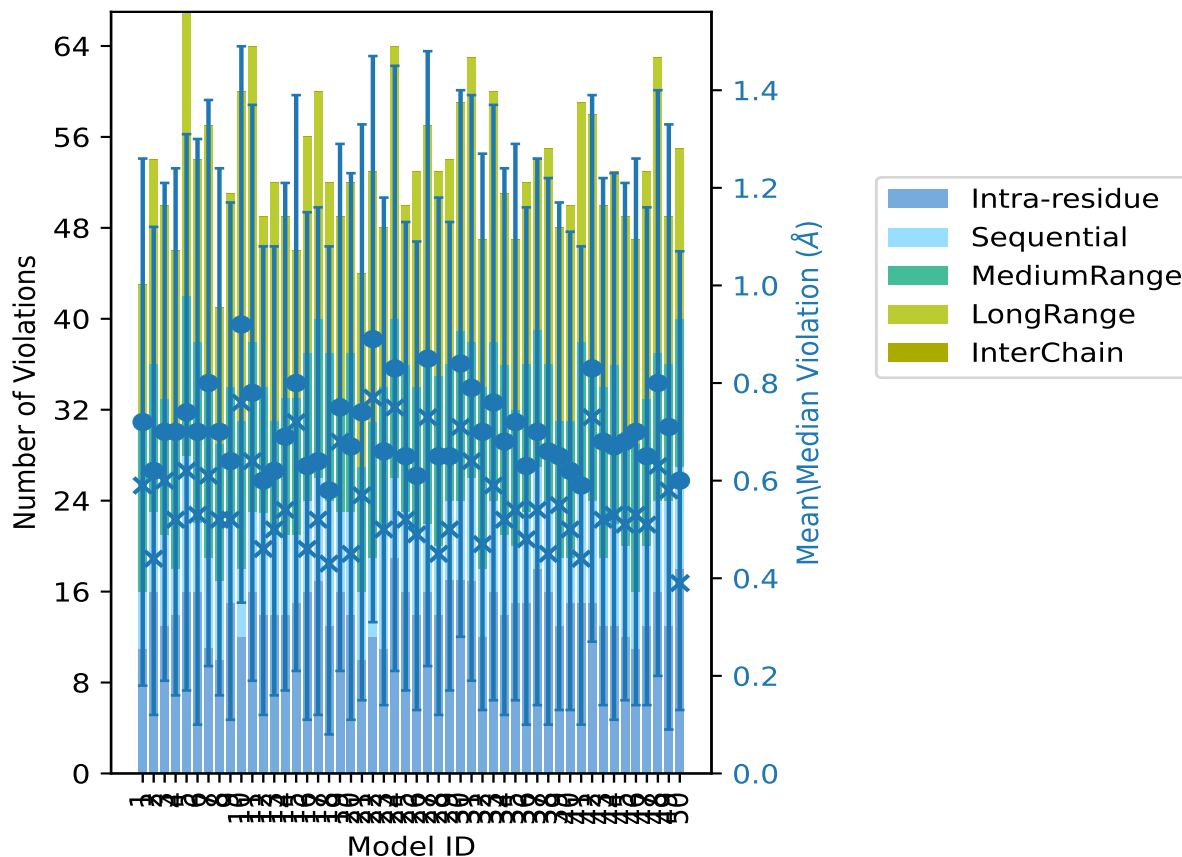
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| Model ID | Number of violations |                 |                 |                 |                 |       | Mean (Å) | Max (Å) | SD <sup>6</sup> (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
|          | IR <sup>1</sup>      | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> | Total |          |         |                     |            |
| 11       | 16                   | 7               | 15              | 26              | 0               | 64    | 0.78     | 2.45    | 0.59                | 0.64       |
| 12       | 14                   | 9               | 11              | 15              | 0               | 49    | 0.6      | 1.79    | 0.48                | 0.46       |
| 13       | 14                   | 7               | 10              | 21              | 0               | 52    | 0.62     | 1.97    | 0.46                | 0.5        |
| 14       | 14                   | 7               | 12              | 16              | 0               | 49    | 0.69     | 2.56    | 0.52                | 0.54       |
| 15       | 15                   | 6               | 12              | 13              | 0               | 46    | 0.8      | 2.49    | 0.59                | 0.72       |
| 16       | 16                   | 8               | 13              | 19              | 0               | 56    | 0.63     | 2.43    | 0.52                | 0.46       |
| 17       | 17                   | 9               | 14              | 20              | 0               | 60    | 0.64     | 2.54    | 0.52                | 0.52       |
| 18       | 13                   | 11              | 13              | 15              | 0               | 52    | 0.58     | 2.16    | 0.5                 | 0.43       |
| 19       | 16                   | 7               | 10              | 16              | 0               | 49    | 0.75     | 2.26    | 0.54                | 0.68       |
| 20       | 14                   | 9               | 14              | 15              | 0               | 52    | 0.67     | 2.09    | 0.56                | 0.45       |
| 21       | 10                   | 6               | 11              | 17              | 0               | 44    | 0.74     | 2.62    | 0.59                | 0.57       |
| 22       | 12                   | 7               | 12              | 22              | 0               | 53    | 0.89     | 2.34    | 0.58                | 0.77       |
| 23       | 11                   | 11              | 12              | 14              | 0               | 48    | 0.66     | 2.21    | 0.52                | 0.5        |
| 24       | 19                   | 7               | 14              | 24              | 0               | 64    | 0.83     | 2.56    | 0.62                | 0.75       |
| 25       | 16                   | 7               | 13              | 14              | 0               | 50    | 0.65     | 2.32    | 0.48                | 0.52       |
| 26       | 14                   | 7               | 13              | 19              | 0               | 53    | 0.61     | 1.79    | 0.48                | 0.49       |
| 27       | 16                   | 6               | 14              | 21              | 0               | 57    | 0.85     | 2.77    | 0.63                | 0.73       |
| 28       | 14                   | 6               | 15              | 18              | 0               | 53    | 0.65     | 2.14    | 0.53                | 0.45       |
| 29       | 17                   | 7               | 12              | 18              | 0               | 54    | 0.65     | 2.07    | 0.48                | 0.5        |
| 30       | 17                   | 7               | 15              | 20              | 0               | 59    | 0.84     | 2.3     | 0.56                | 0.71       |
| 31       | 17                   | 9               | 12              | 25              | 0               | 63    | 0.79     | 2.65    | 0.6                 | 0.64       |
| 32       | 12                   | 6               | 16              | 13              | 0               | 47    | 0.7      | 2.17    | 0.57                | 0.47       |
| 33       | 16                   | 8               | 14              | 22              | 0               | 60    | 0.76     | 2.84    | 0.61                | 0.59       |
| 34       | 14                   | 7               | 15              | 15              | 0               | 51    | 0.68     | 2.25    | 0.56                | 0.52       |
| 35       | 15                   | 5               | 12              | 15              | 0               | 47    | 0.72     | 2.24    | 0.57                | 0.54       |
| 36       | 15                   | 8               | 13              | 16              | 0               | 52    | 0.63     | 2.82    | 0.53                | 0.48       |
| 37       | 18                   | 9               | 12              | 15              | 0               | 54    | 0.7      | 2.47    | 0.56                | 0.54       |
| 38       | 16                   | 8               | 12              | 19              | 0               | 55    | 0.66     | 2.01    | 0.56                | 0.45       |
| 39       | 13                   | 6               | 12              | 17              | 0               | 48    | 0.65     | 2.38    | 0.52                | 0.55       |
| 40       | 15                   | 4               | 12              | 19              | 0               | 50    | 0.62     | 2.17    | 0.49                | 0.5        |
| 41       | 15                   | 11              | 12              | 21              | 0               | 59    | 0.59     | 2.34    | 0.49                | 0.44       |
| 42       | 15                   | 9               | 12              | 22              | 0               | 58    | 0.83     | 2.48    | 0.56                | 0.73       |
| 43       | 13                   | 6               | 15              | 16              | 0               | 50    | 0.68     | 2.54    | 0.54                | 0.52       |
| 44       | 13                   | 9               | 14              | 17              | 0               | 53    | 0.67     | 2.61    | 0.56                | 0.53       |
| 45       | 12                   | 8               | 10              | 19              | 0               | 49    | 0.68     | 2.25    | 0.53                | 0.51       |
| 46       | 11                   | 5               | 13              | 18              | 0               | 47    | 0.7      | 2.04    | 0.56                | 0.53       |
| 47       | 13                   | 7               | 13              | 20              | 0               | 53    | 0.65     | 2.38    | 0.51                | 0.51       |
| 48       | 16                   | 8               | 13              | 26              | 0               | 63    | 0.8      | 2.49    | 0.6                 | 0.63       |
| 49       | 13                   | 11              | 12              | 13              | 0               | 49    | 0.71     | 3.0     | 0.62                | 0.58       |
| 50       | 18                   | 9               | 13              | 15              | 0               | 55    | 0.6      | 1.79    | 0.47                | 0.39       |

<sup>1</sup>Intra-residue restraints, <sup>2</sup>Sequential restraints, <sup>3</sup>Medium range restraints, <sup>4</sup>Long range restraints,

<sup>5</sup>Inter-chain restraints, <sup>6</sup>Standard 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, 621(IR:321, SQ:149, MR:36, LR:115, IC:0) restraints are not violated in the ensemble.

| Number of violated restraints |                 |                 |                 |                 |       | Fraction of the ensemble |     |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-------|--------------------------|-----|
| IR <sup>1</sup>               | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> | Total | Count <sup>6</sup>       | %   |
| 6                             | 8               | 3               | 10              | 0               | 27    | 1                        | 2.0 |
| 6                             | 4               | 1               | 3               | 0               | 14    | 2                        | 4.0 |
| 2                             | 3               | 2               | 0               | 0               | 7     | 3                        | 6.0 |
| 2                             | 1               | 1               | 8               | 0               | 12    | 4                        | 8.0 |

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| Number of violated restraints |                 |                 |                 |                 |       | Fraction of the ensemble |      |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-------|--------------------------|------|
| IR <sup>1</sup>               | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> | Total | Count <sup>6</sup>       | %    |
| 3                             | 1               | 1               | 2               | 0               | 7     | 5                        | 10.0 |
| 1                             | 1               | 0               | 2               | 0               | 4     | 6                        | 12.0 |
| 0                             | 1               | 0               | 2               | 0               | 3     | 7                        | 14.0 |
| 2                             | 0               | 2               | 3               | 0               | 7     | 8                        | 16.0 |
| 0                             | 0               | 0               | 2               | 0               | 2     | 9                        | 18.0 |
| 2                             | 0               | 0               | 0               | 0               | 2     | 10                       | 20.0 |
| 0                             | 2               | 0               | 2               | 0               | 4     | 11                       | 22.0 |
| 2                             | 0               | 2               | 6               | 0               | 10    | 12                       | 24.0 |
| 0                             | 1               | 0               | 2               | 0               | 3     | 13                       | 26.0 |
| 1                             | 1               | 1               | 1               | 0               | 4     | 14                       | 28.0 |
| 1                             | 0               | 0               | 1               | 0               | 2     | 15                       | 30.0 |
| 2                             | 0               | 0               | 1               | 0               | 3     | 16                       | 32.0 |
| 0                             | 0               | 0               | 1               | 0               | 1     | 17                       | 34.0 |
| 0                             | 0               | 1               | 0               | 0               | 1     | 18                       | 36.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 19                       | 38.0 |
| 0                             | 0               | 0               | 1               | 0               | 1     | 20                       | 40.0 |
| 0                             | 1               | 0               | 0               | 0               | 1     | 21                       | 42.0 |
| 0                             | 0               | 0               | 1               | 0               | 1     | 22                       | 44.0 |
| 2                             | 0               | 0               | 1               | 0               | 3     | 23                       | 46.0 |
| 1                             | 0               | 0               | 2               | 0               | 3     | 24                       | 48.0 |
| 0                             | 0               | 0               | 1               | 0               | 1     | 25                       | 50.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 26                       | 52.0 |
| 0                             | 1               | 0               | 1               | 0               | 2     | 27                       | 54.0 |
| 1                             | 0               | 0               | 0               | 0               | 1     | 28                       | 56.0 |
| 1                             | 0               | 0               | 1               | 0               | 2     | 29                       | 58.0 |
| 0                             | 1               | 0               | 0               | 0               | 1     | 30                       | 60.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 31                       | 62.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 32                       | 64.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 33                       | 66.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 34                       | 68.0 |
| 0                             | 0               | 0               | 1               | 0               | 1     | 35                       | 70.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 36                       | 72.0 |
| 1                             | 1               | 0               | 0               | 0               | 2     | 37                       | 74.0 |
| 0                             | 0               | 1               | 0               | 0               | 1     | 38                       | 76.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 39                       | 78.0 |
| 0                             | 0               | 0               | 1               | 0               | 1     | 40                       | 80.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 41                       | 82.0 |
| 1                             | 0               | 1               | 0               | 0               | 2     | 42                       | 84.0 |
| 1                             | 1               | 0               | 1               | 0               | 3     | 43                       | 86.0 |
| 0                             | 0               | 0               | 1               | 0               | 1     | 44                       | 88.0 |
| 0                             | 0               | 0               | 0               | 0               | 0     | 45                       | 90.0 |

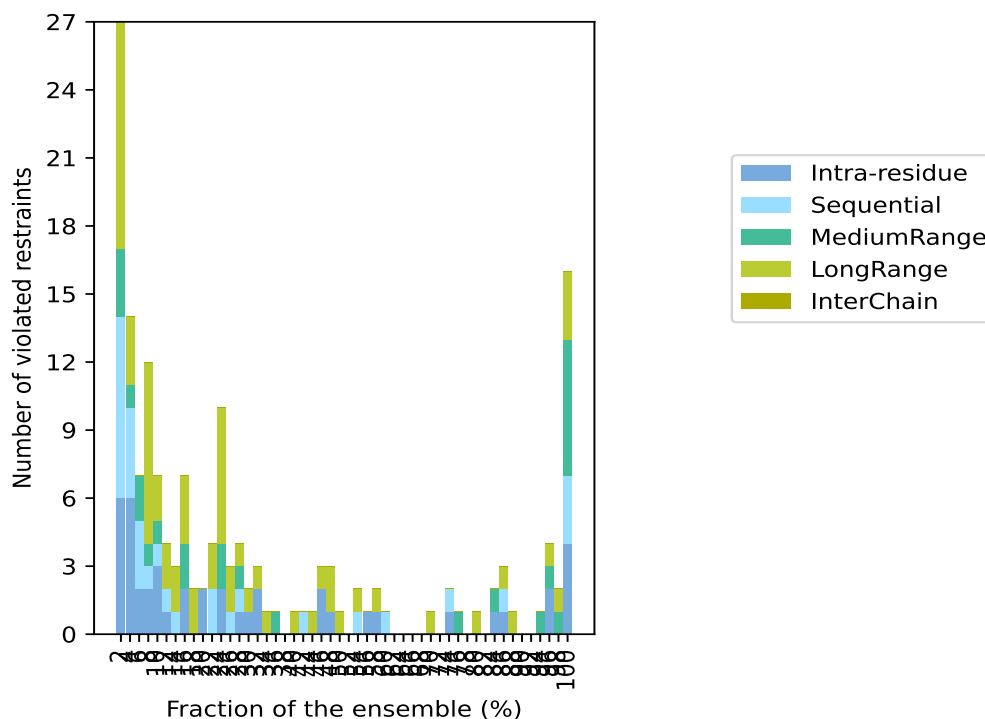
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| Number of violated restraints |                 |                 |                 |                 |       | Fraction of the ensemble |       |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-------|--------------------------|-------|
| IR <sup>1</sup>               | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> | Total | Count <sup>6</sup>       | %     |
| 0                             | 0               | 0               | 0               | 0               | 0     | 46                       | 92.0  |
| 0                             | 0               | 1               | 0               | 0               | 1     | 47                       | 94.0  |
| 2                             | 0               | 1               | 1               | 0               | 4     | 48                       | 96.0  |
| 0                             | 0               | 1               | 1               | 0               | 2     | 49                       | 98.0  |
| 4                             | 3               | 6               | 3               | 0               | 16    | 50                       | 100.0 |

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

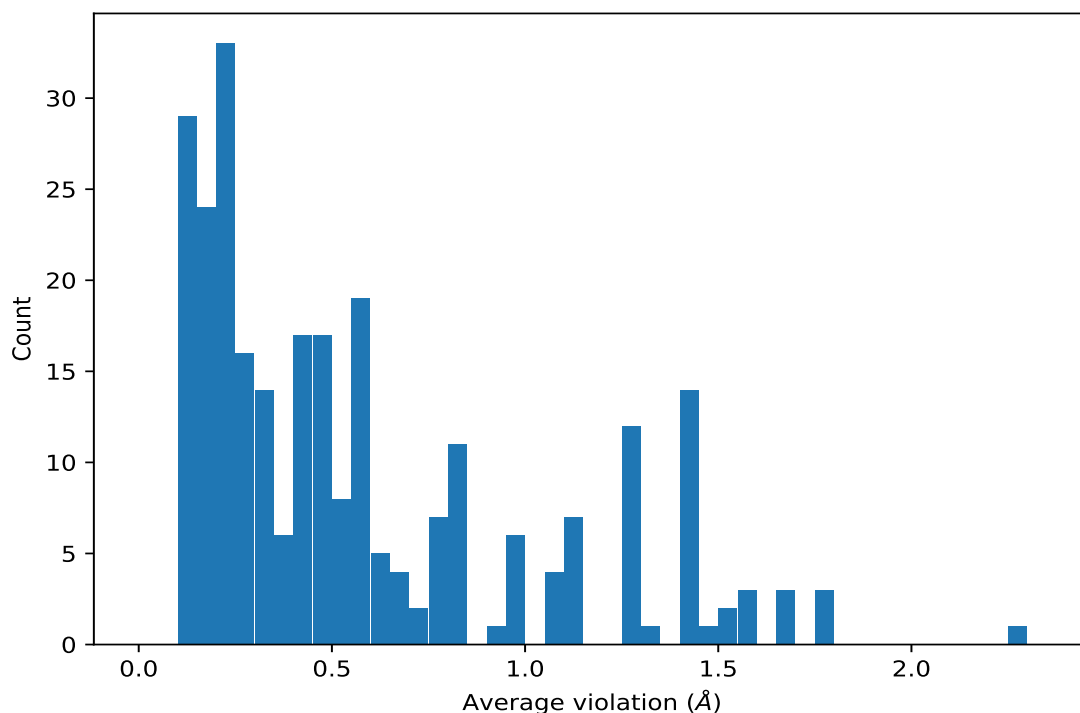
### 9.3.1 Bar graph : Distance violation statistics for the ensemble [\(i\)](#)



## 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 <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 50                  | 2.27     | 0.25                | 2.3        |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 50                  | 1.57     | 0.36                | 1.65       |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 50                  | 1.57     | 0.36                | 1.65       |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 50                  | 1.57     | 0.36                | 1.65       |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 50                  | 1.52     | 0.23                | 1.57       |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 50                  | 1.5      | 0.2                 | 1.51       |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 50                  | 1.49     | 0.05                | 1.48       |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 50                  | 1.41     | 0.36                | 1.46       |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 50                  | 1.27     | 0.43                | 1.17       |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 50                  | 1.27     | 0.43                | 1.17       |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 50                  | 1.27     | 0.43                | 1.17       |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 50                  | 1.26     | 0.1                 | 1.27       |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 50                  | 0.74     | 0.06                | 0.74       |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 50                  | 0.73     | 0.11                | 0.71       |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 50                  | 0.63     | 0.03                | 0.64       |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 50                  | 0.46     | 0.1                 | 0.48       |

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| Key     | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 50                  | 0.45     | 0.12                | 0.46       |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 50                  | 0.42     | 0.1                 | 0.42       |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 50                  | 0.3      | 0.04                | 0.29       |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 50                  | 0.21     | 0.02                | 0.21       |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 49                  | 0.92     | 0.25                | 0.94       |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 49                  | 0.7      | 0.22                | 0.71       |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 48                  | 0.83     | 0.02                | 0.83       |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 48                  | 0.83     | 0.02                | 0.83       |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2  | 48                  | 0.83     | 0.02                | 0.83       |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 48                  | 0.76     | 0.01                | 0.76       |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 48                  | 0.76     | 0.01                | 0.76       |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 48                  | 0.76     | 0.01                | 0.76       |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 48                  | 0.47     | 0.17                | 0.46       |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 48                  | 0.47     | 0.17                | 0.46       |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 48                  | 0.47     | 0.17                | 0.46       |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 48                  | 0.46     | 0.2                 | 0.48       |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 48                  | 0.46     | 0.2                 | 0.48       |
| (2,634) | 1:17:C:VAL:HG12 | 1:38:C:CYS:HB2  | 48                  | 0.46     | 0.2                 | 0.48       |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 48                  | 0.46     | 0.2                 | 0.48       |
| (2,634) | 1:17:C:VAL:HG11 | 1:38:C:CYS:HB2  | 48                  | 0.46     | 0.2                 | 0.48       |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 47                  | 1.1      | 0.16                | 1.12       |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 44                  | 0.59     | 0.28                | 0.59       |
| (2,704) | 1:34:C:PHE:HE2  | 1:25:C:LEU:HB3  | 44                  | 0.59     | 0.28                | 0.59       |
| (2,704) | 1:34:C:PHE:HE1  | 1:25:C:LEU:HB3  | 44                  | 0.59     | 0.28                | 0.59       |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 43                  | 0.98     | 0.63                | 1.4        |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 43                  | 0.98     | 0.63                | 1.4        |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 43                  | 0.98     | 0.63                | 1.4        |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 43                  | 0.82     | 0.21                | 0.81       |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 43                  | 0.15     | 0.02                | 0.15       |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 42                  | 0.55     | 0.48                | 0.29       |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 42                  | 0.55     | 0.48                | 0.29       |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 42                  | 0.55     | 0.48                | 0.29       |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 42                  | 0.19     | 0.02                | 0.19       |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 42                  | 0.19     | 0.02                | 0.19       |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 42                  | 0.19     | 0.02                | 0.19       |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 40                  | 0.47     | 0.11                | 0.48       |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 40                  | 0.47     | 0.11                | 0.48       |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 40                  | 0.47     | 0.11                | 0.48       |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 38                  | 0.57     | 0.22                | 0.64       |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 38                  | 0.57     | 0.22                | 0.64       |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 38                  | 0.57     | 0.22                | 0.64       |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 37                  | 0.53     | 0.12                | 0.55       |

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| Key     | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 37                  | 0.53     | 0.12                | 0.55       |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 37                  | 0.18     | 0.04                | 0.18       |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 35                  | 1.32     | 0.69                | 1.58       |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 30                  | 0.4      | 0.18                | 0.43       |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 29                  | 0.14     | 0.02                | 0.14       |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 29                  | 0.13     | 0.01                | 0.13       |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 28                  | 0.83     | 0.06                | 0.81       |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD22 | 27                  | 0.37     | 0.2                 | 0.38       |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD21 | 27                  | 0.37     | 0.2                 | 0.38       |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD21 | 27                  | 0.37     | 0.2                 | 0.38       |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD23 | 27                  | 0.37     | 0.2                 | 0.38       |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD22 | 27                  | 0.37     | 0.2                 | 0.38       |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD23 | 27                  | 0.37     | 0.2                 | 0.38       |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 27                  | 0.24     | 0.13                | 0.18       |
| (2,62)  | 1:17:C:VAL:HG11 | 1:18:C:CYS:HB2  | 27                  | 0.24     | 0.13                | 0.18       |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 27                  | 0.24     | 0.13                | 0.18       |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 25                  | 0.41     | 0.09                | 0.41       |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 25                  | 0.41     | 0.09                | 0.41       |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 24                  | 1.41     | 0.39                | 1.59       |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 24                  | 1.08     | 0.32                | 1.02       |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 24                  | 0.12     | 0.02                | 0.12       |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 23                  | 0.44     | 0.24                | 0.38       |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 23                  | 0.41     | 0.01                | 0.41       |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD22 | 23                  | 0.21     | 0.07                | 0.2        |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD12 | 23                  | 0.21     | 0.07                | 0.2        |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 23                  | 0.21     | 0.07                | 0.2        |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD13 | 23                  | 0.21     | 0.07                | 0.2        |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD23 | 23                  | 0.21     | 0.07                | 0.2        |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 22                  | 1.44     | 1.09                | 2.06       |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG23 | 22                  | 1.44     | 1.09                | 2.06       |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG21 | 22                  | 1.44     | 1.09                | 2.06       |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 21                  | 0.18     | 0.06                | 0.17       |
| (2,125) | 1:32:C:ALA:HB3  | 1:33:C:ALA:HA   | 21                  | 0.18     | 0.06                | 0.17       |
| (2,125) | 1:32:C:ALA:HB2  | 1:33:C:ALA:HA   | 21                  | 0.18     | 0.06                | 0.17       |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 20                  | 0.34     | 0.15                | 0.32       |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 18                  | 0.28     | 0.09                | 0.27       |
| (2,168) | 1:44:C:THR:HG22 | 1:46:C:ARG:HA   | 18                  | 0.28     | 0.09                | 0.27       |
| (2,168) | 1:44:C:THR:HG23 | 1:46:C:ARG:HA   | 18                  | 0.28     | 0.09                | 0.27       |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 17                  | 0.77     | 0.37                | 0.8        |
| (2,41)  | 1:9:C:LEU:HD11  | 1:9:C:LEU:HA    | 16                  | 1.41     | 0.33                | 1.5        |
| (2,41)  | 1:9:C:LEU:HD13  | 1:9:C:LEU:HA    | 16                  | 1.41     | 0.33                | 1.5        |
| (2,41)  | 1:9:C:LEU:HD12  | 1:9:C:LEU:HA    | 16                  | 1.41     | 0.33                | 1.5        |

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| Key     | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG21 | 16                  | 1.11     | 0.58                | 1.33       |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 16                  | 1.11     | 0.58                | 1.33       |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG23 | 16                  | 1.11     | 0.58                | 1.33       |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 16                  | 0.23     | 0.06                | 0.22       |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG2   | 16                  | 0.23     | 0.06                | 0.22       |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 15                  | 0.31     | 0.14                | 0.3        |
| (2,678) | 1:57:C:SER:HB2  | 1:52:C:ARG:HB3  | 15                  | 0.31     | 0.14                | 0.3        |
| (2,678) | 1:57:C:SER:HB2  | 1:52:C:ARG:HB2  | 15                  | 0.31     | 0.14                | 0.3        |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB3  | 15                  | 0.31     | 0.14                | 0.3        |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 15                  | 0.29     | 0.09                | 0.32       |
| (2,610) | 1:24:C:VAL:HG12 | 1:26:C:ARG:HD3  | 14                  | 1.45     | 0.57                | 1.59       |
| (2,610) | 1:24:C:VAL:HG11 | 1:26:C:ARG:HD3  | 14                  | 1.45     | 0.57                | 1.59       |
| (2,610) | 1:24:C:VAL:HG11 | 1:26:C:ARG:HD2  | 14                  | 1.45     | 0.57                | 1.59       |
| (2,610) | 1:24:C:VAL:HG12 | 1:26:C:ARG:HD2  | 14                  | 1.45     | 0.57                | 1.59       |
| (2,610) | 1:24:C:VAL:HG13 | 1:26:C:ARG:HD3  | 14                  | 1.45     | 0.57                | 1.59       |
| (2,610) | 1:24:C:VAL:HG13 | 1:26:C:ARG:HD2  | 14                  | 1.45     | 0.57                | 1.59       |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 14                  | 0.44     | 0.27                | 0.35       |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 14                  | 0.34     | 0.22                | 0.26       |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG2   | 14                  | 0.23     | 0.09                | 0.21       |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG3   | 14                  | 0.23     | 0.09                | 0.21       |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG21 | 13                  | 1.26     | 0.37                | 1.27       |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG22 | 13                  | 1.26     | 0.37                | 1.27       |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG23 | 13                  | 1.26     | 0.37                | 1.27       |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 13                  | 0.54     | 0.35                | 0.53       |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 13                  | 0.31     | 0.14                | 0.28       |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB3   | 13                  | 0.31     | 0.14                | 0.28       |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG22 | 12                  | 1.78     | 0.19                | 1.86       |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG23 | 12                  | 1.78     | 0.19                | 1.86       |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG21 | 12                  | 1.78     | 0.19                | 1.86       |
| (2,56)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HB2  | 12                  | 1.66     | 0.39                | 1.5        |
| (2,56)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB2  | 12                  | 1.66     | 0.39                | 1.5        |
| (2,56)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HB2  | 12                  | 1.66     | 0.39                | 1.5        |
| (2,55)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HB3  | 12                  | 1.25     | 0.34                | 1.24       |
| (2,55)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB3  | 12                  | 1.25     | 0.34                | 1.24       |
| (2,55)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HB3  | 12                  | 1.25     | 0.34                | 1.24       |
| (2,90)  | 1:24:C:VAL:HG23 | 1:24:C:VAL:HA   | 12                  | 1.15     | 0.03                | 1.13       |
| (2,90)  | 1:24:C:VAL:HG22 | 1:24:C:VAL:HA   | 12                  | 1.15     | 0.03                | 1.13       |
| (2,90)  | 1:24:C:VAL:HG21 | 1:24:C:VAL:HA   | 12                  | 1.15     | 0.03                | 1.13       |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG22 | 12                  | 1.08     | 0.14                | 1.08       |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG23 | 12                  | 1.08     | 0.14                | 1.08       |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG21 | 12                  | 1.08     | 0.14                | 1.08       |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG22 | 12                  | 0.68     | 0.28                | 0.77       |

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| Key     | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG23 | 12                  | 0.68     | 0.28                | 0.77       |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG21 | 12                  | 0.68     | 0.28                | 0.77       |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG23 | 12                  | 0.62     | 0.25                | 0.68       |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG21 | 12                  | 0.62     | 0.25                | 0.68       |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG22 | 12                  | 0.62     | 0.25                | 0.68       |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 12                  | 0.32     | 0.09                | 0.34       |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD23 | 12                  | 0.3      | 0.08                | 0.3        |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD21 | 12                  | 0.3      | 0.08                | 0.3        |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG23 | 12                  | 0.26     | 0.04                | 0.28       |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG22 | 12                  | 0.26     | 0.04                | 0.28       |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG21 | 12                  | 0.26     | 0.04                | 0.28       |
| (2,51)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HA   | 11                  | 0.82     | 0.41                | 0.82       |
| (2,51)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HA   | 11                  | 0.82     | 0.41                | 0.82       |
| (2,51)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HA   | 11                  | 0.82     | 0.41                | 0.82       |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG21 | 11                  | 0.48     | 0.12                | 0.47       |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG22 | 11                  | 0.48     | 0.12                | 0.47       |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG23 | 11                  | 0.48     | 0.12                | 0.47       |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD3  | 11                  | 0.4      | 0.23                | 0.35       |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD2  | 11                  | 0.4      | 0.23                | 0.35       |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 11                  | 0.18     | 0.03                | 0.18       |
| (2,181) | 1:49:C:THR:HG22 | 1:49:C:THR:HA   | 10                  | 0.6      | 0.02                | 0.6        |
| (2,181) | 1:49:C:THR:HG23 | 1:49:C:THR:HA   | 10                  | 0.6      | 0.02                | 0.6        |
| (2,181) | 1:49:C:THR:HG21 | 1:49:C:THR:HA   | 10                  | 0.6      | 0.02                | 0.6        |
| (2,593) | 1:6:C:GLN:HB2   | 1:6:C:GLN:HA    | 10                  | 0.12     | 0.01                | 0.12       |
| (2,593) | 1:7:C:GLN:HB2   | 1:7:C:GLN:HA    | 10                  | 0.12     | 0.01                | 0.12       |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 9                   | 0.44     | 0.23                | 0.56       |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB3  | 9                   | 0.21     | 0.07                | 0.18       |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB2  | 9                   | 0.21     | 0.07                | 0.18       |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB2  | 8                   | 0.56     | 0.12                | 0.6        |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB3  | 8                   | 0.56     | 0.12                | 0.6        |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB1  | 8                   | 0.56     | 0.12                | 0.6        |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG23 | 8                   | 0.51     | 0.03                | 0.5        |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG21 | 8                   | 0.51     | 0.03                | 0.5        |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG22 | 8                   | 0.51     | 0.03                | 0.5        |
| (2,614) | 1:14:C:ARG:HG2  | 1:21:C:GLY:HA2  | 8                   | 0.42     | 0.43                | 0.26       |
| (2,614) | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA2  | 8                   | 0.42     | 0.43                | 0.26       |
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA3  | 8                   | 0.42     | 0.33                | 0.28       |
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA2  | 8                   | 0.42     | 0.33                | 0.28       |
| (2,91)  | 1:24:C:VAL:HG22 | 1:14:C:ARG:HA   | 8                   | 0.31     | 0.13                | 0.28       |
| (2,91)  | 1:24:C:VAL:HG23 | 1:14:C:ARG:HA   | 8                   | 0.31     | 0.13                | 0.28       |
| (2,91)  | 1:24:C:VAL:HG21 | 1:14:C:ARG:HA   | 8                   | 0.31     | 0.13                | 0.28       |
| (2,85)  | 1:24:C:VAL:HG12 | 1:14:C:ARG:HA   | 8                   | 0.2      | 0.07                | 0.2        |

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| Key     | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (2,85)  | 1:24:C:VAL:HG13 | 1:14:C:ARG:HA   | 8                   | 0.2      | 0.07                | 0.2        |
| (2,85)  | 1:24:C:VAL:HG11 | 1:14:C:ARG:HA   | 8                   | 0.2      | 0.07                | 0.2        |
| (2,352) | 1:34:C:PHE:HE1  | 1:34:C:PHE:H    | 8                   | 0.16     | 0.03                | 0.18       |
| (2,352) | 1:34:C:PHE:HE2  | 1:34:C:PHE:H    | 8                   | 0.16     | 0.03                | 0.18       |
| (2,693) | 1:49:C:THR:HG21 | 1:48:C:GLY:HA3  | 7                   | 0.84     | 0.31                | 0.99       |
| (2,693) | 1:49:C:THR:HG22 | 1:48:C:GLY:HA3  | 7                   | 0.84     | 0.31                | 0.99       |
| (2,693) | 1:49:C:THR:HG23 | 1:48:C:GLY:HA3  | 7                   | 0.84     | 0.31                | 0.99       |
| (2,68)  | 1:14:C:ARG:HG2  | 1:20:C:ASP:HA   | 7                   | 0.48     | 0.32                | 0.59       |
| (2,575) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HB2  | 7                   | 0.35     | 0.18                | 0.36       |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG11 | 6                   | 0.23     | 0.14                | 0.16       |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG13 | 6                   | 0.23     | 0.14                | 0.16       |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG23 | 6                   | 0.23     | 0.14                | 0.16       |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG21 | 6                   | 0.23     | 0.14                | 0.16       |
| (2,624) | 1:33:C:ALA:HA   | 1:26:C:ARG:HD3  | 6                   | 0.18     | 0.07                | 0.16       |
| (2,624) | 1:33:C:ALA:HA   | 1:26:C:ARG:HD2  | 6                   | 0.18     | 0.07                | 0.16       |
| (2,456) | 1:30:C:CYS:H    | 1:30:C:CYS:HB3  | 6                   | 0.15     | 0.02                | 0.15       |
| (2,706) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HG   | 6                   | 0.13     | 0.03                | 0.12       |
| (2,706) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HG   | 6                   | 0.13     | 0.03                | 0.12       |
| (2,522) | 1:46:C:ARG:H    | 1:46:C:ARG:HB3  | 5                   | 0.63     | 0.02                | 0.64       |
| (2,260) | 1:39:C:HIS:HD2  | 1:17:C:VAL:HG22 | 5                   | 0.28     | 0.06                | 0.25       |
| (2,260) | 1:39:C:HIS:HD2  | 1:17:C:VAL:HG23 | 5                   | 0.28     | 0.06                | 0.25       |
| (2,260) | 1:39:C:HIS:HD2  | 1:17:C:VAL:HG21 | 5                   | 0.28     | 0.06                | 0.25       |
| (2,223) | 1:61:C:THR:HG21 | 1:61:C:THR:HA   | 5                   | 0.2      | 0.02                | 0.2        |
| (2,223) | 1:61:C:THR:HG23 | 1:61:C:THR:HA   | 5                   | 0.2      | 0.02                | 0.2        |
| (2,223) | 1:61:C:THR:HG22 | 1:61:C:THR:HA   | 5                   | 0.2      | 0.02                | 0.2        |
| (2,86)  | 1:24:C:VAL:HG12 | 1:21:C:GLY:HA2  | 5                   | 0.18     | 0.04                | 0.18       |
| (2,86)  | 1:24:C:VAL:HG13 | 1:21:C:GLY:HA2  | 5                   | 0.18     | 0.04                | 0.18       |
| (2,86)  | 1:24:C:VAL:HG11 | 1:21:C:GLY:HA2  | 5                   | 0.18     | 0.04                | 0.18       |
| (2,395) | 1:17:C:VAL:H    | 1:18:C:CYS:HB2  | 5                   | 0.15     | 0.02                | 0.16       |
| (2,448) | 1:28:C:THR:H    | 1:51:C:LEU:HD22 | 5                   | 0.13     | 0.02                | 0.13       |
| (2,448) | 1:28:C:THR:H    | 1:51:C:LEU:HD21 | 5                   | 0.13     | 0.02                | 0.13       |
| (2,448) | 1:28:C:THR:H    | 1:51:C:LEU:HD23 | 5                   | 0.13     | 0.02                | 0.13       |
| (2,40)  | 1:9:C:LEU:HD22  | 1:9:C:LEU:HA    | 5                   | 0.12     | 0.02                | 0.13       |
| (2,40)  | 1:9:C:LEU:HD23  | 1:9:C:LEU:HA    | 5                   | 0.12     | 0.02                | 0.13       |
| (2,366) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG13 | 4                   | 0.55     | 0.13                | 0.52       |
| (2,366) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG11 | 4                   | 0.55     | 0.13                | 0.52       |
| (2,581) | 1:49:C:THR:H    | 1:49:C:THR:HG21 | 4                   | 0.54     | 0.1                 | 0.5        |
| (2,581) | 1:49:C:THR:H    | 1:49:C:THR:HG22 | 4                   | 0.54     | 0.1                 | 0.5        |
| (2,584) | 1:34:C:PHE:HE1  | 1:39:C:HIS:HE1  | 4                   | 0.42     | 0.24                | 0.42       |
| (2,584) | 1:34:C:PHE:HE2  | 1:39:C:HIS:HE1  | 4                   | 0.42     | 0.24                | 0.42       |
| (2,420) | 1:21:C:GLY:H    | 1:24:C:VAL:HG22 | 4                   | 0.27     | 0.09                | 0.31       |
| (2,420) | 1:21:C:GLY:H    | 1:24:C:VAL:HG21 | 4                   | 0.27     | 0.09                | 0.31       |

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| Key     | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (2,126) | 1:13:C:ALA:HA   | 1:33:C:ALA:HB1  | 4                   | 0.23     | 0.07                | 0.24       |
| (2,126) | 1:13:C:ALA:HA   | 1:33:C:ALA:HB2  | 4                   | 0.23     | 0.07                | 0.24       |
| (2,38)  | 1:54:C:ARG:HG2  | 1:40:C:PHE:HE1  | 4                   | 0.22     | 0.06                | 0.22       |
| (2,38)  | 1:54:C:ARG:HG2  | 1:40:C:PHE:HE2  | 4                   | 0.22     | 0.06                | 0.22       |
| (2,246) | 1:32:C:ALA:HB1  | 1:27:C:CYS:HB3  | 4                   | 0.2      | 0.08                | 0.18       |
| (2,701) | 1:34:C:PHE:HE1  | 1:27:C:CYS:HA   | 4                   | 0.19     | 0.06                | 0.16       |
| (2,244) | 1:33:C:ALA:HB1  | 1:24:C:VAL:HB   | 4                   | 0.18     | 0.05                | 0.2        |
| (2,244) | 1:33:C:ALA:HB2  | 1:24:C:VAL:HB   | 4                   | 0.18     | 0.05                | 0.2        |
| (2,663) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 4                   | 0.13     | 0.02                | 0.13       |
| (2,663) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB3  | 4                   | 0.13     | 0.02                | 0.13       |
| (2,385) | 1:12:C:GLY:H    | 1:11:C:PRO:HA   | 4                   | 0.12     | 0.03                | 0.11       |
| (2,544) | 1:60:C:VAL:H    | 1:60:C:VAL:HB   | 4                   | 0.12     | 0.03                | 0.11       |
| (2,116) | 1:28:C:THR:HG21 | 1:28:C:THR:HA   | 3                   | 0.76     | 0.03                | 0.75       |
| (2,116) | 1:28:C:THR:HG22 | 1:28:C:THR:HA   | 3                   | 0.76     | 0.03                | 0.75       |
| (2,116) | 1:28:C:THR:HG23 | 1:28:C:THR:HA   | 3                   | 0.76     | 0.03                | 0.75       |
| (2,615) | 1:26:C:ARG:HD3  | 1:24:C:VAL:HG22 | 3                   | 0.22     | 0.08                | 0.22       |
| (2,615) | 1:26:C:ARG:HD2  | 1:24:C:VAL:HG23 | 3                   | 0.22     | 0.08                | 0.22       |
| (2,615) | 1:26:C:ARG:HD2  | 1:24:C:VAL:HG22 | 3                   | 0.22     | 0.08                | 0.22       |
| (2,371) | 1:23:C:ASP:H    | 1:22:C:THR:HG21 | 3                   | 0.19     | 0.05                | 0.2        |
| (2,371) | 1:23:C:ASP:H    | 1:22:C:THR:HG23 | 3                   | 0.19     | 0.05                | 0.2        |
| (2,524) | 1:50:C:GLY:H    | 1:49:C:THR:HA   | 3                   | 0.15     | 0.02                | 0.15       |
| (2,543) | 1:60:C:VAL:H    | 1:59:C:ASP:HA   | 3                   | 0.13     | 0.03                | 0.13       |
| (2,458) | 1:30:C:CYS:H    | 1:28:C:THR:HG22 | 3                   | 0.13     | 0.02                | 0.12       |
| (2,458) | 1:30:C:CYS:H    | 1:28:C:THR:HG21 | 3                   | 0.13     | 0.02                | 0.12       |
| (2,458) | 1:30:C:CYS:H    | 1:28:C:THR:HG23 | 3                   | 0.13     | 0.02                | 0.12       |
| (2,190) | 1:52:C:ARG:HA   | 1:52:C:ARG:HG3  | 3                   | 0.12     | 0.02                | 0.12       |
| (2,703) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD12 | 2                   | 1.28     | 0.16                | 1.28       |
| (2,703) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD13 | 2                   | 1.28     | 0.16                | 1.28       |
| (2,264) | 1:52:C:ARG:H    | 1:51:C:LEU:HD11 | 2                   | 0.99     | 0.09                | 0.99       |
| (2,264) | 1:52:C:ARG:H    | 1:51:C:LEU:HD12 | 2                   | 0.99     | 0.09                | 0.99       |
| (2,455) | 1:30:C:CYS:H    | 1:29:C:HIS:HB2  | 2                   | 0.98     | 0.04                | 0.98       |
| (2,185) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HA   | 2                   | 0.55     | 0.02                | 0.55       |
| (2,185) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HA   | 2                   | 0.55     | 0.02                | 0.55       |
| (2,186) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HA   | 2                   | 0.42     | 0.01                | 0.42       |
| (2,453) | 1:29:C:HIS:H    | 1:29:C:HIS:HD2  | 2                   | 0.33     | 0.03                | 0.33       |
| (2,757) | 1:54:C:ARG:H    | 1:54:C:ARG:HG2  | 2                   | 0.28     | 0.04                | 0.28       |
| (2,576) | 1:61:C:THR:H    | 1:59:C:ASP:HB2  | 2                   | 0.19     | 0.01                | 0.19       |
| (2,327) | 1:36:C:TRP:HZ2  | 1:51:C:LEU:HD11 | 2                   | 0.16     | 0.01                | 0.16       |
| (2,327) | 1:36:C:TRP:HZ2  | 1:51:C:LEU:HD12 | 2                   | 0.16     | 0.01                | 0.16       |
| (2,281) | 1:66:C:GLU:H    | 1:65:C:VAL:HA   | 2                   | 0.16     | 0.04                | 0.16       |
| (2,164) | 1:45:C:SER:HB3  | 1:44:C:THR:HG22 | 2                   | 0.15     | 0.02                | 0.15       |
| (2,727) | 1:14:C:ARG:H    | 1:14:C:ARG:HB3  | 2                   | 0.14     | 0.01                | 0.14       |

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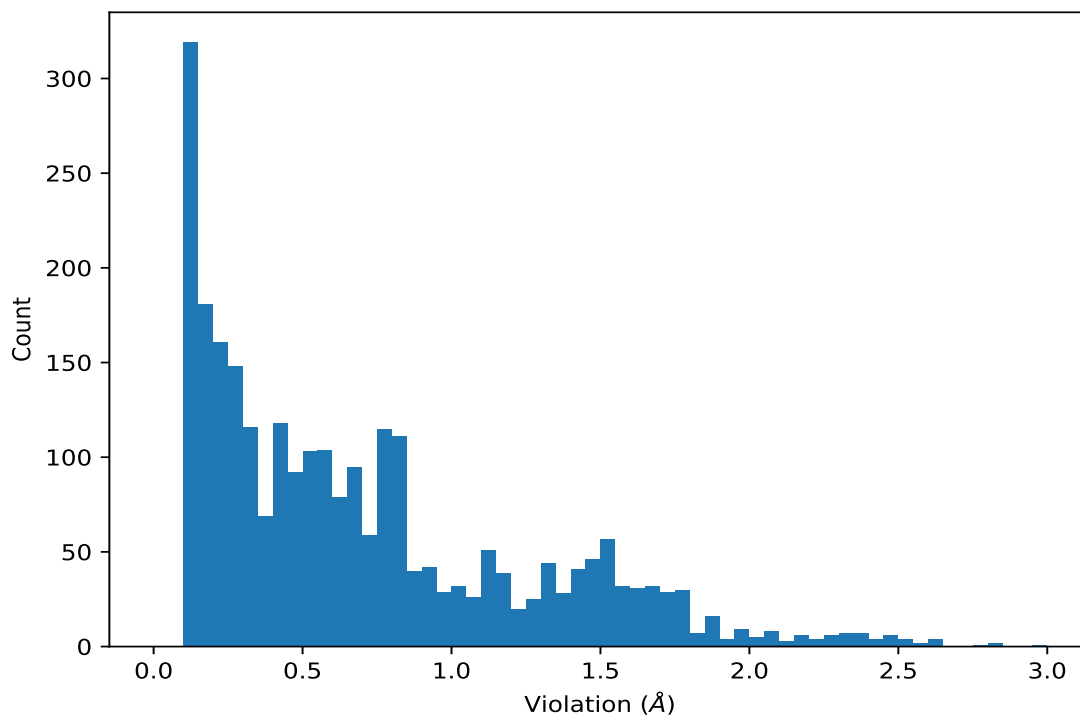
| Key     | Atom-1         | Atom-2         | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|----------------|----------------|---------------------|----------|---------------------|------------|
| (2,772) | 1:57:C:SER:H   | 1:57:C:SER:HB3 | 2                   | 0.13     | 0.02                | 0.13       |
| (2,149) | 1:38:C:CYS:HB3 | 1:17:C:VAL:HB  | 2                   | 0.11     | 0.01                | 0.11       |

<sup>1</sup>Number of violated models, <sup>2</sup>Standard 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) |
|---------|-----------------|-----------------|----------|---------------|
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 49       | 3.0           |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG21 | 33       | 2.84          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 36       | 2.82          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG21 | 27       | 2.77          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG23 | 31       | 2.65          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 6        | 2.62          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 21       | 2.62          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 44       | 2.61          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 24       | 2.56          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 14       | 2.56          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 49       | 2.55          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 17       | 2.54          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 43       | 2.54          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 5        | 2.53          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 48       | 2.49          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 15       | 2.49          |
| (2,610) | 1:24:C:VAL:HG12 | 1:26:C:ARG:HD3  | 42       | 2.48          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 37       | 2.47          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 11       | 2.45          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 24       | 2.45          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 8        | 2.44          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 16       | 2.43          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 11       | 2.41          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 27       | 2.41          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 48       | 2.39          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 39       | 2.38          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 47       | 2.38          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 6        | 2.37          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 7        | 2.36          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 1        | 2.36          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 2        | 2.36          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 22       | 2.34          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 41       | 2.34          |
| (2,56)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB2  | 24       | 2.33          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 25       | 2.32          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 10       | 2.31          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 4        | 2.31          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 9        | 2.31          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 30       | 2.3           |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 37       | 2.3           |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 33       | 2.28          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 19       | 2.26          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 34       | 2.25          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 45       | 2.25          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 35       | 2.24          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG21 | 30       | 2.23          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG23 | 42       | 2.21          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 23       | 2.21          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG23 | 22       | 2.17          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 32       | 2.17          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 40       | 2.17          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 42       | 2.17          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 18       | 2.16          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 10       | 2.15          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 28       | 2.14          |
| (2,56)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HB2  | 22       | 2.13          |
| (2,56)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HB2  | 31       | 2.1           |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 7        | 2.09          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 20       | 2.09          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 35       | 2.07          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 10       | 2.07          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 15       | 2.07          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 29       | 2.07          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 34       | 2.06          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 44       | 2.06          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 5        | 2.05          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG21 | 22       | 2.04          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 46       | 2.04          |
| (2,56)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HB2  | 27       | 2.03          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 38       | 2.01          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 46       | 1.99          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG23 | 11       | 1.98          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 28       | 1.98          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 5        | 1.98          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 20       | 1.97          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 49       | 1.97          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 13       | 1.97          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 41       | 1.96          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 34       | 1.96          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 5        | 1.95          |
| (2,610) | 1:24:C:VAL:HG12 | 1:26:C:ARG:HD3  | 48       | 1.92          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 27       | 1.92          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 9        | 1.91          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG23 | 5        | 1.9           |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 18       | 1.9           |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG23 | 10       | 1.89          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 1        | 1.89          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 20       | 1.89          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 44       | 1.89          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG21 | 31       | 1.88          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG23 | 48       | 1.88          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 3        | 1.87          |
| (2,56)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB2  | 10       | 1.87          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 16       | 1.86          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 36       | 1.86          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG21 | 33       | 1.85          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 23       | 1.85          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 19       | 1.85          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 47       | 1.85          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG21 | 42       | 1.84          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 24       | 1.82          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 2        | 1.82          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 30       | 1.82          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 32       | 1.81          |
| (2,55)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB3  | 24       | 1.81          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG23 | 7        | 1.8           |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 21       | 1.79          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 31       | 1.79          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 12       | 1.79          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 26       | 1.79          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 50       | 1.79          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 28       | 1.79          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 35       | 1.79          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 45       | 1.79          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 7        | 1.78          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 11       | 1.78          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 12       | 1.78          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 38       | 1.78          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 32       | 1.78          |
| (2,610) | 1:24:C:VAL:HG13 | 1:26:C:ARG:HD3  | 30       | 1.77          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 38       | 1.77          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 41       | 1.77          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 38       | 1.77          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 47       | 1.77          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 6        | 1.77          |
| (2,610) | 1:24:C:VAL:HG13 | 1:26:C:ARG:HD3  | 11       | 1.76          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 4        | 1.76          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 17       | 1.76          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 24       | 1.76          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 3        | 1.76          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 45       | 1.76          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 46       | 1.75          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 37       | 1.75          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 12       | 1.75          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 32       | 1.75          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 4        | 1.75          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 23       | 1.74          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 34       | 1.74          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 3        | 1.74          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 24       | 1.74          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 15       | 1.74          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 17       | 1.74          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 9        | 1.74          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 16       | 1.74          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 32       | 1.74          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 35       | 1.74          |
| (2,610) | 1:24:C:VAL:HG11 | 1:26:C:ARG:HD3  | 27       | 1.73          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 7        | 1.73          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 31       | 1.73          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 46       | 1.73          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 14       | 1.73          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 48       | 1.72          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 26       | 1.72          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 3        | 1.72          |
| (2,112) | 1:53:C:CYS:HB2  | 1:27:C:CYS:HB3  | 31       | 1.72          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 19       | 1.72          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 33       | 1.72          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 30       | 1.71          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 32       | 1.71          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 10       | 1.71          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 18       | 1.71          |
| (2,55)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HB3  | 31       | 1.71          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 8        | 1.71          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 27       | 1.71          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 40       | 1.71          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 43       | 1.7           |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 22       | 1.7           |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 46       | 1.7           |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 19       | 1.7           |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 20       | 1.7           |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 38       | 1.7           |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 13       | 1.7           |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 28       | 1.7           |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 48       | 1.69          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 2        | 1.69          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 14       | 1.69          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 21       | 1.69          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 29       | 1.69          |
| (2,610) | 1:24:C:VAL:HG12 | 1:26:C:ARG:HD3  | 33       | 1.68          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG22 | 27       | 1.68          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG22 | 30       | 1.68          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 20       | 1.68          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 45       | 1.68          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 19       | 1.68          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 1        | 1.68          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 17       | 1.67          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 40       | 1.67          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 39       | 1.67          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 28       | 1.67          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 38       | 1.67          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG22 | 7        | 1.66          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 25       | 1.66          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 28       | 1.66          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 39       | 1.66          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 18       | 1.66          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 23       | 1.66          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 46       | 1.66          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 14       | 1.65          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 17       | 1.65          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 39       | 1.65          |
| (2,610) | 1:24:C:VAL:HG12 | 1:26:C:ARG:HD2  | 22       | 1.64          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG22 | 48       | 1.64          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 50       | 1.64          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 50       | 1.64          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 26       | 1.64          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 8        | 1.63          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 10       | 1.63          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 1        | 1.63          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 1        | 1.63          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 42       | 1.63          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 5        | 1.63          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 34       | 1.63          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 3        | 1.62          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 15       | 1.62          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 38       | 1.62          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 34       | 1.62          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 35       | 1.62          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 48       | 1.61          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 14       | 1.61          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 6        | 1.61          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 31       | 1.61          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 48       | 1.61          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 41       | 1.61          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 15       | 1.6           |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 11       | 1.6           |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 31       | 1.6           |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 10       | 1.6           |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 47       | 1.6           |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 26       | 1.59          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 34       | 1.59          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 6        | 1.59          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 8        | 1.59          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 43       | 1.59          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 12       | 1.58          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 2        | 1.58          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 11       | 1.58          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 4        | 1.58          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 12       | 1.58          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 37       | 1.57          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 6        | 1.57          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 29       | 1.57          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 18       | 1.57          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 27       | 1.57          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 38       | 1.57          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 10       | 1.57          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 24       | 1.57          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 7        | 1.56          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG21 | 27       | 1.56          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 4        | 1.56          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 42       | 1.56          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 21       | 1.56          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 6        | 1.56          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 45       | 1.56          |
| (2,41)  | 1:9:C:LEU:HD12  | 1:9:C:LEU:HA    | 24       | 1.56          |

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| Key     | Atom-1          | Atom-2         | Model ID | Violation (Å) |
|---------|-----------------|----------------|----------|---------------|
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3 | 7        | 1.56          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 6        | 1.55          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 11       | 1.55          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 13       | 1.55          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 41       | 1.55          |
| (2,41)  | 1:9:C:LEU:HD12  | 1:9:C:LEU:HA   | 27       | 1.55          |
| (2,610) | 1:24:C:VAL:HG13 | 1:26:C:ARG:HD2 | 31       | 1.54          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 31       | 1.54          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3 | 10       | 1.54          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3 | 37       | 1.54          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3 | 14       | 1.54          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 1        | 1.53          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 49       | 1.53          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 50       | 1.53          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3 | 35       | 1.53          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3 | 9        | 1.53          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA  | 15       | 1.53          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA  | 21       | 1.53          |
| (2,55)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HB3 | 27       | 1.53          |
| (2,41)  | 1:9:C:LEU:HD11  | 1:9:C:LEU:HA   | 15       | 1.53          |
| (2,41)  | 1:9:C:LEU:HD11  | 1:9:C:LEU:HA   | 17       | 1.53          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3 | 31       | 1.53          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3 | 48       | 1.53          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 3        | 1.52          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 4        | 1.52          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 43       | 1.52          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 46       | 1.52          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3 | 21       | 1.52          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA  | 21       | 1.52          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA  | 44       | 1.52          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA  | 36       | 1.52          |
| (2,41)  | 1:9:C:LEU:HD12  | 1:9:C:LEU:HA   | 26       | 1.52          |
| (2,41)  | 1:9:C:LEU:HD13  | 1:9:C:LEU:HA   | 35       | 1.52          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3 | 20       | 1.52          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 5        | 1.51          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 17       | 1.51          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 18       | 1.51          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 25       | 1.51          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2 | 42       | 1.51          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3 | 9        | 1.51          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3 | 19       | 1.51          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3 | 39       | 1.51          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 2        | 1.51          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 7        | 1.51          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 8        | 1.51          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 30       | 1.51          |
| (2,55)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB3  | 10       | 1.51          |
| (2,51)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HA   | 22       | 1.51          |
| (2,41)  | 1:9:C:LEU:HD13  | 1:9:C:LEU:HA    | 30       | 1.51          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 37       | 1.51          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 2        | 1.5           |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 15       | 1.5           |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 29       | 1.5           |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 32       | 1.5           |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 47       | 1.5           |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 4        | 1.5           |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 43       | 1.5           |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 19       | 1.5           |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 22       | 1.5           |
| (2,56)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB2  | 11       | 1.5           |
| (2,41)  | 1:9:C:LEU:HD11  | 1:9:C:LEU:HA    | 2        | 1.5           |
| (2,41)  | 1:9:C:LEU:HD13  | 1:9:C:LEU:HA    | 38       | 1.5           |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 11       | 1.5           |
| (2,610) | 1:24:C:VAL:HG12 | 1:26:C:ARG:HD2  | 7        | 1.49          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 22       | 1.49          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 11       | 1.49          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 15       | 1.49          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 37       | 1.49          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 44       | 1.49          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 45       | 1.49          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 49       | 1.49          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 43       | 1.49          |
| (2,56)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HB2  | 33       | 1.49          |
| (2,41)  | 1:9:C:LEU:HD11  | 1:9:C:LEU:HA    | 42       | 1.49          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 15       | 1.49          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 7        | 1.48          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 19       | 1.48          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 20       | 1.48          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 24       | 1.48          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 27       | 1.48          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 38       | 1.48          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 45       | 1.48          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 34       | 1.48          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 47       | 1.48          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 8        | 1.48          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 13       | 1.48          |
| (2,41)  | 1:9:C:LEU:HD11  | 1:9:C:LEU:HA    | 20       | 1.48          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 9        | 1.47          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 28       | 1.47          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 36       | 1.47          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 39       | 1.47          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG22 | 11       | 1.47          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG21 | 30       | 1.47          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 26       | 1.47          |
| (2,41)  | 1:9:C:LEU:HD12  | 1:9:C:LEU:HA    | 19       | 1.47          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 42       | 1.47          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 27       | 1.46          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 21       | 1.46          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 23       | 1.46          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 32       | 1.46          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 33       | 1.46          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 16       | 1.46          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 33       | 1.46          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 48       | 1.46          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 37       | 1.46          |
| (2,56)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB2  | 7        | 1.46          |
| (2,56)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HB2  | 42       | 1.46          |
| (2,41)  | 1:9:C:LEU:HD11  | 1:9:C:LEU:HA    | 33       | 1.46          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 25       | 1.46          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 5        | 1.45          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 31       | 1.45          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 30       | 1.45          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 35       | 1.45          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG22 | 10       | 1.45          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG21 | 30       | 1.45          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 33       | 1.45          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 46       | 1.45          |
| (2,55)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HB3  | 22       | 1.45          |
| (2,41)  | 1:9:C:LEU:HD12  | 1:9:C:LEU:HA    | 29       | 1.45          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 43       | 1.45          |
| (2,703) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD12 | 49       | 1.44          |
| (2,614) | 1:14:C:ARG:HG2  | 1:21:C:GLY:HA2  | 13       | 1.44          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 10       | 1.44          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 16       | 1.44          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 40       | 1.44          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 47       | 1.44          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 48       | 1.44          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 6        | 1.44          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 40       | 1.44          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 49       | 1.44          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 50       | 1.44          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 33       | 1.43          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 8        | 1.43          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG23 | 31       | 1.43          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 22       | 1.43          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 29       | 1.43          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 35       | 1.43          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 5        | 1.43          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 33       | 1.43          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 21       | 1.43          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 29       | 1.43          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 44       | 1.42          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 48       | 1.42          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG23 | 24       | 1.42          |
| (2,415) | 1:20:C:ASP:H    | 1:24:C:VAL:HG22 | 33       | 1.42          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 29       | 1.42          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 30       | 1.41          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 10       | 1.41          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 3        | 1.41          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 16       | 1.41          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 41       | 1.4           |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 10       | 1.4           |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 9        | 1.4           |
| (2,610) | 1:24:C:VAL:HG11 | 1:26:C:ARG:HD2  | 5        | 1.39          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 40       | 1.39          |
| (2,461) | 1:31:C:ALA:H    | 1:27:C:CYS:HB2  | 14       | 1.39          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 1        | 1.39          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 15       | 1.39          |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG23 | 24       | 1.39          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 13       | 1.38          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 48       | 1.38          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 38       | 1.37          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 25       | 1.37          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 23       | 1.37          |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 11       | 1.37          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 3        | 1.37          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 22       | 1.37          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 6        | 1.36          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 11       | 1.36          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 50       | 1.36          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 45       | 1.36          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 42       | 1.35          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG22 | 5        | 1.35          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 11       | 1.35          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 46       | 1.35          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 33       | 1.35          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 21       | 1.35          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 22       | 1.35          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 24       | 1.34          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 22       | 1.34          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 16       | 1.34          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 39       | 1.34          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 42       | 1.34          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 50       | 1.34          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 20       | 1.34          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 25       | 1.34          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 27       | 1.34          |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 5        | 1.34          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 36       | 1.34          |
| (2,55)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HB3  | 33       | 1.34          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 7        | 1.33          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 25       | 1.33          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 36       | 1.33          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 5        | 1.33          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 23       | 1.33          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 32       | 1.33          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 17       | 1.33          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 15       | 1.33          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 4        | 1.33          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 26       | 1.33          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 19       | 1.33          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 16       | 1.32          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 22       | 1.32          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 37       | 1.32          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 10       | 1.32          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 17       | 1.32          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 24       | 1.32          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 12       | 1.31          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 24       | 1.31          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 29       | 1.31          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 30       | 1.31          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 7        | 1.31          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 49       | 1.31          |
| (2,56)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB2  | 48       | 1.31          |
| (2,41)  | 1:9:C:LEU:HD12  | 1:9:C:LEU:HA    | 16       | 1.31          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 44       | 1.31          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 38       | 1.3           |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 45       | 1.3           |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 49       | 1.3           |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 50       | 1.3           |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 2        | 1.3           |
| (2,51)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HA   | 10       | 1.3           |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 39       | 1.29          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 44       | 1.29          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 10       | 1.28          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 10       | 1.28          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 25       | 1.28          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 2        | 1.27          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG22 | 24       | 1.27          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 30       | 1.27          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 48       | 1.27          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 43       | 1.27          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 40       | 1.27          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 23       | 1.27          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 41       | 1.27          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 3        | 1.26          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 4        | 1.26          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 16       | 1.26          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 6        | 1.26          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 9        | 1.25          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 41       | 1.25          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG23 | 42       | 1.25          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 13       | 1.25          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 50       | 1.25          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 40       | 1.25          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 30       | 1.25          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 42       | 1.25          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 44       | 1.24          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG23 | 42       | 1.24          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 43       | 1.24          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 42       | 1.24          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 37       | 1.24          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 7        | 1.24          |
| (2,610) | 1:24:C:VAL:HG13 | 1:26:C:ARG:HD3  | 10       | 1.23          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 30       | 1.23          |
| (2,56)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB2  | 5        | 1.23          |
| (2,693) | 1:49:C:THR:HG21 | 1:48:C:GLY:HA3  | 5        | 1.22          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 8        | 1.22          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 49       | 1.22          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 32       | 1.22          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 9        | 1.21          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 15       | 1.21          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 17       | 1.21          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 48       | 1.21          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 10       | 1.21          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 23       | 1.21          |
| (2,90)  | 1:24:C:VAL:HG23 | 1:24:C:VAL:HA   | 33       | 1.21          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 27       | 1.2           |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 13       | 1.2           |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 20       | 1.2           |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 35       | 1.2           |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 20       | 1.2           |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 4        | 1.2           |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG23 | 10       | 1.2           |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG22 | 30       | 1.2           |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 43       | 1.19          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG23 | 22       | 1.19          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG23 | 31       | 1.19          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 45       | 1.19          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 22       | 1.19          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 31       | 1.19          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 1        | 1.18          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 14       | 1.18          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 18       | 1.18          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 28       | 1.18          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 28       | 1.18          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 20       | 1.18          |
| (2,90)  | 1:24:C:VAL:HG21 | 1:24:C:VAL:HA   | 30       | 1.18          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 36       | 1.18          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 8        | 1.17          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 46       | 1.17          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG21 | 33       | 1.17          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 9        | 1.17          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 7        | 1.17          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 34       | 1.17          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 46       | 1.17          |
| (2,704) | 1:34:C:PHE:HE2  | 1:25:C:LEU:HB3  | 24       | 1.16          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 5        | 1.16          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 30       | 1.16          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 39       | 1.16          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 26       | 1.16          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 29       | 1.16          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 16       | 1.16          |
| (2,90)  | 1:24:C:VAL:HG22 | 1:24:C:VAL:HA   | 10       | 1.16          |
| (2,90)  | 1:24:C:VAL:HG22 | 1:24:C:VAL:HA   | 24       | 1.16          |
| (2,90)  | 1:24:C:VAL:HG22 | 1:24:C:VAL:HA   | 48       | 1.16          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 23       | 1.15          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 47       | 1.15          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 12       | 1.15          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 30       | 1.15          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 19       | 1.14          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 21       | 1.14          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 37       | 1.14          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 47       | 1.14          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 19       | 1.14          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 36       | 1.14          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 24       | 1.14          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 7        | 1.14          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 39       | 1.14          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 44       | 1.14          |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 24       | 1.14          |
| (2,90)  | 1:24:C:VAL:HG21 | 1:24:C:VAL:HA   | 27       | 1.14          |
| (2,55)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HB3  | 42       | 1.14          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 34       | 1.13          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG21 | 27       | 1.13          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 4        | 1.13          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 26       | 1.13          |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG23 | 7        | 1.13          |
| (2,90)  | 1:24:C:VAL:HG22 | 1:24:C:VAL:HA   | 11       | 1.13          |
| (2,90)  | 1:24:C:VAL:HG23 | 1:24:C:VAL:HA   | 31       | 1.13          |
| (2,703) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD13 | 37       | 1.12          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 24       | 1.12          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG21 | 24       | 1.12          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 12       | 1.12          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 35       | 1.12          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 48       | 1.12          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 40       | 1.12          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 36       | 1.12          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 44       | 1.12          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 11       | 1.12          |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG23 | 48       | 1.12          |
| (2,90)  | 1:24:C:VAL:HG22 | 1:24:C:VAL:HA   | 7        | 1.12          |
| (2,90)  | 1:24:C:VAL:HG23 | 1:24:C:VAL:HA   | 22       | 1.12          |
| (2,90)  | 1:24:C:VAL:HG23 | 1:24:C:VAL:HA   | 42       | 1.12          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 45       | 1.12          |
| (2,51)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HA   | 24       | 1.12          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 6        | 1.11          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 34       | 1.11          |
| (2,90)  | 1:24:C:VAL:HG22 | 1:24:C:VAL:HA   | 5        | 1.11          |
| (2,693) | 1:49:C:THR:HG21 | 1:48:C:GLY:HA3  | 23       | 1.1           |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 26       | 1.1           |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 20       | 1.1           |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 15       | 1.1           |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 1        | 1.1           |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD12 | 29       | 1.1           |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 3        | 1.1           |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG21 | 31       | 1.1           |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 46       | 1.09          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 36       | 1.09          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 47       | 1.09          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 45       | 1.09          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 12       | 1.09          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 40       | 1.09          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 29       | 1.09          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 28       | 1.07          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG21 | 31       | 1.07          |
| (2,264) | 1:52:C:ARG:H    | 1:51:C:LEU:HD11 | 49       | 1.07          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 6        | 1.07          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 50       | 1.07          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 6        | 1.07          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 25       | 1.07          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 43       | 1.06          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG23 | 22       | 1.06          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 3        | 1.06          |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG23 | 11       | 1.06          |
| (2,55)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB3  | 11       | 1.06          |
| (2,693) | 1:49:C:THR:HG22 | 1:48:C:GLY:HA3  | 44       | 1.05          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 50       | 1.05          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 32       | 1.05          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 33       | 1.05          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 26       | 1.05          |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG21 | 22       | 1.05          |
| (2,56)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HB2  | 30       | 1.05          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 3        | 1.04          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 29       | 1.04          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 36       | 1.04          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 36       | 1.04          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 12       | 1.04          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 47       | 1.04          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 41       | 1.04          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 13       | 1.03          |
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA3  | 30       | 1.02          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 28       | 1.02          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 43       | 1.02          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG23 | 24       | 1.02          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 44       | 1.02          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 25       | 1.02          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 43       | 1.02          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 1        | 1.01          |
| (2,479) | 1:36:C:TRP:H    | 1:25:C:LEU:HB3  | 21       | 1.01          |
| (2,455) | 1:30:C:CYS:H    | 1:29:C:HIS:HB2  | 19       | 1.01          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 14       | 1.01          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 18       | 1.01          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 34       | 1.01          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 37       | 1.01          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 16       | 1.0           |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 18       | 1.0           |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 22       | 1.0           |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 27       | 1.0           |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 42       | 1.0           |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 11       | 1.0           |
| (2,166) | 1:40:C:PHE:HD1  | 1:44:C:THR:HG21 | 17       | 1.0           |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 37       | 1.0           |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 10       | 1.0           |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG21 | 42       | 1.0           |
| (2,693) | 1:49:C:THR:HG21 | 1:48:C:GLY:HA3  | 3        | 0.99          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 5        | 0.99          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 21       | 0.99          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 24       | 0.99          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 14       | 0.99          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 30       | 0.99          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 44       | 0.99          |
| (2,55)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB3  | 7        | 0.99          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 25       | 0.98          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 37       | 0.98          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 6        | 0.98          |
| (2,133) | 1:40:C:PHE:HB3  | 1:36:C:TRP:HA   | 14       | 0.98          |
| (2,51)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HA   | 27       | 0.98          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 46       | 0.97          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 27       | 0.97          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 50       | 0.97          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 10       | 0.97          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 13       | 0.97          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 3        | 0.97          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 4        | 0.97          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 28       | 0.97          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 49       | 0.97          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 5        | 0.97          |
| (2,51)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HA   | 42       | 0.97          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 35       | 0.96          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 9        | 0.96          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 11       | 0.96          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 15       | 0.96          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 45       | 0.96          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 17       | 0.95          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 32       | 0.95          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 37       | 0.95          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 24       | 0.95          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 44       | 0.95          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 16       | 0.95          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 13       | 0.95          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 22       | 0.95          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 43       | 0.95          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 44       | 0.94          |
| (2,610) | 1:24:C:VAL:HG12 | 1:26:C:ARG:HD2  | 24       | 0.94          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 15       | 0.94          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 25       | 0.94          |
| (2,455) | 1:30:C:CYS:H    | 1:29:C:HIS:HB2  | 43       | 0.94          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 30       | 0.94          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 33       | 0.94          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 41       | 0.94          |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG23 | 5        | 0.94          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 32       | 0.93          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 3        | 0.93          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 30       | 0.92          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 49       | 0.92          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 38       | 0.92          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 38       | 0.92          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 47       | 0.92          |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG22 | 27       | 0.92          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 27       | 0.92          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 43       | 0.91          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD21 | 14       | 0.91          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 16       | 0.91          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 31       | 0.91          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 11       | 0.91          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG23 | 10       | 0.91          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 1        | 0.91          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 42       | 0.91          |
| (2,68)  | 1:14:C:ARG:HG2  | 1:20:C:ASP:HA   | 28       | 0.91          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 15       | 0.9           |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 25       | 0.9           |
| (2,264) | 1:52:C:ARG:H    | 1:51:C:LEU:HD12 | 37       | 0.9           |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 4        | 0.9           |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 1        | 0.9           |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 8        | 0.9           |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 3        | 0.89          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 16       | 0.89          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 33       | 0.89          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 14       | 0.89          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 5        | 0.89          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 41       | 0.89          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 25       | 0.89          |
| (2,55)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB3  | 5        | 0.89          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 6        | 0.88          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 26       | 0.88          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 16       | 0.88          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 27       | 0.88          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 47       | 0.88          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 45       | 0.88          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 35       | 0.88          |
| (2,93)  | 1:34:C:PHE:HA   | 1:24:C:VAL:HG22 | 33       | 0.88          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 21       | 0.87          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 12       | 0.87          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 15       | 0.87          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 27       | 0.87          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 32       | 0.87          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 40       | 0.87          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 31       | 0.87          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 24       | 0.87          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 28       | 0.87          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 3        | 0.87          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 27       | 0.87          |
| (2,55)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HB3  | 48       | 0.87          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 5        | 0.86          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 22       | 0.86          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 1        | 0.86          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 9        | 0.86          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 11       | 0.86          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 13       | 0.86          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2  | 42       | 0.86          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 45       | 0.86          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 41       | 0.86          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 35       | 0.86          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 48       | 0.86          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 28       | 0.86          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 14       | 0.85          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 21       | 0.85          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG21 | 5        | 0.85          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 21       | 0.85          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 2        | 0.85          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2  | 16       | 0.85          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 22       | 0.85          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 23       | 0.85          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2  | 25       | 0.85          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 31       | 0.85          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 33       | 0.85          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 38       | 0.85          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2  | 46       | 0.85          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 48       | 0.85          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 24       | 0.85          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 47       | 0.84          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 5        | 0.84          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 4        | 0.84          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 7        | 0.84          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 22       | 0.84          |

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| Key     | Atom-1          | Atom-2         | Model ID | Violation (Å) |
|---------|-----------------|----------------|----------|---------------|
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2 | 26       | 0.84          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2 | 3        | 0.84          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2 | 8        | 0.84          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2 | 14       | 0.84          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2 | 17       | 0.84          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2 | 21       | 0.84          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2 | 36       | 0.84          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3 | 40       | 0.84          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB  | 35       | 0.84          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3 | 23       | 0.84          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3 | 36       | 0.84          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3 | 10       | 0.83          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2 | 18       | 0.83          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3 | 3        | 0.83          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2 | 13       | 0.83          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3  | 1        | 0.83          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3  | 29       | 0.83          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3  | 35       | 0.83          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2 | 20       | 0.83          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2 | 41       | 0.83          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2 | 6        | 0.83          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2 | 7        | 0.83          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2 | 15       | 0.83          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2 | 19       | 0.83          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2 | 20       | 0.83          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2 | 27       | 0.83          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2 | 28       | 0.83          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2 | 30       | 0.83          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2 | 32       | 0.83          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2 | 50       | 0.83          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3 | 4        | 0.83          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3 | 19       | 0.83          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA  | 19       | 0.83          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA  | 50       | 0.83          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3 | 13       | 0.83          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3 | 34       | 0.82          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3 | 23       | 0.82          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3  | 36       | 0.82          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2 | 23       | 0.82          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2 | 5        | 0.82          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2 | 34       | 0.82          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2 | 35       | 0.82          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 43       | 0.82          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2  | 44       | 0.82          |
| (2,176) | 1:51:C:LEU:HD21 | 1:47:C:PRO:HD3  | 43       | 0.82          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 50       | 0.82          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 20       | 0.82          |
| (2,51)  | 1:24:C:VAL:HG21 | 1:15:C:CYS:HA   | 31       | 0.82          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 50       | 0.81          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 7        | 0.81          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 8        | 0.81          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 37       | 0.81          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 48       | 0.81          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 9        | 0.81          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 19       | 0.81          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 46       | 0.81          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 34       | 0.81          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 34       | 0.81          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 10       | 0.81          |
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2  | 24       | 0.81          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 29       | 0.81          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 41       | 0.81          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 47       | 0.81          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 48       | 0.81          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 49       | 0.81          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 17       | 0.81          |
| (2,176) | 1:51:C:LEU:HD22 | 1:47:C:PRO:HD3  | 19       | 0.81          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 8        | 0.81          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 15       | 0.81          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 32       | 0.81          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 38       | 0.81          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 18       | 0.81          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 33       | 0.8           |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 36       | 0.8           |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 2        | 0.8           |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 15       | 0.8           |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 17       | 0.8           |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 20       | 0.8           |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 30       | 0.8           |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 40       | 0.8           |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG23 | 11       | 0.8           |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 33       | 0.8           |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 13       | 0.8           |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 19       | 0.8           |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,233) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HB2  | 26       | 0.8           |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 40       | 0.8           |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 1        | 0.8           |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 14       | 0.8           |
| (2,116) | 1:28:C:THR:HG23 | 1:28:C:THR:HA   | 30       | 0.8           |
| (2,51)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HA   | 5        | 0.8           |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 2        | 0.8           |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 6        | 0.79          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 11       | 0.79          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 17       | 0.79          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 40       | 0.79          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 35       | 0.79          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 50       | 0.79          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 31       | 0.79          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 42       | 0.79          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 49       | 0.79          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG23 | 48       | 0.79          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 2        | 0.79          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 20       | 0.79          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 23       | 0.79          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 18       | 0.79          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 4        | 0.79          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 12       | 0.79          |
| (2,233) | 1:51:C:LEU:HD13 | 1:51:C:LEU:HB2  | 18       | 0.79          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 39       | 0.79          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 47       | 0.78          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 19       | 0.78          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 33       | 0.78          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 6        | 0.78          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 11       | 0.78          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG21 | 22       | 0.78          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 18       | 0.78          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 38       | 0.78          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 49       | 0.78          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 48       | 0.78          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 24       | 0.78          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 42       | 0.78          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 46       | 0.78          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 5        | 0.78          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 6        | 0.78          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 14       | 0.78          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 17       | 0.78          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 29       | 0.78          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 43       | 0.78          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 47       | 0.78          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 50       | 0.78          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 21       | 0.78          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 13       | 0.78          |
| (2,68)  | 1:14:C:ARG:HG2  | 1:20:C:ASP:HA   | 17       | 0.78          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 48       | 0.77          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 40       | 0.77          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 20       | 0.77          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 12       | 0.77          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 1        | 0.77          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 11       | 0.77          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 29       | 0.77          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 48       | 0.77          |
| (2,233) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HB2  | 39       | 0.77          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 10       | 0.77          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 12       | 0.77          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 15       | 0.77          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 18       | 0.77          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 24       | 0.77          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 27       | 0.77          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 28       | 0.77          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 32       | 0.77          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 34       | 0.77          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 38       | 0.77          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 42       | 0.77          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 10       | 0.77          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 22       | 0.77          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 10       | 0.76          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 29       | 0.76          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 42       | 0.76          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 49       | 0.76          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG21 | 42       | 0.76          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 9        | 0.76          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG22 | 31       | 0.76          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 12       | 0.76          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 32       | 0.76          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 50       | 0.76          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 1        | 0.76          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 3        | 0.76          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 4        | 0.76          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 8        | 0.76          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 9        | 0.76          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 11       | 0.76          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 13       | 0.76          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 16       | 0.76          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 19       | 0.76          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 20       | 0.76          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 21       | 0.76          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 23       | 0.76          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 25       | 0.76          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 26       | 0.76          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 30       | 0.76          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 31       | 0.76          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 33       | 0.76          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 35       | 0.76          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 36       | 0.76          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 44       | 0.76          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 46       | 0.76          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 48       | 0.76          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 17       | 0.76          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 26       | 0.76          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 44       | 0.75          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 22       | 0.75          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 37       | 0.75          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG22 | 22       | 0.75          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 36       | 0.75          |
| (2,188) | 1:51:C:LEU:HD22 | 1:51:C:LEU:HB3  | 2        | 0.75          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 7        | 0.75          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 22       | 0.75          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 39       | 0.75          |
| (2,188) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HB3  | 40       | 0.75          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 41       | 0.75          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 42       | 0.75          |
| (2,188) | 1:51:C:LEU:HD23 | 1:51:C:LEU:HB3  | 45       | 0.75          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 31       | 0.75          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 39       | 0.75          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 9        | 0.75          |
| (2,116) | 1:28:C:THR:HG22 | 1:28:C:THR:HA   | 50       | 0.75          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD3  | 11       | 0.74          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD2  | 39       | 0.74          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 8        | 0.74          |
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA3  | 34       | 0.74          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 44       | 0.74          |
| (2,366) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG13 | 43       | 0.74          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 14       | 0.74          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 25       | 0.74          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 28       | 0.74          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 15       | 0.74          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 5        | 0.74          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 9        | 0.74          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 27       | 0.74          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 32       | 0.73          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 11       | 0.73          |
| (2,584) | 1:34:C:PHE:HE1  | 1:39:C:HIS:HE1  | 4        | 0.73          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 24       | 0.73          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 29       | 0.73          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 13       | 0.73          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 17       | 0.73          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 10       | 0.73          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG21 | 7        | 0.73          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG21 | 10       | 0.73          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 2        | 0.73          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 10       | 0.73          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 27       | 0.73          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 31       | 0.73          |
| (2,176) | 1:51:C:LEU:HD23 | 1:47:C:PRO:HD3  | 18       | 0.73          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 31       | 0.73          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 31       | 0.73          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 48       | 0.73          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 50       | 0.73          |
| (2,116) | 1:28:C:THR:HG21 | 1:28:C:THR:HA   | 9        | 0.73          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 36       | 0.72          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 5        | 0.72          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 19       | 0.72          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 22       | 0.72          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 16       | 0.72          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 41       | 0.72          |
| (2,381) | 1:9:C:LEU:H     | 1:9:C:LEU:HB3   | 25       | 0.72          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 47       | 0.72          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 50       | 0.72          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 5        | 0.72          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 40       | 0.72          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 45       | 0.72          |
| (2,214) | 1:56:C:CYS:HB2  | 1:52:C:ARG:HG3  | 34       | 0.72          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD11 | 49       | 0.72          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 6        | 0.72          |
| (2,71)  | 1:35:C:HIS:HE1  | 1:20:C:ASP:HB2  | 2        | 0.72          |
| (2,634) | 1:17:C:VAL:HG12 | 1:38:C:CYS:HB2  | 3        | 0.71          |
| (2,581) | 1:49:C:THR:H    | 1:49:C:THR:HG21 | 23       | 0.71          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 5        | 0.71          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 14       | 0.71          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 18       | 0.71          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 42       | 0.71          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 26       | 0.71          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 30       | 0.71          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 39       | 0.71          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 46       | 0.71          |
| (2,693) | 1:49:C:THR:HG23 | 1:48:C:GLY:HA3  | 49       | 0.7           |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 25       | 0.7           |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 9        | 0.7           |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 46       | 0.7           |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 15       | 0.7           |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 16       | 0.7           |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 47       | 0.7           |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 17       | 0.7           |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 19       | 0.7           |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 24       | 0.7           |
| (2,55)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HB3  | 30       | 0.7           |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 16       | 0.69          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 9        | 0.69          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD23 | 39       | 0.69          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 49       | 0.69          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 10       | 0.69          |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 44       | 0.69          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 19       | 0.69          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 3        | 0.69          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 8        | 0.69          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 43       | 0.69          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 14       | 0.69          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 43       | 0.69          |
| (2,68)  | 1:14:C:ARG:HG2  | 1:20:C:ASP:HA   | 27       | 0.69          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 45       | 0.68          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 32       | 0.68          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 38       | 0.68          |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 3        | 0.68          |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 26       | 0.68          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 19       | 0.68          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 6        | 0.68          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 19       | 0.68          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 29       | 0.68          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 12       | 0.68          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 17       | 0.68          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 35       | 0.68          |
| (2,51)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HA   | 11       | 0.68          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 39       | 0.67          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 44       | 0.67          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD23 | 23       | 0.67          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 21       | 0.67          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 4        | 0.67          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 17       | 0.67          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 6        | 0.67          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 14       | 0.67          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG22 | 22       | 0.67          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 38       | 0.67          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 32       | 0.67          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 17       | 0.67          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 33       | 0.67          |
| (2,614) | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA2  | 47       | 0.66          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 1        | 0.66          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 27       | 0.66          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 28       | 0.66          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 13       | 0.66          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 26       | 0.66          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 9        | 0.66          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 9        | 0.66          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 37       | 0.66          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 31       | 0.66          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 6        | 0.66          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 8        | 0.66          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 9        | 0.66          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 37       | 0.66          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 38       | 0.66          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 44       | 0.66          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 47       | 0.66          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 49       | 0.66          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 14       | 0.65          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 30       | 0.65          |
| (2,704) | 1:34:C:PHE:HE2  | 1:25:C:LEU:HB3  | 26       | 0.65          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA3  | 41       | 0.65          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 11       | 0.65          |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 21       | 0.65          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 7        | 0.65          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 12       | 0.65          |
| (2,522) | 1:46:C:ARG:H    | 1:46:C:ARG:HB3  | 2        | 0.65          |
| (2,522) | 1:46:C:ARG:H    | 1:46:C:ARG:HB3  | 13       | 0.65          |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB2  | 1        | 0.65          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 28       | 0.65          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 40       | 0.65          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 49       | 0.65          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 38       | 0.65          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 44       | 0.65          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 49       | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 3        | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 5        | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 14       | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 15       | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 16       | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 27       | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 30       | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 35       | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 39       | 0.65          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 43       | 0.65          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD2  | 37       | 0.64          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 35       | 0.64          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 36       | 0.64          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 27       | 0.64          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 12       | 0.64          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 2        | 0.64          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 8        | 0.64          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 47       | 0.64          |
| (2,522) | 1:46:C:ARG:H    | 1:46:C:ARG:HB3  | 10       | 0.64          |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 12       | 0.64          |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB3  | 37       | 0.64          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 46       | 0.64          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG21 | 11       | 0.64          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 12       | 0.64          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 26       | 0.64          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 33       | 0.64          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 39       | 0.64          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 11       | 0.64          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 16       | 0.64          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 2        | 0.64          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 10       | 0.64          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 25       | 0.64          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 28       | 0.64          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 31       | 0.64          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 40       | 0.64          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 45       | 0.64          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 18       | 0.63          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 42       | 0.63          |
| (2,634) | 1:17:C:VAL:HG12 | 1:38:C:CYS:HB2  | 7        | 0.63          |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 50       | 0.63          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 39       | 0.63          |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB2  | 30       | 0.63          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 23       | 0.63          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 34       | 0.63          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 2        | 0.63          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 17       | 0.63          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG21 | 7        | 0.63          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 49       | 0.63          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 12       | 0.63          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 32       | 0.63          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 36       | 0.63          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 48       | 0.63          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 50       | 0.63          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 2        | 0.62          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 5        | 0.62          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 10       | 0.62          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 26       | 0.62          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 31       | 0.62          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 34       | 0.62          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 39       | 0.62          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 16       | 0.62          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 33       | 0.62          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 41       | 0.62          |
| (2,181) | 1:49:C:THR:HG22 | 1:49:C:THR:HA   | 35       | 0.62          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 29       | 0.62          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 38       | 0.62          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 1        | 0.62          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 11       | 0.62          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 24       | 0.62          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 29       | 0.62          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 46       | 0.62          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 13       | 0.61          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 27       | 0.61          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 43       | 0.61          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 30       | 0.61          |
| (2,610) | 1:24:C:VAL:HG11 | 1:26:C:ARG:HD3  | 36       | 0.61          |
| (2,522) | 1:46:C:ARG:H    | 1:46:C:ARG:HB3  | 6        | 0.61          |
| (2,522) | 1:46:C:ARG:H    | 1:46:C:ARG:HB3  | 33       | 0.61          |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB3  | 7        | 0.61          |
| (2,366) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG11 | 3        | 0.61          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG22 | 27       | 0.61          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 44       | 0.61          |
| (2,309) | 1:36:C:TRP:HD1  | 1:36:C:TRP:HB2  | 6        | 0.61          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 2        | 0.61          |
| (2,181) | 1:49:C:THR:HG21 | 1:49:C:THR:HA   | 25       | 0.61          |
| (2,181) | 1:49:C:THR:HG23 | 1:49:C:THR:HA   | 37       | 0.61          |
| (2,181) | 1:49:C:THR:HG22 | 1:49:C:THR:HA   | 45       | 0.61          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 18       | 0.61          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 42       | 0.61          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 23       | 0.6           |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 1        | 0.6           |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB3  | 19       | 0.6           |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 3        | 0.6           |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 5        | 0.6           |
| (2,181) | 1:49:C:THR:HG22 | 1:49:C:THR:HA   | 41       | 0.6           |
| (2,181) | 1:49:C:THR:HG22 | 1:49:C:THR:HA   | 42       | 0.6           |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 39       | 0.6           |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 13       | 0.6           |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 19       | 0.6           |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 1        | 0.59          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 28       | 0.59          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 1        | 0.59          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 22       | 0.59          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 25       | 0.59          |
| (2,634) | 1:17:C:VAL:HG11 | 1:38:C:CYS:HB2  | 34       | 0.59          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 40       | 0.59          |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB2  | 28       | 0.59          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG23 | 7        | 0.59          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 1        | 0.59          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 16       | 0.59          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 19       | 0.59          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 41       | 0.59          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 19       | 0.59          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 21       | 0.59          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 24       | 0.59          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG21 | 5        | 0.59          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 41       | 0.59          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 47       | 0.59          |
| (2,181) | 1:49:C:THR:HG23 | 1:49:C:THR:HA   | 4        | 0.59          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 46       | 0.59          |
| (2,68)  | 1:14:C:ARG:HG2  | 1:20:C:ASP:HA   | 47       | 0.59          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 23       | 0.59          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 34       | 0.59          |
| (2,15)  | 1:39:C:HIS:HE1  | 1:53:C:CYS:HB3  | 30       | 0.59          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 50       | 0.58          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD21 | 2        | 0.58          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 20       | 0.58          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 48       | 0.58          |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 7        | 0.58          |
| (2,584) | 1:34:C:PHE:HE2  | 1:39:C:HIS:HE1  | 14       | 0.58          |
| (2,575) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HB2  | 10       | 0.58          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 9        | 0.58          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 49       | 0.58          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 30       | 0.58          |
| (2,181) | 1:49:C:THR:HG23 | 1:49:C:THR:HA   | 40       | 0.58          |
| (2,181) | 1:49:C:THR:HG21 | 1:49:C:THR:HA   | 47       | 0.58          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 29       | 0.58          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 47       | 0.57          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 33       | 0.57          |
| (2,704) | 1:34:C:PHE:HE2  | 1:25:C:LEU:HB3  | 38       | 0.57          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD21 | 4        | 0.57          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 38       | 0.57          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 3        | 0.57          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 29       | 0.57          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 13       | 0.57          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 6        | 0.57          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 29       | 0.57          |
| (2,187) | 1:47:C:PRO:HD3  | 1:51:C:LEU:HD13 | 37       | 0.57          |
| (2,181) | 1:49:C:THR:HG22 | 1:49:C:THR:HA   | 49       | 0.57          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 10       | 0.57          |
| (2,168) | 1:44:C:THR:HG22 | 1:46:C:ARG:HA   | 17       | 0.57          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 26       | 0.57          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 11       | 0.57          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 42       | 0.57          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 33       | 0.57          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 39       | 0.57          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 7        | 0.57          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 20       | 0.57          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 22       | 0.57          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 41       | 0.57          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 8        | 0.56          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 38       | 0.56          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 9        | 0.56          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 15       | 0.56          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 8        | 0.56          |
| (2,704) | 1:34:C:PHE:HE2  | 1:25:C:LEU:HB3  | 3        | 0.56          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 49       | 0.56          |
| (2,634) | 1:17:C:VAL:HG12 | 1:38:C:CYS:HB2  | 18       | 0.56          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 19       | 0.56          |
| (2,575) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HB2  | 13       | 0.56          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 20       | 0.56          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 31       | 0.56          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 10       | 0.56          |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 31       | 0.56          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 21       | 0.56          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 20       | 0.56          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 22       | 0.56          |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG22 | 29       | 0.56          |
| (2,185) | 1:51:C:LEU:HD12 | 1:51:C:LEU:HA   | 37       | 0.56          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 10       | 0.56          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 4        | 0.56          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 21       | 0.56          |
| (2,31)  | 1:36:C:TRP:HE3  | 1:36:C:TRP:HB3  | 26       | 0.56          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD2  | 25       | 0.55          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 11       | 0.55          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 37       | 0.55          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 42       | 0.55          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 42       | 0.55          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 26       | 0.55          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 38       | 0.55          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 41       | 0.55          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 30       | 0.55          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 41       | 0.55          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 12       | 0.54          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 17       | 0.54          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 43       | 0.54          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 42       | 0.54          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 46       | 0.54          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 14       | 0.54          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 35       | 0.54          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 44       | 0.54          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 7        | 0.54          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 17       | 0.54          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 34       | 0.54          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 2        | 0.54          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 25       | 0.53          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 29       | 0.53          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 16       | 0.53          |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 17       | 0.53          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 39       | 0.53          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 4        | 0.53          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 44       | 0.53          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 45       | 0.53          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 17       | 0.53          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG22 | 33       | 0.53          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 22       | 0.53          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 7        | 0.53          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 31       | 0.53          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 46       | 0.53          |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG23 | 37       | 0.53          |
| (2,185) | 1:51:C:LEU:HD11 | 1:51:C:LEU:HA   | 49       | 0.53          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 20       | 0.53          |
| (2,91)  | 1:24:C:VAL:HG21 | 1:14:C:ARG:HA   | 42       | 0.53          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 45       | 0.52          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 49       | 0.52          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 23       | 0.52          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD22 | 42       | 0.52          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD21 | 45       | 0.52          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 34       | 0.52          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 40       | 0.52          |
| (2,535) | 1:54:C:ARG:H    | 1:53:C:CYS:HB3  | 45       | 0.52          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 35       | 0.52          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 9        | 0.52          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 17       | 0.52          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 14       | 0.52          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 35       | 0.52          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 46       | 0.52          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 34       | 0.52          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 10       | 0.52          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 8        | 0.52          |
| (2,151) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HA   | 25       | 0.52          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 45       | 0.51          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 7        | 0.51          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD23 | 7        | 0.51          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 12       | 0.51          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 18       | 0.51          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 24       | 0.51          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 25       | 0.51          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 27       | 0.51          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 37       | 0.51          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 5        | 0.51          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 16       | 0.51          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 24       | 0.51          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 36       | 0.51          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 40       | 0.51          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 39       | 0.51          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG22 | 42       | 0.51          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 47       | 0.51          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 4        | 0.51          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 23       | 0.51          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 48       | 0.51          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG23 | 30       | 0.51          |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG21 | 18       | 0.51          |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG22 | 31       | 0.51          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 13       | 0.51          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 41       | 0.51          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 17       | 0.51          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 19       | 0.5           |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 48       | 0.5           |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB3  | 11       | 0.5           |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 26       | 0.5           |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 4        | 0.5           |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 13       | 0.5           |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 47       | 0.5           |
| (2,581) | 1:49:C:THR:H    | 1:49:C:THR:HG21 | 5        | 0.5           |
| (2,581) | 1:49:C:THR:H    | 1:49:C:THR:HG22 | 44       | 0.5           |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 1        | 0.5           |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 8        | 0.5           |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 32       | 0.5           |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 36       | 0.5           |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 40       | 0.5           |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 44       | 0.5           |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 47       | 0.5           |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 50       | 0.5           |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 13       | 0.5           |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 23       | 0.5           |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 13       | 0.5           |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 13       | 0.5           |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG21 | 5        | 0.5           |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG22 | 24       | 0.5           |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG23 | 36       | 0.5           |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 41       | 0.5           |
| (2,165) | 1:36:C:TRP:HZ2  | 1:44:C:THR:HG22 | 17       | 0.5           |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 40       | 0.5           |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 34       | 0.5           |
| (2,51)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HA   | 7        | 0.5           |
| (2,704) | 1:34:C:PHE:HE1  | 1:25:C:LEU:HB3  | 31       | 0.49          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 37       | 0.49          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 26       | 0.49          |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 43       | 0.49          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 6        | 0.49          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 15       | 0.49          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 31       | 0.49          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 41       | 0.49          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 13       | 0.49          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 21       | 0.49          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 37       | 0.49          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 43       | 0.49          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 2        | 0.49          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 16       | 0.49          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 42       | 0.49          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 46       | 0.49          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 12       | 0.49          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 48       | 0.49          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 7        | 0.49          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 46       | 0.49          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 8        | 0.48          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 25       | 0.48          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG3   | 28       | 0.48          |
| (2,704) | 1:34:C:PHE:HE1  | 1:25:C:LEU:HB3  | 36       | 0.48          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 47       | 0.48          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 3        | 0.48          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 45       | 0.48          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 18       | 0.48          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 8        | 0.48          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 15       | 0.48          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 7        | 0.48          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 8        | 0.48          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 8        | 0.48          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 33       | 0.48          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 2        | 0.48          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 11       | 0.48          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 26       | 0.48          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 5        | 0.48          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 21       | 0.48          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD3  | 9        | 0.47          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 28       | 0.47          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD23 | 40       | 0.47          |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 4        | 0.47          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 20       | 0.47          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 23       | 0.47          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 15       | 0.47          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 47       | 0.47          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 18       | 0.47          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 29       | 0.47          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG21 | 10       | 0.47          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG23 | 27       | 0.47          |
| (2,213) | 1:52:C:ARG:HG3  | 1:56:C:CYS:HB3  | 36       | 0.47          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 33       | 0.47          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 48       | 0.47          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 32       | 0.47          |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 30       | 0.47          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 6        | 0.46          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD21 | 21       | 0.46          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 41       | 0.46          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 13       | 0.46          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 4        | 0.46          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 46       | 0.46          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 28       | 0.46          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 1        | 0.46          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 5        | 0.46          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 4        | 0.46          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 14       | 0.46          |
| (2,220) | 1:60:C:VAL:HA   | 1:60:C:VAL:HG23 | 48       | 0.46          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 12       | 0.46          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 15       | 0.45          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 31       | 0.45          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 39       | 0.45          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 2        | 0.45          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 19       | 0.45          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 11       | 0.45          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 29       | 0.45          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 25       | 0.45          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 18       | 0.45          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 38       | 0.45          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 39       | 0.45          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 41       | 0.45          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG21 | 48       | 0.45          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 1        | 0.45          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 24       | 0.45          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 32       | 0.45          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 38       | 0.45          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 39       | 0.45          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 40       | 0.45          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 5        | 0.45          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 28       | 0.45          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 9        | 0.45          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 10       | 0.45          |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG21 | 24       | 0.44          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 22       | 0.44          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 28       | 0.44          |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 33       | 0.44          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 45       | 0.44          |
| (2,581) | 1:49:C:THR:H    | 1:49:C:THR:HG21 | 3        | 0.44          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 26       | 0.44          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 14       | 0.44          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 22       | 0.44          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 27       | 0.44          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 33       | 0.44          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 38       | 0.44          |
| (2,366) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG13 | 45       | 0.44          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 16       | 0.44          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 37       | 0.44          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 41       | 0.44          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 20       | 0.44          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG21 | 24       | 0.44          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG22 | 31       | 0.44          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 29       | 0.44          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 26       | 0.44          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 2        | 0.44          |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 29       | 0.44          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 37       | 0.43          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 50       | 0.43          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 1        | 0.43          |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 45       | 0.43          |
| (2,614) | 1:14:C:ARG:HG2  | 1:21:C:GLY:HA2  | 14       | 0.43          |
| (2,575) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HB2  | 2        | 0.43          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 10       | 0.43          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 46       | 0.43          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 23       | 0.43          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 8        | 0.43          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 19       | 0.43          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 36       | 0.43          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 25       | 0.43          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 14       | 0.43          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 29       | 0.43          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 39       | 0.43          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 40       | 0.43          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 18       | 0.43          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 20       | 0.43          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 42       | 0.43          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 47       | 0.43          |
| (2,186) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HA   | 37       | 0.43          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 18       | 0.43          |
| (2,91)  | 1:24:C:VAL:HG21 | 1:14:C:ARG:HA   | 31       | 0.43          |
| (2,62)  | 1:17:C:VAL:HG11 | 1:18:C:CYS:HB2  | 7        | 0.43          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 11       | 0.42          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 44       | 0.42          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 23       | 0.42          |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 28       | 0.42          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 26       | 0.42          |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 32       | 0.42          |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 35       | 0.42          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 20       | 0.42          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 23       | 0.42          |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB2  | 44       | 0.42          |
| (2,366) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG13 | 41       | 0.42          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 4        | 0.42          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 9        | 0.42          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 2        | 0.42          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 10       | 0.42          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 16       | 0.42          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 20       | 0.42          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 25       | 0.42          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 35       | 0.42          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 25       | 0.42          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 41       | 0.42          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG21 | 11       | 0.42          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD23 | 41       | 0.42          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 34       | 0.42          |
| (2,203) | 1:54:C:ARG:HD3  | 1:54:C:ARG:HB3  | 22       | 0.42          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD2  | 5        | 0.41          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 43       | 0.41          |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG21 | 31       | 0.41          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 41       | 0.41          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 43       | 0.41          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD23 | 11       | 0.41          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD21 | 13       | 0.41          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD23 | 41       | 0.41          |
| (2,693) | 1:49:C:THR:HG22 | 1:48:C:GLY:HA3  | 25       | 0.41          |
| (2,693) | 1:49:C:THR:HG23 | 1:48:C:GLY:HA3  | 45       | 0.41          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 2        | 0.41          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 18       | 0.41          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 42       | 0.41          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 25       | 0.41          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 28       | 0.41          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 4        | 0.41          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 13       | 0.41          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 23       | 0.41          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 24       | 0.41          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 37       | 0.41          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 41       | 0.41          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 42       | 0.41          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 32       | 0.41          |
| (2,260) | 1:39:C:HIS:HD2  | 1:17:C:VAL:HG22 | 17       | 0.41          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 1        | 0.41          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 26       | 0.4           |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 14       | 0.4           |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 18       | 0.4           |
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA3  | 36       | 0.4           |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 5        | 0.4           |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 42       | 0.4           |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 2        | 0.4           |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 28       | 0.4           |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 36       | 0.4           |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 3        | 0.4           |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG23 | 30       | 0.4           |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 6        | 0.4           |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 15       | 0.4           |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 18       | 0.4           |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 30       | 0.4           |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 34       | 0.4           |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 30       | 0.4           |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD21 | 29       | 0.4           |
| (2,186) | 1:51:C:LEU:HD21 | 1:51:C:LEU:HA   | 49       | 0.4           |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 48       | 0.4           |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG2   | 12       | 0.39          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 39       | 0.39          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 48       | 0.39          |
| (2,614) | 1:14:C:ARG:HG2  | 1:21:C:GLY:HA2  | 45       | 0.39          |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 17       | 0.39          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 11       | 0.39          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 22       | 0.39          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 30       | 0.39          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 49       | 0.39          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 37       | 0.39          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 11       | 0.39          |
| (2,292) | 1:55:C:SER:H    | 1:55:C:SER:HB3  | 11       | 0.39          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 28       | 0.39          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 50       | 0.39          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 7        | 0.39          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 23       | 0.39          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 34       | 0.39          |
| (2,91)  | 1:24:C:VAL:HG23 | 1:14:C:ARG:HA   | 10       | 0.39          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD21 | 29       | 0.38          |
| (2,636) | 1:17:C:VAL:HG21 | 1:39:C:HIS:HA   | 40       | 0.38          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 4        | 0.38          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 15       | 0.38          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 29       | 0.38          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 27       | 0.38          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 35       | 0.38          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 48       | 0.38          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 38       | 0.38          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 43       | 0.38          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 17       | 0.38          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 33       | 0.38          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 6        | 0.37          |
| (2,746) | 1:46:C:ARG:H    | 1:45:C:SER:HB3  | 17       | 0.37          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 3        | 0.37          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 35       | 0.37          |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 32       | 0.37          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 29       | 0.37          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 34       | 0.37          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 2        | 0.37          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 35       | 0.37          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG23 | 27       | 0.37          |
| (2,313) | 1:34:C:PHE:HE2  | 1:39:C:HIS:HB3  | 29       | 0.37          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 1        | 0.37          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 14       | 0.37          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 2        | 0.37          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 20       | 0.37          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 17       | 0.36          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 44       | 0.36          |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 47       | 0.36          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 13       | 0.36          |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 36       | 0.36          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 37       | 0.36          |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 16       | 0.36          |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 22       | 0.36          |
| (2,575) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HB2  | 33       | 0.36          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 20       | 0.36          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 26       | 0.36          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 48       | 0.36          |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 34       | 0.36          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 7        | 0.36          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 30       | 0.36          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 32       | 0.36          |
| (2,453) | 1:29:C:HIS:H    | 1:29:C:HIS:HD2  | 43       | 0.36          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 8        | 0.36          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 25       | 0.36          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD23 | 12       | 0.36          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD23 | 39       | 0.36          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD21 | 45       | 0.36          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 18       | 0.36          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 44       | 0.36          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD3  | 4        | 0.35          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 4        | 0.35          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 22       | 0.35          |
| (2,675) | 1:57:C:SER:HA   | 1:52:C:ARG:HD3  | 43       | 0.35          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 21       | 0.35          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 48       | 0.35          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 5        | 0.35          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 7        | 0.35          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 10       | 0.35          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 13       | 0.35          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 48       | 0.35          |
| (2,420) | 1:21:C:GLY:H    | 1:24:C:VAL:HG22 | 48       | 0.35          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 31       | 0.35          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 47       | 0.35          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 50       | 0.35          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 35       | 0.35          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 45       | 0.35          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 13       | 0.35          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 34       | 0.35          |
| (2,139) | 1:35:C:HIS:HB2  | 1:37:C:ARG:HG3  | 33       | 0.35          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 29       | 0.35          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 47       | 0.35          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 2        | 0.34          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG2   | 48       | 0.34          |
| (2,654) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HB2  | 23       | 0.34          |
| (2,624) | 1:33:C:ALA:HA   | 1:26:C:ARG:HD3  | 5        | 0.34          |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 1        | 0.34          |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 4        | 0.34          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 11       | 0.34          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 14       | 0.34          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 31       | 0.34          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 34       | 0.34          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 50       | 0.34          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 16       | 0.34          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 50       | 0.34          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 45       | 0.34          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 16       | 0.34          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 36       | 0.34          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 25       | 0.34          |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 24       | 0.34          |
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 2        | 0.34          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 9        | 0.34          |
| (2,125) | 1:32:C:ALA:HB3  | 1:33:C:ALA:HA   | 50       | 0.34          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 21       | 0.34          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD13 | 38       | 0.33          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 13       | 0.33          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 42       | 0.33          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD23 | 25       | 0.33          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 40       | 0.33          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 16       | 0.33          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 39       | 0.33          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 41       | 0.33          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 46       | 0.33          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 3        | 0.33          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 45       | 0.33          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG21 | 35       | 0.33          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 15       | 0.33          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 40       | 0.33          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG21 | 48       | 0.33          |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 14       | 0.33          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD3  | 29       | 0.32          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 28       | 0.32          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD13 | 45       | 0.32          |
| (2,615) | 1:26:C:ARG:HD3  | 1:24:C:VAL:HG22 | 36       | 0.32          |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG22 | 28       | 0.32          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 28       | 0.32          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 34       | 0.32          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 3        | 0.32          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 17       | 0.32          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 32       | 0.32          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 38       | 0.32          |
| (2,420) | 1:21:C:GLY:H    | 1:24:C:VAL:HG22 | 10       | 0.32          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 17       | 0.32          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 32       | 0.32          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 16       | 0.32          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 3        | 0.32          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 9        | 0.32          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 33       | 0.32          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 39       | 0.32          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 31       | 0.32          |
| (2,246) | 1:32:C:ALA:HB1  | 1:27:C:CYS:HB3  | 31       | 0.32          |
| (2,207) | 1:40:C:PHE:HE2  | 1:54:C:ARG:HB2  | 41       | 0.32          |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 34       | 0.32          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,150) | 1:38:C:CYS:HB2  | 1:17:C:VAL:HB   | 22       | 0.32          |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 21       | 0.32          |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 12       | 0.32          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 47       | 0.31          |
| (2,757) | 1:54:C:ARG:H    | 1:54:C:ARG:HG2  | 24       | 0.31          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 8        | 0.31          |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB3  | 10       | 0.31          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 27       | 0.31          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 28       | 0.31          |
| (2,575) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HB2  | 6        | 0.31          |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG21 | 41       | 0.31          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 2        | 0.31          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 43       | 0.31          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 47       | 0.31          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 10       | 0.31          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 6        | 0.31          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 6        | 0.31          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 27       | 0.31          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 27       | 0.31          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 37       | 0.31          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 28       | 0.31          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD21 | 14       | 0.31          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 12       | 0.31          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 40       | 0.31          |
| (2,126) | 1:13:C:ALA:HA   | 1:33:C:ALA:HB1  | 32       | 0.31          |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 38       | 0.31          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 32       | 0.31          |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 35       | 0.31          |
| (2,91)  | 1:24:C:VAL:HG23 | 1:14:C:ARG:HA   | 24       | 0.31          |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 11       | 0.31          |
| (2,62)  | 1:17:C:VAL:HG11 | 1:18:C:CYS:HB2  | 26       | 0.31          |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 41       | 0.31          |
| (2,38)  | 1:54:C:ARG:HG2  | 1:40:C:PHE:HE1  | 40       | 0.31          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD22 | 25       | 0.3           |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 49       | 0.3           |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG3   | 36       | 0.3           |
| (2,704) | 1:34:C:PHE:HE1  | 1:25:C:LEU:HB3  | 45       | 0.3           |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 43       | 0.3           |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB2  | 5        | 0.3           |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 8        | 0.3           |
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 9        | 0.3           |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG23 | 9        | 0.3           |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG22 | 44       | 0.3           |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 8        | 0.3           |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 12       | 0.3           |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 25       | 0.3           |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 33       | 0.3           |
| (2,453) | 1:29:C:HIS:H    | 1:29:C:HIS:HD2  | 19       | 0.3           |
| (2,420) | 1:21:C:GLY:H    | 1:24:C:VAL:HG21 | 33       | 0.3           |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 28       | 0.3           |
| (2,387) | 1:12:C:GLY:H    | 1:10:C:ALA:HB1  | 6        | 0.3           |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 42       | 0.3           |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 44       | 0.3           |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 50       | 0.3           |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 1        | 0.3           |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 23       | 0.3           |
| (2,85)  | 1:24:C:VAL:HG11 | 1:14:C:ARG:HA   | 14       | 0.3           |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 32       | 0.29          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 50       | 0.29          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB3   | 46       | 0.29          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 38       | 0.29          |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG23 | 12       | 0.29          |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG22 | 16       | 0.29          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 1        | 0.29          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 15       | 0.29          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 20       | 0.29          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 24       | 0.29          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 26       | 0.29          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 40       | 0.29          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 12       | 0.29          |
| (2,495) | 1:39:C:HIS:H    | 1:38:C:CYS:HB3  | 21       | 0.29          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 38       | 0.29          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 21       | 0.29          |
| (2,326) | 1:36:C:TRP:HH2  | 1:44:C:THR:HG21 | 17       | 0.29          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 49       | 0.29          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD21 | 48       | 0.29          |
| (2,168) | 1:44:C:THR:HG23 | 1:46:C:ARG:HA   | 46       | 0.29          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 49       | 0.29          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 27       | 0.28          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD13 | 49       | 0.28          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG2   | 17       | 0.28          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 23       | 0.28          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 18       | 0.28          |
| (2,701) | 1:34:C:PHE:HE1  | 1:27:C:CYS:HA   | 33       | 0.28          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,585) | 1:54:C:ARG:HG2  | 1:39:C:HIS:HE1  | 39       | 0.28          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 5        | 0.28          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 6        | 0.28          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 18       | 0.28          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 22       | 0.28          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 27       | 0.28          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 35       | 0.28          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 14       | 0.28          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 35       | 0.28          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG13 | 4        | 0.28          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 22       | 0.28          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 28       | 0.28          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 31       | 0.28          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB2  | 10       | 0.28          |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 14       | 0.28          |
| (2,260) | 1:39:C:HIS:HD2  | 1:17:C:VAL:HG23 | 14       | 0.28          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 22       | 0.28          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD23 | 2        | 0.28          |
| (2,168) | 1:44:C:THR:HG23 | 1:46:C:ARG:HA   | 18       | 0.28          |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 41       | 0.28          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 28       | 0.28          |
| (2,126) | 1:13:C:ALA:HA   | 1:33:C:ALA:HB2  | 44       | 0.28          |
| (2,125) | 1:32:C:ALA:HB2  | 1:33:C:ALA:HA   | 17       | 0.28          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 9        | 0.28          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 16       | 0.28          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 38       | 0.28          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 39       | 0.28          |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 2        | 0.28          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG3   | 13       | 0.27          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD22 | 1        | 0.27          |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG22 | 18       | 0.27          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 12       | 0.27          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 9        | 0.27          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 10       | 0.27          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 29       | 0.27          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 30       | 0.27          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 37       | 0.27          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 32       | 0.27          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 37       | 0.27          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 43       | 0.27          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 42       | 0.27          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 6        | 0.27          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 16       | 0.27          |
| (2,168) | 1:44:C:THR:HG22 | 1:46:C:ARG:HA   | 7        | 0.27          |
| (2,168) | 1:44:C:THR:HG22 | 1:46:C:ARG:HA   | 16       | 0.27          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 46       | 0.27          |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 14       | 0.27          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 38       | 0.26          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 39       | 0.26          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 12       | 0.26          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD22 | 48       | 0.26          |
| (2,678) | 1:57:C:SER:HB2  | 1:52:C:ARG:HB2  | 41       | 0.26          |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 44       | 0.26          |
| (2,653) | 1:50:C:GLY:HA2  | 1:28:C:THR:HG22 | 40       | 0.26          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 16       | 0.26          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 24       | 0.26          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 13       | 0.26          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 19       | 0.26          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 28       | 0.26          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 36       | 0.26          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 15       | 0.26          |
| (2,261) | 1:25:C:LEU:H    | 1:24:C:VAL:HG22 | 42       | 0.26          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 17       | 0.26          |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 30       | 0.26          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 26       | 0.26          |
| (2,85)  | 1:24:C:VAL:HG13 | 1:14:C:ARG:HA   | 36       | 0.26          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 12       | 0.25          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 41       | 0.25          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 50       | 0.25          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG2   | 32       | 0.25          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD22 | 34       | 0.25          |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB2  | 36       | 0.25          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 9        | 0.25          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 24       | 0.25          |
| (2,585) | 1:54:C:ARG:HG3  | 1:39:C:HIS:HE1  | 29       | 0.25          |
| (2,584) | 1:34:C:PHE:HE2  | 1:39:C:HIS:HE1  | 5        | 0.25          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 11       | 0.25          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 26       | 0.25          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 23       | 0.25          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 36       | 0.25          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 44       | 0.25          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 49       | 0.25          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 48       | 0.25          |
| (2,371) | 1:23:C:ASP:H    | 1:22:C:THR:HG21 | 23       | 0.25          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG22 | 30       | 0.25          |
| (2,260) | 1:39:C:HIS:HD2  | 1:17:C:VAL:HG21 | 19       | 0.25          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD23 | 23       | 0.25          |
| (2,168) | 1:44:C:THR:HG22 | 1:46:C:ARG:HA   | 5        | 0.25          |
| (2,168) | 1:44:C:THR:HG23 | 1:46:C:ARG:HA   | 20       | 0.25          |
| (2,168) | 1:44:C:THR:HG23 | 1:46:C:ARG:HA   | 25       | 0.25          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 8        | 0.25          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 6        | 0.25          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 12       | 0.25          |
| (2,85)  | 1:24:C:VAL:HG11 | 1:14:C:ARG:HA   | 45       | 0.25          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 20       | 0.25          |
| (2,62)  | 1:17:C:VAL:HG11 | 1:18:C:CYS:HB2  | 18       | 0.25          |
| (2,38)  | 1:54:C:ARG:HG2  | 1:40:C:PHE:HE1  | 29       | 0.25          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD3  | 18       | 0.24          |
| (2,757) | 1:54:C:ARG:H    | 1:54:C:ARG:HG2  | 14       | 0.24          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 7        | 0.24          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD22 | 20       | 0.24          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 37       | 0.24          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 50       | 0.24          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 2        | 0.24          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 6        | 0.24          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 27       | 0.24          |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG23 | 1        | 0.24          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 19       | 0.24          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 41       | 0.24          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 7        | 0.24          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 38       | 0.24          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 46       | 0.24          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 2        | 0.24          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 7        | 0.24          |
| (2,503) | 1:40:C:PHE:H    | 1:40:C:PHE:HB3  | 45       | 0.24          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 30       | 0.24          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 24       | 0.24          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 6        | 0.24          |
| (2,260) | 1:39:C:HIS:HD2  | 1:17:C:VAL:HG22 | 40       | 0.24          |
| (2,260) | 1:39:C:HIS:HD2  | 1:17:C:VAL:HG22 | 47       | 0.24          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD23 | 21       | 0.24          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 33       | 0.24          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 24       | 0.24          |
| (2,91)  | 1:24:C:VAL:HG22 | 1:14:C:ARG:HA   | 33       | 0.24          |
| (2,86)  | 1:24:C:VAL:HG13 | 1:21:C:GLY:HA2  | 2        | 0.24          |
| (2,85)  | 1:24:C:VAL:HG13 | 1:14:C:ARG:HA   | 19       | 0.24          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 40       | 0.23          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB3   | 24       | 0.23          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD22 | 33       | 0.23          |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 2        | 0.23          |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB2  | 41       | 0.23          |
| (2,666) | 1:57:C:SER:HA   | 1:52:C:ARG:HD3  | 43       | 0.23          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 31       | 0.23          |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG22 | 27       | 0.23          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 10       | 0.23          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 25       | 0.23          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 29       | 0.23          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 43       | 0.23          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 34       | 0.23          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 50       | 0.23          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 46       | 0.23          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB3  | 49       | 0.23          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD21 | 4        | 0.23          |
| (2,215) | 1:52:C:ARG:HD3  | 1:57:C:SER:HB3  | 2        | 0.23          |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 29       | 0.23          |
| (2,156) | 1:63:C:ALA:HA   | 1:64:C:PRO:HD2  | 41       | 0.23          |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 5        | 0.23          |
| (2,125) | 1:32:C:ALA:HB3  | 1:33:C:ALA:HA   | 12       | 0.23          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 23       | 0.23          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 29       | 0.23          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 47       | 0.23          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 36       | 0.22          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 42       | 0.22          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 3        | 0.22          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 4        | 0.22          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG2   | 30       | 0.22          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG3   | 47       | 0.22          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 39       | 0.22          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 8        | 0.22          |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 15       | 0.22          |
| (2,615) | 1:26:C:ARG:HD2  | 1:24:C:VAL:HG22 | 23       | 0.22          |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG22 | 2        | 0.22          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 1        | 0.22          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 8        | 0.22          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 15       | 0.22          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 16       | 0.22          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 23       | 0.22          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 27       | 0.22          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 28       | 0.22          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 32       | 0.22          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 42       | 0.22          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 44       | 0.22          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 4        | 0.22          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 5        | 0.22          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 12       | 0.22          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 15       | 0.22          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 16       | 0.22          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 32       | 0.22          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 41       | 0.22          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 45       | 0.22          |
| (2,246) | 1:32:C:ALA:HB1  | 1:27:C:CYS:HB3  | 26       | 0.22          |
| (2,244) | 1:33:C:ALA:HB1  | 1:24:C:VAL:HB   | 47       | 0.22          |
| (2,223) | 1:61:C:THR:HG21 | 1:61:C:THR:HA   | 34       | 0.22          |
| (2,168) | 1:44:C:THR:HG23 | 1:46:C:ARG:HA   | 50       | 0.22          |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 14       | 0.22          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 42       | 0.22          |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 15       | 0.22          |
| (2,91)  | 1:24:C:VAL:HG23 | 1:14:C:ARG:HA   | 7        | 0.22          |
| (2,62)  | 1:17:C:VAL:HG11 | 1:18:C:CYS:HB2  | 3        | 0.22          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD13 | 24       | 0.21          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 30       | 0.21          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 16       | 0.21          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 9        | 0.21          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 30       | 0.21          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 3        | 0.21          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 6        | 0.21          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 12       | 0.21          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 13       | 0.21          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 17       | 0.21          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 37       | 0.21          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 43       | 0.21          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 45       | 0.21          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 47       | 0.21          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 10       | 0.21          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 26       | 0.21          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 17       | 0.21          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 19       | 0.21          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 22       | 0.21          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 37       | 0.21          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 42       | 0.21          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 18       | 0.21          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 43       | 0.21          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 17       | 0.21          |
| (2,244) | 1:33:C:ALA:HB1  | 1:24:C:VAL:HB   | 16       | 0.21          |
| (2,223) | 1:61:C:THR:HG23 | 1:61:C:THR:HA   | 6        | 0.21          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 28       | 0.21          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 36       | 0.21          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 3        | 0.21          |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 41       | 0.21          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 44       | 0.21          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 46       | 0.21          |
| (2,86)  | 1:24:C:VAL:HG11 | 1:21:C:GLY:HA2  | 34       | 0.21          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD22 | 14       | 0.2           |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD12 | 31       | 0.2           |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 5        | 0.2           |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG2   | 48       | 0.2           |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG2   | 29       | 0.2           |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD22 | 20       | 0.2           |
| (2,661) | 1:56:C:CYS:HB3  | 1:52:C:ARG:HB3  | 34       | 0.2           |
| (2,576) | 1:61:C:THR:H    | 1:59:C:ASP:HB2  | 25       | 0.2           |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG23 | 34       | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 2        | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 4        | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 9        | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 18       | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 19       | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 20       | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 21       | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 25       | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 30       | 0.2           |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 35       | 0.2           |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 11       | 0.2           |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 41       | 0.2           |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 49       | 0.2           |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 27       | 0.2           |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 35       | 0.2           |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 38       | 0.2           |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 50       | 0.2           |
| (2,371) | 1:23:C:ASP:H    | 1:22:C:THR:HG23 | 21       | 0.2           |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 44       | 0.2           |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 3        | 0.2           |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG22 | 24       | 0.2           |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 50       | 0.2           |
| (2,265) | 1:37:C:ARG:H    | 1:36:C:TRP:HB2  | 6        | 0.2           |
| (2,223) | 1:61:C:THR:HG22 | 1:61:C:THR:HA   | 20       | 0.2           |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 46       | 0.2           |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 19       | 0.2           |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 5        | 0.2           |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 3        | 0.19          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 47       | 0.19          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 11       | 0.19          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 19       | 0.19          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD23 | 33       | 0.19          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 5        | 0.19          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG3   | 2        | 0.19          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG2   | 17       | 0.19          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 40       | 0.19          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD23 | 6        | 0.19          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD22 | 22       | 0.19          |
| (2,634) | 1:17:C:VAL:HG22 | 1:38:C:CYS:HB2  | 46       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 14       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 22       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 29       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 31       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 33       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 39       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 40       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 48       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 49       | 0.19          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 50       | 0.19          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 35       | 0.19          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 44       | 0.19          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 47       | 0.19          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 3        | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 2        | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 3        | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 5        | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 6        | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 14       | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 26       | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 28       | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 29       | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 30       | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 33       | 0.19          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 36       | 0.19          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 49       | 0.19          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 45       | 0.19          |
| (2,352) | 1:34:C:PHE:HE1  | 1:34:C:PHE:H    | 24       | 0.19          |
| (2,352) | 1:34:C:PHE:HE1  | 1:34:C:PHE:H    | 33       | 0.19          |
| (2,281) | 1:66:C:GLU:H    | 1:65:C:VAL:HA   | 5        | 0.19          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 46       | 0.19          |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 13       | 0.19          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 34       | 0.19          |
| (2,126) | 1:13:C:ALA:HA   | 1:33:C:ALA:HB2  | 43       | 0.19          |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 23       | 0.19          |
| (2,125) | 1:32:C:ALA:HB3  | 1:33:C:ALA:HA   | 26       | 0.19          |
| (2,125) | 1:32:C:ALA:HB3  | 1:33:C:ALA:HA   | 31       | 0.19          |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 47       | 0.19          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 12       | 0.19          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 1        | 0.19          |
| (2,92)  | 1:24:C:VAL:HG23 | 1:21:C:GLY:HA2  | 8        | 0.19          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 50       | 0.19          |
| (2,91)  | 1:24:C:VAL:HG23 | 1:14:C:ARG:HA   | 48       | 0.19          |
| (2,51)  | 1:24:C:VAL:HG23 | 1:15:C:CYS:HA   | 48       | 0.19          |
| (2,744) | 1:42:C:ALA:H    | 1:41:C:PRO:HD2  | 40       | 0.18          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 24       | 0.18          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 34       | 0.18          |
| (2,706) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HG   | 3        | 0.18          |
| (2,701) | 1:34:C:PHE:HE1  | 1:27:C:CYS:HA   | 50       | 0.18          |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB3  | 34       | 0.18          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 50       | 0.18          |
| (2,576) | 1:61:C:THR:H    | 1:59:C:ASP:HB2  | 27       | 0.18          |
| (2,556) | 1:65:C:VAL:H    | 1:65:C:VAL:HG22 | 17       | 0.18          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 5        | 0.18          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 36       | 0.18          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 16       | 0.18          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 19       | 0.18          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 22       | 0.18          |
| (2,456) | 1:30:C:CYS:H    | 1:30:C:CYS:HB3  | 31       | 0.18          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 4        | 0.18          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 25       | 0.18          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 4        | 0.18          |
| (2,395) | 1:17:C:VAL:H    | 1:18:C:CYS:HB2  | 41       | 0.18          |
| (2,385) | 1:12:C:GLY:H    | 1:11:C:PRO:HA   | 29       | 0.18          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG23 | 9        | 0.18          |
| (2,352) | 1:34:C:PHE:HE2  | 1:34:C:PHE:H    | 31       | 0.18          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,352) | 1:34:C:PHE:HE1  | 1:34:C:PHE:H    | 46       | 0.18          |
| (2,244) | 1:33:C:ALA:HB1  | 1:24:C:VAL:HB   | 35       | 0.18          |
| (2,223) | 1:61:C:THR:HG23 | 1:61:C:THR:HA   | 37       | 0.18          |
| (2,223) | 1:61:C:THR:HG21 | 1:61:C:THR:HA   | 38       | 0.18          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 2        | 0.18          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 9        | 0.18          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 34       | 0.18          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 36       | 0.18          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 41       | 0.18          |
| (2,86)  | 1:24:C:VAL:HG11 | 1:21:C:GLY:HA2  | 20       | 0.18          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 3        | 0.18          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 22       | 0.18          |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 5        | 0.18          |
| (2,38)  | 1:54:C:ARG:HG2  | 1:40:C:PHE:HE2  | 3        | 0.18          |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG13 | 30       | 0.17          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 20       | 0.17          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 28       | 0.17          |
| (2,717) | 1:7:C:GLN:H     | 1:7:C:GLN:HG3   | 31       | 0.17          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG2   | 21       | 0.17          |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB3  | 11       | 0.17          |
| (2,624) | 1:33:C:ALA:HA   | 1:26:C:ARG:HD3  | 38       | 0.17          |
| (2,618) | 1:26:C:ARG:HA   | 1:26:C:ARG:HD2  | 50       | 0.17          |
| (2,544) | 1:60:C:VAL:H    | 1:60:C:VAL:HB   | 5        | 0.17          |
| (2,543) | 1:60:C:VAL:H    | 1:59:C:ASP:HA   | 18       | 0.17          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 38       | 0.17          |
| (2,533) | 1:53:C:CYS:H    | 1:53:C:CYS:HB2  | 41       | 0.17          |
| (2,524) | 1:50:C:GLY:H    | 1:49:C:THR:HA   | 28       | 0.17          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 3        | 0.17          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 15       | 0.17          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 18       | 0.17          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 38       | 0.17          |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 10       | 0.17          |
| (2,456) | 1:30:C:CYS:H    | 1:30:C:CYS:HB3  | 50       | 0.17          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 7        | 0.17          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 10       | 0.17          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 11       | 0.17          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 13       | 0.17          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 24       | 0.17          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 47       | 0.17          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 2        | 0.17          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 7        | 0.17          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 11       | 0.17          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 12       | 0.17          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 18       | 0.17          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 29       | 0.17          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 34       | 0.17          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 48       | 0.17          |
| (2,395) | 1:17:C:VAL:H    | 1:18:C:CYS:HB2  | 3        | 0.17          |
| (2,352) | 1:34:C:PHE:HE1  | 1:34:C:PHE:H    | 27       | 0.17          |
| (2,327) | 1:36:C:TRP:HZ2  | 1:51:C:LEU:HD11 | 24       | 0.17          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 20       | 0.17          |
| (2,164) | 1:45:C:SER:HB3  | 1:44:C:THR:HG22 | 17       | 0.17          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 36       | 0.17          |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 34       | 0.17          |
| (2,125) | 1:32:C:ALA:HB3  | 1:33:C:ALA:HA   | 49       | 0.17          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 47       | 0.17          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 50       | 0.17          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 16       | 0.17          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 20       | 0.17          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 40       | 0.17          |
| (2,86)  | 1:24:C:VAL:HG12 | 1:21:C:GLY:HA2  | 18       | 0.17          |
| (2,85)  | 1:24:C:VAL:HG13 | 1:14:C:ARG:HA   | 38       | 0.17          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 20       | 0.16          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD23 | 8        | 0.16          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD22 | 46       | 0.16          |
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA2  | 11       | 0.16          |
| (2,663) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 17       | 0.16          |
| (2,624) | 1:33:C:ALA:HA   | 1:26:C:ARG:HD2  | 16       | 0.16          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 39       | 0.16          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 21       | 0.16          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 24       | 0.16          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 37       | 0.16          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 45       | 0.16          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 50       | 0.16          |
| (2,458) | 1:30:C:CYS:H    | 1:28:C:THR:HG21 | 43       | 0.16          |
| (2,457) | 1:30:C:CYS:H    | 1:27:C:CYS:HB2  | 31       | 0.16          |
| (2,448) | 1:28:C:THR:H    | 1:51:C:LEU:HD21 | 48       | 0.16          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 26       | 0.16          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 50       | 0.16          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 43       | 0.16          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 48       | 0.16          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 7        | 0.16          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 8        | 0.16          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 22       | 0.16          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 23       | 0.16          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 26       | 0.16          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 30       | 0.16          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 31       | 0.16          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 42       | 0.16          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 46       | 0.16          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 49       | 0.16          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 50       | 0.16          |
| (2,395) | 1:17:C:VAL:H    | 1:18:C:CYS:HB2  | 20       | 0.16          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG22 | 37       | 0.16          |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG21 | 36       | 0.16          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG21 | 35       | 0.16          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 8        | 0.16          |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 28       | 0.16          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 31       | 0.16          |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 37       | 0.16          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 2        | 0.16          |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 37       | 0.16          |
| (2,38)  | 1:54:C:ARG:HG2  | 1:40:C:PHE:HE2  | 31       | 0.16          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD3  | 38       | 0.15          |
| (2,772) | 1:57:C:SER:H    | 1:57:C:SER:HB3  | 39       | 0.15          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 1        | 0.15          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 4        | 0.15          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 49       | 0.15          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD22 | 2        | 0.15          |
| (2,727) | 1:14:C:ARG:H    | 1:14:C:ARG:HB3  | 28       | 0.15          |
| (2,718) | 1:7:C:GLN:H     | 1:7:C:GLN:HB2   | 13       | 0.15          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 20       | 0.15          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG2   | 18       | 0.15          |
| (2,706) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HG   | 27       | 0.15          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD23 | 38       | 0.15          |
| (2,701) | 1:34:C:PHE:HE1  | 1:27:C:CYS:HA   | 24       | 0.15          |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB3  | 44       | 0.15          |
| (2,624) | 1:33:C:ALA:HA   | 1:26:C:ARG:HD3  | 25       | 0.15          |
| (2,524) | 1:50:C:GLY:H    | 1:49:C:THR:HA   | 20       | 0.15          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 2        | 0.15          |
| (2,456) | 1:30:C:CYS:H    | 1:30:C:CYS:HB3  | 3        | 0.15          |
| (2,456) | 1:30:C:CYS:H    | 1:30:C:CYS:HB3  | 26       | 0.15          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 1        | 0.15          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 8        | 0.15          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG23 | 34       | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 1        | 0.15          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 3        | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 5        | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 9        | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 13       | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 14       | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 20       | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 21       | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 25       | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 27       | 0.15          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 41       | 0.15          |
| (2,352) | 1:34:C:PHE:HE1  | 1:34:C:PHE:H    | 50       | 0.15          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 47       | 0.15          |
| (2,327) | 1:36:C:TRP:HZ2  | 1:51:C:LEU:HD12 | 18       | 0.15          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 36       | 0.15          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 49       | 0.15          |
| (2,190) | 1:52:C:ARG:HA   | 1:52:C:ARG:HG3  | 5        | 0.15          |
| (2,125) | 1:32:C:ALA:HB3  | 1:33:C:ALA:HA   | 6        | 0.15          |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 45       | 0.15          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 15       | 0.15          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 16       | 0.15          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 20       | 0.15          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 21       | 0.15          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 25       | 0.15          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 38       | 0.15          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 40       | 0.15          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 6        | 0.15          |
| (2,92)  | 1:24:C:VAL:HG22 | 1:21:C:GLY:HA2  | 43       | 0.15          |
| (2,68)  | 1:14:C:ARG:HG2  | 1:20:C:ASP:HA   | 13       | 0.15          |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 50       | 0.15          |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG23 | 18       | 0.14          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 46       | 0.14          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG3   | 25       | 0.14          |
| (2,701) | 1:34:C:PHE:HE1  | 1:27:C:CYS:HA   | 27       | 0.14          |
| (2,678) | 1:57:C:SER:HB2  | 1:52:C:ARG:HB3  | 1        | 0.14          |
| (2,678) | 1:57:C:SER:HB2  | 1:52:C:ARG:HB3  | 24       | 0.14          |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 39       | 0.14          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 13       | 0.14          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 31       | 0.14          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 40       | 0.14          |
| (2,486) | 1:37:C:ARG:H    | 1:35:C:HIS:HB2  | 32       | 0.14          |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 11       | 0.14          |
| (2,456) | 1:30:C:CYS:H    | 1:30:C:CYS:HB3  | 12       | 0.14          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,448) | 1:28:C:THR:H    | 1:51:C:LEU:HD23 | 21       | 0.14          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 17       | 0.14          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 34       | 0.14          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 9        | 0.14          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG21 | 12       | 0.14          |
| (2,426) | 1:22:C:THR:H    | 1:22:C:THR:HG22 | 31       | 0.14          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 24       | 0.14          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 33       | 0.14          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 40       | 0.14          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 44       | 0.14          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 47       | 0.14          |
| (2,395) | 1:17:C:VAL:H    | 1:18:C:CYS:HB2  | 42       | 0.14          |
| (2,362) | 1:35:C:HIS:HE1  | 1:24:C:VAL:HG23 | 19       | 0.14          |
| (2,339) | 1:35:C:HIS:HE2  | 1:24:C:VAL:HG22 | 16       | 0.14          |
| (2,246) | 1:32:C:ALA:HB1  | 1:27:C:CYS:HB3  | 12       | 0.14          |
| (2,168) | 1:44:C:THR:HG21 | 1:46:C:ARG:HA   | 43       | 0.14          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 1        | 0.14          |
| (2,126) | 1:13:C:ALA:HA   | 1:33:C:ALA:HB2  | 29       | 0.14          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 12       | 0.14          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 19       | 0.14          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 37       | 0.14          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 44       | 0.14          |
| (2,91)  | 1:24:C:VAL:HG23 | 1:14:C:ARG:HA   | 11       | 0.14          |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 15       | 0.14          |
| (2,62)  | 1:17:C:VAL:HG11 | 1:18:C:CYS:HB2  | 47       | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 1        | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 9        | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 14       | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 16       | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 17       | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 25       | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 27       | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 28       | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 32       | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 36       | 0.14          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 37       | 0.14          |
| (2,51)  | 1:24:C:VAL:HG22 | 1:15:C:CYS:HA   | 30       | 0.14          |
| (2,41)  | 1:9:C:LEU:HD13  | 1:9:C:LEU:HA    | 40       | 0.14          |
| (2,40)  | 1:9:C:LEU:HD23  | 1:9:C:LEU:HA    | 18       | 0.14          |
| (2,40)  | 1:9:C:LEU:HD22  | 1:9:C:LEU:HA    | 44       | 0.14          |
| (2,769) | 1:53:C:CYS:H    | 1:57:C:SER:HB2  | 26       | 0.13          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 17       | 0.13          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 40       | 0.13          |
| (2,727) | 1:14:C:ARG:H    | 1:14:C:ARG:HB3  | 17       | 0.13          |
| (2,716) | 1:6:C:GLN:H     | 1:7:C:GLN:HB2   | 33       | 0.13          |
| (2,715) | 1:6:C:GLN:H     | 1:6:C:GLN:HG2   | 35       | 0.13          |
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA3  | 20       | 0.13          |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB3  | 26       | 0.13          |
| (2,676) | 1:57:C:SER:HA   | 1:52:C:ARG:HB3  | 28       | 0.13          |
| (2,663) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB3  | 11       | 0.13          |
| (2,663) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 26       | 0.13          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 17       | 0.13          |
| (2,624) | 1:33:C:ALA:HA   | 1:26:C:ARG:HD2  | 23       | 0.13          |
| (2,624) | 1:33:C:ALA:HA   | 1:26:C:ARG:HD3  | 36       | 0.13          |
| (2,615) | 1:26:C:ARG:HD2  | 1:24:C:VAL:HG23 | 6        | 0.13          |
| (2,593) | 1:6:C:GLN:HB2   | 1:6:C:GLN:HA    | 40       | 0.13          |
| (2,584) | 1:34:C:PHE:HE1  | 1:39:C:HIS:HE1  | 39       | 0.13          |
| (2,543) | 1:60:C:VAL:H    | 1:59:C:ASP:HA   | 38       | 0.13          |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 42       | 0.13          |
| (2,524) | 1:50:C:GLY:H    | 1:49:C:THR:HA   | 22       | 0.13          |
| (2,501) | 1:40:C:PHE:H    | 1:40:C:PHE:HE1  | 43       | 0.13          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 20       | 0.13          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 42       | 0.13          |
| (2,456) | 1:30:C:CYS:H    | 1:30:C:CYS:HB3  | 34       | 0.13          |
| (2,448) | 1:28:C:THR:H    | 1:51:C:LEU:HD23 | 30       | 0.13          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 6        | 0.13          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 21       | 0.13          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 23       | 0.13          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 25       | 0.13          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 37       | 0.13          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 47       | 0.13          |
| (2,419) | 1:21:C:GLY:H    | 1:14:C:ARG:HG2  | 45       | 0.13          |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 41       | 0.13          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 6        | 0.13          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 16       | 0.13          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 32       | 0.13          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG11 | 40       | 0.13          |
| (2,357) | 1:34:C:PHE:H    | 1:24:C:VAL:HG23 | 33       | 0.13          |
| (2,352) | 1:34:C:PHE:HE1  | 1:34:C:PHE:H    | 9        | 0.13          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 38       | 0.13          |
| (2,164) | 1:45:C:SER:HB3  | 1:44:C:THR:HG22 | 33       | 0.13          |
| (2,125) | 1:32:C:ALA:HB2  | 1:33:C:ALA:HA   | 25       | 0.13          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 4        | 0.13          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 6        | 0.13          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 35       | 0.13          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 37       | 0.13          |
| (2,85)  | 1:24:C:VAL:HG12 | 1:14:C:ARG:HA   | 21       | 0.13          |
| (2,73)  | 1:14:C:ARG:HB3  | 1:21:C:GLY:HA3  | 26       | 0.13          |
| (2,62)  | 1:17:C:VAL:HG11 | 1:18:C:CYS:HB2  | 17       | 0.13          |
| (2,62)  | 1:17:C:VAL:HG11 | 1:18:C:CYS:HB2  | 45       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 4        | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 6        | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 8        | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 15       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 19       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 24       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 31       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 33       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 35       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 38       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 39       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 40       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 43       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 45       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 46       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 47       | 0.13          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 50       | 0.13          |
| (2,40)  | 1:9:C:LEU:HD23  | 1:9:C:LEU:HA    | 48       | 0.13          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD2  | 9        | 0.12          |
| (2,743) | 1:42:C:ALA:H    | 1:41:C:PRO:HB2  | 21       | 0.12          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD23 | 29       | 0.12          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD22 | 30       | 0.12          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD23 | 37       | 0.12          |
| (2,706) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HG   | 5        | 0.12          |
| (2,706) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HG   | 44       | 0.12          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 35       | 0.12          |
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA3  | 5        | 0.12          |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 36       | 0.12          |
| (2,678) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB3  | 46       | 0.12          |
| (2,634) | 1:17:C:VAL:HG21 | 1:38:C:CYS:HB2  | 32       | 0.12          |
| (2,614) | 1:14:C:ARG:HG2  | 1:21:C:GLY:HA2  | 16       | 0.12          |
| (2,614) | 1:14:C:ARG:HG2  | 1:21:C:GLY:HA2  | 18       | 0.12          |
| (2,593) | 1:6:C:GLN:HB2   | 1:6:C:GLN:HA    | 6        | 0.12          |
| (2,593) | 1:6:C:GLN:HB2   | 1:6:C:GLN:HA    | 7        | 0.12          |
| (2,593) | 1:7:C:GLN:HB2   | 1:7:C:GLN:HA    | 11       | 0.12          |
| (2,593) | 1:6:C:GLN:HB2   | 1:6:C:GLN:HA    | 14       | 0.12          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,593) | 1:7:C:GLN:HB2   | 1:7:C:GLN:HA    | 19       | 0.12          |
| (2,593) | 1:6:C:GLN:HB2   | 1:6:C:GLN:HA    | 26       | 0.12          |
| (2,593) | 1:6:C:GLN:HB2   | 1:6:C:GLN:HA    | 33       | 0.12          |
| (2,458) | 1:30:C:CYS:H    | 1:28:C:THR:HG23 | 7        | 0.12          |
| (2,448) | 1:28:C:THR:H    | 1:51:C:LEU:HD21 | 26       | 0.12          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 9        | 0.12          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 12       | 0.12          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 15       | 0.12          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 19       | 0.12          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 32       | 0.12          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 43       | 0.12          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 46       | 0.12          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 10       | 0.12          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 38       | 0.12          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 39       | 0.12          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 43       | 0.12          |
| (2,395) | 1:17:C:VAL:H    | 1:18:C:CYS:HB2  | 5        | 0.12          |
| (2,385) | 1:12:C:GLY:H    | 1:11:C:PRO:HA   | 8        | 0.12          |
| (2,371) | 1:23:C:ASP:H    | 1:22:C:THR:HG21 | 20       | 0.12          |
| (2,352) | 1:34:C:PHE:HE1  | 1:34:C:PHE:H    | 38       | 0.12          |
| (2,281) | 1:66:C:GLU:H    | 1:65:C:VAL:HA   | 16       | 0.12          |
| (2,252) | 1:22:C:THR:HG23 | 1:23:C:ASP:HB3  | 11       | 0.12          |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 12       | 0.12          |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 43       | 0.12          |
| (2,234) | 1:36:C:TRP:HZ3  | 1:51:C:LEU:HD23 | 17       | 0.12          |
| (2,190) | 1:52:C:ARG:HA   | 1:52:C:ARG:HG3  | 36       | 0.12          |
| (2,149) | 1:38:C:CYS:HB3  | 1:17:C:VAL:HB   | 13       | 0.12          |
| (2,145) | 1:39:C:HIS:HD2  | 1:38:C:CYS:HB3  | 50       | 0.12          |
| (2,125) | 1:32:C:ALA:HB2  | 1:33:C:ALA:HA   | 13       | 0.12          |
| (2,125) | 1:32:C:ALA:HB2  | 1:33:C:ALA:HA   | 18       | 0.12          |
| (2,125) | 1:32:C:ALA:HB3  | 1:33:C:ALA:HA   | 42       | 0.12          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 9        | 0.12          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 13       | 0.12          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 23       | 0.12          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 26       | 0.12          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 49       | 0.12          |
| (2,107) | 1:52:C:ARG:HA   | 1:27:C:CYS:HA   | 10       | 0.12          |
| (2,101) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB2  | 49       | 0.12          |
| (2,92)  | 1:24:C:VAL:HG21 | 1:21:C:GLY:HA2  | 28       | 0.12          |
| (2,85)  | 1:24:C:VAL:HG11 | 1:14:C:ARG:HA   | 13       | 0.12          |
| (2,63)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB3  | 44       | 0.12          |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 16       | 0.12          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,62)  | 1:17:C:VAL:HG11 | 1:18:C:CYS:HB2  | 23       | 0.12          |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 27       | 0.12          |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 33       | 0.12          |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 38       | 0.12          |
| (2,62)  | 1:17:C:VAL:HG12 | 1:18:C:CYS:HB2  | 49       | 0.12          |
| (2,772) | 1:57:C:SER:H    | 1:57:C:SER:HB3  | 29       | 0.11          |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG11 | 12       | 0.11          |
| (2,765) | 1:61:C:THR:H    | 1:60:C:VAL:HG13 | 48       | 0.11          |
| (2,739) | 1:37:C:ARG:H    | 1:35:C:HIS:HB3  | 5        | 0.11          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD12 | 7        | 0.11          |
| (2,733) | 1:25:C:LEU:H    | 1:25:C:LEU:HD21 | 16       | 0.11          |
| (2,706) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HG   | 36       | 0.11          |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 33       | 0.11          |
| (2,702) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HD22 | 9        | 0.11          |
| (2,702) | 1:34:C:PHE:HE2  | 1:51:C:LEU:HD21 | 44       | 0.11          |
| (2,692) | 1:52:C:ARG:HG2  | 1:50:C:GLY:HA3  | 26       | 0.11          |
| (2,663) | 1:57:C:SER:HB3  | 1:52:C:ARG:HB2  | 4        | 0.11          |
| (2,614) | 1:14:C:ARG:HG2  | 1:21:C:GLY:HA2  | 35       | 0.11          |
| (2,614) | 1:14:C:ARG:HG2  | 1:21:C:GLY:HA2  | 46       | 0.11          |
| (2,593) | 1:6:C:GLN:HB2   | 1:6:C:GLN:HA    | 9        | 0.11          |
| (2,593) | 1:7:C:GLN:HB2   | 1:7:C:GLN:HA    | 49       | 0.11          |
| (2,575) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HB2  | 31       | 0.11          |
| (2,575) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HB2  | 44       | 0.11          |
| (2,553) | 1:65:C:VAL:H    | 1:64:C:PRO:HA   | 7        | 0.11          |
| (2,544) | 1:60:C:VAL:H    | 1:60:C:VAL:HB   | 37       | 0.11          |
| (2,544) | 1:60:C:VAL:H    | 1:60:C:VAL:HB   | 48       | 0.11          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 26       | 0.11          |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 27       | 0.11          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 4        | 0.11          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 24       | 0.11          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 38       | 0.11          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 44       | 0.11          |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 48       | 0.11          |
| (2,420) | 1:21:C:GLY:H    | 1:24:C:VAL:HG22 | 11       | 0.11          |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 15       | 0.11          |
| (2,379) | 1:8:C:ASN:H     | 1:7:C:GLN:HA    | 32       | 0.11          |
| (2,367) | 1:35:C:HIS:HD2  | 1:24:C:VAL:HG23 | 43       | 0.11          |
| (2,361) | 1:15:C:CYS:H    | 1:24:C:VAL:HG23 | 5        | 0.11          |
| (2,360) | 1:22:C:THR:H    | 1:24:C:VAL:HG12 | 47       | 0.11          |
| (2,330) | 1:39:C:HIS:HE1  | 1:32:C:ALA:HB1  | 15       | 0.11          |
| (2,246) | 1:32:C:ALA:HB1  | 1:27:C:CYS:HB3  | 48       | 0.11          |
| (2,177) | 1:36:C:TRP:HD1  | 1:47:C:PRO:HD3  | 49       | 0.11          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (2,125) | 1:32:C:ALA:HB3  | 1:33:C:ALA:HA   | 33       | 0.11          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 41       | 0.11          |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 45       | 0.11          |
| (2,86)  | 1:24:C:VAL:HG12 | 1:21:C:GLY:HA2  | 32       | 0.11          |
| (2,85)  | 1:24:C:VAL:HG12 | 1:14:C:ARG:HA   | 32       | 0.11          |
| (2,84)  | 1:24:C:VAL:HG13 | 1:24:C:VAL:HA   | 41       | 0.11          |
| (2,68)  | 1:14:C:ARG:HG2  | 1:20:C:ASP:HA   | 11       | 0.11          |
| (2,68)  | 1:14:C:ARG:HG2  | 1:20:C:ASP:HA   | 23       | 0.11          |
| (2,62)  | 1:17:C:VAL:HG13 | 1:18:C:CYS:HB2  | 9        | 0.11          |
| (2,60)  | 1:18:C:CYS:HB2  | 1:18:C:CYS:HA   | 44       | 0.11          |
| (2,40)  | 1:9:C:LEU:HD23  | 1:9:C:LEU:HA    | 50       | 0.11          |
| (2,778) | 1:36:C:TRP:HE1  | 1:46:C:ARG:HD3  | 16       | 0.1           |
| (2,726) | 1:13:C:ALA:H    | 1:12:C:GLY:HA2  | 23       | 0.1           |
| (2,706) | 1:34:C:PHE:HZ   | 1:51:C:LEU:HG   | 9        | 0.1           |
| (2,704) | 1:34:C:PHE:HZ   | 1:25:C:LEU:HB3  | 13       | 0.1           |
| (2,634) | 1:17:C:VAL:HG23 | 1:38:C:CYS:HB2  | 35       | 0.1           |
| (2,623) | 1:27:C:CYS:HA   | 1:26:C:ARG:HB3  | 36       | 0.1           |
| (2,610) | 1:24:C:VAL:HG11 | 1:26:C:ARG:HD3  | 6        | 0.1           |
| (2,544) | 1:60:C:VAL:H    | 1:60:C:VAL:HB   | 29       | 0.1           |
| (2,543) | 1:60:C:VAL:H    | 1:59:C:ASP:HA   | 44       | 0.1           |
| (2,537) | 1:54:C:ARG:H    | 1:39:C:HIS:HB2  | 18       | 0.1           |
| (2,496) | 1:39:C:HIS:H    | 1:39:C:HIS:HB3  | 12       | 0.1           |
| (2,468) | 1:32:C:ALA:H    | 1:27:C:CYS:HB2  | 28       | 0.1           |
| (2,458) | 1:30:C:CYS:H    | 1:28:C:THR:HG22 | 32       | 0.1           |
| (2,448) | 1:28:C:THR:H    | 1:51:C:LEU:HD22 | 7        | 0.1           |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 11       | 0.1           |
| (2,437) | 1:25:C:LEU:H    | 1:25:C:LEU:HB3  | 39       | 0.1           |
| (2,412) | 1:20:C:ASP:H    | 1:20:C:ASP:HB2  | 39       | 0.1           |
| (2,402) | 1:19:C:GLY:H    | 1:19:C:GLY:HA3  | 17       | 0.1           |
| (2,388) | 1:13:C:ALA:H    | 1:13:C:ALA:HB3  | 11       | 0.1           |
| (2,385) | 1:12:C:GLY:H    | 1:11:C:PRO:HA   | 18       | 0.1           |
| (2,385) | 1:12:C:GLY:H    | 1:11:C:PRO:HA   | 41       | 0.1           |
| (2,359) | 1:22:C:THR:H    | 1:24:C:VAL:HG23 | 13       | 0.1           |
| (2,252) | 1:22:C:THR:HG21 | 1:23:C:ASP:HB3  | 7        | 0.1           |
| (2,252) | 1:22:C:THR:HG22 | 1:23:C:ASP:HB3  | 18       | 0.1           |
| (2,244) | 1:33:C:ALA:HB2  | 1:24:C:VAL:HB   | 14       | 0.1           |
| (2,190) | 1:52:C:ARG:HA   | 1:52:C:ARG:HG3  | 41       | 0.1           |
| (2,155) | 1:54:C:ARG:HB2  | 1:39:C:HIS:HB2  | 45       | 0.1           |
| (2,149) | 1:38:C:CYS:HB3  | 1:17:C:VAL:HB   | 21       | 0.1           |
| (2,125) | 1:32:C:ALA:HB1  | 1:33:C:ALA:HA   | 2        | 0.1           |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 17       | 0.1           |
| (2,124) | 1:24:C:VAL:HB   | 1:33:C:ALA:HA   | 39       | 0.1           |

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| <b>Key</b> | <b>Atom-1</b>  | <b>Atom-2</b> | <b>Model ID</b> | <b>Violation (Å)</b> |
|------------|----------------|---------------|-----------------|----------------------|
| (2,44)     | 1:21:C:GLY:HA2 | 1:14:C:ARG:HA | 41              | 0.1                  |
| (2,40)     | 1:9:C:LEU:HD23 | 1:9:C:LEU:HA  | 28              | 0.1                  |

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

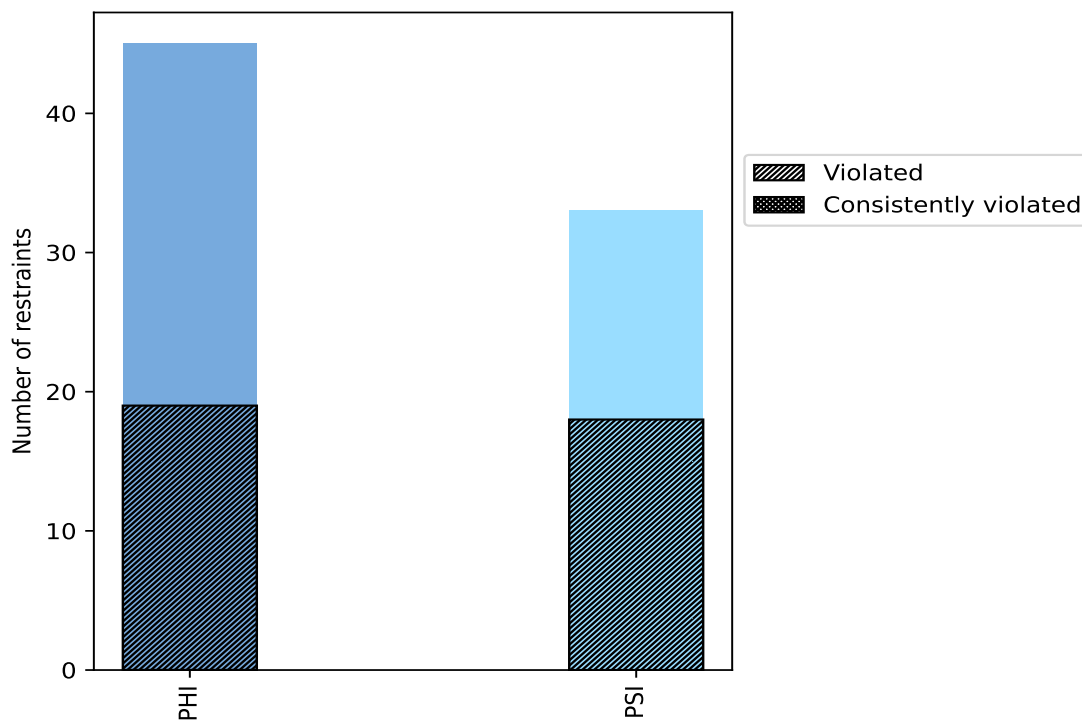
### 10.1 Summary of dihedral-angle violations [i](#)

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

| Angle type | Count | % <sup>1</sup> | Violated <sup>3</sup> |                |                | Consistently Violated <sup>4</sup> |                |                |
|------------|-------|----------------|-----------------------|----------------|----------------|------------------------------------|----------------|----------------|
|            |       |                | Count                 | % <sup>2</sup> | % <sup>1</sup> | Count                              | % <sup>2</sup> | % <sup>1</sup> |
| PHI        | 45    | 57.7           | 19                    | 42.2           | 24.4           | 0                                  | 0.0            | 0.0            |
| PSI        | 33    | 42.3           | 18                    | 54.5           | 23.1           | 0                                  | 0.0            | 0.0            |
| Total      | 78    | 100.0          | 37                    | 47.4           | 47.4           | 0                                  | 0.0            | 0.0            |

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

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



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

## 10.2 Dihedral-angle violation statistics for each model [\(i\)](#)

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

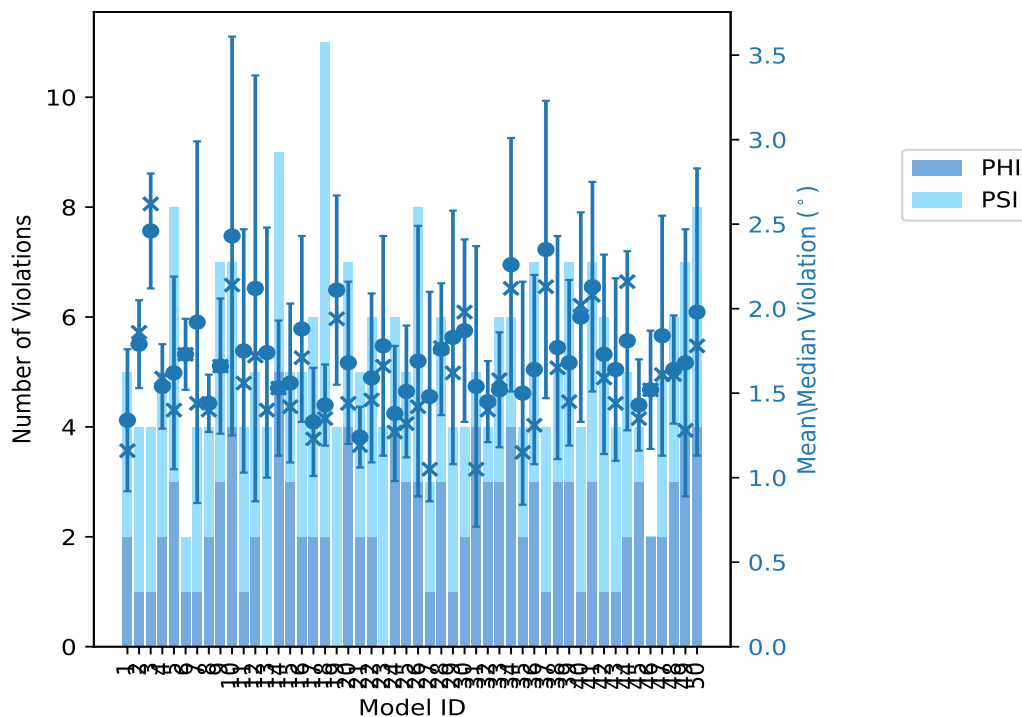
| Model ID | Number of violations |     |       | Mean (°) | Max (°) | SD (°) | Median (°) |
|----------|----------------------|-----|-------|----------|---------|--------|------------|
|          | PHI                  | PSI | Total |          |         |        |            |
| 1        | 2                    | 3   | 5     | 1.34     | 2.16    | 0.42   | 1.16       |
| 2        | 1                    | 3   | 4     | 1.79     | 2.04    | 0.26   | 1.86       |
| 3        | 1                    | 3   | 4     | 2.46     | 2.72    | 0.34   | 2.62       |
| 4        | 2                    | 3   | 5     | 1.54     | 1.87    | 0.25   | 1.59       |
| 5        | 3                    | 5   | 8     | 1.62     | 3.08    | 0.57   | 1.4        |
| 6        | 1                    | 1   | 2     | 1.73     | 1.94    | 0.21   | 1.73       |
| 7        | 1                    | 3   | 4     | 1.92     | 3.74    | 1.07   | 1.44       |
| 8        | 2                    | 2   | 4     | 1.44     | 1.7     | 0.17   | 1.4        |
| 9        | 3                    | 4   | 7     | 1.66     | 2.21    | 0.4    | 1.66       |
| 10       | 4                    | 3   | 7     | 2.43     | 5.08    | 1.18   | 2.14       |
| 11       | 1                    | 3   | 4     | 1.75     | 2.83    | 0.72   | 1.56       |
| 12       | 2                    | 3   | 5     | 2.12     | 4.51    | 1.26   | 1.72       |
| 13       | 0                    | 4   | 4     | 1.74     | 3.01    | 0.74   | 1.4        |
| 14       | 5                    | 4   | 9     | 1.53     | 2.02    | 0.4    | 1.53       |
| 15       | 3                    | 2   | 5     | 1.56     | 2.43    | 0.47   | 1.42       |
| 16       | 2                    | 3   | 5     | 1.88     | 2.96    | 0.55   | 1.71       |
| 17       | 2                    | 4   | 6     | 1.33     | 1.99    | 0.32   | 1.23       |
| 18       | 2                    | 9   | 11    | 1.43     | 1.8     | 0.24   | 1.35       |
| 19       | 0                    | 4   | 4     | 2.11     | 3.0     | 0.56   | 1.94       |
| 20       | 4                    | 3   | 7     | 1.68     | 2.74    | 0.48   | 1.44       |
| 21       | 2                    | 3   | 5     | 1.24     | 1.57    | 0.18   | 1.19       |
| 22       | 2                    | 4   | 6     | 1.59     | 2.43    | 0.5    | 1.46       |
| 23       | 0                    | 4   | 4     | 1.78     | 2.73    | 0.65   | 1.66       |
| 24       | 4                    | 2   | 6     | 1.38     | 2.26    | 0.4    | 1.27       |
| 25       | 3                    | 2   | 5     | 1.51     | 2.24    | 0.39   | 1.32       |
| 26       | 3                    | 5   | 8     | 1.69     | 3.5     | 0.8    | 1.42       |
| 27       | 1                    | 2   | 3     | 1.48     | 2.36    | 0.62   | 1.05       |
| 28       | 3                    | 3   | 6     | 1.76     | 2.32    | 0.39   | 1.77       |
| 29       | 1                    | 3   | 4     | 1.83     | 3.03    | 0.75   | 1.62       |
| 30       | 2                    | 2   | 4     | 1.87     | 2.46    | 0.54   | 1.98       |
| 31       | 4                    | 1   | 5     | 1.54     | 3.18    | 0.83   | 1.05       |
| 32       | 3                    | 1   | 4     | 1.45     | 1.79    | 0.24   | 1.4        |
| 33       | 3                    | 3   | 6     | 1.52     | 2.11    | 0.34   | 1.58       |
| 34       | 4                    | 2   | 6     | 2.26     | 3.43    | 0.75   | 2.12       |
| 35       | 2                    | 2   | 4     | 1.5      | 2.64    | 0.66   | 1.15       |
| 36       | 3                    | 4   | 7     | 1.64     | 2.77    | 0.56   | 1.31       |
| 37       | 1                    | 3   | 4     | 2.35     | 3.75    | 0.88   | 2.13       |
| 38       | 3                    | 2   | 5     | 1.77     | 3.01    | 0.66   | 1.65       |

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| Model ID | Number of violations |     |       | Mean (°) | Max (°) | SD (°) | Median (°) |
|----------|----------------------|-----|-------|----------|---------|--------|------------|
|          | PHI                  | PSI | Total |          |         |        |            |
| 39       | 3                    | 4   | 7     | 1.68     | 2.52    | 0.49   | 1.45       |
| 40       | 1                    | 3   | 4     | 1.95     | 2.72    | 0.62   | 2.02       |
| 41       | 3                    | 4   | 7     | 2.13     | 3.08    | 0.62   | 2.08       |
| 42       | 1                    | 5   | 6     | 1.73     | 2.6     | 0.59   | 1.59       |
| 43       | 1                    | 3   | 4     | 1.64     | 2.51    | 0.54   | 1.44       |
| 44       | 2                    | 3   | 5     | 1.81     | 2.27    | 0.53   | 2.16       |
| 45       | 3                    | 1   | 4     | 1.43     | 1.85    | 0.27   | 1.35       |
| 46       | 2                    | 0   | 2     | 1.52     | 1.87    | 0.35   | 1.52       |
| 47       | 2                    | 3   | 5     | 1.84     | 3.16    | 0.71   | 1.61       |
| 48       | 3                    | 3   | 6     | 1.64     | 2.27    | 0.32   | 1.61       |
| 49       | 4                    | 3   | 7     | 1.68     | 3.22    | 0.79   | 1.28       |
| 50       | 4                    | 4   | 8     | 1.98     | 3.6     | 0.85   | 1.78       |

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



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



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

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

| Number of violated restraints |     |       | Fraction of the ensemble |      |
|-------------------------------|-----|-------|--------------------------|------|
| PHI                           | PSI | Total | Count <sup>1</sup>       | %    |
| 8                             | 6   | 14    | 1                        | 2.0  |
| 1                             | 2   | 3     | 2                        | 4.0  |
| 2                             | 1   | 3     | 3                        | 6.0  |
| 2                             | 0   | 2     | 4                        | 8.0  |
| 0                             | 2   | 2     | 5                        | 10.0 |
| 1                             | 2   | 3     | 6                        | 12.0 |
| 0                             | 0   | 0     | 7                        | 14.0 |
| 1                             | 0   | 1     | 8                        | 16.0 |
| 0                             | 0   | 0     | 9                        | 18.0 |
| 0                             | 0   | 0     | 10                       | 20.0 |
| 1                             | 0   | 1     | 11                       | 22.0 |
| 0                             | 0   | 0     | 12                       | 24.0 |
| 0                             | 0   | 0     | 13                       | 26.0 |
| 1                             | 0   | 1     | 14                       | 28.0 |
| 1                             | 0   | 1     | 15                       | 30.0 |
| 0                             | 0   | 0     | 16                       | 32.0 |
| 0                             | 1   | 1     | 17                       | 34.0 |
| 0                             | 1   | 1     | 18                       | 36.0 |
| 0                             | 0   | 0     | 19                       | 38.0 |
| 0                             | 0   | 0     | 20                       | 40.0 |
| 0                             | 0   | 0     | 21                       | 42.0 |
| 0                             | 1   | 1     | 22                       | 44.0 |
| 0                             | 0   | 0     | 23                       | 46.0 |
| 0                             | 0   | 0     | 24                       | 48.0 |
| 0                             | 0   | 0     | 25                       | 50.0 |
| 0                             | 0   | 0     | 26                       | 52.0 |
| 0                             | 0   | 0     | 27                       | 54.0 |
| 0                             | 0   | 0     | 28                       | 56.0 |
| 0                             | 0   | 0     | 29                       | 58.0 |
| 0                             | 1   | 1     | 30                       | 60.0 |
| 0                             | 1   | 1     | 31                       | 62.0 |
| 0                             | 0   | 0     | 32                       | 64.0 |
| 0                             | 0   | 0     | 33                       | 66.0 |
| 0                             | 0   | 0     | 34                       | 68.0 |
| 0                             | 0   | 0     | 35                       | 70.0 |
| 1                             | 0   | 1     | 36                       | 72.0 |
| 0                             | 0   | 0     | 37                       | 74.0 |

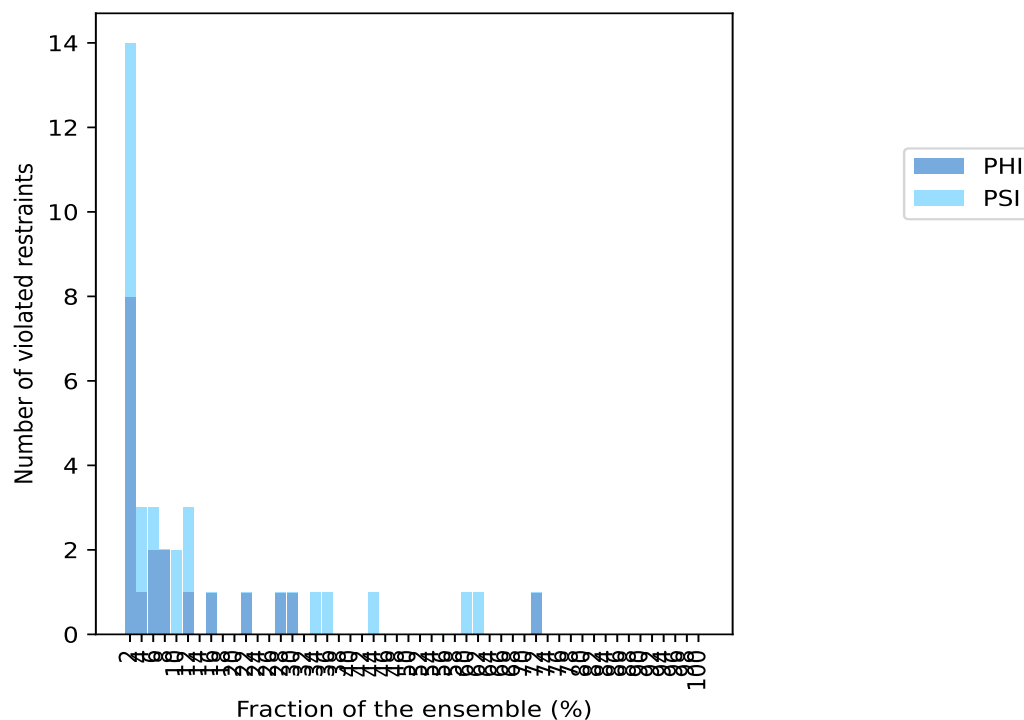
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| Number of violated restraints |     |       | Fraction of the ensemble |       |
|-------------------------------|-----|-------|--------------------------|-------|
| PHI                           | PSI | Total | Count <sup>1</sup>       | %     |
| 0                             | 0   | 0     | 38                       | 76.0  |
| 0                             | 0   | 0     | 39                       | 78.0  |
| 0                             | 0   | 0     | 40                       | 80.0  |
| 0                             | 0   | 0     | 41                       | 82.0  |
| 0                             | 0   | 0     | 42                       | 84.0  |
| 0                             | 0   | 0     | 43                       | 86.0  |
| 0                             | 0   | 0     | 44                       | 88.0  |
| 0                             | 0   | 0     | 45                       | 90.0  |
| 0                             | 0   | 0     | 46                       | 92.0  |
| 0                             | 0   | 0     | 47                       | 94.0  |
| 0                             | 0   | 0     | 48                       | 96.0  |
| 0                             | 0   | 0     | 49                       | 98.0  |
| 0                             | 0   | 0     | 50                       | 100.0 |

<sup>1</sup> Number of models with violations

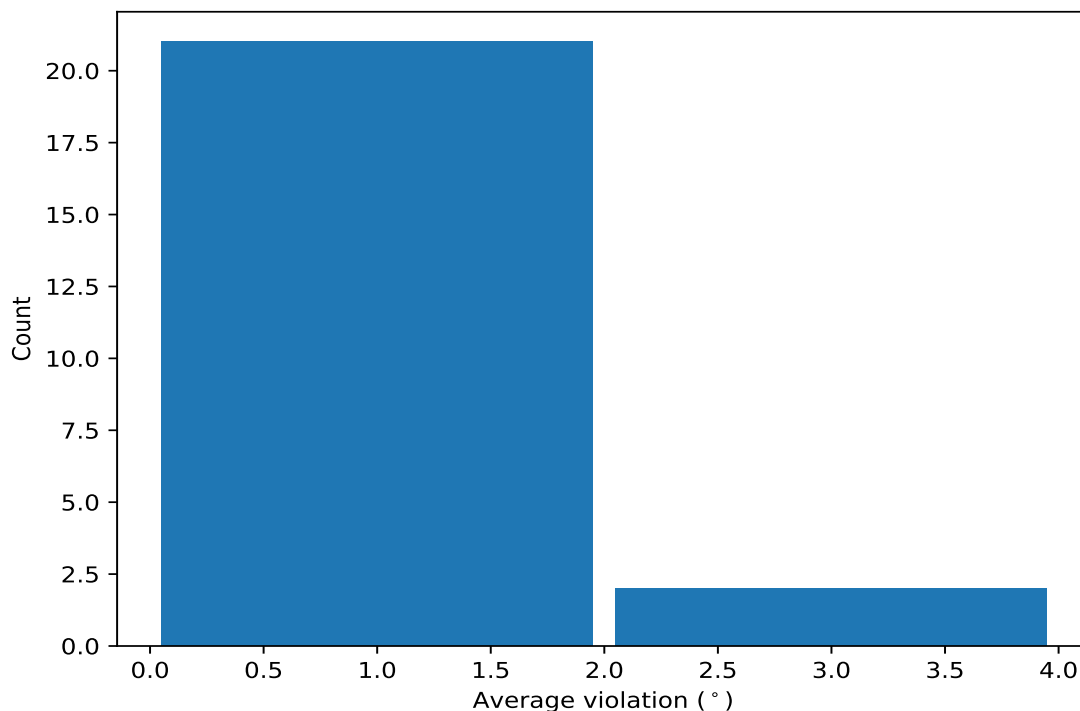
### 10.3.1 Bar graph : Dihedral-angle Violation statistics for the ensemble [i](#)



## 10.4 Most violated dihedral-angle restraints in the ensemble [i](#)

### 10.4.1 Histogram : Distribution of mean dihedral-angle 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



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

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

| Key    | Atom-1       | Atom-2        | Atom-3        | Atom-4       | Models <sup>1</sup> | Mean | SD <sup>2</sup> | Median |
|--------|--------------|---------------|---------------|--------------|---------------------|------|-----------------|--------|
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 36                  | 1.67 | 0.49            | 1.59   |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 31                  | 1.82 | 0.77            | 1.68   |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 30                  | 1.85 | 0.67            | 1.69   |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 22                  | 2.44 | 0.69            | 2.58   |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 18                  | 2.07 | 0.75            | 2.05   |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 17                  | 1.61 | 0.39            | 1.49   |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 15                  | 1.65 | 0.48            | 1.46   |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 14                  | 1.62 | 0.57            | 1.48   |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 11                  | 1.6  | 0.49            | 1.42   |
| (1,10) | 1:58:C:GLY:C | 1:59:C:ASP:N  | 1:59:C:ASP:CA | 1:59:C:ASP:C | 8                   | 1.73 | 1.29            | 1.16   |
| (1,74) | 1:56:C:CYS:N | 1:56:C:CYS:CA | 1:56:C:CYS:C  | 1:57:C:SER:N | 6                   | 1.65 | 0.49            | 1.63   |
| (1,2)  | 1:23:C:ASP:C | 1:24:C:VAL:N  | 1:24:C:VAL:CA | 1:24:C:VAL:C | 6                   | 1.44 | 0.33            | 1.46   |
| (1,59) | 1:33:C:ALA:N | 1:33:C:ALA:CA | 1:33:C:ALA:C  | 1:34:C:PHE:N | 6                   | 1.12 | 0.06            | 1.14   |

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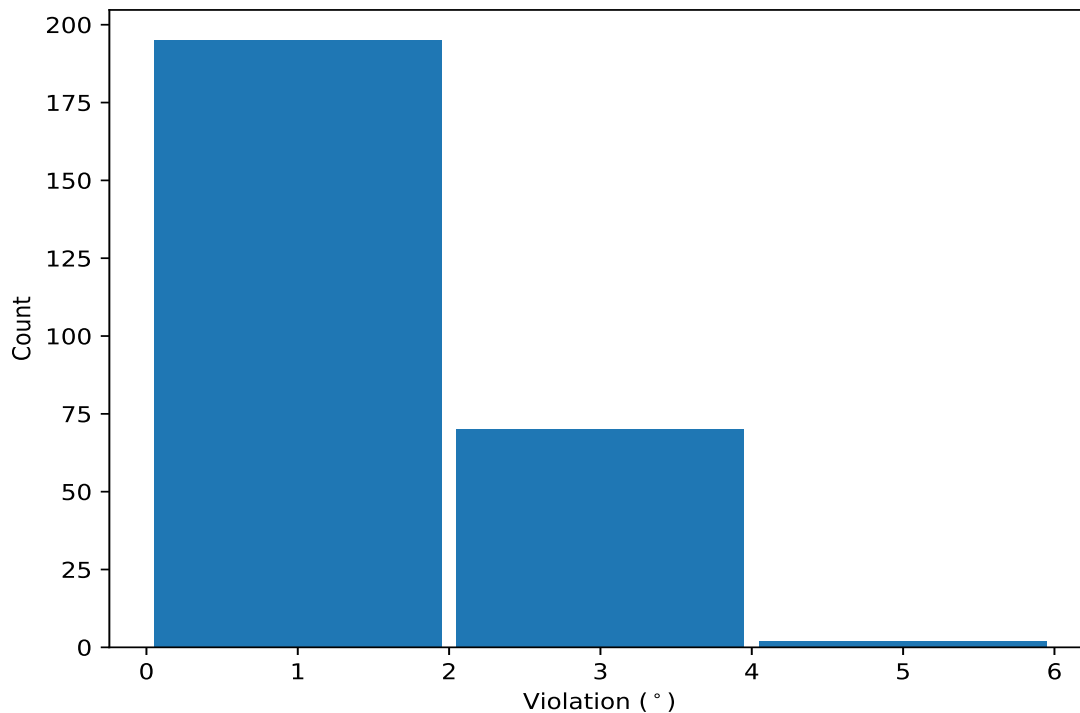
| Key    | Atom-1       | Atom-2        | Atom-3        | Atom-4       | Models <sup>1</sup> | Mean | SD <sup>2</sup> | Median |
|--------|--------------|---------------|---------------|--------------|---------------------|------|-----------------|--------|
| (1,52) | 1:22:C:THR:N | 1:22:C:THR:CA | 1:22:C:THR:C  | 1:23:C:ASP:N | 5                   | 1.47 | 0.12            | 1.44   |
| (1,46) | 1:10:C:ALA:N | 1:10:C:ALA:CA | 1:10:C:ALA:C  | 1:11:C:PRO:N | 5                   | 1.43 | 0.49            | 1.18   |
| (1,21) | 1:21:C:GLY:C | 1:22:C:THR:N  | 1:22:C:THR:CA | 1:22:C:THR:C | 4                   | 1.5  | 0.29            | 1.6    |
| (1,11) | 1:59:C:ASP:C | 1:60:C:VAL:N  | 1:60:C:VAL:CA | 1:60:C:VAL:C | 4                   | 1.18 | 0.09            | 1.19   |
| (1,76) | 1:61:C:THR:N | 1:61:C:THR:CA | 1:61:C:THR:C  | 1:62:C:PRO:N | 3                   | 1.82 | 0.56            | 1.81   |
| (1,38) | 1:52:C:ARG:C | 1:53:C:CYS:N  | 1:53:C:CYS:CA | 1:53:C:CYS:C | 3                   | 1.35 | 0.32            | 1.22   |
| (1,9)  | 1:48:C:GLY:C | 1:49:C:THR:N  | 1:49:C:THR:CA | 1:49:C:THR:C | 3                   | 1.16 | 0.08            | 1.17   |
| (1,40) | 1:54:C:ARG:C | 1:55:C:SER:N  | 1:55:C:SER:CA | 1:55:C:SER:C | 2                   | 1.58 | 0.3             | 1.58   |
| (1,77) | 1:62:C:PRO:N | 1:62:C:PRO:CA | 1:62:C:PRO:C  | 1:63:C:ALA:N | 2                   | 1.42 | 0.17            | 1.42   |
| (1,65) | 1:42:C:ALA:N | 1:42:C:ALA:CA | 1:42:C:ALA:C  | 1:43:C:GLY:N | 2                   | 1.14 | 0.1             | 1.14   |

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

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

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

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



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

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

| Key    | Atom-1       | Atom-2        | Atom-3        | Atom-4       | Model ID | Violation (°) |
|--------|--------------|---------------|---------------|--------------|----------|---------------|
| (1,10) | 1:58:C:GLY:C | 1:59:C:ASP:N  | 1:59:C:ASP:CA | 1:59:C:ASP:C | 10       | 5.08          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 12       | 4.51          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 37       | 3.75          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 7        | 3.74          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 50       | 3.6           |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 26       | 3.5           |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 34       | 3.43          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 49       | 3.22          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 31       | 3.18          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 47       | 3.16          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 41       | 3.08          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 5        | 3.08          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 50       | 3.04          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 29       | 3.03          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 38       | 3.01          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 13       | 3.01          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 19       | 3.0           |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 16       | 2.96          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 34       | 2.94          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 11       | 2.83          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 36       | 2.77          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 20       | 2.74          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 23       | 2.73          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 40       | 2.72          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 3        | 2.72          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 3        | 2.71          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 35       | 2.64          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 10       | 2.63          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 41       | 2.62          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 42       | 2.6           |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 41       | 2.57          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 49       | 2.55          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 3        | 2.54          |
| (1,76) | 1:61:C:THR:N | 1:61:C:THR:CA | 1:61:C:THR:C  | 1:62:C:PRO:N | 39       | 2.52          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 43       | 2.51          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 30       | 2.46          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 22       | 2.43          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 15       | 2.43          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 42       | 2.39          |
| (1,46) | 1:10:C:ALA:N | 1:10:C:ALA:CA | 1:10:C:ALA:C  | 1:11:C:PRO:N | 27       | 2.36          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 37       | 2.35          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 28       | 2.32          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 26       | 2.31          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 40       | 2.29          |
| (1,74) | 1:56:C:CYS:N | 1:56:C:CYS:CA | 1:56:C:CYS:C  | 1:57:C:SER:N | 10       | 2.27          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 44       | 2.27          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 48       | 2.27          |
| (1,74) | 1:56:C:CYS:N | 1:56:C:CYS:CA | 1:56:C:CYS:C  | 1:57:C:SER:N | 44       | 2.26          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 24       | 2.26          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 25       | 2.24          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 9        | 2.21          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 30       | 2.19          |

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| Key    | Atom-1       | Atom-2        | Atom-3        | Atom-4       | Model ID | Violation (°) |
|--------|--------------|---------------|---------------|--------------|----------|---------------|
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 19       | 2.18          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 44       | 2.16          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 1        | 2.16          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 10       | 2.14          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 12       | 2.13          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 34       | 2.12          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 34       | 2.11          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 33       | 2.11          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 9        | 2.1           |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 36       | 2.1           |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 39       | 2.09          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 10       | 2.09          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 41       | 2.08          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 50       | 2.06          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 2        | 2.04          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 22       | 2.03          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 2        | 2.02          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 23       | 2.02          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 14       | 2.02          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 14       | 2.0           |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 17       | 1.99          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 28       | 1.99          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 39       | 1.99          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 11       | 1.97          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 6        | 1.94          |
| (1,2)  | 1:23:C:ASP:C | 1:24:C:VAL:N  | 1:24:C:VAL:CA | 1:24:C:VAL:C | 47       | 1.94          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 9        | 1.91          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 37       | 1.91          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 14       | 1.9           |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 3        | 1.89          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 41       | 1.88          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 20       | 1.88          |
| (1,40) | 1:54:C:ARG:C | 1:55:C:SER:N  | 1:55:C:SER:CA | 1:55:C:SER:C | 14       | 1.88          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 4        | 1.87          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 50       | 1.87          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 46       | 1.87          |
| (1,17) | 1:13:C:ALA:C | 1:14:C:ARG:N  | 1:14:C:ARG:CA | 1:14:C:ARG:C | 28       | 1.86          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 45       | 1.85          |
| (1,76) | 1:61:C:THR:N | 1:61:C:THR:CA | 1:61:C:THR:C  | 1:62:C:PRO:N | 29       | 1.81          |
| (1,38) | 1:52:C:ARG:C | 1:53:C:CYS:N  | 1:53:C:CYS:CA | 1:53:C:CYS:C | 34       | 1.8           |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 18       | 1.8           |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 32       | 1.79          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 30       | 1.78          |
| (1,21) | 1:21:C:GLY:C | 1:22:C:THR:N  | 1:22:C:THR:CA | 1:22:C:THR:C | 10       | 1.76          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 20       | 1.76          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 40       | 1.75          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 4        | 1.73          |
| (1,10) | 1:58:C:GLY:C | 1:59:C:ASP:N  | 1:59:C:ASP:CA | 1:59:C:ASP:C | 38       | 1.73          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 42       | 1.72          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 12       | 1.72          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 16       | 1.71          |

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| Key    | Atom-1       | Atom-2        | Atom-3        | Atom-4       | Model ID | Violation (°) |
|--------|--------------|---------------|---------------|--------------|----------|---------------|
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 36       | 1.71          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 19       | 1.71          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 16       | 1.71          |
| (1,2)  | 1:23:C:ASP:C | 1:24:C:VAL:N  | 1:24:C:VAL:CA | 1:24:C:VAL:C | 26       | 1.71          |
| (1,52) | 1:22:C:THR:N | 1:22:C:THR:CA | 1:22:C:THR:C  | 1:23:C:ASP:N | 8        | 1.7           |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 2        | 1.7           |
| (1,21) | 1:21:C:GLY:C | 1:22:C:THR:N  | 1:22:C:THR:CA | 1:22:C:THR:C | 18       | 1.7           |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 18       | 1.69          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 48       | 1.68          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 43       | 1.68          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 50       | 1.68          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 28       | 1.68          |
| (1,74) | 1:56:C:CYS:N | 1:56:C:CYS:CA | 1:56:C:CYS:C  | 1:57:C:SER:N | 28       | 1.67          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 9        | 1.66          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 38       | 1.65          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 15       | 1.63          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 33       | 1.63          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 48       | 1.62          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 5        | 1.62          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 47       | 1.61          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 5        | 1.6           |
| (1,2)  | 1:23:C:ASP:C | 1:24:C:VAL:N  | 1:24:C:VAL:CA | 1:24:C:VAL:C | 48       | 1.6           |
| (1,77) | 1:62:C:PRO:N | 1:62:C:PRO:CA | 1:62:C:PRO:C  | 1:63:C:ALA:N | 4        | 1.59          |
| (1,74) | 1:56:C:CYS:N | 1:56:C:CYS:CA | 1:56:C:CYS:C  | 1:57:C:SER:N | 18       | 1.59          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 33       | 1.58          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 16       | 1.58          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 33       | 1.57          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 21       | 1.57          |
| (1,10) | 1:58:C:GLY:C | 1:59:C:ASP:N  | 1:59:C:ASP:CA | 1:59:C:ASP:C | 22       | 1.57          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 25       | 1.57          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 19       | 1.56          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 32       | 1.56          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 26       | 1.55          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 14       | 1.53          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 6        | 1.52          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 18       | 1.5           |
| (1,21) | 1:21:C:GLY:C | 1:22:C:THR:N  | 1:22:C:THR:CA | 1:22:C:THR:C | 45       | 1.5           |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 5        | 1.49          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 8        | 1.49          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 41       | 1.47          |
| (1,52) | 1:22:C:THR:N | 1:22:C:THR:CA | 1:22:C:THR:C  | 1:23:C:ASP:N | 42       | 1.46          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 7        | 1.46          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 9        | 1.46          |
| (1,53) | 1:25:C:LEU:N | 1:25:C:LEU:CA | 1:25:C:LEU:C  | 1:26:C:ARG:N | 39       | 1.45          |
| (1,75) | 1:57:C:SER:N | 1:57:C:SER:CA | 1:57:C:SER:C  | 1:58:C:GLY:N | 50       | 1.44          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 13       | 1.44          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 29       | 1.44          |
| (1,52) | 1:22:C:THR:N | 1:22:C:THR:CA | 1:22:C:THR:C  | 1:23:C:ASP:N | 48       | 1.44          |
| (1,46) | 1:10:C:ALA:N | 1:10:C:ALA:CA | 1:10:C:ALA:C  | 1:11:C:PRO:N | 20       | 1.44          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 16       | 1.43          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 15       | 1.42          |

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| Key    | Atom-1       | Atom-2        | Atom-3        | Atom-4       | Model ID | Violation (°) |
|--------|--------------|---------------|---------------|--------------|----------|---------------|
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 39       | 1.42          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 49       | 1.42          |
| (1,12) | 1:64:C:PRO:C | 1:65:C:VAL:N  | 1:65:C:VAL:CA | 1:65:C:VAL:C | 20       | 1.42          |
| (1,52) | 1:22:C:THR:N | 1:22:C:THR:CA | 1:22:C:THR:C  | 1:23:C:ASP:N | 7        | 1.41          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 2        | 1.41          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 31       | 1.41          |
| (1,43) | 1:60:C:VAL:C | 1:61:C:THR:N  | 1:61:C:THR:CA | 1:61:C:THR:C | 38       | 1.4           |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 17       | 1.39          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 37       | 1.39          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 47       | 1.37          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 18       | 1.35          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 13       | 1.35          |
| (1,68) | 1:47:C:PRO:N | 1:47:C:PRO:CA | 1:47:C:PRO:C  | 1:48:C:GLY:N | 18       | 1.34          |
| (1,52) | 1:22:C:THR:N | 1:22:C:THR:CA | 1:22:C:THR:C  | 1:23:C:ASP:N | 18       | 1.34          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 22       | 1.34          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 25       | 1.32          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 24       | 1.32          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 5        | 1.32          |
| (1,42) | 1:56:C:CYS:C | 1:57:C:SER:N  | 1:57:C:SER:CA | 1:57:C:SER:C | 36       | 1.31          |
| (1,2)  | 1:23:C:ASP:C | 1:24:C:VAL:N  | 1:24:C:VAL:CA | 1:24:C:VAL:C | 20       | 1.31          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 23       | 1.3           |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 5        | 1.3           |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 8        | 1.3           |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 44       | 1.3           |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 1        | 1.3           |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 8        | 1.29          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 4        | 1.29          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 26       | 1.28          |
| (1,11) | 1:59:C:ASP:C | 1:60:C:VAL:N  | 1:60:C:VAL:CA | 1:60:C:VAL:C | 49       | 1.28          |
| (1,61) | 1:35:C:HIS:N | 1:35:C:HIS:CA | 1:35:C:HIS:C  | 1:36:C:TRP:N | 14       | 1.27          |
| (1,40) | 1:54:C:ARG:C | 1:55:C:SER:N  | 1:55:C:SER:CA | 1:55:C:SER:C | 24       | 1.27          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 36       | 1.27          |
| (1,77) | 1:62:C:PRO:N | 1:62:C:PRO:CA | 1:62:C:PRO:C  | 1:63:C:ALA:N | 5        | 1.26          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 25       | 1.26          |
| (1,11) | 1:59:C:ASP:C | 1:60:C:VAL:N  | 1:60:C:VAL:CA | 1:60:C:VAL:C | 24       | 1.26          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 5        | 1.26          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 36       | 1.25          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 21       | 1.25          |
| (1,9)  | 1:48:C:GLY:C | 1:49:C:THR:N  | 1:49:C:THR:CA | 1:49:C:THR:C | 39       | 1.25          |
| (1,65) | 1:42:C:ALA:N | 1:42:C:ALA:CA | 1:42:C:ALA:C  | 1:43:C:GLY:N | 17       | 1.24          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 48       | 1.24          |
| (1,13) | 1:65:C:VAL:C | 1:66:C:GLU:N  | 1:66:C:GLU:CA | 1:66:C:GLU:C | 32       | 1.23          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 20       | 1.22          |
| (1,38) | 1:52:C:ARG:C | 1:53:C:CYS:N  | 1:53:C:CYS:CA | 1:53:C:CYS:C | 41       | 1.22          |
| (1,78) | 1:63:C:ALA:N | 1:63:C:ALA:CA | 1:63:C:ALA:C  | 1:64:C:PRO:N | 32       | 1.21          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 4        | 1.21          |
| (1,32) | 1:41:C:PRO:C | 1:42:C:ALA:N  | 1:42:C:ALA:CA | 1:42:C:ALA:C | 17       | 1.21          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 43       | 1.2           |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 45       | 1.2           |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 21       | 1.19          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 12       | 1.19          |

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| Key    | Atom-1       | Atom-2        | Atom-3        | Atom-4       | Model ID | Violation (°) |
|--------|--------------|---------------|---------------|--------------|----------|---------------|
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 35       | 1.18          |
| (1,46) | 1:10:C:ALA:N | 1:10:C:ALA:CA | 1:10:C:ALA:C  | 1:11:C:PRO:N | 49       | 1.18          |
| (1,10) | 1:58:C:GLY:C | 1:59:C:ASP:N  | 1:59:C:ASP:CA | 1:59:C:ASP:C | 25       | 1.18          |
| (1,59) | 1:33:C:ALA:N | 1:33:C:ALA:CA | 1:33:C:ALA:C  | 1:34:C:PHE:N | 18       | 1.17          |
| (1,47) | 1:13:C:ALA:N | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N | 15       | 1.17          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 15       | 1.17          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 46       | 1.17          |
| (1,9)  | 1:48:C:GLY:C | 1:49:C:THR:N  | 1:49:C:THR:CA | 1:49:C:THR:C | 45       | 1.17          |
| (1,59) | 1:33:C:ALA:N | 1:33:C:ALA:CA | 1:33:C:ALA:C  | 1:34:C:PHE:N | 1        | 1.16          |
| (1,59) | 1:33:C:ALA:N | 1:33:C:ALA:CA | 1:33:C:ALA:C  | 1:34:C:PHE:N | 43       | 1.16          |
| (1,35) | 1:46:C:ARG:C | 1:47:C:PRO:N  | 1:47:C:PRO:CA | 1:47:C:PRO:C | 33       | 1.16          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 13       | 1.15          |
| (1,10) | 1:58:C:GLY:C | 1:59:C:ASP:N  | 1:59:C:ASP:CA | 1:59:C:ASP:C | 9        | 1.15          |
| (1,76) | 1:61:C:THR:N | 1:61:C:THR:CA | 1:61:C:THR:C  | 1:62:C:PRO:N | 9        | 1.14          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 22       | 1.14          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 11       | 1.14          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 42       | 1.14          |
| (1,59) | 1:33:C:ALA:N | 1:33:C:ALA:CA | 1:33:C:ALA:C  | 1:34:C:PHE:N | 21       | 1.13          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 34       | 1.13          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 47       | 1.13          |
| (1,11) | 1:59:C:ASP:C | 1:60:C:VAL:N  | 1:60:C:VAL:CA | 1:60:C:VAL:C | 50       | 1.13          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 35       | 1.13          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 17       | 1.12          |
| (1,69) | 1:51:C:LEU:N | 1:51:C:LEU:CA | 1:51:C:LEU:C  | 1:52:C:ARG:N | 18       | 1.11          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 24       | 1.11          |
| (1,46) | 1:10:C:ALA:N | 1:10:C:ALA:CA | 1:10:C:ALA:C  | 1:11:C:PRO:N | 18       | 1.1           |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 14       | 1.08          |
| (1,41) | 1:55:C:SER:C | 1:56:C:CYS:N  | 1:56:C:CYS:CA | 1:56:C:CYS:C | 33       | 1.08          |
| (1,74) | 1:56:C:CYS:N | 1:56:C:CYS:CA | 1:56:C:CYS:C  | 1:57:C:SER:N | 26       | 1.07          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 23       | 1.07          |
| (1,15) | 1:10:C:ALA:C | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C | 49       | 1.07          |
| (1,10) | 1:58:C:GLY:C | 1:59:C:ASP:N  | 1:59:C:ASP:CA | 1:59:C:ASP:C | 24       | 1.07          |
| (1,2)  | 1:23:C:ASP:C | 1:24:C:VAL:N  | 1:24:C:VAL:CA | 1:24:C:VAL:C | 39       | 1.07          |
| (1,74) | 1:56:C:CYS:N | 1:56:C:CYS:CA | 1:56:C:CYS:C  | 1:57:C:SER:N | 11       | 1.06          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 42       | 1.06          |
| (1,59) | 1:33:C:ALA:N | 1:33:C:ALA:CA | 1:33:C:ALA:C  | 1:34:C:PHE:N | 14       | 1.06          |
| (1,49) | 1:15:C:CYS:N | 1:15:C:CYS:CA | 1:15:C:CYS:C  | 1:16:C:GLY:N | 36       | 1.06          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 1        | 1.05          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 7        | 1.05          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 26       | 1.05          |
| (1,57) | 1:31:C:ALA:N | 1:31:C:ALA:CA | 1:31:C:ALA:C  | 1:32:C:ALA:N | 40       | 1.05          |
| (1,46) | 1:10:C:ALA:N | 1:10:C:ALA:CA | 1:10:C:ALA:C  | 1:11:C:PRO:N | 28       | 1.05          |
| (1,31) | 1:37:C:ARG:C | 1:38:C:CYS:N  | 1:38:C:CYS:CA | 1:38:C:CYS:C | 31       | 1.05          |
| (1,11) | 1:59:C:ASP:C | 1:60:C:VAL:N  | 1:60:C:VAL:CA | 1:60:C:VAL:C | 14       | 1.05          |
| (1,10) | 1:58:C:GLY:C | 1:59:C:ASP:N  | 1:59:C:ASP:CA | 1:59:C:ASP:C | 27       | 1.05          |
| (1,9)  | 1:48:C:GLY:C | 1:49:C:THR:N  | 1:49:C:THR:CA | 1:49:C:THR:C | 31       | 1.05          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 21       | 1.05          |
| (1,8)  | 1:44:C:THR:C | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C | 38       | 1.05          |
| (1,65) | 1:42:C:ALA:N | 1:42:C:ALA:CA | 1:42:C:ALA:C  | 1:43:C:GLY:N | 1        | 1.04          |
| (1,64) | 1:38:C:CYS:N | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N | 27       | 1.04          |
| (1,38) | 1:52:C:ARG:C | 1:53:C:CYS:N  | 1:53:C:CYS:CA | 1:53:C:CYS:C | 30       | 1.04          |

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| <b>Key</b> | <b>Atom-1</b> | <b>Atom-2</b> | <b>Atom-3</b> | <b>Atom-4</b> | <b>Model ID</b> | <b>Violation (°)</b> |
|------------|---------------|---------------|---------------|---------------|-----------------|----------------------|
| (1,10)     | 1:58:C:GLY:C  | 1:59:C:ASP:N  | 1:59:C:ASP:CA | 1:59:C:ASP:C  | 44              | 1.04                 |
| (1,21)     | 1:21:C:GLY:C  | 1:22:C:THR:N  | 1:22:C:THR:CA | 1:22:C:THR:C  | 31              | 1.03                 |
| (1,8)      | 1:44:C:THR:C  | 1:45:C:SER:N  | 1:45:C:SER:CA | 1:45:C:SER:C  | 29              | 1.03                 |
| (1,6)      | 1:38:C:CYS:C  | 1:39:C:HIS:N  | 1:39:C:HIS:CA | 1:39:C:HIS:C  | 12              | 1.03                 |
| (1,2)      | 1:23:C:ASP:C  | 1:24:C:VAL:N  | 1:24:C:VAL:CA | 1:24:C:VAL:C  | 35              | 1.03                 |
| (1,59)     | 1:33:C:ALA:N  | 1:33:C:ALA:CA | 1:33:C:ALA:C  | 1:34:C:PHE:N  | 26              | 1.02                 |
| (1,55)     | 1:27:C:CYS:N  | 1:27:C:CYS:CA | 1:27:C:CYS:C  | 1:28:C:THR:N  | 49              | 1.02                 |
| (1,47)     | 1:13:C:ALA:N  | 1:13:C:ALA:CA | 1:13:C:ALA:C  | 1:14:C:ARG:N  | 22              | 1.02                 |
| (1,15)     | 1:10:C:ALA:C  | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C  | 50              | 1.02                 |
| (1,64)     | 1:38:C:CYS:N  | 1:38:C:CYS:CA | 1:38:C:CYS:C  | 1:39:C:HIS:N  | 10              | 1.01                 |
| (1,15)     | 1:10:C:ALA:C  | 1:11:C:PRO:N  | 1:11:C:PRO:CA | 1:11:C:PRO:C  | 17              | 1.01                 |